ALLEN 2525.6234	TY MAP 2000' 694, GRID C9, D9, E9 CIO, DIO, EIO	APPROVED: FOR PU DIRECTOR APPROVED: FOR PU AND FR AND FR AND FR COUNTY HEALTH OF HOWARD COUNTY HEALTH OF COUNTY HEALTH OF HOWARD COUNTY HEALTH OF COUNTY HEATH OF COUNTY HEATH OF COUNTY HEATH OF COUNTY HEATH OF COUNTY HEATH OF CO	EVISED SILE DEVELOPMENT FLANALPHA RIDGE PARKALPHA RIDGE PARKALPHA RIDGE PARKADDITIONS DESIGN3rd ELECTION DISTRICT, TAX MAP 10GRID#20,21, PARCELS 23 & 54SDP 90-18
	LECEND EX. CONTOURS EX. TREES EX. TREES EX. UTILITY POLE EX. FIRE HYDRANT EX. FIRE HYDRANT EX. STORM DRAIN PIPE EX. STORM DRAIN PIPE EX. STORM DRAIN PIPE EX. WATER MAIN PROPOSED CONTOURS PROPOSED STORM DRAIN PIPE PROPOSED STORM DRAIN PIPE PROPOSED STORM DRAIN PIPE PROPOSED STORM DRAIN PIPE	PROPOSED ASPHALT SURFACE PROPOSED ASPHALT SURFACE PROPOSED WOOD CHIP TRAL ORWWATER MANAGEMENT DEVICE EXISTING TREE LINE PROPERTY LINE TS' BUILDING SETBACK LINE PROV LINE ROW LINE EX.2' CONTOURS ROW LINE TS' STREAM BUFFER WETLAND WETLENCE SILT FENCE SILT FENCE AT GRADE INLET FENCE AT GRADE INLET FENCE AT GRADE INLET FENCE SILT FENCE SILT FENCE TAGIP MALLAND WETLAND WETLAND WETLAND WETLAND WETLAND WETLAND WETLAND WETLAND WETLAND WETLEND METLAND WETLEND METLAND WETLAND WETLEND METLAND WETLEND METLAND WETLEND METLAND WETLEND METLAND WETLEND METLAND WETLEND METLAND METLAND METLAND METLEND METLAND METLAND METLAND METLAND METLEND	Litle Sheet
ALPHA RIDGE PARK ALPHA RIDGE PARK HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS CAPITAL PROJECT NO.: N-3964 SITE DEVELOPMENT PLAN 90-18	The second secon	LOCATION MAP Scalls: 1-1-500 Scalls: 1-1-500 Scalls: 1-1-500 Scalls: 1-1-500 Scalls: 1-1-500 Scalls: 1-1-500 Scall Profiles Read Prof	Greenwar-Personal Certification: Interest services were prepared watching were prepared accuments were prepared matching were prepared matching were prepared accuments were prepared accument were prepared accumen

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		VOICE 410-313-5806 FAX 410-313-6144 alpha.dgn	VOICE 410-313-4689 FAX 410-313-4646
Electric Reserver		DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. MARSHALL DAVIDSON	OWNER: HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS 7120 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. RAUL DELERME
	F THE HOWARD AL TREES	LCURE 17.207.2000. ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF MANUAL BY PROVIDING 4 SHADE TREES AND 11 ORNAMENTAL L LANDSCAPING REQUIREMENT.	22. THE PLAN HAS BEEN PREPARED IN ACCORDA COUNTY CODE AND THE LANDSCAPE MANUAL E TO MEET THE PARKING LOT INTERNAL LANDSC
- a a a a a	IREMENTS ING OR EST MANAGEMENT THE FOREST 23. TO CONSTRUCTION. THEIR BUFFERS. PLAN AND THE	ABLISHED TO FULFILL THE REQU DREST ACT. NO CLEARING, GRAD ATION EASEMENT, HOWEVER FORI ATION EASEMENT ARE ALLOWED. EN ADDRESSED UNDER SDP-97-1 EN ADDRESSED UNDER SDP-97-1 AIN, WETLANDS, STREAMS, AND EST CONSERVATION EASEMENTS. 02/04 COMPREHENSIVE ZONING	 19. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUOF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST ACT. NO CLEARING, GRADICONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER FOREPRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED. 20. FINAL PATH LOCATION SULL BE IDENTIFIED ON SITE BY RECREATION AND PARKS PRIOR THE PATH LOCATION MUST NOT ENCROACH WITHIN THE FOREST CONSERVATION STREAMS, STREAMS, AND NATURAL SURFACE PATHS MAY ENCROACH WITHIN THE FOREST CONSERVATION EASEMENT ARE ALLOWED. 20. FINAL PATH LOCATIONS WILL BE IDENTIFIED ON SITE BY RECREATION AND PARKS PRIOR THE PATH LOCATION MUST NOT ENCROACH WITHIN FLOODPLAIN, WETLANDS, STREAMS, AND NATURAL SURFACE PATHS MAY ENCROACH WITHIN THE FOREST CONSERVATION EASEMENTS. 21. THE SUBJECT PROPERTY IS ZONED RC-DED PER THE 02/02/04 COMPREHENSIVE ZONING
lann lann lann lann	TOR SHALL LL PARK ALL BE ATION	BE MAINTAINED ON THE PARK ROAD AT ALL TIMES. WHEN THE PARK IS IN USE, THE CONTRACTOR SH COORDINATE WITH THE DEPARTMENT OF RECREATION AND PARKS, AND MAINTAIN ACCESS TO ALL PAR FACILITIES. 18. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS, AND 100 YEAR FLOODPLAIN.	BE MAINTAINED ON THE PARK ROAD AT ALL T COORDINATE WITH THE DEPARTMENT OF RECRE FACILITIES. 18. NO GRADING, REMOVAL OF VEGETATIVE COVE PERMITTED WITHIN THE REQUIRED WETLANDS, S EASEMENT AREAS, AND 100 YEAR FLOODPLAIN.
an kan kan kan ka	HOWARD ANCE. ROTECT IC SHALL TOR SHALL	5. THE WETLAND DELINEATION WAS BASED ON NATIONAL WETLAND INVENTORY AND VERIFIED BY HOWARD COUNTY THAT THERE ARE NO WETLANDS OR WETLAND BUFFERS WITHIN THE LIMIT OF DISTURBANCE. 5. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT. 7. THE PARK WILL BE OPEN TO THE PUBLIC DURING CONSTRUCTION. THE CONTRACTOR SHALL PROTECT THE PUBLIC FROM THE WORK WITH ORANGE CONSTRUCTION FENCE AND SIGNS. TWO WAY TRAFFIC SHALL BE MAINTAINED ON THE PARK IS IN LISE. THE CONTRACTOR SHALL BE MAINTAINED ON THE PARK ROAD AT ALL TIMES. WHEN THE PARK IS IN LISE. THE CONTRACTOR SHALL	15. THE WETLAND DELINEATION WAS BASED ON N COUNTY THAT THERE ARE NO WETLANDS OR V IG. NO TRAFFIC STUDY IS REQUIRED FOR THIS P 17. THE PARK WILL BE OPEN TO THE PUBLIC DU THE PUBLIC FROM THE WORK WITH ORANGE CO RF MAINTAINED ON THE PARK ROAD AT ALL T
	SWALES	GRASS 86.	REGULATORY SIGNS SHALL BE PLACED PRIOR TO THE PLACEMENT OF ANY ASPHALT. 12. WATER IS PUBLIC, CONTRACT NO. 44-3480. SEWER IS PRIVATE. 13. STORMWATER MANAGEMENT CONSISTS OF MICROBIORETENTION M-6, BIOSWALES M-8, M-8, AND TWO DRY PONDS, AND IS PUBLIC AND MAINTAINED BY HOWARD COUNTY. 14. THE FLOODPLAIN IS BASED ON FEMA PANEL 2400440010B EFFECTIVE DATE 12/4/19
1 (1) 2, 12) 6	rhods, ruction tions test	9. FOR DETAILS NOT SHOWN ON THESE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD CO. DESIGN MANUAL, VOL. IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTIO (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOL. IV ON THE JOB. IO. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE. II. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNINGS SHALL BE IN ACCORDANCE WITH THE LATEST	9. FOR DETAILS NOT SHOWN ON THESE DRAWINGS, AND FOR MATERIALS AND CONSTRU- USE HOWARD CO. DESIGN MANUAL, VOL. IV STANDARD SPECIFICATIONS AND DETAILS FI (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOL. IV ON THE JOB. IO. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE. II. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNINGS SHALL BE IN ACCORDANCE WITI
Sh	S, ZÓNTAL JJECT	THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, ALL SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONT FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT	A. SEVEN (7) CALENDAR DAYS FOR THE SURFAC DITCHES, PERIMETER SLOPES, AND ALL SLOPES TO ONE VERTICAL (3:1). B. FOURTEEN (14) CALENDAR DAYS FOR ALL OT SITE.
	ONLY. ZATION	ILE TO MAXIMUM EXTENT. OTHER TREES WITHIN LIMITS OF OYED WITHOUT APPROVAL OF THE ENGINEER. TREES ING TREE PROTECTIVE FENCING. L.O.D. SHOWN INCLUDING SIDE SLOPES AND STABILIZATION ONLY. OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION	 A VOID DAMAGE TO TREES ON THE SITE TO MAXIMUM EXTENT. OTHER TREES WITHIN LIMITS CONSTRUCTION SHALL NOT BE DESTROYED WITHOUT APPROVAL OF THE ENGINEER. TREES WITHIN LOD SHALL BE PROTECTED USING TREE PROTECTIVE FENCING. B. ALL GRADING SHALL BE INSIDE THE L.O.D. SHOWN INCLUDING SIDE SLOPES AND STABILIZATI FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STAF SHALL BE COMPLETED AS FOLLOWS:
	A		5. ALL PLAN DIMENSIONS ARE TO EDGE OF PAVI 6. ALL SIGN POSTS USED FOR TRAFFIC CONTROI SHALL BE MOUNTED ON A 2' GALVANIZED STEE INSERTED INTO A 2-1/2" GALVANIZED STEEL, P 3' LONG. A GALVANIZED STEEL POLE CAP SHAL
	CONTOUR L,	N FROM A FIELD RUN SURVEY WITH MAXIMUM ONE FOOT C INTY DATED APRIL, 2009. RE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY USED FOR THIS PROJECT.	EXISTING TOPOGRAPHY IS TAKEN VALS PRPARED BY HOWARD COL COORDINATES SHOWN HEREON A I IS BASED UPON THE MARYLANE MENT NOS. IOGB AND IOH5 WERE
	,	•	MISS UTILITY 1-800-257-7777, CONSTRUCTION INSPECTION DIVISION, HOWARD COUNTY (410) 313-1880, BALTIMORE GAS & ELECTRIC COMPANY - UNDERGROUND ELECTRIC, DISTRIBUTION CUSTOMER SERVICE (410) 685-0123, VERIZON(410) 224-9285, AMERICAN TELEPHONE & TELEGRAPH CABLE LOCATION DIVISION (410) BUREAU OF UTILITIES, HOWARD COUNTY (410) 313-2040
		INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM THE BEST AVAILIBLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE UTILITIES BY DIGGING TEST PITS AT ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION. IF CLEARANCES ARE LESS THAN SPECIFIED ON THIS PLAN OR LESS THAN I2 INCHES WHEN NOT SPECIFIED, CONTACT THE ENGINEER AND THE OWNER OF OTHER INVOLVED UTILITY.	1. INFORMATION CONCERNING UNDERGROUND UTILITIES BY DIGGING TEST PITS AT ALL UTILITIES AT ALL UTILITIES AT ALL UTILITIES BY DIGGING TEST PITS AT ALL UTILITIES AT ALTING WORK SHOWN
		EROSION CONTROL INSPECTOR, SEDIMENT CONTROL DEVICES MAY BE REMOVED.	95 DAYS
	S ARE NING BY INSPECTOR.	9. CONSTRUCT STORMWATER MANAGEMENT PRACTICES ONCE ALL TRIBUTARY AREAS ARE STABILIZED. 10. PLACE TOPSOIL, SOLID SODDING, OR EROSION CONTROL MATTING IN ANY REMAINING DISTURBED AREAS. EROSION CONTROL MATTING TO BE INSTALLED AS DIRECTED BY IN 11. INSTALL NEW BITUMINOUS PAVEMENT.	· · · ·
	l excess .te base. Building.	ING LOT AND EXCAVATE FOR BUILDING FOUNDATIONS. SPOIL E IN THE DESIGNATED LOCATIONS. ADE AND REPAIR AS NECESSARY. PLACE GRADED AGGREGATE AREA, COORDINATE WITH CONSTRUCTION OF OBSERVATORY BU	IODAYS6. ROUGH GRADE PARKING LOTEXCAVATED MATERIAL IN THEIODAYS7. PROOF ROLL SUBGRADE ANDI5DAYS8. CONSTRUCT PLAZA AREA, COO
	JRECTED	4. REMOVE AND RUBBLIZE BITUMINOUS PAVEMENT ACCORDING TO DEMOLITION PLAN. RUBBLIZED BITUMINOUS PAVEMENT MUST BE REMOVED FROM THE SITE UNLESS DIRECT OTHERWISE.	5 DAYS 4. REMOVE AND RUBBLIZE BITUM RUBBLIZED BITUMINOUS PAVEME OTHERWISE.
	DSION N OWNSTREAM LIZED.	2. INSTALL SEDIMENT CONTROLS AS SHOWN ON THE APPROVED SEDIMENT AND EROSION CONTROL PLAN. IMMEDIATELY STABILIZE ALL AREAS DISTURBED BY STORM DRAIN INSTALLATION. ALL TREE CLEARING SHALL BE MINIMIZED. 3. BEGIN INSTALLATION OF STORM DRAIN, CONSTRUCTION SHALL PROCEED FROM DOWNS TO UPSTREAM. PROTECT FROM RUNOFF UNTIL ALL TRIBUTARY AREAS ARE STABILIZED INSTALL EROSION CONTROL MATTING AS DIRECTED BY INSPECTOR.	2 DAYS 2. INSTALL SEDIMENT CONTROLS CONTROL PLAN. IMMEDIATELY S INSTALLATION. ALL TREE CLEAF INSTALLATION. ALL TREE CLEAF IS DAYS 3. BEGIN INSTALLATION OF STOR TO UPSTREAM. PROTECT FROM INSTALL EROSION CONTROL MA
	NO	SEQUENCE OF CONSTRUCTION NOTIFY HOWARD COUNTY SEDIMENT AND EROSION CONTROL INSPECTOR AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION AND SCHEDULE A PRE-CONSTRUCTION WALK-THROUGH OF THE SITE, INSTALL EROSION CONTROL MATTING THROUGHOUT SITE AS DIRECTED BY INSPECTOR.	O DAYS I. NOTIFY HOWARD COUNTY SEDIN 48 HOURS IN ADVANCE OF ANY WALK-THROUGH OF THE SITE. IN SITE AS DIRECTED BY INSPECT

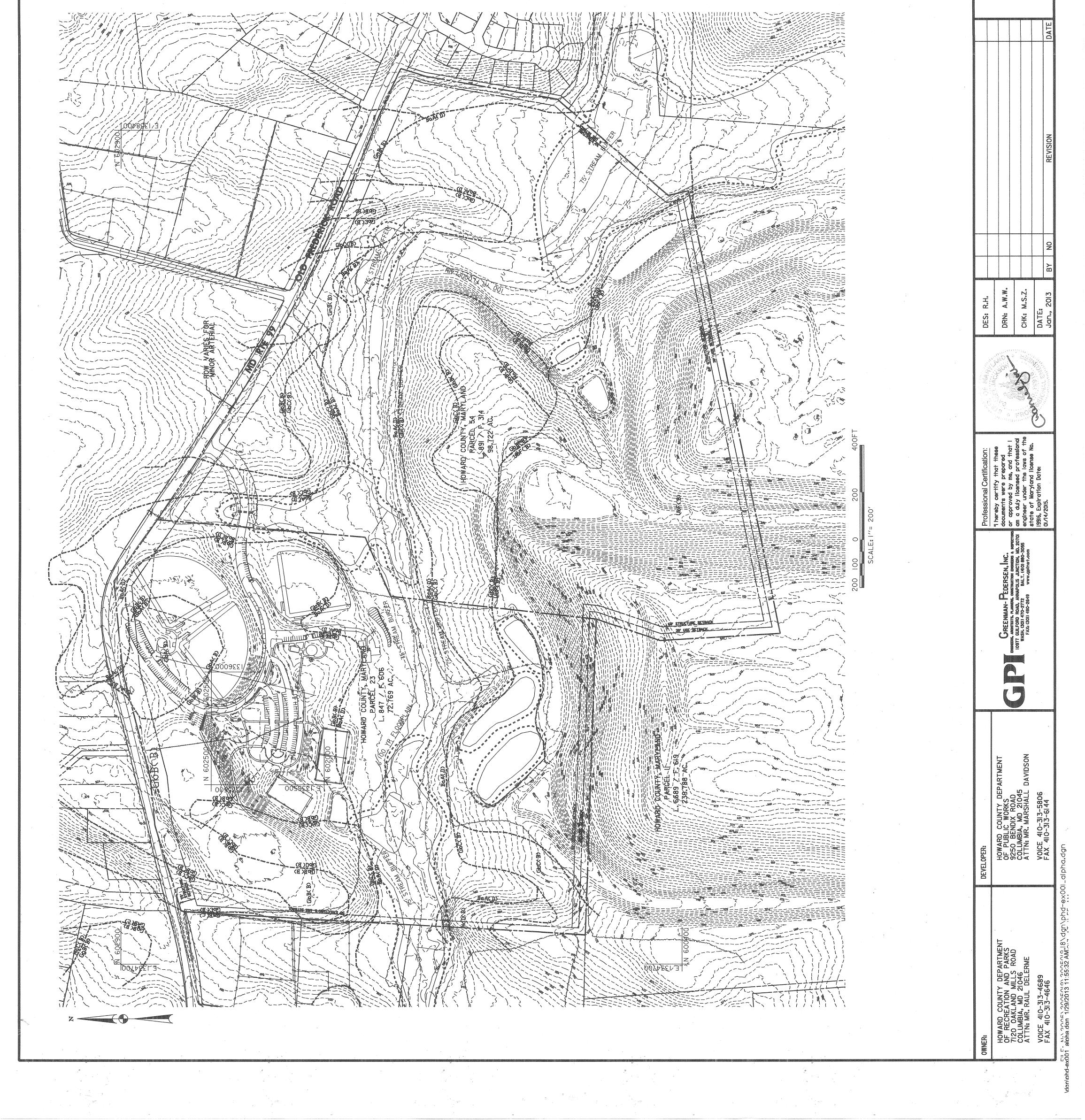
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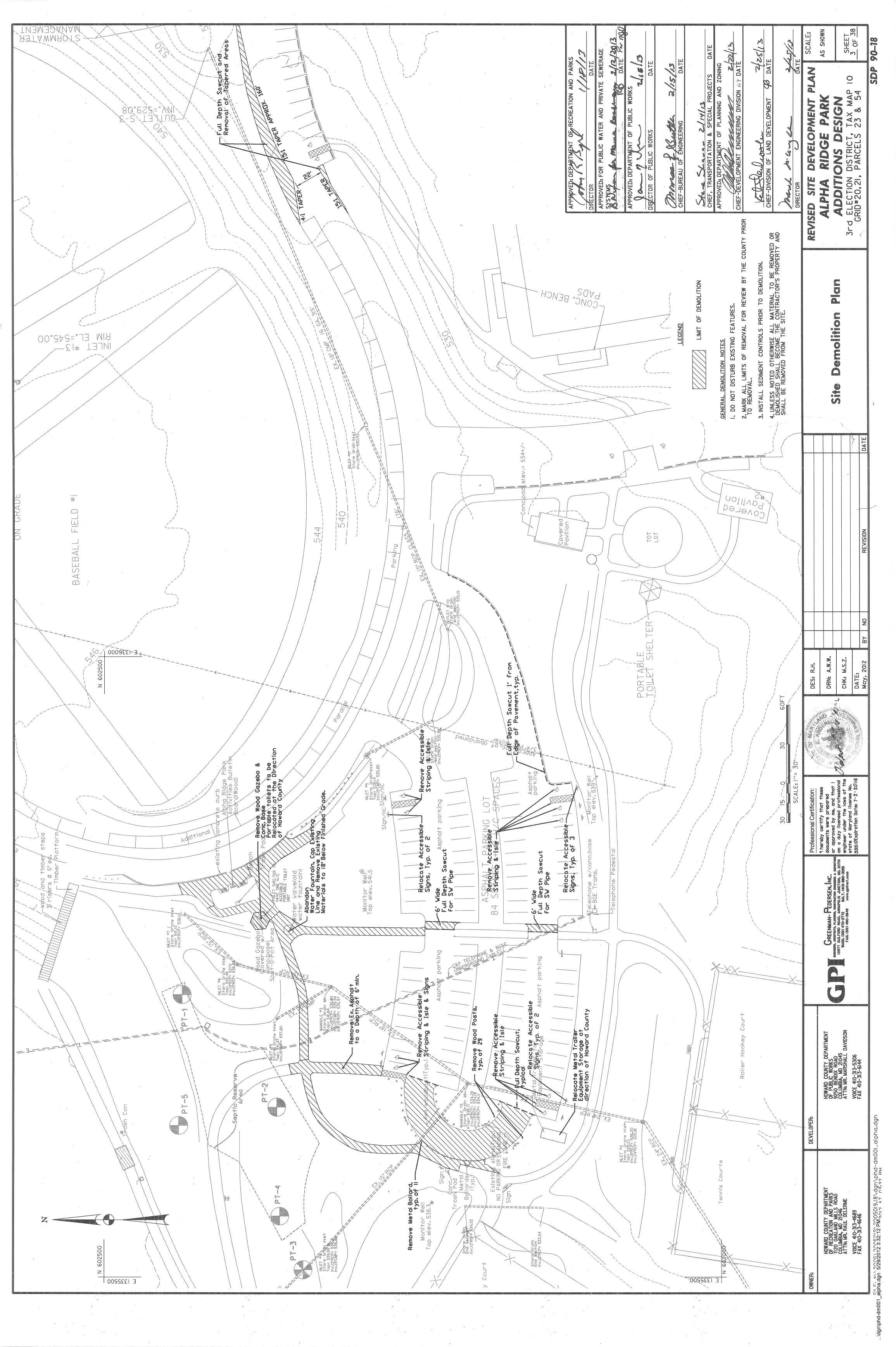
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MAP SYMBOL AND SOIL NAME	HYDROLOGIC GROUP	Κf	EROSION HAZARD RATING
BaA - Baile silt Ioam, 0 to 3 percent slopes	Q	.37	SLIGHT
CbA - Gladstone loam, 0 to 3 percent slopes	Q	.24	SLIGHT
GbB - Gladstone loam, 3 to 8 percent slopes	£	24	MODERATE
GbC - Gladstone loam, 8 to 15 percent slopes	ш	.24	MODERATE
GgB - Glenelg Ioam, 3 to 8 percent slopes	Ē	.28	MODERATE
GmB - Gienville silt loam, 3 to 8 percent slopes	U	28	MODERATE
Ha - Hatboro-Codorus silt loams, 0 to 3 percent slopes	D	.37	SLIGHT
McD - Manor Ioam, 15 to 25 percent slopes, very rocky	В	.28	SEVERE
UbF - Udorthents, Refuse, 0 to 65 percent slopes	Ē	N/A	NOT RATED

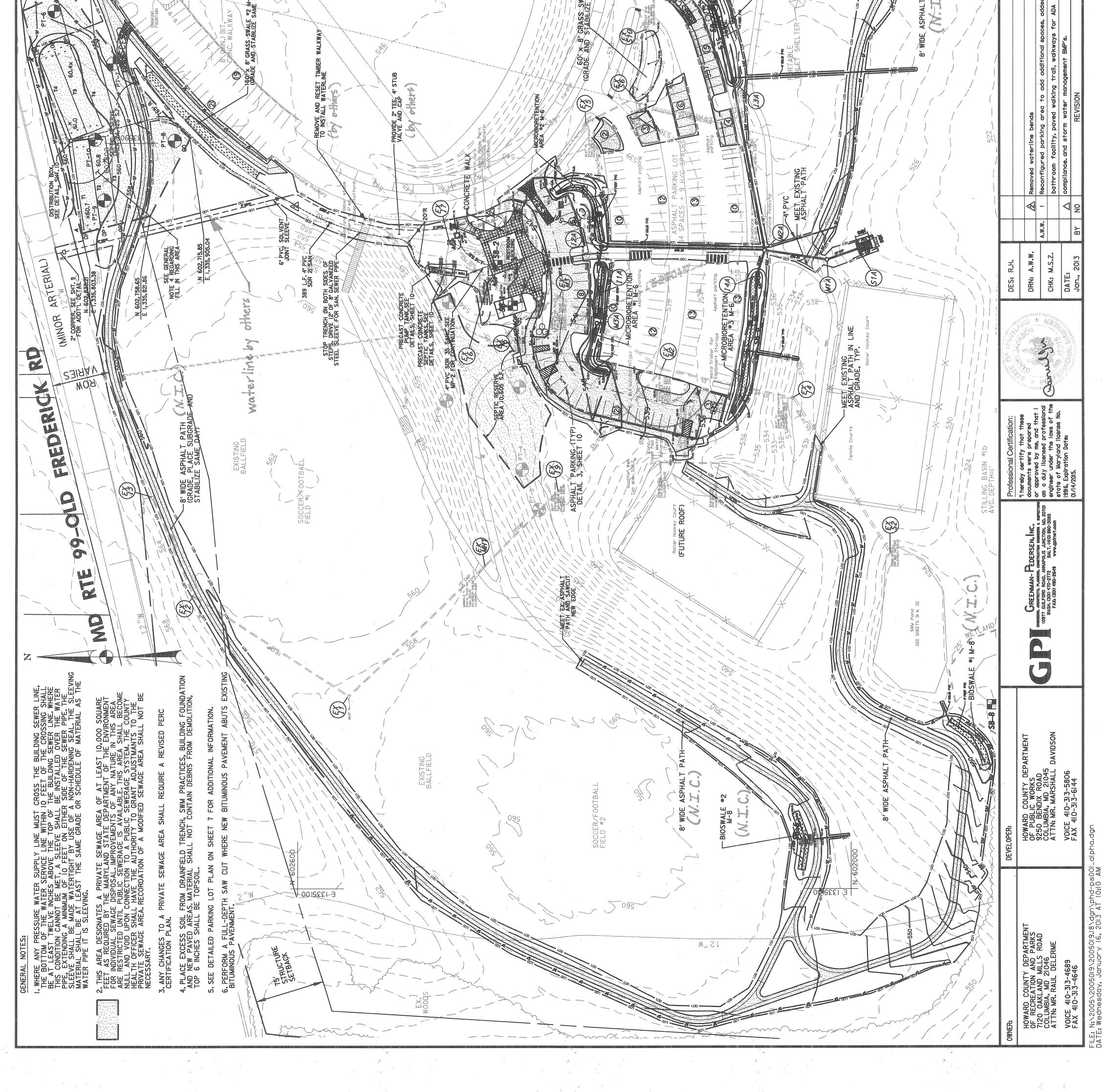
SHEET 2 OF 38 AS SHOWN 30/2013 19 C DATE DATE ZZZZZ/13 DATE BNUT HEALTH OFFICER COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT APPROVED: DEPARTMENT OF PUBLIC WORKS Steve Shama 2/14/13 CHIEF, TRANSPORTATION & SPECIAL PROJECTS DATE APPROVED: DEPARTMENT OF PLANNING AND ZONING 2/25/D DATE REVISED SITE DEVELOPMENT PLAN ALPHA RIDGE PARK ADDITIONS DESIGN 3rd ELECTION DISTRICT, TAX MAP 10 GRID#20,21, PARCELS 23 & 54 PLAN SDP APPROVED: DEPARTMENT OF RECREATION AND PARKS DOULD T WOULD OUT CONING OD 1 DIRECTOR APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS 2/15/13 DATE 8 SION Ket Hallool NO VEERING t. wy UREAU OF ENGINEERING DIRECTOR OF PUBLIC WORKS DIRECTOR Stere CHIEF-BURE Ч П П REVISED CHIEF Conditions Dan Existing C Site

