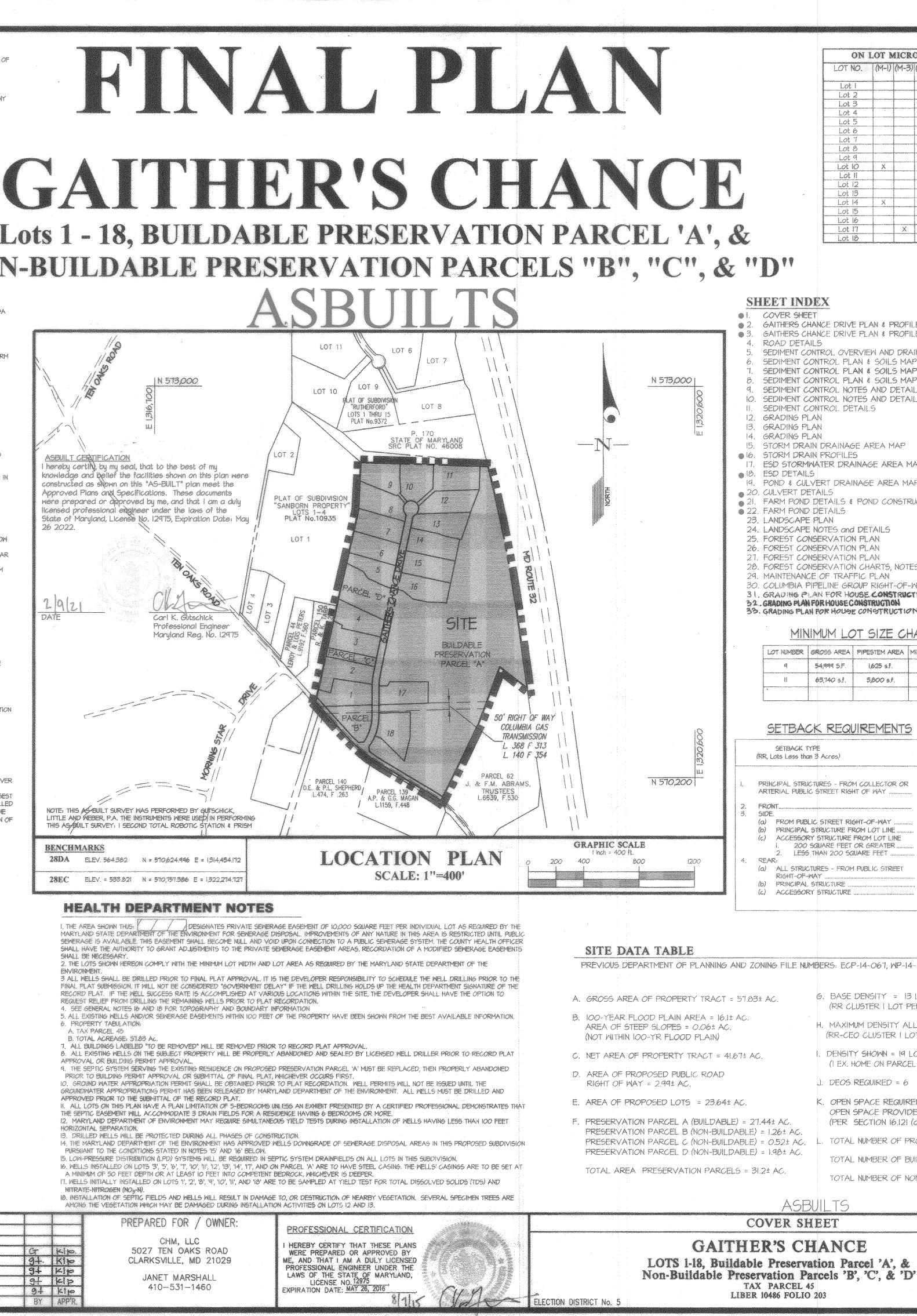
	CIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
NORK. 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT I-800-251-1111 AT LEAST 48 HOURS	EERING/ CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF PRIOR TO ANY EXCAVATION WORK BEING DONE.
<ol> <li>TRAFFIC CONTROL DEVICES:</li> <li>A) THE RI-I (STOP) SIGNS AND THE STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOF</li> <li>B) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AN OF THE TRAFFIC CONTROL DEVICES.</li> </ol>	PMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED. D MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY
C) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH D) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-O	THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MDMUTCD). F-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (QUICK PUNCH), SQUARE TUBE POST (14 GAUGE) NGE) - 3' LONG, THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL, A
<ol> <li>ZONING: THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE OCTOBER 6, 2013 COMPRE</li> <li>PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: ECP-14-067, WP-14-12-</li> <li>SITE ANALYSIS:</li> </ol>	
TOTAL AREA OF SITE:       51.83 ACRES:         AREA OF 100 YR, FLOODPLAIN:       16.1 ACRES:         AREA OF STEEP SLOPES (OUTSIDE OF FLOODPLAIN):       0.06 ACRES:	
NET AREA:41.67 ACRES: AREA OF PROPOSED ROADWAY (PUBLIC):2.99 ACRES: NO. OF SINGLE FAMILY DETACHED LOTS:18 AREA OF SINGLE FAMILY DETACHED LOTS:23.64 ACRES:	
NO. OF BUILDABLE PRESERVATION PARCELS	
NO. OF NON BUILDABLE PRESERVATION PARCELS	
II. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLI 12. THERE IS A CEMETERY ON SITE LOCATED ON PRESERVATION PARCEL 'A'. THE CEMETER 13. THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS IN THE VICINITY.	Y ON SITE IS LISTED IN THE CEMETERY INVENTORY AS 28-5, THE HENRY MARSHALL PROPERTY.
	14IN HOUSE DATES TO 1747 AND THERE ARE HISTORIC OUTBUILDINGS ON SITE, MAKING THIS A HISTORIC PROPERTY. 2NTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY BENCHMARKS 28DA ER. P.A., DATED APRIL, 2014
17. SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUE 18. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL TOPOGRAPHY PREPARED BY MCKI 19. THE METLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY KLEBASKO I	D MARCH, 2008. INZIE-SNYDER DURING NOVEMBER, 2013. INVIRONMENTAL, LLC., DATED FEBRUARY 21, 2014 AND APPROVED ON 11/07/14.
<ol> <li>20. THE IOO-YEAR FLOODPLAIN STUDY FOR THE CLYDE'S BRANCH WAS TAKEN FROM HOWAR POND WAS DETERMINED BY THE FLOOD PLAIN STUDY PREPARED BY GUTSCHICK, LITTLE</li> <li>21. A NOISE STUDY WAS PREPARED BY ROBERT H. VOGEL ENGINEERING DATED MARCH 19, 2</li> <li>22. A TRAFFIC STUDY WAS PREPARED BY TRAFFIC GROUP IN A REPORT DATED MARCH 20</li> </ol>	2014 AND WAS APPROVED ON II/07/14.
23. THE GEO-TECHNICAL REPORT WAS PROVIDED BY E.C.S. DATED SEPTEMBER 19, 2013 THIS 24. EXISTING UTILITIES WERE TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS. 25. THE PROJECT IS NOT WITHIN THE METROPOLITAN DISTRICT.	
<ol> <li>WATER AND SEWER ARE PRIVATE AND PROVIDED BY PROPOSED WELL AND SEPT</li> <li>THE FOLLOWING STREAM BUFFERS HAVE BEEN PROVIDED. PERENNIAL STREAM- 100' BUFFER</li> </ol>	
FOREST CONSERVATION EASEMENT AREAS, UNLESS DETERMINED TO BE ESSENTIAL OR N	LINE. ES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND ECESSARY BY DPZ. DPZ HAS DETERMINED THAT IMPACTS TO ENVIRONMENTAL RESOURCES SHOWN (CONSTRUCTION OF A ING POND AS REQUIRED BY HSCD) ARE NECESSARY IN ACCORDANCE WITH SUBSECTION 16.116(C) OF THE SUBDIVISION AND
29. THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOMARD COUN 13.35± ACRES. THIS OBLIGATION WILL BE MET WITH A TOTAL OF 11.75± ACRES OF REFOR	TY CODE AND THE FOREST CONSERVATION MANUAL WILL BE SATISFIED WITH AN OBLIGATION FOR THIS SUBDIVISION OF ESTATION & AFFORESTATION PLANTING, AND LOI'L ACRES OF CREDITED RETENTION TO BE PROVIDED ON-SITE. A SURETY IN SURETY TAKES INTO ACCOUNT CREDIT FOR LANDSCAPING- SEE SHEET 28 FOR ADDITIONAL INFORMATION ON REQUIRED CONSERVATION
30. MINIMUM BUILDING SETBACK RESTRICTIONS PROM PUBLIC ROADS AND PROPERTY LINES I 31. REQUIRED BUFFERING AND OTHER LANDSCAPING REQUIREMENTS/FEATURES HAVE BEEN I LANDSCAPE MANUAL. A LANDSCAPE SURETY IN THE AMOUNT OF \$38,250,00 FOR THE E	NILL BE PROVIDED IN ACCORDANCE WITH THE ZONING REGULATIONS ADOPTED OCTOBER, 2013. "ROVIDED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS (AMENDED 5TH EDITION) AND THE HOWARD COUNTY WFFER PLANTING IS POSTED WITH THE F-15-043 DEVELOPER AGREEMENT (SEE SHEETS 23-24).
33. STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN ACCORDANCE WITH CLORER TO FULFILL THE STORMMATER MANAGEMENT REQUIREMENTS A COMBINATION OF	04/17/2014 AT DAYTON OAKS ELEMENTARY SCHOOL IN COMPLIANCE WITH SECTION 16.128 OF THE REGULATIONS. HAPTER 5 OF THE MDE STORMWATER DESIGN MANUAL. BASED ON TABLE 5.3, THIS SITE HAS A TARGET PE OF 1.6". IN COMBINATION OF DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2), SHEET FLOW
MAINTAINED BY HOWARD COUNTY AND THE HOA. ALL OTHER PRACTICES WILL BE PRIV/ SAFE PASSAGE.	RETENTION (M-6) WILL BE USED. THE MICRO-BIORETENTION FACILITIES (M-6) WILL BE PUBLICLY OWNED AND JOINTLY NTELY OWNED AND MAINTAINED. THE EXISTING POND DOES NOT PROVIDE ANY STORMWATER MANAGEMENT, ONLY 100 YEAR IT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM
REGUIREMENTS: A) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE) B) SURFACE - 6' OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-	
C) GEOMETRY - MAX. 15% GRADE, MAX 10% GRADE CHANGE AND MIN. 45' TURNING RAL D) STRUCTURE (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 E) DRAINAGE ELEMENTS - SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN I F E) MAINTENANCE - SUFFICIENT TO INSURE ALL MEATHER USE	LOADING)
<ol> <li>THE TWO HEADSTONES SHALL BE REINSTALLED OVER THE EXISTING GRAVE SITES. THE</li> </ol>	ON AUGUST 21, 2014 WITH THE FOLLOWING CONDITIONS:
2. THE APPLICANT SHALL ENCLOSE THE CEMETERY AREA WITH OPEN FENCING WHICH WILL 3. CONDITIONS I & 2 SHALL BE ADDRESSED PRIOR TO RECORDATION OF THE SUBDIVISION FILE AS PROOF THAT CONDITIONS I & 2 HAVE BEEN MET.	ALSO CONTAIN AN ACCESS GATE. IN PLAT ASSOCIATED WITH THE "GAITHER'S CHANCE" SUBDIVISION. PHOTOGRAPHS SHALL BE SUBMITTED FOR THE OFFICE
39. THE DESIGN OF THIS GLUSTER SUBDIVISION REFLECTS THE INTENDED PRINCIPAL USE OF T UNDERGROUND UTILITIES, PARCEL "C" - STORMWATER MANAGEMENT, & PARCEL "D" - ENVIR	DEPARTMENT MEMO DATED APRIL 18, 2014, THIS PROPERTY HAS MET THE GRANDFATHERING REQUIREMENTS OF SB236. HE PRESERVED AREAS, PARCEL "A" - PRIVATE RESIDENCE AND ENVIRONMENTAL PROTECTION, PARCEL "B" - EXISTING RONMENTAL PROTECTION. THE PRESERVATION AREAS, AS DESIGNED, WILL FUNCTION FOR THEIR INTENDED USE, AND THE 5 INCLUDING UNIQUE & SENSITIVE ENVIRONMENTAL CONDITIONS, AND EXISTING ADJACENT FARM OPERATIONS, THE LOCATION
40. PRESERVATION PARCEL EASEMENT HOLDERS: BUILDABLE PRESERVATION PARCEL "A" - (PRIVATELY OWNED WITH HOWARD COL NON-BUILDABLE PRESERVATION PARCEL "B" - (TO BE CONVEYED TO THE HOA WITH H NON-BUILDABLE PRESERVATION PARCEL "C" - (TO BE CONVEYED TO THE HOA WITH H	NTY AND THE HOA AS THE TWO EASEMENT HOLDERS) OWARD COUNTY AS THE EASEMENT HOLDER) OWARD COUNTY AS THE EASEMENT HOLDER)
41. WP-14-124, A WAIVER REQUEST FROM SUBDIVISION SECTION 16.1205(a)(7) and 16.1205(a)(10) PROVIDE FOR THE CONSTRUCTION OF ROADS FRONTING OR WITHIN A PROPOSED SUBDIV	OWARD COUNTY AS THE EASEMENT HOLDER) , PROHIBITING REMOVAL OF SPECIMEN TREES AND 16.132(a) WHICH REQUIRES THE DEVELOPER SHALL CONSTRUCT OR ISION, WAS APPROVED ON AUGUST 19, 2014 UNDER THE FOLLOWING CONDITIONS: ND 43 AS DEPICTED ON THE WAIVER EXHIBIT. ANY PROPOSAL TO REMOVE ADDITIONAL TREES WILL REQUIRE A NEW WAIVER
REQUEST OR AN AMENDMENT TO THIS WAIVER REQUEST. 2. AS PART OF THE MITIGATION FOR SPECIMEN TREE REMOVAL, PERMANENT FENCING (IN A	DDITION TO THE REQUIRED SIGNAGE) WILL BE PLACED ALONG THOSE PROPERTY BOUNDARIES OF LOTS 4, 5 AND 16 CLOSES NGERVATION EASEMENTS AND TO INSURE THAT THE 100' STREAM BUFFER IS RESPECTED. THIS FENCING SHALL BE INSTALLED
COMMENCEMENT OF THE 2 YEAR POST CONSTRUCTION SURVIVAL PERIOD). ALL RELATED FOREST AND ENVIRONMENTAL FEATURES AND ASSOCIATED BUFFERS.	IN HOMES ON THOSE LOTS AND AT THE SAME TIME AS THE PERMANENT PROTECTIVE SIGNAGE IS INSTALLED (PRIOR TO THE PLATS AND PLANS SHALL SHOW SUPER SILT FENCE ALONG THE AFFECTED TREELINE IN THE INTERIM FOR THE PROTECTION OF
SUBDIVISION KNOWN AS "GAITHER'S CHANCE". IT WILL BE SHOWN ON THE APPROVED LAND APPROVAL	E AS PART OF THE MITIGATION FOR THE SPECIMEN TREE REMOVAL. THIS MITIGATION WILL BE ADDRESSED WITH THE SCAPE PLAN AND SURETY FOR THESE ADDITIONAL TREES WILL BE REQUIRED AS PART OF THE FINAL SUBDIVISION NGE IMPROVEMENTS) SHALL BE DEMARCATED AND LABELED ON ALL SUBSEQUENT PLANS FOR "GAITHER'S CHANCE" AND
SHALL BE LABELED AS "TO REMAIN". PROTECTIVE FENCING FOR THIS ROW OF TREES SHA D.E.D. CONDITIONS. 5. PROVIDE RIGHT-OF-WAY DEDICATION ALONG TEN OAKS ROAD FRONTAGE.	LL ALSO BE SHOWN AND LABELED ON ALL SUBSEQUENT PLANS.
<ol> <li>6. PROVIDE FEE-IN-LIEU FOR FULL FRONTAGE IMPROVEMENTS. SUBMIT COST ESTIMATE FO</li> <li>42. JUSTIFICATION FOR NECESSARY DISTURBANCES AT GAITHER'S CHANCE PER SECTION 16.</li> <li>L PROPOSED STREAM CROSSING - AFTER SETTING ASIDE ALL THE ENVIRONMENTALLY S</li> </ol>	a construction of the state of
PROJECT WAS DESIGNED AS ONE LONG CUL-DE-SAC, UTILIZING THE SUCCESSFUL PER TE LOCATIONS, THE GRAVESITES, AND THE EXISTING HOUSE TO BE SAVED. DEVELOPING TH	ST LOCATIONS. THE ROAD CANNOT BE MOVED WITHOUT CREATING PROBLEMS WITH LOT SIZES, WELL AND SEPTIC IS NORTH SIDE OF THE PROPERTY IS REQUIRED TO ACHIEVE THE BASE DENSITY AND 60% OF THE LOTS SHOWN ARE INCRESS THE NORTH SIDE WITHOUT A STREAM CROSSING. THE CONSTRUCTION SHOWN MINIMIZES THE DISTURBANCE AS
2. REMOVAL OF EXISTING OULVERT - THIS EXISTING CULVERT IS A 48" CONCRETE PIPE	THAT ALLOWS A DIRT PATH TO CROSS OVER THE STREAM. AS PART OF THE PERMIT FROM MDE FOR THE SS BE REMOVED. THE DISTURBANCE IN THIS AREA WILL BE MINIMAL SINCE THERE IS VERY LITTLE VERTICAL DROP IREAM IN THIS AREA
3. POND MAINTENANCE - WITH A PROPOSED SUBDIVISION, HSCD REQUIRES THAT EXISTIN THE FLOODPLAIN AND PART OF THE EMBANKMENT IS IN A STREAM BUFFER AND A WETL	S PONDS EITHER BE UPGRADED TO MEET CURRENT STANDARDS OR BE REMOVED. SINCE THE ENTIRE POND IS IN AND BUFFER, EITHER OPTION WILL REQUIRE DISTURBANCE TO FLOODPLAIN, STREAM BUFFER, AND WETLAND BUFFER. WTY. IN ORDER TO KEEP THE POND, ALL OF THE TREES ON THE EMBANKMENT NEED TO BE REMOVED AND THE
	DESIGNATED AS A SCENIC BUFFER BY THE STATE HIGHWAY ADMINISTRATION. THE HOWARD DESS EASEMENT TO THE ADJACENT LAND LOCKED PARCEL IN LIEV OF A PUBLIC ROAD BECAUSE
NOT ONTO THE PIPESTEM LOT DRIVENAY. 45. THE 650BA NOISE CONTOUR LINE DRAWN ON THIS SUBDIVISION PLAN IS ADVISORY AS	ANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992 AND CANNOT
THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LE	È LINE ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS VELS ESTABLISHED BY THE U.S. DEPT OF HOUSING AND URBAN DEVELOPMENT. COST ESTIMATE, INCLUDES &9 STREET TREES (\$26,700.00). THIS IS SEPARATE FROM THE LANDSCAPE
APPROVED; HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Chief, Bureau of Highways Mr. Date	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	UTILITIES LIST I. COLUMBIA PIPELINE GROUP.
Chief, Division of Land Development Date	LAND AGENT: ANTONIO C. REDD 540-368-3256
Unit Flat     9.11.15       Chief, Development Engineering Division     M   Date	
GLWGUTSCHICK LITTLE & WEBER, P.A.	
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK	02-10-19 Update on-Lotawy chart for LotA 10-1-19 Update aneet index to include new aheet 32
BURTONSVILLE, MARYLAND 208" TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 30189-2524 FAX: 301-421-4186	7. 11-19 Update on Lotown chart for Lot II 7 07 19 Update onlet Index to include new oncet # 21 12-20-18 Update on Lot own chart For Lot 16
L:\CADD\DRAWHIGS\13070\PLANS BY GLW\Findis\13070- CS.dwg DES. dds DRN. dds CHK.	DATE REVISION

© GLW 2015



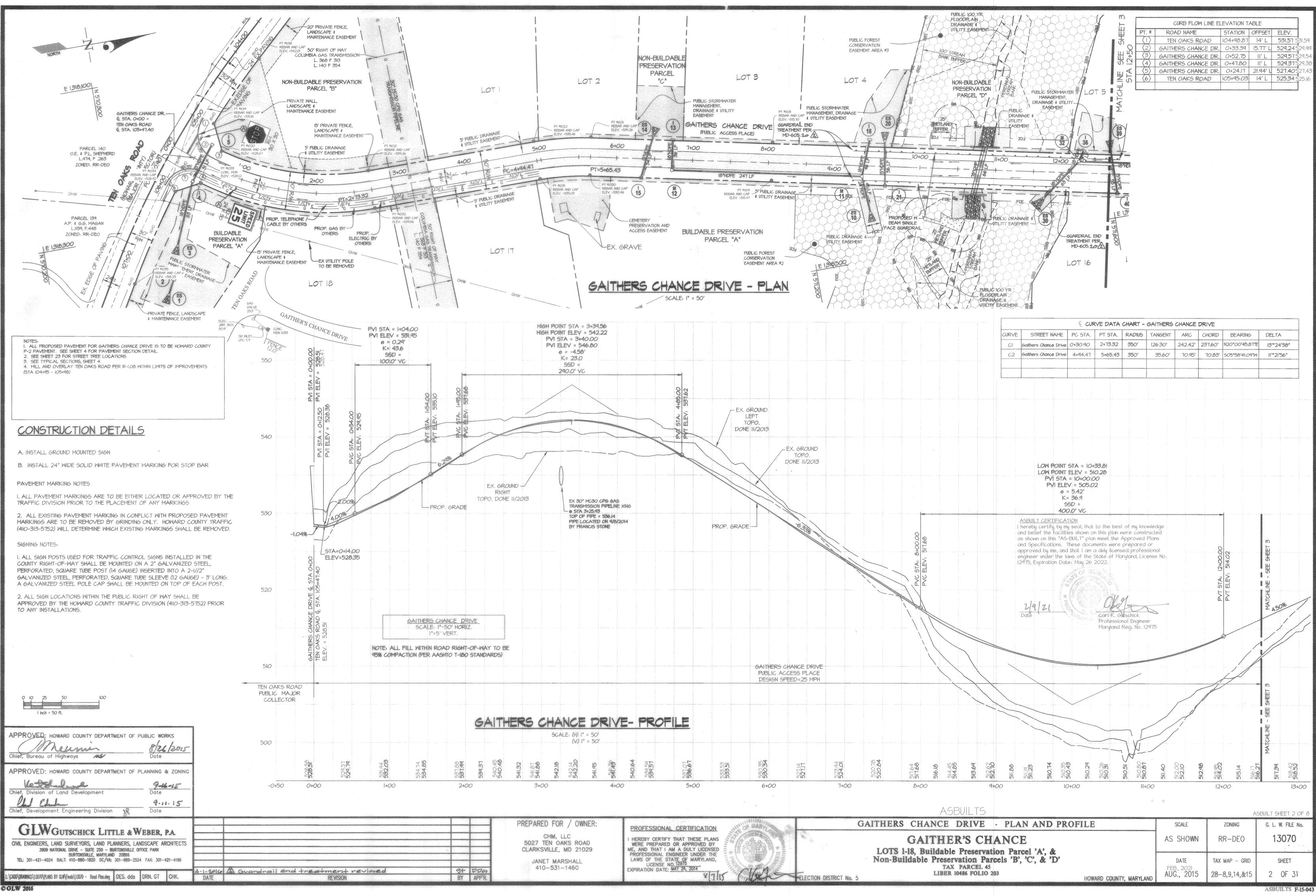
		LOT NO. (M-1) (M-3)	M-4) (M-5) (M-6,	)[(M-7)[(M-8)]	(N-21)(N3)	A A	st h	
		Lot 1 Lot 2				1/20/20/	SITE	
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	<ul> <li>I. COVER SHEET</li> <li>2. GAITHERS CHAI</li> </ul>	ICE DRIVE PLAN & PROFILI				BENCHMARKS 28DA ELEV. 50	64.382 N = 570,624;	196 E = 1314,434,172
		ICE DRIVE PLAN & PROFILI				28EC ELEV. =	535.821 N = 570,751.5	96 E = 1322,274.727
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	0 20. CULVERT DETA	NLS		ATIONS				
	22. FARM POND D		unun precirik	775 FRAND				ULTIMATE TREELINE
99 	23. LANDSCAPE P 24. LANDSCAPE N	OTES and DETAILS					anime to consider the t	
	25. FOREST CONSI 26. FOREST CONSI						PROPOSED :	STORM DRAIN
	27. FOREST CONSI 28. FOREST CONSI	ERVATION PLAN ERVATION CHARTS, NOTES	6 & DETAILS			(202) 202	STRUCTURE	NMBER
	29. MAINTENANCE	,					LIMIT OF SIT	E State
	31. GRADING PLA	N FOR HOUSE CONSTRUCT					CONCRETE	
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		4,999 S.F. 1,625 s.f.	53,574 s.f.					CURB AND GUTTER EDGE OF PAVEMENT
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000	SETBACK	REQUIREMENTS					8 WETLAND BU	
320,60	SETBACK TYPE (RR, Lots Less than 3		SETBACK			T T	FOREST CON	ISERVATION EASEMENT
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		TREET RIGHT OF WAY	50'				STEEP SLOP	EG - 25% AND GREATER
	3. 5IDE.	STREET RIGHT-OF-WAY	3 <i>0</i> '	n na				
	(b) PRINCIPAL ST	RUCTURE FROM LOT LINE	10'	e na je n		المراجع المراجع المراجع المراجع	EAGEMENTS	
.Е	2. LESS TH	VARE FEET OR GREATER AN 200 SQUARE FEET	10' 5'				nine manifestation and the	
90 - 1200 - 1		RES - FROM PUBLIC STREET	50'					
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ARTMENT OF MLANNING	AND ZONING FILE NUME	ERS: ECP-14-067, WP-14-	124, SP-14-006	)		74-35,6X3,		17.
	- 57 021 11	6. BASE DENSITY = 13 [	OTS			V777	PROPOSE	D SEPTIC FIELD
OF PROPERTY TRACT	- <i>5100± m</i> 0.	(RR CLUSTER   LOT PE					l	
OOD PLAIN AREA = 16.1 EP SLOPES = 0.06± AC		H. MAXIMUM DENSITY ALL					PROPOSE	D WELL BOX
20-YR FLOOD PLAIN)		(RR-CEO CLUSTER I LOT		AUKESI		(W)	PROPOSE	D WELL LOCATION
PROPERTY TRACT = 4	1.67± AC, I	. DENSITY SHOWN = 19 LC (I EX. HOME ON PARCEL		ED SFD LOT	5)		<ul> <li>Constraint (etc.)</li> </ul>	
POSED PUBLIC ROAD Y = 2.99± AC.		). DEOS REQUIRED = $6$					PASSED	IEST PIT
POSED LOTS = 23.641		<. OPEN SPACE REQUIRE	0 (NONE) - 00	O AC		÷	FAILED T	Egt Pit
		OPEN SPACE PROVIDE	D (NONE) = $O.C$			T/CTV	PROPOSED TE BY OTHERS	LEPHONE & CABLE
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N PARCEL C (NON-BUILI N PARCEL D (NON-BUILI		TOTAL NUMBER OF PRO	OPOSED SFD B	WILDABLE L	0TS = 18	nantatatatan erang kanalarika b	PROPOSED G	AS LINE BY OTHERS
PRESERVATION PARCE		TOTAL NUMBER OF BUI	LDABLE PRESE	RVATION P	ARCELS	nor -		
I NELLIN WATHIN FARUE	and a set of the PALL,	TOTAL NUMBER OF NO	N-BUILDABLE P	RESERVATIO	ON PARC	ELS = 3		
		II TG					x.	
	ASBU					COMP		SBUILT SHEET I OF 8
	COVER SHI					SCALE	ZONING	G. L. W. FILE No.
	THER'S CH					AS SHOWN	RR-DEO	13070
		ion Parcel 'A', & cels 'B', 'C', & 'D'				DATE	TAX MAP - GRID	SHEET

**ON LOT MICRO-SCALE PRACTICES** LOT NO. (M-1) (M-3) (M-4) (M-5) (M-6) (M-7) (M-8) (N-2) (N

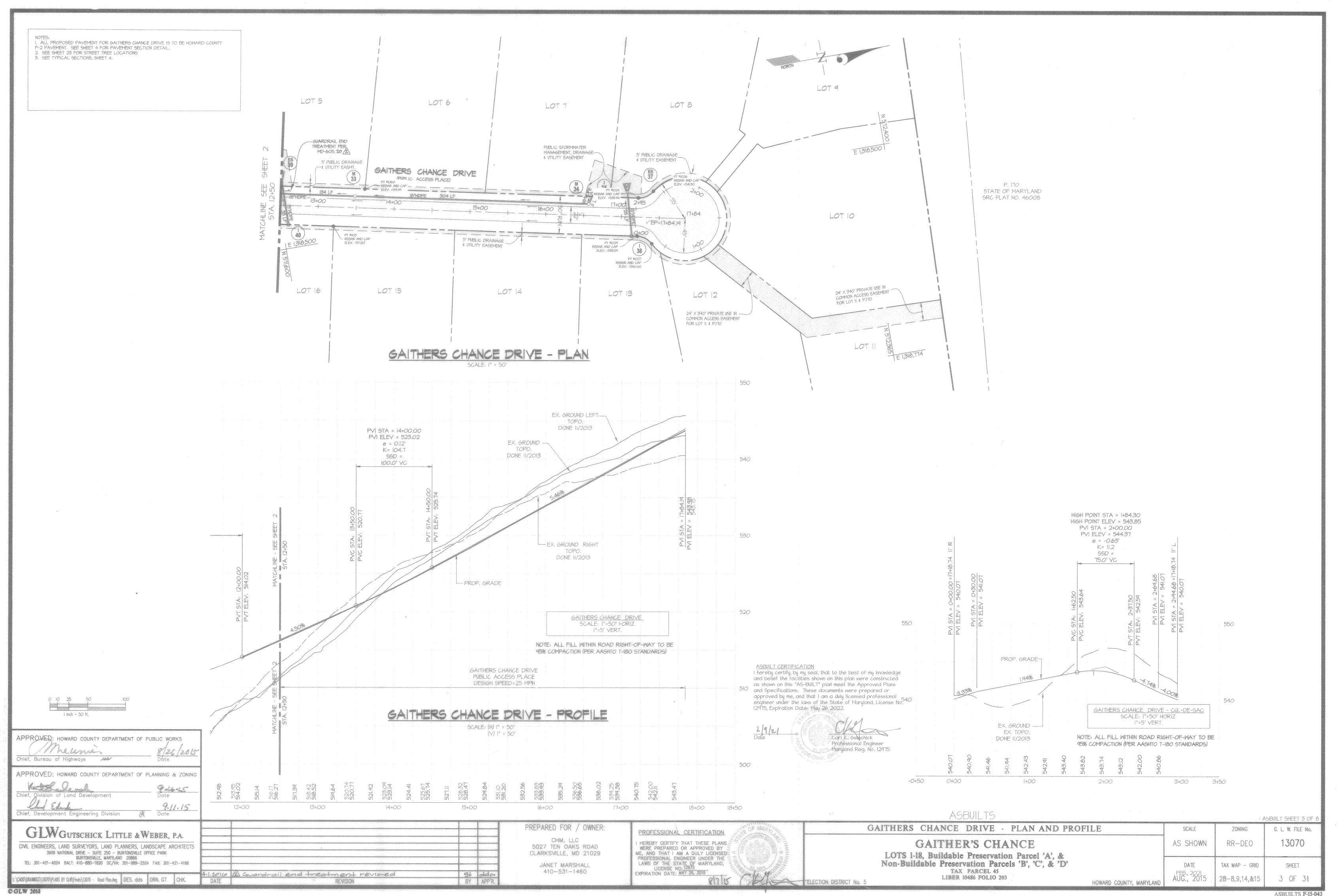
> FEB., 2021 AUG., 2015 28-8,9,14,&15 1 OF 33 HOWARD COUNTY, MARYLAND

TAX PARCEL 45

LIBER 10486 FOLIO 203



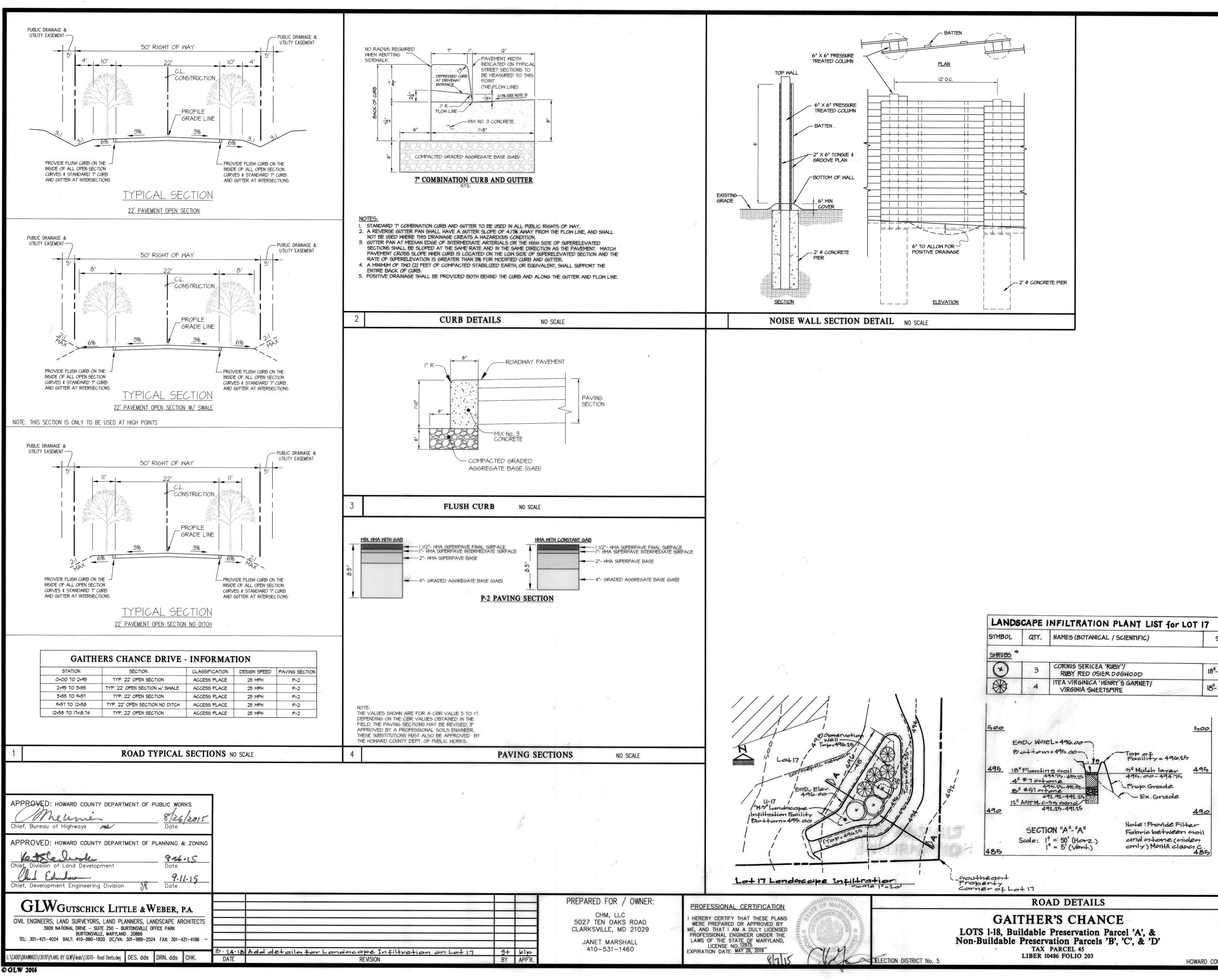
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20

ADDUILID		- /	ASBUILT SHEET 3 OF 8
CHANCE DRIVE · PLAN AND PROFILE	SCALE	ZONING	G. L. W. FILE No.
AITHER'S CHANCE	AS SHOWN	RR-DEO	13070
, Buildable Preservation Parcel 'A', & able Preservation Parcels 'B', 'C', & 'D' TAX PARCEL 45	DATE FEB 2021	TAX MAP – GRID	SHEET
LIBER 10486 FOLIO 203 HOWARD COUNTY, MARYLAND	, AUG., 2015	28-8,9,14,&15	3 OF 31

ASBUILTS F-15-043



# NO ASBUILT INFORMATION

NDS	CAPE	INFILTRATION PLANT LIST for LOT	17	
BOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT/COMMENTS
UBS *				
	3	CORNUS SERICEA 'RUBY'/ RUBY RED OSIER DOGWOOD	18"-24" SPR.	CONTAINER
Ð	. 4	ITEA VIRGINICA 'HENRY'S GARNET/ VIRGINIA SWEETSPIRE	18"-24" SPR	·CONTAINER

### L1-17

Type (per MDE): Landocape Infiltration (M-3) Non - MDE 378 Facility Total Drainage Area to Facility = 33,000 SF Storage Provided = 667 CU-Ft (@496.00) EBDV Provided = 667 CU-Ff

Low-Flow outfall: N/A Bottom of Facility = 495.00 High-Flow Octfall spillway @ 496.00

ROAD DETAILS		SCALE	ZONING	G. L. W. FILE No.
AITHER'S CHANCE	s s s	AS SHOWN	RR-DEO	13070
Buildable Preservation Parcel 'A', & ble Preservation Parcels 'B', 'C', & 'D'		DATE	TAX MAP - GRID	SHEET
TAX PARCEL 45 LIBER 10486 FOLIO 203	HOWARD COUNTY, MARYLAND	AUG., 2015	28-8,9,14,&15	4 OF 33

F-15-043

### QUENCE OF CONSTRUCTION:

OBTAIN A GRADING PERMIT AND ARRANGE A PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR (SCI) (I

. INSTALL THE STABILIZED CONSTRUCTION ENTRANCES (SCE), SILT FENCE (SF), SUPER SILT FENCE (SSF), TREE PROTECTION ENCE (TPF) AND ORANGE SAFETY FENCE (O-F). INSTALLATION OF THE SEDIMENT CONTROLS IN THE VICINITY OF THE EXISTING ARM POND EMBANKMENT CAN BE DELAYED UNTIL WORK ON THE POND BEGINS. INSTALLATION OF THE SEDIMENT CONTROLS ON HE NORTH SIDE OF THE STREAM MAY BE DELAYED UNTIL THE CONTRACTOR IS READY TO BEGIN DISTURBANCE ON THE NORTH IDE OF THE SITE.

