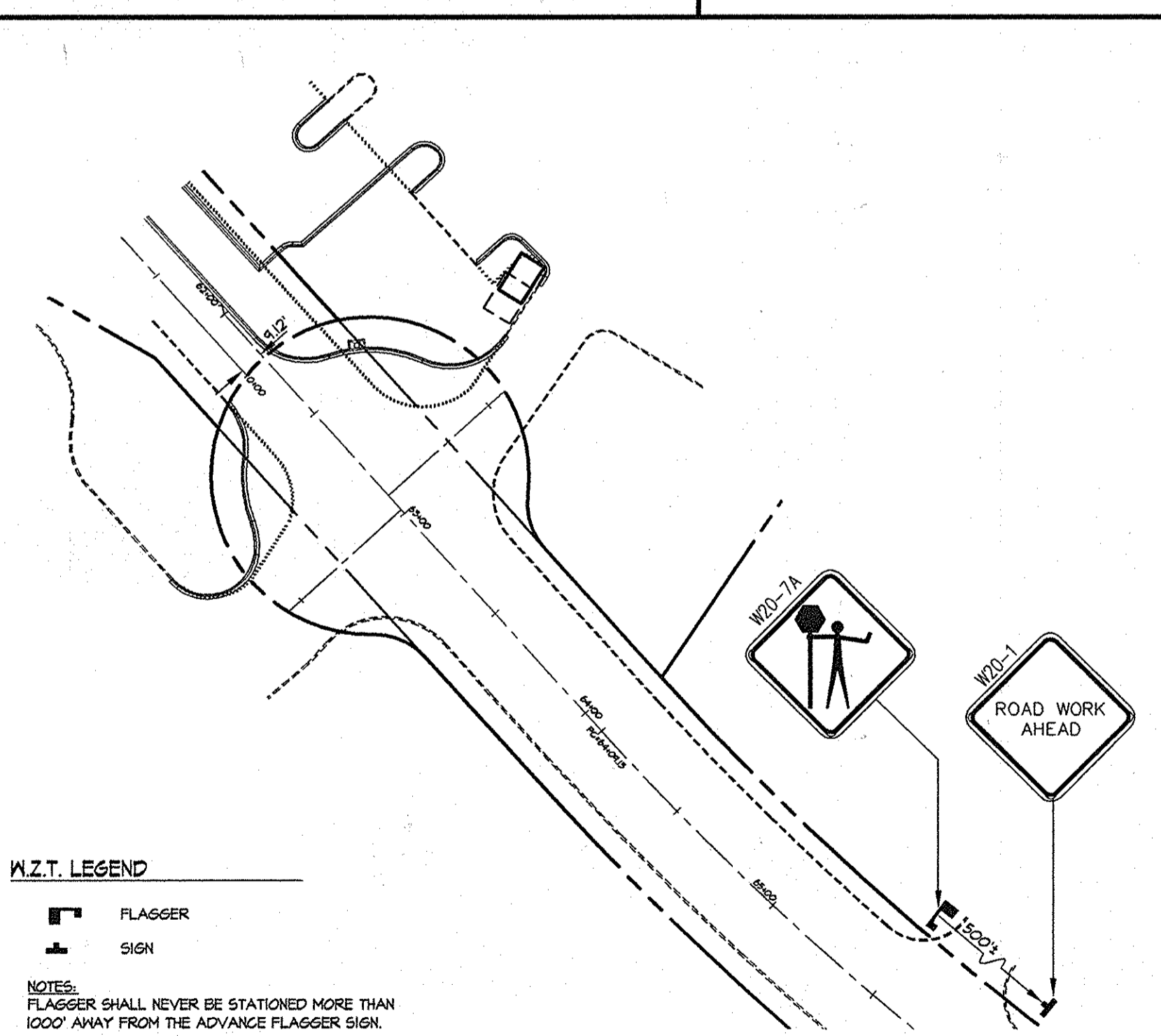


- SITE DEVELOPMENT PLAN LEGEND**
- 366 --- EXISTING CONTOUR
 - 300 --- PROPOSED CONTOUR
 - + .5210 SPOT ELEVATION
 - EXISTING STORM DRAIN
 - PROPOSED STORM DRAIN
 - R.G. RCP RUBBER GASKET REINFORCED CONCRETE PIPE
 - EX 8" S EXISTING SANITARY SEWER
 - EX 8" W WATERLINE (PUBLIC)
 - EX 8" F FIRE HYDRANT
 - EXISTING CURB & GUTTER TO REMAIN
 - EXISTING CURB & GUTTER TO BE REMOVED
 - NEW CONCRETE CURB & GUTTER (DET. 3/4)
 - GUTTER PAN
 - FACE OF CURB
 - BACK OF CURB
 - FG/PT
 - PROPOSED CONCRETE SIDEWALK (DET. 2/4)
 - EXISTING EASEMENT AREA (SHADED)
 - PROPOSED EASEMENT AREA
 - NUMBER OF PARKING SPACES
 - HANDICAPPED PARKING DESIGNATION
 - EXISTING LIGHT FIXTURES & POLE
 - PROPOSED LIGHT FIXTURES & POLE
 - EXISTING SIGN
 - LIMIT OF DISTURBANCE
 - MEX. MATCH EXISTING
 - EXISTING SECURITY FENCE TO REMAIN (square box to brick column)
 - EXISTING SECURITY FENCE TO DISMANTLED & RELOCATED
 - PROPOSED SECURITY FENCE RELOCATION
 - FULL DEPTH SAWCUT LINE (of ex. pavement)

PROFESSIONAL CERTIFICATION
 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. 12475, EXPIRATION DATE: MAY 26, 2012.



WORK ZONE TRAFFIC CONTROL PLAN ALONG RIVERWOOD DRIVE
 SCALE: 1" = 50'

APPROVED PLANNING BOARD OF HOWARD COUNTY
 DATE: NOVEMBER 13, 2008

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Morgan & Butler* 11/23/10
 Chief, Division of Land Development: *Walter J. Wood* 11/23/10
 Chief, Development Engineering Division: *Morgan & Butler* 11/22/10

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. 410-386-1820 DC/VA 301-989-2324 FAX: 301-421-4188

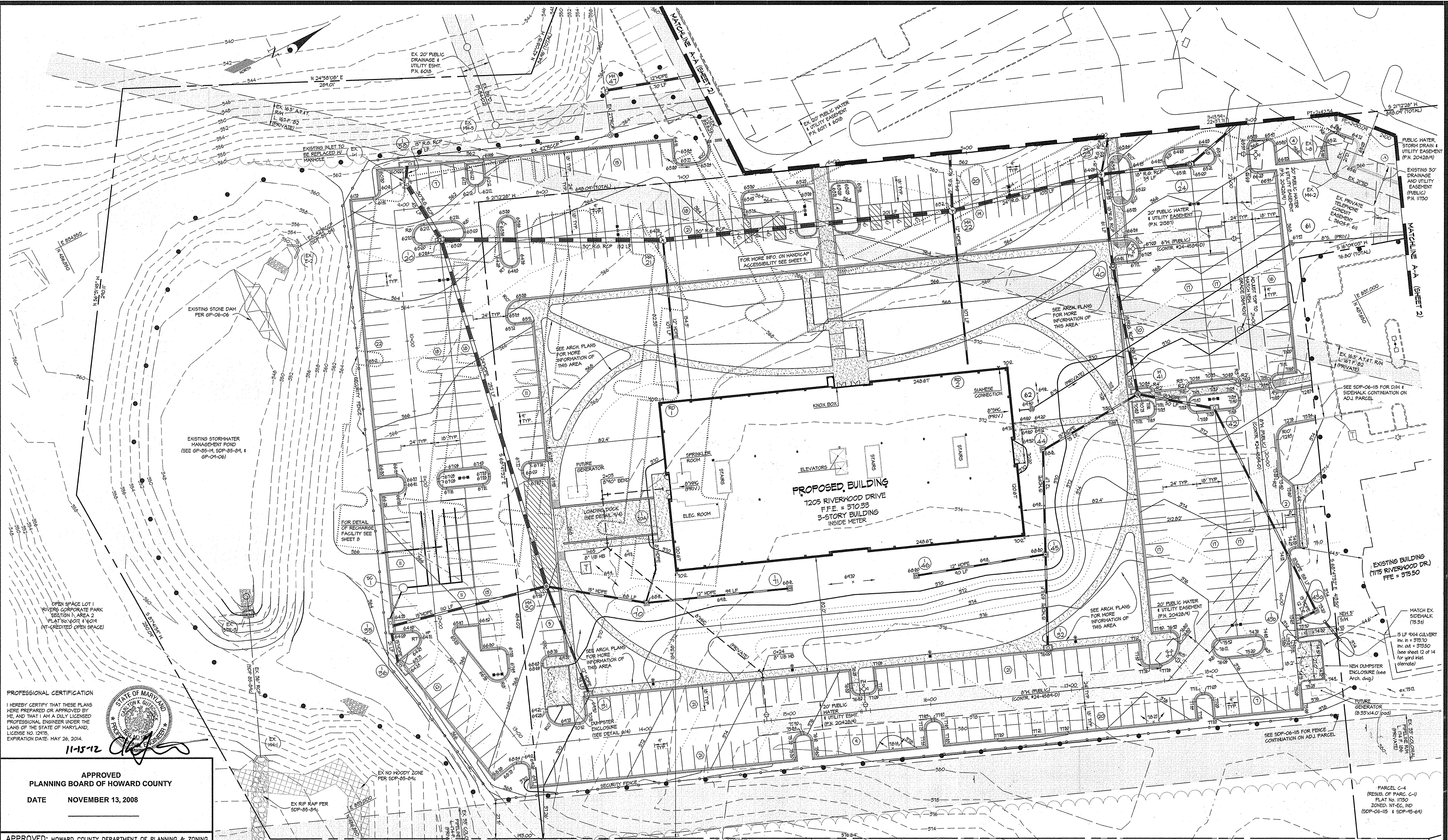
PREPARED FOR:
 OWNER/DEVELOPER
 COPT Riverwood, LLC
 COPT DEVELOPMENT SERVICES, LLC
 6711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5649
 Attn: SEAN MOORE

(REVISED) SITE DEVELOPMENT PLAN
RIVERS CORPORATE PARK
 SECTION 1, AREA 2
 PARCELS 'A-1' and 'C-3'
 PLAT No. 11730 & 20428-20429 & 21327 & F-14-099
 HOWARD COUNTY, MARYLAND

SEE SHEET 4 FOR PAVING DELINEATION AND SHEET 5 FOR DEMOLITION PLAN

- NOTES:**
- UNLESS NOTED OTHERWISE, PROPOSED SPOT ELEVATIONS ALONG THE CONCRETE CURB & GUTTER ARE TO THE FLOW LINE (BOTTOM OF CURB) AT THE PC/PT'S, CORNERS AND TERMINUSES.
 - ALL ON-SITE PAVING AND ROADWAYS ARE PRIVATE.
 - ALL ON-SITE STORM DRAIN SYSTEMS ARE PRIVATELY OWNED & MAINTAINED.
 - UNLESS NOTED OTHERWISE, ALL PLAN DIMENSIONS ARE TO THE FACE OF STRUCTURE (B.L.D.S., CURB, ETC.). DIMENSIONS ARE MEASURED PERPENDICULAR OR BETWEEN ITEMS, UNLESS NOTED OTHERWISE.
 - ALL CURB RADII ARE 5' (FACE OF CURB TO FLOW LINE) UNLESS NOTED OTHERWISE.
 - WELL IN ADVANCE OF CONSTRUCTION, THE CONTRACTOR SHALL ASCERTAIN THE EXACT LOCATION (HORIZONTAL & DEPTH) OF THE COMMUNICATION LINES) WITHIN THE AT&T R/W FOR ANY NECESSARY ADJUSTMENTS TO THE LINES.
 - ALL GATES SHALL BE EQUIPPED WITH A KNOX BOX (Fire Dept. access box) OR KNOX BOX KEY OVERRIDE CONTROL TO INSURE TIMELY FIRE DEPARTMENT ACCESS.

SCALE	ZONING	G. L. W. FILE No.
1" = 30'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
Nov./2010	41 - 12	2 OF 23



PROFESSIONAL CERTIFICATION
 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. 12915, EXPIRATION DATE: MAY 26, 2014.