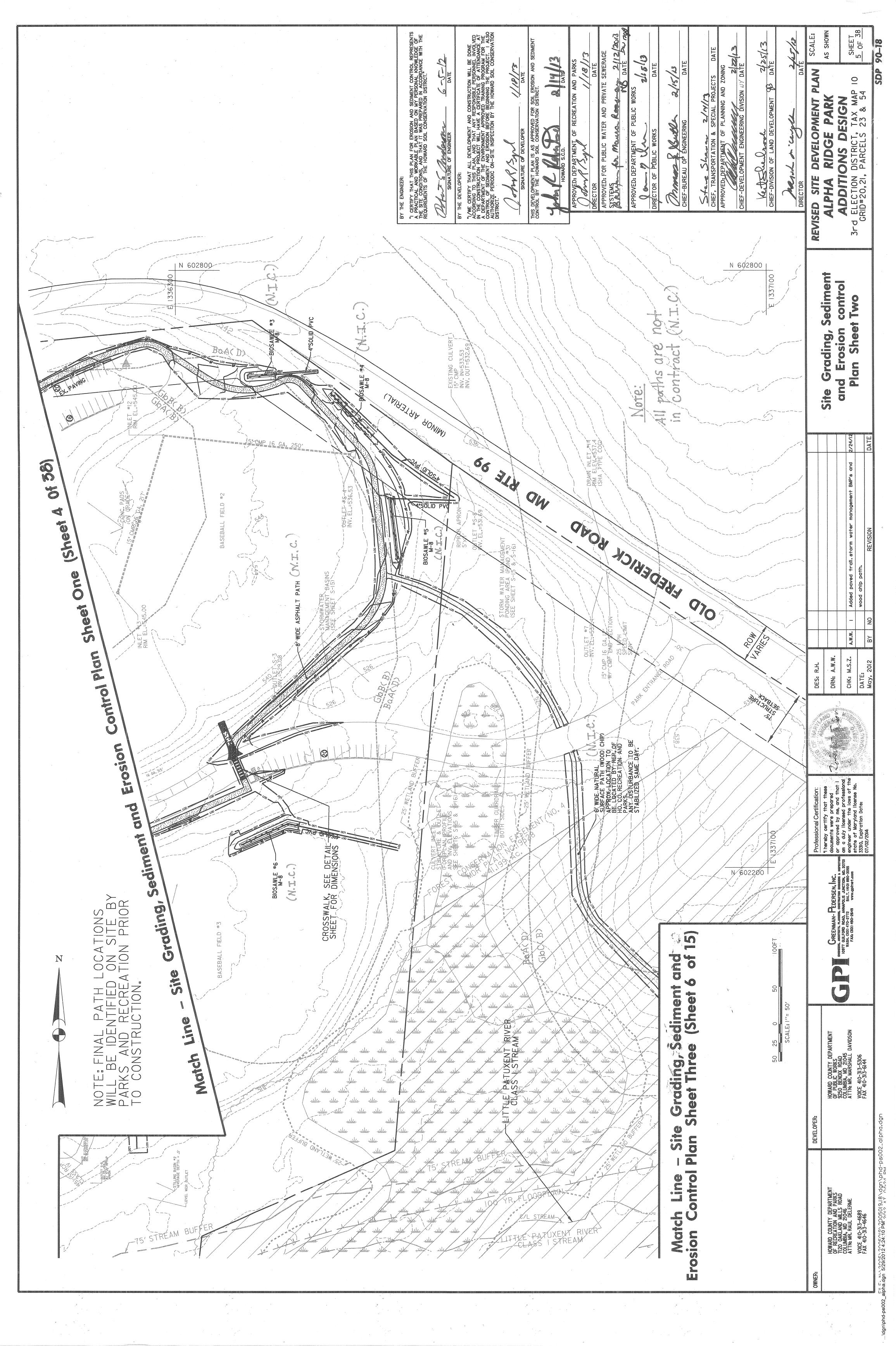
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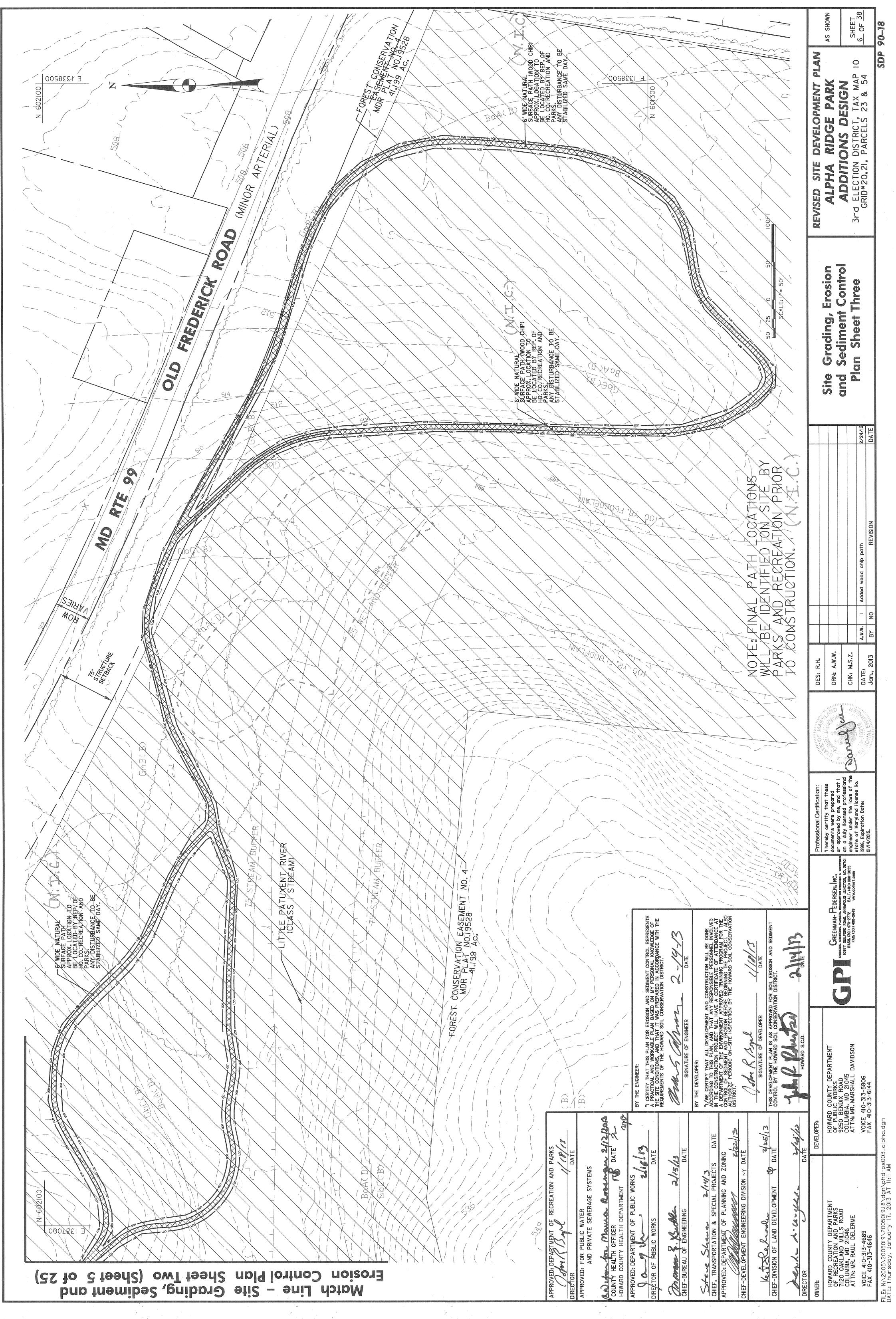


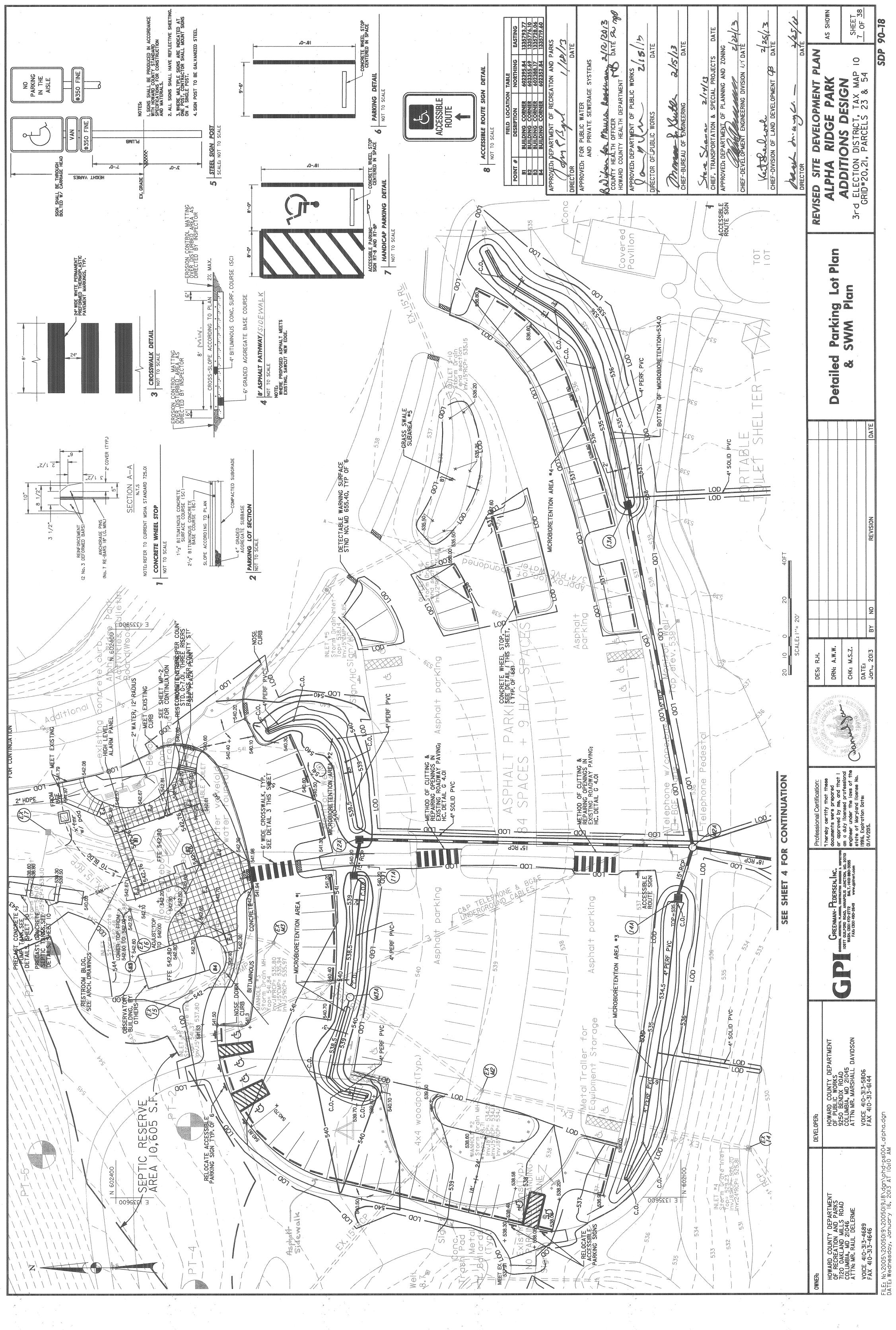


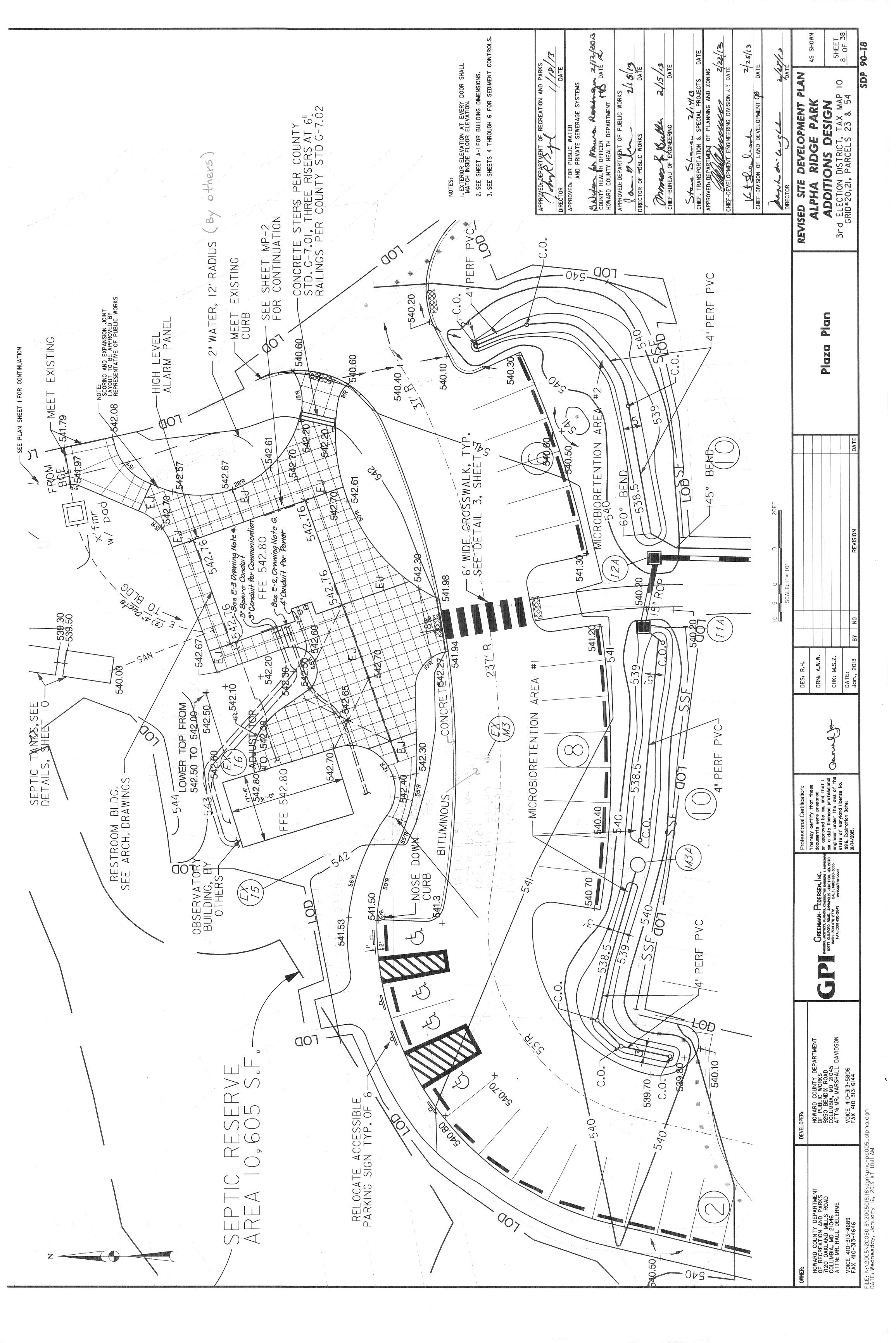
t property & surrounding properties all obtain t from a public source. on this plot is field run by Howard County DPW the proposed Septic Easement. The proposed Septic Easement with the minimum ownership area as required by the Md. Dept. of the Environment. The proposed Septic Easement shall require a revised artification. Besignates a private sewage area of at least 10.000 s.f. as to a private sewage area and 1 become null and void upon a stora private sewage area and the county health officer shall comments of any nature in this area are restricted until area are restricted until a modified sewage area shall not be necessary. The Md. State Dept. of the private sewage area. The modified sewage area shall not be necessary. The modified sewage area shall not be necessary. The swill remain as shown on this plan. The swill remain as shown on this plan. The serve park users. The serve park users. The second in support of a proposal to construct a ty cho serve park users. The set line within 100 feet of the septic reserve area the boundary of the septic reserve area must be clearly the distribution lines moy not cross the septic reserve are the fistribution lines moy not cross the septic reserve area a Percolation Rate. 7 Min. a Coundary of Trench Length Req. (5 Cose, 3.307(ENL). The 3.07(ENL). The struct a boundary of Trench Length Req. (5 Cose, 3.07(ENL). H = 3', EFECTIVE SIDEMALL = 6'.	D REDUCE LENGTH = 0.31% BY THE ENGINER: PY THE ENGINER: PRACTICAL AND WORKBIE PLAN BASED ON MY PERSONAL KNOWEDGE PRACTICAL AND WORKBIE PLAN BASED ON MY PERSONAL KNOWEDGE BY THE DEVELOPER: PY THE DEVELOPER: PY THE DEVELOPER: PY THE DEVELOPER: PY THE DEVELOPER: PY THE DEVELOPER: PY THE DEVELOPER: PARTINE PLAN, AND EROSION BY THE HOWARD SOLL CONSERVATION NEE CONSTRUCTION PROCECT MILL APPER SOLNING: THE PROCENT FOR AND PROCECT MILL APPER SOLNING: THE PROCECT: I ASIA AND PROCECT MILL APPER SOLNING: THE PROCECT: I ASIA AND PROCECT MILL APPER PROSONNEL INVOLVED AND PROVED FOR SOLLOPER BIONITY AND SOLL CONSERVATION DISTRICT. AND PROFILE PLAN S AS APPROVED FOR SOLL CONSERVATION AND PROSON BEFORE REGINING THE PROSONNEL INVOLVED AND PROFILE PLAN AND SOLL CONSERVATION DISTRICT. AND PROFILE PLAN AND SOLL CONSERVATION DISTRICT. AND PARTINE PLANENT ON DISTRICT. AND SEDIMENT APPROVED FOR DOWED FOR SOLL CONSERVATION DISTRICT. APPROVED FOR PLANENT OR RECORDEND AND SEDIMENT APPROVED FOR DOWED FOR SOLL PROFILE ATTION AND PARKS APPROVED FOR PLANENT OR RECRETATION AND PARKS APPROVED FOR PLANENT OF RECRETATION AND PARKS APPROVED FOR PLANENT ON PROVED FOR APPROVED FOR PLANENT ON PARKS APPROVED FOR PLANENT OR RECRETATION AND PARKS APPROVED FOR PLANENT ON PLANENT ON PARKS APPROVED FOR PLANENT ON PLANENT ON	DIRECTOR DIRECTOR APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS AND PRIVATE SEWERAGE SYSTEMS AND PRIVATE SEWERAGE SYSTEMS AND PRIVATE SEWERAGE SYSTEMS AND PRIVATE SEWERAGE SYSTEMS APPROVED: DEPARTMENT OF PUBLIC WORKS APPROVED: DEPARTMENT OF PUBLIC WORKS DIRECTOR OF POBLIC WORKS DIRECTOR DIRECTOR DIRECTOR OF POBLIC WORKS DIRECTOR DIRECTOR DIRECTOR OF POBLIC WORKS DIRECTOR DIRE	50 50 50 100FT SCALE: I''E 50' SCALE: I''E 70' SCALE: I''E 70' SCALE: I''E 70' SCALE: I''E 70' SCALE: I'' SCALE: I'
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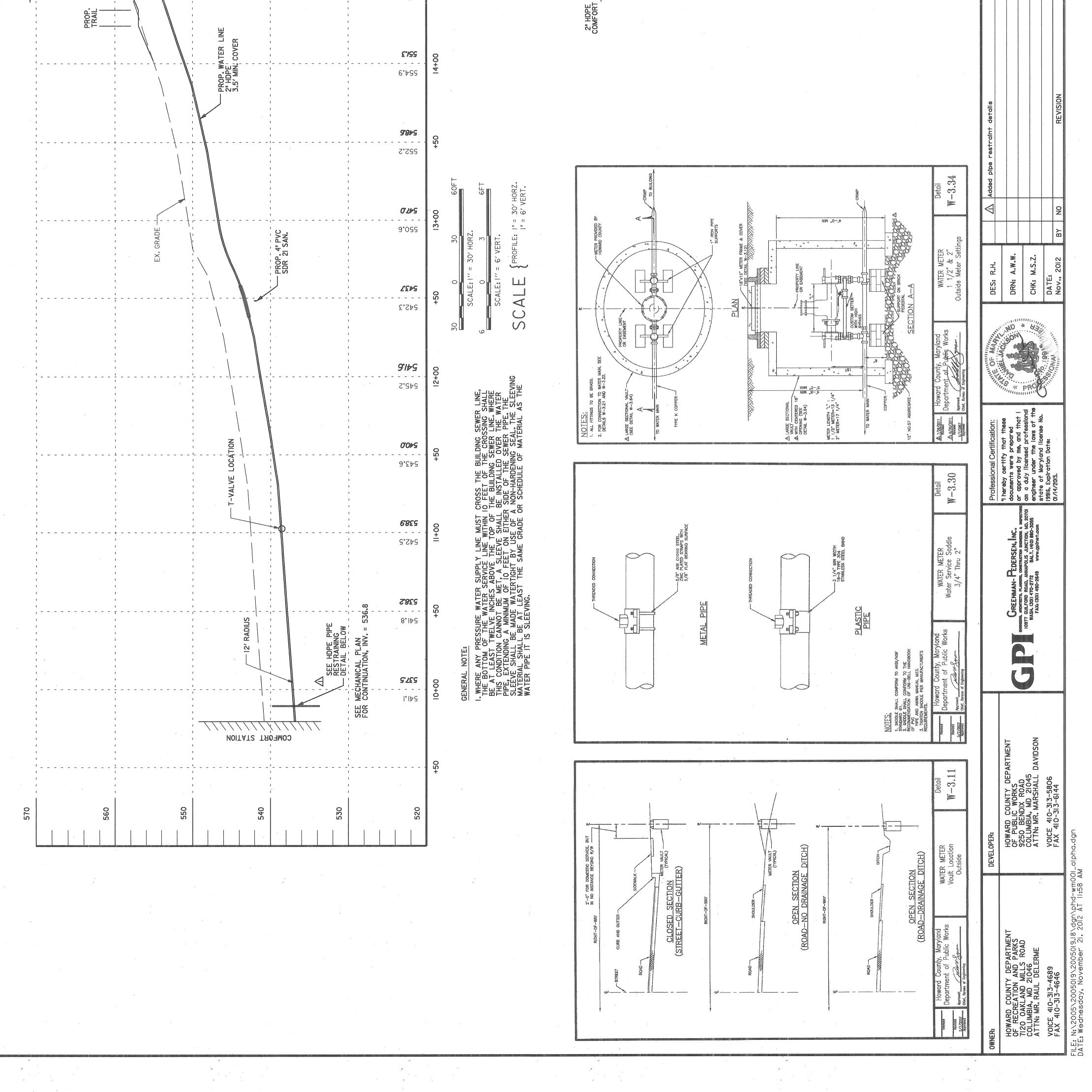








MB DATE 2013 SHEET 9 OF 38 Contract AS SHOWN 200 waterline 90-18 22/12 2/25/13 DATE 2 C responsible M DATE 2 2/15/13 DATE 261563 DATE APPROVED: DEPARTMENT OF RECREATION AND PARKS Station DATE DATI CHIEF, TRANSPORTATION & SPECIAL PROJECTS APPROVED: DEPARTMENT OF PLANNING AND ZONING PLAN SDP 0 APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS ENCINE DIVISION NY R. WORKS Kenterland CHIEF-DIVISION OF LAND DEVELOPMENT 95 TAX MAP 23 & 54 \bigcirc PARK Ronan DESIGN connecting DEPARTMENT DEVELOPMENT C L PUBLIC comfort Chinese Rull ontractor construc 4 5 DISTRICT, PARCELS APPROVED: DEPARTMENT OF WORKS 3/ RIDGE MEALTH OFFICER other -Jo Q Water No TE: T. **ADDITIONS** TOR OF PUBLIC 6 P 3rd_ELECTION GRID#20,21, SITE CHIEF-DEVEL ALPHA DIRECTOR HOWARD COUNT \bigcirc REVISED 530 520 570 560 550 540 METER RESTRAINED CONNECTION TO METER 16+00 METER VAULT 2" HDPE WATER SERVICE WITH COPPER TRACER WIRE THIS WORK MUST BE PERFORMED BY APPROVED HOWARD COUNTY CONTRACTOR POINT OF CONNECTION TO EXISTING 12" MAIN CONTRACT NO. 44-3480 Profile WATER IDENTIFICATION MARKER TAPE MIX NO. 3 CONCRETE, EXTEND I' BEYOND TRENCH SIDES AND BOTTOM, POUR AGAINST BARE EARTH, TOP IS 6" ABOVE PIPE +50 FINISHED GRADE Water Main MD RTE. 99 DETAIL MD RTE. 99 COPPER HDPE WALL ANCHOR HDPE PIPE RESTRAINING TRENCH ~ 6'-0" 1255 15+00 SHOWN ۲.032 2" HDPE SERVICE CONTRACTOR NOT TO SCALE LOCATION AT METER METER VAULT , W/ I" METER -SEE HDPE PIPE RESTRAINING DETAIL BELOW -Δ SCALE õ · . · . 31-6" COVER WATER NOT TO SC PIPE TO STATION LÞSS В /07/12 +50 DATE u0-,1 ----uO-/1 5.825



SHEET 10 OF 38 SHOWN 2013 100 - 4" SCH 40 PVC PIPE LATERAL W/ 1/2" DIA. ORIFICES FACING DOWNWARD 90-18 FROM DISTR. BOX GEOTEXTILE 6 GRADE 2112 1/52 DATE - VARIABLE DEPTH FILL/SPOIL FROM ON-SITE EXCAVATION PROPOSED GRADE AS STONE CONSTRUCT TRENCHES AT 18'-O' O.C., SEE SITE PLAN FOR LOCATION. DRAINFIELD TRENCH X-SECTION DETAIL NOT TO SCALE 2/15/13 DATE 2/S DATE AL PROJECTS ЦХ PARK: S PLAN DAT SDP Ś 0 \sim 2~2 Renter DIRECTOR & APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS °N0" AND CLASS ED: DEPARTMENT OF PLANNING AND & MAP & 54 60 WORKS B INEERING DIVISION NV/ANV/A PARK SOVED: DEPARTMENT OF RECREATION DESIGN DEVELOPMENT ુરુ **OPMENT** DEPARTMENT 505 Z3 & PUBLIC N \mathcal{O} Rev K Mondan B. Rull Hiff-BUREAU OF ENGINEERING LAND DEVEL Ŝ d ELECTION DISTRICT, GRID#20,21, PARCELS APPROVED: DEPARTMENT OF WORKS RIDGE COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH E VIEW N.C. **ADDITIONS** R 0 o y 9 0 2 , o 0 0 0 Ö Q 0 0 0 DRAINFIELD TRENCH PLAN SCALE: 1/2" = 1'-0" 0 0 °0 0 36 °001 2704 0 Z 0 0 Ö 0 Ó 0 0 Ο, CHIEF-DIVISIO Ο O Ο Ο O O SITE per CHIFF-DEVEI 0 0 CHIEF, TRA APPROVED ALPHA DIRECTOR -N OBSERVATION PIPE @ THE END OF THE PIPE RUN, BOTTOM 6'-O" SHALL BE PERFORATED 2000 2000 2000 2000 2000 Q REVISED AP NOTE: CONSTRUCT M TEST 72° C GASKETED WATERTIGHT JOINT BETWEEN SECTIONS S. VARIES, 2'-0" MIN. 0 MINIMUM 8'-O" BELOW EXISTING GRADE WATERTIGHT IS REQUIRED MANIFOLD, LATERALS AND FITTINGS SHALL BE SDR 2I PVC PIPE TO DISTRIBUTION BOX Details 2020 Q 36 BASE 00 APPROVED AD^P AGGREGATE NOTE: LINKSEAL OR EQUAL, TYP. 12" THICK TOP SLAB Construction GRADED STAINLESS STEEL GUIDE RODS "BI ī 8 31-0^a 121-9 LOCKABLE ACCESS FRAME AND COVER "PVC "9-,9I AP COMPONENTS. TO THE DISTRIBUTION BOX THE WATER SERVICE AND "0-"7 60 ACTURER'S RECOMMENDATION. Ī 1 1 Site 3 3 1 1 I CH WITH PUMP PUMP TANK TO BOTTOM OF THE SECTION 0000