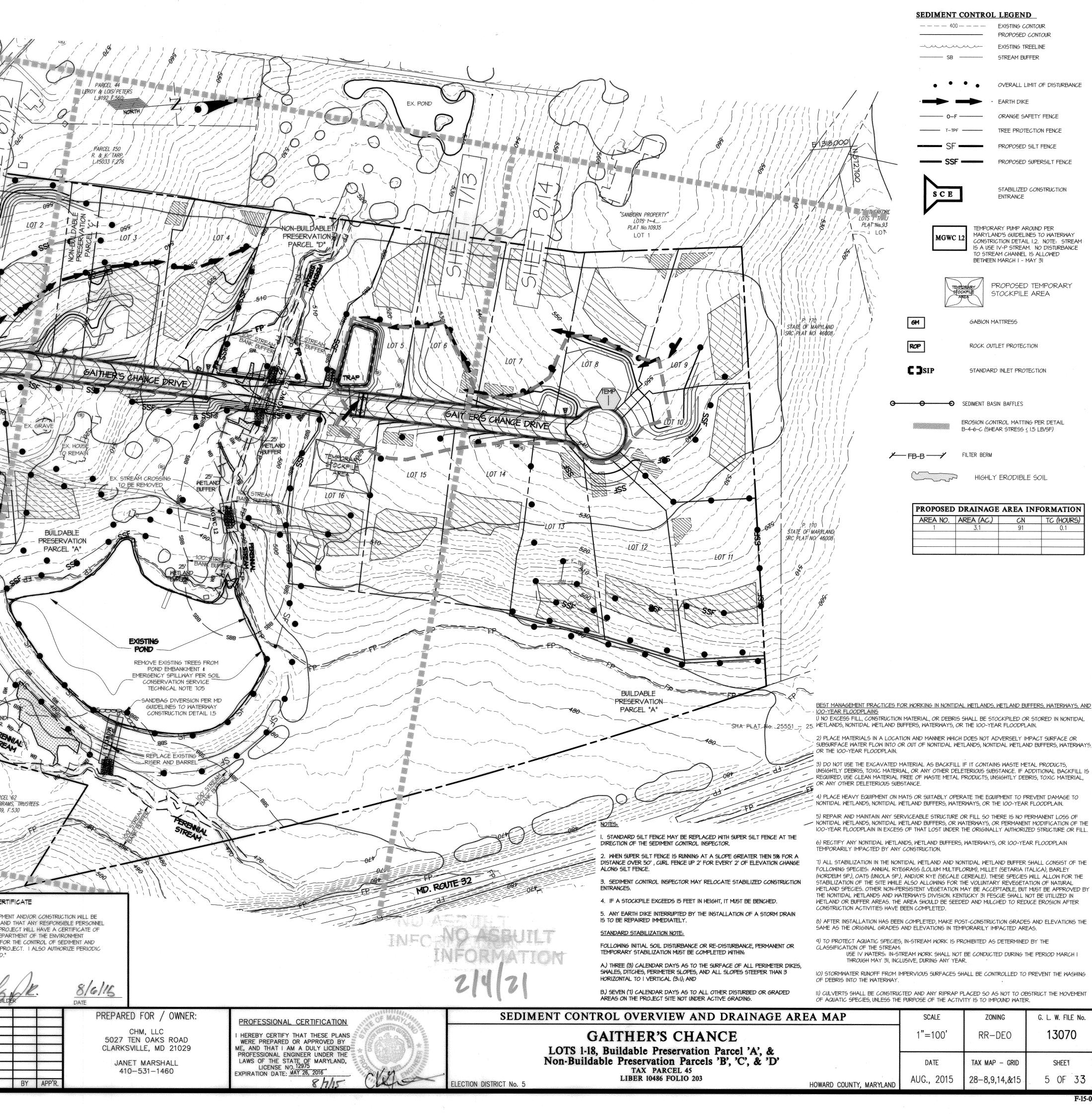
NOTE: DO NOT REMOVE EXISTING FARM ROAD CROSSING UNTIL THE PROPOSED ROAD CROSSING HAS BEEN INSTALLED. SEE CULVERT SEQUENCE OF CONSTRUCTION AND FARM POND SEQUENCE OF CONSTRUCTION.

NOTE: CONTACT COLUMBIA GAS AT (800) 257-7777 PRIOR TO ANY DISTURBANCE IN COLUMBIA GAS RIGHT OF WAY.

3. INSTALL CLEAN WATER DIVERSIONS A & B, TRAPS I AND EARTH DIKES C (15 DAYS) 4. WITH THE PERMISSION OF THE SCI, BEGIN CLEARING WOODED AREAS AND MASS GRADING STABILIZE ALL DISTURBED AREAS OUTSIDE OF THE GRADING LIMITS. INSTALL ALL UTILITIES PLANS. EARTH DIKE C IS TO REMAIN IN PLACE UNTIL CONSTRUCTION OF STORM DRAIN I-40 ASPHALT BERM IS INSTALLED. INSTALL INLET PROTECTION AS SHOWN AS STORM DRAIN IS C 5. STABILIZE ALL LOT AREA AND BEGIN CONSTRUCTION OF CURB & GUTTER AND PAVEMENT TRAP I HAS BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPEC ONCE TRAP. HAG BEEN BEMOVED. INSTALL ALL PERMISSION OF THE SEDIMENT CONTROL INSPEC	SHOWN ON SEDIMENT CONTROL TO ES-39 AND TEMPORARY ONSTRUCTED. (90 DAYS) T. ONCE ALL AREA DRAINING TO CTOR, TRAP I MAY BE REMOVED.		
ONCE TRAP HAS BEEN REMOVED, INSTALL ALL REMAINING UTILITIES IN THE VICINITY OF THAT VICINITY OF LOTS 2 & 18 HAS BEEN STABILIZED RELOCATE THE SSF ON LOT 18 AND INSTALL GRADING ON LOTS 2 & 18 AND STABILIZE ONCE COMPLETE. (30 DAYS) 6. ONCE ALL AREAS HAVE BEEN STABILIZED, INSTALL MICRO-BIORETENTION FACILITIES AND RELOCATE EXISTING SEDIMENT CONTROL FEATURES AS NECESSARY. (10 DAYS) 7. INSTALL ALL PERMANENT FENCING SHOWN ON GRADING AND LANDSCAPE PLANS (2 DAYS) SEQUENCE OF CONSTRUCTION FOR CULVERT INSTALLATION:	D ANY REMAINING UTILITIES.		
NOTE: NO CONSTRUCTION IS ALLOWED IN THE STREAM BETWEEN MARCH I AND MAY 31. I. HAVE A PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR			Second 1
AND M.D.E. 2. RELOCATE SSF TO THE STREAM BANKS AND DO ANY REMAINING CLEARING AND GRUBBING. (5 DAYS) 3. INSTALL PUMP AROUND PRACTICE PER MARYLAND'S GUIDELINES TO WATERWAY CONSTRICTION DETAIL I.2. (I DAY). 4. INSTALL NEW CULVERT, HEADWALLS AND RIP RAP. (5 DAYS) 5. BACKFILL OVER CULVERT AND BRING ROAD CROSSING UP TO ULTIMATE GRADE. GRADE WETLANDS ON THE UPSTREAM SIDE OF THE CROSSING SO THAT IT DRAINS TO THE CULVERT. (IO DAYS) 6. STABILIZE ALL DISTURBED AREA WITHIN THE STREAM BUFFER AND WITH	RARCEL 140 O.E. & P.L, SHERHERD L.474, F.263		
PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE PUMP AROUND PRACTICE. (5 DAYS) 7. INSTALL PUMP AROUND PRACTICE PER MARYLAND'S GUIDELINES TO WATERWAY CONSTRICTION DETAIL I.2, IN THE VICINITY OF THE EXISTING STREAM CROSSING (I DAY) 8. REMOVE EXISTING CULVERT AND HEADWALLS (I DAY)	#B	PRESERVATION PARCEL "B"	
9. GRADE THE AREA OF CULVERT REMOVAL, INSTALL RIP RAP, AND STABILIZE ANY DISTURBED AREA. (3 DAYS) IO. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE PUMP- AROUND PRACTICE AND ANY REMAINING SF IN THE VICINITY OF THE OLD STREAM CROSSING (I DAYS)			
SEQUENCE OF CONSTRUCTION FOR FARM POND IMPROVEMENTS: NOTE: NO CONSTRUCTION IS ALLOWED IN THE STREAM BETWEEN MARCH I AND MAY 31. I. HAVE A PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL	E A C	S35	
INSPECTOR AND M.D.E. 2. INSTALL SF IN THE VICINITY OF THE POND IMPROVEMENTS. (2 DAYS) 3. REMOVE EXISTING TREES FROM POND EMBANKMENT & EMERGENCY SPILLWAY PER SOIL CONSERVATION SERVICE TECHNICAL NOTE 705 (5 DAYS) 4. STABILIZE ALL DISTURBED AREA. (I DAY)		-LOT 18	100 LOT 17
5. INSTALL SANDBAG DIVERSION PER MD GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 1.5 AND INSTALL PUMP AROUND PRACTICE PER MARYLAND'S GUIDELINES TO WATERWAY CONSTRICTION DETAIL 1.2. (I DAY) 6. EXCAVATE AND REMOVE EXISTING POND OUTFALL. (I DAY) 7. INSTALL NEW POND OUTFALL, BACKFILL TRENCH WITH CORE MATERIAL & MODIFY EMERGENCY SPILLWAY. (3 DAYS)	510		520 155 510
8. STABILIZE ALL DISTURBED AREA. (3 DAYS) 9. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SAND BAGS, PUMP AROUND PRACTICE AND ANY REMAINING SF IN THE VICINITY OF THE POND (I DAYS) 0. WANT CED TRUMPLAN ENGINEER CERTIFIC EVICINIC ENDANCIDER AND	500		
IO. HAVE GEO-TECHNICAL ENGINEER CERTIFY EXISTING EMBANKMENT AND AS-BUILT TO HOWARD SOIL CONSERVATION DISTRICT.			
	BUILDABLE	50' RIGHT OF WAY 	
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this plan is For sediment control purposes only	BUFFER SM SBB NB FR FR FR FR FR FR FR FR FR FR FR FR FR	BUFFER BBS BUFFER BBS BBS BBS BBS BBS BBS BBS BBS BBS BB	EM PARC C & F.M. ABR
2 2 5 0 00 200 I inch = 100 ft. THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLS THIS DEVELOPMENT FLAN IS APPROVED FOR SOIL EROSION AND EDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. THIS DEVELOPMENT FLAN IS APPROVED FOR SOIL EROSION AND EDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	BUFFER SM SBB FR FR FR FP PARCEL 62 L6639, F.530	AND SEDIMENT CONTROL REPRESENTS DO N MY PERSONAL KNOWLEDGE OF REPARED IN ACCORDANCE WITH THE	BIN OR OTHER SUBULDER'S CER "I/WE CERTIFY THAT ALL DEVELOPER DONE ACCORDING TO THIS PLAN, A INVOLVED IN THE CONSTRUCTION PE ATTENDANCE AT A MARYLAND DEF
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	ENGINEER'S CERTIFICATE I'L CERTIFY THAT THIS PLAN FOR EROSION A PRACTICAL AND WORKABLE PLAN BASE THE SITE CONDITIONS AND THAT IT WAS PR REQUIREMENTS OF THE HOWARD SOIL CON	AND SEDIMENT CONTROL REPRESENTS DO N MY PERSONAL KNOWLEDGE OF REPARED IN ACCORDANCE WITH THE	BIN OR STRUCTION PR ATTENDANCE AT A MARYLAND DEF APROVED TRAINING PROGRAM FR EROSION BEFORE BEGINNING THE P
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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways Chief, Division of Land Development Chief, Development Engineering Division Chief, Development Engineering Division	ENGINEER'S CERTIFICATE "I CERTIFY THAT THIS PLAN FOR EROSION A PRACTICAL AND WORKABLE PLAN BASE THE SITE CONDITIONS AND THAT IT WAS PR REQUIREMENTS OF THE HOWARD SOIL CON	AND SEDIMENT CONTROL REPRESENTS DO NMY PERSONAL KNOWLEDGE OF EPARED IN ACCORDANCE WITH THE SERVATION DISTRICT."	BIN OR PARCE STR DEVELOPER'S/BUILDER'S CEN "I/WE CERTIFY THAT ALL DEVELOPER DONE ACCORDING TO THIS PLAN, A INVOLVED IN THE CONSTRUCTION PR ATTENDANCE AT A MARYLAND DEF APPROVED TRAINING PROGRAM FOR ENGION BEFORE BEGINNING THE PP ON-SITE INSPECTION BY THE HSCD.
APPROVED: Howard country department of Public works         Chief, Bureau of Highways         Chief, Development Engineering Division	ENGINEER'S CERTIFICATE "I CERTIFY THAT THIS PLAN FOR EROSION A PRACTICAL AND WORKABLE PLAN BASE THE SITE CONDITIONS AND THAT IT WAS PR REQUIREMENTS OF THE HOWARD SOIL CON	AND SEDIMENT CONTROL REPRESENTS DO NMY PERSONAL KNOWLEDGE OF EPARED IN ACCORDANCE WITH THE SERVATION DISTRICT."	EN BRS

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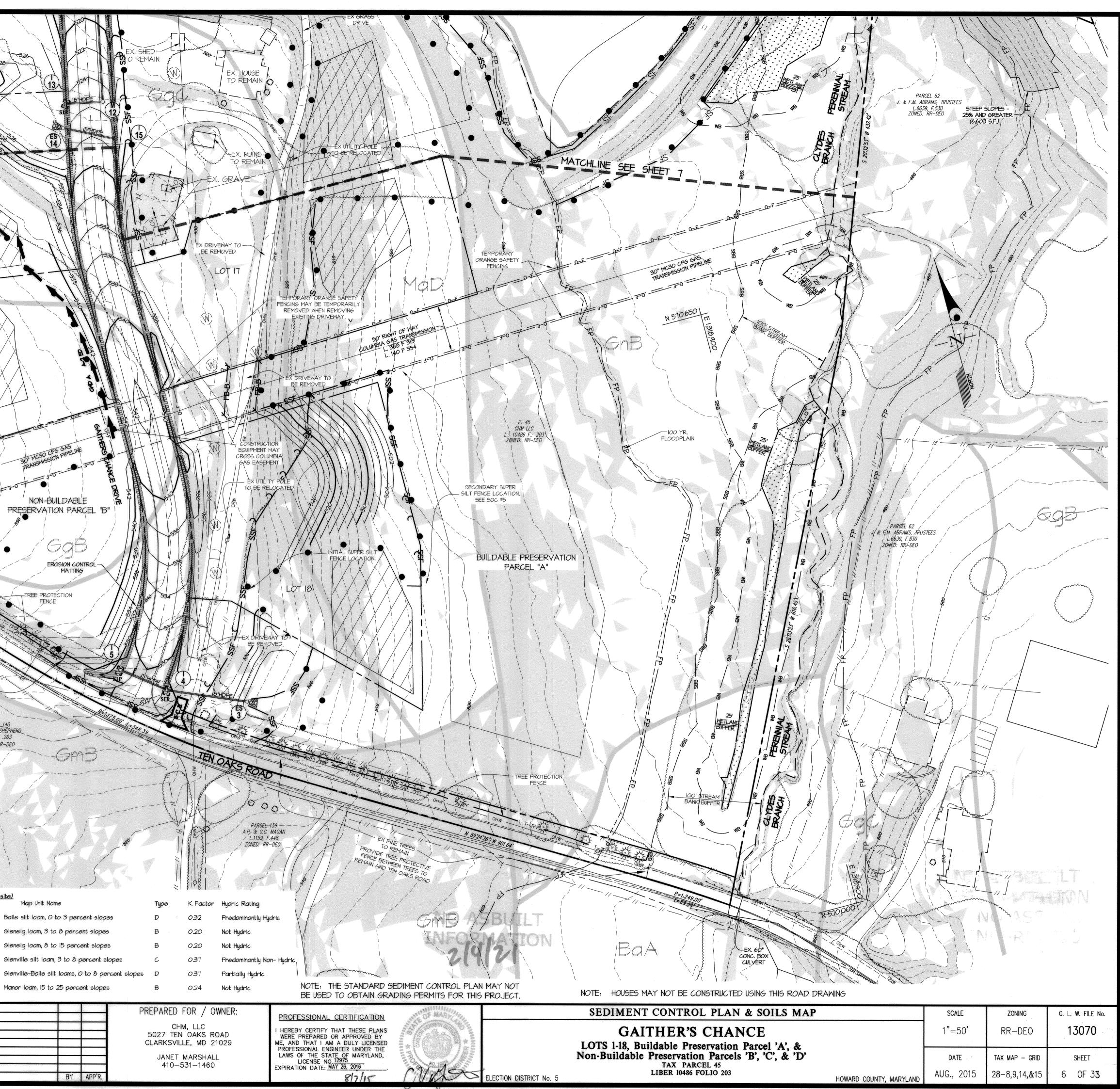
© GLW 2014



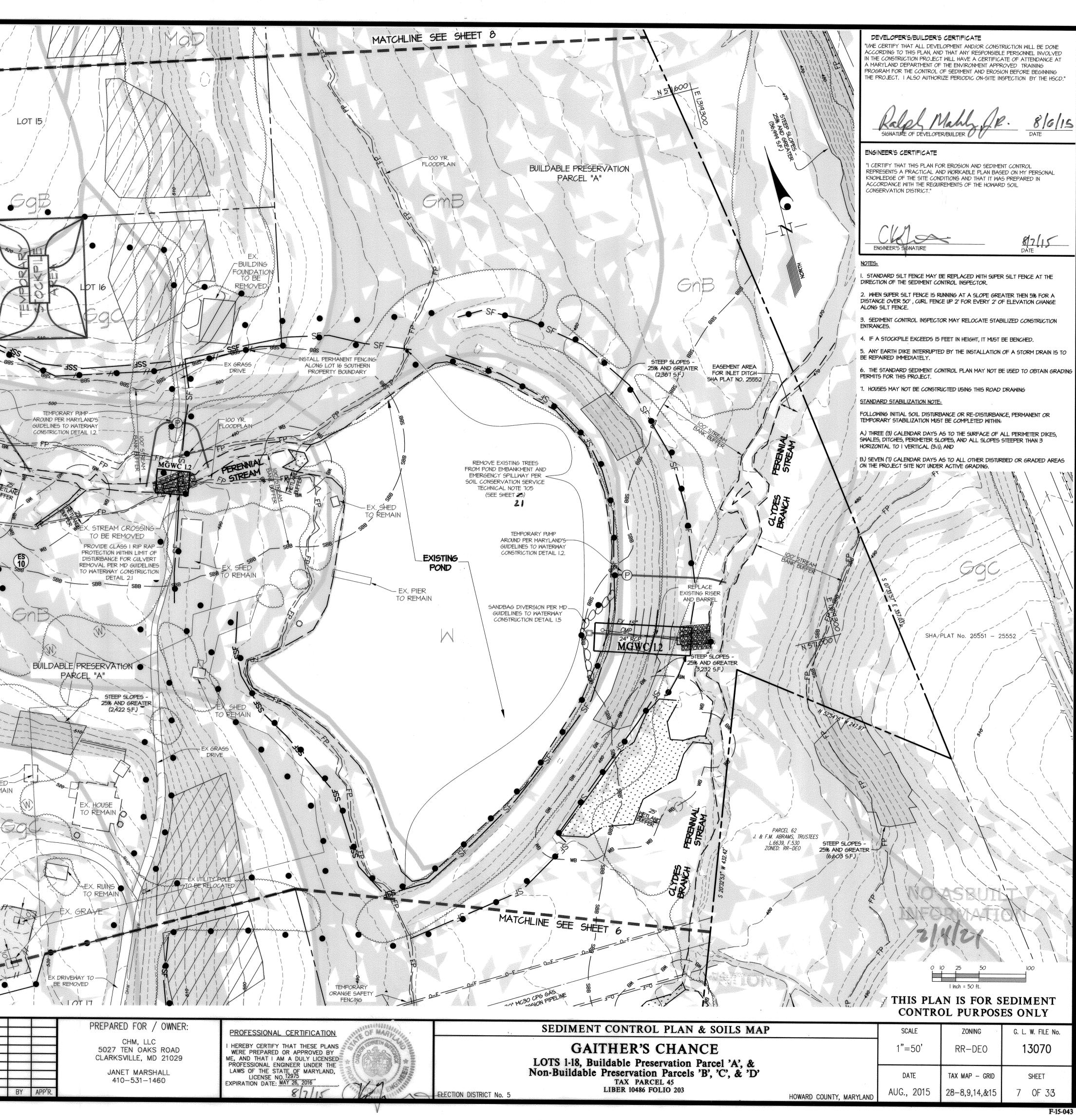
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MOUNTABLE NON-BUILDABLE PRESERVATION PARCEL "C" MATCHLINE SEE SHEET PARCEL 150 R. & K. TARP 2.15033 F.276 ZONED: RR-DEO PARCEL 44 – LEROY & LOIS PETERS -L.9192 F.560 1--SECONDARY SUPER SILT FENCE LOCATION. SEE SOC #5 S. oLi Jae ILIALIA LOT TEMPORARY ORANGE SAFETY FENCING Ores IN 57065  $\odot$ DEVELOPER'S/BUILDER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED OTES: IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE SEDIMENT CONTROL INSPECTOR. THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD. 2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE PARCEL 140 D.E. & P.L, SHEPHERD OVER 50', CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE. /L.474, F .263 3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES. - ZONED: RR-DEO IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY. 6. THE STANDARD SEDIMENT CONTROL PLAN MAY NOT BE USED TO OBTAIN GRADING PERMITS FOR THIS PROJECT. ENGINEER'S CERTIFICATE "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL . HOUSES MAY NOT BE CONSTRUCTED USING THIS ROAD DRAWING REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN STANDARD STABILIZATION NOTE: ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO I VERTICAL (3:1); AND ILS 9 87115 DATE 3.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING. ENGINEER'S SIGNATURE <u>SOILS (on site)</u> APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Map Unit Name Map Unit l inch = 50 ft. 3/26/2015 Theune THIS PLAN IS FOR SEDIMENT Chief, Bureau of Highways 🛛 🖊 🏎 Date CONTROL PURPOSES ONLY APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING Gq THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND Ket Shuliod GmB 9-16-15 SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. of Land Development )ate GnB had Colondon 9.11.15 MaD Chief, Development Engineering Division Date **GLWG**UTSCHICK 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 L:\CADD\DRAWINGS\13070\PLANS BY GLW\Finals\13070-SNE.dwg DES. dds DRN. dds CHK. DATE REVISION

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Chief, Bureau of Highways			/ / Y_ / <b>W_</b> / `	11 11	
Chief, Division of Land Development	9-16-15	THIS DEVELOPMENT PLAN IS SEDIMENT CONTROL BY THE	APPROVED FOR SOIL EROSIC HOWARD SOIL CONSERVATION	DN AND I DISTRICT.	A The set
Chief, Development Engineering Divis	9-11-15	JOHARD SOIL CONSERVATIO	N DISTRICT	7/15 4	ALTINA
<b>GLW</b> GUTSCHICK L					
CIVIL ENGINEERS, LAND SURVEYORS, LAND 3909 NATIONAL DRIVE – SUITE 250 BURTONSVILLE, MARY	PLANNERS, LANDSCAPE ARCHITECTS – BURTONSVILLE OFFICE PARK (LAND 20866	· · · · · · · · · · · · · · · · · · ·			
TEL: 301-421-4024 BALT: 410-880-1820 DC,	/VA: 301-989-2524 FAX: 301-421-4186				
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THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND		* AAAAAA			
SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.		X-/		-5	LOT 6
HOWARD SOIL CONSERVATION DISTRICT BATE	Jak	X-A3	A	530	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	"I/WE CERTI	ER'S/BUILDER'S CERTIFICATE FY THAT ALL DEVELOPMENT AND/OR 5 TO THIS PLAN, AND THAT ANY RESP	R CONSTRUCTION WILL I	BE DONE	SINEER'S CERTIFICATE
Chief, Bureau of Highways Mar Date	IN THE CON A MARYLA	5 TO THIS PLAN, AND THAT ANY REST STRUCTION PROJECT WILL HAVE A CI ND DEPARTMENT OF THE ENVIRONMEI FOR THE CONTROL OF SEDIMENT AND	ERTIFICATE OF ATTENI NT APPROVED TRAINI	DANCE AT REPR	RTIFY THAT THIS PLAN FOR RESENTS A PRACTICAL AND NLEDGE OF THE SITE CONDIT ORDANCE WITH THE REQUIRE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	THE PROJE	CT. I ALSO AUTHORIZE PERIODIC ON	I-SITE INSPECTION BY	THE HSCD."	ORDANCE WITH THE REQUIRE SERVATION DISTRICT."
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Chief, Development Engineering Division 🥜 Date	SIGNATU	RE OF DEVELOPER/BUILDER		LENGI	NEER'S SIGNATURE
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					
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STEEP SLOPES

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THIS PLAN IS FOR SEDIMENT

CONTROL PURPOSES ONLY

ZONING

RR-DEO

TAX MAP - GRID

AUG., 2015 28-8,9,14,&15

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SCALE

1"=50'

DATE

SHA PLAT No. 25551

HOWARD COUNTY, MARYLAND

BUILDABLE PRESERVATION

PARCEL "A"

Ø

P. 45 CHM LLC .: 10486 A: 203 ZONED: RR-DEO

- 100 YR. FLOODPLAIN

GmB

ROUTE

w)

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO I VERTICAL (3:1); AND

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

STANDARD STABILIZATION NOTE:

7. HOUSES MAY NOT BE CONSTRUCTED USING THIS ROAD DRAWING

GRADING PERMITS FOR THIS PROJECT.

6. THE STANDARD SEDIMENT CONTROL PLAN MAY NOT BE USED TO OBTAIN

5. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

4. IF A STOCKPILE EXCEEDS IS FEET IN HEIGHT, IT MUST BE BENCHED.

ENTRANCES.

ALONG SILT FENCE. 3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION

2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50' , CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE

I. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

NOTES:

100

G. L. W. FILE No.

13070

SHEET

8 OF 33

B-4-2 STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS DEFINITION THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.	B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING and MULCHING DEFINITION	B-4-4 STA FOR TH
PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. <u>CONDITIONS WHERE PRACTICE APPLIES</u>	THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. <u>PURPOSE</u>	TO STABILIZE DISTUR
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED. <u>CRITERIA</u> A. SOIL PREPARATION	TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION. <u>CONDITIONS WHERE PRACTICE APPLIES</u>	TO USE FAST GROWING CONDITIONS WHERE PRACTICE AI PERIOD OF 6 MONTHS OR LES
a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE	TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING. CRITERIA	
AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.	A. SEEDING 1. SPECIFICATIONS	1. SELECT ONE OR MORE OF APPROPRIATE PLANT HARDI TEMPORARY SEEDING SUMM AND SEEDING DEPTHS. IF T
<ul> <li>c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.</li> <li>2. PERMANENT STABILIZATION</li> </ul>	a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 DECANDING THE OWNER SEED FOR MILET OF MUST OF MUST AND ADDRESS.	TABLE B.1 PLUS FERTILIZER 2. FOR SITES HAVING SOIL TE THE TESTING AGENCY SOIL 3. WHEN STABILIZATION IS REU MULCH OR STRAW MULCH //
<ul> <li>a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:</li> <li>I. SOIL PH BETWEEN 6.0 AND 7.0.</li> </ul>	REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE. b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.	HARDINESS ZONE: 6b
II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM). III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30	c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY	
PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.	<ul> <li>IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.</li> <li>d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS</li> </ul>	1 ANNUAL RYEGRASS 40 Ib/4
V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION. b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE	ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS. 2. APPLICATION	2 PEARL MILLET 20 Ib/0 SEI 1. A MINIMUM OF 24 HOURS
CONDITIONS. c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.	<ul> <li>a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.</li> <li>i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.</li> </ul>	<ol> <li>A MINIMUM OF 24 HOURS I INSPECTION AND PERMITS I</li> <li>ALL VEGETATIVE AND STRU PROVISIONS OF THIS PLAN</li> </ol>
<ul> <li>d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.</li> <li>e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN APPAS TO SMOOTH THE SUPPACE PEMOVE LARCE OF JECTS LIVE STORES AND READY THE</li> </ul>	<ul> <li>ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.</li> <li>b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER</li> </ul>	STANDARDS AND SPECIFICA REVISIONS THERETO. 3. FOLLOWING INITIAL SOIL DIS
LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND	SEED WITH SOIL. i. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.	STABILIZATION SHALL BE C
FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS. <u>B. TOPSOILING</u>	<ul> <li>ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.</li> <li>c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).</li> </ul>	B. Ż CALENDAR DAYS AS SITE NOT UNDER ACTIVI
<ol> <li>TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS 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.</li> </ol>	i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM). 200 POUNDS PER ACRE.	<ol> <li>ALL SEDIMENT IN SYDIA' AROUND THEIR PERIMETER COUNTY DESIGN MANUAL, S</li> <li>ALL DISTURBED AREAS MUSCULAR</li> </ol>
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.	<ul> <li>I. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.</li> <li>III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT</li> </ul>	ACCORDANCE WITH THE "2 EROSION AND SEDIMENT CC AND MULCHING (SEC. B). DONE WHEN RECOMMENDED
<ol> <li>TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:</li> <li>THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.</li> <li>THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.</li> </ol>	INTERRUPTION. iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL. B. MULCHING	ESTABLISHMENT OF GRASSI 6. ALL SEDIMENT CONTROL ST MAINTAINED IN OPERATIVE
<ul> <li>c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.</li> <li>d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.</li> <li>4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.</li> </ul>	a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND	OBTAINED FROM THE HOWA TOTAL AREA OF SITE AREA DISTURBED
<ul> <li>5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:</li> <li>a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE</li> </ul>	<ul> <li>REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.</li> <li>WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD</li> </ul>	AREA TO BE ROOFEL AREA TO BE VEGETATI TOTAL CUT
APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5 INCHES IN DIAMETER.	CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY. ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING	TOTAL FILL OFF-SITE WASTE/BC AREA LOCATION
<ul> <li>b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.</li> <li>c. 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 TOPSOIL.</li> </ul>	FACTORS. iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED.	<ol> <li>ANY SEDIMENT CONTROL P PLACEMENT OF UTILITIES M</li> <li>ADDITIONAL SEDIMENT CON HOWARD COUNTY DPW SED</li> </ol>
<ul> <li>6. TOPSOIL APPLICATION</li> <li>a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.</li> <li>b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF</li> </ul>	FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.	an Alexandra - Laura
4 INCHES. SPREADING IS TO 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 TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.	<ul> <li>iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.</li> <li>v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS; FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH</li> </ul>	EARTH DISTURBANCE OR G MAY NOT BE AUTHORIZED MADE.
<ul> <li>c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A 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.</li> <li>c. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)</li> </ul>	RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM. 2. APPLICATION	<ol> <li>TRENCHES FOR THE CONST WHICH SHALL BE BACKFILL SHORTER.</li> <li>ANY CHANGES OR REVISION</li> </ol>
1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.	<ul> <li>a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.</li> <li>b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION</li> </ul>	UNIT (MAXIMUM ACREAGE (
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND	RATE TO 2.5 TONS PER ACRE. c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER	TO A SUBSEQUENT GRADIN IN THE PRECEDING GRADIN ENFORCEMENT AUTHORITY. APPROVAL AUTHORITY, NO GIVEN TIME.
WARRANTY OF THE PRODUCER. 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.	100 GALLONS OF WATER. 3. ANCHORING a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO	B-4-8 STANI
4. LIME AND FERTILIZER ARE TO BE EVENT MILE FIELD AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.	MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD: i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS	A MOUND OR PILE OF SOIL PR
H-5 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL DEFINITION CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.	PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR. II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD	
<u>PURPOSE</u> TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.	CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO	<u>CO</u> STOCKPILE AREAS ARE UTILIZ
CONDITIONS WHERE PRACTICE APPLIES AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT. <u>SPECIFICATIONS</u> 1. MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND	BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED. IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4	1. THE STOCKPILE LOCATION
MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING. 2. VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION. 3. TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF	TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.	CLEARLY INDICATED ON T 2. THE FOOTPRINT OF THE S VOLUME OF MATERIAL AN BENCHING MUST BE PROV 3. RUNOFF FROM THE STOCK
<ul> <li>EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.</li> <li>IRRIGATION: SPRINKLE SITE WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS.</li> <li>BARRIERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.</li> </ul>	"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF	PRACTICE. 4. ACCESS THE STOCKPILE 5. CLEAR WATER RUNOFF IN DIVERSION DEVICE SUCH PROVISIONS MUST BE MA
6. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.	TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD."	MANNER. 6. WHERE RUNOFF CONCENT APPROPRIATE EROSION/S DISCHARGE.
Chief, Bureau of Highways AND Date	SIGNATURE OF DEVELOPER/BUILDER DATE	<ol> <li>STOCKPILES MUST BE ST. REQUIREMENT AS WELL A STANDARD B-4-4 TEMP(</li> <li>IF THE STOCKPILE IS LOC PROVIDED BELOW THE ST</li> </ol>
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	ENGINEER'S CERTIFICATE "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS	CONTAMINATED MATERIAL THE STOCKPILE AREA MUS
Chief Division of Land Development 9-16-15 Date 9-11-15	PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." 8/2/15	VEGETATIVE ESTABLISHMENT II SIDE SLOPES MUST BE MAINTA MUST BE KEPT FREE OF EROSIC FOR 2:1 SLOPES, 30 FEET FOR
Chief, Development Engineering Division 🦨 Date	Signature of Registered Engineer DATE	PROVIDED IN A
GLWGUTSCHICK LITTLE & WEBER, P.A.		
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		

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:\CADD\DRAWINGS\13070\PLANS BY GLW\Finols\13070-SNE.dwg DES. dds DRN. dds CHK.

REVISION

DATE

### NDARDS AND SPECIFICATIONS EMPORARY STABILIZATION DEFINITION

IRBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE

VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. SS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

### <u>CRITERIA</u>

THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE DINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE MARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN AND LIME RATES MUST BE PUT ON THE PLAN. STS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING. EQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN SEASON.

TEMP	ORARY SEEDING SU	MMARY			
E: 6b		FERTILIZER RATE			
PPLICATION TE (Ib/ac.)	SEEDING DATES	SEEDING DEPTHS	(10-10-10)	LIME RATE	
10 lb/ac	Mar. 1 to May 15, Aug. 1 to Oct. 15	0.5 INCHES	436 lb./ac. (10 lb./	2 tons/ac. (90 lb./	2
20 lb/ac	May 16 to July 31	0.5 INCHES	1,000 sf)	1,000 sf)	na ana sana ka

#### DIMENT CONTROL NOTES NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF

- PRIOR TO THE START OF ANY CONSTRUCTION. (410) 313-1855 UCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE AND ARE TO BE IN CONFORMANCE WITH THE "2011 MARYLAND ATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND
- STURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY COMPLETED WITHIN: TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES
- ND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT GRADING.
- SINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD STORM DRAINAGE.
- JST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL ONTROL" FOR PERMANENT SEEDINGS, SOD, TEMPORARY SEEDINGS TEMPORARY STABILIZATION, WITH MULCH ALONE, CAN ONLY BE ) SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND

### TRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN

HOWARD COUNTY SEDIM	ient c	ONTROL INSPECTOR.	
F SITE	:	57.83± AC.	
ĒD	:	18.0± AC.	
OOFED OR PAVED	:	I.I± AC.	
SETATIVELY STABILIZED	:	16.9± AC.	
	· :	16,500± CY	
	:	16,500± CY	
TE/BORROW	:	NA	

RROM

RACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR IUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE

ITROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE DIMENT CONTROL INSPECTOR.

#### RBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE BE REQUESTED UPON COMPLETION OF INSTALLATION OF SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER RADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS

TRUCTION OF UTILITIES IS LIMITED TO 3 PIPE LENGTHS OR THAT LED AND STABILIZED WITHIN 1 WORKING DAY, WHICHEVER IS

#### INS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED LAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH UENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING

Begeendeb of minin ormalino monthines begin on one ormalino
EAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED
RADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA
RADING UNIT HAS BE STABILIZED AND APPROVED BY THE
DRITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE
Y, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A

### DARDS AND SPECIFICATIONS FOR **STOCKPILE AREA** DEFINITION

### ROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. PURPOSE CATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS

ION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS. ONDITIONS WHERE PRACTICE APPLIES

- ZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE. <u>CRITERIA</u>
- AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE THE EROSION AND SEDIMENT CONTROL PLAN. STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED D BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1 VIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING

### KPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL AREA FROM THE UPGRADE SIDE AND THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE

DE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE TRATES ALONG THE TOE OF THE STOCKPILE FILL, AN SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT TH

- ABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION S STANDARD B-4-1 INCREMENTAL STABILIZATION AND
- ORARY STABILIZATION. CATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE TOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING MUST BE COVERED WITH IMPERMEABLE SHEETING.

## MAINTENANCE

ST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION INED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA ON. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEE 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE

CHM, LLC

JANET MARSHALL

410-531-1460

# ACCORDANCE WITH SECTION B-3 LAND GRADING.

# PREPARED FOR / OWNER: 5027 TEN OAKS ROAD CLARKSVILLE, MD 21029

BY APP'R.