11-15-12 *[Signature]*



APPROVED
PLANNING BOARD OF HOWARD COUNTY
 DATE **NOVEMBER 13, 2008**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 11/29/12
 Director Date

[Signature] 11/29/12
 Chief, Division of Land Development Date

[Signature] 11/29/12
 Chief, Development Engineering Division Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3809 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20885
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.
11/2/2012	(REPLACEMENT SHEET) Rev. parking northeast end of site. Add new dumpster enclosure, sidewalk, culvert and inlets 43a & 43b.	KLP	
11/2/2010	REVISE BLDG. TO A SINGLE BLDG. W/ LOADING DOCK AND REVISE PARKING & GRADING ACCORDINGLY	KLP	
		KL	
		BY	APP'R.

PREPARED FOR:
 OWNER/DEVELOPER
 COPT Riverwood, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 6711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5400
 Attn: Lauren Taylor

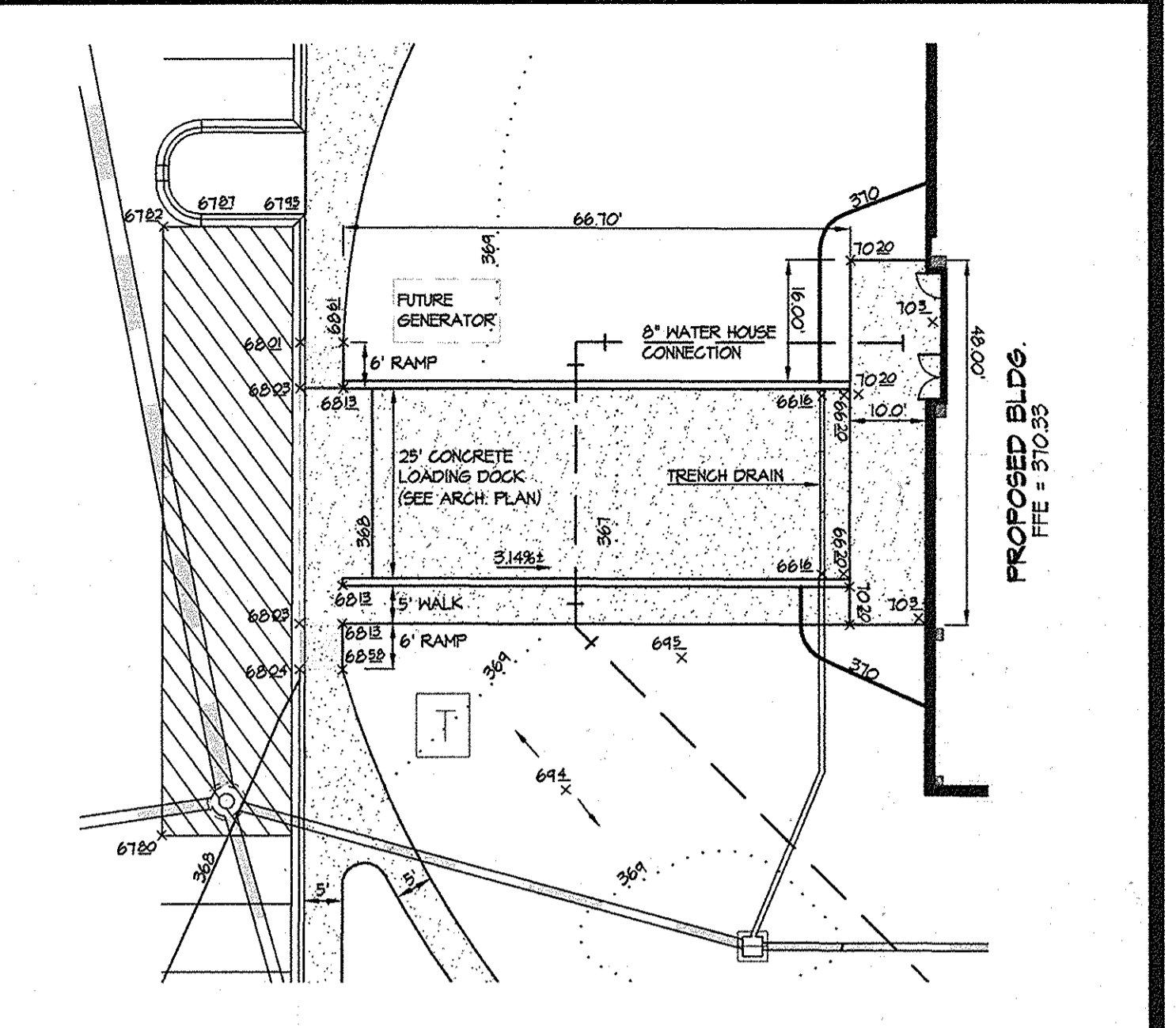
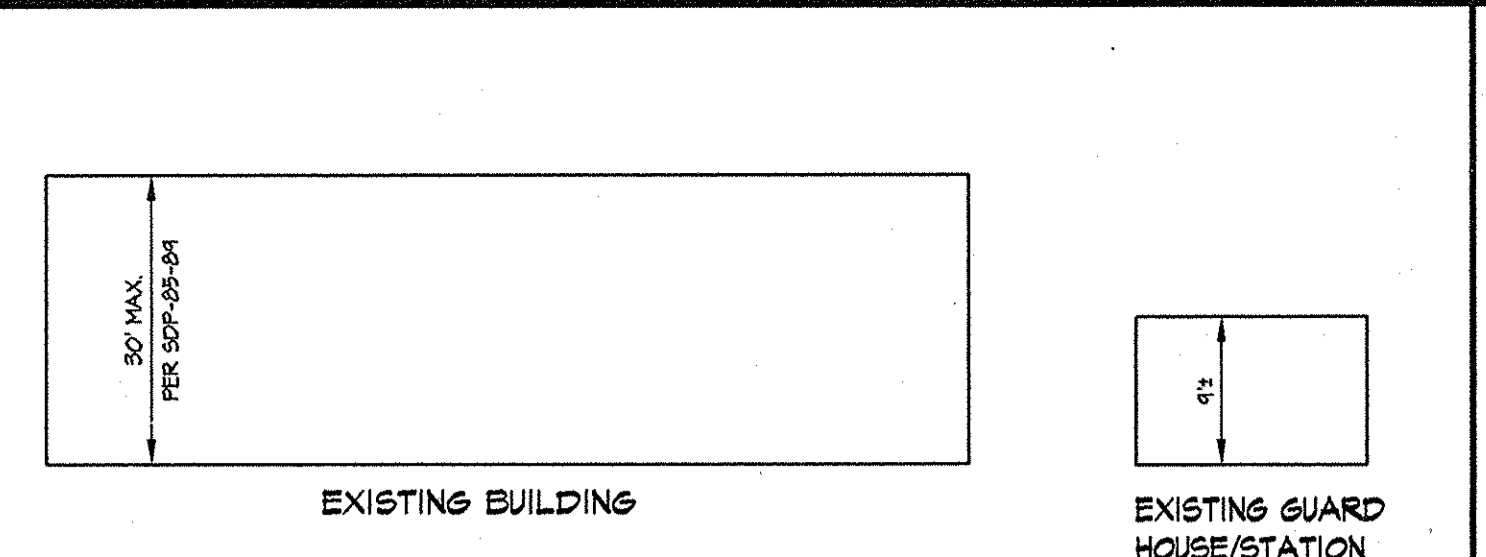
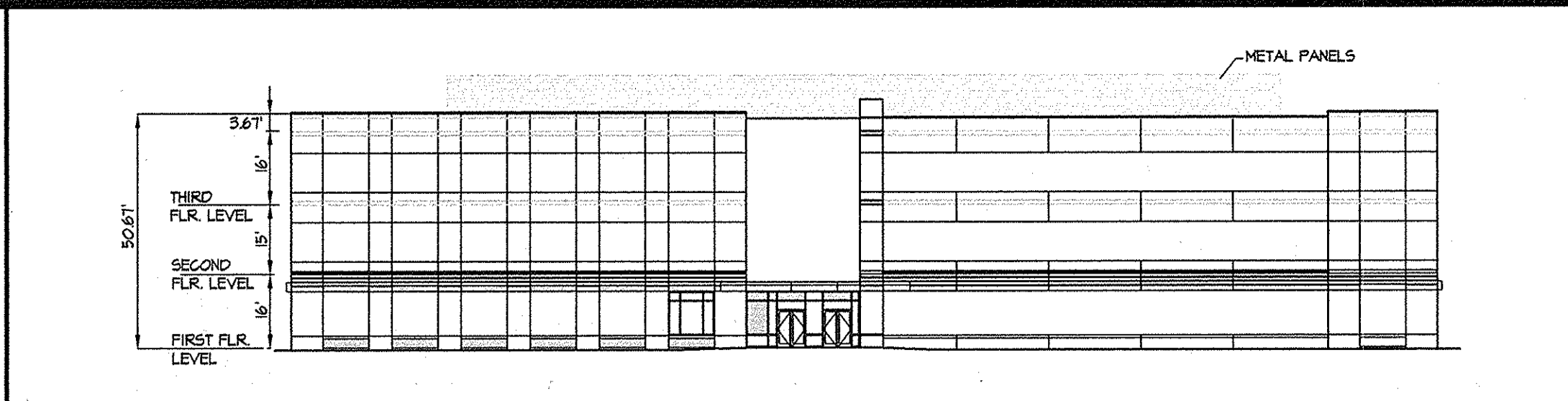
(REVISED) SITE DEVELOPMENT PLAN
RIVERS CORPORATE PARK
SECTION 1, AREA 2
PARCELS 'A-1' and 'C-3'
 PLAT No. 11730, 20428-20429 & 21387 & F-14-059
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1"=30'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
Nov./2010	41 - 12	3 OF 23

SEE SHEET 4 FOR PAVING DELINEATION AND SHEET 5 FOR DEMOLITION PLAN

P-2 PAVING			P-3 PAVING		
PAVEMENT MATERIAL (INCHES)	3 TO 4	5 TO 7	PAVEMENT MATERIAL (INCHES)	3 TO 4	5 TO 7
HMA SUPERPAVE FINAL SURFACE 4.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	HMA SUPERPAVE FINAL SURFACE 4.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5
HMA SUPERPAVE INTERMEDIATE SURFACE 4.5 MM, PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	HMA SUPERPAVE INTERMEDIATE SURFACE 4.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0
HMA SUPERPAVE BASE 14.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	HMA SUPERPAVE BASE 14.0 MM, PG 64-22, LEVEL 1 (ESAL)	3.0	3.0
GRADED AGGREGATE BASE (GAB)	0.0	4.0	GRADED AGGREGATE BASE (GAB)	10.0	6.0

NOTE:
DEPENDS ON THE COR VALUES OBTAINED IN THE FIELD, THE PAVING SECTIONS MAY BE REVISED,
IF APPROVED BY A PROFESSIONAL SOILS ENGINEER. THESE SUBSTITUTIONS MUST ALSO BE
APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