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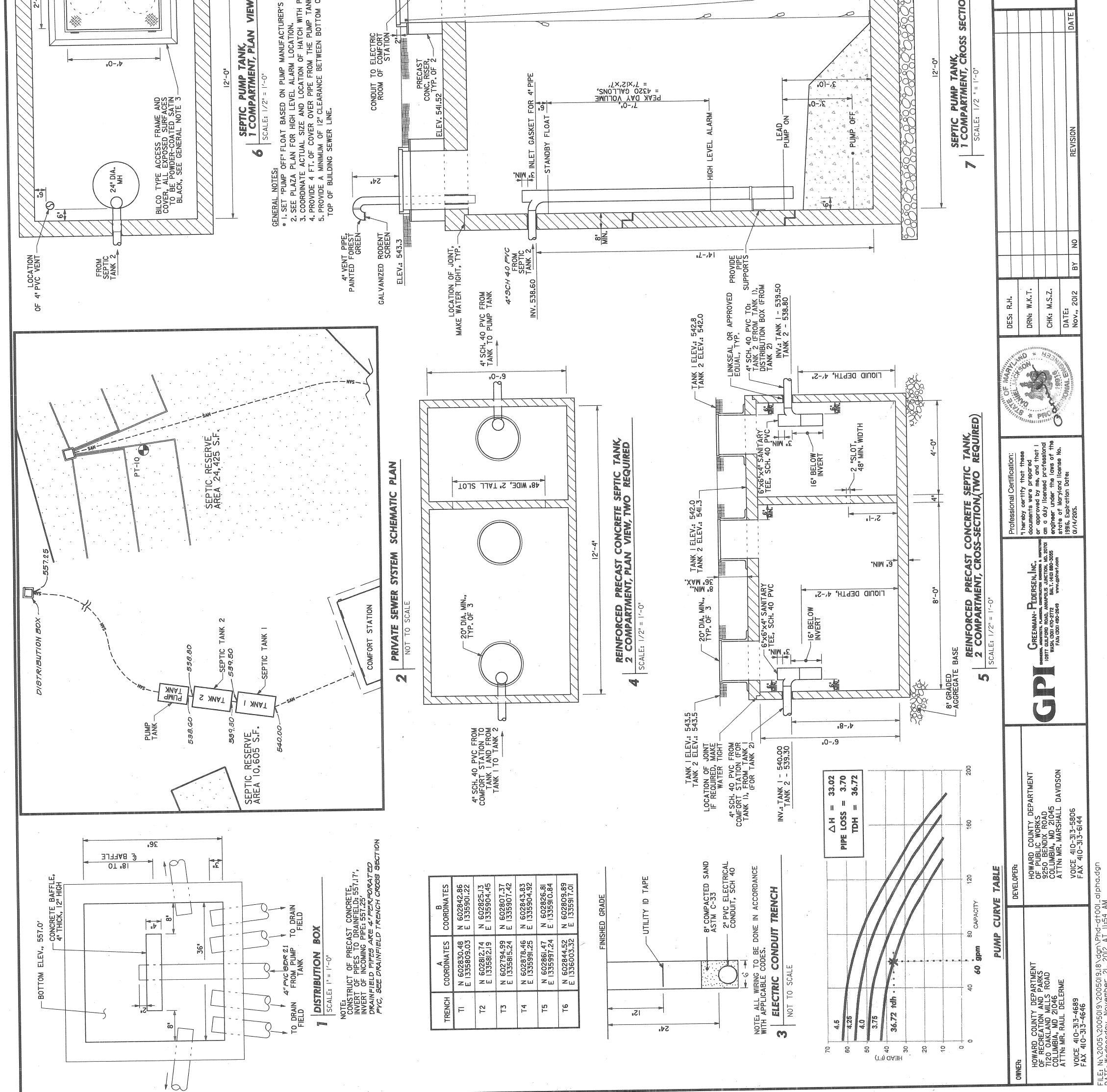
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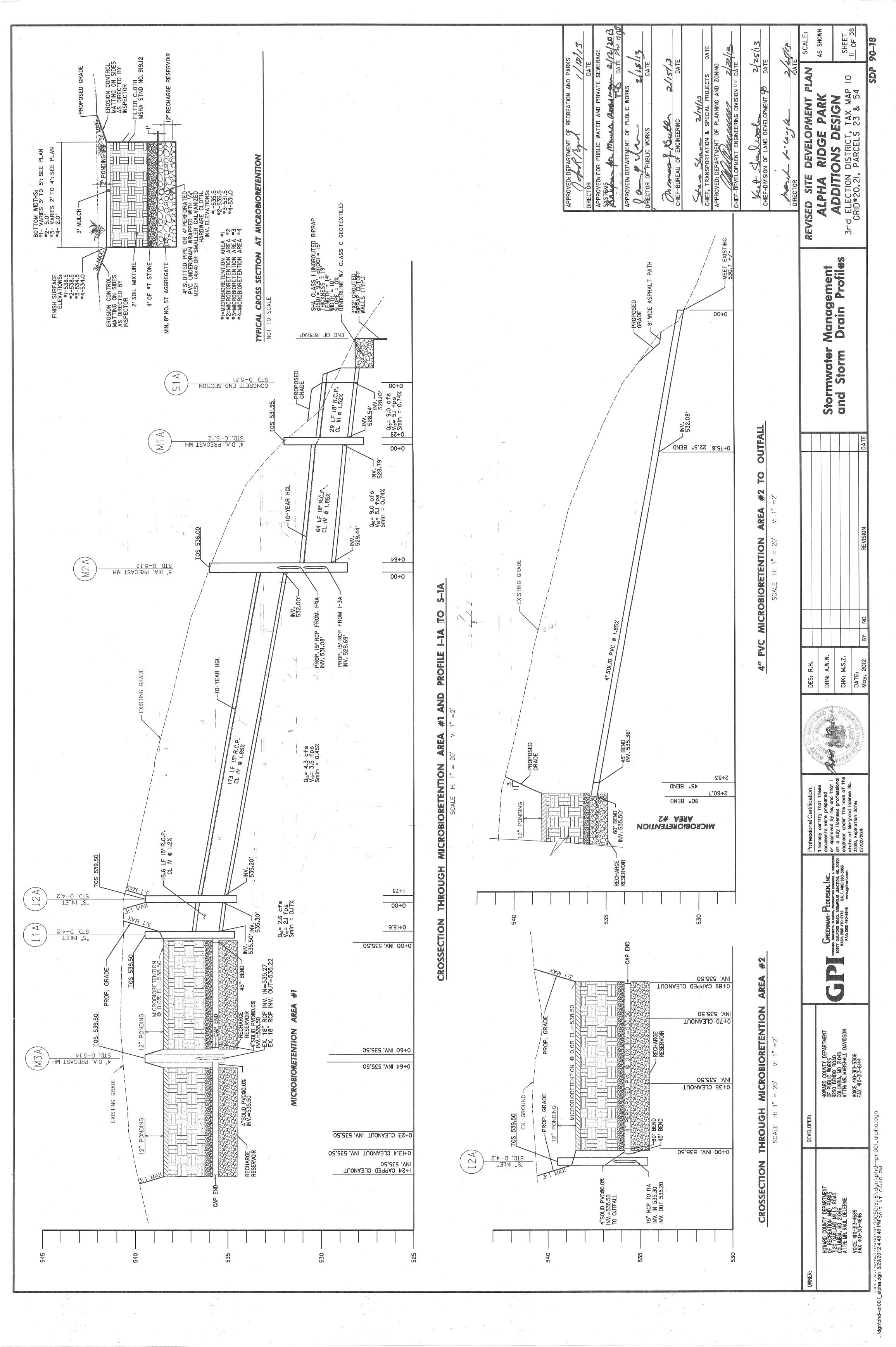
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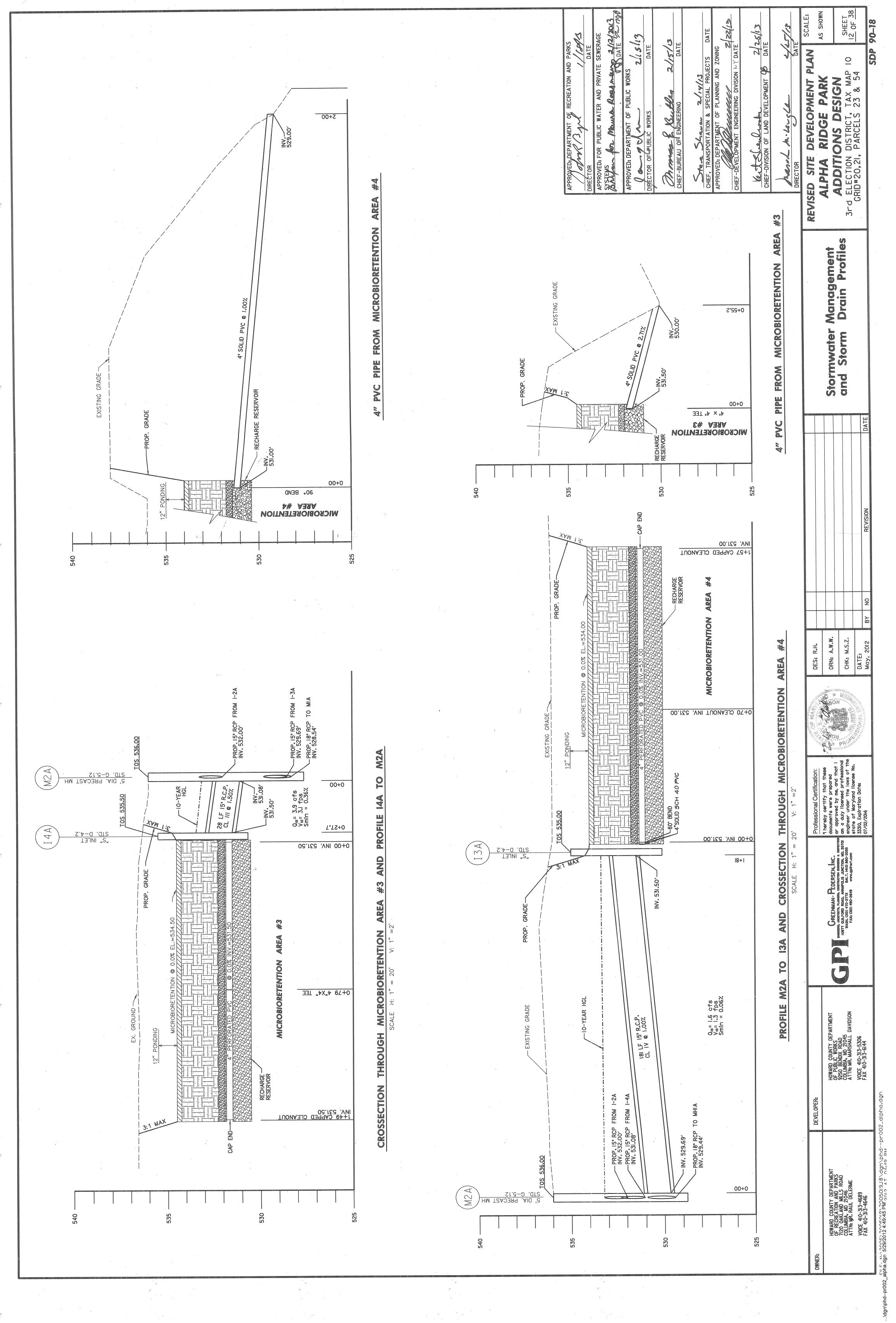
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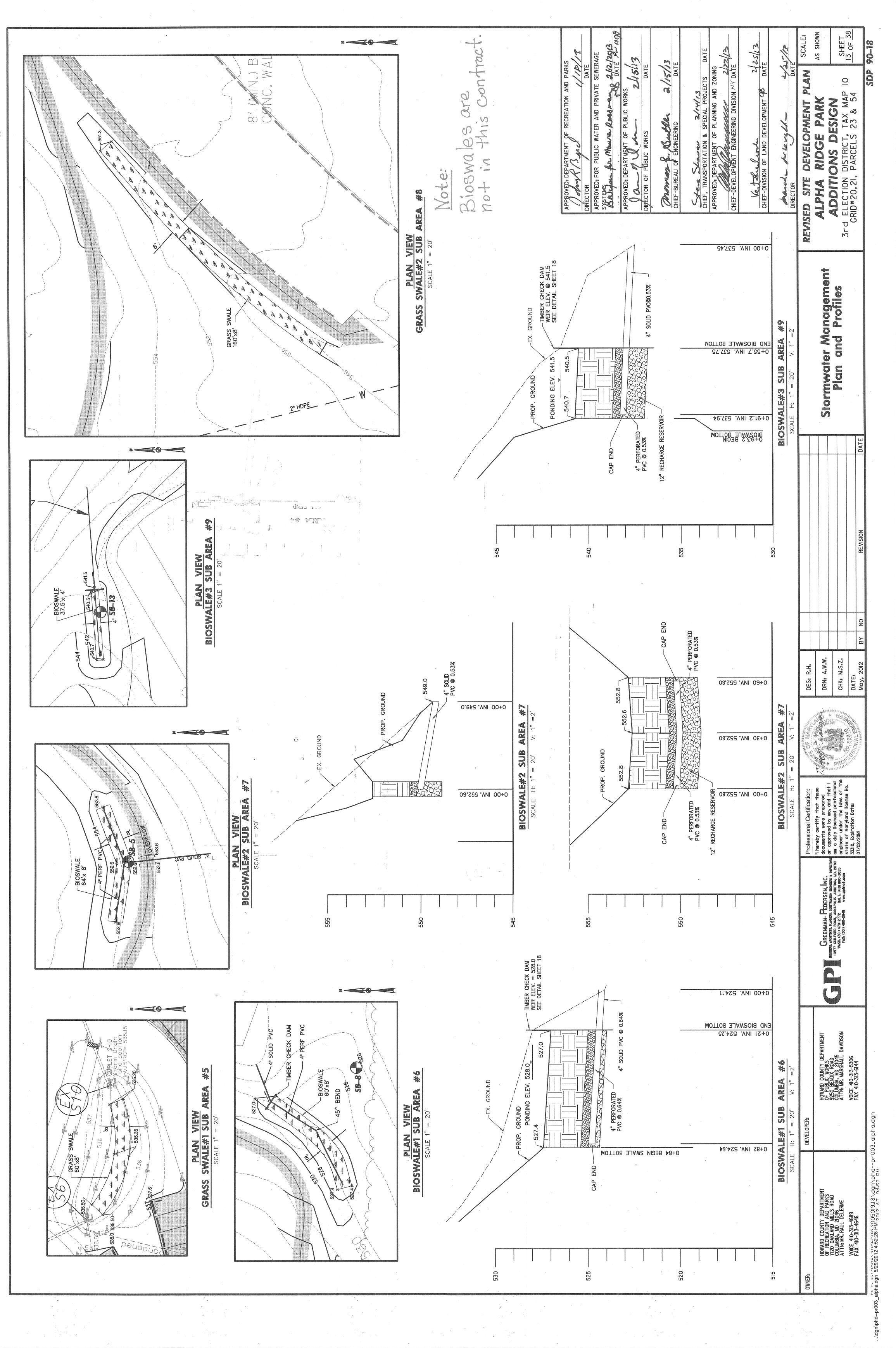
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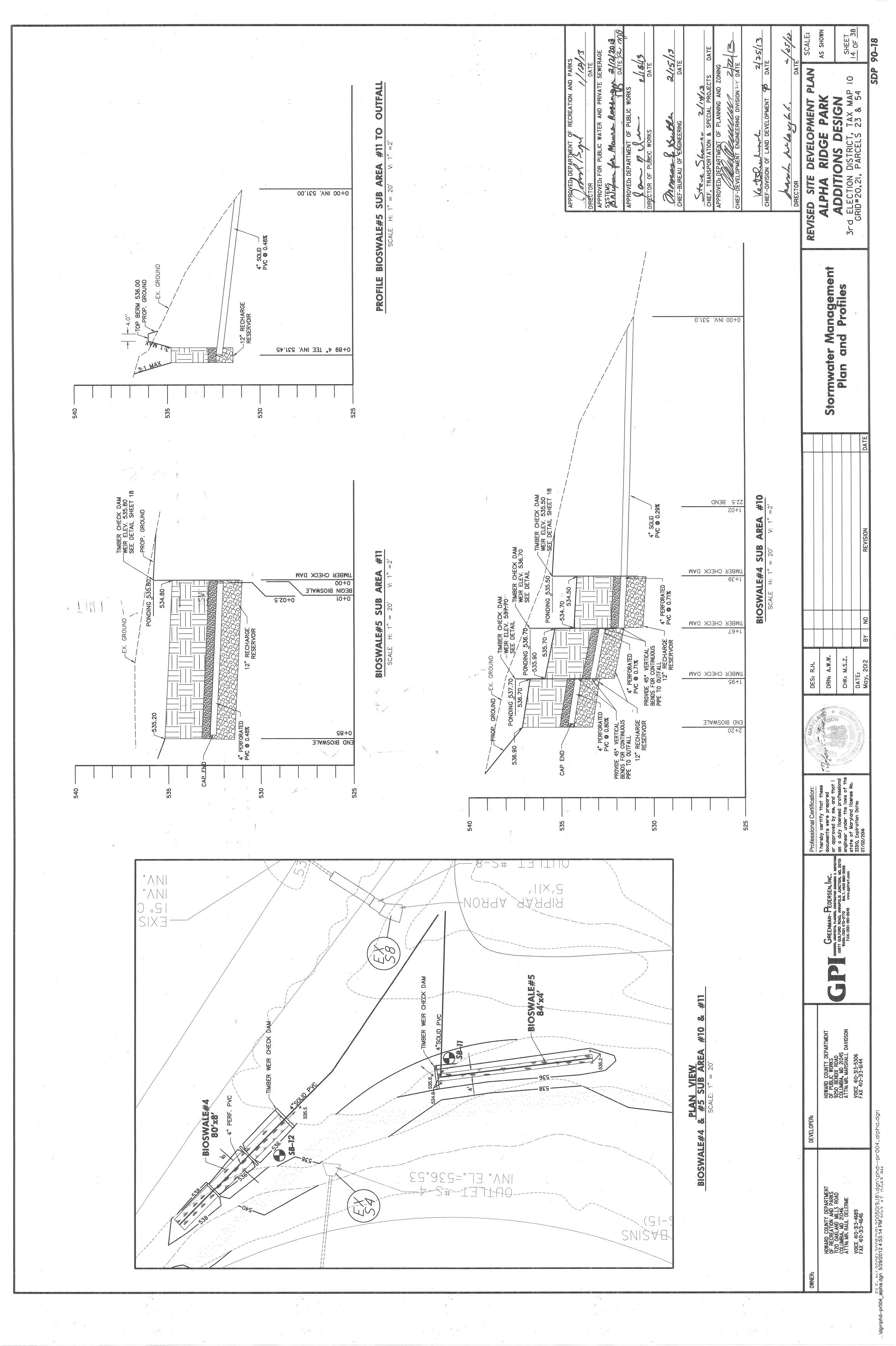
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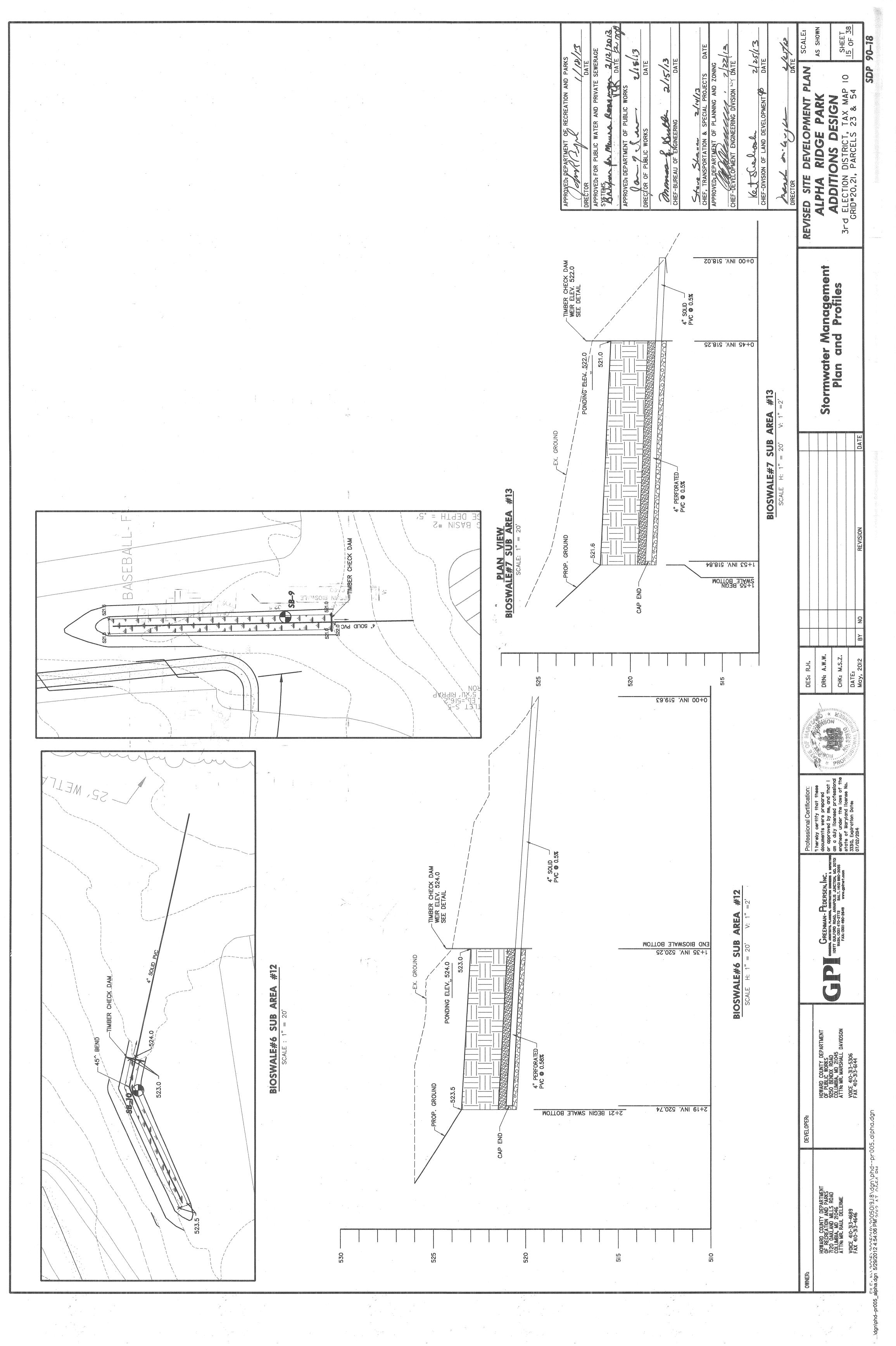