### **B-4-5 STANDARDS AND SPECIFICATIONS** FOR PERMANENT STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

## PURPOSE

APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

### CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

<u>CRITERIA</u>

### SEED MIXTURES

- a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION ATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINE
- STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 -RITICAL AREA PLANTING. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY
- d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY. TURFGRASS MIXTURES
- a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE
- KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS EEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF HREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
- KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FUL AREAS WHERE RAPID ÉSTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 000 SQUÁRE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
- iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHÁD RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
- KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET. <u>NOTES:</u>
- SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"
- CHOOSE CERTIFIED MATERIAL CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CILITIVAR PURITY THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE. TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE
- IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
- SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B
- TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED, REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
- . IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

### PERMANENT SEEDING SUMMARY

SPECIES	APPLICATION	SEEDING	SEEDING	- RATE	LIME
	RATE	DATES	DEPTHS	(10-20-20)	RATE
*Certified Tall Fescue blend (95% by weight): Falcon IV Penn 1901 & Rebel Exeda and Certified Kentucky Bluegrass blend (5% by weight): Courtyard, Raven & Yankee	6-8 lb/ 1000 s.f.	Mar. 1 to May 15, Aug. 15 to Oct. 15	1/4 - 1/2 IN.	1.0 lb/ 1000 s.f. (45 lb/acre)	90 lb/ 1000 s.

GENERAL SPECIFICATIONS

- CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE
- ACCEPTABLE STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN
- WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
- SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

### SOD INSTALLATION

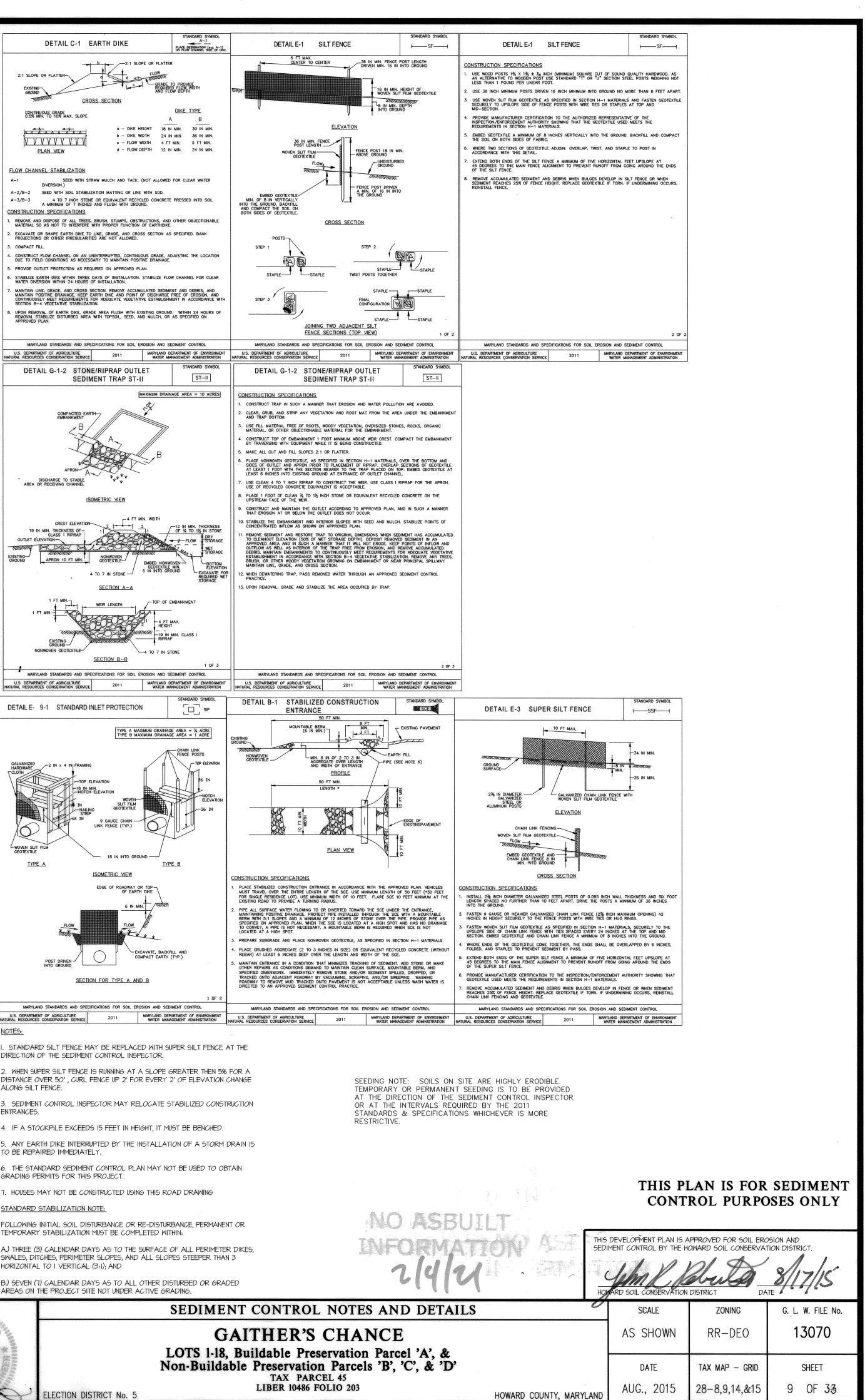
- DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED
- PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OF OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH
- STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF
- THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT

### SOD MAINTENANCE IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS

- OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.
- - PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE

#### DETAIL C-1 EARTH DIKE 2:1 SLOPE OR FLATTER 2:1 SLOPE OR FLATTER--GRADE TO PROVIDE REQUIRED FLOW WIDTH AND FLOW DEPTH EXISTING-CROSS SECTION DIKE TYPE CONTINUOUS GRADE 0.5% MIN. TO 10% MAX. SLOPE А В a – DIKE HEIGHT 18 IN MIN. 30 IN MIN. had a a a a a a b - DIKE WIDTH 24 IN MIN. 36 IN MIN. c – FLOW WIDTH 4 FT MIN. 8 FT MIN.

- A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
- CONSTRUCTION SPECIFICATIONS
- 5. COMPACT FILL.
- PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.



## U.S. DEPARTMENT OF AGRICULTURE NOTES:

DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

# ALONG SILT FENCE.

ENTRANCES.

- O BE REPAIRED IMMEDIATELY.
- GRADING PERMITS FOR THIS PROJECT.
- STANDARD STABILIZATION NOTE:
- TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
- HORIZONTAL TO I VERTICAL (3:1); AND
- AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

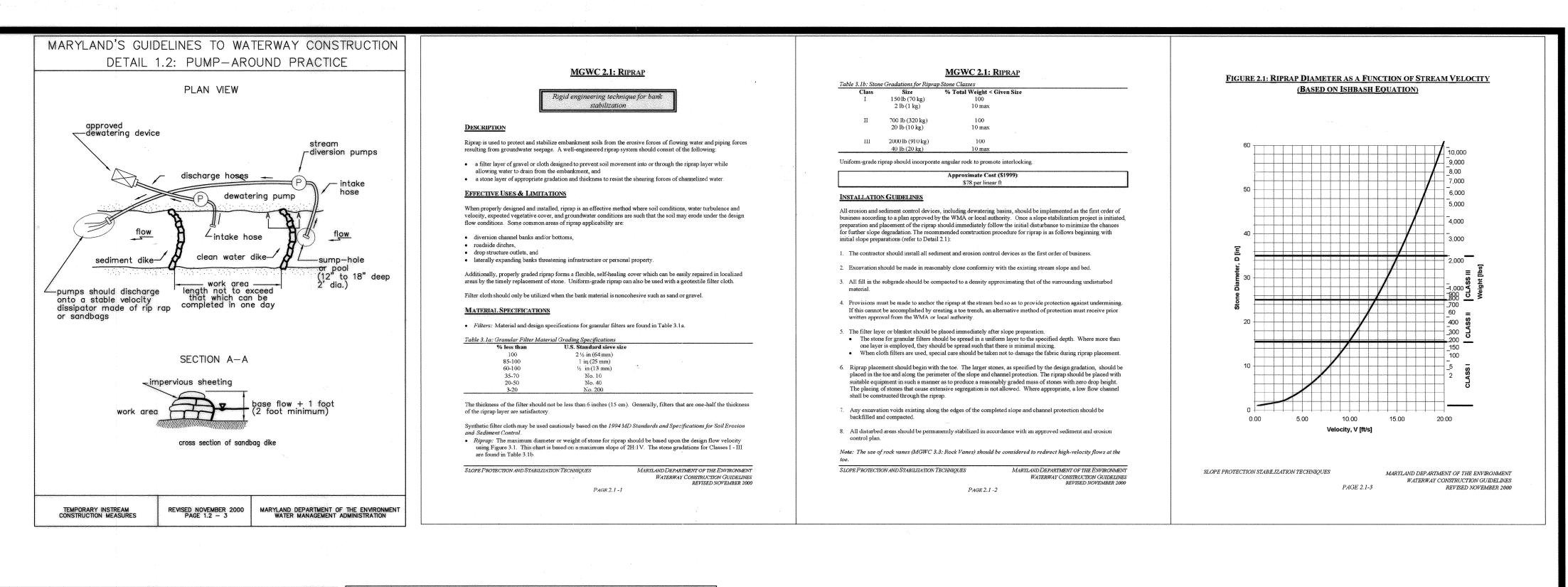
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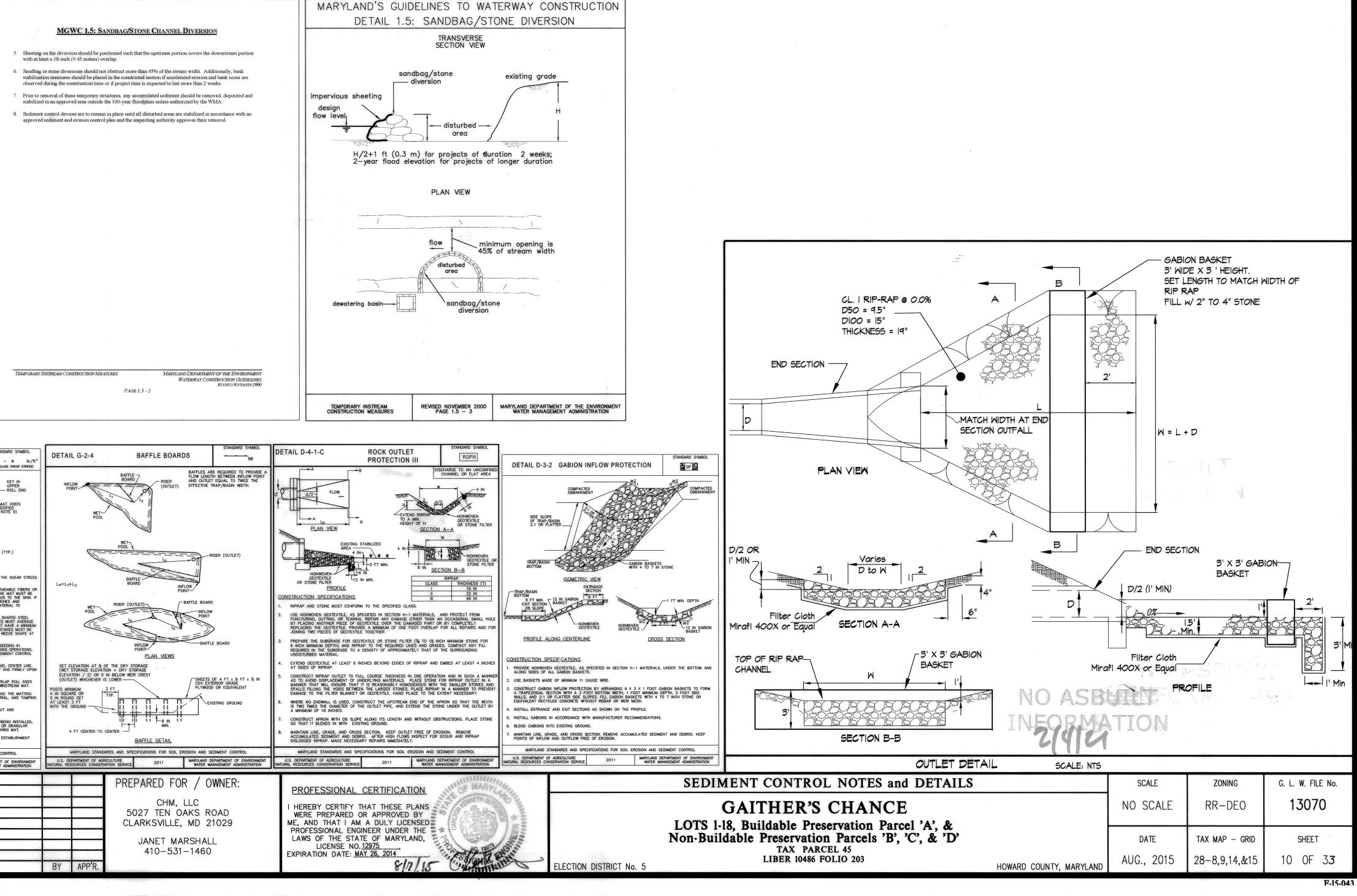
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LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2016

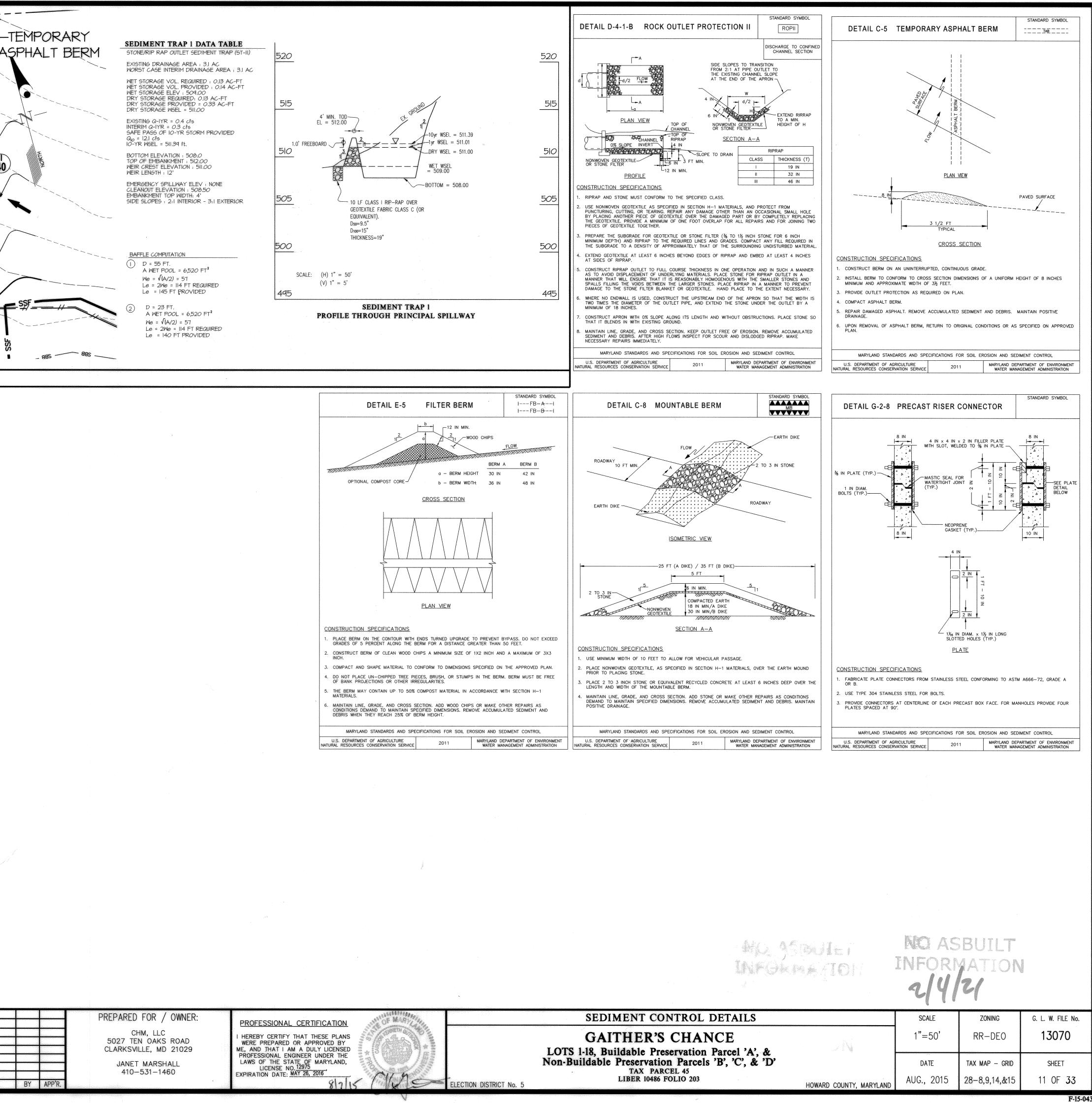
MGWC 1.2: PUMP-AROUND PRACTICE	MGWC 1.2: PUMP-AROUND PRACTICE			
Temporary measure for dewatering in- channel construction sites				
The work should consist of installing a temporary pump around and supporting measures to divert flow around instream construction sites.	7. Water from the work area should 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.			
IMPLEMENTATION SEQUENCE	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			
Sediment control measures, pump-around practices, and associated channel and bank construction should be comp in the following sequence (refer to Detail 1.2):	pleted 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 Waterway Construction).			
1. Construction activities including the installation of erosion and sediment control measures should not b until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be n in the field prior to construction. The contractor is responsible for any damage to existing utilities that r	marked accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end			
<ol> <li>The contractor is responsible for any damage to existing during the result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.</li> <li>The contractor should notify the Maryland Department of the Environment or WMA sediment control</li> </ol>	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.			
inspector at least 5 days before beginning construction. Additionally, the contractor should inform the l environmental protection and resource management inspection and enforcement division and the provid 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 insp the county project manager, and the engineer to review limits of disturbance, erosion and sediment com requirements, and the sequence of construction. The contractor should stake out all limits of disturbance	the work area. This should be accomplised 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 discingter used for the main stem pump around			
to the pre-construction meeting so they may be reviewed. The participants will also designate the contra- staging areas and flag all trees within the limit of disturbance which will be removed for construction are Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.	access. 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,			
<ul> <li>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 limit the disturbance as shown on the plans and minimize disturbance within the work area whenever possible</li> </ul>	its of to be numbed around the work area in the main stem			
<ol> <li>Upon installation of all sediment control measures and approval by the sediment control inspector and local environmental protection and resource management inspection and enforcement division, the control should begin work at the upstream section and proceed downstream beginning with the establishment or</li> </ol>	the 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			
stabilized construction entrances. In some cases, work may begin downstream if appropriate. The seque of construction must be followed unless the contractor gets written approval for deviations from the WI local authority. The contractor should only begin work in an area which can be completed by the end of the sequence of the seque	tence       14.       After construction, all disturbed areas should be regraded and revegetated as per the planting plan.         VMA or       of the			
day including grading adjacent to the channel. At the end of each work day, the work area must be stab and the pump around removed from the channel. Work should not be conducted in the channel during r events.	rain			
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 state velocity dissipater made of riprap or sandbags.				
TEMPORARY INSTREAM CONSTRUCTION MEASURES MARYLAND DEPARTMENT OF THE ENVIRO WATER MANAGEMENT ADMINIST	IRATION WATER MANAGEMENT ADMINISTRATION			
PAGE 1.2 - 1 REVISED NOVEMBER	R 2000 PAGE 1.2 – 1 REVISED NOVEMBER 2000			
DETAIL 2.1: RIPRAP	MGWC 1.5: SANDBAG/STONE CHANNEL DIVERSION			
	Temporary measure for dewatering in- channel construction sites			
SECTION VIEW	DESCRIPTION The work should consist of installing sandbag or stone flow diversions for the purpose of erosion control when construction activities occur within the stream channel.			
Water Surface	EFFECTIVE USES & LIMITATIONS Diversions are used to isolate work areas from flow during the construction of in-stream projects. Diversions which			
(of design discharge) Bank	have an insufficient flow capacity can fail and severely erode the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low rainfall. This temporary measure may not be practical in large channels. MATERIAL SPECIFICATIONS			
Riprap Layer- typical thickness is the greater of: 12 inches (30 cm), the upper limit of D <sub>100</sub> , and 1.5 times the upper limit of D <sub>50</sub> ; median stone size, D <sub>50</sub> , shall be based on bankfull discharge	<ul> <li>Materials for sandbag and stone stream diversions should meet the following requirements:</li> <li><i>Riprap</i>: Riprap should be washed and have a minimum diameter of 6 inches (0.15 meters).</li> </ul>			
Maximum slope for	<ul> <li>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 the fill material (i.e., sand, fine gravel, etc.).</li> <li>Sheeting: Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.</li> </ul>			
Stream Bed - St	is of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to			
• • • • • • • • • • • • • • • • • • •	s of Sandbag/stone diversions can be used independently or as components of other stream diversion techniques.			
Toe Trench - minimum toe trench depth below	<ol> <li>The diversion structure should be installed from upstream to downstream.</li> <li>The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach. For projects with a duration less than 2 weeks, the height of the diversion should be one half the streambank</li> </ol>			
channel invert shall be designed based on site characteristics and to prevent failure due to scour	height, measured from the channel bed, plus 1 foot (0.3 meters) or bankfull height, whichever is greater. For projects of longer duration, the top of the sandbag or stone diversion should correspond to bankfull height. For diversion structures utilizing sandbags, the stream bed should be hand prepared prior to placement of the base layer of sandbags in order to ensure a water tight fit. Additionally, it may be necessary to prepare the bank in a similar fashion.			
	3. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.			
	4. Sediment-laden water from the construction area should be pumped to a dewatering basin.  TEMPORARY INSTREAM CONSTRUCTION MEASURES MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION OUTDUINES REVER DOVEMBER 2000			
SLOPE PROTECTION AND STABILIZATION TECHNIQUES REVISED NOVEMBER 2000 PAGE 2.1 - 4 WATER MANAGEMENT ADMINISTRATION	PAGE 1.5 - 1			
ENGINEER'S CERTIFICATE				
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION	DETAIL B-4-6-C PERMANENT SOIL STAND/ STABILIZATION MATTING PSMC - CHANNEL APPLICATION (* mouse			
DISTRICT."	OVERLAP OR ABUT			
SIGNATURE OF ENGINEER DATE BUILDER'S CERTIFICATE	6 IN MIN. OVERLAP AT ROLL END (TYP.)			
"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN $\end{tabular}$	CHIS PLAN IS FOR			
THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO	SEDIMENT CONTROL PURPOSES USE PERMARENT SOIL STABILIZATION MATTING MADE OF OPEN WHAVE SWITTERED, NON-DECORATE			
AND A DEVELOPED AND AND A DEVELOPED AND A DEVE	2. USE PERMANENT SOL STABILIZATION MATTING MADE OF OPEN NEAVE SWITHETIC, NON-DEGRADE DNLY DNLY 3. SECURE MATTING USING STELL STAPLES OR WOOD STARED, STAPLES MUST BE "U" OR "T" SH WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 AREPECTIVELY. "U" SHAPED STAPLES			
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	<ul> <li>1 TO 1.4 INCHES WOE AND BE A MINIMUM OF 6 INCHES LONG. "I" SHAPED STAPLES MUST I 8 INCH MAN LEG. A MINIMUM IN INCH SECOND STAPLES MUST I 8 INCH MAN LEG. A MINIMUM IN INCH SECOND STAPLES MUST I 8 INCH MAN LEG. A MINIMUM IN INCH SECOND STAPLES MUST I 8 INCH MAN LEG. A MINIMUM IN INCH SECOND STAPLES MUST I 8 INCH MAN LEG. A MINIMUM IN INCH SECOND STAPLES MUST I 9 INCH MAN LEG. A MINIMUM IN INCH SECOND STAPLES MUST I 9 INCH MAN LEG. A MINIMUM IN INCH SECOND STAPLES MUST I 1 TO 1.4 INCH SECOND STAPLES MUST I 8 INCH MAN LEG. A MINIMUM INCH SECOND STAPLES MUST I 1 TO 1.4 INCH SECOND STAPLES MUST I 8 INCH MAN LEG. A MINIMUM INCH SECOND STAPLES MUST I 1 TO 1.4 INCH SECOND STAPLES MUST I 8 INCH MAN LEG. A MINIMUM INCH SECOND STAPLES MUST I 1 TO 1.4 INCH SECOND</li></ul>			
8/3//24/5 ER	PLAN. ROSION AND SEDIMENT CONTROL BY THE OWARD SOIL CONSERVATION DISTRICT. 6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS, OVERLAP (6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS, OVERLAP			
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	<ul> <li>BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNS</li> <li>7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIA TO SECURE THE MAT END IN THE KEY.</li> <li>8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS ALCON SEAMS, JOINTS, AND BOLL ENDS.</li> </ul>			
Chief, Division of Land Development Date	9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEI ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOL OR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOL/MAT CONTACT WITHOUT CRUSHIN 10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ES			
Chief, Development Engineering Division & Date	ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON DWARD S.C.D. MARYLAND SCORE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF WATER MANAGEMENT AND MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT AND SEDIMEN			
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				
L:\CADD\DRAWINGS\13070\PLANS BY GLW\Finals\13070-SNE.dwg DES. dds DRN. dds CHK.	DATE REVISION			

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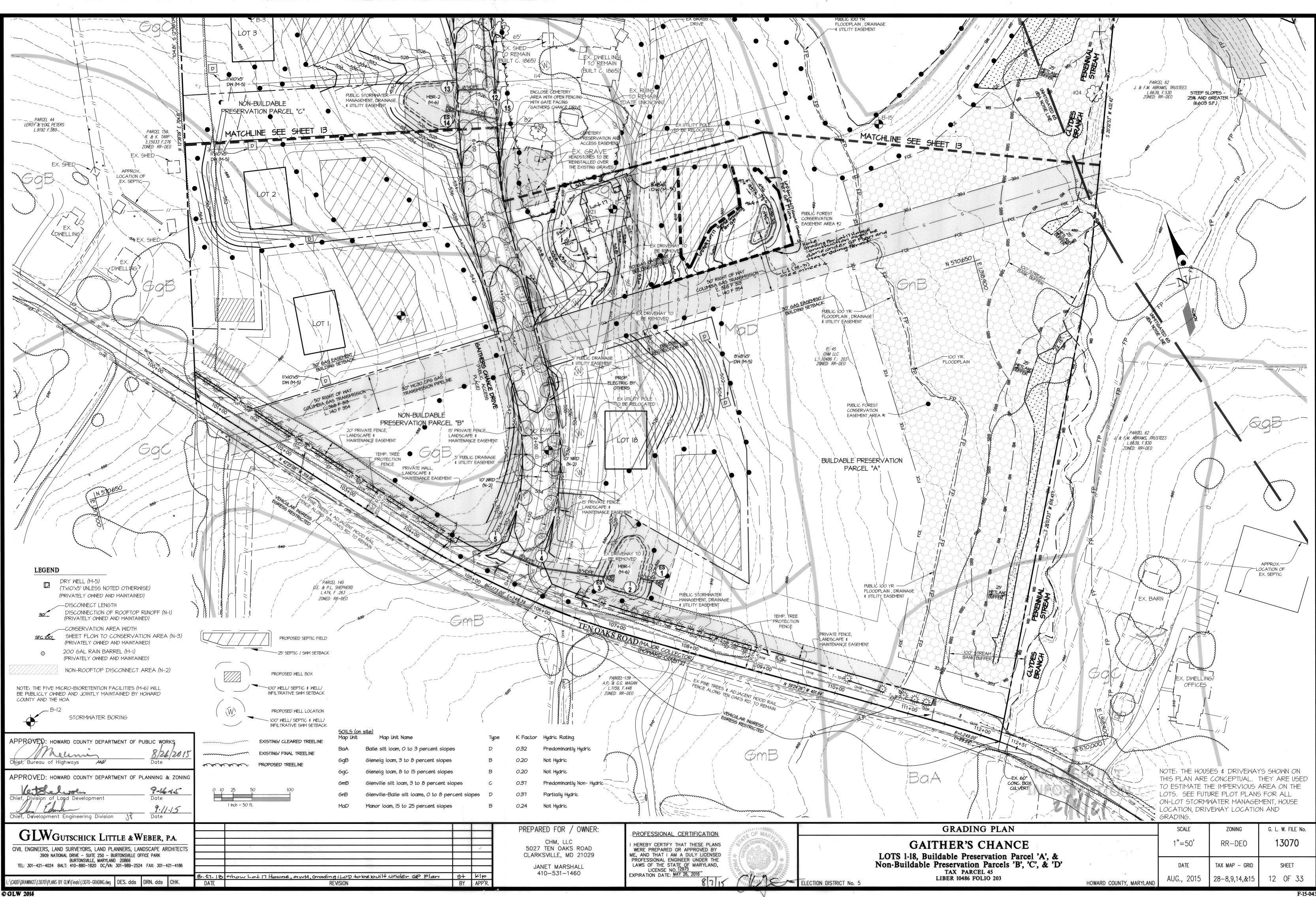


£ CPD ---512--50 \_\_\_\_\_ -508--DRY WSEL= 511.00 - WET WSEL: TRAP 509.0 40 TRAP BOTTOM **BH** ES 508.6 39 1 EI2 \_\_\_\_\_ A TOP OF DAM F 32 STONE OUTLET STONE WEIR ELEV = 511.00 STONE WEIR LENGTH = 12' **TRAP 1 DETAILS** SCALE: |" = 20' NOTES: DEVELOPER'S/BUILDER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED THE SEDIMENT CONTROL INSPECTOR. IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING 2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING OVER 50', CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE. THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD. 3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES. 4. IF A STOCKPILE EXCEEDS IS FEET IN HEIGHT, IT MUST BE BENCHED. 5. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY. 8/6/15 6. THE STANDARD SEDIMENT CONTROL PLAN MAY NOT BE USED TO OBTAIN GRADING PERMITS FOR THIS PROJECT. 1. HOUSES MAY NOT BE CONSTRUCTED USING THIS ROAD DRAWING ENGINEER'S CERTIFICATE STANDARD STABILIZATION NOTE: "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN STABILIZATION MUST BE COMPLETED WITHIN: ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO I VERTICAL (3:1); AND B.) SEVEN (1) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING. 8/7/15 DATE APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 1 inch = 20 ft 8/26/2015 "reance. THIS PLAN IS FOR SEDIMENT Chief, Bureau of Highways 🛛 📈 Date CONTROL PURPOSES ONLY APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND A. Sulcooli SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. 8-16-15 ivision of Land Development Date Edut 9.11.15 Date Chief, Development Engineering Division 0 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\DRAWINGS\13070\PLANS BY GLW\Finals\13070-SNE.dwg DES. dds DRN. dds CHK. DATE REVISION © GLW 2014

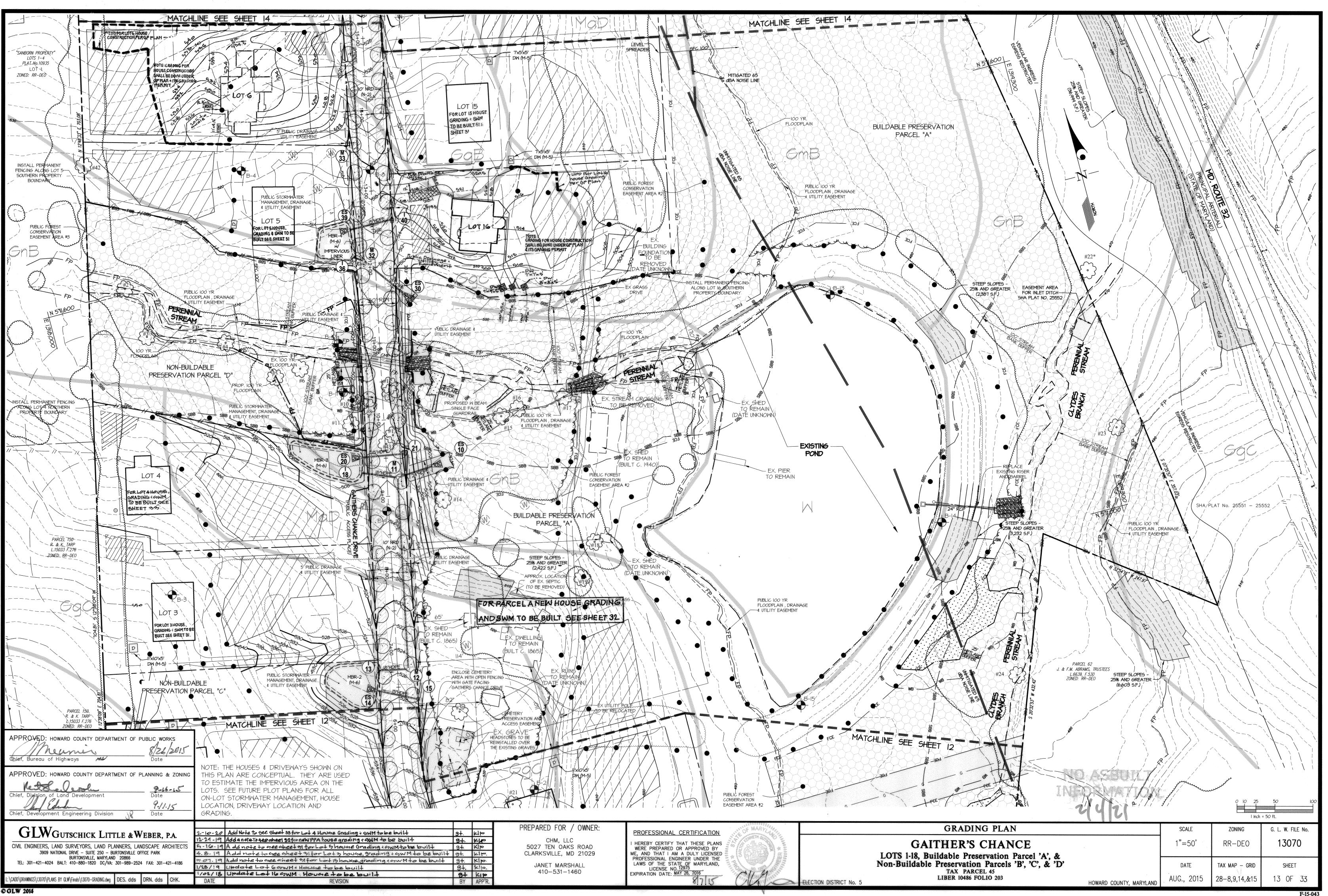


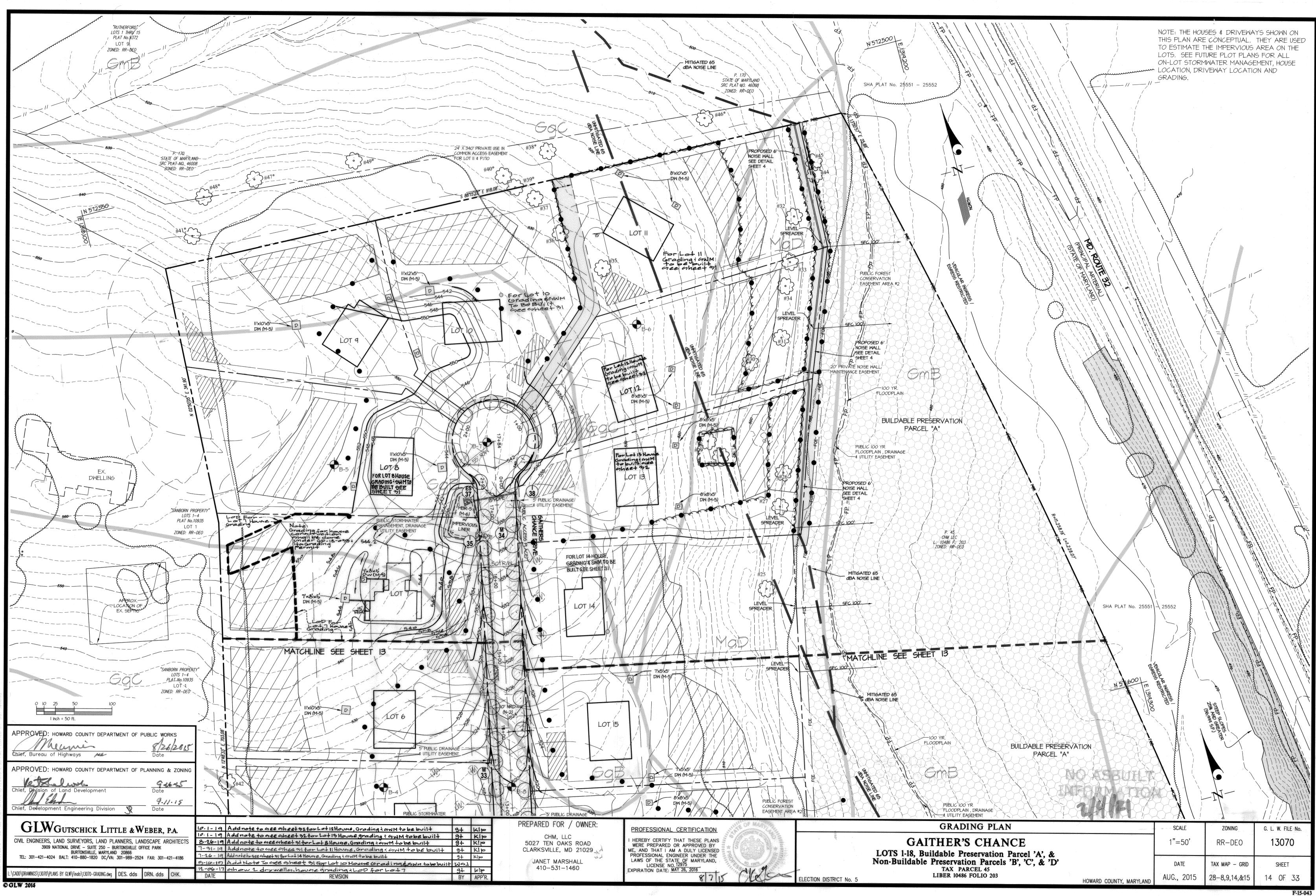
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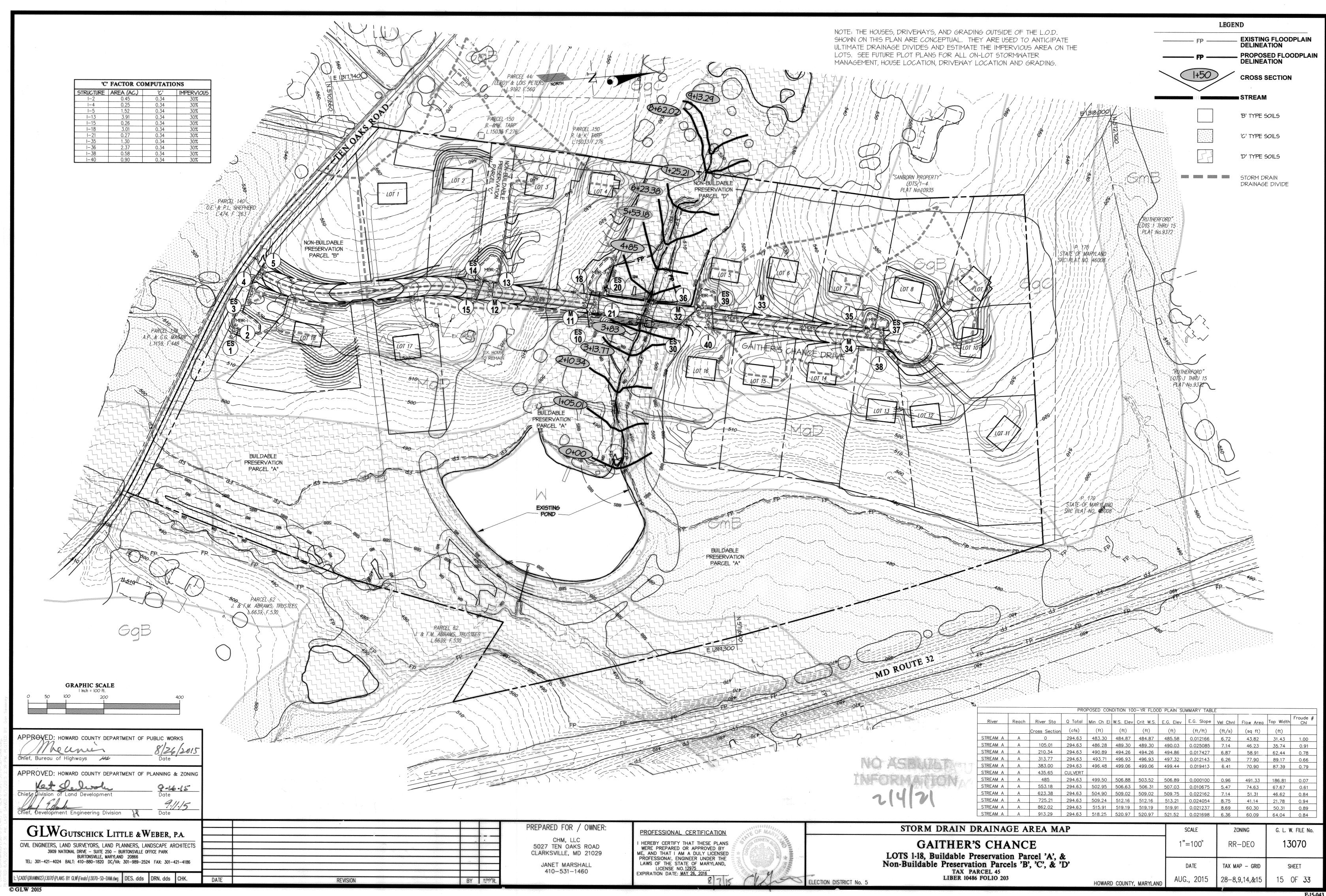
		BY	APP'R.		PREPARED FOR / OW CHM, LLC 5027 TEN OAKS RO CLARKSVILLE, MD 21 JANET MARSHALL 410-531-1460	029	PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2016	OF MAR	ELECTION DISTRICT No. 5	L0 No
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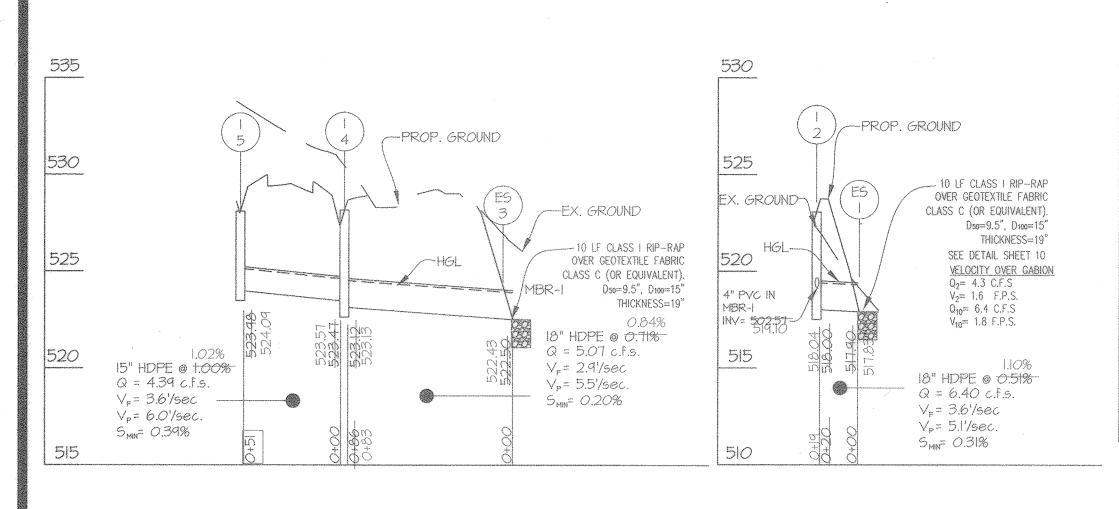