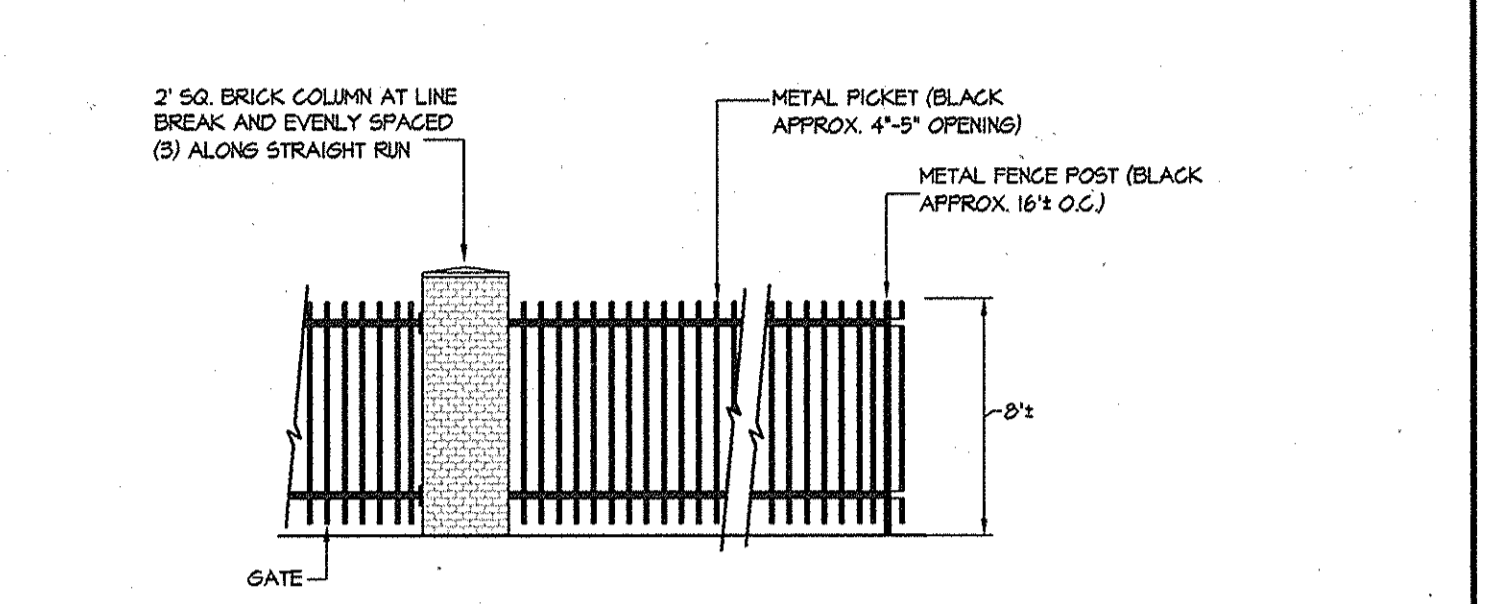
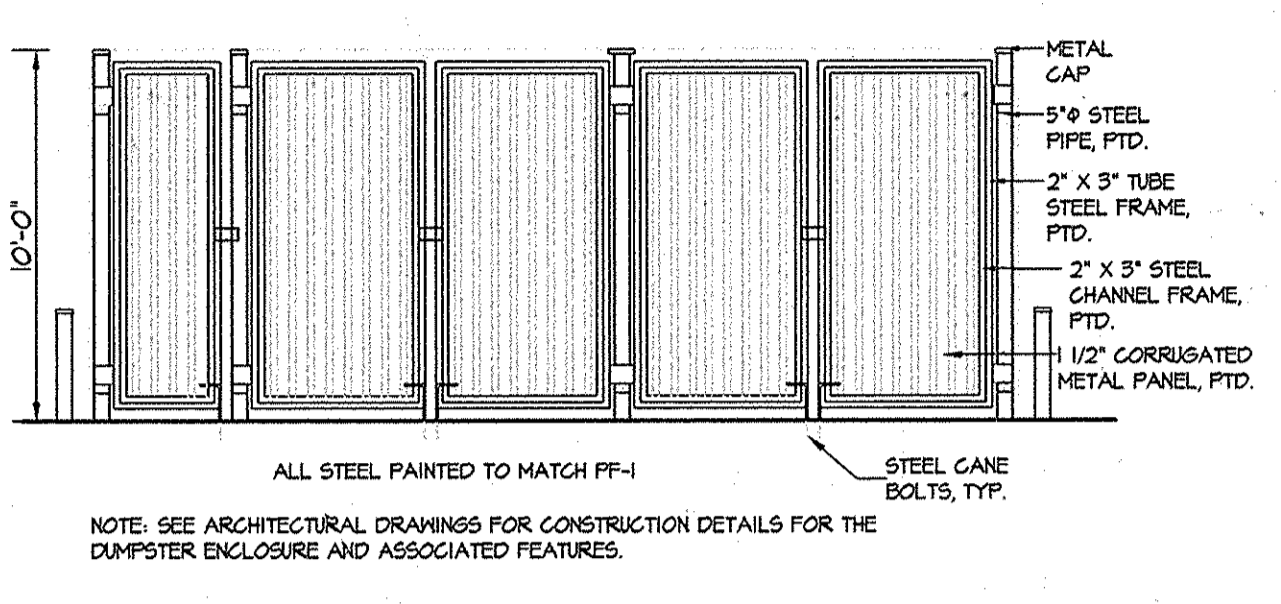
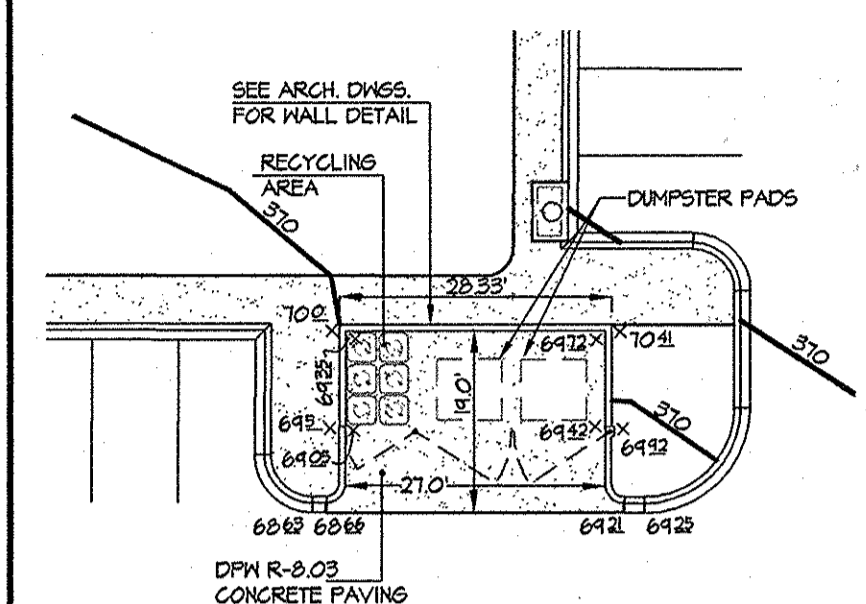
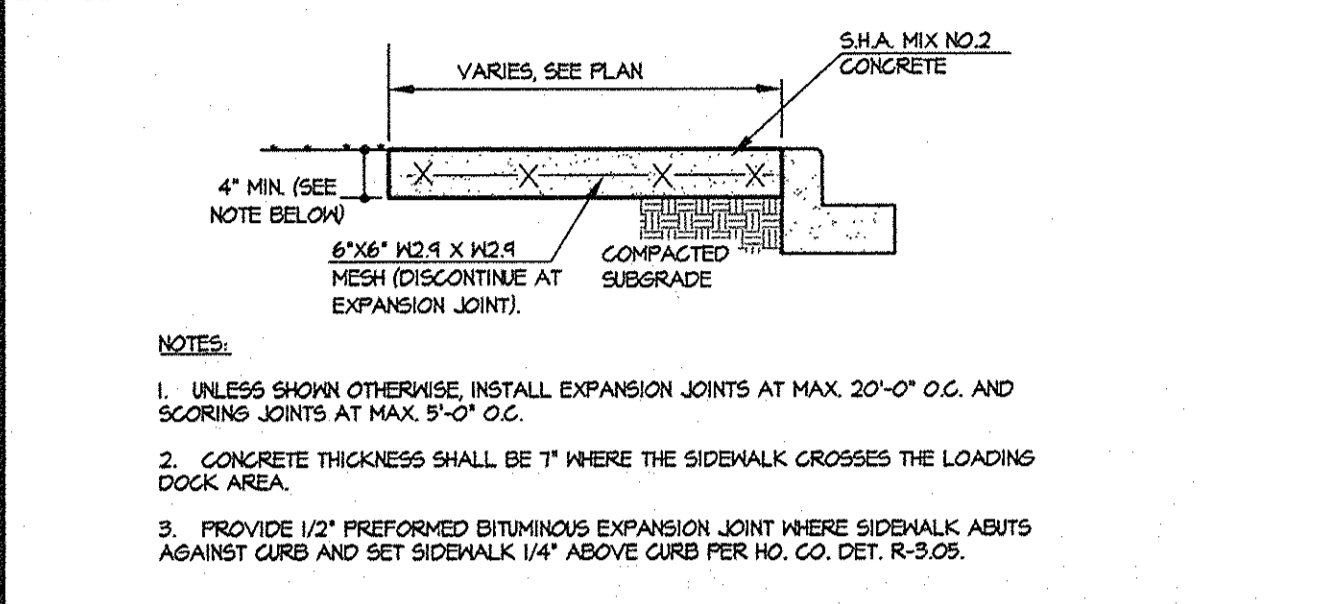


1 PAVEMENT DETAILS NO SCALE

4 ELEVATION -- PROPOSED BUILDING NO SCALE

5 ELEVATION -- EXISTING BUILDING and GUARDHOUSE NO SCALE

9 LOADING DOCK DETAIL SCALE: 1" = 20'



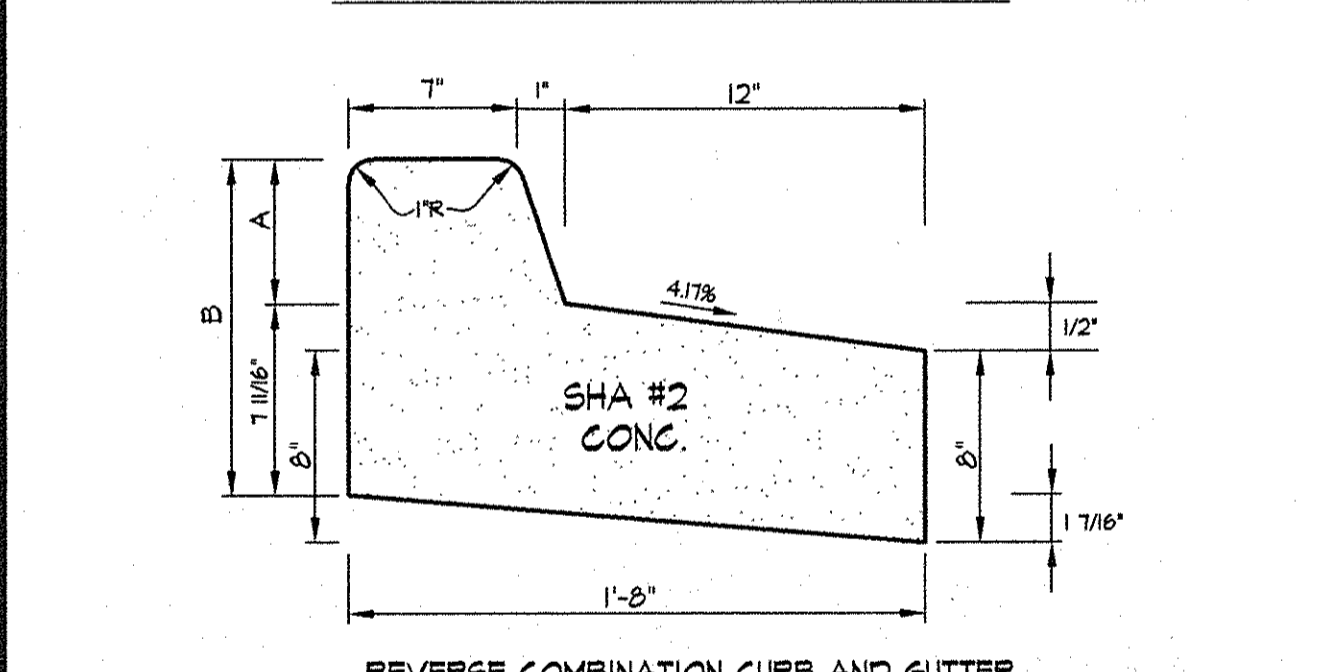
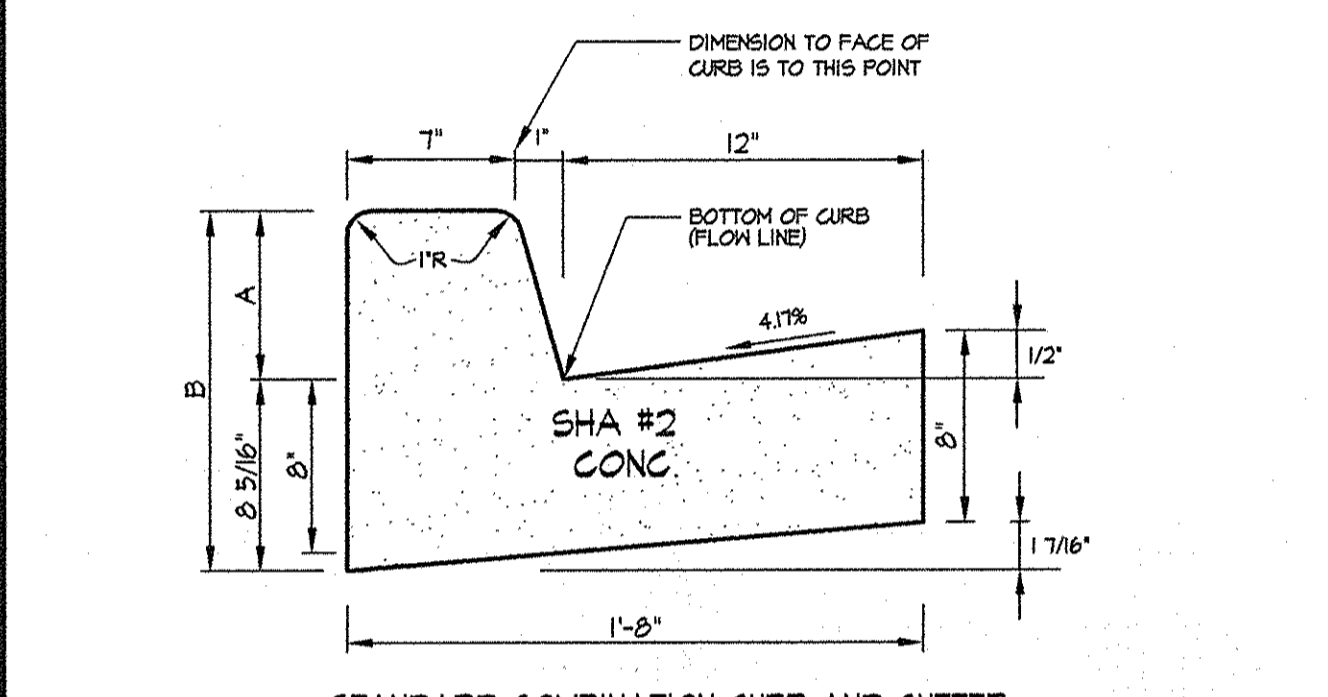
2 TYPICAL SIDEWALK SECTION NO SCALE