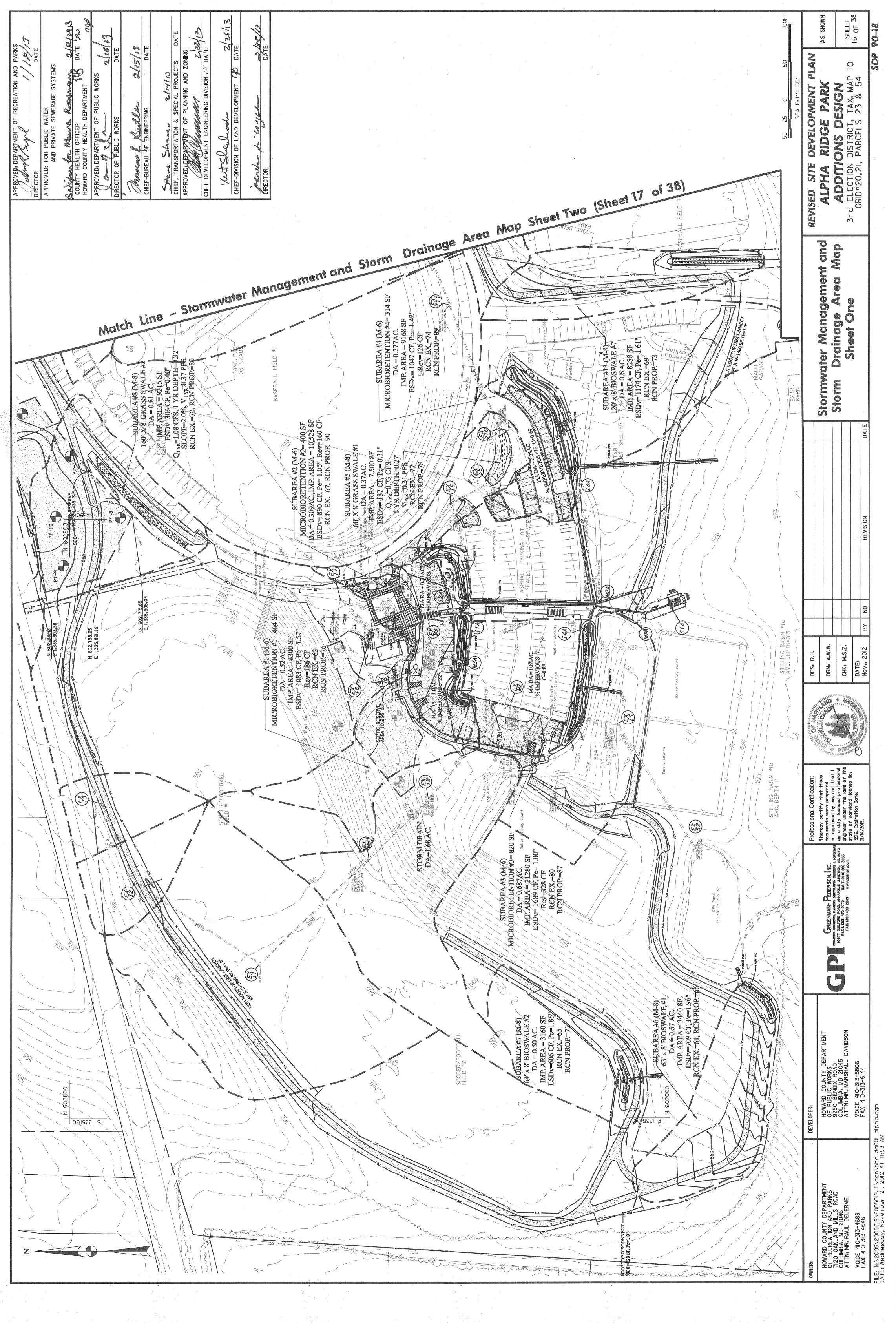


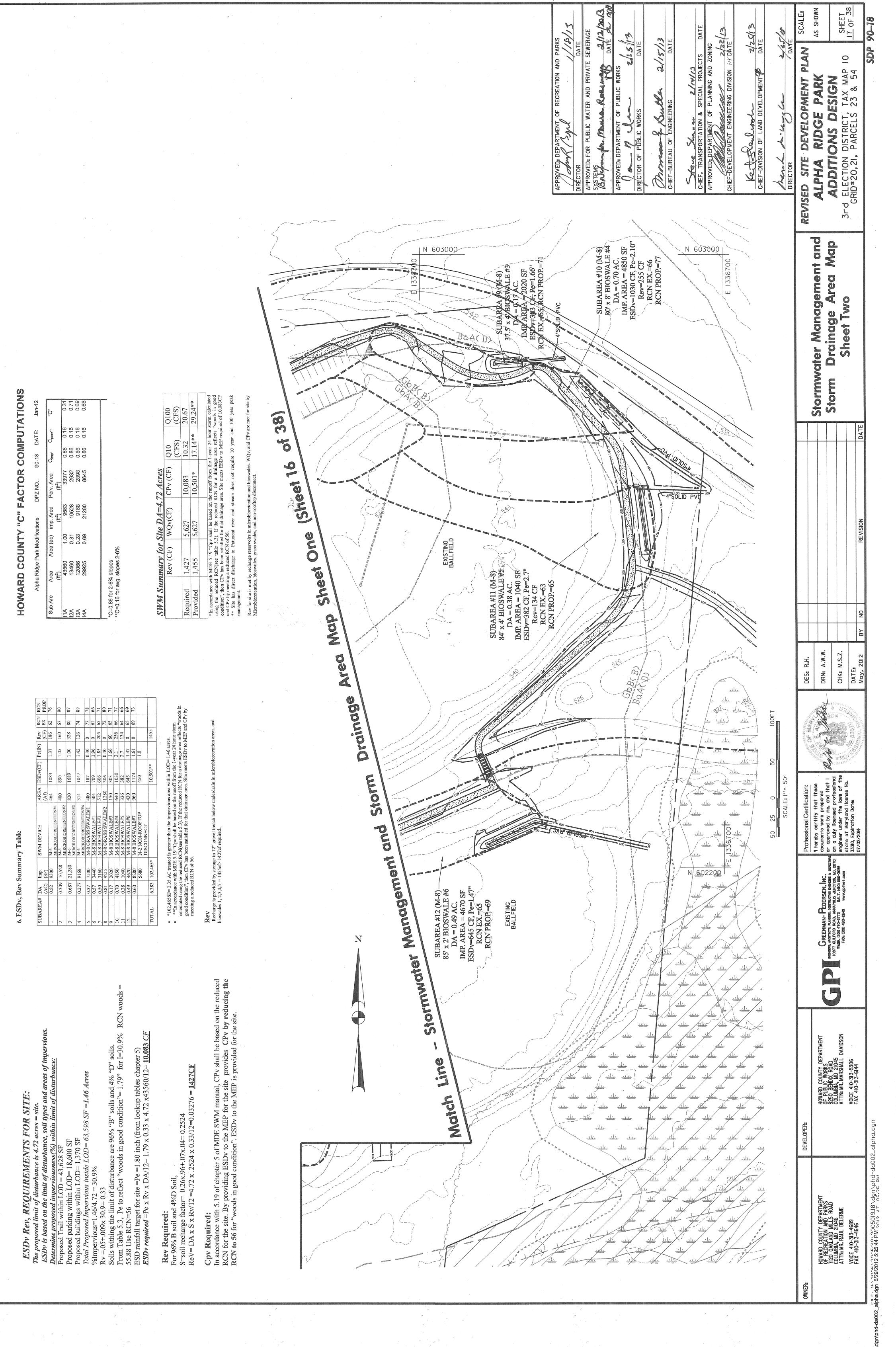


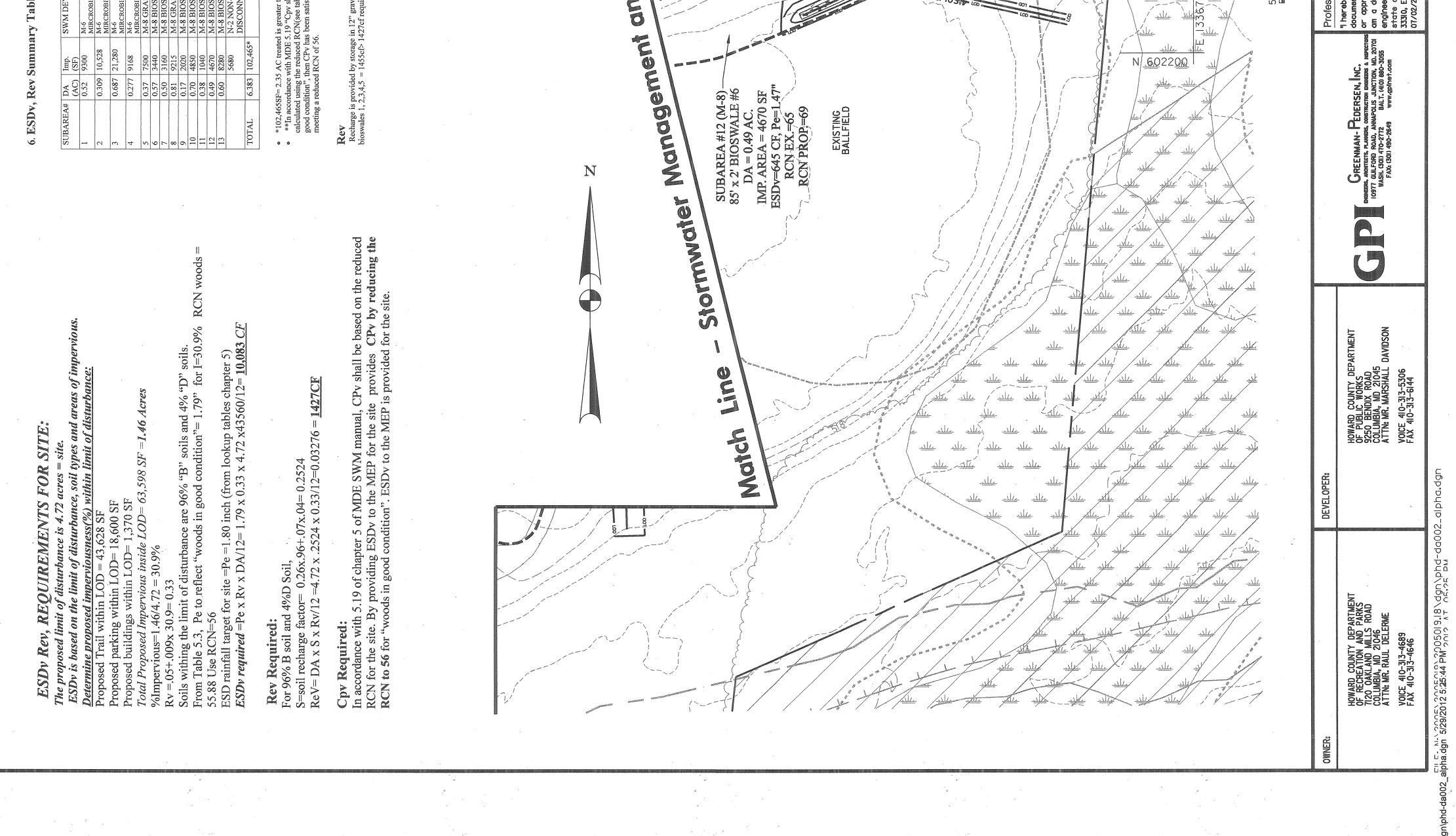








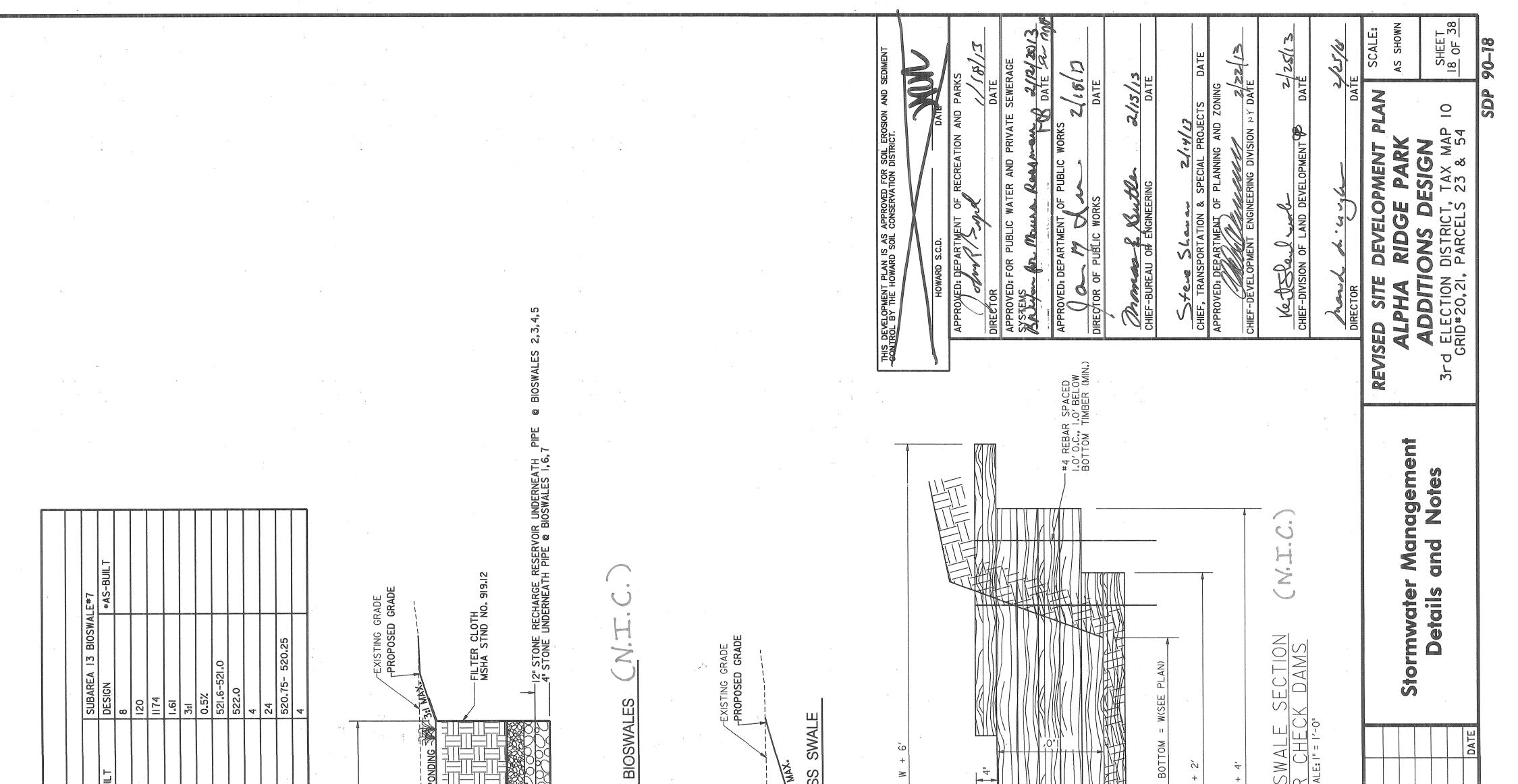




SUBAREA#	DA	Imp.	SWM DEVICE	AREA	ESDv(CF) Pe(IN)	Pe(IN)		RCN	RCN
	(AC)	(SF)		(Af)			(CF)	EX	PROP
	0.52	9300	M-6 MIRCROBIORETENTION#1	464	1083	1.37	186	62	76
	0.309	10,528	M-6 MIRCROBIORETENTION#2	400	890	1.05	160	67	90
	0.687	21,280	M-6 MIRCROBIORETENTION#3	820	1689	1.00	328	80	87
	0.277	9168	M-6 MIRCROBIORETENTION#4	314	1047	1.42	126	74	89
	0.37	7500	M-8 GRASS SWALE#1	480	187	0.30	0	77	78
	0.57	3440	M-8 BIOSWALE#1	504	709	1.96	0	61	66
	0.50	3160	M-8 BIOSWALE#2	512	606	1.85	205	65	71
	0.81	9215	M-8 GRASS SWALE#2	1280	306 ·	0.40	0	72	80
	0.17	2020	M-8 BIOSWALE#3	150	303	1.66	.09	65	71
	0.70	4850	M-8 BIOSWALE#4	640	1030	2.1	256	66	77
	0.38	1040	M-8 BIOSWALE#5	336	382	2.7	134	64	66
	0.49	4670	M-8 BIOSWALE#6	430	645	1.47	0	65	69
	0.60	8280	M-8 BIOSWALE#7	960	1174	1.61	0	69	73
		5680	N-2 NON-ROOFTOP		450	1.0			
			DISCONNECT						
	6.383	6.383 102,465*			10,501**		1455		
									Contraction of the local division of the loc

	Alpha Ridge Park Modifications	ark Modific	ations	DPZ NO.:	90-18
Sub Are	Area (ft²)	Area (ac)	imp. Area (ft²)	Perv. Area (ft²)	O imp.
11A	43560	1.00	9583	101	
I2A	13460	0.31	10528	2932	
13A	12066	0.28	9168	2898	ö
14A	29925	0.69	21280	8645	
*C=0.86 fc **C=0.16 f	*C=0.86 for 2-6% slopes **C=0.16 for avg. slopes 2-6%	2-6%			

Rev for site is met by recharge reservoirs in microbioretention and bioswales. V
, management.
** Site has direct discharge to Patuxent river and stream does not requi
and CPv by meeting a reduced RCN of 56.
condition", then CPv has been satisfied for that drainage area. Site meets ESD
using the reduced RCN(see table 5.3). If the reduced RCN for a drainage



AS-BUILT DATA F	FOR BIOSWALES (M-8) (N.T.	 C.) 					
	SUBAREA 6 BIOSWALE *I DESIGN *AS-BUILT	SUBAREA7 BIO	SWALE*2 SUBAREA 9 E SUBAREA 9 E SUBAREA 9 E SUBAREA 9 E	BIOSWALE #3 SUI *AS-BUILT DESI	BAREA IO BIOSWALE #4 GN *AS-BUILT	SUBAREA II BIOSWALE *5 DESIGN *AS-BUILT	SUBAREA 12 BIOSWALE*6 DESIGN *AS-BUILT
BOTTOM WIDTH (FT) TOTAL LENGTH (FT)	8 63	8 64	37.5	8 8		84	5 86
ESDV PROVIDED (CU. FT) PE PROVIDED (INCH)	709	606 1.85	303	1030		382 2.7	645 1.47
SIDE SLOPE RATIO(S)	3ª	3ª		3:1		- Second	3el 0 700
SWALE LONGITUDINAL SLOPE BOTTOM ELEVATION OF BIOSWALE	0.64% 527.4 - 527.0	0.625%	0.53% 540.7 - 540.5	536.	7. 9-534.5	0.48% 535.2 - 534.8	0.58% 523
OVERFLOW WEIR ELEVATION	528	553.4		537.	7 -535.5	535.8	524
THICKNESS OF FILTER MEDIA (INCH)		7 24	24	7		24	24
UNDERDRAIN PIPE ELEVATION STONE UNDERNEATH THE PIPE (INCH)	524.65 - 524.25	550.05-549.85 12	537.94 - 537.7	5 534.15 × × 12	15 - 531 _° 75	532.45 - 532.05	2°0
					× 83 21		
AS-BUILT DATA FOR M	IICRO BIORETENTION (M-6)						VARIES
•TO BE COMPLETED BY	THE CERTIFYING ENGINEER SUBAREA I MICROBIORETENTION **I	SUBAREA 2 MICROB	IORETENTION #2 SUBAREA 3	* *	A 4		
FEATURE	ESIGN		*AS-BUILT DESIGN	*AS-BUILT DESIGN	*AS-BUILT	W 5 ~	3d -
TOTAL LENGTH (FT)	116	89	149	157		Re	
ESDV PROVIDED (CU. FT)	1083	890	1689	1047			
SIDE SLOPE RATIO(S)	1.51 3:1	3;1	3ªl	3:1		PLANTIN	
LONGITUDINAL SLOPE	0.0%	0.0%	0.0%	20°0 270 5		4" BRIDGING LAYER 5	STONE
OVERFLOW WEIR ELEVATION	539.5 539.5	539.5	535.5	232°C		NO. 57 AGGRE	
UNDERDRAIN PIPE DIAMETER THICKNESS OF FILTER MEDIA (INCH)	4	4 24	4	4			
UNDERDRAIN PIPE ELEVATION 5	535.5	535.5	531.5	53		4" SLOTTED	PIPE OR 4" PERFORATED
STONE UNDERNEATH THE PIPE (INCH)	12	12	. 12	12		MESH (4x4)	
Maintenance Sched	ule for Bioswales (M–8) (N)	N.T.C.					TYPICAL SECTION AT BIC
	NCY	Required	Maintenance for Non-Ro	oftop Disconnect (N-	-2)	an survey and	
noval Vant Control	srly or more frequently, if needed v during growing season (Mav-Oct)	AREAS RECEIV	BEF	PROTECTED FROM COMPACTION	8	*	s, S
	dry weather to	tion I. TO MINIMIZE	AND CO	IPMENT	D AREAS		SEE PLAN
	nually		DISCONNECTED RUNDER. SHOULD AREAS RECEIVING DISCONOR ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT,	EAS RECEIVING DISCONNECTED RUNOFF BECOME COMPAC PTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO E NEEDED FOR TIGHT, CLAYEY SOILS.	ACTED, SCARFYING THE SURFACE TO ENSURE PERMEABILITY.	Z" LUPSUIL AND ERUSION CONTROL MATTING ON SIDES AND BOTTOM	
 	ded. Determined	ection Recuired	Maintanar				
Removal of Sediment Yanting As nee	sded. Vetermined by quarterly insp	Regular mow	may be needed to r	om weeds.	•	381	Valy 331 MAX
	ded	When the fil surface of	acity of bed for	stantially (e.g., when top few inches of	water ponds on the discolored material shall	TYPIC	PICAL SECTION AT GRASS
Material Specificat	Material Specifications for Bioswales, Microbioret	ention filter bed w	d shall be replaced w acceptable manner (n the accumulation e:	he removed sediment ment should be remo	d be om the	NOT	TO SCALE
Material Specificati	1 1	Notes					
PLANTINGS SEED MIX: (SEE	SPECIFICATION) N/A	SEE SPECIFICATION	PECTOR A	NO NO	ruction	д м	
25% Virginia V 25% Deer Ton 20% Fox Seda	Vild Rye gue, ¾ Tìoga¾		OF BIOSWALES AND SCHEDULE AN ON-SITE PRE-CONST INSPECTION IS REQUIRED DURING PLACEMENT OF BACKFILL AND IPON FINAL CRADING AND DEPARAMENT STADI 1771001	-SITE PRE-CONSTRUCTION MEETING. NT OF BACKFILL AND UNDERDRAINS,	°,		M
10% Creeping Bent 10% Creeping Bent 15% Autumn Bentgr	e Bentgrass entgrass		TO BEGIN	I STABILIZATION. S-BUILT PLANS.			
	(7)	SOIL TYPE	UT BIOSWALES				
PLANTING SOIL COMPOST (35-4) (2' DEEP) OR SANDY LOAM (3	N/A	SAND OR SANDY LOAM, CLAY CONTENT<5%	4. CONSTRUCT CLOSED STORM DRAIN SYS UPSTREAM AND PROVIDE FINAL STABIL	ORM DRAIN SYSTEM FROM DOWNSTREAM TO			4 ⁿ
			KEA WILHIN THE VENTLY STABIL	THE BIOSWALES SHALL BE			
	WOOD N/A	3" MIN. 4"	5. EXCAVATE FOR THE CONSTRUCTION OF UNDER DRAIN PIPE TO OUTLET. BACKF	CONSTRUCTION OF BIOSWALES. CONSTRUCT TO OUTLET. BACKFILL BIOSWALE AREA			
UNDERDRAIN GRAVEL NO. 57 STONE	N/A	SEE DETAIL FOR DEPTH	ION FOR	REAS.		4"×4" PRESSURE	
	28 OR 4" PERF. SCHEDULE	3%" PERF. AT 6" 0.C." 4 HOLES PER ROW-	6. ENGINEER TO PROVIDE FINAL AS-BUILT	PLANS.		(TYP.)	
ASST U M-ZIA		L OF 3" ES.	vired Mainte	r Grass Swal	(M-8)		
			TO BE PERFORMED BY THE	COUNTY, DEP/	ARTMENT OF RECREATION AND PARK	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
FORMWATER MANAGEMENT	SEQUENCE OF CONSTRU	RUCTION FOR	GRASS HEIGHTS IN THE 4 TO BILLID WITHIN THE ROTTOM	UNING E CHAIT	<i>c</i>		
I NOTIEV INSPECTOR AND ENGINEER 78-	DICKETENTION	••	ORIGINAL WOV HAS BEEN EXCEEDED.	INE GRASS SWALE SHALL	L REMUYEU WHEN 23% OF THE		WIDTH OF BIOSWALE BOT
OF BIORETENTION AND SCHEDULE AN ON INSPECTION IS REQUIRED DURING PLACEM	H-SITE PRE-CONSTRUCTION MEETING.		Ramirad Maintana		(N K)		W + 2
2. ENGINEER TO BEGIN PREPARATION OF	AS-BUILT PLANS.		MICRO-BIORETENTION MAINTENANCE CRITERI	A:			
3. STAKE OUT BIORETENTION.	A TO THE DOORNTANDA CHART DE VIENA		I. THE TOP FEW INCHES OF FILTER MEDIA WATER PONDS FOR MORE THAN 48 HOUR FROM THF SURFACE OF THE FU TER BED	TER MEDIA SHOULD BE REMOVED AND REPL. 48 HOURS. SILTS AND SEDIMENT SHOULD E 1 TER BED WHEN ACCIMINI ATION EXCEEDS O	PLACED WHEN BE REMOVED ONE INCH		. W + 4
STABILIZED, AND TRAP REMOVED.	EA IV THE BIURENTION SHALL BE PERMA	INEN L	RACTICES	T AREAS WITH HIGHER CONCENTRA	TIONS OF HEAVY		
5. EXCAVATE FOR THE CONSTRUCTION OI CONSTRUCT OUTLET WEIR AND STABALIZ PROVIDE FINAL STABILIZATION FOR ALL	F BIORETENTION. ZE. BACKFILL BIORETENTION AREA AS PER DISTURBED AREAS. 6. ENGINEER TO PROVID	.R DETAILS. 1DE FINAL		IG LUIS, KUAUS), MULCH SHOULU BE KEPLACEU ANNUALLY. OIHERWISE, HREE INCHES SHOULD BE REPLACED AS NECESSARY.	LLY. OIHERWISE,		WITH TIMBER
AS-BUILT PLANS.		1	3. OCCASIONAL PRUNING AND REPLACEMENT NECESSARY. IF SPECIFIC PLANTS ARE NOT 3 BE USED. WATERING MAY BE REQUIRED DUR	NT OF DEAD VEGETATION OF DEAD VEGET T SURVIVING, MORE APPROPRIATE SPECIES URING PROLONGED DRY PERIODS.	D VEGETATION IS SPECIES SHOULD		SCALE
Ra	DEVELOPER			Professional Certification:		DES: R.H.	
HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS 7120 OAKI AND MILLS ROAD	HOWARD COUNTY DEPAR OF PUBLIC WORKS 9250 BENDIX ROAD	KIMENT	GREENMAN- PEDERSEN, INC.	uments were p opproved by m		DRN: A.W.W.	
COLUMBIA, MD 21046 ATTN: MR. RAUL DELERME VOICE 410-313-4689	COLUMBIA, MD 21045 ATTN: MR. MARSHALL D/ VOINE AIN-313-5306	Nosdiv	10977 GUILFORD ROAD, ANNAPULIS JUNCI IUM, MU. CU WASH. (301) 470-2772 BALT. (410) 880-3055 FAXs (301) 490-2649 WWW.GDInet.com	oral am a duly licensed professional engineer under the laws of the state of Maryland license No. 33310 Evalentico Dute.		CHK: M.S.Z.	
VULE 410-313-4689 FAX 410-313-4646	FAX 410-313-5306			0, Expiration D 02/2014	Top ONAL EVEN	DATE: May, 2012 BY NO	REVISION
LY 2005 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2)4_alpha.dgn						

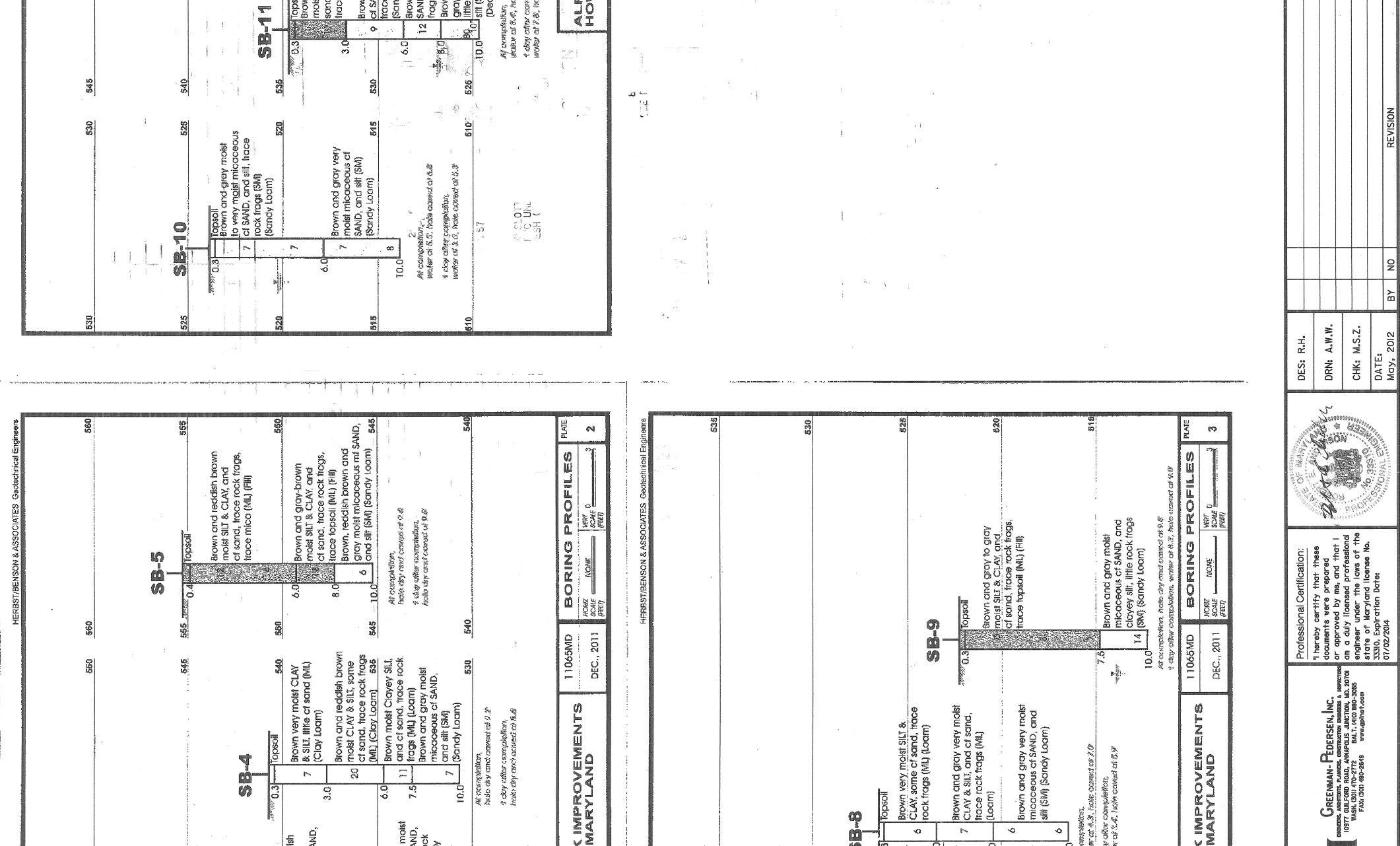
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OWNER:

SHEET 19 OF 38 SCALE AS SHOWN 200 20 Under State Division ~ 7 DATE / 13 2/25/13 DATE 90-18 Z R WW DATE 2 DAT 2/15/13 DATE DATE S. SEWEF lef. CHIEF, TRANSPORTATION & SPECIAL PROJECTS APPROVED: DEPARTMENT OF PLANNING AND ZONING RECREATION AND PARK DATE PLAN SDP ADDITIONS DESIGN 3rd Election District, Tax MAP 10 GRID#20,21, PARCELS 23 & 54 2 AND PRIVATE 8 PARK DEVELOPMENT Kedellow Uwelly CHIEF-DIVISION OF LAND DEVELOPMENT PUBLIC Channel Rudle APPROVED: FOR PUBLIC WATER A Z DIRECTOR Ч О RIDGE Ч. WORKS APPROVED DEPARTMENT (APPROVED: DEPARTMENT 540 ŝ 30 4 BORING PROFILES SITE ALPHA Dark brown and gray moist micaceous of SAND, some sill, trace rock frags (SM) (Sandy Loam) Brown, tan and gray molst to damp cf SAND, some rock frags, some sill, trace mica (SM) (Sandy Loam) ddish brown moist cf VD, and silt, frace rock <u>3s, trace mica (SM)</u> ndy Loam) VERT D SCALE D CHIEF REVISED Art encorrepolations, besides why cannot currened ext 9.44 NONE frags, sc (SM) (Sa ģ i day ofer comple hole dry crist come SB-13 202 NORIZ SCALE FEET រុក្ខ : ç · 5 vo ... DEC., 2011 11065MD 10.01 0.3 6.0 0 Logs Brown and gray-brown molst SILT & CLAY, and cf sand, trace rock frags (ML) (Loam) Brown very moist SILT & CLAY, some cf sand, trace rock frags (ML) (Loam) brown and gray molst to very molst micaceou cf SAND, some to and siit, frace rock frags (SM) (Sandy Loam) ALPHA RIDGE PARK IMPROVEMENTS HOWARD COUNTY, MARYLAND k rikov kitoer cronapolertican, 14eokse ert B.-V., herder cronaech sal B. Z Soil Boring ent en 9.60 Alt excertion while? Presta wheel ear red carav SB-12 <u>¢</u> () } . 643 <u>`</u> •• 0.0 0.3 ŝ di. Brown and gray-brown moist SILT & CLAY, and a sand, trace rock frags, trace mica (ML) (Fill) Brown moist miaceous of SAND, and clayey silt, trace rock frags (SM) (Sandy Loam) Brown and gray molst of SAND, and silt, trace rock frags (SM) (Sandy Loam) Brown, gray and light gray damp of SAND, silt (SM) (Sandy Loam) tittle rock frags, little ittle rock frags, little (Decomposed Rock) ides curvent cut A.A uryskykkui. Inde conent of 7.9



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SB-2 SB-2 structure Dopsoil 11 15 12 Brown and gray molst miccoceous slitt, and miccoceous slitt, and molst of sand multi toam) 11 15 12 Brown and gray molst miccoceous slitt, and molst of sand multi toam) 13 15 14 Brown and gray molst miccoceous slitt, and molst of sand multi toam) 15 1000 16 10.0 17 Brown and gray molst molst miccoceous slitt, molst miccoceous slitt, miccoreous slitt, miccoceous slitt, miccoreous	Bit Bit Bit Bit Bit S. LM. and S. Bit S. LM. and S. De model (R) S. LM. and S. Bit S. LM. and S. De model (R) S. LM. and S. Bit Bit De model (R) S. LM. and S. Bit Bit De model (R) S. LM. and S. Bit Bit De model (R) S. LM. and S. Bit Bit Statistical (R) D. L. Bit Bit Statistical (R) D. L. Bit Bit Statistical (R) D. L. Bit Bit Statistical (R) D. D. Bit Bit Statistical (R) D. D. Bit Bit Statistical (R) Bit Bit	
F44 Stut, and of sand (ML) 640 3.0 640 3.0 640 3.0 640 3.0 640 3.0 7 Brown, ian and gray 6 10.0 7 Brown, ian and gray 8 Moist micaceous Sitr, and of sand (ML) 6.0 7 7 Brown and light gray 7 Brown and light gray 8 Moist micaceous of RML) 6.0 7 7 Brown and light gray 10.0 9 9 Decomposed Rack 7 Cray after carrysteries 9 Arter carrysteries	SB-6 SD-6 536 Brown and reddish brown Brown and reddish brown and gray frace mica (MJ, Fill) and frace mica (MJ, Fill) frace mica (MJ, Fill) and frace mica (MJ, Fill) frace frace frace frace frace (Fill) frace frace frace frace frace frace (Fill) frace fr	HOWARD COUNTY DEPARTMENT

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FILL DE CALLAND ALLE AN INGRA OC RECREATION AND PARKS 7120 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. RAUL DELERME VOICE 410-313-4646 FAX 410-313-4646

F PUBLIC WORLS S250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. MARSHALL DAVIDSON VOICE 410-313-5306 FAX 410-313-6144

	LENGTH		31 LF 31 LF "7 LF	2 LF 8 LF	8.7 LF 17 LF 1.2 LF	35 LF 30 LF 31 LF	2 LF 2 LF	2,57 LF - 7 LF	г — — — — — — — — — — — — — — — — — — —	64 LF 84 LF 135 LF 108 LF 45 LF						3KS	DATE	2/12/2013 TE 22 0000	L13	μ	DATE
	YPE CI IV	5 C C C	RCP CL 111 27.7 RCP CL 111 181 RCP CL 111 27.7	PVC PVC	PVC PVC	PVC PVC	PVC PVC	PVC PVC		PERF. PVC 8 SOLID PVC 13 PERF. PVC 12 PERF. PVC 12 SOLID PVC 4						RECREATION AND PARKS	AND PRIVATE	A A A A A A A A A A A A A A A A A A A	PUBLIC WORKS	2/15/13	DEPARTMENT OF PLANNING AND ZONING
	SIZE	1 1 1 1 1 3 1	ំ រឿ រឿ ខ្	4 4 4	"4 4 " 4	4 4 4 1	444	- 4 4 4	* * * *	4 4 4 4 • • • • •		LENGTH	3.6′ 8.5′ 3.1′			OF	PUBLIC WATER	3	WORKS	Bull	ATION & SF
DULE	TO 12A	M2A M1A	MZA MZA MZA	M3A 	OUTFALL	OUTFALL	OUTFALL	OUTFALL		UU IFALL OUTFALL OUTFALL		TOTAL	1053.6′ 1080.5′ 208.7′ 188.1′ 64′			DEPARTMENT	C FOR PUE	len for	CD: DEPARTMENT	REAU OF	TRANSPORTA
PIPE SCHEDULE	FROM 11A	2A 12A		TION #1 TION #1 TION #2	110N #2 110N #3 110N #3	FION #4 FION #4 #1	2 C 1 * * *	1 m m z	ŧ # # # 4 4 Ю Π	09977 #####	SUMMARY	ТҮРЕ	SOLID PVC PERFORATED PVC RCP CL. III RCP CL. IV RCP CL. IV			APPROVED	DIRECTOR APPROVED: FOR	SYSTEMS,	APPROVED: DE DIRECTOR OF	CHIEF-BU	CHIEF, TRA
				MICROBIOR	MICROBIORI MICROBIORI MICROBIORI	MICROBIOR	BIOSW BIOSW BIOSW	BIOSW	MSOIA MSOIA	BIOSWALE BIOSWALE BIOSWALE BIOSWALE BIOSWALE	PIPE SUA	DIA. (IN.)	15" 18" 18"				•.		·		
	COORDINATE NORTHING/EASTING	N 6Ø2,274.Ø2 E 1,335,77Ø.17	N 6Ø2,271.19 E 1,335,788.9Ø	N 6Ø2,127.81 E 1,335,965.52	N 602,101.40 E 1,335,758.19	N 6Ø2,Ø26.18 E 1,335,774.56	N 602,093.86 E 1,335,784.68	N 602,275.94 E 1,335,705.81	N 6Ø1,991.25 (AT END) E 1,335,786.88												
	STD. DETAIL*	D-4.22	D-4.22	D-4.22	D-4.22	65.12	65.12	G5 _° 14	D-5.51					· .			жи ,				
	-EV. ERLINE	Ø	20	20	20	<u>D</u>		<u> </u>													

				etereter,						·																		
	15.1 LF	173 LF	64 LF	29 LF	181 LF	27.7 LF	7 LF	113 LF	88 LF	260.7 LF	147 LF	55°2 LF	155 LF	200 LF	61 LF	21 LF	62 LF	46 LF	35.5 LF	55°7 LF	81 LF		84 LF	89 LF	84 LF	135 LF	108 LF	45 LF
	RCP CL IV	С	RCP CL IV	RCP CL 111	RCP CL 111	RCP CL 111	SOLID PVC	PERF. PVC	PERF. PVC	SOLID PVC	PERF. PVC	SOLID PVC	PERF. PVC	SOLID PVC	PERF. PVC	SOLID PVC	PERF. PVS	SOLID PVC	PERF. PVC	SOLID PVC								
V111	15"	15"	18"	18"	15	15"	4	4"	4"	4"	4"	4"	4ª	4"	4"	4	4"	4	4	4	4"	4	4	4	4	4"	4	4
>	IZA	M2A	MIA	SIA	M2A	M2A	M3A			OUTFALL		OUTFALL	1	OUTFALL		OUTFALL		OUTFALL	1	OUTFALL		OUTFALL	1	OUTFALL	-	OUTFALL	4000 1000 MM	OUTFALL
	11A	IZA	M2A	M1A	I3A	I4A	CROBIORETENTION #1	CROBIORETENTION #1	ROBIORETENTION #2	ROBIORETENTION #2	ROBIORETENTION #3	CROBIORETENTION #3	COBIORETENTION #4	ROBIORETENTION #4	BIOSWALE #1	BIOSWALE #1	BIOSWALE #2	BIOSWALE #2	BIOSWALE #3	BIOSWALE #3	BIOSWALE #4	BIOSWALE #4	BIOSWALE #5	BIOSWALE #5	BIOSWALE #6	BIOSWALE *6	BIOSWALE #7	BIOSWALE #7

SITE ALPHA REVISED

ADDITIONS DESIGN ELECTION DISTRICT, TAX MAP RID*20,21, PARCELS 23 & 54 DEVELOPMENT RIDGE 3rd ELECTION GRID#20,21,

> Details Storm

> > DATE

DATE: May, 2012

90-18

SDP

SHEET 20 OF 38

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AS SHOWN

PARK

SCALE:

PLAN

25/13

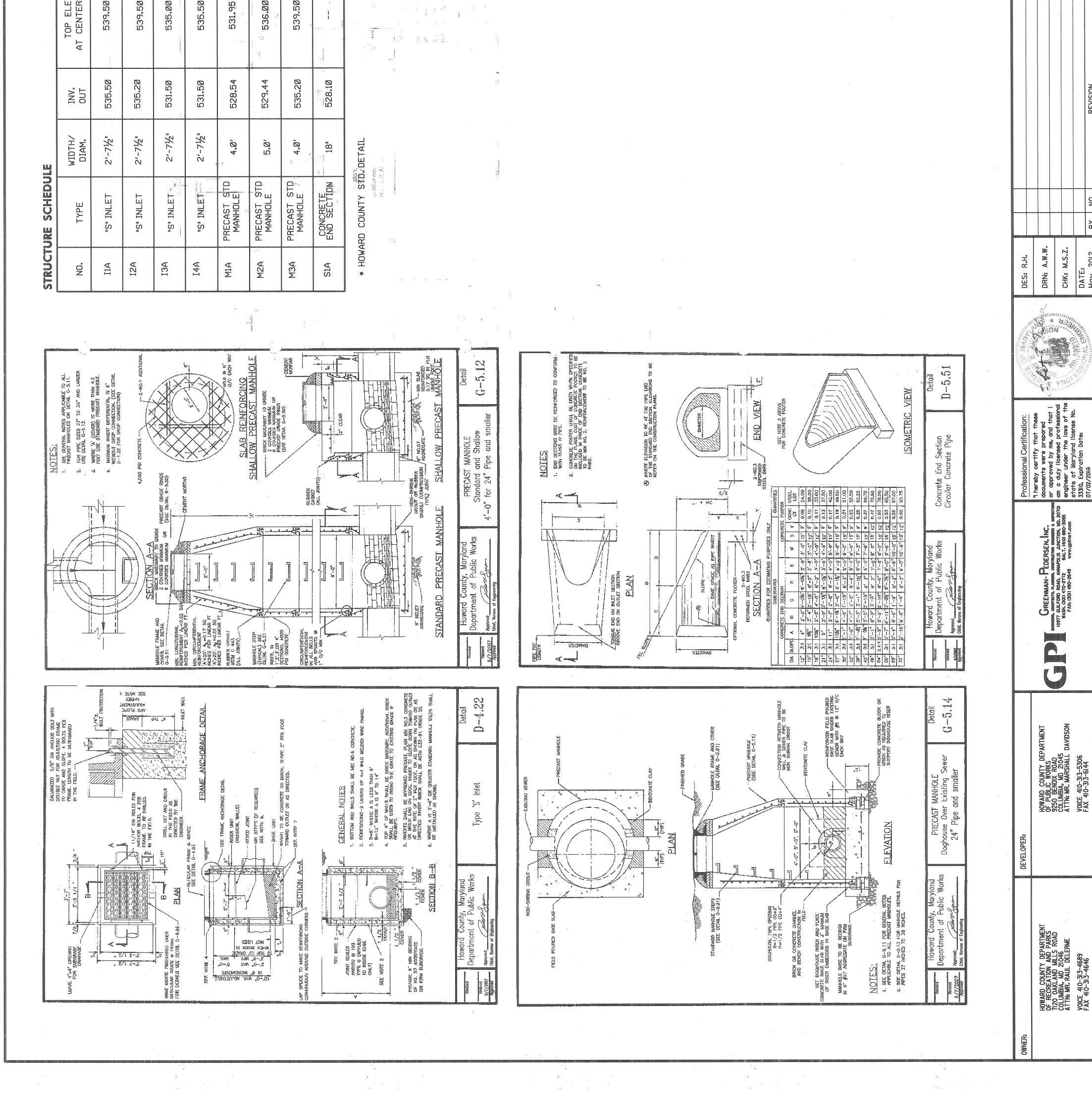
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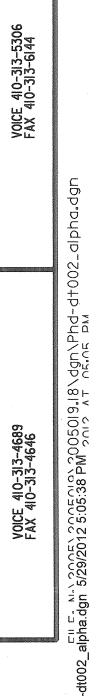
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DIRECTOR

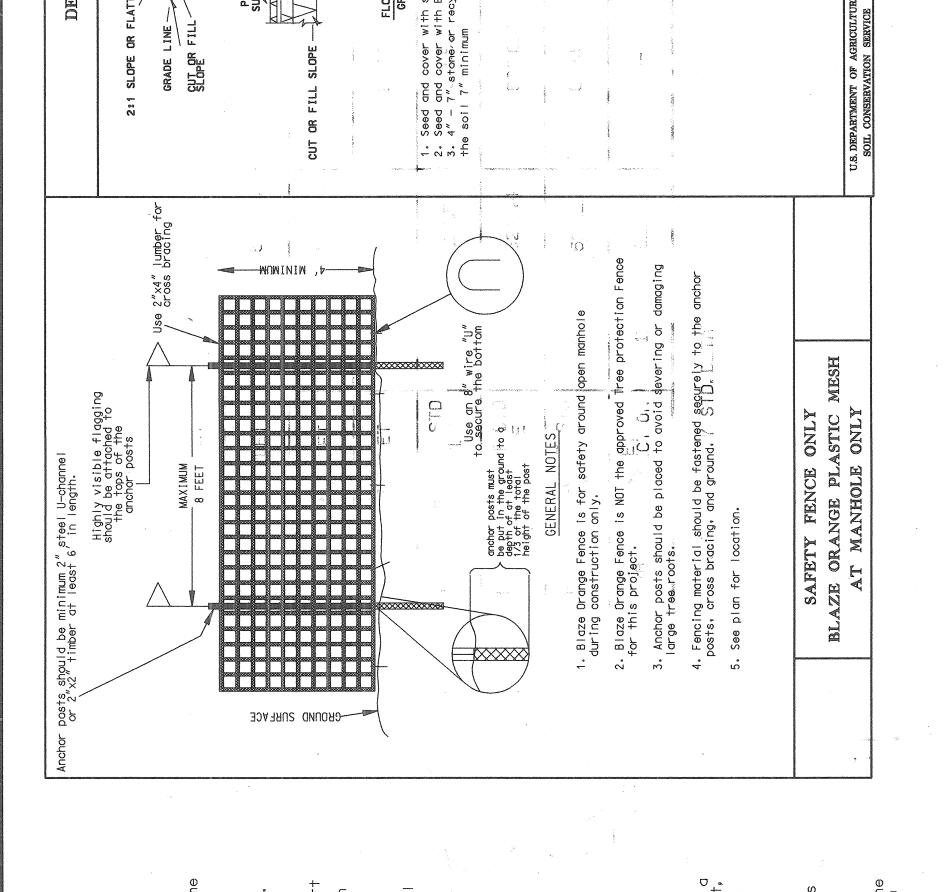
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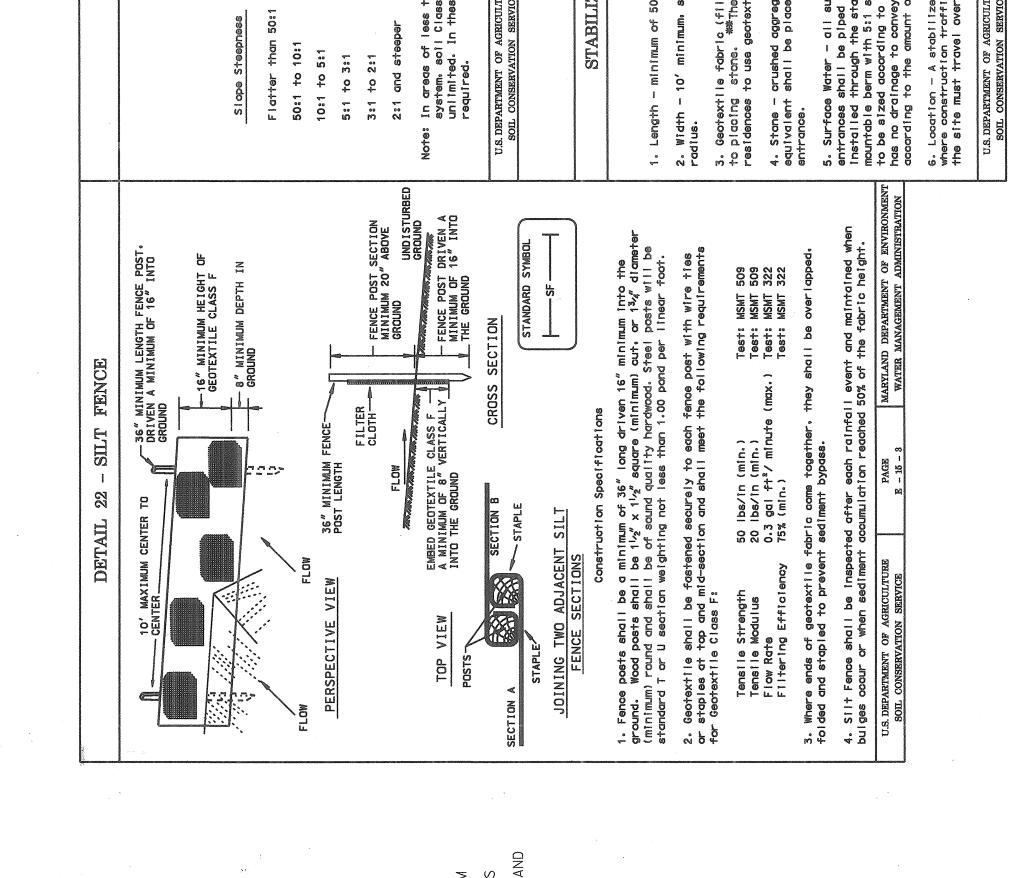
Ketter-Division of LAND DEVELOPMENT P

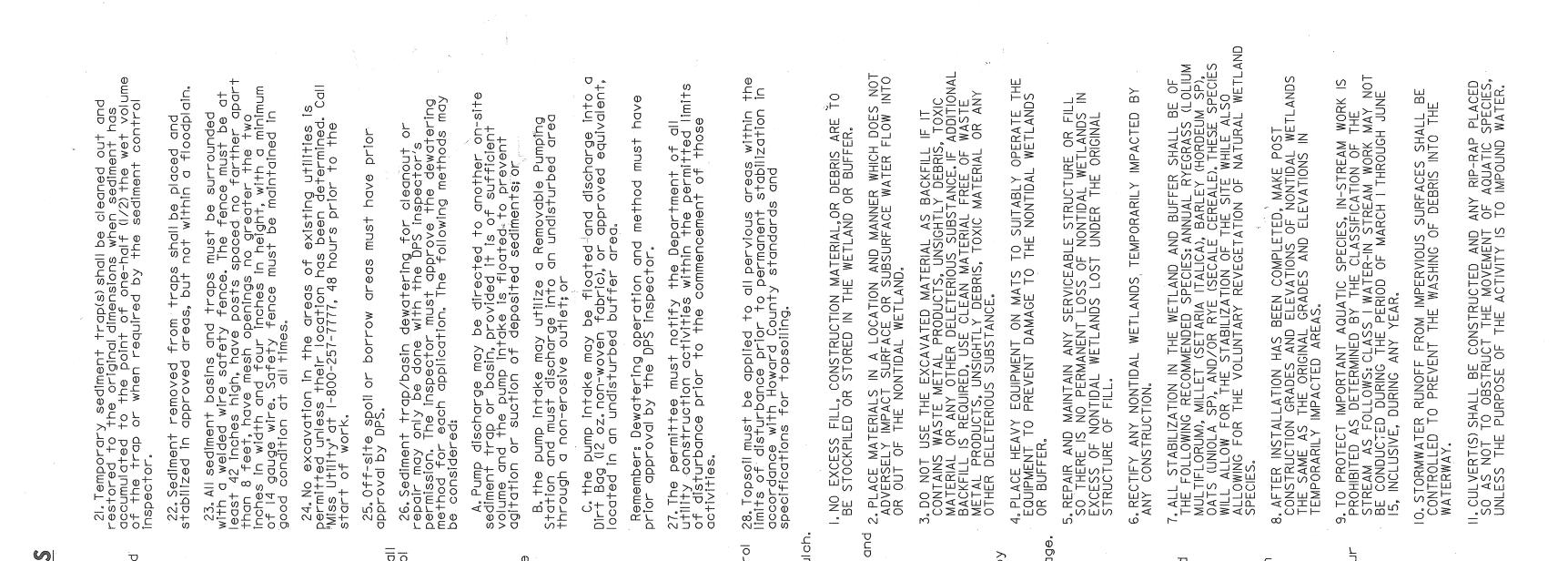




ARTI IZED CONSTRIICTION ENTRANCE	MUM 6" OF 2"-3" AGGREGATE LENGTH AND WIDTH OF CTURE CTURE CTURE CTURE CTURE E CTURE	\mathbf{r} ft to be conveyed. \mathbf{A} \mathbf{n} <						CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	APPROVED: DEPARTMENT OF BECREATION AND PARKS	APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS BY ADD ATE A MOUNT OF PUBLIC WORKS		Monder Rules 2/15/13 CHIEF-BUREAU OF LENGINEERING DATE	CHIEF, TRANSPORTATION & SPECIAL PROJECTS DATE APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF-DEVELOPMENT FNGINFFRING DIVISION OF DATE	Kether Durling 2/25/13 CHIEF-DIVISION OF LAND DEVELOPMENT P DATE	mand m- augue yests DIRECTOR DATE	VISED SITE DEVELOPMENT PLAN SCALE: ALPHA RIDGE PARK ALPHA RIDGE PARK ADDITIONS DESIGN ADDITIONS DESIGN GRID#20,21, PARCELS 23 & 54 54 10 21 0F 38	SDP 90-18
DETATI 91 - ST	ATTER ATTER ATTER ATTER ATTER ATTER ATTER Excendent of provide from with the angle of the a	TMENT OF ENVIRONMENT	NCE	Ign Criteria	(Maximum) Silt Fence Length	1.000 feet 750 feet Foo foot	250 feet 125 feet	may be the only perimeter control Maryland DEParimeter control	FUTTRANCE		over the existing ground y not require single fami	ecialmed or recycled concrete wer the length and width of the to or diverted toward construction	<pre>o. maintaining positive drainage. Pipe n entrance shall be protected with a of 6" of stone over the pipe. Pipe has the SCE is located at a high spot and necessary. Pipe should be sized yed. A 6" minimum will be required. moe shall be located at every point in construction site. Vehicles leaving of the stabilized construction entrance.</pre>) DEPARTMENT MANAGEMENT		and Sediment Details Sheet 1	







				NO						
B										
DES: R.H.	DRN: A.W.W.	CHK: M.S.Z.	DATE:	May, 2012						
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CREENMAN-PEDERSEN, INC. ToullEond Real Period Contraction: ToullEond Roady and that these documents were prepared or approved by me, and that I and state of approved by me, and that I and state. ToullEond Roady Annapolis Junction, MD. 20701 Mash. (301) 490-2649 WWW.gpinet.com 33310, Expiration Date: 07/02/2014										
	Greenman-Pedersen, Inc.	ERS, ARCHTERTS, PLANERS, CONSTRUCTION ENGNEERS & NEPECTORS 77 GUILFORD ROAD, ANNAPOLIS, JUNCTION, MD, 20701 WASH, (301) 470-2772 BALT, (410) 880-3055 E AX, (371) 400-2549 WWW ANNAPA ANN								

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HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. MARSHALL DAVIDSON

HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS 7120 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. RAUL DELERME

DEVELOPER:

OWNER:

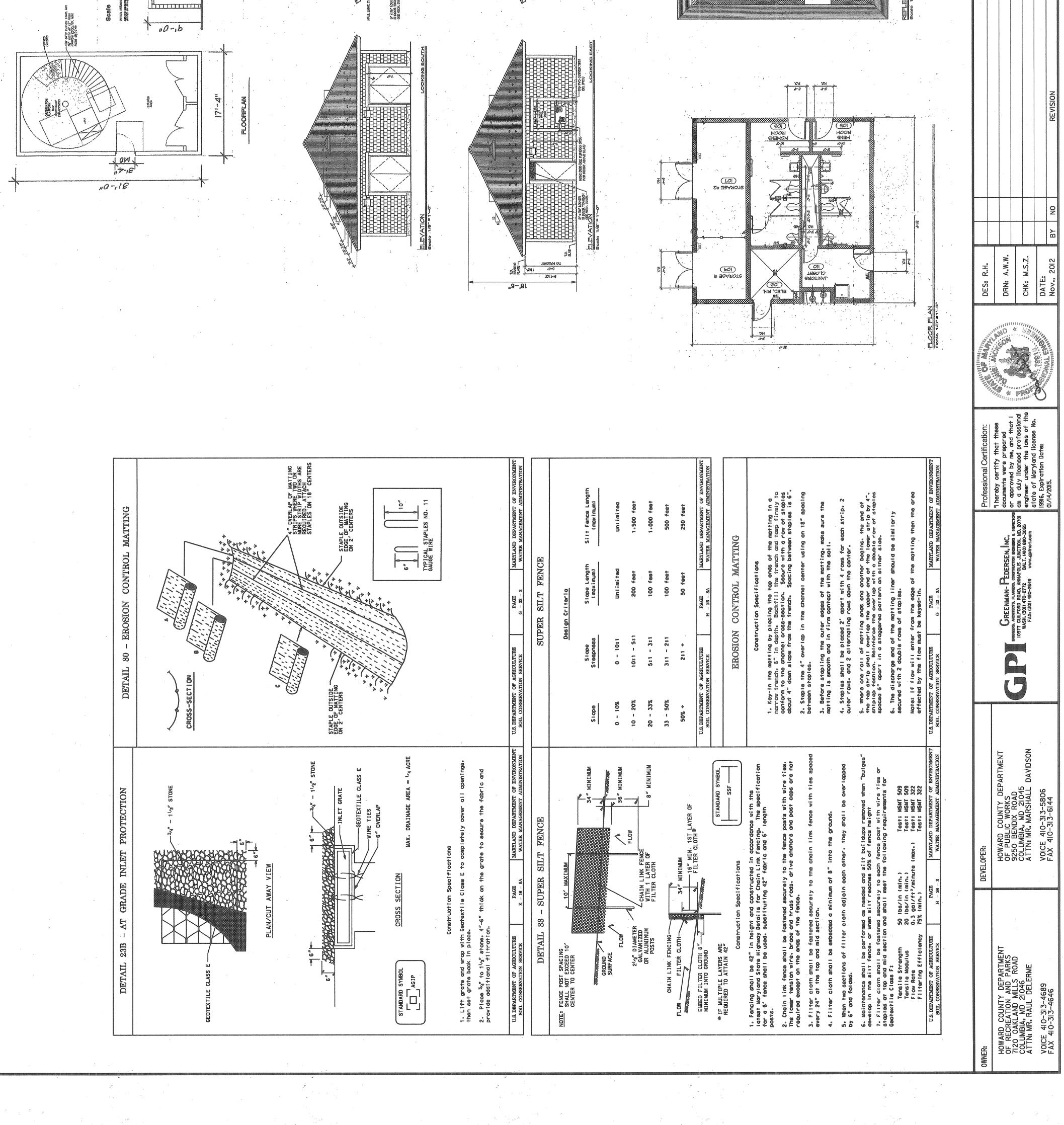
VOICE 410-313-5306 FAX 410-313-6144

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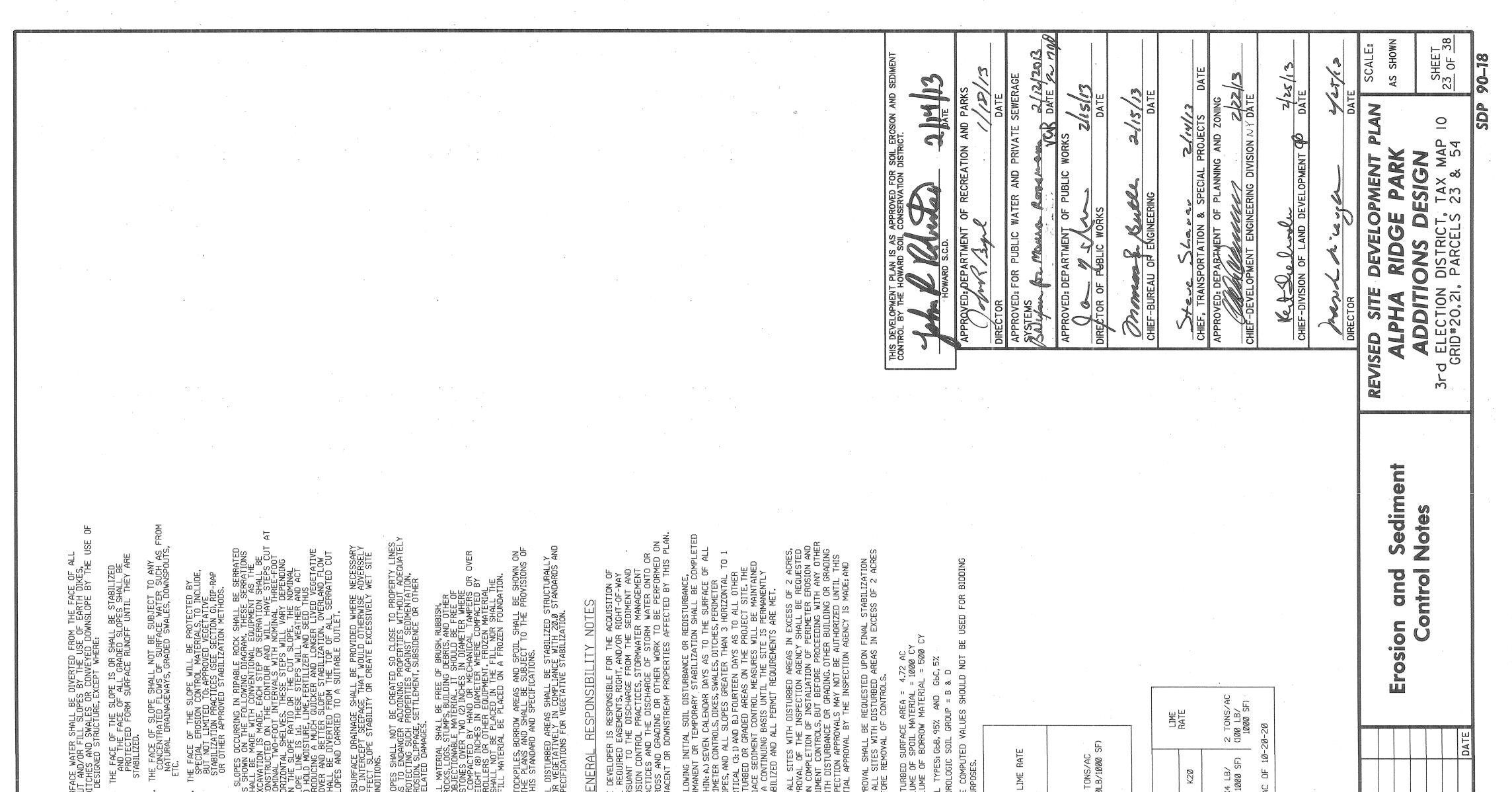
REVISION

Remember: Dewater prior approval by tl 8. Prior to removal of sediment control measures, the permittee shall stabilize all contributory disturbed areas with required soil amendments and topsoil, using sod or an approved permanent seed mixture and an approved anchored mulch. Wood fiber mulch may only be used in seeding season when the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized within fourteen (14) calendar days of establishment. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, an approved temporary seed and straw anchored mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be completed prior to the 10. Surface drainage flows over unstabilized cut and fill slopes shall be controlled by either preventing drainage flows from traversing the slopes or by installing mechanical devices to lower the water down slope without causing erosion. Dikes shall be installed and maintained at the top of cut or fill slopes until the slope and drainage area to it are fully stabilized, at which time they must be removed and final grading done to promote sheet flow drainage. Mechanical devices must be provided at points of concentrated flow where erosion is likely to occur. 7. The permittee shall apply sod, seed, and anchored straw mulch, or other approved stabilization measures to all disturbed areas within fourteen (14) calendar days after stripping and grading activities have ceased on that area. Maintenance shall be performed as necessary to ensure continued stabilization. Active construction areas, such as borrow or stockpile areas, roadway improvements, and areas within fifty (50) feet of a building under construction may be exempt from this requirement, provided that erosion and sediment control measures are installed and maintained to protect those areas. 3. The permittee shall construct all erosion and sediment control measures per the approved plan and construction sequence, shall have them inspected and approved by the Department prior to beginning any other land disturbances, shall ensure that all runoff from disturbed areas is directed to the sediment control devices, and shall not remove any erosion or sediment control measure without prior permission from the Department. 15. For finished grading, the permittee shall provide adequate gradients so as to prevent water from standing on the surface of lawns more than twenty-four (24) hours after the end of a rainfall, except in designated drainage courses and swale flow areas, which may drain as long as forty-eight (48) hours after the end of a rainfall. SEDIMENT CONTROL NOTES I. The permittee shall notify the Department of Permitting Services (DPS) forty-eight (48) hours before commencing any land disturbing activity and, unless waived by the Department, shall be required to hold a pre-construction meeting between them or their representative, their engineer and an authorized representative of the Department. 5. The permittee shall inspect periodically and maintain continuously in effective operating condition, all erosion and sediment control measures until such times as they are removed with prior permission from the Department. The permittee is responsible for immediately repairing or replacing any sediment control measures which have been damaged or removed by the permittee or any other person. converted 4. The permittee shall protect all points of construction ingress and egress to prevent the deposition of materials onto traversed public thoroughfare(s). All materials deposited onto public thoroughfare(s) shall be removed immediately. 12. Temporary sediment control devices shall be removed, with permission of the Department, within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converte to the permanent configuration within this time period as well. 13. No permanent cut or fill slope with a gradient steeper than 3:1 will be permitted in lawn maintenance areas or on residential lots. A slope gradient of up to 2:1 will be permitted in non-maintenance areas provided that those areas are indicated on the erosion and sediment control plan with a low-maintenance ground cover specified for permanent stabilization. Slope gradient steeper tha 2:1 will not be permitted with vegetative stabilization. 6. All sediment basins, trap embankments, perimeter dikes, and all disturbed slopes steeper or equal to 3: shall be stabilized with sod, seed, and anchored straw mulch, or other approved stabilization measures, within seven (7) calendar days of establishment. All areas disturbed outside of the perimeter sediment control system must be minimized and stabilized immediately. Maintenance must be performed as necessary to ensure continued stabilization. 19. All trap elevations are relative to the outlet elevation, which must be on existing undisturbed ground. 16. Sediment traps or basins are not permitted within 20 feet of a building which is existing or under construction. No building may be constructed within 20 feet of a sediment trap or basin. C.During the installation of a sediment basin or stormwater management structure at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction is mandatory. II. Permanent swales or other points of concentrated water flow shall be stabilized within 7 calendar days of establishment with sod or seed with an approved erosion control matting or by other approved stabilization measures. B. Following installation of sediment control measures and prior to any other and disturbing activity. 14. The permittee shall install a splashblock at the bottom of each downspout unless the downspout is connected by a drain line to an acceptable outlet. 2. The permittee must obtain inspection and approval by DPS at the following points: 17. All inlets in non-sump areas shall have asphalt berms installed at the time of base paving establishment. 9. The site permit, work, materials, approved SC/SM plans, and test reports shall be available at the site for inspection by duly authorized officials of Montgomery County. D. Prior to removal or modification of any sediment control structure(s). E. Prior to final acceptance. 18. The sediment control inspector has the option of requiring additional sediment control measures, as deemed necessary. 20. Vegetative stabilization shall be performed in accordance with the Standards and Specifications for Soil Erosion and Sediment Control. A. At the required pre-construction meeting. AND EROSION STANDARD 2008 |Augus†

SHEET 22 OF 38 900 AS SHOWN Z/ZZ/IJ 90-18 HOY DATE 2013 THIS DEVELOPMENT PLAN IS AS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. 2)22 L - 1.01CUHIC DATE elistis Detail details. CHIEF, TRANSPORTATION & SPECIAL PROJECTS DA APPROVED: DEPARTMENT OF PLANNING AND ZONING APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF-DEVELOPMENT ENGINEERING DIVISION NY DATE 2/15/13 DATE LANDSCAPING APPROVED, DEPARTMENT OF RECREATION AND PARKS DATI purposes; See PLAN SDP 0 -- PRUNE OUT ALL DEAD, BROKEN, RUBBING OR CROSSING BRANCHES, RETAR NOTIVIL, TREE FORM DIRECTOR APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS FOLD DOWN OR CUTOFF TOP HAL 1/3 of Root Ball Herht Sha enove states after 1 year DEVELOPMENT OP PUBLIC WORKS j. **ADDITIONS DESIGN** 3rd ELECTION DISTRICT, TAX MAP GRID#20,21, PARCELS 23 & 54 sping General Notes DEVELOPMENT RIDGE PARK BAJCHER FR. MCMAR ROTA MAR COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT HULLAN CEPT architectural drawings f construction notes and r.u.gu TO ALL Ommes & Kulle CHIEF-BUREAU OF ENGINEERING 50 drivied soft shaft be used. Not be used. Omly roof height details for compacted soll or poorly shar root collar height for plants for plantic in well-driving soll shal AAPLICABLE Ketz Lund prine to remove broken, dejo and danaged brances. On trees dominant lenders, remove coupeting secondary lenders. All, prun simil de as approved ey the enginer. APPROVED: DEPARTMENT PUBLIC For illustration ENI - A A A A A Howard County, Maryland Department of Public Works TA AL OF OF SITE CHIEF-DEVEL (NOTES ALPHA DIRECTOR RENCYE CONPETING SECONDARY LEADER BRANCH (ES) -----HIDER AROUND TREE ACANE **DIRE**(REVISED do not place rulich a thee trunk or plant s GENERAL DETAILS. NRAP D TREE) Note: Sediment Sheet Two 8rd 132 10" HVCOKEL .8r81 CITE PERSON 0.0 Dans: ALL Dans: ALL Date: 10-161: ALPHA RIDGE PARK HOVARD COUNTY MARILA 0 0 Erosion and Control Details (108) KOOM MOMENE Q.J. 000 TORY BUILDING NEW WERE 0 # 3949018 CEITING SVIED BVIED B-255 NT NOTIA JUER TTAB 05-8 VIEW LOOKING WEST U X 39' LOWER N DOOR TRANSOM SEE NECH, DNES. 0 8 0 - m - pp 1210 en en en excer ų A CEITING KVLED INS B-235 0T ELEVATION ELEVATION -1-0 סרגע אמנו על אליער אויד איז גע אליערא DATE 0000 ED C Logo Logo Logo



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TOPSOIL

VII. COMPOSTED SLUDGE SH AT THE RATE OF 4 L APPLICATION RATE.

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

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION. CONDITIONS WHERE PRACTICE APPLIES I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS. ഫ്

C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH. D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

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FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS. CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE PLANS. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT 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 SOIL SURVEY PUBLISHED BY THE USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

ll.

TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING. I. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1+" IN DIAMETER.

II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

III. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

11.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES: I. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE

IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME
AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING: STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.

TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED. B. ORGANIC CONTENT OF TOPSOIL SHALL NOT BE LESS THAN 1.5 PERCENT BY WEIGHT. പ്

D. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

III.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL. II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION
 I. WHEN TOP SOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

IV.

GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION. 11.

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

TOPSOIL SHALL NOT BE PLACED WHILE 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. IV,

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW: I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.

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B. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOROUS, AND Ø.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
C. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SF.

VII.

DRN: A.W.W.

M.S.Z.

CHK:

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HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. MARSHALL DAVIDSON

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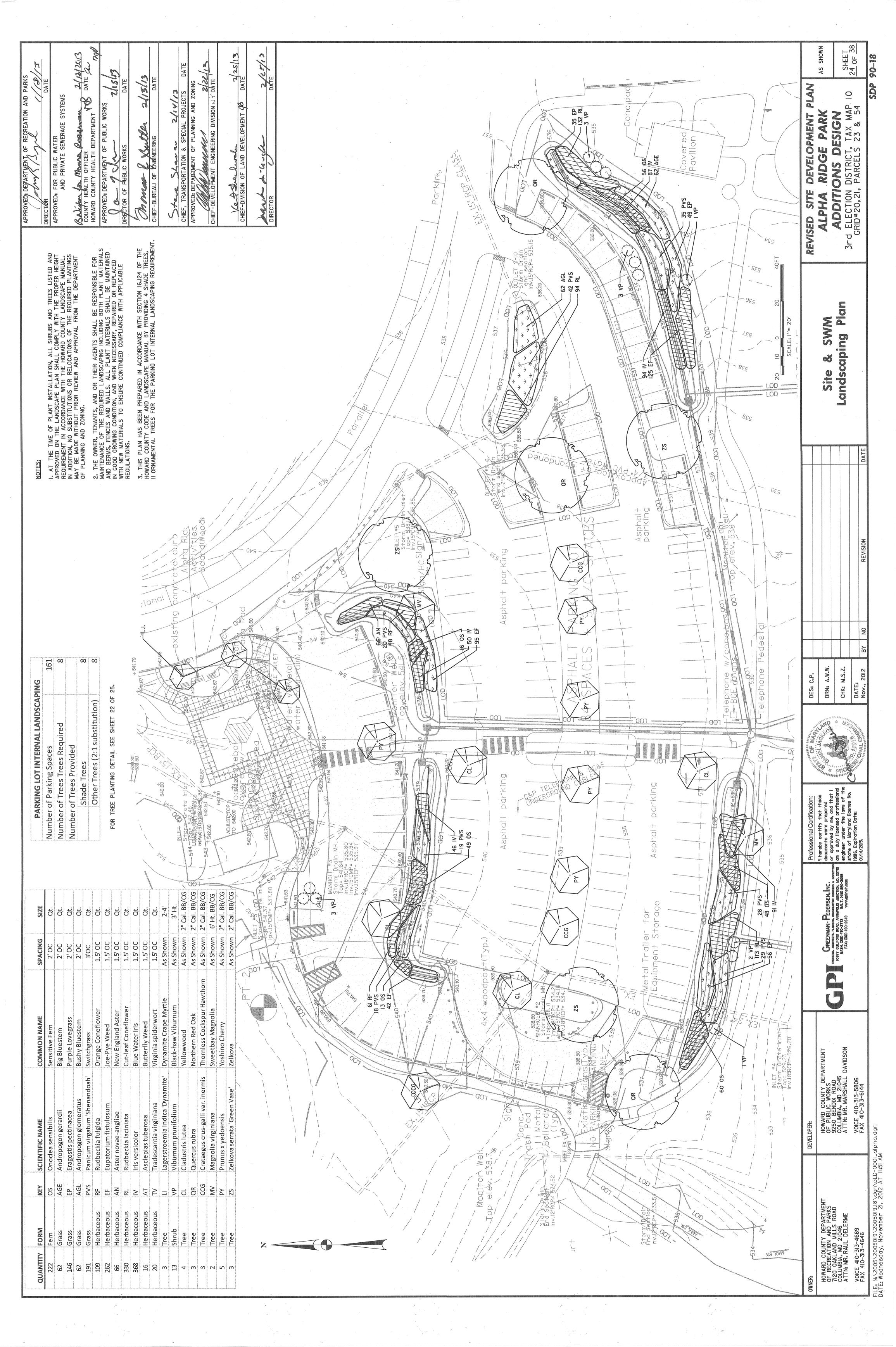
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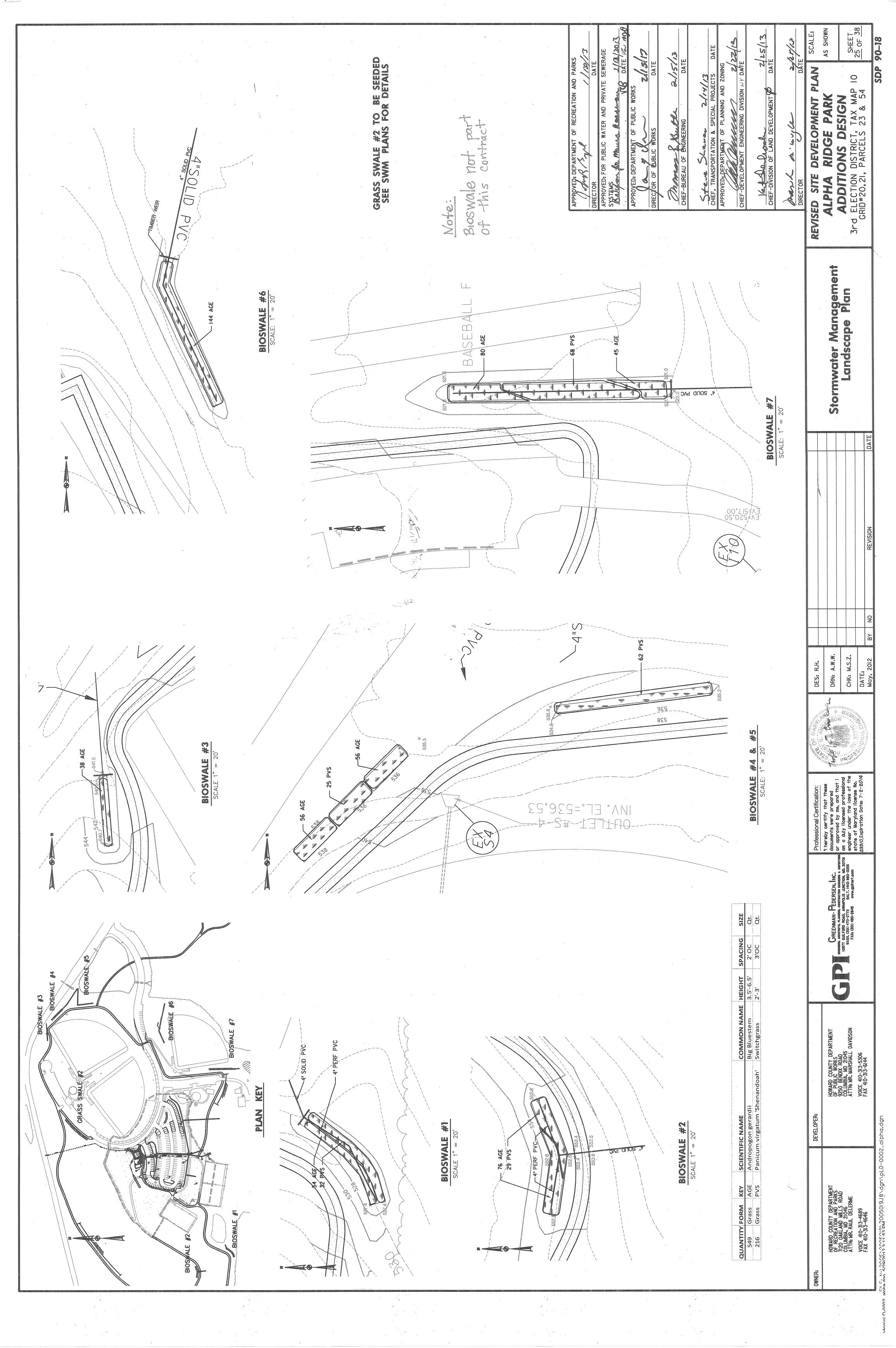
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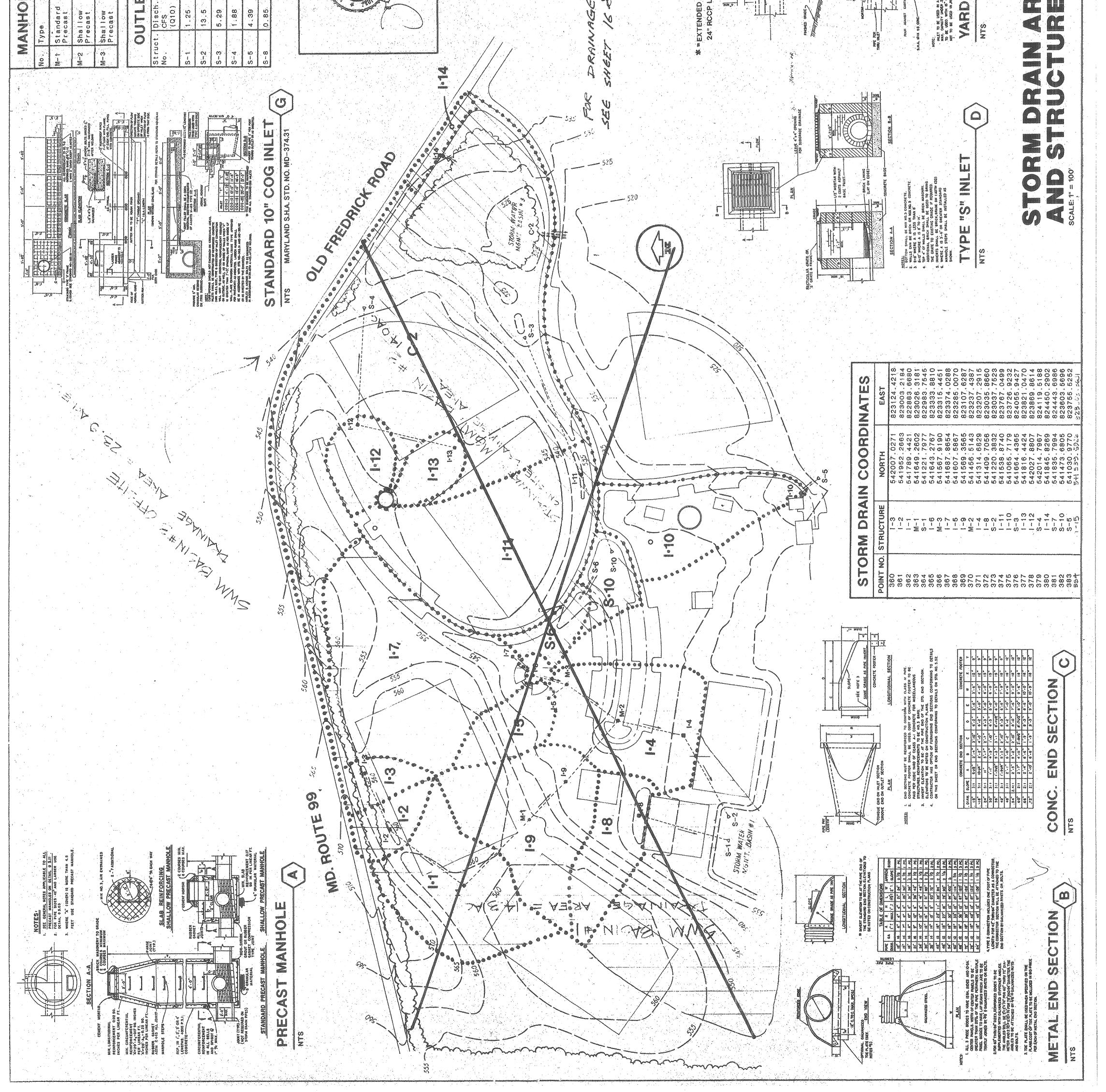