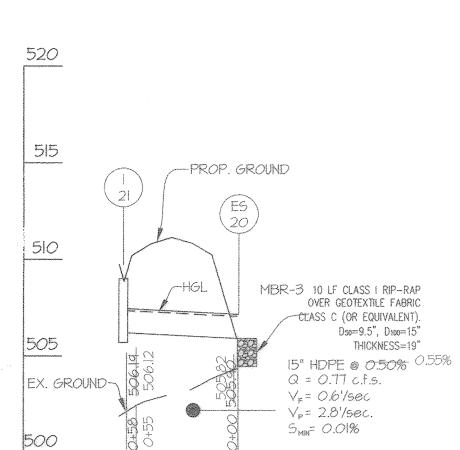
ble Preservation Parcel 'A', &				
servation Parcels 'B', 'C', & 'D'	ġ.	DATE	TAX MAP – GRID	SHEE
ER 10486 FOLIO 203	- HOWARD COUNTY, MARYLAND	AUG., 2015	28-8,9,14,&15	12 OF

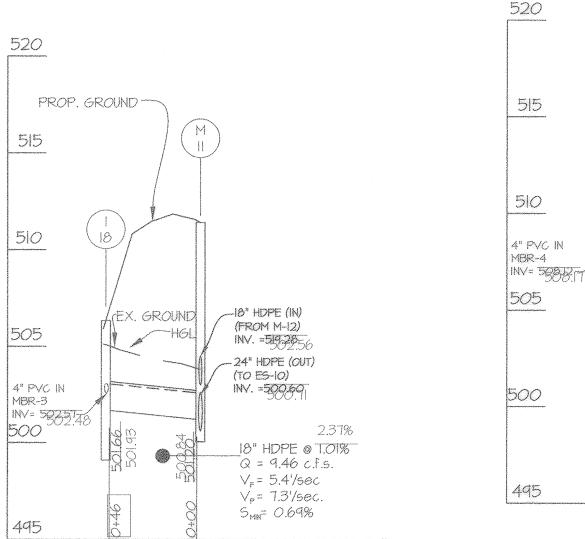




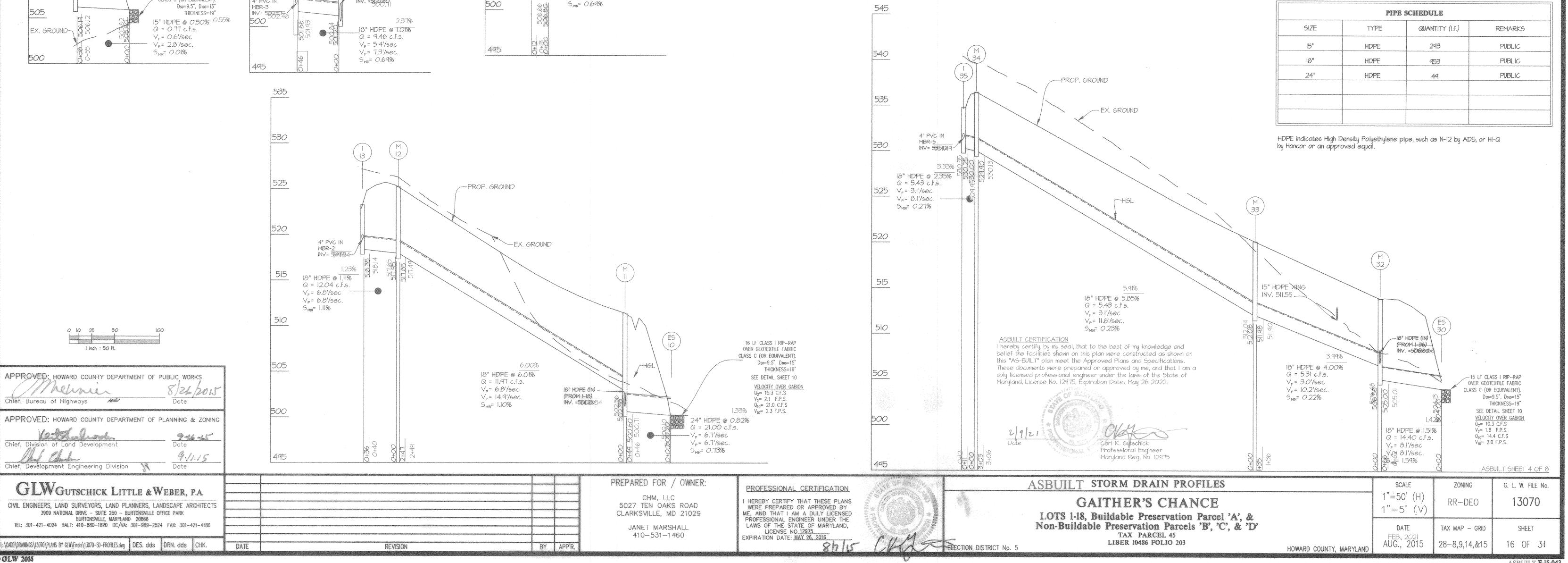




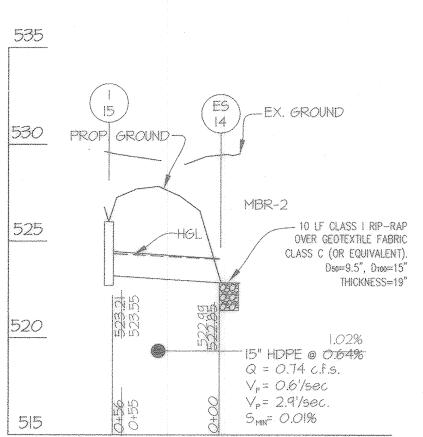




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. 32

-PROP. GROUND

H-HGL 18" HDPE (IN)

(FROM M-33)

" IO" HOPE (OUT)

(TO ES-30)

H-EX. GROUND

INV. =506,33

 $V_{\rm F} = 5.4'/{\rm sec}$ 

INV. -306.540

18" HDPE @ 1.24%

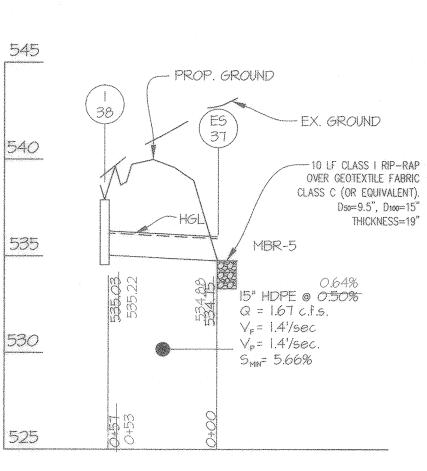
Q = 9.46 c.f.s.

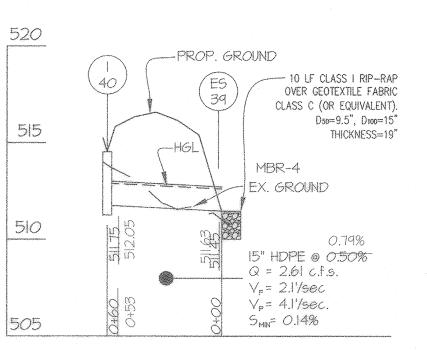
Vp= 7.9'/sec.

3.54%

(36)

(M)

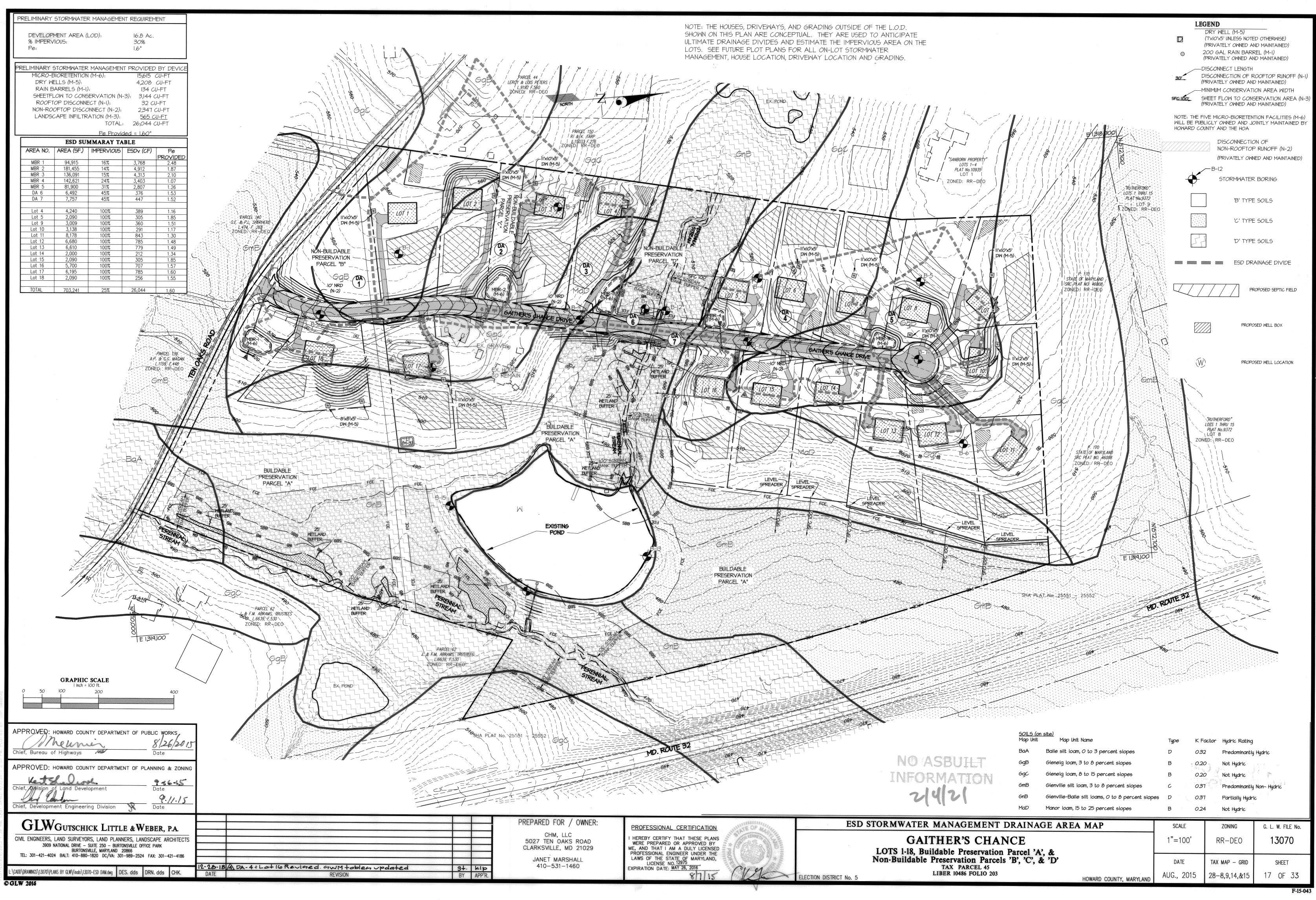


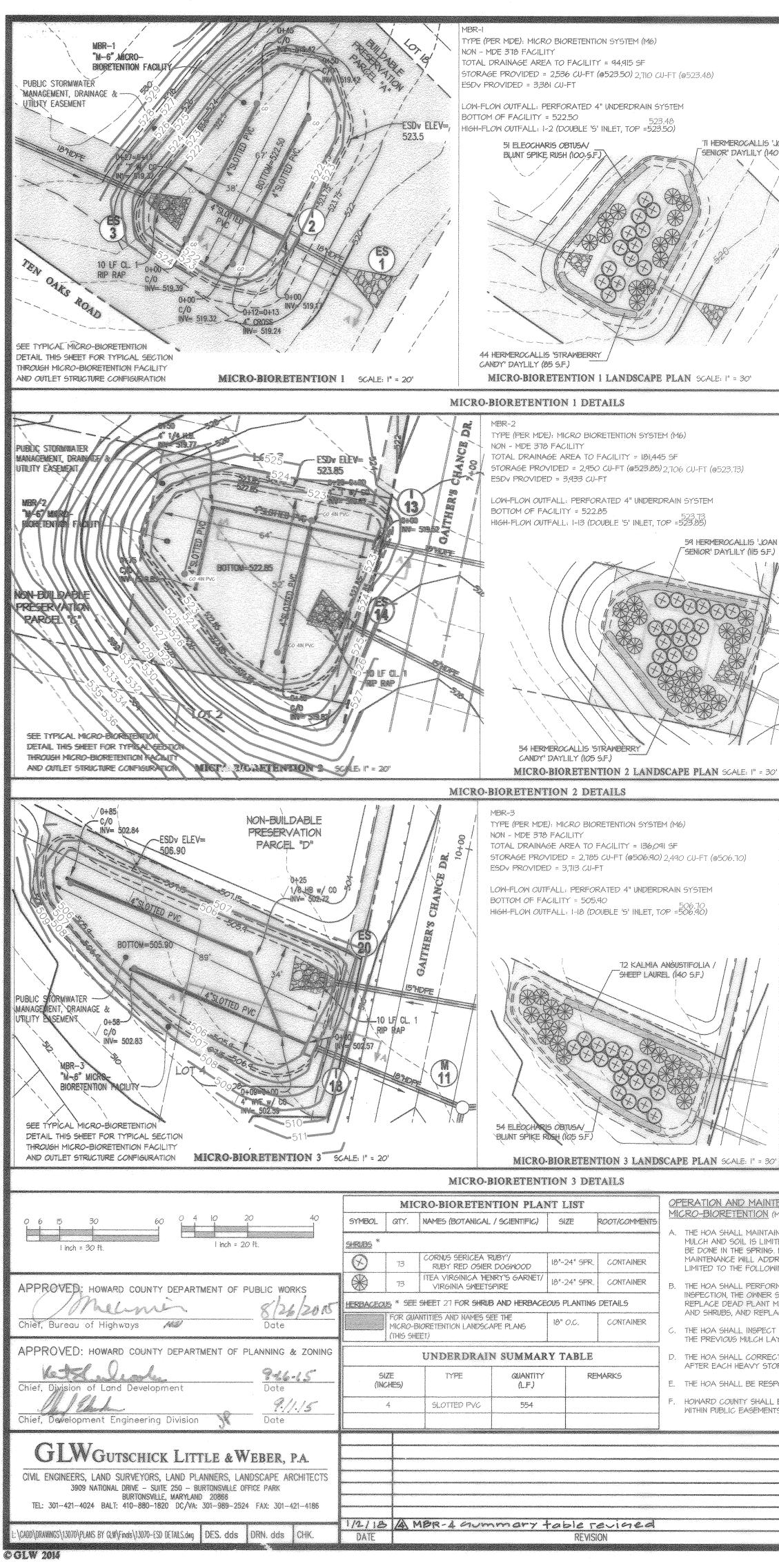


			1			STRU	CTURE S	CHEDULE					
NO	TYPE	WIDTH		TOP ELE	VATION AS-E		0000	INVI POSED	ERT AS-E		STD. DETAIL	REMARKS	LOCATION
NO	TYPE	(INSIDE)	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER			
1-2	DOUBLE 'S' INLET	2'-7.5"	523.50		523.48		502.57	518.00	519.10	518.04	HO. CO. D 4.23	PUBLIC	
1-4	'K' INLET	3'-0"	527.24	nisi wa kana ka	528.08		523,41	523.37	523,57	523.13	HO. CO. D 4.12	PUBLIC	
1-5	'K' INLET	3'-0"	527,43	ilija, Naje ilija, ilija ilija ilija	528.63		das bez rite nis int.	523.98		524.09	HO. CO. D 4.12	PUBLIC	*****
I-13	DOUBLE 'S' INLET	2'-7.5"	523.85	anur Pila Mari Hou Alai	523.73	ang pang na	519.52	518.35	519.54	518.14	HO. CO. D 4.23	PUBLIC	
1-15	"K" INLET	3'-0"	526.ÒO	ovas fina. Post Post	526.85		Alexar dilan india territoria dilan	523.21		523.55	HO. CO. D 4.12	PUBLIC	
1-18	DOUBLE 'S' INLET	2'-7.5"	506.90	wajin News Yorki Will Afrika	506.70		502.57	501.66	502.48	501.93	HO. CO. D 4.23	PUBLIC	
I-2I	'K' INLET	3'-0"	508.90	میکند بینید میکند. میکند بینید میکند	508.94		Name "Spile digital Postati dinasi.	506.19		506.12	HO. CO. D 4.12	PUBLIC	
1-35	DOUBLE 'S' INLET	2'-75"	535.75	anto apito spok opito tego	535.89		531.42	530.25	531.49	530.35	HO. CO. D 4.23	PUBLIC	
1-36	DOUBLE 'S' INLET	2'-75"	512.45		512.43		508.12	506.95	508,17	507.12	HO. CO. D 4.23	PUBLIC	
1-38	'K' INLET	3'-0"	537.40	ance and angle may and	538.74			535.03		535.22	HO. CO. D 4.12	PUBLIC	
1-40	'K' INLET	3'-0"	514.51		515.47		inar dae ine vie vie	511.75		512.05	HO. CO. D 4.12	PUBLIC	
M-11	STANDARD MANHOLE	4'- <i>0</i> "	511.41	fanta a far and and an	511.27		502.98	500.60	502.56	500.71	HO. CO. 6-5.12	PUBLIC	
M-12	STANDARD MANHOLE	4'-0"	525.20	inter mai tita Pita Pita	525.15		517.45	517.85	517.65	517.49	HO. CO. 6-5.12	PUBLIC	
M-32	STANDARD MANHOLE	4'-0"	513.87	979499-9699-9699-9699-9699-9699-9699-969	.513.97		506.58	505.00	506.66	505.01	HO. CO. 6-5.12	PUBLIC	
M-33	STANDARD MANHOLE	4'-0"	520.10	ana sa ana ana ana ana ana ana ana ana a	520.29		512.08	511.98	512.04	511.90	HO. CO. 6-5.12	PUBLIC	********
M-34	STANDARD MANHOLE	4'-0"	536.43		536.49		530.00	529.90	529.95	530.13	HO. CO. G-5.12	PUBLIC	
ES-I	END SECTION	18"	519.40					517.90		517.83	HO. CO. D-5.51	PUBLIC	
ES-3	END SECTION	18"	524.00	دومه رومه وی مرکز می این و این و می مرکز می این و این و این و می برای مرکز می وانو			. 1999 ang ing ing ing ing ing ing ing ing ing i	522.50	an mar ya a na	522.43	HO. CO. D-5.51	PUBLIC	
ES-10	END SECTION	24"	502.20	and a second		9999-0000-7009-000000000000000000000000	And other sector and	500.20		500.10	HO. CO. D-5.51	PUBLIC	
ES-14	END SECTION	15"	524.10	ana nga 100 pant 100	99797799999999999999999999999999999999	ne gine en dat de ferre dat en en ange par par la segar par	anga kagi Polis mga akan	522.85		522.99	HO. CO. D-5.51	PUBLIC	
ES-20	END SECTION	15"	507.15	الالي جاني 100 مالي الم		gan d'Expression d'ann à mail an chair an dean de chéad an Chéad ann an An		505.90		505.82	HO. CO. D-5.51	PUBLIC	
ES-30	END SECTION	18"	505.50	المراجع			Zales Miles Philos Phile Phile	504.00		504.13	HO. CO. D-5.51	PUBLIC	
E5-37	END SECTION	15"	536.00	na Marina ya Kata ya Ka			agin ante an' agis age.	534.75		534.88	HO. CO. D-5,51	PUBLIC	5
E5-39	END SECTION	15ª	512.70	анан на стали и стали и Полити на стали и стали 22			40% 90% 30% June 100	511.45		511.63	HO. CO. D-5.51	PUBLIC	(*******)*****************************

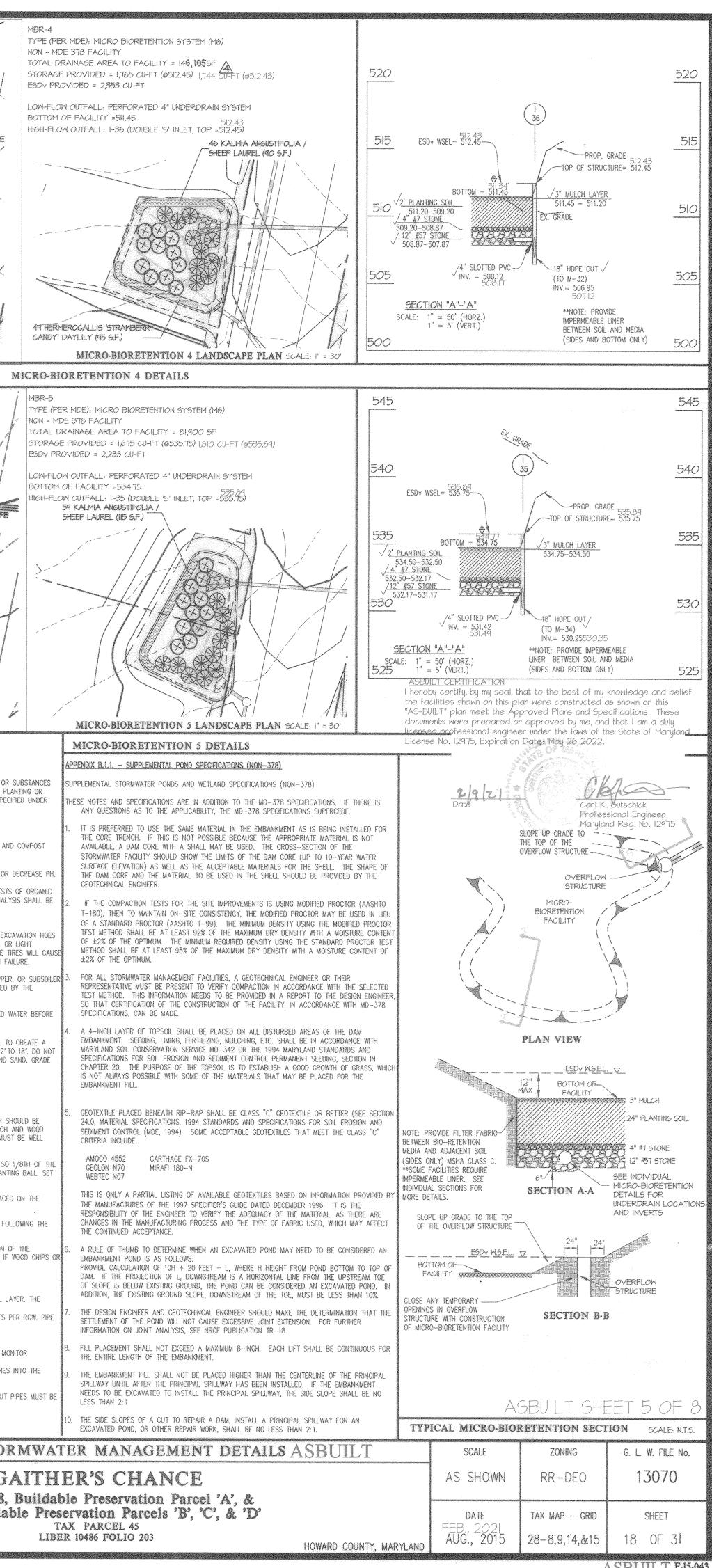
\*NOTE: THE TOP ELEVATION FOR 'K' INLETS IS THE DITCH ELEVATION AT THE INLET.

ASBUILT F-15-043

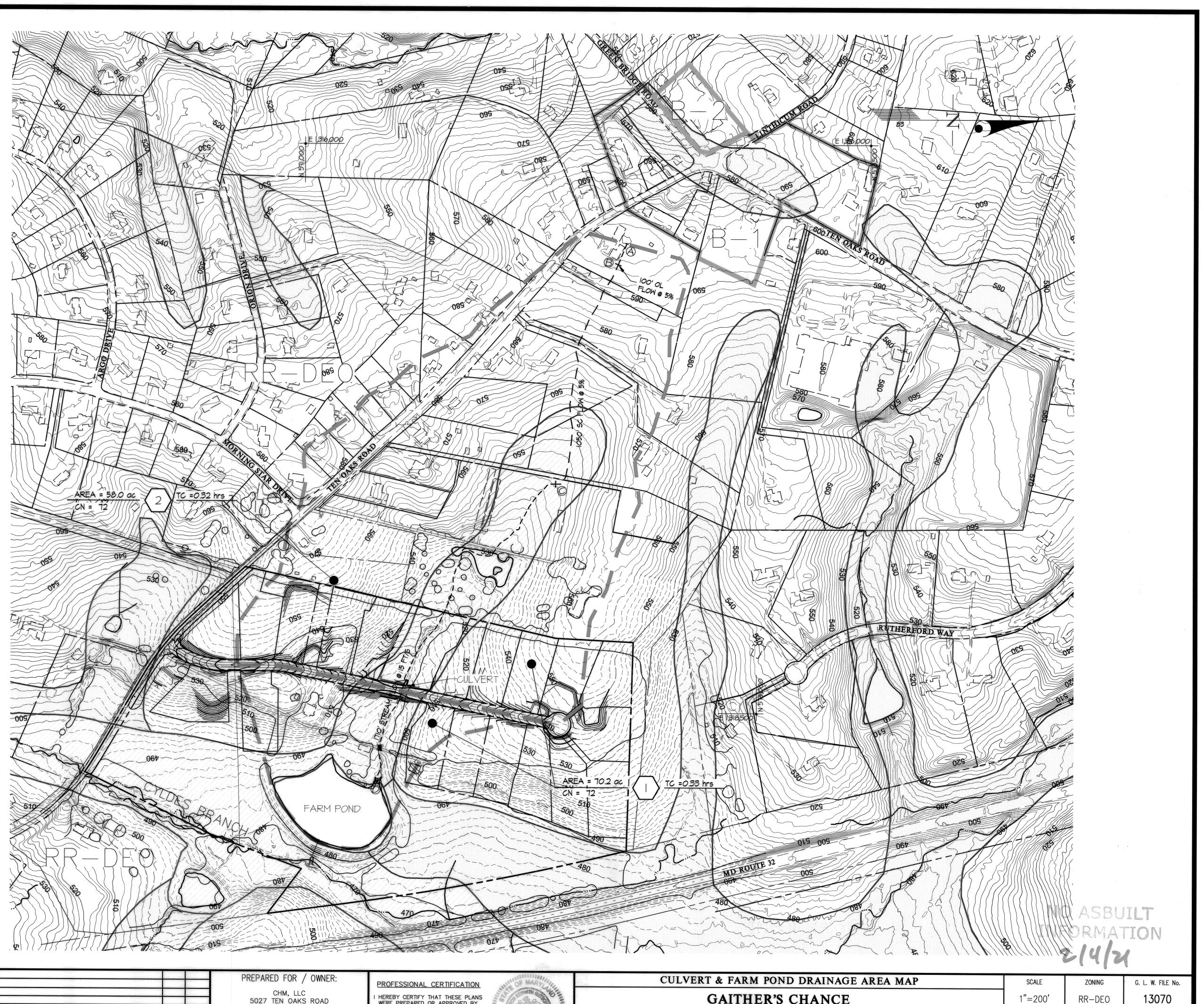




$\begin{array}{c} \begin{array}{c} & & & & \\ \hline \\ 525 \\ \hline \\ 525 \\ \hline \\ 525 \\ \hline \\ 525 \\ \hline \\ 526 \\ \hline \\ 527 \\ \hline \\ \\ \\ 527 \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	520 515	LOT 5 0+42 0+42 C/0 NV= 508.38 PUBLIC STORMWATER MANAGEMENT, DRAINAGE UTILITY EASEMENT 0+40 C/0 NV= 508.22 0+40 C/0 NV= 508.22 00100 BOTTOM=511.4 0-410 00100 00100 100 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 000	513 513 512 512 512 512 512 512 512 512 512 512
535       530       NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (SIDES ONLY) MSHA CLASS C       13       ESDv WSEL=	535	LOT 8 0455 ST	TORMINATER ATT. ORAINAGE SZMENT DV ELEV- SK 75 STORE S
$525$ $525$ $525$ $525$ $522.60-520.60$ $522.60-520.27$ $522.60-520.27$ $520.60-520.27$ $520.60-520.27$ $520.27-519.27$ $520.27-519.27$ $520.27-519.27$ $520.27-519.27$ $520.27-519.27$ $520.27-519.27$ $515$ $515$ $1^{''} = 50' (HORZ.)$ $1^{''} = 519.52$ $516$ $515$ $1^{''} = 5' (VERT.)$ $510.14$ $510.14$ $510.14$	523.85 525 520 515	SEE TYPICAL MICRO-BIORETENTION 4" DETAIL THIS SHEET FOR TYPICAL SECTION IN THROUGH MICRO-BIORETENTION FACILITY	535155 122-0140 531.42 531.
			ICRO-BIORETENTION 5 SCALE IN = 20'
	2. PLANTIN THE SOIL SHALL BE	IG SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE TI	OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS O HAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE P DA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPE
515 NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (SIDES ONLY) MSHA CLASS C 500 ESDV WSEL= $506.70$ ESDV WSEL= $506.70$ FOP OF STRUCTURE= $506.90$ BOTTOM = $505.90$ 3'' MULCH LAYER 505.65-503.65 4'' #7 STONE 503.65-503.32 1''' #57 STONE	515• SOIL • ORGA (35% • CLAY • PH R510THERE SH/ MATTER, A PERFORMED 3. COMPAC IT IS VERY TO REMOVE EQUIPMENT EXCESSIVE COMPACTIC THESE TILL ENGINEER. ROTOTILL 1	TING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CR COMPONENT – LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTUI NIC CONTENT – MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COM CONTENT – MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN ANGE –SHOULD BE BETWEEN 5.5 – 7.0. AMENDMENTS (E.G., LIME ALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHAL ND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM TO D FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED. CTION IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BH E ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRAC COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS DN CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACIL ING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUG ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION F	RAL CLASSIFICATION)ORGANIC MATTER 1.5 – 4% (BY WEIGHT) N GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%–65%) A MPOST (40%). N 5%. I, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OF L CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TEST HE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANAI ORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE ED I, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, O KS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HICH—PRESSURE S NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN F LITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPI CHITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPI CHITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPI CHITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPI CHITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPI CHITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPI
V 503.32-502.32	495 WHEN BAC GRADATION USE HEAV BIORETENT 4. PLANT RECOMMEN 5. PLANT COMPOST PLACED IN CHIPS WILL AGED (6 T ROOTSTOCI	I ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRA Y EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT ION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOA MATERIAL DED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN INSTALLATION IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLO SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDE . FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION ARI O 12 MONTHS) FOR ACCEPTANCE. K OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANS	BE FOUND IN APPENDIX A, SECTION A.2.3. AT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH D OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH EA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MU SPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SI
TENANCE SCHEDULE FOR	AND MAIN	TAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCES	IT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLAN S. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. ID FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPAC
(M-6) IN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE O TED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENTS . PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND RESS DEAD MATERIAL AND PRUNING, ACCEPTABLE REPLACEMENT PLANT MATERIAL I NING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.I AND 2.	GRASSES / NON-GRAS BHALL THE TOPSO BIORETENT S MULCH AR 6. UNDERD	AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEP IS GROUND COVER PLANTING SPECIFICATIONS. DIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEC ION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZE E USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A R/ IRAINS	TH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FO QUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION ERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IN ATE OF 2 POUNDS PER 1000 SQUARE FEET.
RM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREE ACE ALL DEFICIENT STAKES AND WIRES. IT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YE AYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED. CT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND ORM.	r, PIPE- ES PREFI • PERFO SHALL EARS. • GRAV • THE N • A RIG PERFO • A 4"	ERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE). DRATIONS – IF PERFORATED PIPE IS USED, PERFORATIONS SHOUL BE WRAPPED WITH A ¼" (NO. 4 OR 4X4) GALVANIZED HARDWAF EL – THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE A MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE ID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (OI DRMANCE OF THE FILTER. LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED I	D BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES RE CLOTH AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN. NE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND M BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINE
PONSIBLE FOR THE MAINTENANCE OF THE UNDERDRAINS WITHIN THE BIO-RETENTION LA . BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORM DRAIN PIPES AND STRUCTUR TS.	VIDE TERS. THE MAIN RES PROVIDED	RDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER B COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUC (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA	NED WHEN BED THICKNESS EXCEEDS 24" CTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEANOUT
PREPARED FOR / OWNER:		ACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DR/	AINAGE AREA HAS BEEN STABILIZED
CHM, LLC 5027 TEN OAKS ROAD CLARKSVILLE, MD 21029 JANET MARSHALL 410-531-1460	I HEREBY CERT WERE PREPAR ME, AND THAT PROFESSIONAL	IAL CERTIFICATION FY THAT THESE PLANS ED OR APPROVED BY I AM A DULY LICENSED ENGINEER UNDER THE STATE OF MARYLAND, NO. 12975 TE: MAY 26, 2016	G LOTS 1-18, Non-Builda
BY APP'R.		817/15 ( 1/2/5>	ELECTION DISTRICT No. 5

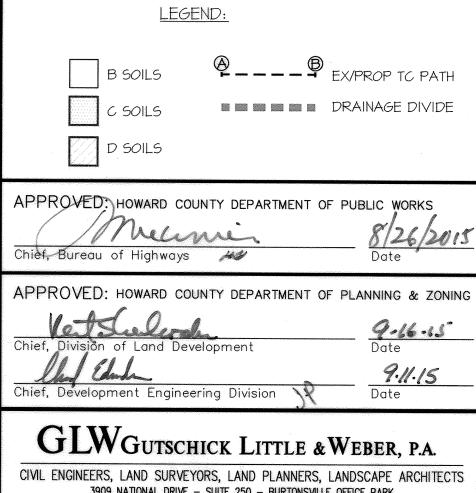


ASBUILT F-15-043



## DRAINAGE AREA SUMMARY

	AREA	CN	Tc (hrs)	QIOO (cfs)
DRAINAGE AREA I (FARM POND)	70.2 AC.	72	0.33	293
DRAINAGE AREA 2 (CULVERT)	58.0 AC.	72	0.32	243



40	100	200	40
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	l inch	= 200 ft.	