6 DUMPSTER DETAIL SCALE: 1" = 20'

7 ELEVATION -- GATES FOR REFUSE ENCLOSURE NO SCALE

8 EXISTING SECURITY FENCE FRONTING PUBLIC ROAD NO SCALE

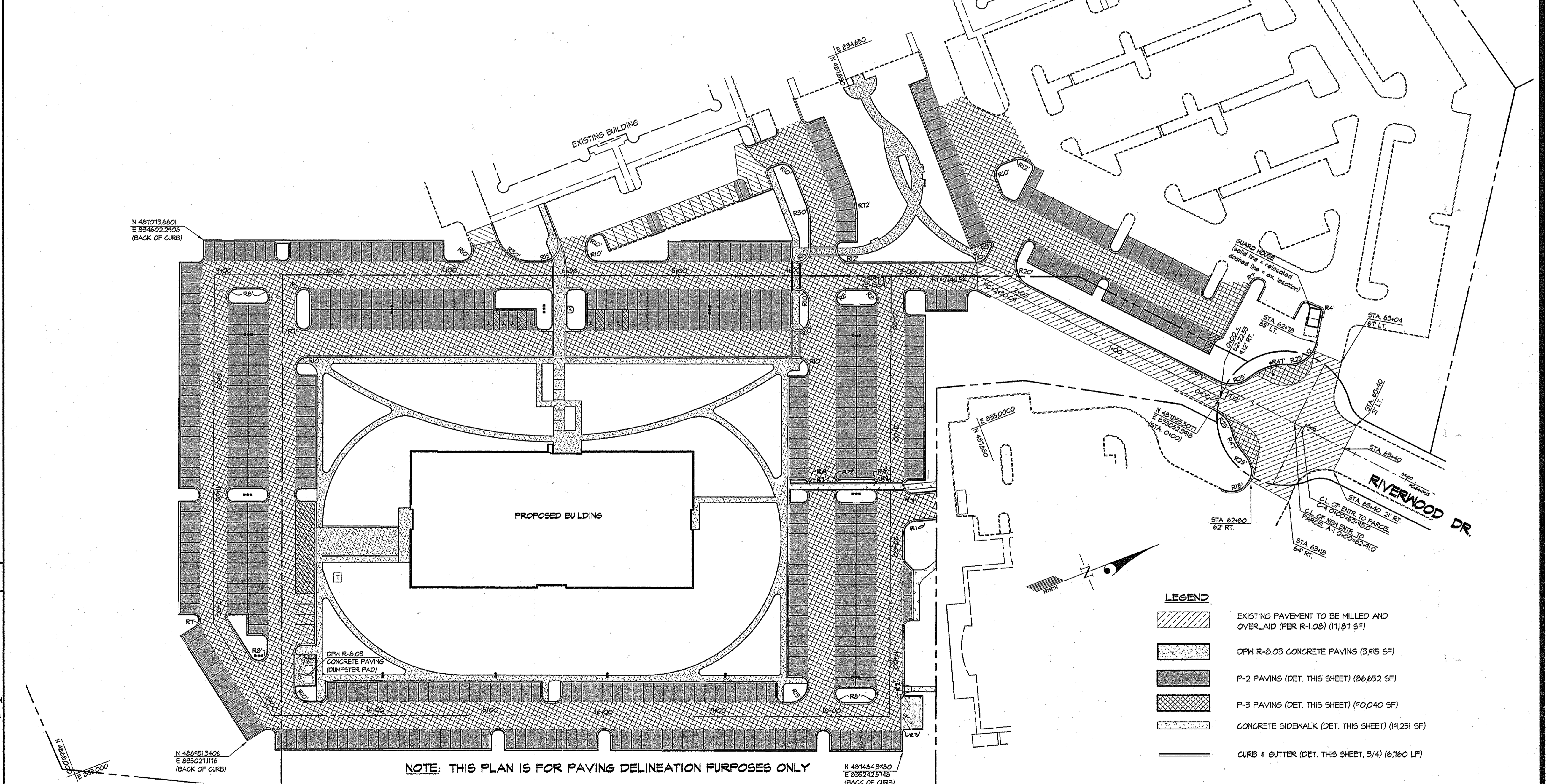
9 LOADING DOCK DETAIL SCALE: 1" = 20'



CURB TYPE	A	B
6"-CURB	6"	1'-2 5/16"
T"-CURB	7 5/16"	1'-3 1/2"

NOTES:
1. 50' MAX. BETWEEN EXPANSION JOINTS & 10' MAX. BETWEEN CONTROL JOINTS.
2. ALL ON-SITE CURB & GUTTER SHALL BE 6" TYPE CURB. CURB WITHIN THE PUBLIC R/W SHALL BE T" TYPE.
3. STANDARD (CATCH) CURB & GUTTER SHALL BE USED WHERE THE ADJACENT PAVEMENT SLOPES TOWARDS THE CURB & GUTTER. REVERSE (SPILL) CURB & GUTTER SHALL BE USED WHERE THE ADJACENT PAVEMENT SLOPES AWAY FROM THE CURB & GUTTER.

3 CONCRETE CURB AND GUTTER (STANDARD AND REVERSE) NO SCALE



APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE NOVEMBER 13, 2008

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director: *Norma J. Subler* 4/23/10
Chief, Division of Land Development: *Ked Schuler* 4/23/10
Chief, Development Engineering Division: *Norma J. Subler* 4/23/10

PROFESSIONAL CERTIFICATION
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. 12478, EXPIRATION DATE, MAY 26, 2012.

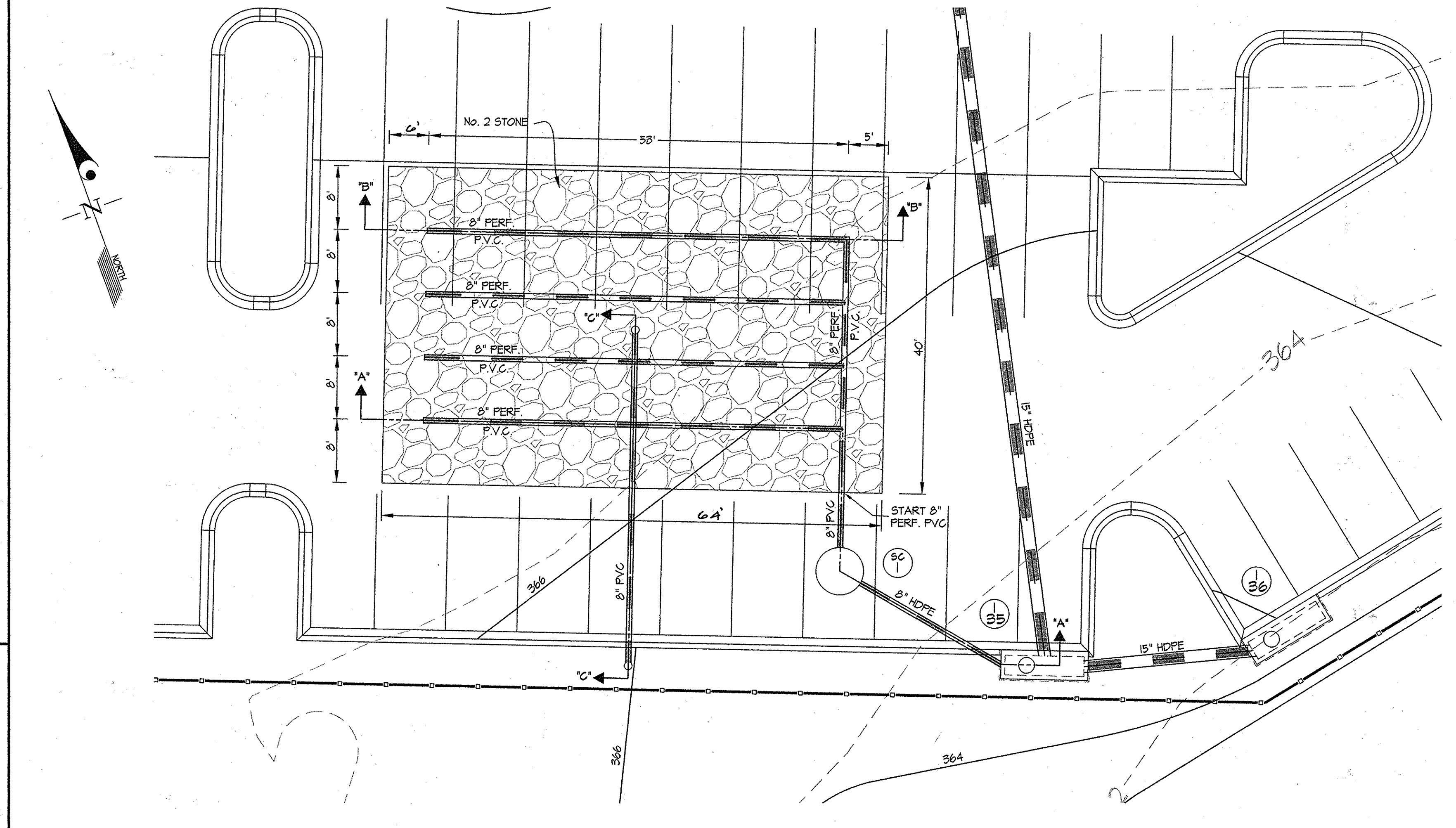
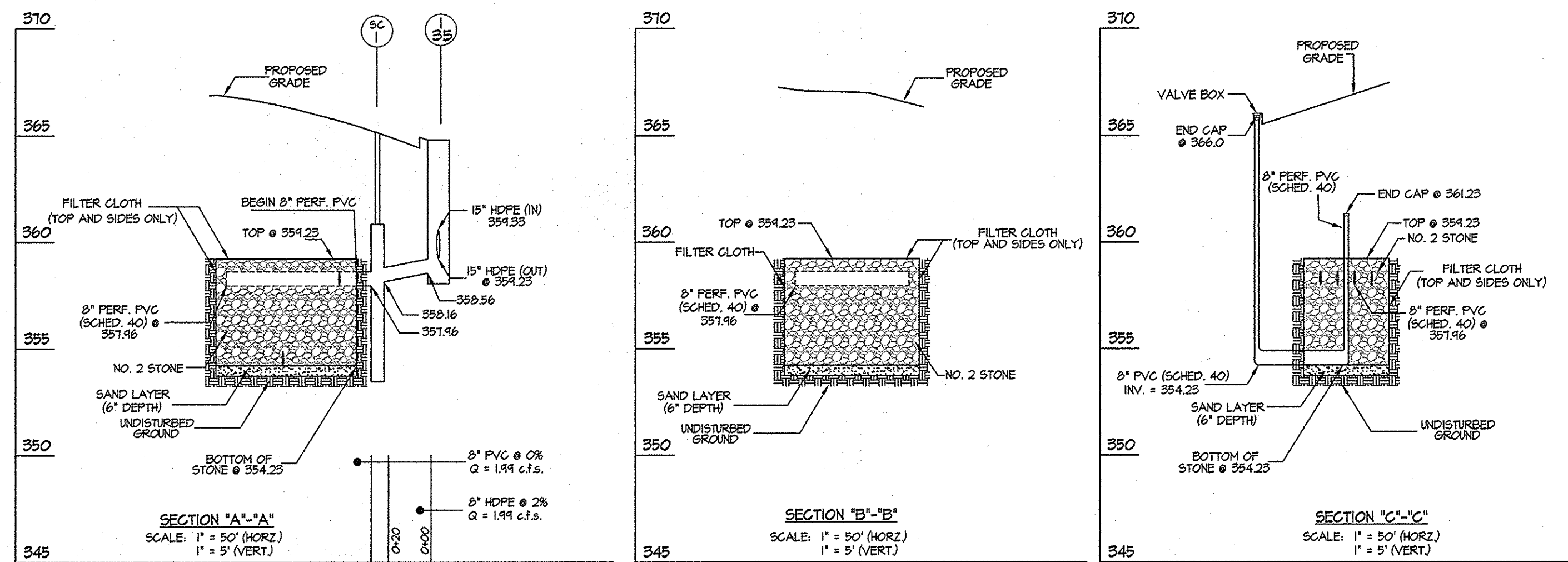
GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20868
TEL: 301-421-4024 FAX: 301-421-1820
301-989-2524 FAX: 301-421-4166