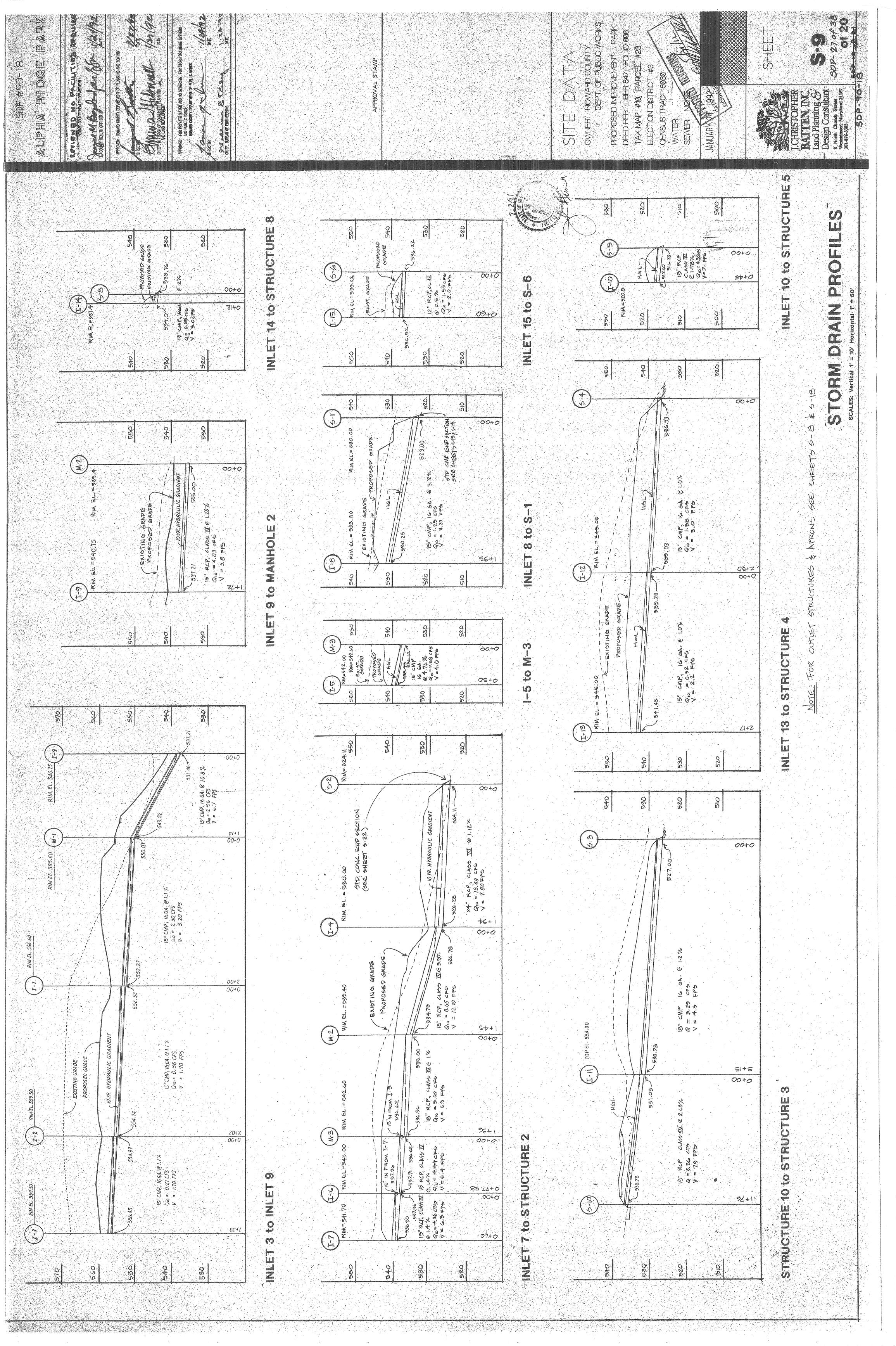


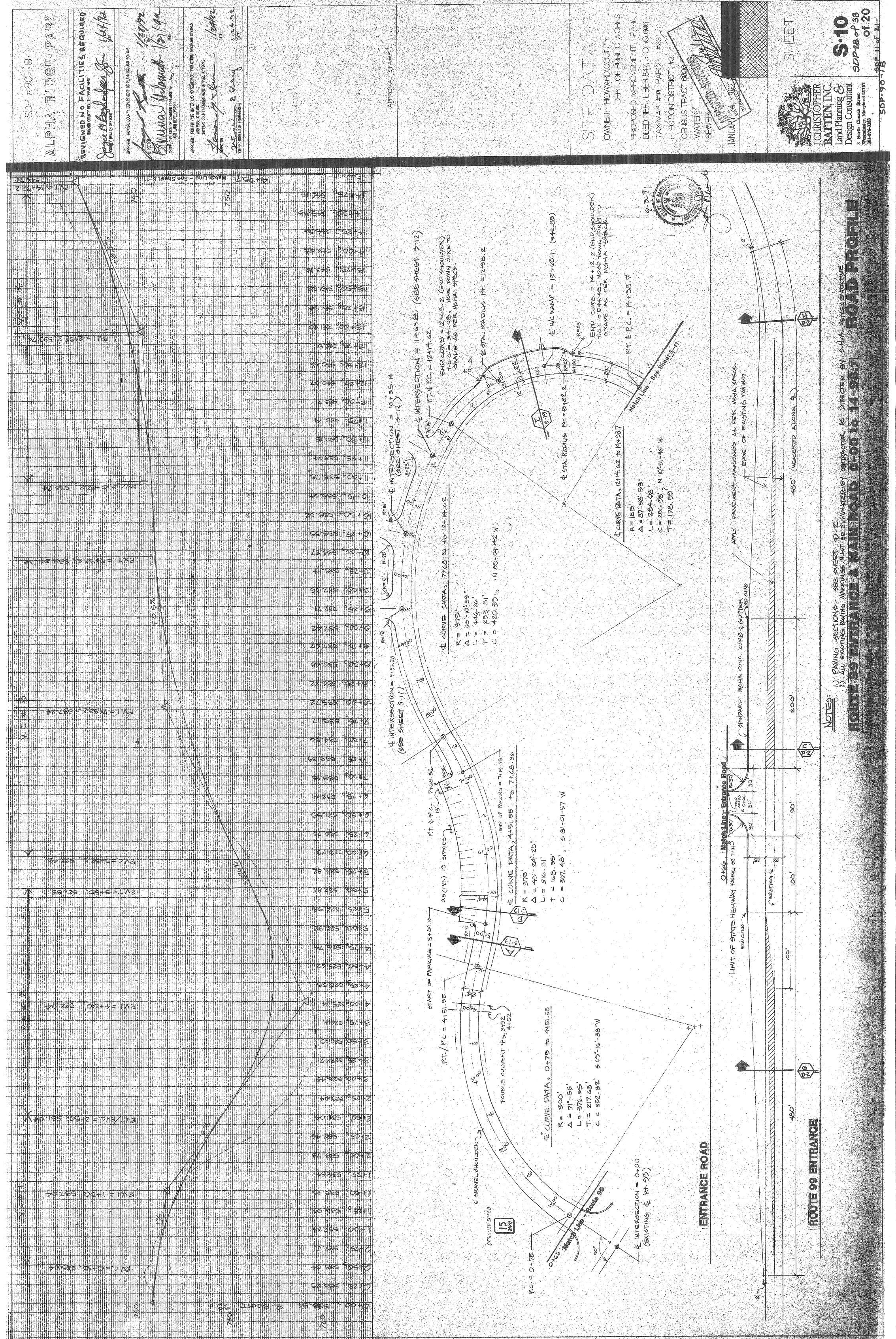
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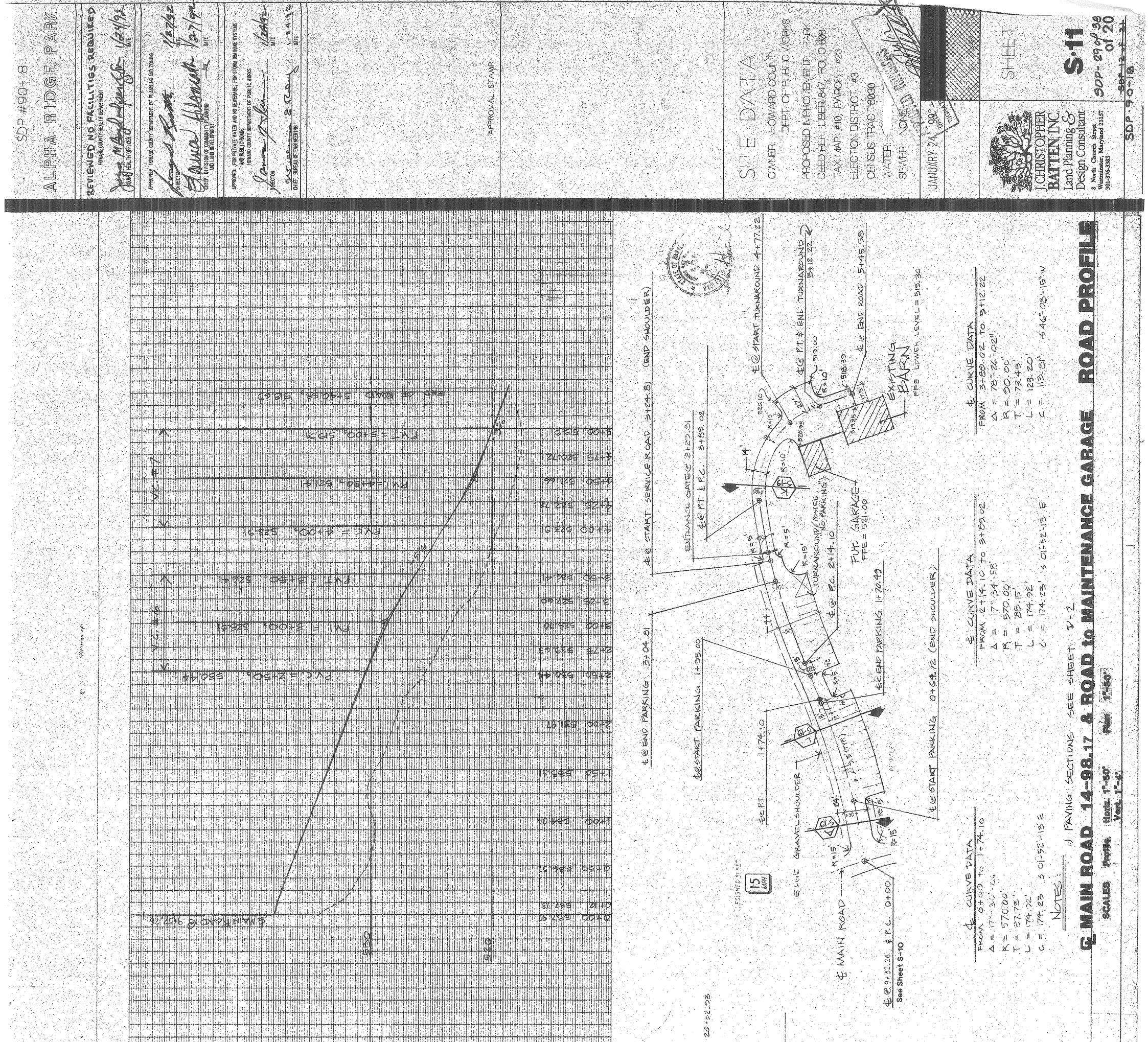
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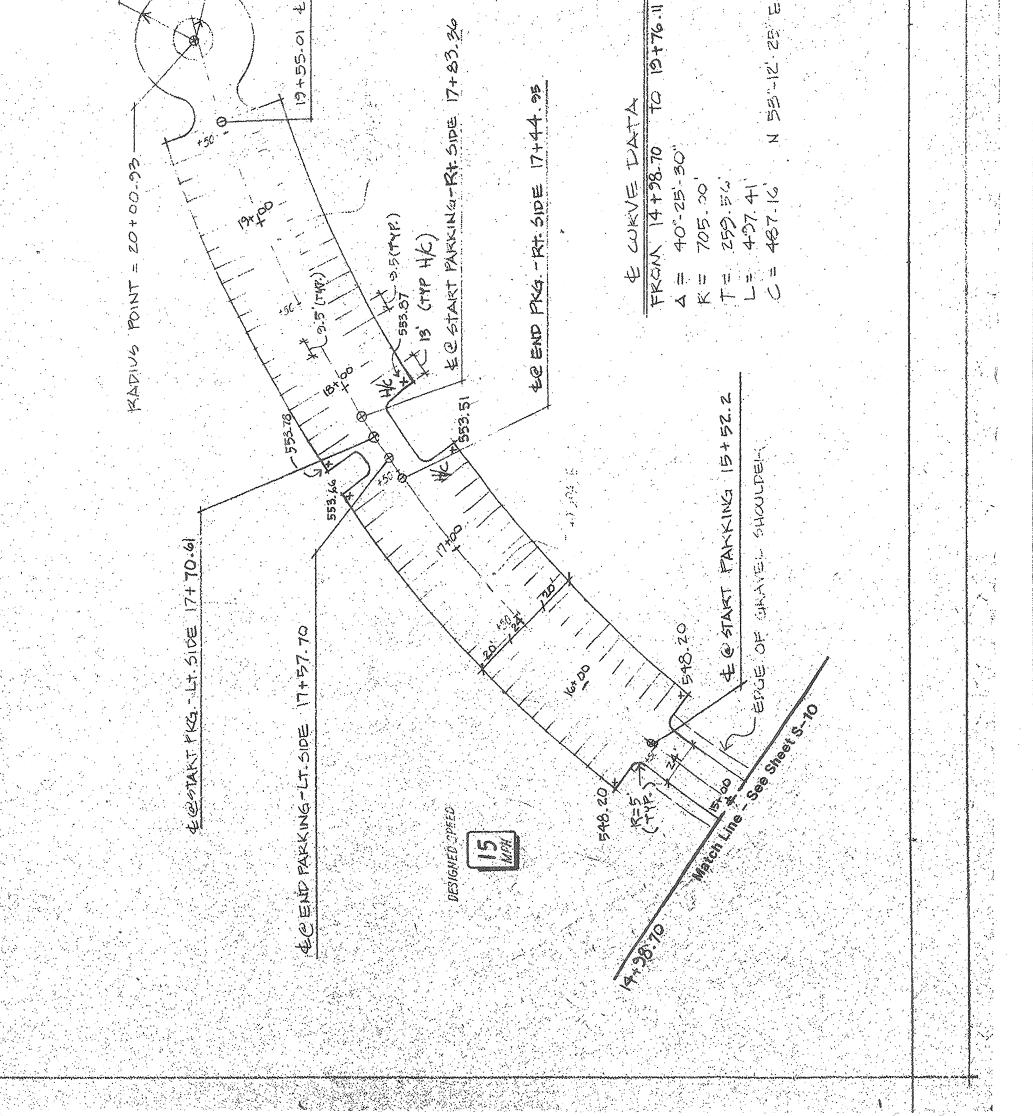
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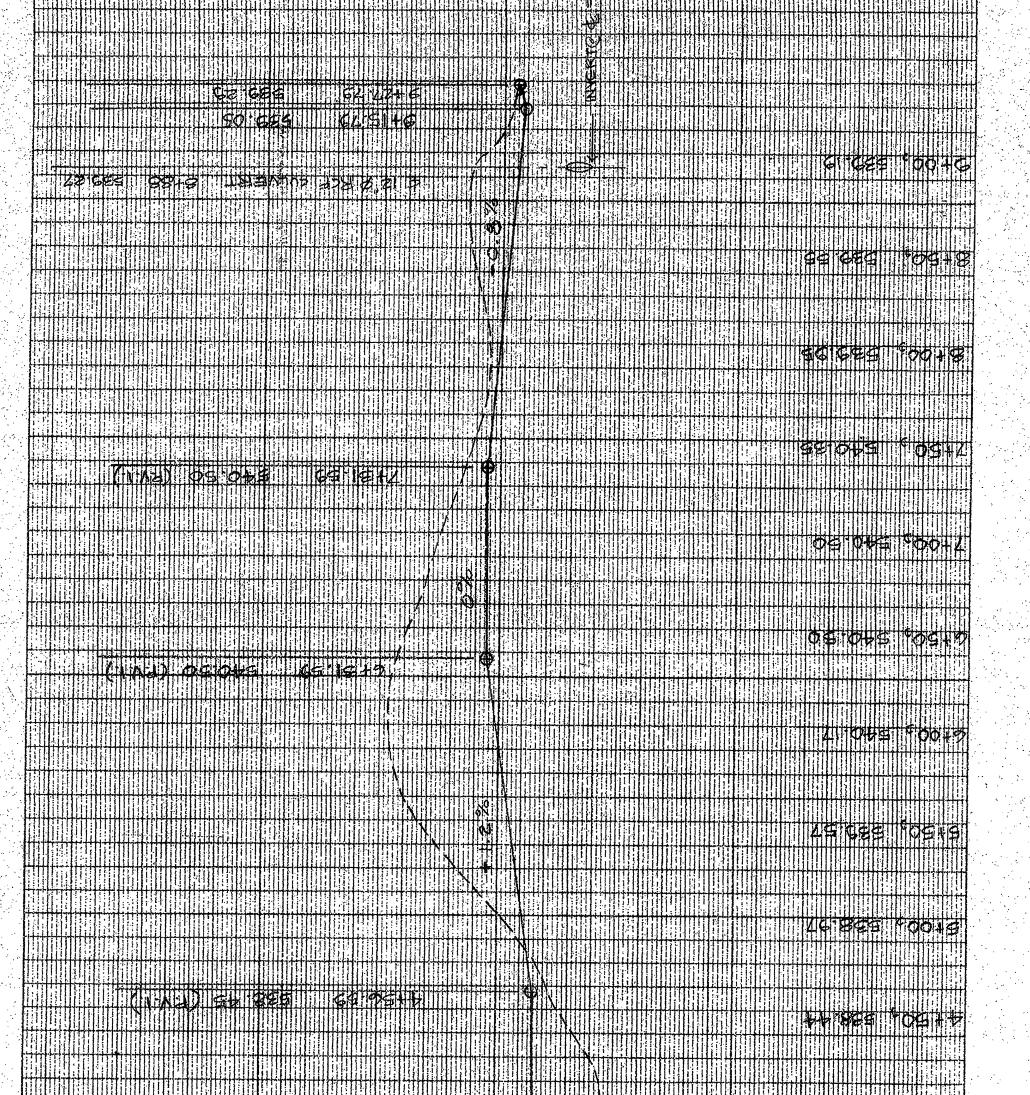
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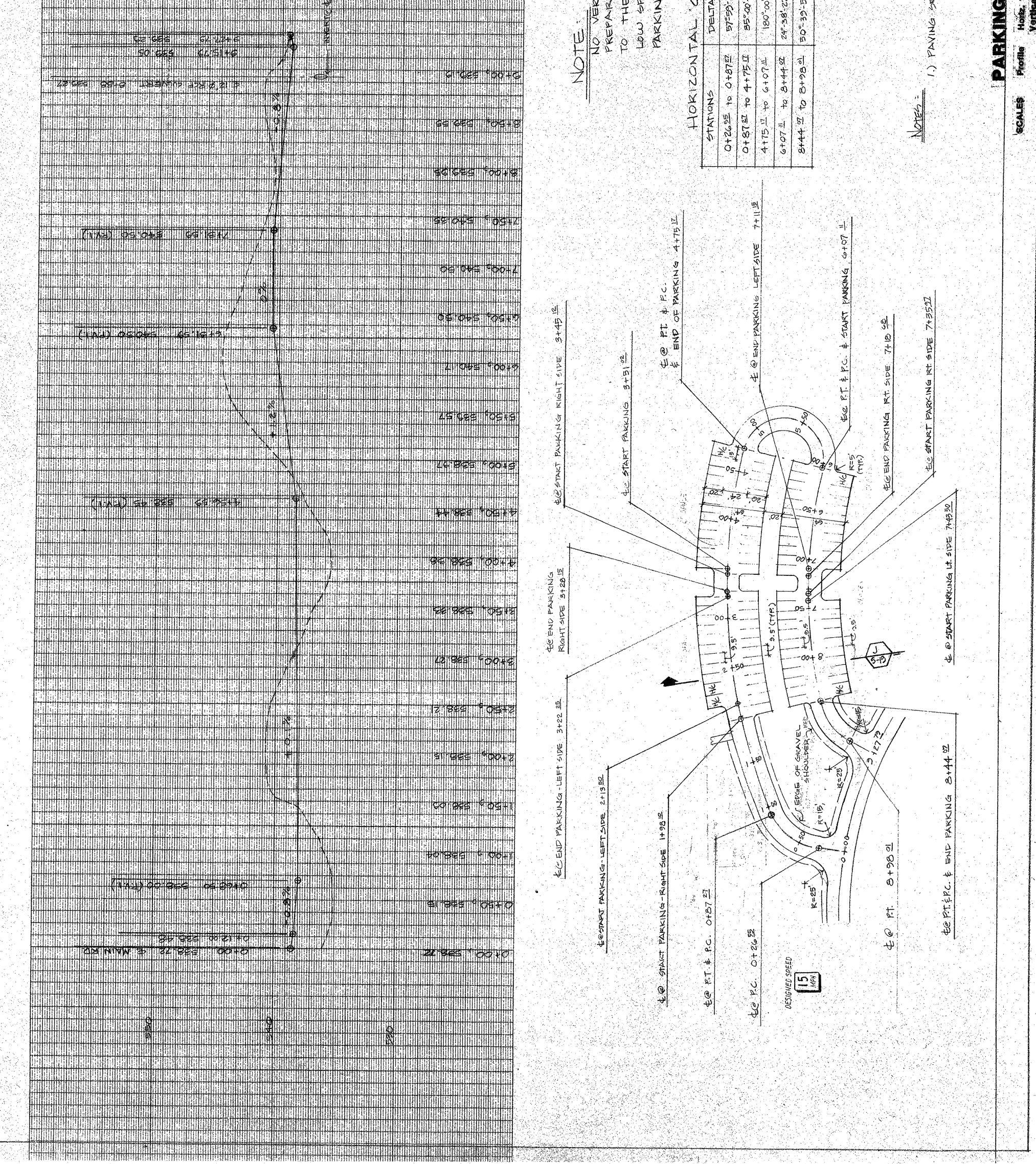


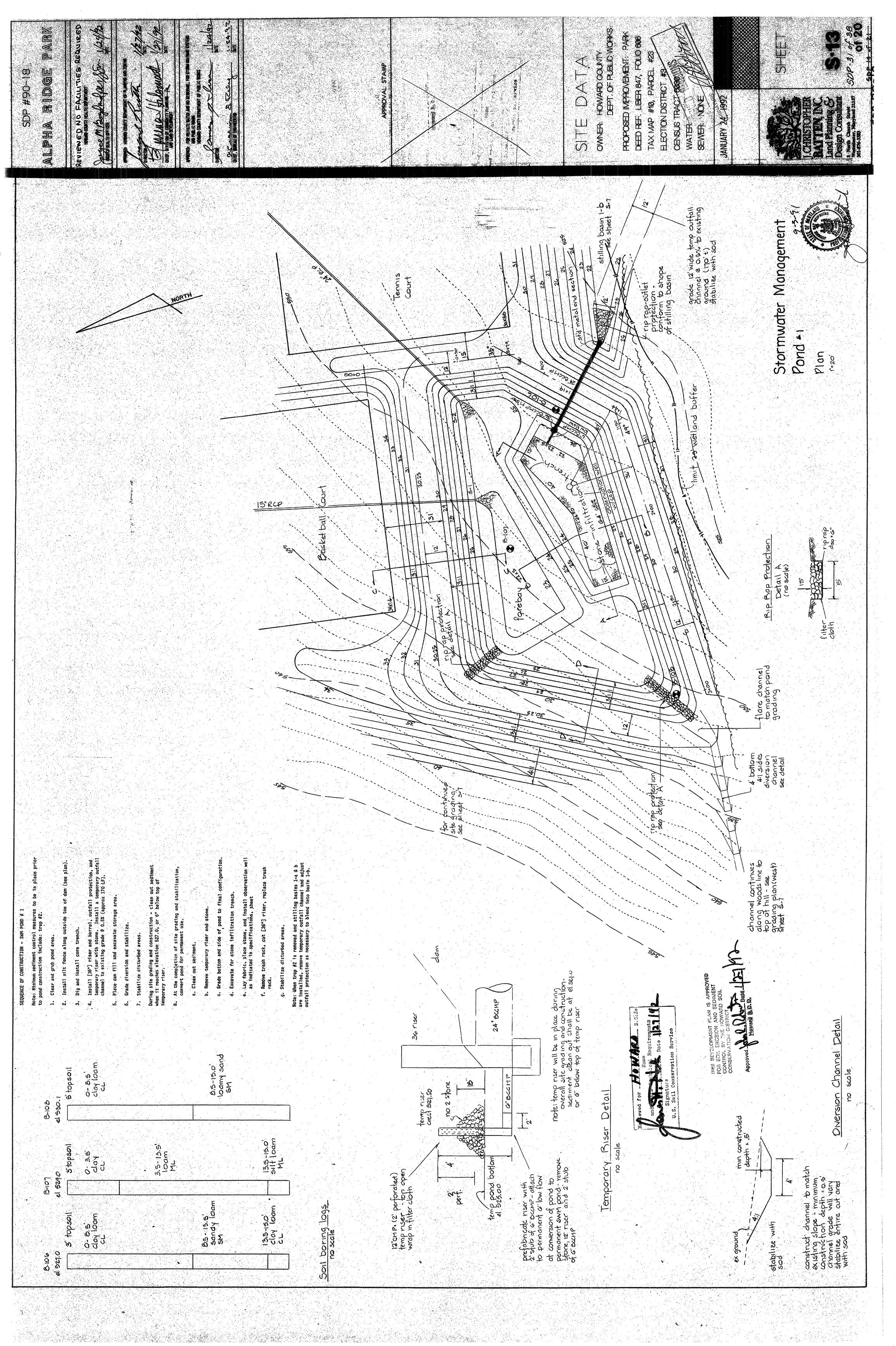
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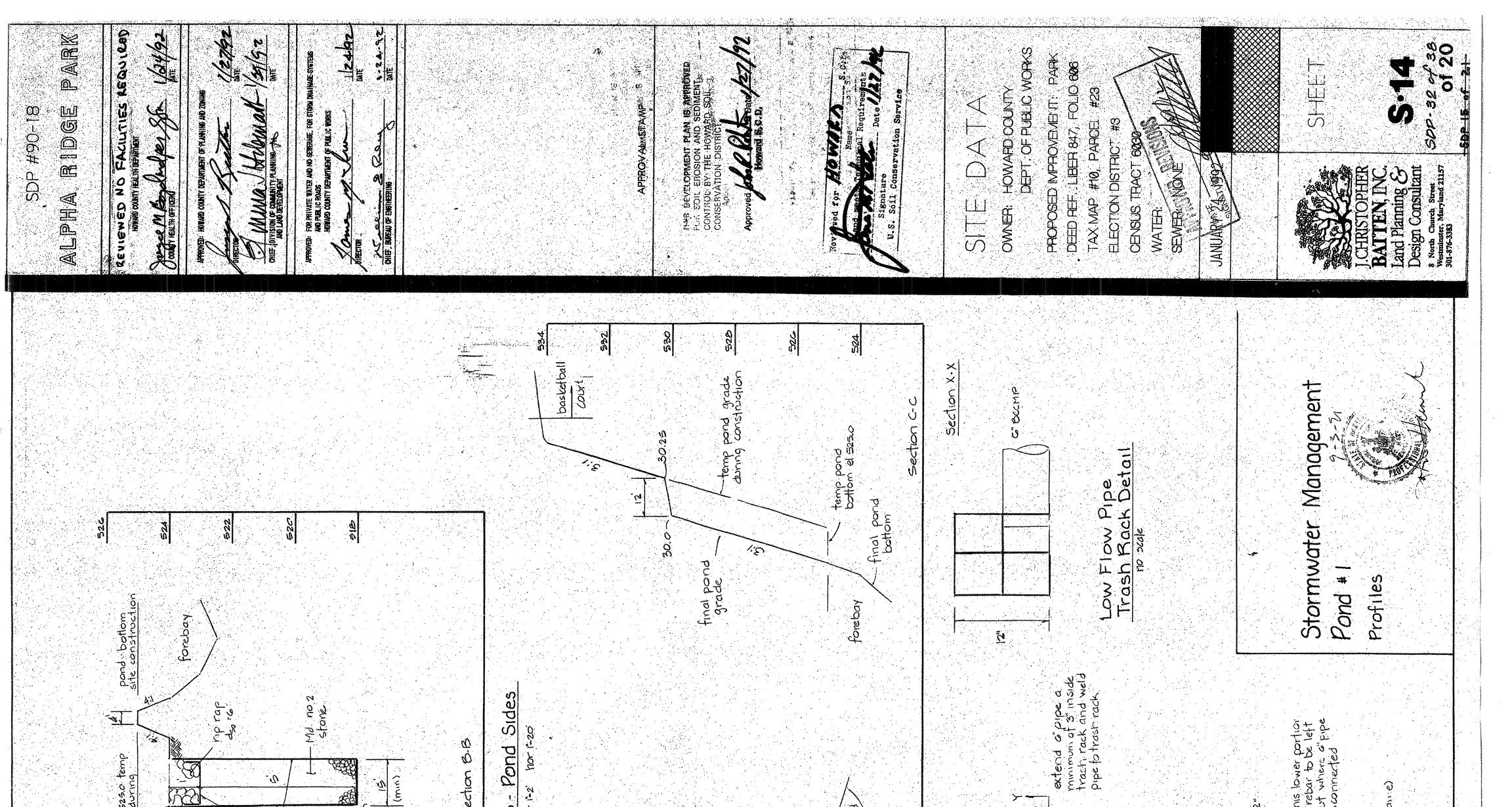
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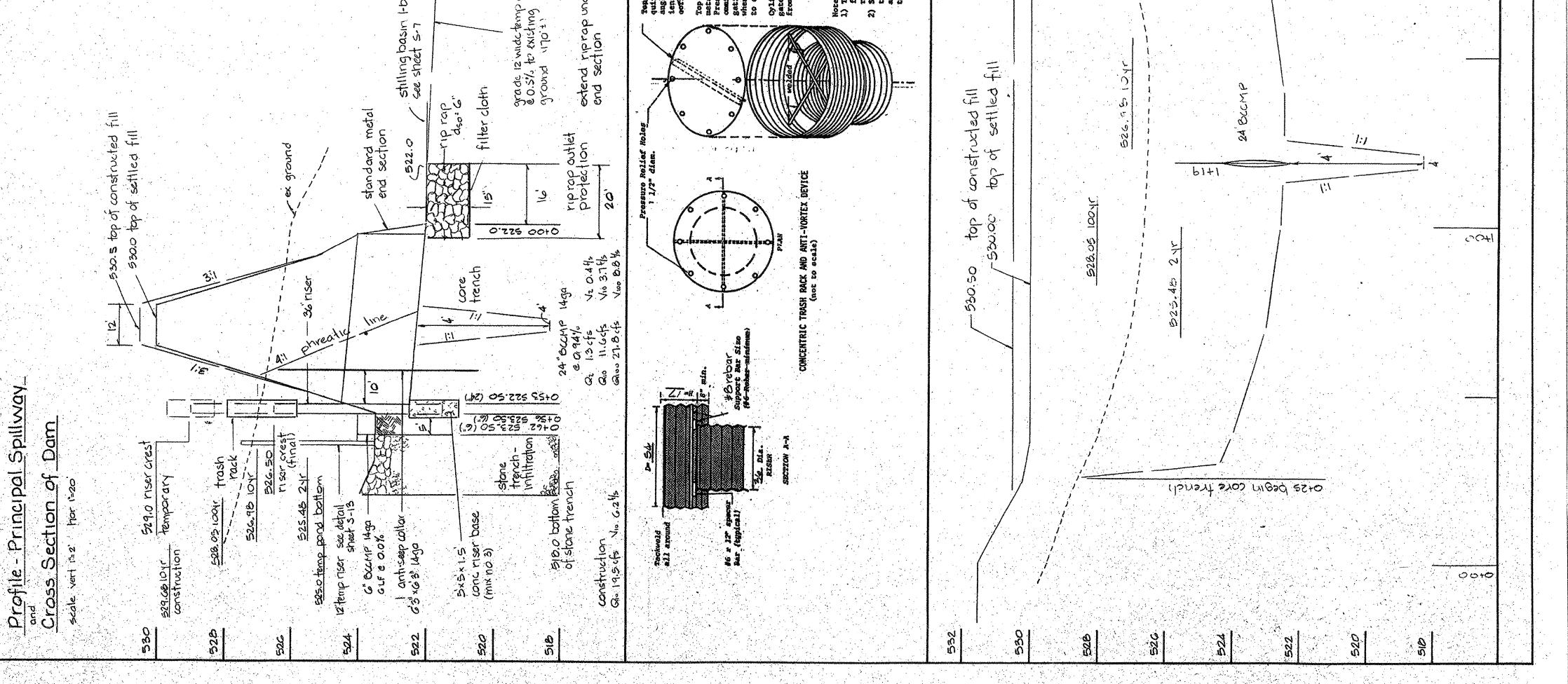