REVISION

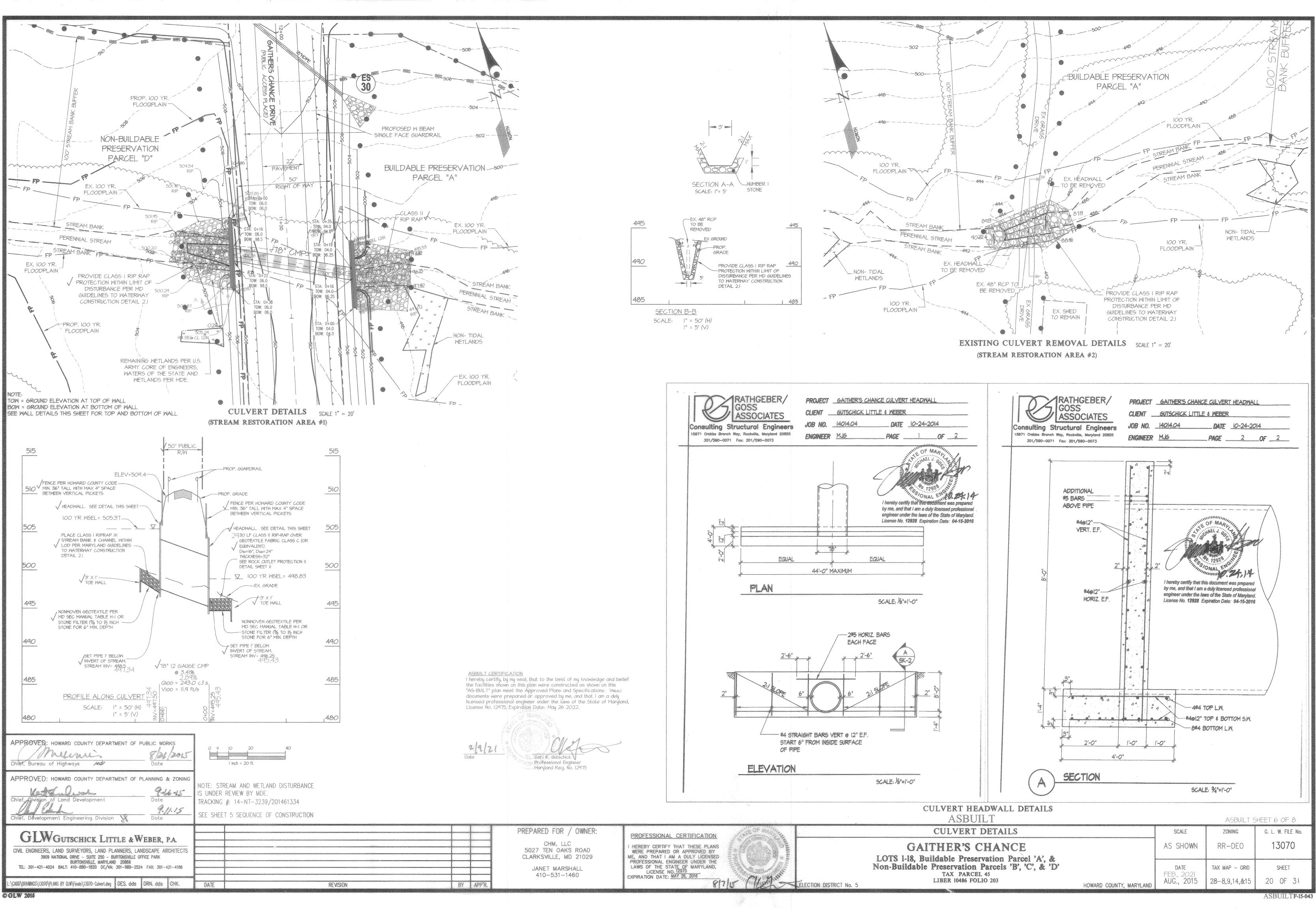
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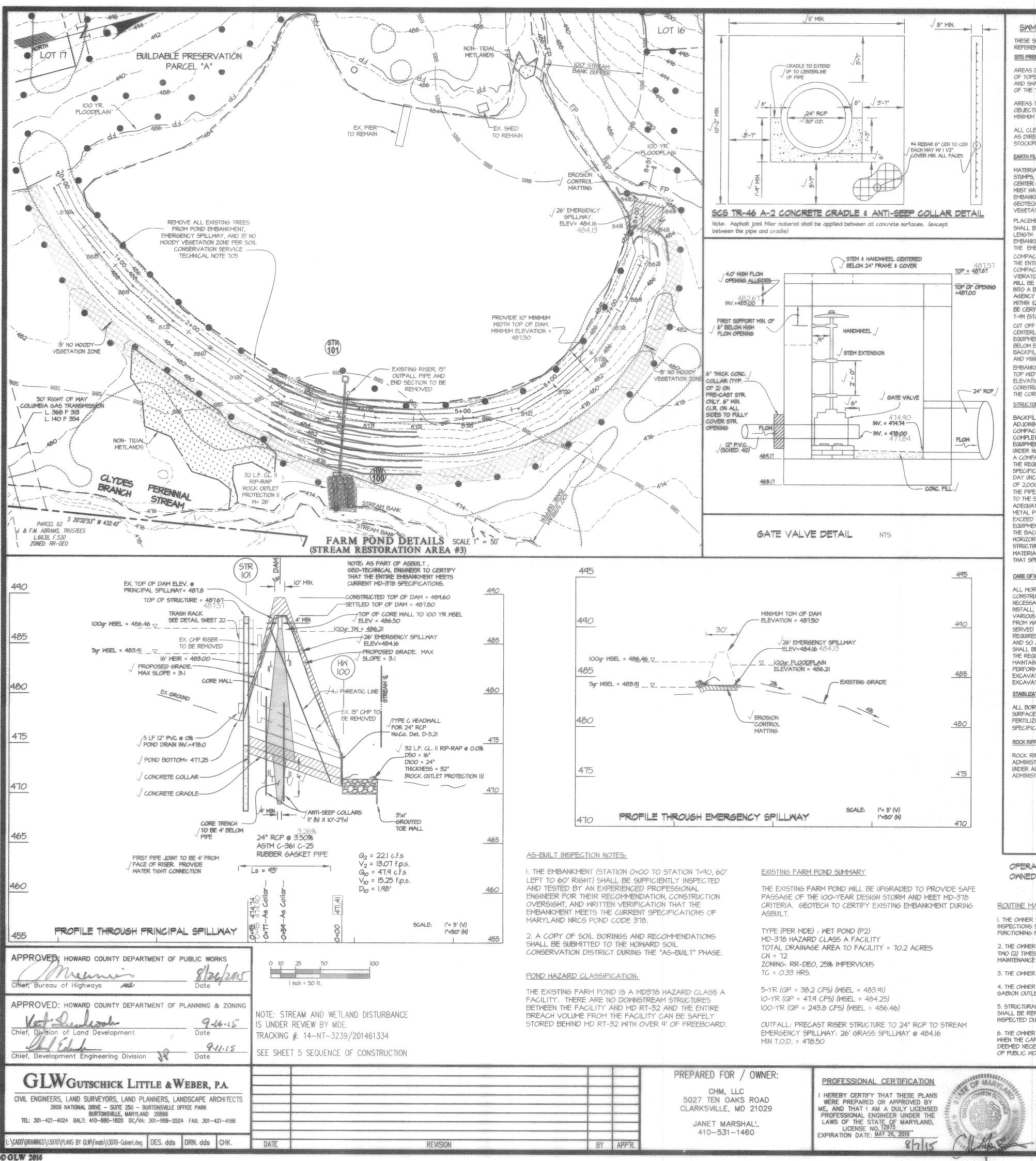
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\13070\PLANS BY GLW\Finals\13070-POND DAM.dwg DES. dds DRN. dds CHK. © GLW 2015

	PREPARED FOR / OWNER:	PROFESSIONAL CERTIFICATION	CULVERT &
	CHM, LLC 5027 TEN OAKS ROAD CLARKSVILLE, MD 21029 JANET MARSHALL 410-531-1460	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, 2016	GA LOTS 1-18, Non-Buildat
BY APP'R.		8/2/15 (11/00000000000000000000000000000000000	ELECTION DISTRICT No. 5

			- and the second sec	
& FARM POND DRAINAGE AREA MAI	2	SCALE	ZONING	G. L. W. FILE No.
AITHER'S CHANCE , Buildable Preservation Parcel 'A', &		1"=200'	RR-DEO	13070
able Preservation Parcels 'B', 'C', & 'D' TAX PARCEL 45		DATE	TAX MAP – GRID	SHEET
LIBER 10486 FOLIO 203	HOWARD COUNTY, MARYLAND	AUG., 2015	28-8,9,14,&15	19 OF 33





SWM CONSTRUCTION SPECIFICATIONS

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

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE: 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 I.I. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 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. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

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, AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, 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 ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

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

3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT THE EMBANKMEN CONSIDERED TO BE WATERTIGHT, ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER: FLANGES ON BOTH ENDS COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR OF THE PIPE WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PREPUNCHED TO THE FLANGE BOLT CIRCLE. VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION SANDWICHED BETWEEN ADJACENT FLANGES: A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING A INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT, WHEN REQUIRED BY THE REVIEWING MINIMUM DIAMETER OF 1/2 INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24 INCHES IN DIAMETER AND LARGER SHALL AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT BE CONNECTED BY A 24 INCH LONG ANNULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS AND LUGS, 2 ON EACH WITHIN \$2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD WITH 12 INCHES ON THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8 INCH CLOSED CELL GASKETS THE FULL WIDTH OF THE T-99 (STANDARD PROCTOR) FLANGE IS ALSO ACCEPTABLE. HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

CUT OFF TRENCH - THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE I TO I OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

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 IO-YEAR WATER 6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS. ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE I TO I OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION REINFORCED CONCRETE PIPE THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT, STRUCTURE BACKFILL ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE.

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE 1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND EQUAL OR EXCEED ASTM C-361. 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 BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THEIR ENTIRE EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. LENGTH. THIS BEDDING/CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE BACKFILL" SECTION OF THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD THIS STANDARD. GRAVEL BEDDING IS NOT PERMITTED. 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 3. LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM, JOINTS SHALL BE MADE IN OF 2,000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE OUTSIDE OF ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE, IT ONLY NEEDS TO EXTEND UP ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL SHALL BE T" TO ASSURE FLOWABILITY OF THE MATERIAL. TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 4 ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING THE PIPE, WHEN USING FLOWABLE FILL, ALL FEET FROM THE RISER. METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO 4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL". 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 5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS. 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 PLASTIC PIPE MATERIAL OUTSIDE THE STRUCTURAL BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE. THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

### CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL AASHTO M294 TYPE S. 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, 2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT 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 3. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK, AFTER HAVING SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE SERVED THEIR PURPOSE, ALL EMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS 4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL". 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 5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS. 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 DRAINAGE DIAPHRAGMS - WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE THE DESIGN AND CONSTRUCTION INSPECTION. 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 IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS. ROCK RIPRAP

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 RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 421.09, CLASS C

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	TION AND MAINTENANCE SCHEDULE FOR PRIVATELY Aryland Rec	Engineer HOWARD SOIL CONSERVATION DISTRICT OPERATION,	-AGT				
0 19	INTENANCE: SHALL INSPECT THE FACILITY ANNUALLY AND AFTER EVERY HEAVY STORM. HALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS ROPERLY.	ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THE USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THI CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE	THESE PLANS FOR SEDIMENT CONTE CONSERVATION	ROL MEET THE REQUIREM	KTION, SOIL EROSION AND ENTS OF THE HOWARD SOIL		
5	SHALL MOW THE TOP AND SIDE SLOPES OF THE EMBANKMENT A MINIMUM OF PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND	INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAG SLIDING OR SLUMPING. DEVELOPER'S/BUILDER'S CERTIFICATE	HOVARD SOIL C	ONSERVATION DISTRICT			
	ACCESS SHALL BE MOWED AS NEEDED. SHALL REMOVE ANY DEBRIS AND LITTER FROM THE FACILITY. SHALL REPAIR ANY EROSION IN THE POND AS WELL AS THE RIP-RAP OR T AREA AS SOON AS IT IS NOTICED. . COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES AIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE RING ROUTINE MAINTENANCE OPERATIONS. SHALL REMOVE SEDIMENT FROM THE POND, AND FOREBAY, NO LATER THAN ACITY OF THE POND, OR FOREBAY, IS HALF FULL OF SEDIMENT, OR, WHEN SSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT RKS. ASBUILT	"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."	WE CERTIFY THAT ALL DEN CCORDING TO THESE PLAN WOLVED IN THE CONSTRUCT ATTENDANCE AT A MARYLAN RAINING PROGRAM FOR TH BEGINNING THE PROJECT. I NGINEER TO SUPERVISE PON CONSERVATION DISTRICT WIT	HAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL E CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TA MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED RAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL IPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS I. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE			
	FARM POND DETAILS & POND COI		SCALE	ASBU ZONING	DATE LT SHEET 7 OF 8 G. L. W. FILE No.		
	GAITHER'S CI	HANCE	AS SHOWN	RR-DEO	13070		
	LOTS 1-18, Buildable Preserver Non-Buildable Preservation	arcels 'B', 'C', & 'D'	DATE FEB., 2021 AUG., 2015	tax map – grid 28—8,9,14,&15	SHEET 21 OF 31		

ELECTION DISTRICT NO. O

y my seal, that to the best of my knowledge ilities shown on this plan were constructed AS-BUILT" plan meet the Approved Plans These documents were prepared or and that I am a duly licensed professional laws of the State of Maryland, License No. Date: May 26 2022.

### PIPE CONDUITS

CORRUGATED METAL PIPE

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (IO MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 4 M-246 WITH WATERTIGHT COUPLING BANDS OR FLANGES. MATERIALS - (ALUMINUM COATED STEEL PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL 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 FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL 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 TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS 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.

4. 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.

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

1. 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 5, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF

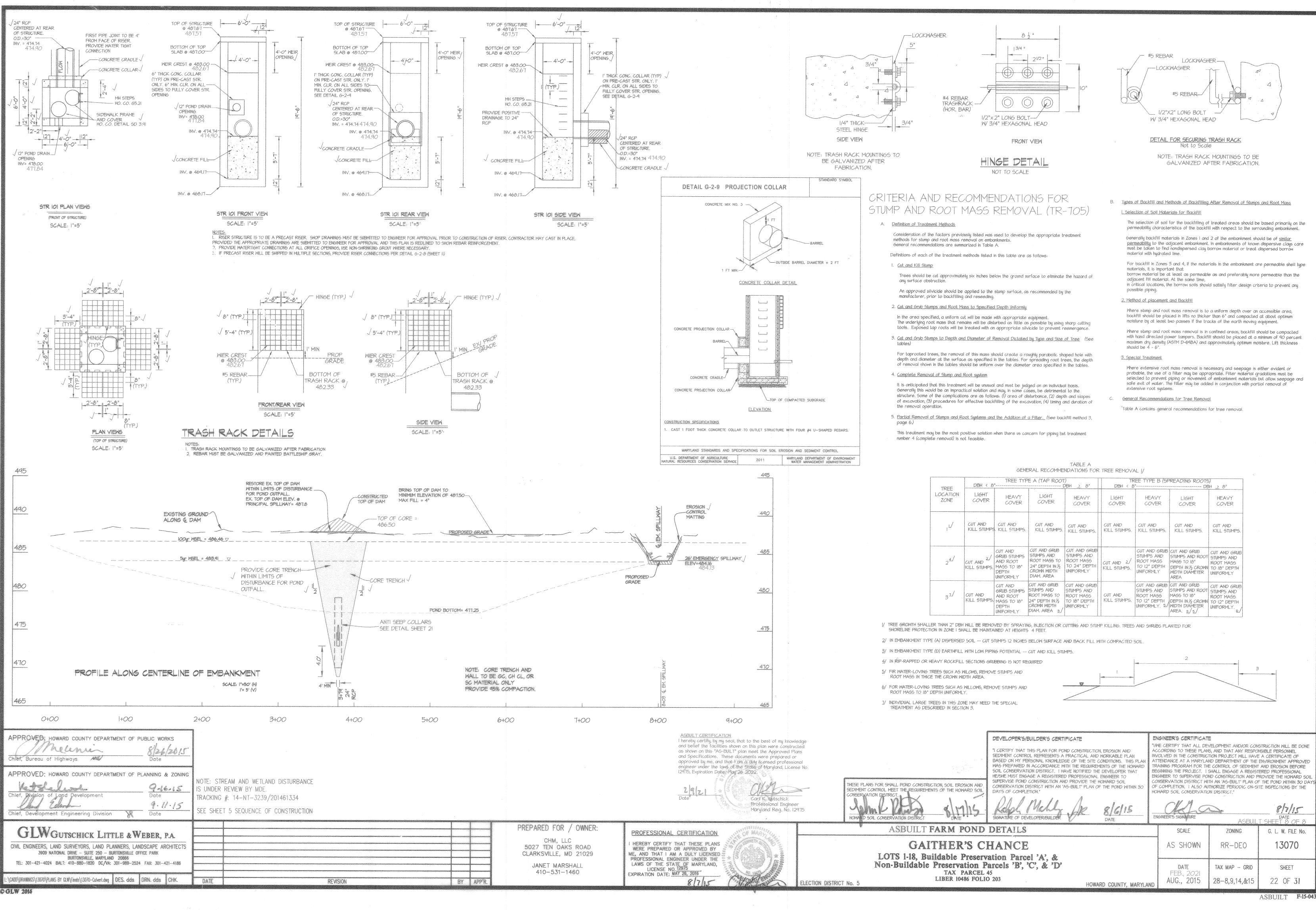
CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3. EROSION AND SEDIMENT CONTROL

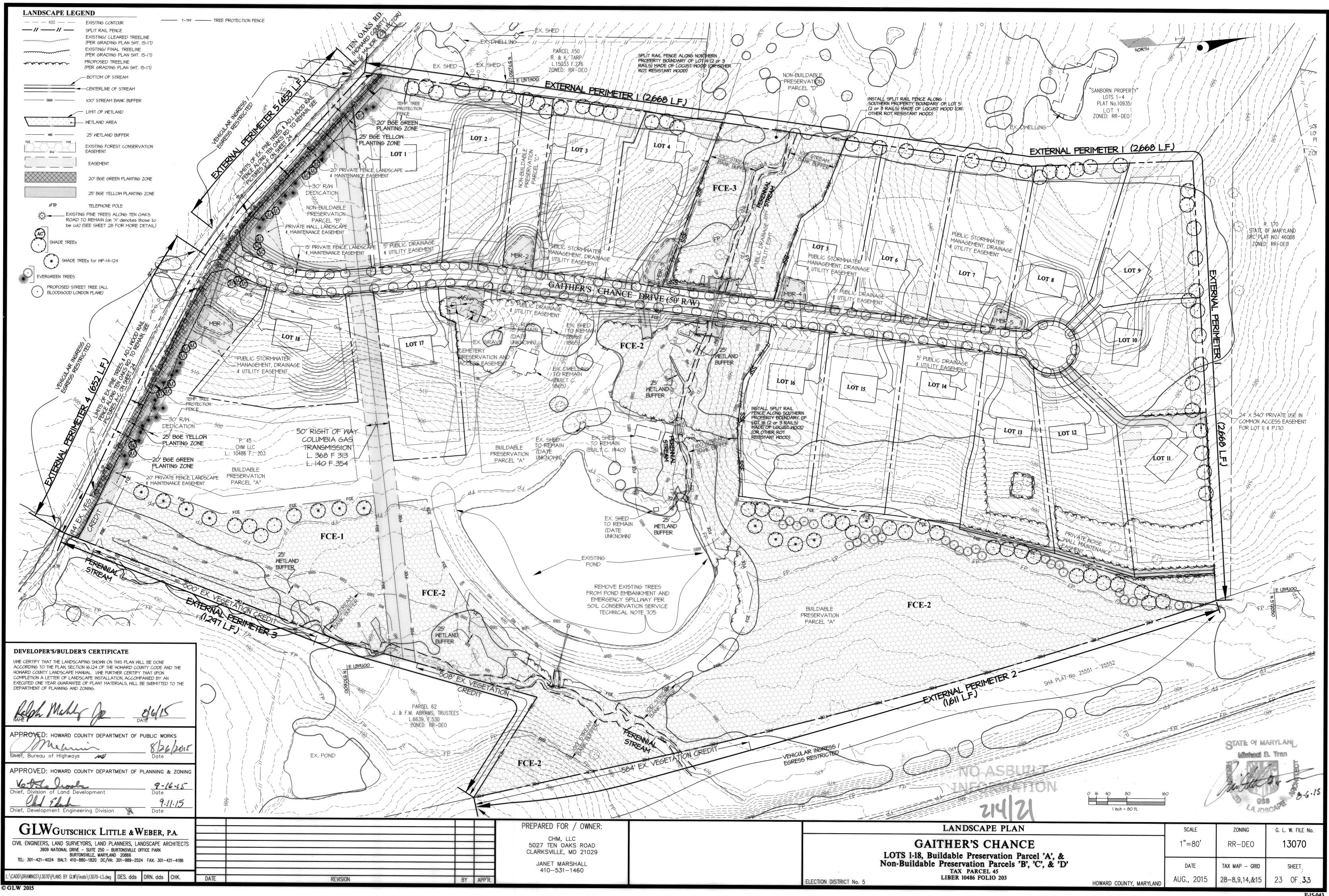
CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

### **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.

APPENDIX A (DAM SAFETY CHECKLIST) IS LOCATED WITHIN THE "USDA NATURAL RESOURCES CONSERVATION SERVICE, MARYLAND, CONSERVATION PRACTICE STANDARD, POND, CODE 378" OR THE "MARYLAND DAM SAFETY MANUAL", DEPT. OF NATURAL RESOURCES WATER RESOURCES ADMINISTRATION.





### LANDSCAPE NOTES

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE & THE HOWARD COUNTY LANDSCAPE MANUAL. CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST (5) FIVE DAYS BEFORE
- STARTING WORK. ALL GENERAL NOTES, ESPECIALLY THOSE REGARDING UTILITIES, ON SHEET NO.1 SHALL APPLY.
- FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK. CONTACT CONSTRUCTION MANAGER OR OWNER IF ANY RELOCATIONS ARE REQUIRED.
- PLANT QUANTITIES SHOWN ON THE PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
- ALL PLANT MATERIAL SHALL BE FULL, HEAVY, WELL FORMED, SYMMETRICAL, AND CONFORM TO THE A.A.N. SPECIFICATIONS. IN ADDITION, ALL REQUIRED PLANTING FOR THE LANDSCAPE ISLANDS IN THE PARKING LOT SHALL CONFORM TO THE HOWARD COUNTY LANDSCAPE MANUAL. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE PLANTING DETAILS ON THIS SHEET.
- NO SUBSTITUTION SHALL BE MADE WITHOUT PRIOR APPROVAL FROM HOWARD COUNTY DPZ AND THE OWNER OR HIS REPRESENTATIVE.
- ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED, OR MULCHED SHALL BE SODDED OR SEEDED IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATION. A MINIMUM OF 4" OF TOPSOIL SHALL BE PROVIDED TO ALL PLANTING AREAS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF HE/SHE ENCOUNTERS SOIL DRAINAGE CONDITIONS THAT MAY BE DETRIMENTAL TO THE GROWTH OF THE PLANTS.
- ALL EXPOSED EARTH WITHIN THE LIMITS OF PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER THE PLANTING DETAILS.
- DO NOT PLANT WITHIN UTILITY EASEMENTS.
- THE SCHEDULES ON THIS SHEET ARE PROVIDED FOR LANDSCAPE SURETY CALCULATION PURPOSES. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$38,250.00 FOR THE FOLLOWING REQUIRED LANDSCAPE PLANTINGS (not including street trees which are bonded separately):
  - 51 EVERGREEN TREES AT \$150/TREE = \$ 7,650.00 90 SHADE TREES at \$300/TREE = \$27,000.00 12 SHADE TREES at \$300/TREE (required per WP-14-124) = \$3,600.00

O REQUEST A LANDSCAPE INSPECTION TO OBTAIN THE RELEASE OF THE POSTED LANDSCAPE SURETY, SUBMIT A WRITTEN REQUEST OF LANDSCAPE INSPECTION, ALONG WITH A COPY OF THE ONE YEAR LANDSCAPE PLANT WARRANTY, TO THE DIVISION OF LAND DEVELOPMENT, HO. CO. DEPT. OF PLANNING AND ZONING.

				PERIM	<b>IETER PLANTING - SCHEDU</b>	LE A						
		ADJACENT		LINEAR FEET OF	CREDIT FOR EXISTING VEGETATION	CREDIT FOR WALL, FENCE OR	NUMBE	R OF PLANTS	REQUIRED	NUMBER OF PLANTS PROVIDED		
PERIMETER	RIMETER LAND USE		BUFFER	ROADWAY FRONTAGE/ PERIMETER PRIOR TO CREDITS	(YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	BERM (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	SHRUBS
EXTERNAL PERIMETER I	SFD	RESIDENTIAL (SFD)		2668'	NO	NO	44	0	0	. 44	0	0
EXTERNAL PERIMETER 2	SFD REAR	ROADWAY	'B' Buffer	1611'	YES, 1,611 LF - 584 LF CREDIT = 1,027 LF	NO	21	26	0	21	26	0
EXTERNAL PERIMETER 3	SFD	RESIDENTIAL (SFD)	'A' Buffer	1297'	YES, 1297 LF - 1008 LF CREDIT = 289 LF	NO	5	0	0	5	0	0
EXTERNAL PERIMETER 4	SFD SIDE	ROADWAY	'B' Buffer	652'	YES, 652 LF - 94' CREDIT = 558 LF	NO	.11	4	0	1	4	0
EXTERNAL PERIMETER 5	SFD SIDE	ROADWAY	'B' Buffer	453'	NO	NØ	q	11	0	9		0

### NOTE: FOR MICRO-BIORETENTION PLANTINGS/QUANTITIES INFORMATION SEE SHEET 21

		PLANT LIST		
SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT/COMMENTS
SHADE TRE	ES			
$\odot$	89	PLATANUS X ACERFILIA 'BLOODGOOD'/ BLOODGOOD LONDON PLANE	2 1/2-3" Cal.	B&B (STREET TREE)
ÂC	20	ACER GINNALA / AMUR MAPLE	2 1/2-3" Cal.	B¢B
$\odot$	70	QUERUS RUBRA / NORTHERN RED OAK QUERCUS PALUSTRIS / PIN OAK	2 1/2- <del>3</del> " Cal.	B&B TO BE A MIXTURE OF THE 2 SHADE TREES IDENTIFIED
*	12	QUERUS RUBRA / NORTHERN RED OAK QUERCUS PALUSTRIS / PIN OAK PLATAMUS OCCIDENTALIS / SYCAMORE	2 1/2" Cal. min.	FOR THE 12 WP-14-24 MITIGATION TREES USE 4 OF EACH (4x3=12)
EVERGREE	N TREES			
Annual Contraction	26	PINUS STROBUS / WHITE PINE ILEX OPACA / AMERICAN HOLLY	6'-8' Ht.	B&B TO BE A MIXTURE OF THE 3 EVERGREENS IDENTIFIED. MUST HAV ONE MAIN CENTRAL LEADER.
*	25	PICEA PUNGENS 'FAT ALBERT"/FAT ALBERT BLUE SPRUCE	6'-8' Ht.	B¢B

SOME OF THE REQUIRED SHADE TREES (UP TO A MAXIMUM OF 50%) MAY BE SUBSTITUTED WITH ORNAMENTAL TREES AND EVERGREEN TREES AT A RATIO OF 2:1 (2 ornamental or evergreen trees for 1 shade trees). SUCH SUBSTITUTIONS WOULD NOT CHANGE THE TOTAL SURETY REQUIRED (i.e, \$300.00 = 1 shade tree = 2 ornamental or every reen trees)

- SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- 2. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIAL SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.
- 3. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

NOTE: SET ROOT BALL AT OR SLIGHTLY ABOVE FINISH GRADE. CONTAINERS TO BE REMOVED PRIOR TO PLANTING. SCARIFT ROOT EDGES TO STIMULATE GROWTH. 3" MULCH - AS SPECIFIED MOUNDED EARTH SAUCER (FOR ISOLATED PLANTING SITUATION) PLANTING BACKFILL MIXTURE SCARIFY SOIL BELOW ROOTBALL EXISTING SOIL SHRUB PLANTING OUT POT-BOUND ROOTS. AFTER PRIOR TO PLANTING CUT POT-BOUND ROOTS. AFTER PRIOR TO PLANTING CUT POT-BOUND ROOTS. AFTER PLANTING, THE ENTIRE GROUND COVER BED SHALL BE THOROUGHLY WATERED. 3" MULCH BACKFILL WITH PREPARED SOIL MIX - 1/3 TOPSOIL, 1/3 EXISTING SOIL, 1/3 CRGANIC AMENDMENTS	2"X2"X8" MIN. HARDWOOD STAKES 3" APPROVED HARDWOOD MULCH (NO MULCH AROUND ROOT COLLAR) CREATE 3-4" DEPTH CONTINUOUS COMPACTED SAUCER RIM WITH TOP SOIL FINISH GRADE TOPSOIL EXISTING SOIL I' MIN. INTO UNDISTURBED SOIL	<ul> <li>DO NOT CUT CENTRAL LEADER, REMOVE ANY DEAD OR DAMAG BRANCHES BY APPROPRIATE PRUNING METHODS.</li> <li>3/8" DIA. REINFORCED BLACK RUBBER HOSE, INTERLOCKED. POSITION ABOVE FIRST SET OF BRANCHES TO SECURE THE TREE THAT IT IS PLUMBED.</li> <li>2 STRANDS 14-GA GALV. WIRE TWISTED (PLASTIC TIES MAY BE USED INSTEAD OF WIRE &amp; RUBB HOSE)</li> <li>SET TOP OF ROOT BALL AT OR SLIGHTLY ABOVE FINISH GRADE MORE THAN 3").</li> <li>CUT BURLAP &amp; WIRE BASKETS FI TOP 1/3 OF ROOT BALL REMOVE SYNTHETIC WRAPS &amp; TWINES ENTIRELY</li> <li>PLANTING BACKFILL MIXTURE</li> <li>COMPACT SOIL MIX BELOW BALL PITCH AWAY FROM BALL TO PERIMETER OF PLANTING PIT.</li> </ul>
SCARIFY TO 3" DEPTH- UNDISTURBED SOIL	DIAMETER NOTE: ALL SUPPORTING DEVICES (STAKES, WIRES, ETC.) SHALL BE REMOVED AFTER 2 GRO DECIDUOUS TREE PLANTING DETAIL FOR PLANTING MATERIAL UP TO 3 1/2" CALIPER	OWING SEASONS. NTS
DEVELOPER'S/BULDER'S CERTIFICATE We certify that the LANDSCAPING SHOWN ON this PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.	HARDWOOD STAKES 3" APPROVED HARDWOOD MULCH (NO MULCH AROUND ROOT COLLAR) CREATE 3-4" DEPTH CONTINUOUS COMPACTED SAUCER	REMOVE ONLY DEAD BRANCHES DAMAGED BRANCHES MAY BE TRIMMED USING APPROPRIATE PRUNING METHODS. DO NOT CUT THE LEADER. 2 INTERLOCKING PLASTIC TIES TO SECURE THE TREE SO THAT IT IS PLUMBED. SET TOP OF ROOT BALL AT OR SLIGHTLY ABOVE FINISH GRADE (ROOT COLLAR MUST BE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Menning Chief, Bureau of Highways Chief, Bureau of Highways Chief, Bureau of Highways	RIM WITH TOP SOIL FINISH GRADE TOPSOIL EXISTING SOIL	EXPOSED) CUT BURLAP & WIRE BASKETS FROM TOP 1/3 OF ROOT BALL REMOVE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING         Image: Chief, Division of Land Development         Image: Chief, Development Engineering Division         Image: Chief, Development Engineering Division	I' MIN. INTO UNDISTURBED SOIL EQUALS 2 x BALL DIAMETER NOTE: ALL SUPPORTING DEVICES (STAKES, TIES, ETC.) SHALL BE REMOVED AFTER 2 G EVERGREEN TREE PLANTING DETAIL	ALL SYNTHETIC WRAPS & TWINES ENTIRELY PLANTING BACKFILL MIXTURE ROWING SEASONS. NTS
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		
L:\CADD\DRAWINGS\13070\PLANS BY GLW\Finals\13070-LS.dwg <b>DES.</b> dds DRN. dds CHK.	DATE REVISION	
GLW 2015		an a

PUBLIC	STREET	TREE	REQUIREMENTS

LOCATION	LINEAR FT.	NUMBER of TREES	NUMBER of TREES
	(BOTH SIDES)	REQUIRED	PROVIDED
GAITHERS CHANCE DRIVE	3,568	89 (at apprx. 40' o.c.)	89

THE BOND FOR THE PUBLIC ROAD IMPROVEMENTS, WHICH IS CALCULATED BY THE DED COST ESTIMATE, INCLUDES 89 STREET TREES. THIS IS SEPARATE FROM THE

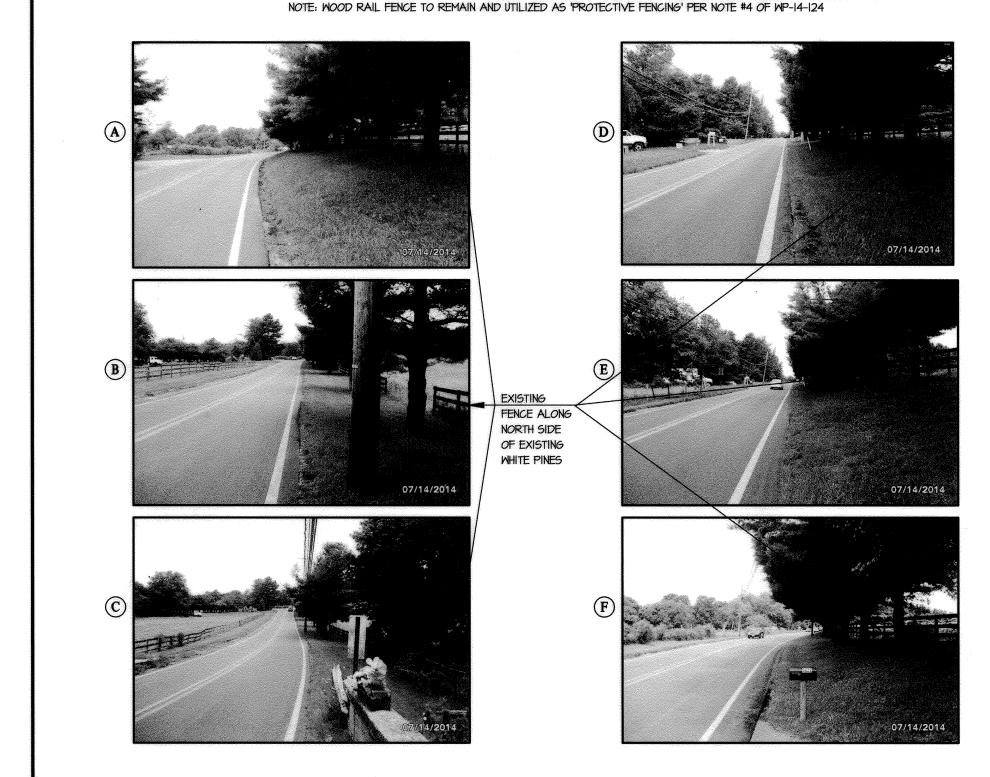
\$26,700.00 SURETY REQUIRED FOR 89 SHADE TREES @ \$300/TREE

LANDSCAPE BUFFER SURETY.