DATE	REVISION	BY	APPR.
11/2010	REVISED BLDG. TO SINGLE BLDG.; REV. PAVING & PARKING ACCORDINGLY; REV. BLDG. ELV. & ADDED LOADING DOCK DETAIL	KLP	KLP

PREPARED FOR:
OWNER/DEVELOPER:
COPT Riverwood, LLC
c/o COPT DEVELOPMENT SERVICES, LLC
6711 COLUMBIA GATEWAY DRIVE, SUITE 300
COLUMBIA, MD 21046
Phone: 443-285-9400
Attn: Lauren Taylor

(REVISED) PAVING DELINEATION PLAN and SITE DETAILS
RIVERS CORPORATE PARK
SECTION 1, AREA 2
PARCELS 'A-1' and 'C-3'
PLAT No. 11730 & 20428-20429 & 21307 & F-14-059
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
Nov./2010	41 - 12	4 OF 23



STRUCTURE SCHEDULE								
NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	LOCATIONS & REMARKS
			UPPER	LOWER	UPPER	LOWER		
SC-1	STORMCEPTOR	6'-0"	365.16	---	354.33	350.56	SEE DETAIL THIS SHEET	PRIVATE

PIPE SCHEDULE		
SIZE & TYPE	QUANTITY (LF)	REMARKS
8" PVC	57	SCH. 40
8" HDPE	20	
8" PERF. PVC	260	SCH. 40

*ALL PIPES TO BE PRIVATE.

RECHARGE FACILITY ENLARGEMENT SCALE: 1" = 10'

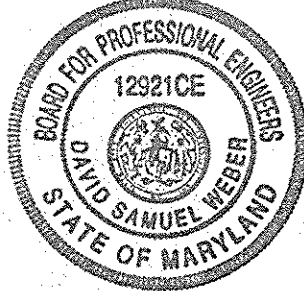
DEVELOPER'S/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM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

By: COPT Riverwood, LLC
Daniel Wasserman 2/24/09
 SIGNATURE OF DEVELOPER/BUILDER DATE

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 DISTRICT.

Daniel Wasserman 11 MAY 2009
 DATE

PROFESSIONAL CERTIFICATION
 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. 12421.
Daniel Wasserman 11 MAY 2009
 DATE



APPROVED PLANNING BOARD OF HOWARD COUNTY
 DATE NOVEMBER 13, 2008

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Mona G. Fiedler 5/29/09
 Director, DEP. Date
Andy Hamt 5/28/09
 Chief, Division of Land Development Date
Chris Damsman 5/21/09
 Chief, Development Engineering Division Date

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

John S. ... 5/19/09
 HOWARD SCD. DATE

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: 301-421-4188

DATE	REVISION	BY	APP'R.
4/14			
7/24/2009	See As-Built sheet B in this file	TMB	
10/1/2010	Revised length of recharge facility	TMB	

- OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES**
- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
 - WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
 - A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
 - WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 12 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
 - THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
 - ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

- OPERATIONS AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMCEPTOR WATER QUALITY DEVICE**
- THE STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE PERIODICALLY INSPECTED AND CLEANED TO MAINTAIN OPERATION AND FUNCTION. THE OWNER SHALL INSPECT THE STORMCEPTOR INSPECTION/MONITORING FORM. INSPECTIONS SHALL BE DONE BY USING CLEAR PLEXIGLASS TUBES (SLUDGE JUGS) TO EXTRACT A WATER COLUMN SAMPLE. WHEN THE SEDIMENT DEPTHS EXCEED THE LEVEL SPECIFIED IN TABLE 6 OF THE STORMCEPTOR TECHNICAL MANUAL, THE UNIT MUST BE CLEANED.
 - THE STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE CHECKED AND CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES.
 - THE MAINTENANCE OF THE STORMCEPTOR UNIT SHALL BE DONE USING A VACUUM TRUCK WHICH WILL REMOVE WATER, SEDIMENT, DEBRIS, FLOATING HYDROCARBONS, AND OTHER MATERIALS IN EACH UNIT. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
 - THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX MONTHS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED. STRUCTURAL PARTS OF THE STORMCEPTOR UNIT SHALL BE REPAIRED AS NEEDED.
 - THE OWNER SHALL RETAIN AND MAKE THE STORMCEPTOR INSPECTION/MONITORING FORMS AVAILABLE TO THE HOWARD COUNTY OFFICIALS UPON THEIR REQUEST.

Precast Concrete Stormceptor® Order Request Form

CONTRACTOR INFORMATION
 Name: _____
 Address: _____
 City: _____
 State: _____
 Zip Code: _____
 Contact: _____
 Phone: _____
 Fax: _____

OWNER INFORMATION
 Name: COPT RIVERWOOD, LLC
 Phone: 413-285-5649
 CONTACT: SEAN MOORE

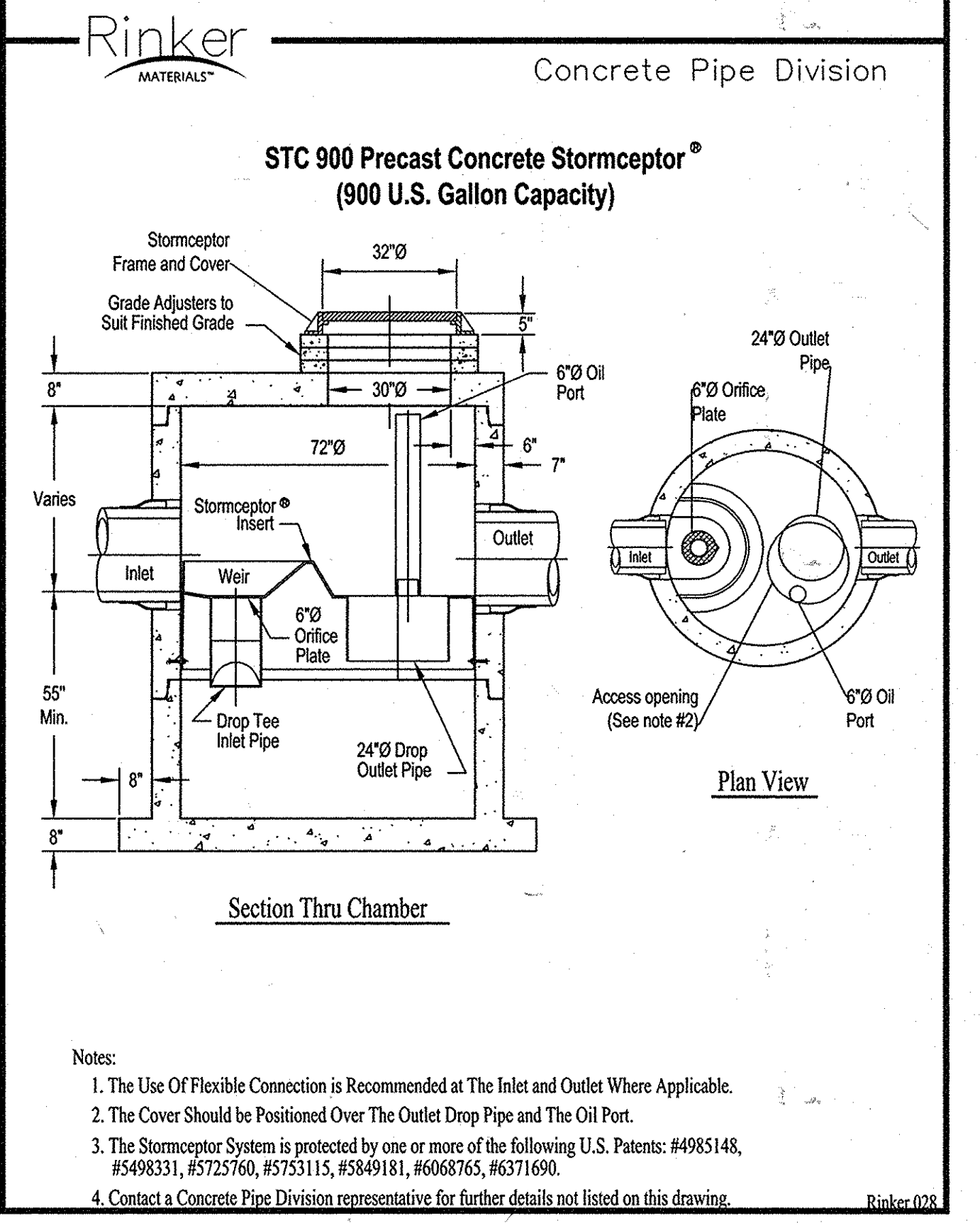
INTERVENING DRAINAGE AREA FOR THIS UNIT: 0.82

Stormceptor® Model	Inlet Size	Outlet Size
900	3600	DISC
1000	4800	24"
1200	6000	36"
2400	7200	48"
		CUSTOM

Model Number: SC-1
 Top Flange (ft): 36.15
 Inlet Pipe (ft): 35.10
 Outlet Pipe (ft): 35.75
 Pipe Type: HDPE
 Inlet Pipe Outside Diameter (ft): 8"
 Inlet Pipe Inside Diameter (ft): 7.6"
 Outlet Pipe Outside Diameter (ft): 10.5"
 Outlet Pipe Inside Diameter (ft): 10.2"

Project Name: RIVERS CORPORATE PARK
 Appointment (date time of delivery (week))
 Delivery Address: Street _____ City _____ State _____ Zip Code _____
 Designer/Company _____ Phone _____ Fax _____


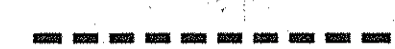
PLEASE FILL OUT COMPLETELY AND FAX TO: **CSJ Hydro Conduit**
 ATTN: ED O'MALLEY FAX: (703)922-3659, PHONE: (703)971-1900
 FOR TECHNICAL ASSISTANCE PLEASE CALL MIKE BARG, PHONE (703)971-1900