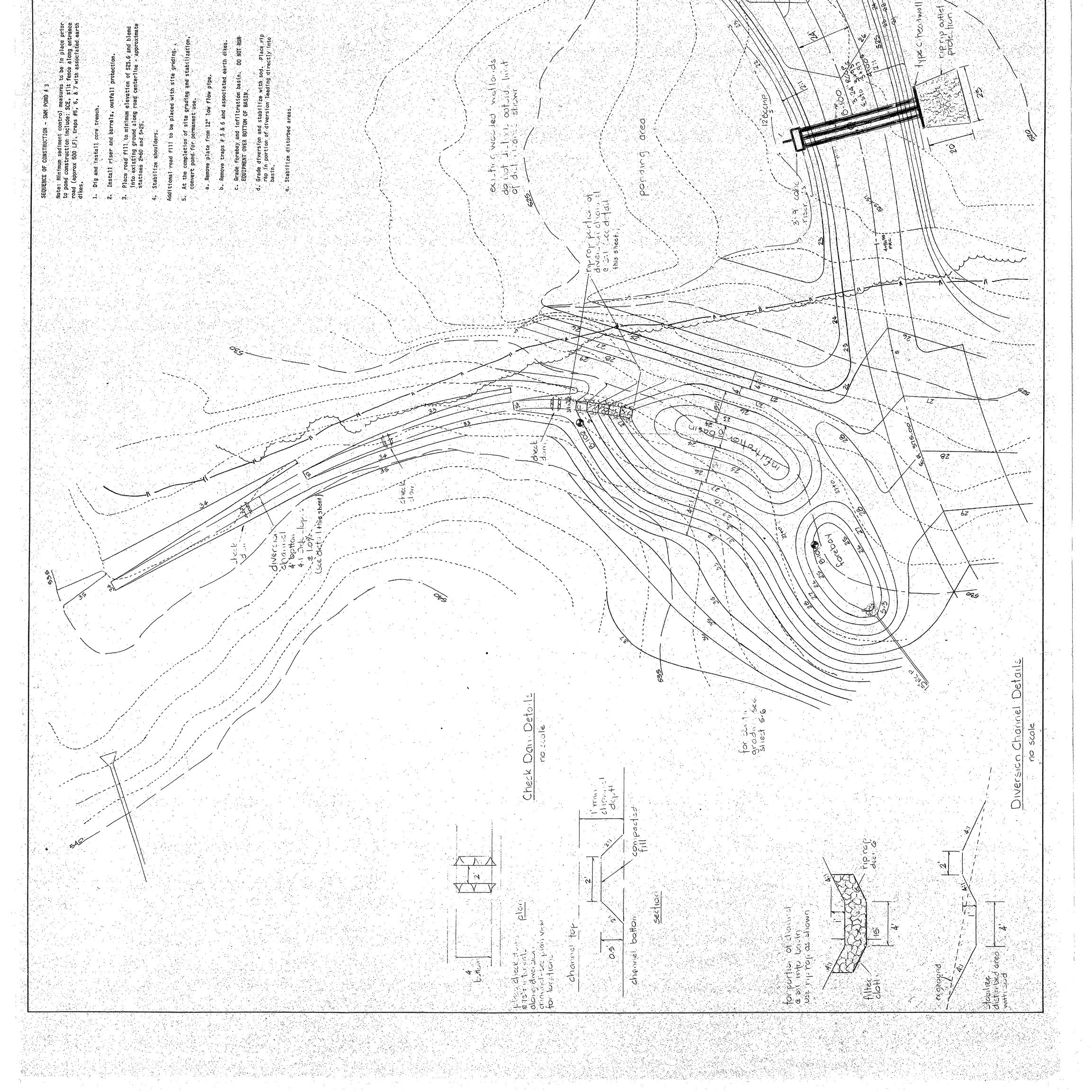


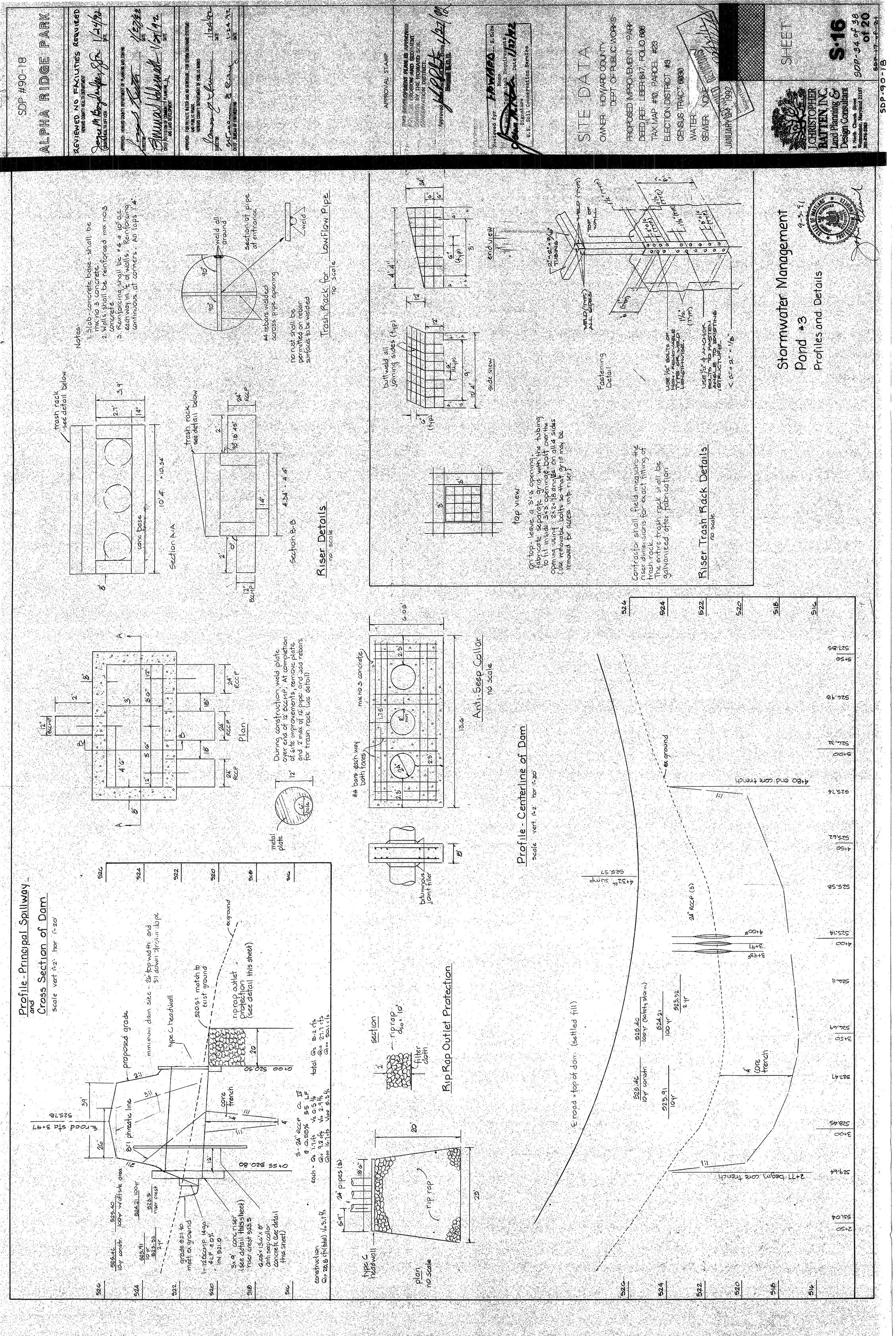


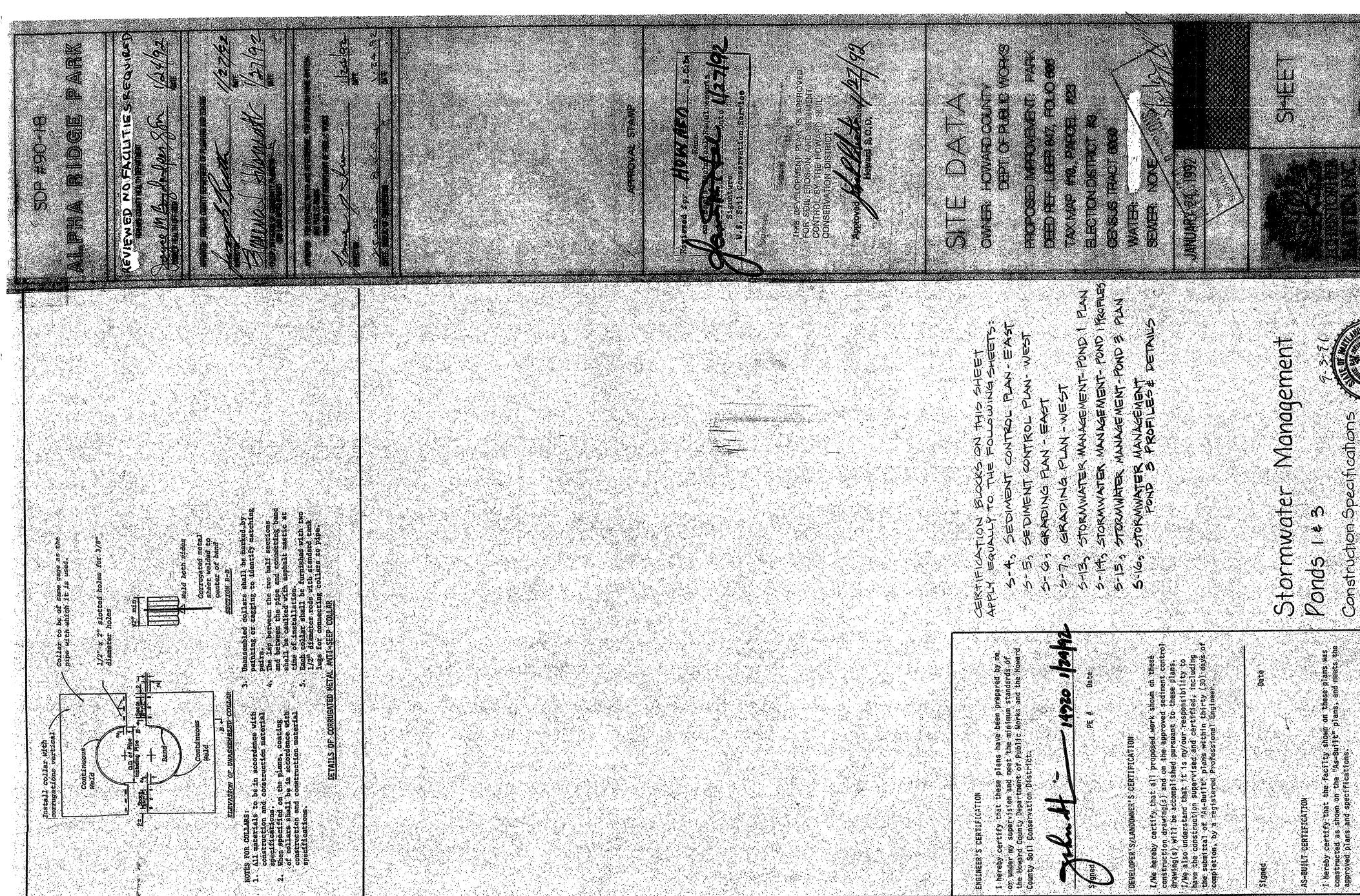
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CULES 127/90 500-33 of 38 01 20 智魚陽 1 24 9. 1124 CA 22 REQUIRE 8-7-3-S HOWARD COUNTY DEPT OF PUBLIC WORKS S:15 PROPOSED INPROVEMENT: PARK TO LO DE CONTRACTOR AGE SYSTEM LBER 847, FOLIO 608 旺 INS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT TAX MAP #10, PARCEL #23) the wood ervation Service REVIEW EO NO FACILITIES HOWARD COUNTER TH DEPARTMENT JANUANTA 1992 Josephen M. Boy J. Jac. Su 50P-90-18 FID. HOWARD COUNTY REPARTMENT OF PLANING AND ZO STAMP R10GE SDP:#90-18 APPROVED: FOR PRIVATE WATER AND NO SEMERICE, FOR S AND PLEILO RAAS HOWARD COUNTY OFFARTHEAT OF PLEILO WORK STE DAT ELECTION DISTRICT #3 CENSUS TRACT 6030 - W - lin APPROVAL OVE A CONTRACTOR OF A CONTRACT ICHRISTOPHER BATTEN INC Land Planning & Design Consultant Net and Series Net and Series CHEF, DIVISION OF COMMINITY PLANIN AND LUND DEVELOPMENT • ALPUA DEED REF OWNER Approved A State 4 ms hole dry 101 17: (1) (1) Management Sard Stormwater Water = 1327 3 0 <u>0</u> <u>0</u> <u>0</u> 3 Pond Plan 0 1: 20 Soil Came Lega 530. el 530 S.C. 15 100m y Sand SM 10,27 o.s.s clay loom cu 19 B-100 520 Water = 7 of Fin 24 mm = 50 Ū. 10 - 15 1001 | Surd 3 topsoil 0-33 50 14 clay 100111 10 10 10 10 10 10 10 10 10 10 10 C. C. 1 6-110 S







6. STABILIZATION

All borrow areas shall be graded to provide proper draimage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized in accordance with the specifications shown flereon and with the "1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control," as amended, immediately after finishing grading. All 2:1 shopes shall be sodded. Unless otherwise noted, all other disturbed areas shall be stabilized with permanent seeding.

Construct fancing in accordance with the State Highway Administration Standard Details 690.01 and 690.02. Use specifications for a 6-foot fance, substituting 42" fabric and 6' 8" line posts. Construct the gate in accordance with SHA Standard Detail 692.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO Designation MIB1-74. 12. CARE OF NATER DURING CONSTRCUTION

Fescue or Kentucky equal. Class of state certified or 6.1 Sod Specifications - Sod shall be "KY-31" Tall Fes Rluegrass/Red Fescue mixture, or approved equ turfgrass sod shall be Maryland or Virginia sta approved sod.

6.2 Permanent Seeding

Seedbed Preparation - Loosen the upper 3 inches of soil by raking, discing or other acceptable means before seeding. Soil Amendments - Apply 2 ton per acre of dolomitic limestone (92 tbs./1000 sq.ft.) and 600 lbs. per acre of 10-10-10 fertilizer (14 lbs./1000 sq.ft.) before seeding. Harrow or disc lime and fertilizer into upper 3 inches of soil. At time of seeding. apply 400 lbs. per acre (9 lbs./1000 sq.ft.) of 30-90-0 ureafoam fertilizer before harrowing or discing may be substituted for the 10-10-10 and 30-0-0 fertilizers listed above. Seeding - For the periods:

March I thru April 30 and August I thru October 15.....60 lbs. per acre (2 lbs./1000 sq.ft.) Kentucky 31 Tall Fescue.
 May I thru July 31......60 lbs. per acre (2 lbs./3000 sq.ft.) Kentucky 31 Tall Fescue and 2 lbs. per acre (0.05 lbs./1000 sq.ft.) weeping lovegrass.
 October 16 thru February 28.....Protect the site by one of the following:

ed

(A) Moply 2 tons per acre (32 lbs./1000 sorft.) of well the Spring.
(B) We sod. Nistalled per these specifications.
(C) Seed with 37 Jbs. per acre Kantucky 31 Tail Fescue and mulch with 2 tons per acre kantucky 31 Tail Fescue and mulch with 2 tons per acre kantucky 31 Tail Fescue and mulch with 2 tons per acre kantucky 31 Tail Fescue and mulch with 2 tons per acre kantucky 31 Tail Fescue and mulch with 2 tons per acre kantucky 31 Tail Fescue and mulch with 2 tons per acre kantucky 31 Tail Fescue and mulch with 2 tons per acre (60 ths./1000 so.ft.) of winter the transmitted amplited amplited and the mediately with the section of a solution so.ft.) for anthoring.
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Multhendoe - Farm Appril 600 lbs. per acce of 10-10-10 fertilizet (14 lbs.//Job0 so.ft.).
Multhendoe - Farm Appril 600 lbs. per acce of 10-10-10 fertilizet (14 lbs.//Job0 so.ft.).
Multhendoe - I thru Appril 60 lbs. per acce of 10-

construction operations will be carried out in such a manner that construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized, as shown on these plans and as set forth in the "1983 Standards and Specifications for Soil Erosion and Sediment Control" of the Soil Conservation District, as amended. State and local laws concerning pollution abatement will be followed.
8. FiLFER CLOTH
8. FILFER CLOTH
9. EMBIONS
9. GABIONS
9. GABIONS shall be Mirafi 140N, Dupont Typar 3341 or 3401, or approved equal.
9. GABIONS
9. Mith PUC-coated Mire baskets.
411 rock ending

with PVC-coated with

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BUILT CERTIFICATION

Signed

and a state

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Details

Date

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Signed

All work on permanent structures shall be carried out in areas free from water. The contractor shall construct and maintain all temporary diffes, levees, conferdants, drahage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other edufoment required for the removal of water from the warlous parts of the work and for the removal of water from the warlous outdation, and pither parts of the work free from water as required or directed by the engineer for constructing each part of the work. After harling the excavitions. Foundation, and pither parts of the work free from water as required or directed by the engineer for constructing each part of the flow of water to the spillway or outlet works and so as not to interfere fn any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent, works. The removal of water from the required excavation and the foundation shall be eccomplished in a manner and is the water work and so maintenance statistic of the excavations, the water level at the isotations and will allow satisfactory performance of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavations which the water shall be purped.

Figure 1.1 Figure

ENGINEER'S CERTIFICATION

CONTANTANDOM Date shall be searched to prevent hatural of fill solls from intermitting with the storie aggregate. All contaminated score sagregate anall systemed and realized with the transh wills is one source of such voids. The score sagregate analysis is one source of such voids of the state state subsidence wills be woulded by this remeatly the state state subsidence will be avoided by this remeatly score voids of the state state with the score source score with a state state subsidence will be avoided by this remeatly the state state state with a state state state state state state and score source for a state state state state and score source is state state state state and score source is state state state state and score source is score state state state and score source is state state state state state and score source source is state state state state and score source source is state state state and score source source source is state state state and score source state state source source is state state state and states is a source source is state state and states states and is a source of the state states is states and the state states and specification is states are source as a source of the state states and specification and states of the state states are and investing and specification states of the state states are assetted in subsection 3.13.4.8 and states of the state states are assetted and specification states are assetted as a specificate of the state states are assetted in a state source states and specification and specification and specificate states are assetted in a subsection 3.13.4.8 and and specification be states assettion and specification an

MAINTERPANCE Infiltration trenches shall be designed to minimize Infiltration trenches shall be designed to minimize maintance in overs, it is recognized that all infiltration facilities are subject to clogging by sediment, oil, grit, grease, and other debris. In addition, the parformance and longevity of these structures is not well documented consequently, a monitoring observation well is required for all infiltration structures and ster devel the observation vell shall be monitored periodically. For the observation vell shall be monitored periodically. For all infiltration structures and after every is pould be monitored on a quester basis and after every intege atom. One the part of the facility demants after large stomes and the develop of the maintaired indicating the rate at which the facility demants after large stome and the develop of the field that a none frequent schedule is required indicates that a none frequent schedule is required for each observation well in the top foot of surface that should be monitoring well in the same schedule as the observation well. A monitoring well in the schedule as the observation well. A monitoring well in the top foot of surface. Sediment deposited shall not be allowed to build up to the point where it will reduce the rate of infiltration into the trench.

Laying Pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are scaled for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser. Coupling bands, anti-seep collars, end sections, etc., must be traulated from dissimilar material as the pipe. Metals must be insulated from dissimilar material as the pipe. Metals must be traulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Connections - All connections with pipes must be completely witertight. The drain pipe of barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands shall not be considered watertight. All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections to accommodate the band width. The following type connections are acceptable for pipes less then 48° in diameter: flanges on both ends of the pipe. A 12° with orring gaskets having a minimum diameter of 1/2° greater than the corrugation depth. Pipes 48° in diameter of 1/2° greater than the corrugation depth. Pipes 48° in diameter of 1/2° greater than the corrugation depth. Pipes 48° in diameter of 1/2° greater than the corrugation depth. Pipes 48° in diameter of 1/2° greater than the corrugation depth. Pipes 48° in diameter of 1/2° greater than the connected by a 24° nong annular corrugated band using rods and lugs. A 12° wide by 3/6° thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24°. spongy or I shall be to provide criteria 4.3 Polyvinyl Chloride (PVC) Pipe - Ail of the following criteria shall apply for polyvinyl chloride (PVC) pipe: Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Joints and connections to anti-seep collars shall be completely watertight. show uo um Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches or as shown on the drawings. ASTM 4. PIPE CONDUITS
4. PIPE CONDUITS
All pipes shall be circular in cross section.
All pipes shall be circular in cross section.
4.1 Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe.
Any apply for corrugated metal pipe.
Materials - (steel pipe) This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to all of the requirements of AASHTO Specification A-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon. PlastiCote. Blac-Klad, and Beth-Cu-Loy. Coated corrugated steep pipe shall meet the requirements of AASHTO M-245 Backfilling shall conform to "Structure Backfill." Laying Pipe - The pipe shall be placed with this de circumferential laps pointing downstream and with the jongitudinal laps at the sides. 4.2 Reinforced Concrete Pipe Asterials - Reinforced concrete pipe conduits shall have bell and Materials with rubber gaskets and shall equal or exceed ASTM Specification C-302. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy other unisable soil is encountered, all such material shall removed and replaced with suitable earth commpcted to provi adequate support. Backfilling shall conform to "Structure Backfilling." Other details (anti-seep collars, valves, etc.) shall be as sho on the plans. 5. CONCRETE 5. CONCRETE 5. CONCRETE 5. CONCRETE 5. Concrete shall meet the requirements set forth in the Maryland State Highway Administration "Standards and Specifications for Construction and Materials," 1982, as amended, including: 5.1 Concrete 5.2 Reinforcement 5.2 Reinforcement 5.2 Reinforcement Nire Puric) and for In addition, reinforcing steel shall meet ASTM Specification A615, Grade 60. Steel angles, anchor bars and appurtenances shall be ASTM A36. de be spongy | shall to prov Helically corrugated pipe shall have either continuously wel seams or have lock seams. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy other unstable soil is encountered, all such material shall removed and replaced with suitable earth compacted to prov adequate support. Other details (anti-seep collars, valves, etc.) shall be the drawings. Section 610 (Reinforcement for Concrete Structures). Section 911 (Reinforcing Steel, Mire Rope and Backfilling shall conform to Structural Backfill. Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on these plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being 4 feet. The depth shall be as shown on the plans and shall be at least 4 feet below existing grade. The side slopes of the trench shall be 1:1 or flatter. The backfill material for the cutoff trench shall be compacted with equipment or rollers to assure maximum density and minimum permeability. Compact as outlined above to 95% of ANSHTO T-99 density. All cutoff trench backfill material shall meet the requirements of Unified Soil Classification SC or CL. The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed a minimum of four complete passes of a sheepsfoot, indhen tired, or vibratory roller. The entire surface of each lift shall be compacted to 95% of AASTHTO T-99 (or equivalent ASTM Specifications) and certified by the lengineer at the time of construction. Fill material shall contain sufficient woisture so that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient woisture noisture so that if formed into a ball it will not crumble yet not be so we that water can be squeezed out. 3.4 Cutoff Trench Areas on which earth fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8 inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the domnstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excaveted into the embankment. The earth fill material shall be taken from approved designated borrow area(s). It shall be taken from approved designated rubbishs stone greater than 6", frozem or other objectionable material. The embankment shall be constructed to an elevation witch provides for anticipated settlement to the design enbankment shall be increased 10% above the design elevation (including freeboard) unless otherwise shown on the plans. Fill material for the center of the embankment and cut-off trench shall conform to Unified Soil Classifications CL, GC, SC, or CH. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer. Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish, and other objectionable material unless otherwise designated on these plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormater management ponds, a minimum of a 50 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 or 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 embandment and other designated areas. Backfill material to be placed adjacent to structures shall be of the type and quality comforming to that specified for the adjoining fill material. The backfill shall be placed in horizontal layers not to exceed 4 inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than 4 feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of 24 inches or greater over the structure Pipe. Where specified, an impervious core shall be constructed along or parallel to the centerline of the embankment as shown on these plans. The top width of the core shall be as shown on the drawing, with the minimum width being 4 feet. The side slopes of the impervious core shall be 1:1 or flatter. The top elevation of the core shall be 1:1 or flatter. The top elevation least to the riser crest elevation. Backfill and compaction requirements for the impervious core shall be the same as for the cutoff trench. n practices and to the Areas designated for borrow areas, embankment and structural works shall be cleared, grubbeds and stripped of topsoil. All trees, vegetation, roots, and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. "Standard Specifications for Construction & Materials" of the Maryland State Highway Administration. 1382 and as amended. 15 "Standards and Specifications for Ponds" of the Soll Conservation Service of Maryland (MD-378), July, 1981 and amended. MUNAGEMENT POND CONSTRUCTION SPECIFICATIONS all material and construction plans and specifications a 3. EARTHMORK AND EARTH FILL 3.1 Naternal STORMATER MANAGEMENT 7 1. GENERAL Unless otherwise noted, al shall conform to these i following: 3.6 Structural Backfill 3.5 Impervious Core 2. SITE PREPARATION 3.3 Compaction 3.2 Placement