WP-14-124, A WAIVER REQUEST FROM SUBDIVISION SECTION 16.1205(a)(1) and 16.1205(a)(10), PROHIBITING REMOVAL OF SPECIMEN TREES AND 16.132(a) WHICH REQUIRES THE DEVELOPER SHALL CONSTRUCT OR PROVIDE FOR THE CONSTRUCTION OF ROADS FRONTING OR WITHIN A PROPOSED SUBDIVISION, WAS APPROVED ON AUGUST 19, 2014 UNDER THE FOLLOWING CONDITIONS:

- I. WAIVER APPROVAL IS LIMITED TO THE REMOVAL OF SPECIMEN TREES #1, 7-14, 21, 35, AND 43 AS DEPICTED ON THE WAIVER EXHIBIT. ANY PROPOSAL TO REMOVE ADDITIONAL TREES WILL REQUIRE A NEW WAIVER REQUEST OR AN AMENDMENT TO THIS WAIVER REQUEST. 2. AS PART OF THE MITIGATION FOR SPECIMEN TREE REMOVAL, PERMANENT FENCING (IN ADDITION TO THE REQUIRED SIGNAGE) WILL BE PLACED ALONG THOSE PROPERTY BOUNDARIES OF LOTS 4, 5 AND 16 CLOSEST TO THE 100' STREAM BUFFER TO HELP INSURE PROTECTION OF THE PROPOSED FOREST CONSERVATION EASEMENTS AND TO INSURE THAT THE IOO' STREAM BUFFER IS RESPECTED. THIS FENCING WILL BE INSTALLED AFTER THE LOTS HAVE BEEN GRADED AND STABILIZED, PRIOR TO THE CONSTRUCTION OF ANY NEW HOMES ON THOSE LOTS AND AT THE SAME TIME AS THE PERMANENT PROTECTIVE SIGNAGE IS INSTALLED (PRIOR TO THE COMMENCEMENT OF THE 2 YEAR POST-CONSTRUCTION SURVIVAL PERIOD). ALL RELATED PLATS AND
- PLANS SHALL SHOW SUPER SILT FENCE ALONG THE AFFECTED TREELINE IN THE INTERIM FOR THE PROTECTION OF FOREST AND ENVIRONMENTAL FEATURES AND ASSOCIATED BUFFERS. 3. A MINIMUM OF 12 ADDITIONAL NATIVE 2-3" CALIPER TREES SHALL BE PROVIDED ON SITE AS PART OF THE MITIGATION FOR THE SPECIMEN TREE REMOVAL. THIS MITIGATION WILL BE ADDRESSED WITH THE SUBDIVISION KNOWN AS "GAITHER'S CHANCE". IT WILL BE SHOWN ON THE APPROVED
- LANDSCAPE PLAN AND SURETY FOR THESE ADDITIONAL TREES WILL BE REQUIRED AS PART OF THE FINAL SUBDIVISION APPROVAL. 4. THE ROW OF 30' HIGH PINE TREES (MENTIONED IN THE JUSTIFICATION FOR ROAD FRONTAGE IMPROVEMENTS) SHALL BE DEMARCATED AND LABELED ON ALL SUBSEQUENT PLANS FOR "GAITHER'S CHANCE" AND SHALL BE LABELED AS "TO REMAIN". PROTECTIVE FENCING FOR THIS ROW OF TREES SHALL ALSO BE SHOWN AND LABELED ON ALL SUBSEQUENT PLANS.
- D.E.D. CONDITIONS: 5. PROVIDE RIGHT-OF-WAY DEDICATION ALONG TEN OAKS ROAD FRONTAGE. 6. PROVIDE FEE-IN-LIEU FOR FULL FRONTAGE IMPROVEMENTS. SUBMIT COST ESTIMATE FOR FULL FRONTAGE IMPROVEMENTS TO DETERMINE FEE-IN-LIEU.

EXISTING PINE TREES and WOOD RAIL FENCING ALONG TEN OAKS ROAD TO REMAIN



#### 4. <u>STAKING, GUYING AND WRAPPING:</u> ALL PLANT MATERIAL SHALL BE STAKED OR GUYED, AND WRAPPED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS SECTION A ARE TO BE PLANTED IN ANTING SEASONS AS DESCRIBED IN A. STAKES: SHALL BE SOUND WOOD 2" X 2" ROUGH SAWN OAK OR SIMILAR DURABLE WOODS, OR LENGTHS, MINIMUM 7'-O" FOR MAJOR TREES AND 5'-O" MINIMUM FOR MINOR TREES. B. WIRE AND CABLE: WIRE SHALL BE #10 GA. GALVANIZED OR BETHANIZED ANNEALED STEEL WIRE. FOR TREES OVER 3" CALIPER, M MARCH IST TO JUNE 15TH AND PROVIDE 5/16" TURN BUCKLES, EYE AND EYE WITH 4" TAKE-UP. FOR TREES OVER 5" CALIPER, PROVIDE 3/16", 7 STRAND CABLE MATERIAL MAY BE CONTINUED CADMIUM PLATED STEEL, WITH GALVANIZED "EYE" THIMBLES OF WIRE AND HOSE ON TREES UP TO 3" IN CALIPER. OUND AND FROST-FREE TOPSOIL C. HOSE: SHALL BE NEW, 2 PLY REINFORCED RUBBER HOSE, MINIMUM 1/2" I.D. "PLASTIC LOCK TIES" OR "PAUL'S TREES BRACES" MAY BE USED IN PLACE OF WIRE AND HOSE ON TREES UP TO 3" IN CALIPER. TO JUNE 15TH AND FROM AUGUST UND IS FROZEN OR EXCESSIVELY D. ALL TREES UNDER 3" IN CALIPER ARE TO BE PLANTED AND STAKED IN ACCORDANCE WITH THE ATTACHED PLANTING DETAILS. 5. <u>PLANT PRUNING, EDGING AND MULCHING:</u> A. EACH TREE, SHRUB OR VINE SHALL BE PRUNED IN AN APPROPRIATE MANNER TO ITS PARTICULAR REQUIREMENTS, IN ACCORDANCE IN ACCORDANCE WITH THE "AAN WITH ACCEPTED STANDARD PRACTICE. BROKEN OR BRUISED BRANCHES SHALL BE REMOVED WITH CLEAN CUTS FLUSH WITH THE ADJACENT TRUNK OR BRANCHES. ALL CUTS OVER I" IN DIAMETER SHALL BE PAINTED WITH AN APPROVED ANTISEPTIC TREE WOUND DRESSING INE PITS, HEDGE TRENCHES AND B. ALL TRENCHES AND SHRUB BEDS SHALL BE EDGED AND CULTIVATED TO THE LINES SHOWN ON THE DRAWING. THE AREAS AROUND ISOLATED PLANTS SHALL BE EDGED AND CULTIVATED TO THE FULL DIAMETER OF THE PIT. SOD WHICH HAS BEEN REMOVED AND STACKED SHALL BE USED TO TRIM THE EDGES OF ALL EXCAVATED AREAS TO THE NEAT LINES OF THE PLANT PIT SAUCERS, THE AND APPROVED IN THE FIELD BY EDGES OF SHRUB AREAS, HEDGE TRENCHES AND VINE POCKETS. T MATERIAL IS INSTALLED BY THE . AFTER CULTIVATION, ALL PLANT MATERIALS SHALL BE MULCHED WITH A 3" LAYER OF FINE, SHREDDED PINE BARK, PEAT MOSS, OR ANOTHER APPROVED MATERIAL OVER THE ENTIRE AREA OF THE BED OR SAUCER. DES; DEPTH SHALL NOT BE LESS ESS THAN TWO TIMES THE DIAMETER 6. PLANT INSPECTION AND ACCEPTANCE: THE DESIGN REVIEW COMMITTEE SHALL BE RESPONSIBLE FOR INSPECTING ALL PLANTING PROJECTS ON A PERIODIC BASIS TO ASSURE THAT ALL WORK IS PROCEEDING IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. THEY SHALL BE EXCAVATED TO AT ERS AND VINES SHALL BE PLANT GUARANTEE: ALL PLANT MATERIAL SHALL BE GUARANTEED FOR THE DURATION OF ONE FULL GROWING SEASON, AFTER FINAL INSPECTION AND ACCEPTANCE OF THE WORK IN THE PLANTING PROJECT. PLANTS SHALL BE ALIVE AND IN SATISFACTORY GROWING CONDITION AT THE LOWS: END OF THE GUARANTEE PERIOD. A. FOR THIS PURPOSE, THE "GROWING SEASON" SHALL BE THAT PERIOD BETWEEN THE END OF THE "SPRING" PLANTING SEASON, AND THE COMMENCEMENT OF THE "FALL" PLANTING SEASON. B. GUARANTEE FOR PLANTING PERFORMED AFTER THE SPECIFIED END OF THE "SPRING" PLANTING SEASON, SHALL BE EXTENDED THROUGH THE END OF THE NEXT FOLLOWING "SPRING" PLANTING SEASON. ALL SODDING SHALL BE IN ACCORDANCE TO THE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" LATEST EDITION, APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS. MED AND WILL BE ALLOWED IN OR PURPOSES OF UNIFORM ALL SOD SHALL BE STRONGLY ROOTED SOD, NOT LESS THAN TWO YEARS OLD AND FREE OF WEEDS AND UNDESIRABLE NATIVE BELOW THE BOTTOMS OF THE ROOT GRASSES. PROVIDE ONLY SOD CAPABLE OF GROWTH DEVELOPMENT WHEN PLANTED AND IN STRIPS NOT MORE THAN 18" WIDE X 4" LONG. PROVIDE SOD COMPOSED PRINCIPALLY OF IMPROVED STRAIN KENTUCKY BLUEGRASS, SUCH AS, COLUMBIA, VICTA, OR ESCORT. ASPUND THE BUFFERS SHOWN IN THE SCHEDULES ARE IN ACCORDANCE WITH THE LANDSCAPE MANUAL, CHAPTER IV, TABLE I: DGE TYPE LANDSCAPE CHARACTER SHADE TREES/LF EVERGREEN/LF SHRUBS/ LIGHT BUFFER 1:60 В MODERATE BUFFER 1:50 1:40 0 HEAVY BUFFER 1:20 1:40 0 N IS FOR PLANTING PURPOSES ONLY NDSCAPE NOTES and DETAILS SCALE G. L. W. FILE No. ZONING 13070 **GAITHER'S CHANCE** NO SCALE RR-DEO Buildable Preservation Parcel 'A', &

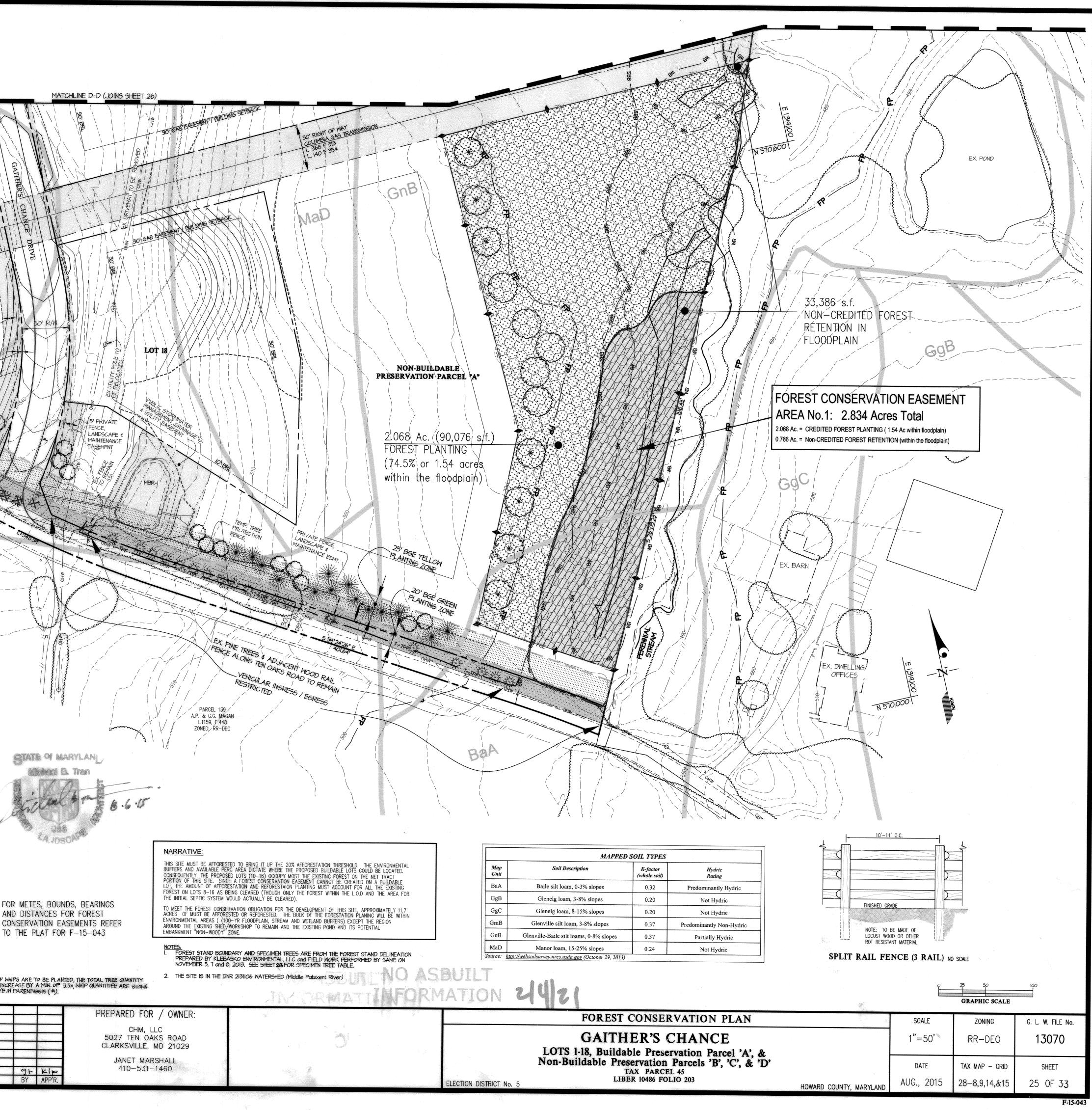
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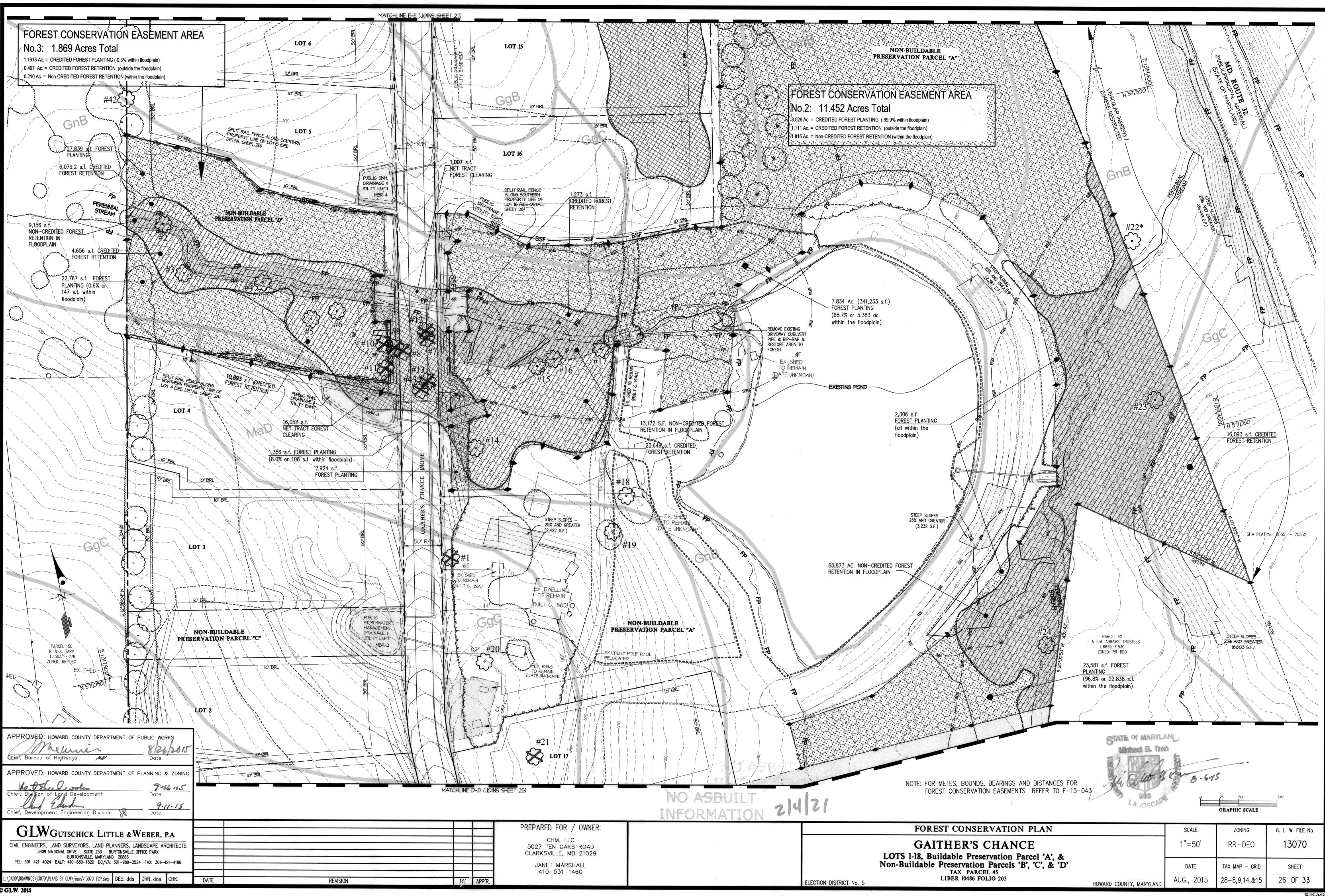
TAX MAP - GRID

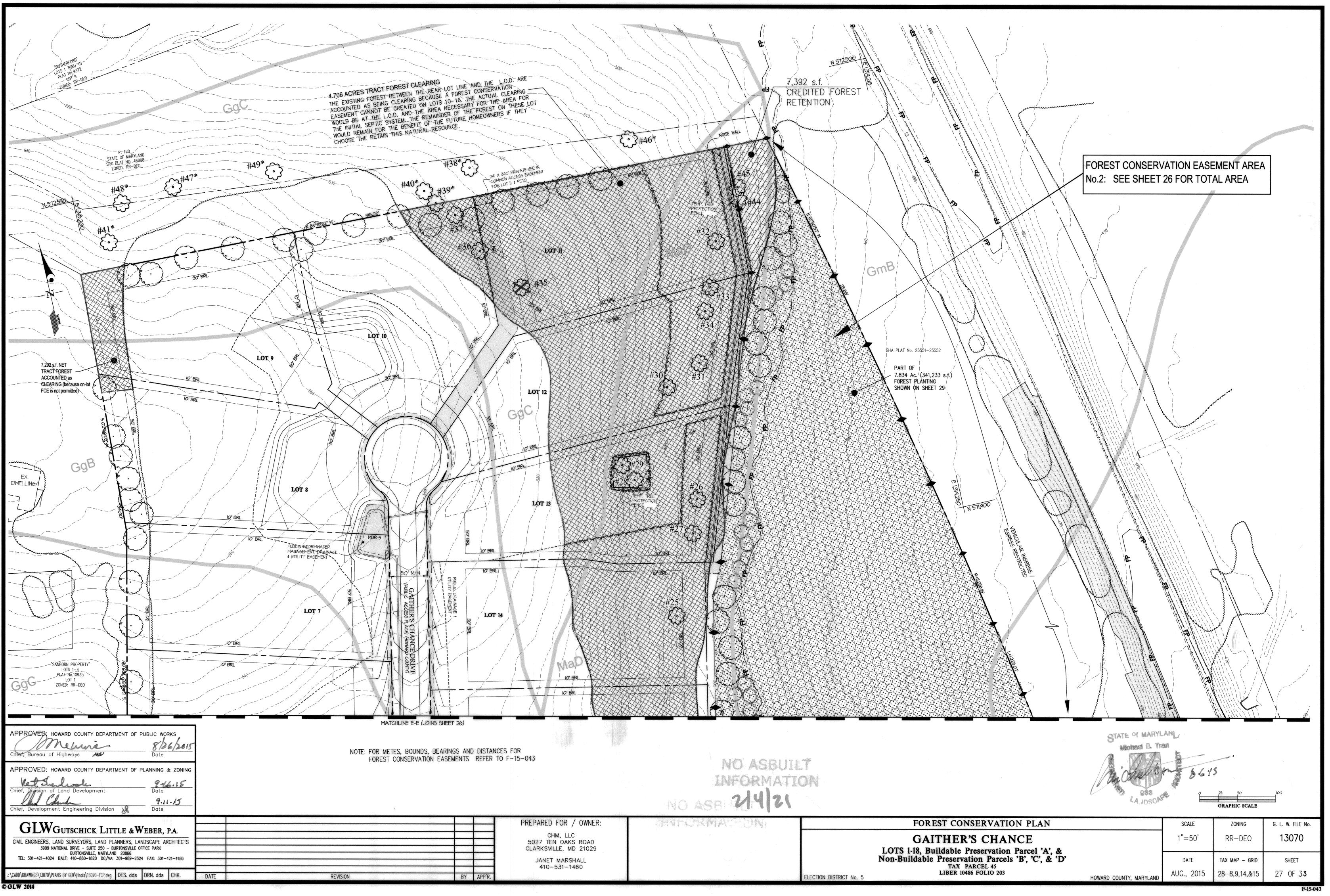
SHEET

DWELLING/ GOB	LOT 1 SOU SOU SOU SOU SOU SOU SOU SOU SOU SOU		30" M TRAN	C30 CP6 GAS EMISSION PIPEL	EASEMENT *	
GgC TU Store FOREST CONSERVATION LEGEND:	PINE TREES & COARS ROAD THE	Contraction of the second s	PRIVATE W		PARCEL *B	SEMENT
BASIMON OLLY INCLUED INCLUENT         (PER GRADING PLAN SHT. 12 - 14)         EXISTING/ FINAL TREELINE (PER GRADING PLAN SHT. 12 - 14)         PROPOSED TREELINE (PER GRADING PLAN SHT. 12 - 14)         #7         SPECIMEN TREE LOCATIONS (* denotes off-site, an 'X' denotes those to be cut)         #7         SPECIMEN TREE LOCATIONS (* denotes off-site, an 'X' denotes those to be cut)         FOREST STING PINE TREES ALONG TEN OAKS ROAD TO REMAIN (an 'X' denotes those to be cut)         FOREST STAND BOUNDARY         SPLIT RAIL FENCE. (SEE DETAIL THIS SHEET)         PRE-DEVELOPMENT IOO-YR FLOODPLAIN         STREAM & STREAM BANK         IOO' STREAM BANK BUFFER (Area = 8.73± acres)	HILOW AR MORESS HAD TO RAIL 540 PARCEL 140 DARCEL 140 C.E. & P.L., SHEPHERD L.474, F-263 70NED: RR-DEO C.E. & P.L., SHEPHERD L.474, F-263 70NED: RR-DEO	ICTED C			mB	
WB 25' WETLAND BUFFER (Area = 0.37± ac.) WB 25' WETLAND BUFFER (Area = 1.86± acres)	FOREST CONSERVATION	I PLANT	ING QUA	~ NTITV 00		
	FOREST PLANTING LOCATION NO.	FCE-1	FCE-2	FCE-3	HEDULE TOTAL	
I52       PROPOSED CONTOUR         LOD       GRADING LIMIT OF DISTURBANCE (L.O.D.)         STEEP SLOPE (≥ 25%)         FOREST CONSERVATION EASEMENT AREA	FOREST PLANTING LOCATION NO. AREA TO BE PLANTED (IN AC.) BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.)	FCE-1 2.068 207		1	1	
	AREA TO BE PLANTED (IN AC.) BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.) CREDIT FOR LANDSCAPE TREES 2 1/2" CAL. MINIMUM REQUIRED QUANTITY OF 2"-2 1/2" CAL. TREES TO BE PLANTED	2.068	FCE-2 8.5436	FCE-3	<b>TOTAL</b>	
	AREA TO BE PLANTED (IN AC.) BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.) CREDIT FOR LANDSCAPE TREES 2 1/2" CAL. MINIMUM REQUIRED QUANTITY OF 2"-2 1/2" CAL.	2.068 207 12 195 390 ULATIONS (inclu TREE = 5,850 = 15.200 S.F.	FCE-2 8.5436 855 52 803 1,606 udes the Landscap S.F. CREDIT TOWARD F	FCE-3 1.1618 116 0 116 232 Pe Buffer Trees or RD FC SURETY C SURETY	TOTAL 11.77 1178 64 ** 1,114 2,228	
$152$ PROPOSED CONTOURLODGRADING LIMIT OF DISTURBANCE (L.O.D.)STEEP SLOPE ( $\ge 25\%$ )STEEP SLOPE ( $\ge 25\%$ )FOREST CONSERVATION EASEMENT AREA (honeycomb pattern)STEEP SLOPE ( $\ge 25\%$ )STEEP	AREA TO BE PLANTED (IN AC.) BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.) CREDIT FOR LANDSCAPE TREES 2 1/2" CAL. MINIMUM REQUIRED QUANTITY OF 2"-2 1/2" CAL. TREES TO BE PLANTED OR REQUIRED QUANTITY OF 1" CAL. TREES TO BE PLANTED ** 64 LANDSCAPE TREES CONVERSION CALC 12 Trees for WP-14-124 mitigation): 26 EVERGREEN TREES @ 225 S.F./ 38 SHADE TREES @ 400 S.F./TREE	2.068 207 12 195 390 ULATIONS (inclu IREE = 5,850 = 15,200 S.F. FC SURETY CA SER VATI PLANT FCE-1 60 (210) 15	FCE-2         8.5436         855         52         803         1,606         udes the Landscap         S.F. CREDIT TOWARD F         CREDIT TOWARD F         CON PLAN         NAME (BOTAI         FCE-2         205         (718)         62	FCE-3         1.1618         116         0         116         232         be Buffer Trees or         RD FC SURETY         T LIST         NICAL/COMMO         FCE-3         19         (GG)         19         19         19         19         19         19         19         19         19         19         19         19         19         19         19         19         19	TOTAL         11.77         1178         64 **         1,114         2,228         nd the         DN)         TOTAL         284         394)         96	
152PROPOSED CONTOURLODGRADING LIMIT OF DISTURBANCE (L.O.D.)STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )FOREST CONSERVATION EASEMENT AREA (honeycomb pattern)STEEP SLOPE ( $225%$ )FOREST RETENTION (cross hatching within FCE)STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )FOREST RETENTION (cross hatching within FCE)STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )FOREST RETENTION (cross hatching within FCE)STEEP SLOPE ( $225%$ )STEEP SLOPE ( $225%$ )NON-CREDIT FOREST RETENTION (cross hatching & shading within FCE)STEEP SLOPE ( $25%$ )STEEP SLOPE ( $30L$ DELINEATION & TYPE ( $3ee$ table at lower right)STEEP SLOPE SUPER SILT FENCE	AREA TO BE PLANTED (IN AC.) BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.) CREDIT FOR LANDSCAPE TREES 2 1/2" CAL. MINIMUM REQUIRED QUANTITY OF 2"-2 1/2" CAL. TREES TO BE PLANTED OR REQUIRED QUANTITY OF 1" CAL. TREES TO BE PLANTED ** 64 LANDSCAPE TREES CONVERSION CALC 12 Trees for WP-14-124 mitigation): 26 EVERGREEN TREES @ 225 S.F./ 38 SHADE TREES @ 400 S.F./TREE 21,050 S.F. TOTAL CREDIT TOWARD FOR EST CONS PLANT NAME (BOTANICAL/COMMON) * ACER RUBRUM/ RED MAPLE CERCIS CANADENSIS/ EASTERN REDBUD LIRIODENDRON TULIPFERA/ TULIP TREE * PLATANUS OCCIDENTIALIS/ AMERICAN SYCAMORE (PLANE TREE) QUERCUS PALUSTRIS/ PIN OAK	2.068 207 12 195 390 ULATIONS (inclu IREE = 5,850 = 15,200 S.F. FC SURETY CA SER VATI PLANT FCE-1 60 (210) 15 (53) 0 (0) 60 (210) 15 (53)	FCE-2         8.5436         855         52         803         1,606         Jdes the Landscap         S.F. CREDIT TOWARD F         CREDIT TOWARD F         CON PLAN         NAME (BOTAI         FCE-2         205         (718)         62         (217)         210         (735)         62         (217)	FCE-3         1.1618         116         0         116         232         ne Buffer Trees or         RD FC SURETY         C SURETY         HEET 28         T LIST         NICAL/COMMC         FCE-3         19         (66)         19         (66)         19         (67)         19         (67)	TOTAL 11.77 1178 64 ** 1,114 2,228 nd the DN) TOTAL 284 994) 96 336) 81 289 012) 96 337)	- 588
152       PROPOSED CONTOUR         LOD       GRADING LIMIT OF DISTURBANCE (L.O.D.)         STEEP SLOPE (225%)         FOREST CONSERVATION EASEMENT AREA (nonsycomb pattern)         Image: State of the sta	AREA TO BE PLANTED (IN AC.) BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.) CREDIT FOR LANDSCAPE TREES 2 1/2" CAL. MINIMUM REQUIRED QUANTITY OF 2"-2 1/2" CAL. TREES TO BE PLANTED OR REQUIRED QUANTITY OF 1" CAL. TREES TO BE PLANTED ** 64 LANDSCAPE TREES CONVERSION CALC 12 Trees for WP-14-124 mitigation): 26 EVERGREEN TREES © 225 S.F./ 38 SHADE TREES © 400 S.F./TREE 21,050 S.F. TOTAL CREDIT TOWARD FOR EST CONS PLANT NAME (BOTANICAL/COMMON) * ACER RUBRUM/ RED MAPLE CERCIS CANADENSIS/ EASTERN REDBUD LIRIODENDRON TULIPFERA/ TULIP TREE * PLATANUS OCCIDENTIALIS/ AMERICAN SYCAMORE (PLANE TREE) QUERCUS PALUSTRIS/ PIN OAK QUERCUS RUBRUM/ RED OAK * QUERCUS PHELLOS/ WILLOW OAK TOTAL	2.068 207 12 195 390 ULATIONS (inclu IREE = 5,850 = 15,200 S.F. FC SURETY CA SER VATI PLANT FCE-1 60 (210) 15 (53) 0 (0) 60 (210) 15	FCE-2         8.5436         855         52         803         1,606         Jdes the Landscap         S.F. CREDIT TOWARD F         CREDIT TOWARD F         CREDIT TOWARD F         CREDIT TOWARD F         CON PLAN         NAME (BOTAI         FCE-2         205         (718)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62	FCE-3         1.1618         116         0         116         232         ve Buffer Trees or         RD FC SURETY         C SURETY         T LIST         NICAL/COMMC         FCE-3         19         (66)         19         (66)         19         (66)         19         (67)         19         (67)         (3         (9         (67)         (3         (67)         (3         (7)         (66	TOTAL 11.77 1178 64 ** 1,114 2,228 and the DN) TOTAL 284 294) 96 836) 81 289 012) 96	NOTE: F
152       PROPOSED CONTOUR         LOD       GRADING LIMIT OF DISTURBANCE (L.O.D.)         STEEP SLOPE (225%)       FOREST CONSERVATION EASEMENT AREA (honsycomb pattern)         Image: State Sta	AREA TO BE PLANTED (IN AC.) BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.) CREDIT FOR LANDSCAPE TREES 2 1/2" CAL. MINIMUM REQUIRED QUANTITY OF 2"-2 1/2" CAL. TREES TO BE PLANTED OR REQUIRED QUANTITY OF 1" CAL. TREES TO BE PLANTED ** 64 LANDSCAPE TREES CONVERSION CALC 12 Trees for WP-14-124 mitigation): 26 EVERGREEN TREES © 400 S.F./TREE 21,050 S.F. TOTAL CREDIT TOWARD FOR EST CONS PLANT NAME (BOTANICAL/COMMON) * ACER RUBRUM/ RED MAPLE CERCIS CANADENSIS/ EASTERN REDBUD LIRIODENDRON TULIPFERA/ TULIP TREE * PLATANUS OCCIDENTIALIS/ AMERICAN SYCAMORE (PLANE TREE) QUERCUS PALUSTRIS/ PIN OAK QUERCUS RUBRUM/ RED OAK * QUERCUS PHELLOS/ WILLOW OAK	2.068 207 12 195 390 ULATIONS (inclu IREE = 5,850 = 15,200 S.F. FC SURETY CA SER VATI PLANT FCE-1 60 (210) 15 (53) 0 (0) 60 (210) 15 (53) 0 (0) 60 (210) 15 (53) 15 (53) 15 (53) 15 (53) 15 (52) 30 (105) 196 (683) LANTING WITH HOWIN FOR IT	FCE-2         8.5436         855         52         803         1,606         Jdes the Landscap         S.F. CREDIT TOWARD F         CREDIT TOWARD F         CREDIT TOWARD F         CREDIT TOWARD F         CON PLAN         NAME (BOTAI         FCE-2         205         (718)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62	FCE-3         1.1618         116         0         116         232         ve Buffer Trees or         RD FC SURETY         C SURETY         HEET 28         T LIST         NICAL/COMMC         FCE-3         19         (66)         19         (66)         19         (66)         19         (66)         19         (67)         (19         (67)         (3)         (67)         (3)         (67)         (3)         (67)         (3)         (406)         (3)         AT APPROXIMATE SPA         PORTION OF FORMULA AND AND AND AND AND AND AND AND AND AN	TOTAL 11.77 1178 64 ** 1,114 2,228 and the DN) TOTAL 284- 294) 96 336) 81 289 012) 96 336) 81 289 012) 96 336) 72 02) 114 900) TTELY CCING 15'×15').	
152       PROPOSED CONTOUR         LOD       GRADING LIMIT OF DISTURBANCE (L.O.D.)         STEEP SLOPE (225%)       FOREST CONSERVATION EASEMENT AREA fromeycomb pattern?         FOREST RETENTION (cross hatching within FCE)       FOREST RETENTION (cross hatching within FCE)         NON-CREDIT FOREST RETENTION (cross hatching within FCE)       FOREST RETENTION (cross hatching within FCE)         NON-CREDIT FOREST RETENTION (cross hatching within FCE)       FORESTATION PLANTING (plus symbols within FCE)         FOREST CONSERVATION SIGN (along FCE)       NON-CREDIT FOREST CLEARING (square netting pattern)         FOREST CONSERVATION SIGN (along FCE)       SOIL DELINEATION & TYPE (soil balance)         GmB       SSF         PROPOSED SUPER SILT FENCE       TEMPORARY TREE PROTECTION FENCE         SEE SHETS 2.3 - 2.4       LANDSCAPE TREES SEE SHETS 2.3 - 2.4         APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS       State Sta	AREA TO BE PLANTED (IN AC.) BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.) CREDIT FOR LANDSCAPE TREES 2 1/2" CAL. MINIMUM REQUIRED QUANTITY OF 2"-2 1/2" CAL. TREES TO BE PLANTED OR REQUIRED QUANTITY OF 1" CAL. TREES TO BE PLANTED ** 64 LANDSCAPE TREES CONVERSION CALC 12 Trees for WP-14-124 mitigation): 26 EVERGREEN TREES © 225 S.F./ 38 SHADE TREES © 400 S.F./TREE 21,050 S.F. TOTAL CREDIT TOWARD FOR EST CONS PLANT NAME (BOTANICAL/COMMON) * ACER RUBRUM/ RED MAPLE CERCIS CANADENSIS/ EASTERN REDBUD LIRIODENDRON TULIPFERA/ TULIP TREE * PLATANUS OCCIDENTIALIS/ AMERICAN SYCAMORE (PLANE TREE) QUERCUS PALUSTRIS/ PIN OAK QUERCUS RUBRUM/ RED OAK * QUERCUS PHELLOS/ WILLOW OAK TOTAL NOTES: 1. THE QUANTITY SHOWN ABOVE IS FOR P 20'×20' SPACING. DOUBLE QUANTITY SHOWN MITH AN AST	2.068 207 12 195 390 ULATIONS (inclu IREE = 5,850 = 15,200 S.F. FC SURETY CA SER VATI PLANT FCE-1 60 (210) 15 (53) 0 (0) 60 (210) 15 (53) 0 (0) 60 (210) 15 (53) 15 (53) 15 (53) 15 (53) 15 (52) 30 (105) 196 (683) LANTING WITH HOWIN FOR IT	FCE-2         8.5436         855         52         803         1,606         Jdes the Landscap         S.F. CREDIT TOWARD F         CREDIT TOWARD F         CREDIT TOWARD F         CREDIT TOWARD F         CON PLAN         NAME (BOTAI         FCE-2         205         (718)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62         (217)         62	FCE-3         1.1618         116         0         116         232         ve Buffer Trees or         RD FC SURETY         C SURETY         HEET 28         T LIST         NICAL/COMMC         FCE-3         19         (66)         19         (66)         19         (66)         19         (66)         19         (67)         (19         (67)         (3)         (67)         (3)         (67)         (3)         (67)         (3)         (406)         (3)         AT APPROXIMATE SPA         PORTION OF FORMULA AND AND AND AND AND AND AND AND AND AN	TOTAL 11.77 1178 64 ** 1,114 2,228 and the DN) TOTAL 284- 294) 96 336) 81 289 012) 96 336) 81 289 012) 96 336) 72 02) 114 900) TTELY CCING 15'×15').	NOTE: F A C T