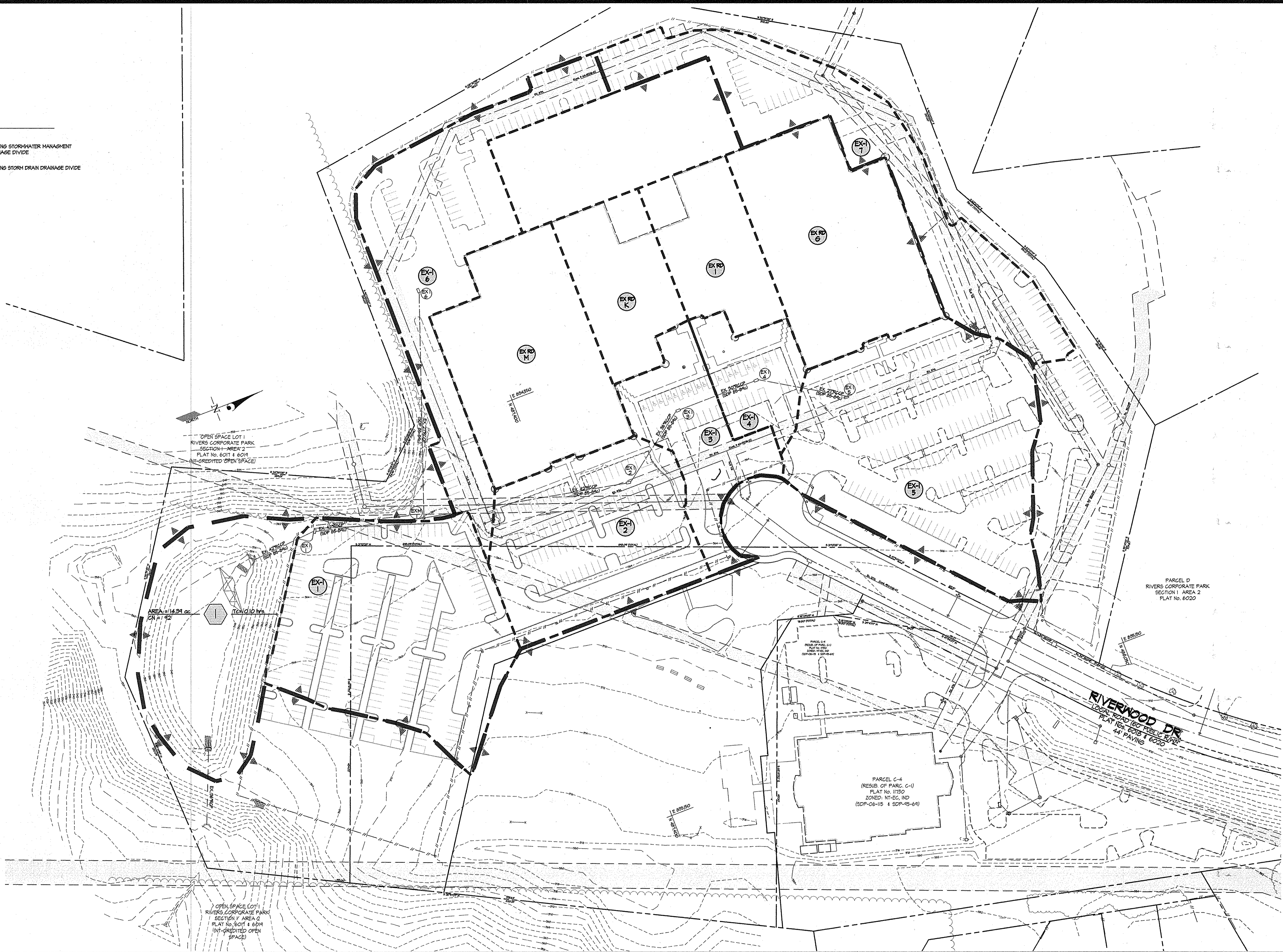


PREPARED FOR:
 OWNER/DEVELOPER
COPT Riverwood, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 6711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5649
 Attn: SEAN MOORE

RECHARGE DETAILS			SCALE	ZONING	G. L. W. FILE No.
RIVERS CORPORATE PARK			AS SHOWN	NT-EC, IND	06003
SECTION 1, AREA 2			DATE	TAX MAP - GRID	SHEET
PARCELS 'A-1' and 'C-3'			Feb/2009	41 - 12	8 OF 23
PLAT No. 11730 & 20428-20429, 21987 & F-14-059			HOWARD COUNTY, MARYLAND		

LEGEND

-  EXISTING STORM-WATER MANAGEMENT DRAINAGE DIVIDE
-  EXISTING STORM DRAIN DRAINAGE DIVIDE



PROFESSIONAL CERTIFICATION
 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. 12,921, EXPIRATION DATE: April 10, 2010



Samuel Weber 11 MAY 2009

APPROVED
 PLANNING BOARD OF HOWARD COUNTY
 DATE NOVEMBER 13, 2008

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Mona E. Suttler 5/29/09
 Director, DEP
Andy Kama 5/28/09
 Chief, Division of Land Development
W. D. Williams 5/28/09
 Chief, Development Engineering Division

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: 410-850-1820 DC/VA: 301-959-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
4/14			

PREPARED FOR:
 OWNER/DEVELOPER
 COPT Riverwood, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 6711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5649
 Attn: SEAN MOORE

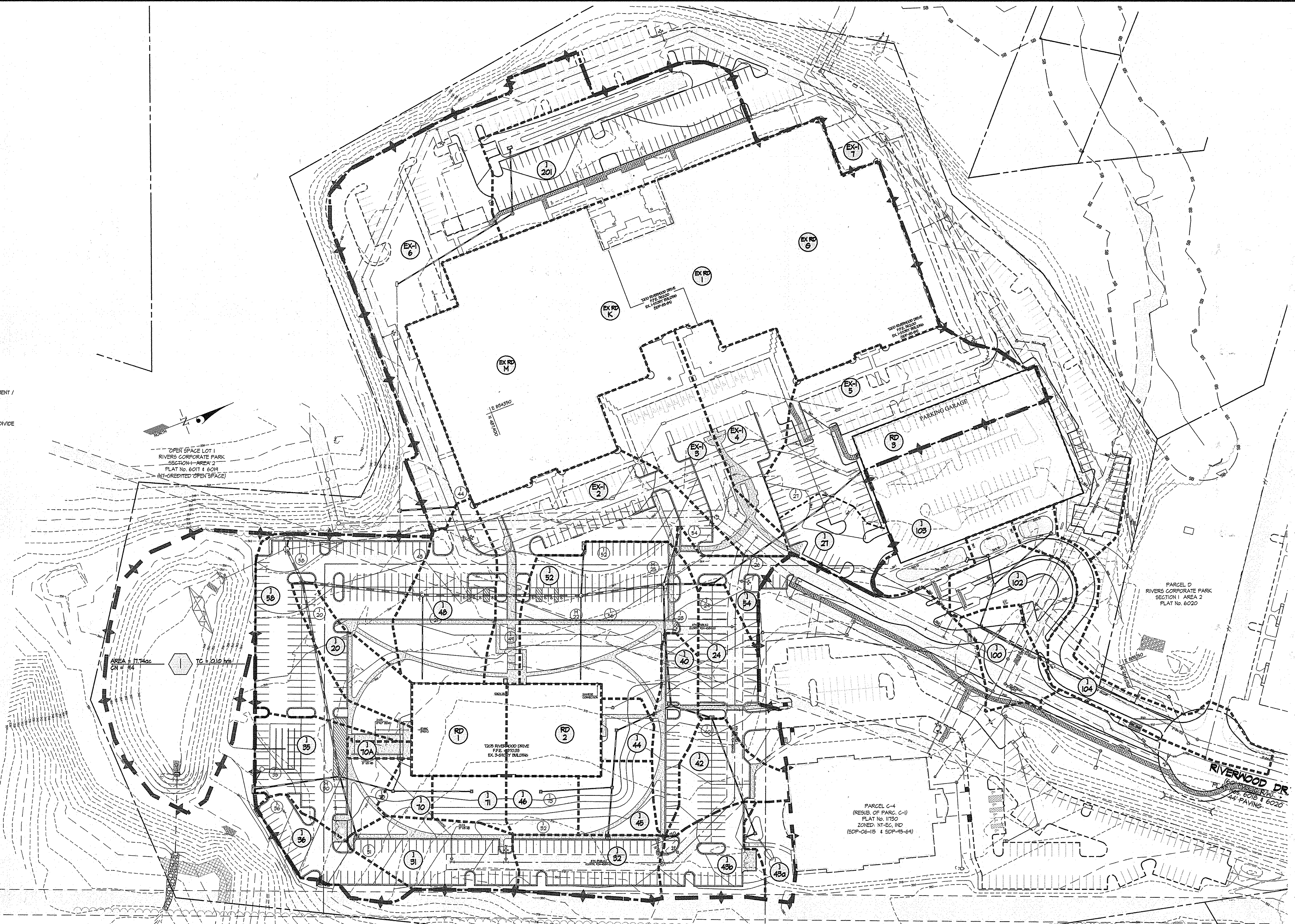
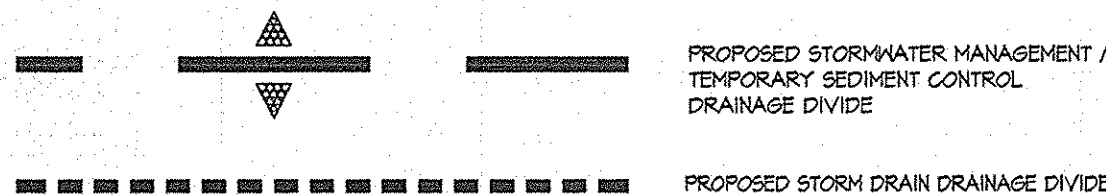
EXISTING CONDITION DRAINAGE AREA MAP
RIVERS CORPORATE PARK
 SECTION 1, AREA 2
 PARCELS 'A-1' and 'C-3'
 PLAT No. 11730 & 20428-20429, 21327 & F-14-0577
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=60'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
Feb/2009	41 - 12	9 OF 13

DRAINAGE AREAS			
AREA (No.)	D.A. (ACRES)	% IMP. (%)	C (---)
I-20	0.25	85	0.12
I-24	0.25	85	0.12
I-31	0.26	85	0.12
I-32	0.24	85	0.12
I-35	0.46	85	0.12
I-36	0.26	85	0.12
I-40	0.24	85	0.12
I-42	0.26	85	0.12
I-43a	0.24	85	0.12
I-44	0.12	0	0.04
I-45	0.20	0	0.04
I-46	0.16	0	0.04
I-48	0.53	85	0.12
I-52	0.84	85	0.12
I-54	0.17	85	0.12
I-58	0.81	85	0.12
I-70	0.04	0	0.04
I-70A	0.04	85	0.12
I-71	0.14	0	0.04
H00	0.23	85	0.12
H02	0.25	85	0.12
H05	0.20	85	0.12
H04	0.50	80	0.12
I-201	1.02	60	0.12
I-43a	0.14	85	0.12
RD-1	0.40	100	0.85
RD-2	0.40	100	0.85
RD-3	0.21	100	0.85

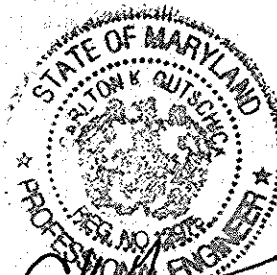
* SITE HAS BEEN MASS GRADED, ALL SOILS ASSIGNED TO BE 'C' SOILS

LEGEND



PROFESSIONAL CERTIFICATION

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. 12878, EXPIRATION DATE: MAY 26, 2014.



John A. ... 3/28/14

APPROVED
 PLANNING BOARD OF HOWARD COUNTY
 DATE JANUARY 16, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Martha M. ... 6/19/14
 Director Date
Wetshel ... 6-22-14
 Chief, Division of Land Development Date
Chad ... 4.7.14
 Chief, Development Engineering Division Date

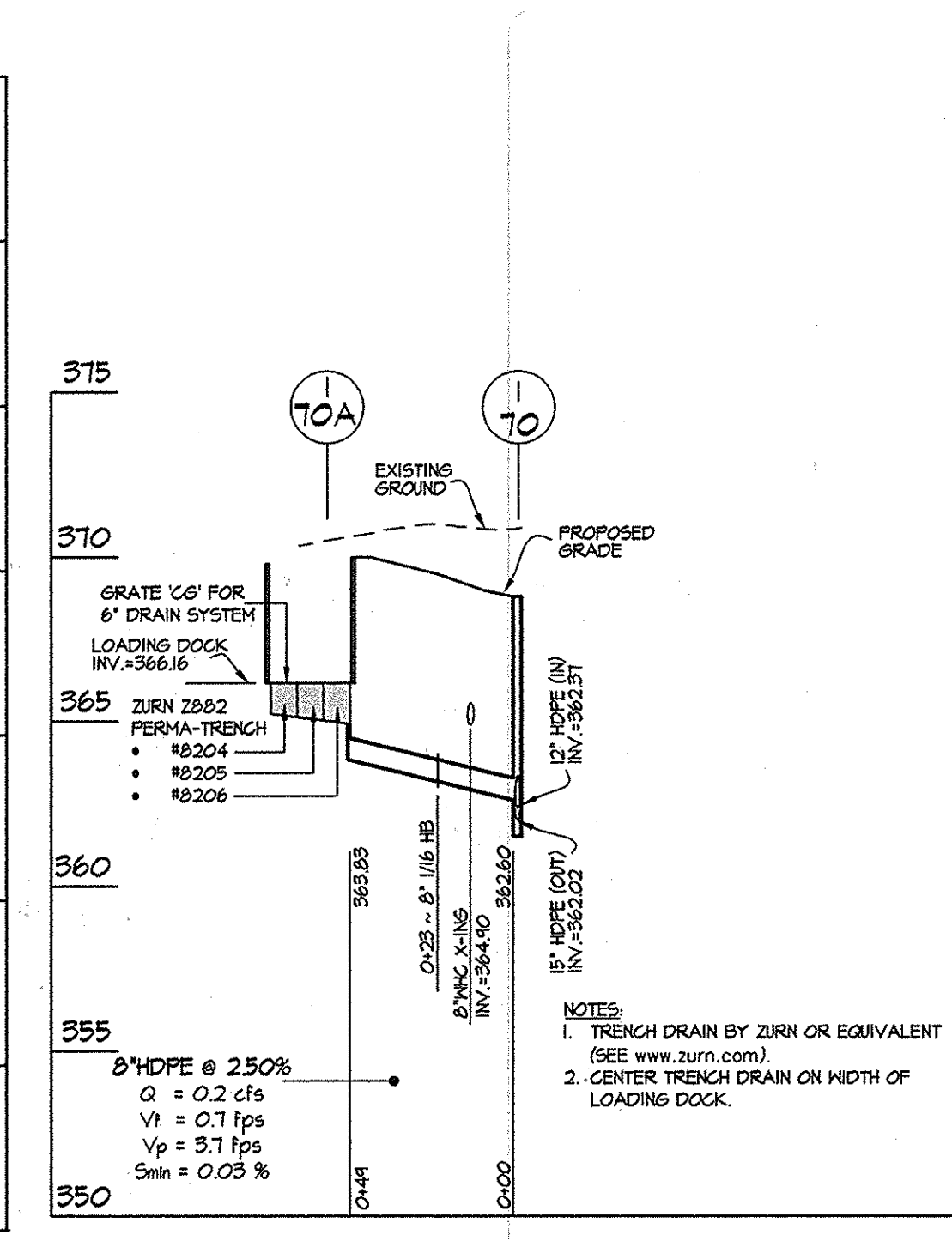
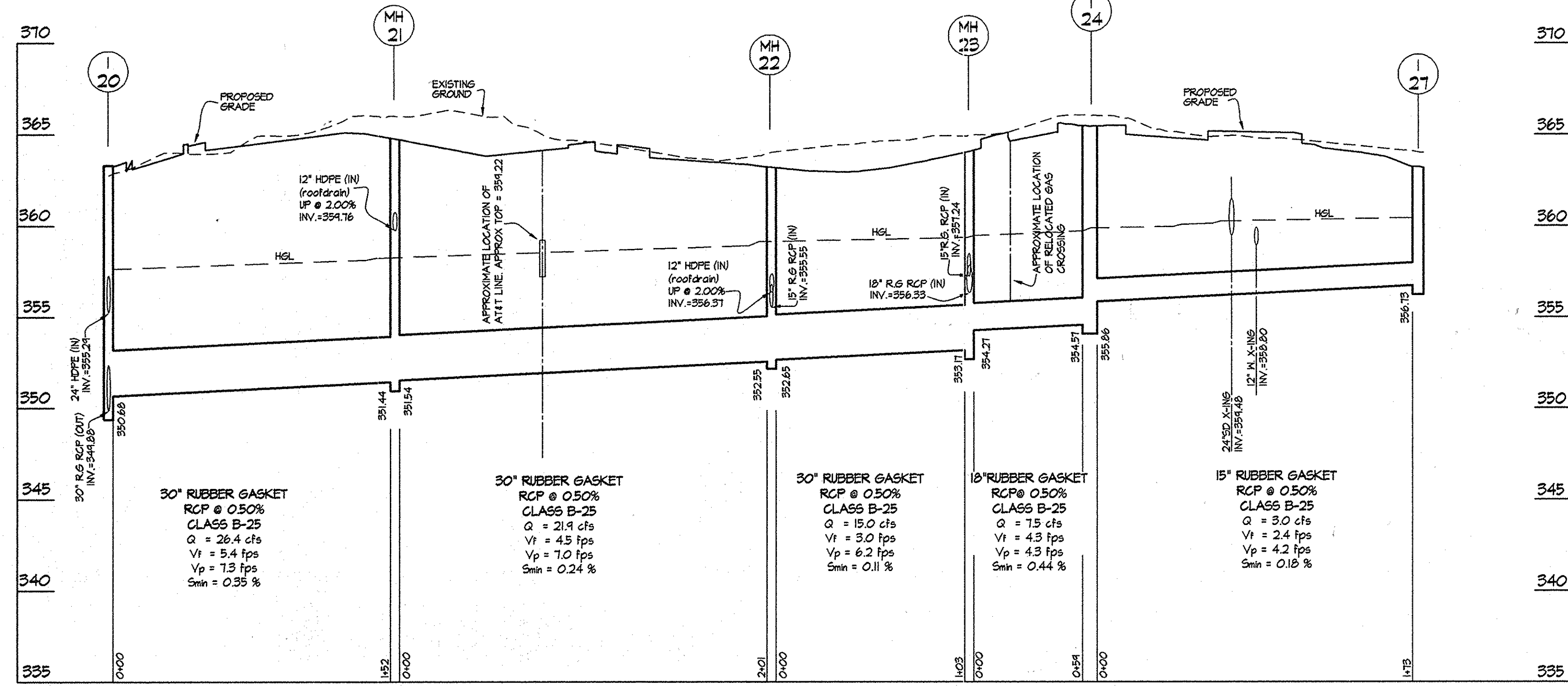
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
12/2013	UPDATE DRAINAGE AREA TO REFLECT PHASE 2 WORK		
10/25/2012	UPDATE DRAINAGE AREA FOR I-24, I-42 AND BREAK I-40 AREA INTO I-43a & I-43b TO REFLECT NEW CURB	KLP	
11/2010	REVISED TO SINGLE BLDG. AND REVISED DRAINAGE AREAS ACCORDINGLY		

PREPARED FOR:
 OWNER/DEVELOPER
 COPT Riverwood, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 6711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5400
 Attn: DAVID NORFOLK

(REVISED) STORM DRAIN DAM and SWM DAM and S&E DAM
RIVERS CORPORATE PARK
 SECTION 1, AREA 2
 PARCELS 'A-2', 'C-5' and 'C-6'
 PLAT No. 11730, 20428-20429, 21387 and F-14-059
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=60'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
MARCH 2014	41 - 12	10 OF 23