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<ul> <li>GENERAL NOTES</li> <li>1. THIS REFORESTATION PLAN IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBTITLE 12 "FOREST CONSERVATION" OF THE HOWARD COUNTY CODE.</li> <li>2. IMPLEMENTATION OF THIS PLAN MUST BE PERFORMED BY A CONTRACTOR THAT IS KNOWLEDGEABLE AND EXPERIENCED IN AFFORESTATION/REFORESTATION TECHNIQUES AND PRACTICES.</li> <li>3. 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</li> </ul>	RR-DEO RR-DEO	RR-DEO
<ul> <li>CONSERVATION AREA. INVO INSPECTIONS PER TEAR 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.</li> <li>4. 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 PROGRAM.</li> </ul>	STTE	2 m
<ol> <li>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.</li> <li>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.</li> <li>THE FOREST CONSERVATION EASEMENT SHALL BE ESTABLISHED AT FINAL PLAN STAGE TO</li> </ol>		X
<ol> <li>THE FOREST CONSERVATION EASEMENT SHALL BE ESTABLISHED AT FINAL PLAN STAGE 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.</li> <li>THE FOLLOWING NOTES ARE FROM THE FOREST STAND DELINEATION PREPARE BY KLEBASKO ENVIRONMENTAL, LLC:         <ul> <li>a. Total Site Area:</li> <li>b. Total Forest Area:</li> <li>10.04 ± acres Stand F1</li> <li>2.91 ± acres</li> </ul> </li> </ol>	RR-DEO 32	RR-DE
Stand F2 5.95 ± acres Stand F3 1.18 ± acres c. Total Floodplain Area: 16.10 acres Forested Floodplain Area: 3.16 acres Total Steep Slope Area: 0.19 acres Forested Steep Slope Area: 0.00 acres d. No rare, threatened, or endangered species or their habitats were identified on the	RR-DEÔ	LINDEN JUST
<ul> <li>property during the course of the Forest Stand Delineation field work.</li> <li>No known historic structures are located on the property. There are two existing graves on site located near the existing house.</li> <li>f. Forest stand delineation field work conducted by Michael J. Klebasko and Marijke Noens of Klebasko Environmental, LLC on November 5, 7, and 8, 2013.</li> <li>g. Forty-nine (49) specimen trees exist on or within close proximity to the site and their surveyed locations are denoted on the plan. No State Champion Trees exist on the property and none of the specimen trees have a diameter within 75% of the diameter of a State Champion Tree.</li> <li>h. A wetland delineation was performed by Michael J. Klebasko and Marijke Noens of Klebasko Environmental, LLC on October 30, 2013 and on November 4, 5, 7, and 8, 2013. The delineation revealed that jurisdictional Waters of the U.S. (including wetlands) do exist on the site, and their surveyed limits are demarcated on this plan.</li> </ul>		RR
FOREST CONSERVATION PROGRAM SEQUENCE	ADC MAP: 24 GRID: E5	Ĭ
<ol> <li>OBTAIN ALL NECESSARY PERMITS.</li> <li>STAKEOUT LIMITS OF DISTURBANCE.</li> </ol>	FOREST VICINITY MAP SCALE: 1" = 1,000'	
<ol> <li>FIELD MEETING TO REVIEW AND VERIFY LIMIT OF DISTURBANCE FOR THE SITE GRADING AND CONSTRUCTION.</li> <li>INSTALL EOREST CONSERVATION SIGNS AND EOREST PROTECTION DEVICES (FENCES) ALONG THE</li> </ol>	FOREST CONSERVATION POST-CONSTRUCTION MANAGEMENT PRACTICES Many of the protection and management practices for the construction period must be continued for	
<ol> <li>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).</li> <li>COMMENCE SITE CONSTRUCTION.</li> </ol>	at least 2 growing seasons following official notification of completion of the development (or a specific phase of the overall development if phasing has been approved). The responsibility to meet the survival standards requires adequate watering, replanting, thinning or other appropriate measures. Also, inappropriate uses or intrusions must not occur, a responsibility that requires the knowledge and cooperation of the new occupants of the development.	
<ol> <li>PREPARE SITE SOIL BY MULCHING AND REMOVAL OF TRASH AND WEEDS INCLUDING AN APPLICATION OF HERBICIDES TO CONTROL NOXIOUS WEEDS AND INVASIVE SPECIES.</li> </ol>	Minimum Two Growing Season Post-Construction Management Program	FOREST CO
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.		Project Name: GAITHER'S 1 Site Data
<ol> <li>INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE CONSTRUCTION PERIOD OBLIGATIONS; START OF POST-CONSTRUCTION MANAGEMENT PERIOD.</li> <li>POST-CONSTRUCTION MANAGEMENT FOR A PERIOD OF 2 YEARS (MIN.).</li> </ol>	Implementation of the post-construction management program must be supervised by a qualified professional who should inspect the status of all forest retention, reforestation and afforestation areas at specified times during the life of the post construction agreement and who must certify that the required survival rates have been achieved in accordance with the agreement prior to	A. Gross Site B. Area withir C. Area of exi
<ol> <li>FINAL INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE OWNER'S FOREST CONSERVATION SURETY.</li> </ol>	release of bonds.	D. Area of ext E. Net Tract A
CONSTRUCTION PERIOD PROTECTION PROGRAM	There are five primary components of the post-construction program: inspection, management of retained or new plantings, replacement of dead or damaged material when necessary, education of new occupants of the development and final inspection and release of developer from additional responsibilities.	F. Land Use (
<ol> <li>THE LIMIT OF FOREST RETENTION SHALL BE STAKED AND FLAGGED.</li> <li>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 COUNTY INSPECTORS.</li> </ol>	Inspection Inspections should be carried out at the beginning and end of the growing season to pinpoint any problems, monitor survival rates, and specify remedial actions needed to correct existing problems. Appendix J has an example of an inspection report checklist. <u>Management of Forest Conservation Areas</u>	A. Net Tract A B. Reforestation C. Afforestation D Existing For
<ol> <li>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 BE SAVED.</li> <li>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</li> </ol>	Post construction management includes: maintenance of all fences, signs or other devices delineating forest conservation areas and other measures. Such other measures include: needed watering; removal of dead or damaged material and control of undesirable competing species; thinning or pruning to encourage proper growth; fertilizing, if necessary, and control of pests. Specific practices will depend on the weather prevailing during the post construction period, the types of plant material and planting methods used, and specific site conditions such as proximity to high use areas. It is the responsibility of the post-construction plan supervisor to take appropriate actions as needed. This manual, therefore, does not cite required measures. Survival success, not fulfillment of a given series of tasks, will be the measure of conformance to the needs of the post-construction program.	E. Forest Clea F. Forest Rete 3 Reforestatio A. Net tract fo B. Net tract fo
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	Newly planted trees, whether they are seedlings or 4" caliper transplants, have basic needs. Some of these needs can be met by nature alone; others may require human intervention. (The three most likely causes of death for newly planted trees are drought, competing vegetation and deer.) The basic maintenance regime should be determined by on-site environmental conditions, structure and nutrient content of soil, and rainfall. Understanding these factors and the specific needs of the species and size of plants used will result in a healthy forested area at the end of the maintenance period. Appendix H contains guideline specifications for maintenance of forest conservation areas and focuses on the following critical needs:	C. Planting up D. Reforestati E, Reforestati F. Net tract fo G. Total refore
OBLIGATIONS. THE 2-YEAR (MIN.) POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THEN COMMENCES.	<ul> <li>fertilizing</li> <li>control of competing vegetation</li> <li>protection from pests, diseases and mechanical injury.</li> <li>Replacement of Plant Material</li> </ul>	4 Break Even A. Maximum B. Minimum n
<b>FOREST CONSERVATION OBLIGATION &amp; SURETY</b> REQUIRED OBLIGATION: THE FOREST CONSERVATION OBLIGATION FOR THIS DEVELOPMENT AS CALCULATED IN THE FOREST CONSERVATION WORKSHEET IS 1.61± ACRES OF FOREST RETENTION OUTSIDE THE FLOODPLAIN AND A MINIMUM OF 11.74± ACRES OF AFFORESTATION & REFORESTATION PLANTING FOR TOTAL OF 13 35± ACRES OF EFOREST CONSERVATION FASEMENT TO DE RECORDED	An inspection shall take place at the end of year one or before the second growing season to evaluate survival rates with reference to the survival required at the end of the two year period. This is an opportunity to avoid the penalty for violating survival rate standards. This inspection should estimate survival potential based on the following: •vigor and threat of competing vegetation (i.e. if seedlings are free to grow) •structure	5 Forest Conse A. Forest Rete B. Forest Plar C. Total minim
13.35± ACRES OF FOREST CONSERVATION EASEMENT TO BE RECORDED. PROPOSED METHOD OF SATISFYING THE ABOVE FOREST CONSERVATION ON-SITE:	•trunk health	NOTES: ALL THE PRESERV CALCULATIONS (A
RECORD 3 (THREE) FOREST CONSERVATION EASEMENTS TOTALING <b>16.16±</b> ACRES OF WHICH <b>1.61±</b> ACRES ARE CREDITED FOREST RETENTION (outside the floodplain), <b>11.76±</b> ACRES ARE AFFORESTATION & REFORESTATION PLANTING AND <b>2.79±</b> ACRES ARE NON-CREDITED FOREST RETENTION (within the floodplain). SURETY REQUIRED:	applicant may choose to establish reinforcement planting will not meet survival standards, the applicant may choose to establish reinforcement plantings. If plant mortality of reforestation or afforestation exceeds 10% of planted material at the end of the first growing season, such material should be replaced to bring the total number of trees to 90% of the original total. Such material shall be installed by the beginning of the second growing season. If at the end of the second growing season, survival rate drops below 75%, such material as needed to guarantee an 75% survival rate by the end of the third growing season shall be installed.	• SITE DATA 1C AC dedication)
THE FOREST CONSERVATION SURETY <b>TO BE</b> POSTED WITH THE DEVELOPER AGREEMENT IS \$0.50/S.F OF THE REQUIRED REFORESTATION PLANTING. THE SURETY FOR THE REQUIRED AFFORESTATION & REFORESTATION WOULD BE (11.741 ac x 43,560 s.f./ac = 511,438 s.f.): <b>511,438</b> S.F. SURETY FOR REQUIRED FORESTATION PLANTING x (\$0.50/SF) = \$255,719.00	Education of New Occupants The occupants of a new development, whether owners or tenants, must avoid activities that destroy or degrade protected forest resources. The post-construction management program must therefore include steps to educate the new occupants about the proper use of forest conservation areas,	FOR
- 21,050 S.F. CREDIT FOR LANDSCAPE TREES Within FCE x (\$0.50/SF) = -\$10,525.00 TOTAL ADJUSTED FOREST CONSERVATION SURETY = \$245,194.00	about the need for the developer to carry out the postconstruction management program, and the eventual transfer of long-term responsibilities to the owners or occupants. Such educational material should include a plan locating all protected areas on the site and a description of permitted and prohibited activities within or affecting such areas. The format and method of conveying such information is left to the discretion of the developer.	Forest Conservation Easement No.
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways AS Date	Final Inspection and Release of Obligations At the end of the post-construction management and protection period, the designated responsible professional shall convey to the Department ofPlanning and Zoning certification that all forest conservation areas have remained intact or have been restored to the appropriate condition, that the stipulated survival rates have been achieved, and that any permanent protection measures required by the plan are in place. Appendix J contains a sample format for such certification.	FCE-1 FCE-2 FCE-3
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING Chief, Division of Land Development Chief, Dévelopment Engineering Division Chief, Dévelopment Engineering Division Chief, Dévelopment Engineering Division	Upon review of the final certification document for completeness and accuracy, the County will notify the developer of release of surety and all future obligations. The developer's last official responsibility will be to transmit a copy of this notification to the owner(s) of the property(ies). Such transmittal will serve as official notice to owners of their assumption of full responsibility for all future forest conservation obligations.	TOTAL
GLWGUTSCHICK LITTLE & WEBER, P.A.		
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK		
3909 NATIONAL DRIVE - SUTTE 230 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186		

DATE

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L:\CADD\DRAWINGS\13070\PLANS BY GLW\Finals\13070-FCP.dwg DES. mbt DRN. mbt CHK.

REVISION

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BY APP'R.

	(A) TYPE OF	T	(C) SOIL	•	110,000	Name: <u>GAITHE</u>	1				Submission No.	ı   r		n fan skriet fan skriet fan fan skriet fan skriet fan skriet fan skriet fan skriet fan fan fan fan skriet fan s	ağını termeterine alı termeteri			
EI	(A) TYPE OF COMMUNITY	(B) AREA*	INFORMA		3. Woodland Suitability	A 17-1-2-4 17-1	(D) EXISTING VEGETATION		HARACTERISTICS		(F) FOREST AREA IN SENSITIVE ENVIRONMENTS*			SPECIM	IEN TRE	E TABLE		
			Types	2. Typical forest cover for soil type	Index	4. Habitat Value for soil type	and Approx. %)	I. Size (Dia.)	2. Age	3. General Conditions	(Acres)	No	Common Name	Scientific Name	DBH	Condition	Condition /Comments	
7]	Red Maple Sycamore	2.91 acres	BaA	[This information	[This information	[This information	<u>Canopy:</u> Red Maple (40%) Sycamore (30%) Northern Red Oak (20%) <u>Understory</u>	2-24"  5-25"  0-15"	40-60 yrs	Good -numerous	steep slopes: 0.00 ac wetlands: 0.20 ac. wetland buffers: 0.78 ac.		Red Maple	Acer rubrum	(inches) 48	Rating Very Poor	Twin trunk with weak crotch; lar cavity in both trunks; broken lim	
			GgC	is not available with the updated soil survey]	is not available with the updated soil survey]	is not available with the updated soil survey]	Red Maple (20%) Persimmon (15%) <u>Herbaceous:</u>			invasive species	100-yr floodplain: 2.46 ac. stream buffers: 2.46 ac.	2	) Red Maple	Acer rubrum	40	Poor	Poor structure; two broken off lead exposed roots	
			GnB				Wild Onion (10%) English Ivy (10%) Japanese honeysuckle (40%)			-several fallen trees and limbs		3		Acer rubrum	33	Fair	On edge of steep slope; vine cover Toxicodendron radicans; broken li	
		:					Greenbriar (20%) Stilt Grass (15%) <u>Canopy:</u>					4	) Red Maple	Acer rubrum	36	Poor	Twin trunks with weak crotch; bro off main branch; poor structure; bro limbs	
			GgC				Yellow Poplar (60%) Red Maple (40%) <u>Understory</u>			and in splant second and		5	) Yellow Poplar	Liriodendron tulipifera	34	Very Poor	Large trunk cavity	
72	Yellow Poplar Red Maple	5.95 acres	Uge	[This information	[This information is not available	[This information is not available	Red Maple (30%) Spicebush (10%)	15-35" 5-20"	80-100 yrs	Good -several	steep slopes: 0.00 ac wetlands: 0.04 ac. wetland buffers: 0.46 ac.	6		Liriodendron tulipifera	34	Fair	Poor structure	
				is not available with the updated soil survey]	with the updated soil survey]	with the updated soil survey]	American Holly (5%) <u>Herbaceous:</u> Wild Onion (20%) Blackberry (15%)	Black Cherry (10%) American Holly (5%) Harbaraous			fallen trees and limbs	100-yr floodplain: 0.62 ac. stream buffers: 1.67 ac.	7	Yellow Poplar	Liriodendron tulipifera	38	Good	an a
			GnB								8	Yellow Poplar	Liriodendron tulipifera	41	Good			
			MaD				Japanese honeysuckle (25%) Greenbriar (20%) Stilt Grass (15%)			de la constante		9	Yellow Poplar	Liriodendron tulipifera	34	Fair	Broken limbs	
<u>ing seri</u>				-			<u>Canopy:</u>					10		Liriodendron tulipifera	33	Good		
							Mulberry (15%) Black Locust (10%) Black Cherry (15%)		25 - 40 yrs	Fata	steep slopes: 0.00 ac			Liriodendron tulipifera	36	Poor	Cavity in trunk	
3	Mulberry Black Cherry	1.18 acres	MaD	[This information is not available	[This information is not available	[This information is not available	Red Maple (5%) Catalpa (5%)	10-17" 5-15" 10-17"	20 - 40 yi 5	Fair -Lots of	wetlands: 0.00 ac. wetland buffers: 0.00 ac.	12		Liriodendron tulipifera	32	Fair	Poor structure; leaning	
	Black Locust (early			with the updated soil survey]	with the updated soil survey]	with the updated soil survey]	<u>Understory</u> Spicebush (5%) <u>Herbaceous:</u>	5-15" 8		invasive species	100-yr floodplain: 0.00 ac. stream buffers: 0.00 ac.	13		Liriodendron tulipifera	36	Fair	Leaning	
	successional)						Pokeweed (10%) Catnip (10%)			-dominated by early successional				Liriodendron tulipifera	36	Good	·····	
							Wild Onion (2%) Polygonum (5%) Wineberry (5%)	с.		successional species		(15	Red Maple	Acer rubrum	31	Poor	Multi-trunks with weak crotch; bro limbs	
							trumpet creeper (2%) Asiatic tearthumb (5%)			and the second		(16	Yellow Poplar	Liriodendron tulipifera	34	Fair	Poor structure	
							Blackberry (5%) Japanese honeysuckle (5%) Greenbriar (5%)							Acer rubrum	30	Poor	Multi-trunks; poor structure; cut o main leader	
							Stilt Grass (40%)			<u>.</u>		(18	Black walnut	Juglans nigra	30	Fair	Broken limbs	
				T	REE PLANTING AND MAIN	TENANCE CALEN	DAR	TREE PROTE		NOT TO SCALE	NSERVATION SIGNAGE	(19	Black locust	Robinia pseudoacacia	31	Very Poor	Spilt trunk	
		•		TASKS	M	DNTHS					11" MIN.	20	Black locust	Robinia pseudoacacia	38	Very Poor	Twin trunks; poor structure; brok limbs; crown dieback	
	ana ang ang ang ang ang ang ang ang ang	ana tana kada kana ana ka <mark>ng kana ang ka</mark>			JAN FEB MAR APR MAY JU	NE JULY AUG SEPT OCT	NOV DEC		EXISTING TREES	71		[21]	Eastern Cottonwood	Populus deltoides	37	Good		
ile l	No.: F-15-043			TRANSPLAN OF 2" DBH OR GREATE	т			N N N	10 trians		AREA AREFORESTATION PROJECT							
	Acreage		and the second se	PLANTING SEEDINGS, WHIPS				all s	A REP 9	Paro	TREES FOR YOUR FUTURE	22	* Sycamore	Platanus occidentalis	44	Fair	Broken limbs; slight lean	
	57.832	and the second	1	CIMERCO.						A /			1	+				

Projec Name:		F-15-043
1 S	ite Data	Acreage
A.	Gross Site Area	57.832
В.	Area within 100-yr floodplain, if any	16.105
C.	Area of existing easement for major utility transmission lines, if any	1.302
D.	Area of external public road (frontage) dedication, if any	0.000
E.	Net Tract Area	40.425
F.	Land Use Category	Residential - Rura Medium Density
2 In	put Data	
A.	Net Tract Area	40.425
В.	Reforestation Threshold (percent of net tract = 25 %)	10.106
C.	Afforestation Threshold (percent of net tract = 20 %)	8.085
D	Existing Forest on Net Tract Area	6.873
È.	Forest Clearing on Net Tract Area	5.265
F.	Forest Retention on Net Tract Area	1.608
3 R	eforestation and/or Afforestaion Calculations	
A.	Net tract forest clearing above reforestation threshold, if applicable	0.000
В.	Net tract forest clearing below reforestation threshold, if applicable	5.265
C.	Planting up to afforestation threshold, if applicable	1.212
D.	Reforestation planting required for clearing above threshold (3A x 0.25)	0.000
E,	Reforestation planting required for clearing below threshold (3B x 2.0)	10.529
F.	Net tract forest retention above reforestation threshold (2F-2B, available credit)	0.000
G.	Total reforestation planting required (3C+3D+3E - 3F)	11.741

	Br	eak Even Point (BEP) Calculations	
	Α.	Maximum clearing allowed with no reforestation planting (2D-2B)/1.25	Not Applicable
	В.	Minimum net tract retention at BEP 0.20(2D-2B)+2B or 2D-4A	Not Applicable
<del></del>	Fo	rest Conservation Required	
	Α.	Forest Retention Area (2F)	1.608
	В.	Forest Planting Area (3D)	11.741
1	C.	Total minimum FCE required for retention and reforestation	13.350

CALCULATIONS (APPENDIX-L, Option 'A' of the FCM). SITE DATA 1C ACCOUNTS FOR THE EXISTING 50' GAS MAIN EASEMENT (excluding the portion that overlap Ten Oaks Road R/W

## FOREST CONSERVATION ACREAGE TABULATION

Credited Retention Area on Net Tract	Credited Planting and of planting w floodpl	l percent vithin the	Non-credited forest retention within 100-yr floodplain	Total Area of Forest Conservation Easement (non-credited portion is in parenthesis)		
0.000	2.068	74.5%	0.766	2.834	(0.766)	
1.111	8.526	69.9%	1.815	11.452	(1.815)	
0.4965	1.1618	0.3%	0.2102	1.869	(0.210)	
1.608	11.7558	63.6%	2.7913	16.155	(2.792)	

TASKS					MONT	HS				
	· JAN	FEB N	MAR AF	PR MAY	JUNE	JULY	AUG	SEPT OCT	NOV	DEC
TRANSPLANT								angle -		
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PLANTING										
SEEDINGS, WHIPS										
MINIMUM			*			*			*	6
MONITORING										
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(IF NEEDED)										
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MAILN TT										
PRUNING										<b>C</b>
	<u> </u>	-	<del>an an a</del>		<u> Anger</u> ang					<del>- ibnese</del>
KEY										
* ACTIV	ITIES DUG	INC TH	ESE MO	NTHS AF				N GROUND	CONDI	IONS
				n IFIO AI	NE DEFI	LINDEIN		n onoono	CONDE	CAD
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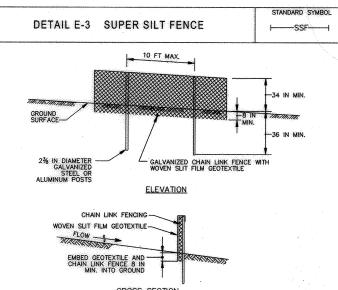
RECOMMENDED WITH ADDITIONAL CARE

RECOMMENDED

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

NOTE: 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



CROSS SECTION CONSTRUCTION SPECIFICATIONS INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS. 5. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SDE OF CHAIN LINK FENCE MITH TES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED ECOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- 4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

   U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE
   2011
   MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

(MATION)

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PREPAR	ED FOR /	OWNER:
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	LOTS Non-B	5 1-18, Juilda
- 305		

SPECIMEN TREE TABLE NOTES:

ELECTION DISTRICT No. 5

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C. C	NOTES:
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	2. FOREST CONSERVATION S 50' TO 100' APART.
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NOTES:
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2. FOREST CONSERVATION SIGN 50' TO 100' APART.

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	2. Forest conservation sid 50' to 100' Apart.
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1. The tree pro Construction Act Perpetuity Aroun See the Sediment	1vity, but th D the fores
2. FOREST CONS 50' TO 100' APART	
3. ATTACHMENT	of signs to

EE PROTECTION FENCING Encing Shown on These plans is temporary and shall remain in place during The forest conservation signage is permanent and shall remain in place for REST conservation easements after the removal of the tree protection fencing. Plan of this plan set for where super silt fence are required. GNAGE SHALL BE INSTALLED ALONG THE PERIMETER OF THE CONSERVATION EASEMENT AT ) trees is prohibited.

 No. Contraction of the second s
TREI
 NOTES:
 1. THE TREE PROTECTION FENC CONSTRUCTION ACTIVITY, BUT THE PERPETUITY AROUND THE FOREST SEE THE SEDIMENT CONTROL PLA
 2. FOREST CONSERVATION SIGN 50' TO 100' APART.
3. ATTACHMENT OF SIGNS TO
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En a		AREA
	15" MIN.	REFORESTATION PROJECT
		TREES FOR YOUR FUTURE
		EST CONSERVATION SIGNAGE PER HOWARD COUNTY OREST CONSERVATION
		MANUAL EXHIBIT G-16
лученой леаст леасто леантор леантор 2″ Х	4" LUME	BER CROSS BRACE
б'нт 111111111111111111111111111111111111	. 2" st 2" timb	TEEL 'U' CHANNEL OR ER POSTS MAX. 8' O.C.
	e orang Nimum H	e plastic mesh snow fence Height
USE 8	3" WRE	'U' TO SECURE FENCE BOTTOM
1/3 0	)F HT. C	F POST ABOVE GROUND

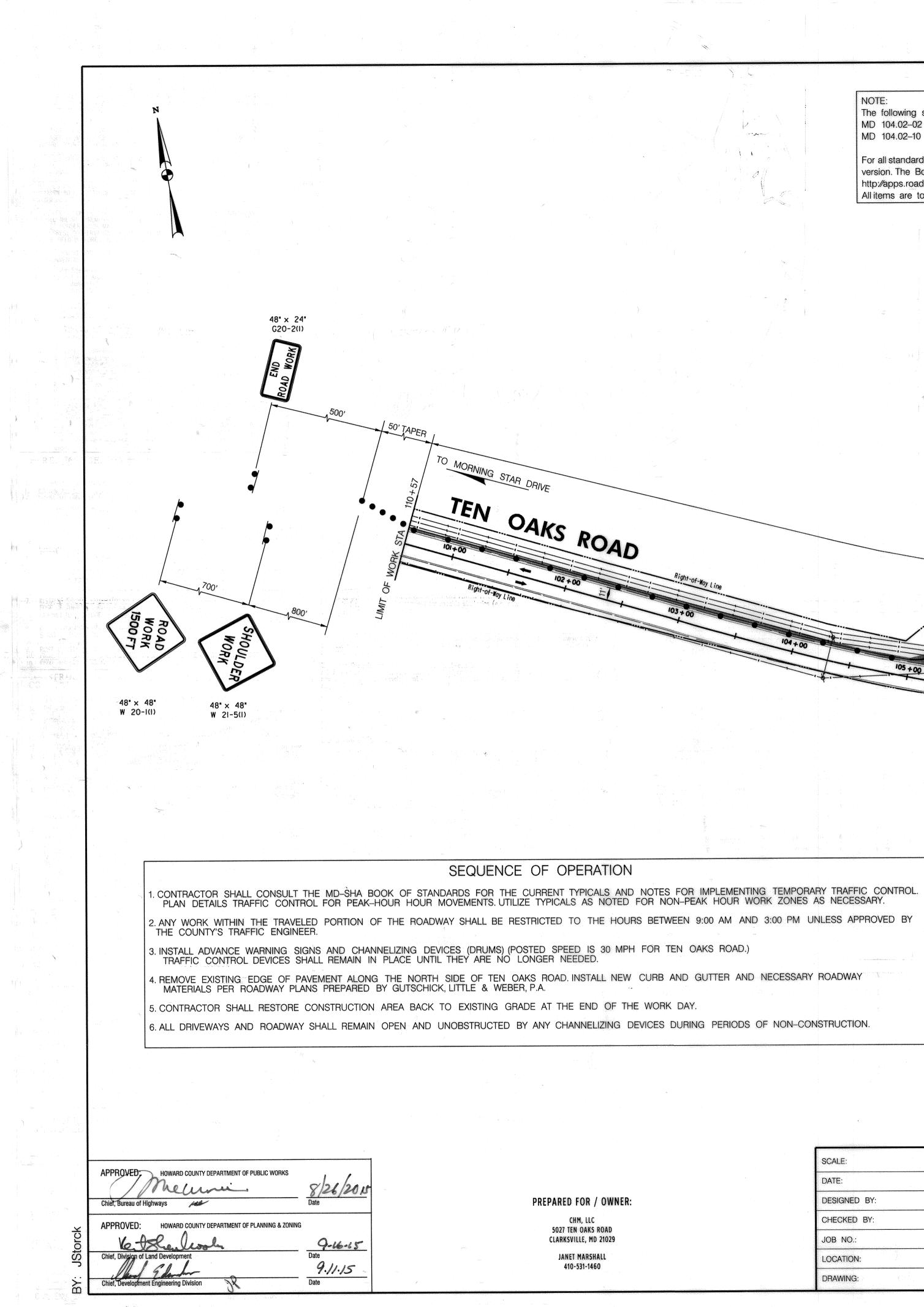
STATE OF MARYLAND

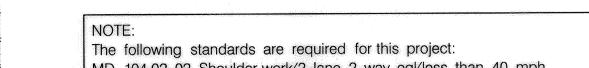
## I. SPECIMEN TREES ARE FROM THE FOREST STAND DELINEATION PREPARED BY KLEBASKO ENVIRONMENTAL, LLC and FIELD WORK PERFORMED BY SAME ON NOVEMBER 5, 7 and 8, 2013.

2. \* DENOTES OFFSITE TREES (9 TREES) 3. (2) DENOTES TREE PLACED IN A FOREST CONSERVATION EASEMENT (15 TREES) 4. DENOTES TREES THAT MAY BE REMOVED PER WP-14-124 (12 TREES) 5. 25 DENOTES TREE ON A BUILDABLE LOT BUT OUTSIDE OF THE L.O.D. (13 TREES)

			1	7	
22*	Sycamore	Platanus occidentalis	44	Fair	Broken limbs; slight lean
23	Northern Red Oak	Quercus rubra	36	Good	
24)	Sycamore	Platanus occidentalis	48	Poor	Severe lean; located on edge of stream slope
25	Yellow Poplar	Liriodendron tulipifera	32	Good	Twin trunks
26	Yellow Poplar	Liriodendron tulipifera	36	Good	
27	Yellow Poplar	Liriodendron tulipifera	37	Fair	Twin trunks; broken codominant leader; dead limbs; spilt at 7 feet
28	Yellow Poplar	Liriodendron tulipifera	36	Poor	Large cavity in trunk
29	Yellow Poplar	Liriodendron tulipifera	31	Fair	Twin trunks spilt at 10 feet
30	Yellow Poplar	Liriodendron tulipifera	31	Good	
31	Yellow Poplar	Liriodendron tulipifera	34	Good	
32	Yellow Poplar	Liriodendron tulipifera	40	Very Poor	Large cavity in trunk; leaning; dead limbs
33	Yellow Poplar	Liriodendron tulipifera	32	Fair	Twin trunks; spilt at 6 feet; cavity in one of trunks
34	Yellow Poplar	Liriodendron tulipifera	32	Fair	Twin trunks; dead limbs
35	Yellow Poplar	Liriodendron tulipifera	50	Good	Few broken limbs
36	Yellow Poplar	Liriodendron tulipifera	31	Very Poor	Large cavity in trunk
37	Yellow Poplar	Liriodendron tulipifera	33	Poor	Lighting strike in trunk
38*	Yellow Poplar	Liriodendron tulipifera	36	Poor	Large cavity in trunk
39*	Yellow Poplar	Liriodendron tulipifera	38	Fair	Small cavity in trunk
40*	Yellow Poplar	Liriodendron tulipifera	37	Good	
41*	Black Oak	Quercus velutina	41	Good	
42	Red Maple	Acer rubrum	31	Poor	Twin trunks; property stake located in trunk
43	Red Maple	Acer rubrum	33	Poor	Large cavity in trunk; broken limbs
44	Yellow Poplar	Liriodendron tulipifera	32	Good	
45	Yellow Poplar	Liriodendron tulipifera	35	Fair	Poor structure and broken limbs
46 *	Yellow Poplar	Liriodendron tulipifera	49	Good	
47*	White Oak	Quercus alba	- 38	Poor	Poor structure (leaning towards one side)
48*	White Oak	Quercus alba	39	Fair	Broken limbs and die back
49*	White Oak	Quercus alba	35	Good	

SERVATION CHARTS, NOTES & DETAILS	SCALE	ZONING	G. L. W. FÍLE No.
GAITHER'S CHANCE	1"=100'	RR-DEO	13070
b, Buildable Preservation Parcel 'A', & able Preservation Parcels 'B', 'C', & 'D' TAX PARCEL 45	DATE	TAX MAP - GRID	SHEET
LIBER 10486 FOLIO 203 HOWARD COUNTY, MARYLAND	AUG., 2015	28-8,9,14,&15	28 OF <b>33</b>





MD 104.02–02 Shoulder work/2–lane, 2–way eql/less than 40 mph. MD 104.02-10 Flagging operation/2-lane, 2-way eql/less than 40 mph.

For all standards referred to on the plans the contractor must go to the Book of Standards which will have the most current version. The Book of Standards can be accessed at: http://apps.roads.maryland.gov/businesswithsha/bizstdsspecs/desmanualstdpub/publicationsonline/ohd/bookstd/index.asp

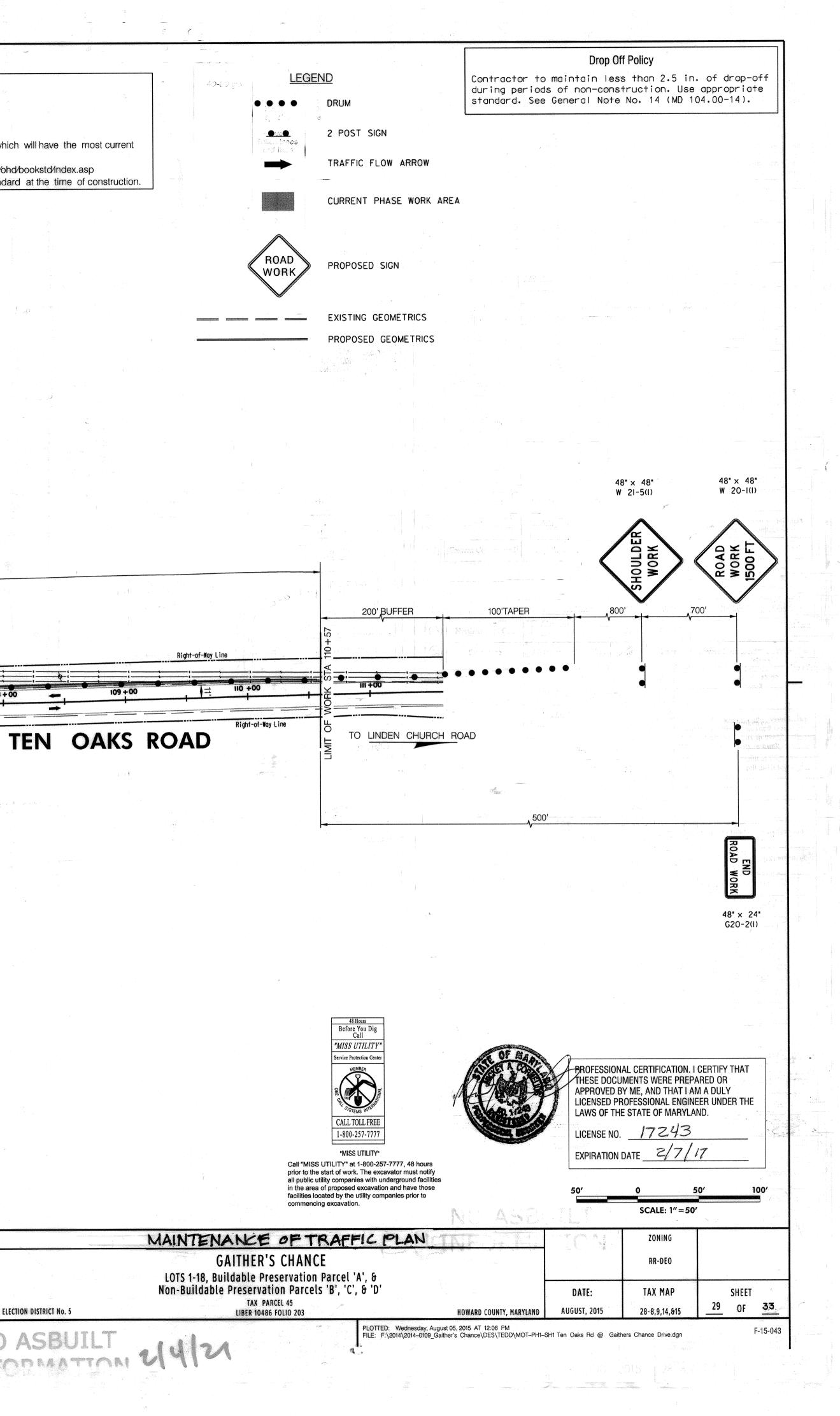
All items are to be constructed in accordance with the current version of the referenced standard at the time of construction.

### UTILIZE STANDARD MD 104.02-10 FLAGGING OPERATION/2-LANE, 2-WAY EQL/LESS THAN 40 MPH AS NECESSARY DURING NON-PEAK HOURS

107+00

D/W

1" = AUGUST, 20	The Traffic Group, Inc. Suite H 9900 Franklin Square Drive		4 
J. WEBSTER/J.E	Baltimore, Maryland 21236		MAI
2014-0	410-931-6600 1-800-583-8411		LOT
HOWARD COUN	Fax 410-931-6601 ation and Excellence"®	ELECTION DISTRICT No. 5	Non-



### **COLUMBIA PIPELINE GROUP Right-of-Way Use Specifications**

This document provides guidelines for the design and construction of facilities rights-of-way owned and/or operated by Columbia Pipeline Group (CPG) companies, including Columbia Gas Transmission, Columbia Gulf Transmission, Crossroads Pipeline, Millennium Pipeline Company, Hardy Storage Company, Central Kentucky Transmission and NiSource Midstream Services. This guidance is intended for landowners, utility owners, general contractors and their sub-contractors, pipeline/utility contractors, real estate developers, brokers and agents, and any others including their representatives whose proposed construction activities impact CPG rights-of-way (hereinafter called

### 2.0 Purpose

"Permittee.")

1.0 Scope

CPG's goal is to work proactively with the Permittee in the planning stages of proposed modifications, developments or construction activities. CPG's primary concern when activities are taking place near its pipeline and related facilities (pipeline facilities) is public safety and pipeline facility protection. The intent of this specification is to provide a clear and consistent set of engineering requirements that shall:

□ Reduce the risk of damage to CPG pipeline facilities.

Ensure CPG's unencumbered access to its rights-of-way and related pipeline facilities. □ Provide for maximum use of workspace for CPG routine maintenance, future inspection, and/or repair work.

□ Enable the effective corrosion protection of CPG pipeline facilities.

All construction activities and projects that are proposed on or near CPG pipeline rights-of-way are subject to formal review by CPG. Depending on the scope of the project and its impact on CPG rights-of-way and pipeline facilities, additional engineering requirements and protective measures may apply. Reimbursement or fees may be involved with the formal review.

CPG desires to be a good neighbor, but to do so will require CPG to act responsibly to protect its right-of-way and prevent damage to the pipeline system. While CPG wants to accommodate the desired use of the property, its responsibility for public safety is paramount. Through proper planning and communications, CPG can help ensure the safety and integrity of CPG's pipeline system and the welfare of its neighbors. Note: The transmittal of this document does not constitute CPG approval or permission for the Permittee to begin construction or work within or across the pipeline or facility right-of-way. Work may not begin until permission for such work has been given by CPG.

### 3.0 Specifications - Pipeline Facilities

**3.1 General Guidelines** 

3.1.1 Safety associated with the pipeline facilities shall be considered at all times. No attempt to probe for or engage in any construction activities which might damage the pipeline shall be permitted.

3.1.2 Before any preliminary field work or construction begins in the vicinity of CPG pipeline facilities, determination of the exact location and elevation of the pipeline shall be made. To coordinate this procedure, dial the national "Call before You Dig" number, 811, or the appropriate State "One Call" notification number (see Attachment A, "One Call Contact Information"). Request both the location and depth of the pipeline to be determined.

3.1.3 Proposed drawings/plans shall be submitted to CPG Asset Management Department (see Attachment B, "CPG Plan Review Locations and Phone Numbers") for review to determine the extent of CPG involvement. Drawings/plans shall be prepared in accordance with Attachment C, "Requirements for Submission of Design Plans," and should include a copy of Form 1050P17 - Location of Buried Facilities. Note: Refer Plan 220.02.06 Damage Prevention Plan, Section 3.11 Guidelines for Design and Construction within Right-of-Way for additional

guidance information. 3.1.4 When construction activities are conducted in or around CPG pipeline facilities or rights-of-way, a CPG on-site inspector shall be present unless otherwise permitted by CPG.

3.1.5 Permittee shall notify the responsible State "One Call" center to request that CPG re-mark a pipeline if the existing markers are inadequate for any reason, including disturbance due to construction activities.

Note: Willful damage or removal of a pipeline marker is a Federal offense with a maximum fine of \$100,000 (and up to \$250,000 if the action results in a death), imprisonment of up to one year, or both for each offense. 3.1.6 Permittee shall not burn or bury trash, brush, or other items or substances within CPG pipeline rights-of-way.

3.1.7 Permittee shall not park equipment or store materials on the CPG right-of-way.

3.1.8 Use of vibratory equipment larger than walk-behind units shall not be permitted within 25 feet of the pipeline or related facility, unless otherwise permitted by CPG.

#### 3.2 Excavation and Construction Restrictions

3.2.1 Excavation operations shall be performed in accordance with the national "Call before You Dig" program by calling "811" or the appropriate State "One Call" notification center (See Attachment A, "One Call Contact Information") to have the excavation area properly located and marked before excavation begins. Safe digging is no accident. Know what's below. Call 811 before you dig.

3.2.2 The Permittee shall mark with white paint any excavation areas that are proposed within CPG rights-of-way. CPG shall erect temporary pipeline markers/flags (yellow) and/or yellow paint identifying the location of the pipeline and right-of-way within the proposed work area, and shall provide information on how to respond should the pipeline be damaged or a natural gas release occur. All personnel operating equipment over or around the pipeline shall be made aware of its location and what actions shall be taken if contact is made with the pipeline.

3.2.3 Before a Permittee excavates within CPG's pipeline right-of-way, a CPG representative shall locate the pipeline and determine the depth of cover before the Permittee begins excavation. The Permittee shall not perform any excavation, crossing, backfilling, or construction operations until a CPG representative has reviewed the proposed work and given permission for work to proceed.

3.2.4 CPG reserves the right to have an on-site inspector present during all excavation activities. Any CPG representative shall have full authority to stop the work if it is determined that the work is being performed in an unsafe manner relative to CPG facilities or personnel.

3.2.5 No equipment shall work directly over the pipeline, unless CPG grants specific written permission. The Permittee shall install temporary fencing along the CPG right-of-way boundaries so that equipment shall not inadvertently pass over the pipeline at locations other than those established for the crossing.

3.2.6 When excavating within a CPG right-of-way, in the presence of a loaded pipeline, the Permittee's excavation equipment shall have a plate welded or attached over the teeth of the excavator bucket. Side cutters shall be removed from equipment prior to excavation CPG requires potholing techniques to be used when digging within 24" (2 feet) of the outer edge of the pipe, unless more stringent requirements are set forth by the applicable state's One Call system. Within this "tolerance zone" only hand excavation, air cutting, vacuum excavation or other CPG approved techniques are permitted.

3.2.7 No excavation shall be made on land adjacent to the pipeline that shall in any way impair, withdraw lateral support, cause subsidence, create the accumulation of water, or cause damage to the pipeline or right-of-way.

3.2.8 The Permittee shall ensure all excavation work complies with OSHA's excavation standards outlined in 29 CFR 1926 and correct any noncompliant excavation site before work within CPG right-of-way continues.

3.2.9 If conditions require, the Permittee shall be directed by CPG to install additional earthen fill or other suitable materials to maintain proper vertical clearance from the pipeline.

3.2.10 At any location where the pipeline is exposed, the Permittee shall provide CPG the opportunity to inspect the pipeline condition, install cathodic protection equipment, repair any pipe coating imperfections, and/or install underground warning materials.

3.2.11 The maximum unsupported exposed length of pipe shall be determined by CPG. When required, the pipeline shall be supported with sand bags, padded skids or other suitable material as permitted by CPG. At no time shall the pipeline be used as a brace to support equipment or sheeting/shoring materials.

8/26/201-

1-16-15

9.11.15

DATE

Date

Date

Date

3.2.12 No CPG buried pipeline shall be left exposed for any duration of time, unless otherwise permitted by CPG.

### **COLUMBIA PIPELINE GROUP Right-of-Way Use Specifications CONTI**

G. All permitted underground utility crossings shall be marked with proper signage at the edge of the CPG right-of-way boundaries.

GLW	GUTSCHICK	LITTLE &	WEBER, P.A.
CIVIL ENGINEERS,	LAND SURVEYORS, I	LAND PLANNERS,	LANDSCAPE ARCHITECTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

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hief, Bureau of Highways 🛛 🚧

Division of Land Development

Dévelopment Engineering Division

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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\DRAWINGS\13070\PLANS BY GLW\Finals\13070- Road Deets.dwg DES. dds DRN. dds CHK.

COLUMBIA PIPELINE GROUP Right-of-Way Use Specifications CONTINUED	COLUMBIA PIPELINE GROUP Right-of-Way Use Specifications CONTINUED	COLU
3.2.12 No CPG buried pipeline shall be left exposed for any duration of time, unless otherwise permitted by CPG.	H. Permitted utility crossings shall be marked according to the A.P.W.A. Uniform Color Code, as listed below. RED - Electric Power Lines, Cables, Conduit, and lighting Cables	3.10 Blas 3.10.1 Bl
3.2.13 Backfill and compaction shall be performed to the satisfaction and in the presence of a CPG representative. At least 6 inches of fine, loose earth or other permitted backfill material with no sharp gravel, rock, hard clods, vegetation, or other debris shall be added on all sides of any pipeline, and remaining backfill shall be placed so as not to disturb this	YELLOW - Gas, Oil, Steam, Petroleum, or Gaseous Material ORANGE - Communication, Alarm or Signal Lines, Cables, or Conduit BLUE - Potable Water	<b>3.10.2</b> Bl
padding material or damage the pipeline and its coating. Backfill over the pipe shall be compacted by hand until 18 inches of cover is achieved. Flowable fill, mixed to CPG specifications, may be required by CPG to achieve necessary compaction. Disturbed ground shall be compacted to at least the same degree of compaction as surrounding areas. The	GREEN - Sewers and Drain Lines WHITE - Proposed Excavation Limits or Route	It is impe CPG pipe
Permittee shall restore the site to its original condition except for items that are part of the CPG permitted change. 3.3 Cover, Grading, and Drainage	PURPLE - Reclaimed Water, Irrigation, and Slurry Lines	<b>3.10.3</b> Pe aligning of
<ul><li>3.3.1 Cover and Grading</li><li>A. The existing cover over the pipeline and right-of-way shall not be modified without CPG written permission.</li></ul>	I. Trenchless Excavations:	Note: Bla
B. Where additional cover is permitted, the final grading shall net a minimum cover of 36 inches over the pipeline but shall not exceed five (5) feet from the top of the pipeline.	A minimum clearance of 24" above and below CPG pipelines shall be required. CPG pipelines must have at least 3 feet of cover to top of pipe. For	3.10.4 Gr are recog
3.3.2 Drainage A. Detention ponds, lakes, structures or any type of impoundment of water, temporary or permanent, shall not be permitted within the right-of-way.	circumstances where less than 3 feet of cover exists, CPG may require additional clearance. This clearance refers to the pipe that is being installed, not the location of the pilot drill.	4.0 Sp
B. Any modifications to an existing drainage pattern shall be designed such that there is no erosion of the cover over CPG right-of-way.	Utility crossings proposed for installation using a trenchless excavation method (directional drilling, jacking, slick boring, etc.) shall use a tracking system to verify the exact location of the drill head. Blind boring shall not be permitted on the CPG right-of-way. The proper line and grade shall be established in order to	N/A
C. For drainage channels and ditches where a minimum cover of 36 inches cannot be maintained, the Permittee shall be responsible for the cost of installation of additional protection required by CPG.	maintain the required minimum clearance. Permitee shall also submit the bore profile drawing to CPG for review prior to starting operations.	<b>5.0 Dis</b> 5.1 In the
3.4 Aboveground/Underground Structures, Gardening and Landscaping 3.4.1 General Requirements	• Every effort shall be made by the Permittee to locate trenchless crossings of CPG right-of-way outside of rivers, streams, lakes, wetlands and other water bodies.	5.2 CPG
A. Buildings or other structures, including but not limited to overhanging balconies, patios, decks, swimming pools, wells, walls, utility poles, septic systems, propane tanks, transformer pads, or the storage of materials which creates an obstruction or prevents the inspection of the right-of-way by air or foot, shall not be permitted within the CPG right-of-way.	□ For normal directional drilling or trenchless operations, a four (4) feet by four (4) feet excavation window(s), 24 inches below the pipeline shall be required for visual inspection to ensure the drill (or bore) does not impact the pipeline. For cases where an excavation window is not practical, the Permittee shall adhere to any additional CPG requirements, including but not limited to additional vertical clearance. Additional care maybe needed during reaming.	operation 5.3 These
B. The Permittee shall not build retaining walls, drive piling or sheeting, or install an engineered structure that may negatively impact the CPG right-of-way.	□ State and/or local requirements for trenchless excavation practices shall be followed at all times. The Permittee shall also adhere to any additional requirements, as determined by CPG. Additional requirements may include, but are not limited to, providing documentation of trenchless operator qualification and/or documentation of operator training for the specific trenchless equipment to be used.	procedure documen
<ul><li>3.4.2 Gardening and Landscaping</li><li>A. The right-of-way area may be planted in lawn, flowerbeds, or vegetable gardens, or used for normal agricultural purposes.</li></ul>	The trenchless equipment operator shall perform a site inspection that includes walking the entire trenchless excavation path, and verifying minimum clearances that are required prior to commencing any work.	
<b>B.</b> Shrubs maturing at less than five (5) feet tall shall be permitted in the right-of-way. Permitted shrubs shall be planted so that branches are a minimum of five (5) feet away from the pipeline at maturity.	□ Trenchless activities shall be stopped if at any time an abnormal condition, unknown substructure or other hidden hazard is encountered. Operations may proceed safely only if positive identification has been made.	
C. Shrubs maturing at more than five (5) feet tall and all trees (including fruit/nut bearing and Christmas tree farms) shall not be permitted within the right-of-way.	3.6.2 Cable/Wire Utility Crossings	
D. CPG shall not be responsible for replacement of any plantings within the right-of-way, unless otherwise stated in applicable land rights document.	A. All applicable general requirements covered in Section 3.6.1 applies to cable/wire crossings, including the following:	1 de les
3.4.3 Fences and Walls	□ All permitted cable/wire utilities crossing <b>below</b> CPG pipelines including, but not limited to, fiber optic, electric, telephone and television (excluding single telephone and single television drops), shall be encased with a minimum of two (2)-inch Schedule 40 PVC pipe, or equivalent, for the complete width of the right-of-way, regardless of the installation method used.	S S
<ul> <li>A. Fences or continuous hedges that block visual inspection or interfere with access to CPG facilities shall not be permitted within CPG rights-of-way.</li> <li>B. Fences permitted by CPG to cross its rights-of-way shall be designed with a minimum 16 foot opening centered on the pipeline.</li> </ul>	□ For safety reasons, electric and fiber optic lines shall <b>also</b> be surrounded with a minimum of six (6) inches of colored	Host
<b>C.</b> Gates shall be installed as to provide a 16 foot opening. Permittee shall provide CPG access through all gates permitted within the CPG right-of-way. If Permittee installs locks on said gates, CPG shall also be allowed to install its own locks in a manner that allows CPG unimpeded access without limiting Permittee's access.	concrete (see color specifications in section 3.6.1.h) or 4-inch minimum diameter, standard inch wall thickness, coated steel pipe across the full width of the CPG right-of-way, except in cases of trenchless installation or where the top of the conduit used for the crossing is at least three feet below CPG's pipeline and CPG's	TEN OAKS ROAD
D. Fences, including invisible dog fences, shall cross as near to 90 degrees as possible. Crossings at less than 45 degrees shall not be permitted.	pipeline has at least three (3) feet of cover to top of pipe.	
E. Fences or continuous hedges installed longitudinally to the pipeline shall not be permitted within the right-of-way.	two(2)-inch minimum diameter Schedule 40 PVC pipe and a four (4)-inch minimum diameter, standard inch wall thickness, coated steel pipe or Schedule 40 PVC pipe across the full width of the CPG right-of-way. No concrete shall be used for crossings above the pipeline.	001+00
F. Masonry, brick, or stone walls shall not be permitted on the right-of-way.	□ Above ground cables shall be installed with a minimum of 33 feet above-grade clearance for the full width of the CPG right-of-way.	OHW HW
G. Electric fences shall be permitted across CPG rights-of-way if they are equipped with a disconnect, such as an insulated handled gate, that is available to CPG.	Unacceptable levels of AC or DC stray current caused by the installation of a foreign utility crossing will be mitigated at the expense of the Permittee.	<b>I</b>
<ul> <li>H. Conductors for electric fences shall not be placed within 15 feet of any CPG above-grade piping with mechanical fittings.</li> <li>3.5 Roads, Driveways, Sidewalks, Parking Areas and Walking/Bicycling Paths</li> </ul>	<b>3.6.3 Spare Conduit Installation</b> A. Only conduits that can be identified for future use may be installed. Conduits must be at least three (3) feet below CPG's pipelines.	
3.5.1 General Requirements A. Roads, driveways, sidewalks, or parking areas shall not be constructed within CPG right-of-way without CPG's prior review and written permission. All plans for pavement within the right-of-way shall be submitted to the CPG Asset Management Department. External load evaluations shall be performed by CPG as necessary to determine if additional protective measures are required.	B. Conduits must be installed to meet all of the requirements for that specific type of crossing (including tracer wire, warning tape, etc.). Both ends of the conduits must be painted (see color specifications in Section 3.6.1.H), except for electric and fiber optic lines which shall also be surrounded with a minimum of six (6) inches of colored concrete (as specified in Section 3.6.1.H) or four (4)-inch minimum diameter, standard inch wall thickness, coated steel pipe across the full width of the CPG right-of-way, except in cases of trenchless installation or where the top of the conduit used for the crossing is at least three feet below CPG's pipeline.	
B. Permitted roads, driveways, or sidewalks shall cross the right-of-way at as near to 90 degrees as possible. Crossings at less than 45 degrees are prohibited	C. Consult with local engineering support for additional marking requirements.	
C. Roads, driveways and concrete sidewalks shall not be permitted to be installed longitudinally within the right-of-way.	<b>3.6.4 Metallic Utility Crossings</b> A. All applicable general requirements covered in Section 3.6.1 applies to metallic utilities crossing CPG pipelines.	h PR
D. Asphalt pavement shall not be permitted closer than five (5) feet from the pipeline except in the case of roadway, driveway, or parking lot "crossovers."	B. Corrosion protection (CP) materials including but not limited to bonds, test leads, test stations, magnesium anode current drains, and permanent reference electrodes shall be installed at the expense of the Permittee where necessary, at CPG's sole determination.	
E. The use of alternative paving material designs (other than asphalt or concrete) shall be reviewed and permitted by CPG on a case-by-case basis.	C. Minimum requirements shall be:	
F. Cull de sacs shall not be permitted within the right-of-way area.	<ul> <li>Installation of test leads on both the CPG pipeline and the Permittee's crossing structure.</li> <li>Installation of a permanent Copper-Copper Sulfate (CuCuSO4) reference electrode between the CPG pipeline and the Permittee's crossing structure.</li> </ul>	
3.5.2 Concrete Roads, Driveways and Sidewalks A. Continuously poured, steel reinforced concrete shall not be permitted within CPG right-of-way.	D. Permittee shall be responsible for the corrosion protection of its facilities against CPG's cathodic protection system. Permittee shall be responsible for	WHU
B. Concrete sidewalks and/or curbs which cross the pipeline shall have expansion joints installed five (5) feet on either side of the pipeline.	installation of facilities on its structures. CPG shall provide personnel, at the expense of Permittee, for installation of facilities on CPG's pipelines.	530
C. Concrete residential driveways may be permitted provided that the design and installation meet the requirements of Attachment D, "Residential Concrete Driveway within CPG Right-of-Way".	E. Utilities shall be coated with a non-conductive coating for the entire width of the CPG right-of-way. <b>Note</b> : It is strongly recommended for all metallic utility crossings that Permittee's Corrosion Engineers or their designee contact and communicate with CPG Corrosion Engineers concerning any existing or proposed CP system design details so as to facilitate the best design for any additional CP equipment as may be necessary to protect the assets and interests of both the Permittee and CPG.	
3.5.3 Asphalt Roads and All Parking Areas A. Asphalt roads shall not be greater than 25 feet in width.	<ul> <li>3.6.5 Non-Metallic Utilities</li> <li>A. All applicable general requirements covered in Section 3.6.1 applies to non-metallic utilities crossing CPG pipelines including the following:</li> </ul>	
B. Permitted parking areas, including but not limited to asphalt and gravel parking areas shall not be installed within five (5) feet of CPG pipeline facilities.	Utilities shall be installed with tracer wire for the full width of the CPG ROW unless otherwise permitted by CPG. At locations where tracer wire is installed,	
C. Parking lot "crossovers" may be permitted by CPG and shall be no greater than 25 feet in width. Parking lot "crossovers" shall be spaced at a minimum of 50 foot intervals (measured from the edge of the crossover).	tracer wire shall be raised to the ground surface and connected to a test station for monitoring.	X
3.5.4 Walking / Bicycling Paths A. Walking/bicycling paths shall be constructed at the outside edge of the CPG permanent right-of-way area. Path width within CPG rights-of-way shall be designed not to exceed six	concrete or encased in four (4)-inch minimum diameter, standard inch wall thickness, coated steel pipe across the full width of the CPG right-of-way.	
<ul><li>(6) feet.</li><li>B. CPG reserves the right to prohibit the construction of walking/bicycling paths inside its right-of-way area if, at CPG's sole determination, the proposed path may adversely impact operation and/or maintenance of the pipeline.</li></ul>	thickness, coated steel pipe across the full width of the CPG right-of-way. No concrete shall be used for crossings above the pipeline. 3.7 Temporary Access Roads and Heavy Construction Vehicle Crossings 3.7.1 General Requirements	
<b>C.</b> Paths shall cross the CPG pipeline as close to 90 degrees as possible, but in no case less than 45 degrees. CPG shall make the sole determination of number of path crossings to be permitted.	A. Field personnel may authorize a temporary heavy construction vehicle crossing without engineering review for bridge crossings ONLY. The support materials for the bridge must be installed at least 3 feet away from the pipeline on each side, and a visible air space must be maintained between the bridge material and the ground directly above the pipeline at all times. CPG field personnel must be on site to witness construction/placement of the temporary bridge.	
<b>D.</b> No motorized vehicles of any type, other than power driven wheelchairs, shall be permitted to utilize paths which run longitudinally inside the right-of-way.	<b>B.</b> For all other proposed temporary crossings, external load evaluations shall be performed by CPG to determine if additional protective measures are required (see Attachment E, Equipment Crossing Data Sheet). Earthen ramps, swamp mats, reinforced concrete slabs, steel plates, bridges or other protective materials may	
E. Paving shall be restricted to asphalt only. No concrete paving shall be permitted.	be required. C. During the use of a permitted temporary construction road, the Permittee shall take all reasonable and necessary steps to maintain the integrity of the permitted	
F. Landowner shall be responsible for maintaining the path to prevent right-of-way damage (including erosion, illegal dumping, etc.) 3.6 Utility Crossings	crossing protection. CPG personnel should inspect crossing periodically and may require the Permittee to provide additional protective measures deemed necessary to prevent damage to the pipeline or right-of-way.	
<ul> <li>3.6.1 General Requirements:</li> <li>A. Utilities shall include natural gas, water, electrical, sewer, television cable, telephone, fiber optic communications and all other metallic or non-metallic line crossings.</li> </ul>	D. CPG shall limit the number of temporary construction roads constructed by the Permittee. Crossings shall be limited to pre-selected sites and shall be clearly defined and marked. Random crossings shall not be permitted.	
<b>B.</b> Every effort shall be made to have the utility cross the CPG right-of-way as near 90 degrees as possible. In no case shall the utility be permitted to cross the CPG right-of-way at an angle less than 45 degrees. Utilities shall not be installed longitudinally within the right-of-way.	3.8 Terra Cotta Field Tile 3.8.1 General Requirements:	108 of
<b>C.</b> Utilities shall cross beneath the pipeline with a minimum vertical clearance of 24 inches where CPG pipelines have at least 3 feet of cover to top of pipe. For circumstances where less than 3 feet of cover exists, CPG may require additional clearance. Under certain circumstances, CPG may permit a crossing above the pipeline while maintaining a vertical clearance of at least 24 inches. These circumstances include excessively deep pipelines (5 ft. or more,) the presence of consolidated rock, or for service entrances to single family dwellings	A. Unless provided for by the right-of-way agreement, new terra cotta field tile shall not be placed within the CPG right-of-way. B. Permitted field tile shall cross the pipeline right-of-way at as near to 90 degrees as possible with a clearance of 24 inches above or	0HW
dwellings. D. Earthen fill, sand or other CPG permitted isolation material shall be placed between the pipeline and the utility.	below the pipeline. Crossings at less than 45 degrees shall not be permitted. Field tile shall not drain onto a CPG right-of-way. 3.9 Construction Induced Vibrations	
E. All water valves, curb boxes, manholes, sprinkler heads, splice boxes, service risers, energized equipment, poles, towers, guy wires, mechanical supports, ground rods, anchors and	3.9.1 Construction activities that generate ground vibrations, including but not limited to, pile driving, sheet driving, soil compaction work, jack hammering or ramming, shall be reviewed and permitted by CPG on a case-by-case basis.	
similar structures shall be placed outside the CPG right-of-way. Sprinkler systems shall be limited to a single line crossing unless otherwise permitted by CPG.	INFORMATION	) )
F. Except for trenchless excavation installation, warning tape, in accordance with A.P.W.A. Uniform Color Code, shall be placed above the utility, 12 inches below ground, across the CPG right-of-way.		NOTE: ALL P FIELD VISIT I DATE OF VISI

	PREPARED FOR / OWNER:	PROFESSIONAL CERTIFICATION	LUMBIA PI
BY APP'R.	CHM, LLC 5027 TEN OAKS ROAD CLARKSVILLE, MD 21029 JANET MARSHALL 410-531-1460	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, 2016 8715 EXPIRATION DATE: MAY 26, 2016	LOTS 1-1 Non-Build

JMBIA PIPELINE GROUP Right-of-Way Use Specifications CONTINUED

### sting Operations

lasting proposed within 300 feet of a CPG pipeline shall be evaluated by the appropriate CPG personnel to determine applied stresses and appropriate mitigation requirements.

lasting plans shall be submitted ten (10) working days prior to the blasting event. It is the responsibility of the Permittee to fully complete the CPG blasting form (See Attachment F, "Blasting Data Sheet").

erative that a drawing of the blast area be included with the submission of all blasting plans. Review of the blast data shall not be performed until a drawing is submitted showing the location and orientation of all charges relative to the eline. All drawings shall be scalable and show the distance from the charges to the CPG pipeline.

ermittee shall conduct a three (3) axis seismic survey for each blast event within 300 feet of a CPG pipeline, unless otherwise permitted by CPG. Seismic equipment shall be placed in the proximity of the closest charge hole to the pipeline, one of the axes parallel to the pipeline and another axis perpendicular to the pipeline.

asting conducted without seismic equipment and using the Scaled Distance Formula shall be evaluated on a case by case basis. round vibration shall be limited to that permitted by the appropriate State's blasting law where CPG pipeline facilities exist. The value shall be expressed as the Peak Particle Velocity (PPV) in units of inches per second. Pipeline facilities gnized by federal blasting laws as structures and as such shall be protected from excessive PPV.

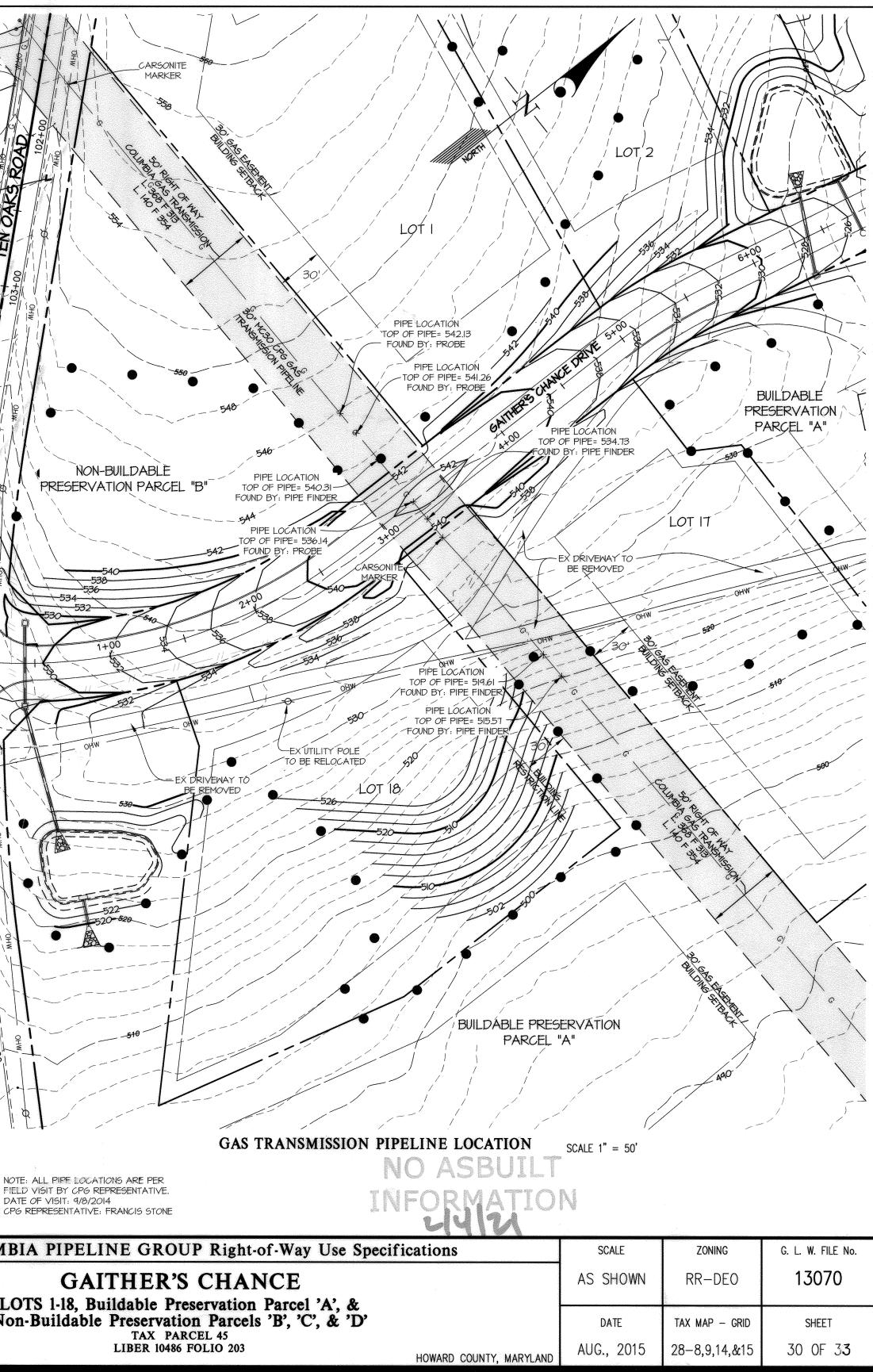
### pecifications - Storage Wells

### sclaimers

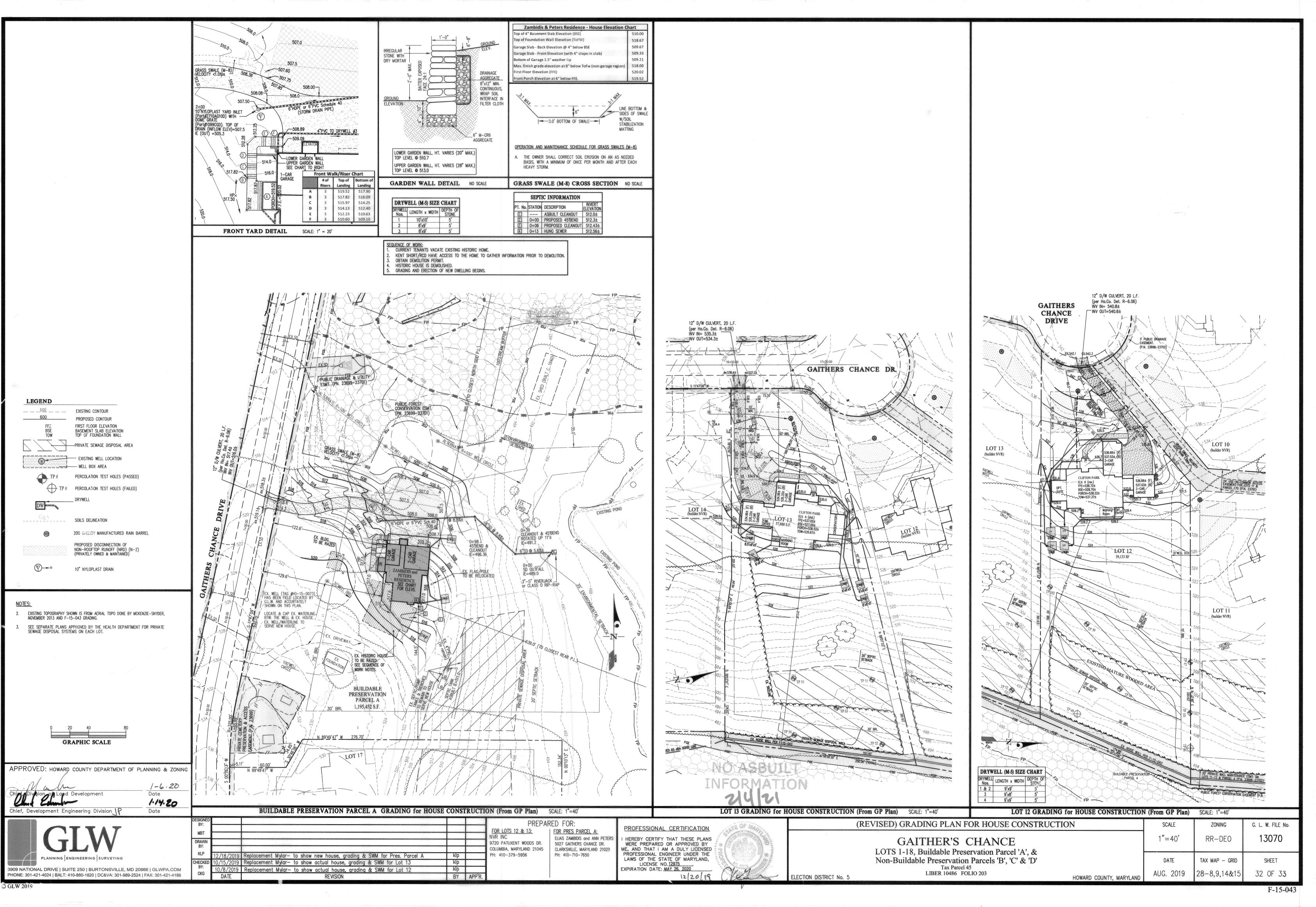
e event that the provisions of an applicable land rights document conflict with the requirements set forth above, the land rights document shall supersede these requirements.

may permit certain property improvements in its rights-of-way. However, in the course of operating and maintaining its pipeline system, CPG may sometimes remove these improvements from its right-of-way in order to facilitate n and maintenance work. CPG shall not assume responsibility, financial or otherwise, for any improvements directly or indirectly damaged as a result of routine or emergency maintenance or repairs on the pipeline facilities.

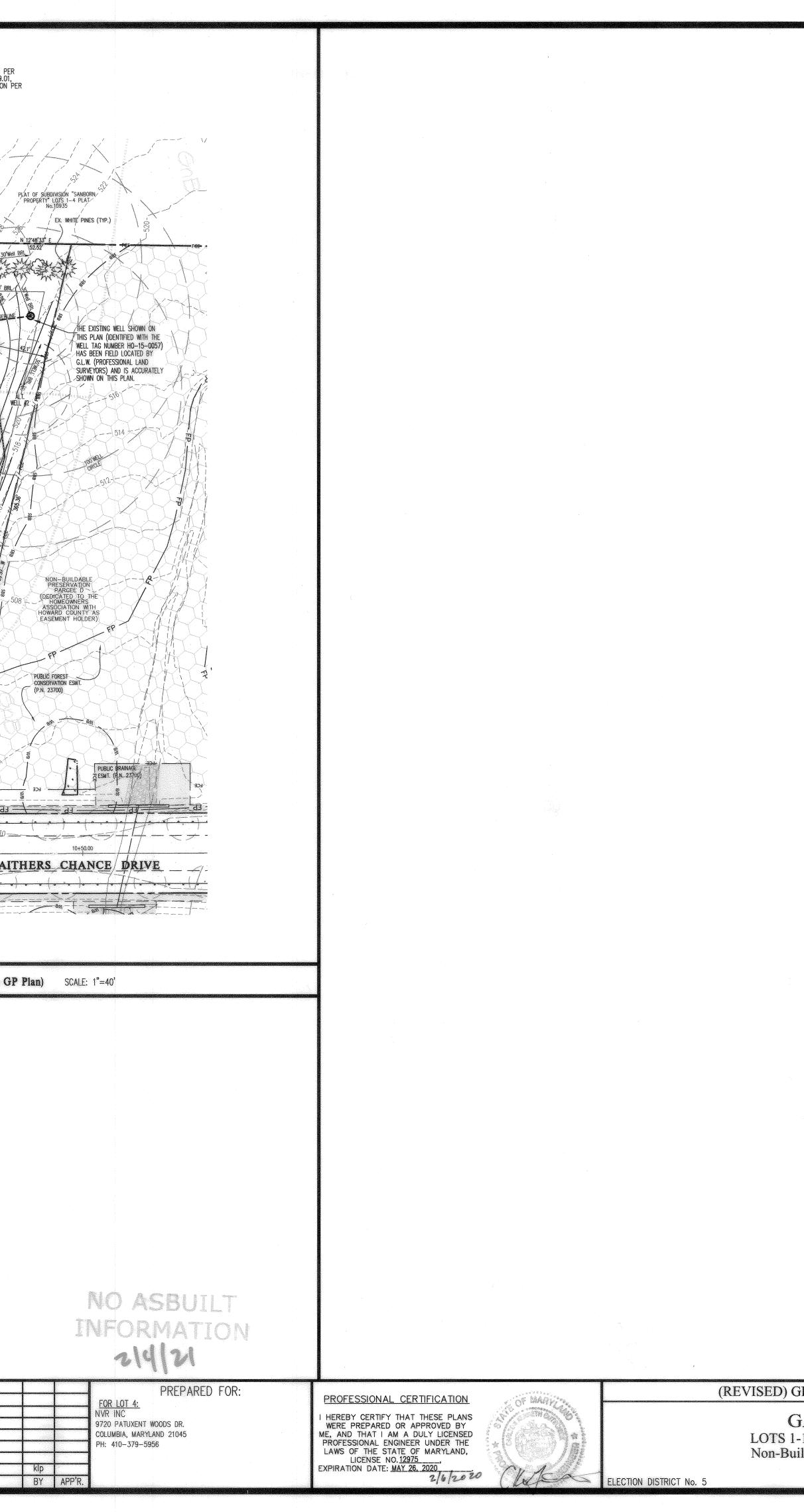
e Right-of-Way Use Specifications were compiled to address the majority of issues concerning the design and construction of facilities on CPG rights-of-way. In rare cases, CPG may determine that adherence to a specific provision of this re is not feasible for a particular project. In such instances, CPG may, at its sole discretion, elect to modify specific requirements for that project. Said modifications shall be made by appropriate CPG personnel and shall be properly







	Front Walk/Riser Chart# of RisersBottom of LandingA3533.82 (porch)B2531.81C2530.42D3529.03529.03527.17
	PARCEL 150 N/F PROPERTY OF/R & K TARP L 1503 F 276 ZONED PR-DED S54 S54 S54 S54 S54 S54 S54 S54 S54 S54
	LEX. WOOD FENCE
	29.0 55 551 55 551 55 5510 55 2 5510 50 5510
	100'We[1 100'We[1 CORCLE 555 TP 109 TP 100 TP 109 TP 100 TP 109 TP 100 TP 10
	ALLEGATION AND STRATEGY AND ALLEY AN
	TP 10
WELL BOX AREA WELL BOX AREA PERCOLATION TEST HOLES (PASSED) TP # PERCOLATION TEST HOLES (FAILED) DRYWELL SOILS DELINEATION SOILS DELINEATION	S PUBLIC DRAINAGE EASEMENT / (P.N. 23698-23702)) 121.57 513.2 512.7 121.57 513.2 512.7 121.57 513.2 512.7 121.57 513.2 512.7 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	12" D/W CULVERT, 20 L.F. (per Ho.Co. Det. R-6.06) INV IN= 511.2± INV OUT=510.4± LOT 4 GRADING for HOUSE CONSTRUCTION (From G
<ul> <li>NOTES:</li> <li>2. EXISTING TOPOGRAPHY SHOWN IS FROM AERIAL TOPO DONE BY MCKENZIE-SNYDER, NOVEMBER 2013 AND F-15-043 GRADING.</li> <li>3. SEE SEPARATE PLANS APPROVED BY THE HEALTH DEPARTMENT FOR PRIVATE SEWAGE DISPOSAL SYSTEMS ON EACH LOT.</li> </ul>	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	
Chief, Division of Land Development Chief, Development Engineering Division Chief, Development Engineering Division Chief Development Chief Dev	
GINEERING SURVEYING	DESIGNED BY: MBT DRAWN BY: KLP CHECKED BY: 2 (4 (2020) - Bastrooment Mulan to show actual house and inc. in SWM4 for lot 4
3909 NATIONAL DRIVE   SUITE 250   BURTONSVILLE, MD 20866   GLWPA.COM PHONE: 301-421-4024   BALT: 410-880-1820   DC&VA: 301-989-2524   FAX: 301-421-4186 © GLW 2020	CKG 2/4/2020 Replacement Mylar— to show actual house, grading & SWM for Lot 4 REVISION



8, Buildable Preservation P dable Preservation Parcels ' Tax Parcel 45 LIBER 10486 FOLIO 203	B', 'C' & 'D'	WARD COUNTY, MARYLAND	date AUG. 2019	tax map – grid 28—8,9,14&15	SHEET 33 OF 33 <b>F-15-043</b>
ADING PLAN FOR HOU	CE		scale 1"=40'	zoning RR-DEO	G. L. W. FILE No.
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