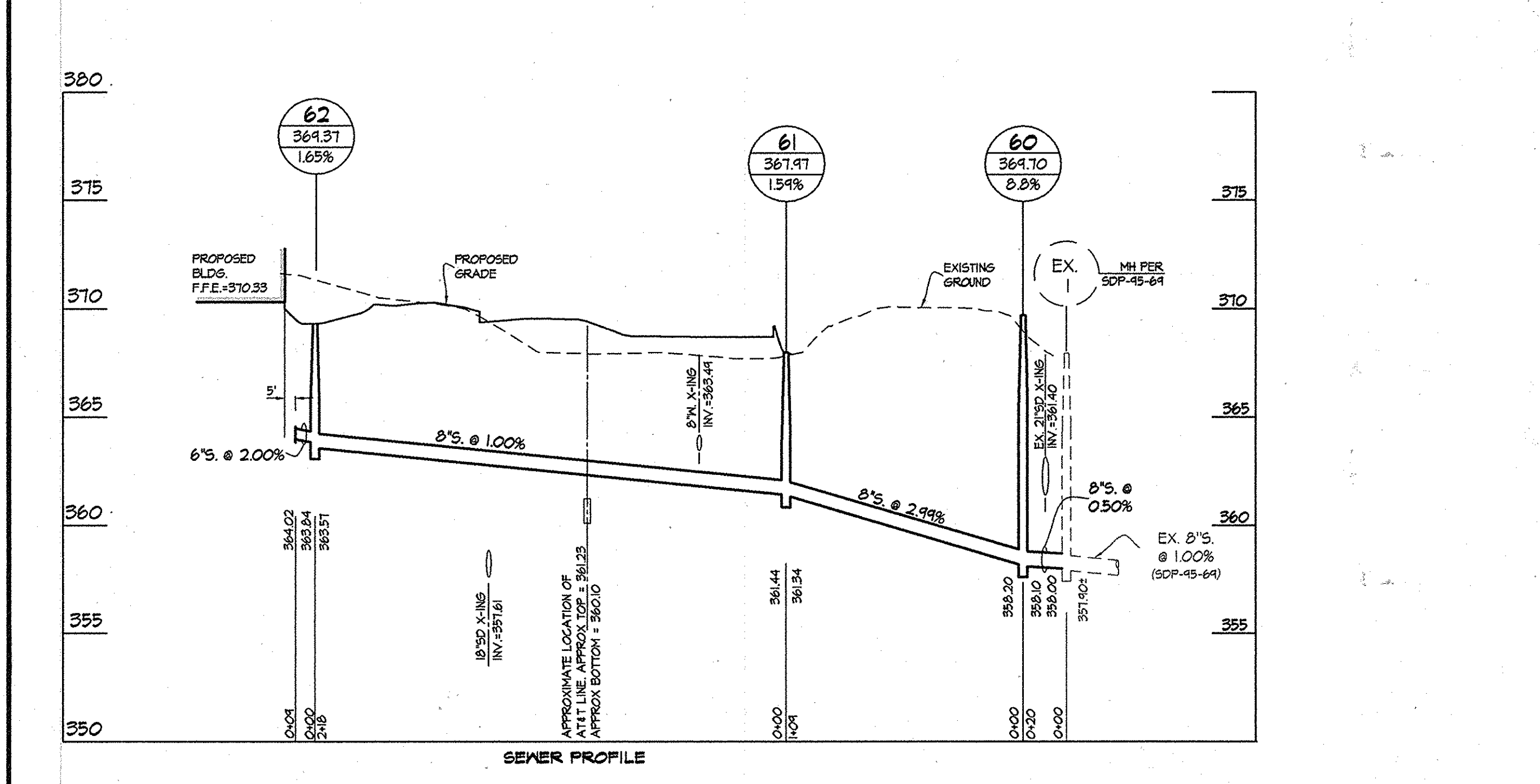
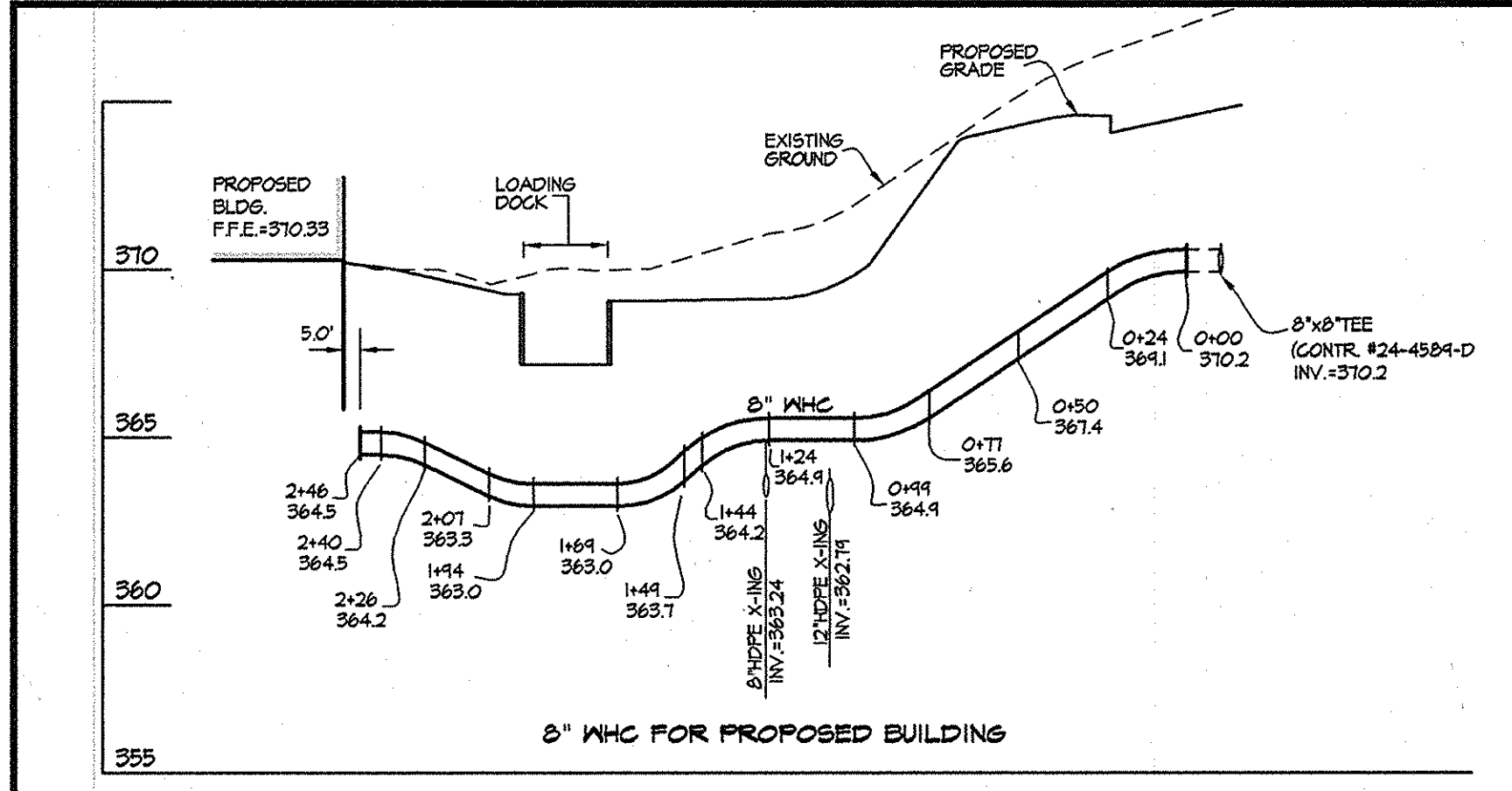
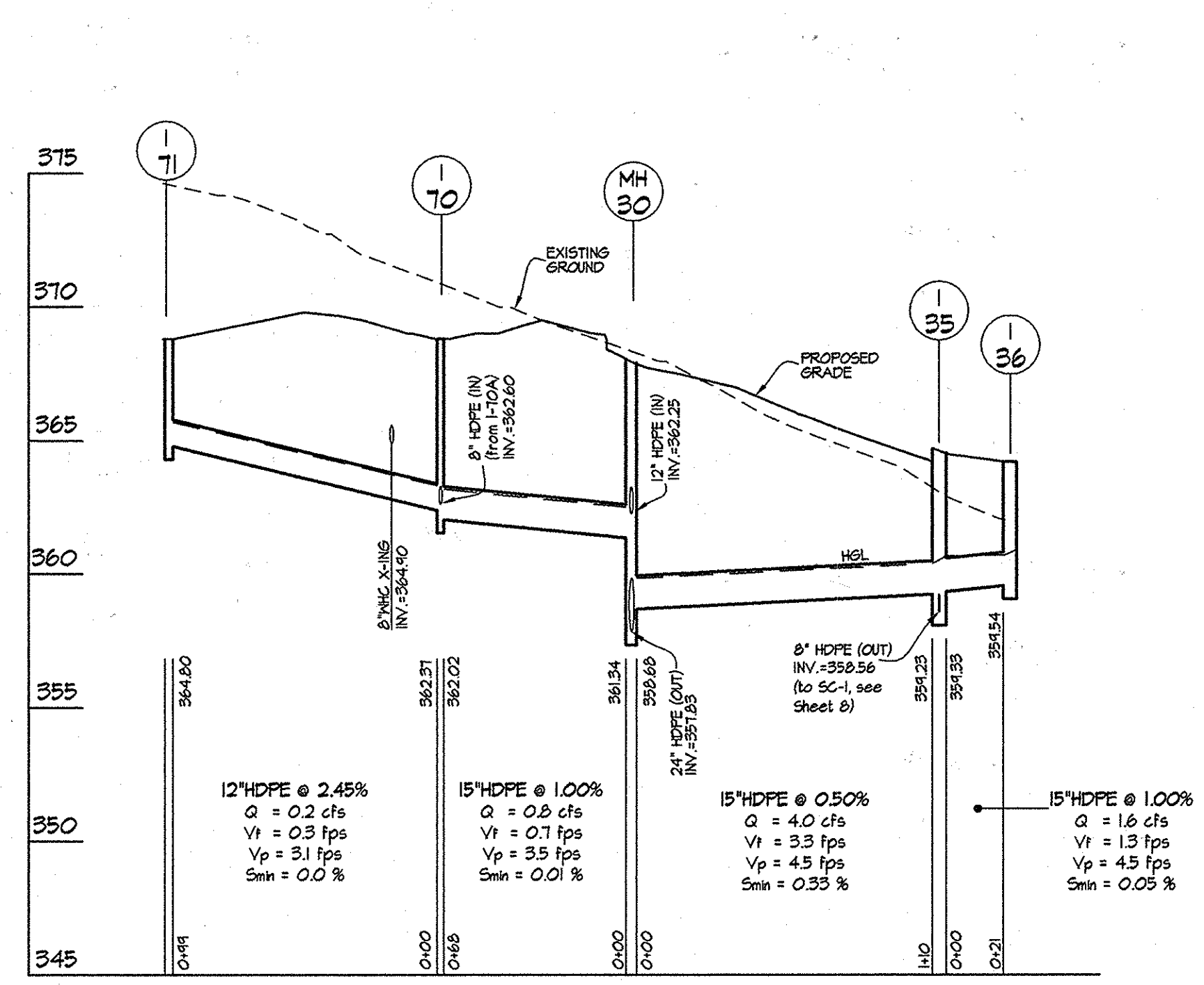
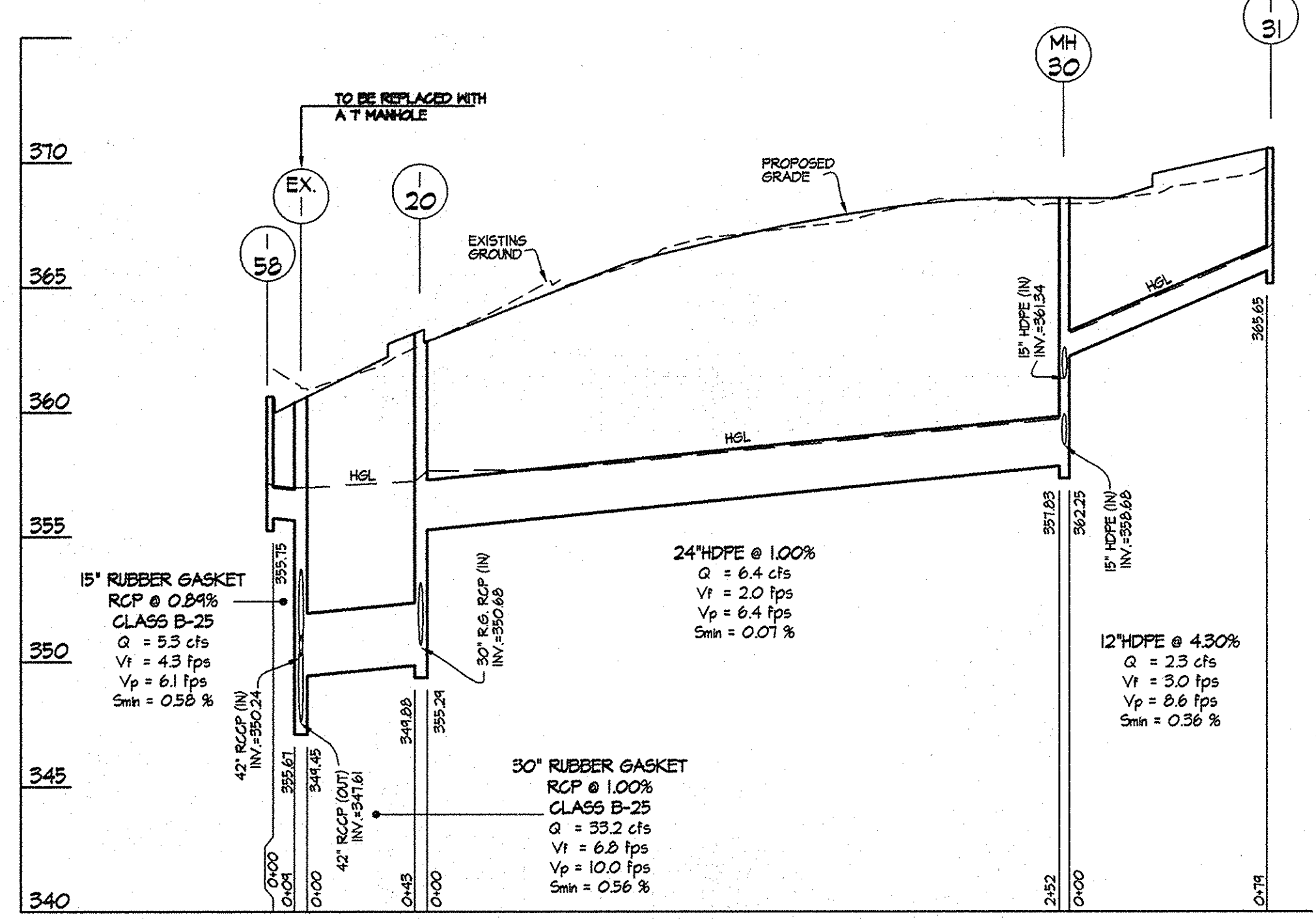
STRUCTURE SCHEDULE									
NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	LOCATIONS & REMARKS	
			UPPER	LOWER	UPPER	LOWER			
EX. 1	MANHOLE	7'-0"	360.95	-----	355.67	347.61	HO. CO. STD. 6-5.11	Northwest of ex. SWM Pond	
I-5B	A-10 INLET	2'-6"	360.52	-----	terminal	355.75	HO. CO. STD. D-4.03		
I-20	COS-5 INLET	5'-0"	363.37	-----	355.24	344.68	MD 374.63		
MH-30	MANHOLE	4'-0"	361.96	-----	362.25	357.83	HO. CO. STD. 6-5.12		
I-31	A-5 INLET	2'-6"	370.40	-----	terminal	365.65	HO. CO. STD. D-4.02		
I-70	YARD INLET	2'-0"	368.80	-----	362.60	362.02	HO. CO. STD. D-4.14		
I-70A	TRENCH DRAIN	-----	366.16	-----	terminal	-----	SEE DETAIL THIS SHEET		
I-71	YARD INLET	2'-0"	368.80	-----	terminal	364.80	HO. CO. STD. D-4.14		
I-35	A-10 INLET	2'-6"	364.85	364.58	354.33	358.56	HO. CO. STD. D-4.03		
I-36	A-10 INLET	2'-6"	364.74	364.29	terminal	354.54	HO. CO. STD. D-4.03		
MH-21	MANHOLE	5'-0"	364.76	-----	354.76	351.44	HO. CO. STD. 6-5.11		
MH-22	MANHOLE	5'-0"	363.20	-----	355.55	352.55	HO. CO. STD. 6-5.11		
MH-23	MANHOLE	5'-0"	364.06	-----	351.24	353.17	HO. CO. STD. 6-5.11		
I-24	COS-5 INLET	4'-0"	365.50	-----	355.86	354.57	MD 374.63		
I-27	A-5 INLET	2'-6"	363.61	-----	terminal	356.75	HO. CO. STD. D-4.02		
SC-1	STORMCEPTOR	-----	-----	-----	-----	-----	-----	SEE SHEET 8 FOR DETAIL	

NOTES:
 1. ALL STRUCTURES TO BE PRECAST. ALL STRUCTURES ARE PRIVATE.
 2. THE STRUCTURE SCHEDULE IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. IF DISCREPANCIES EXIST BETWEEN VALUES SHOWN ON THE SCHEDULE AND THOSE SHOWN ON THE PLANS & PROFILES, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR CLARIFICATION PRIOR TO ORDERING THE STRUCTURES.

ALL PROFILES
 SCALE: 1" = 5' VERT.
 1" = 50' HORIZ.

PIPE SCHEDULE		
SIZE & TYPE	QUANTITY (LF)	REMARKS
8" HDPE	44	
12" HDPE	342	
15" HDPE	206	
24" HDPE	252	
15" RUBBER GASKET RCP	173	
18" RUBBER GASKET RCP	54	
30" RUBBER GASKET RCP	500	

*ALL PIPES TO BE PRIVATE.



APPROVED
PLANNING BOARD OF HOWARD COUNTY
 DATE **NOVEMBER 13, 2008**

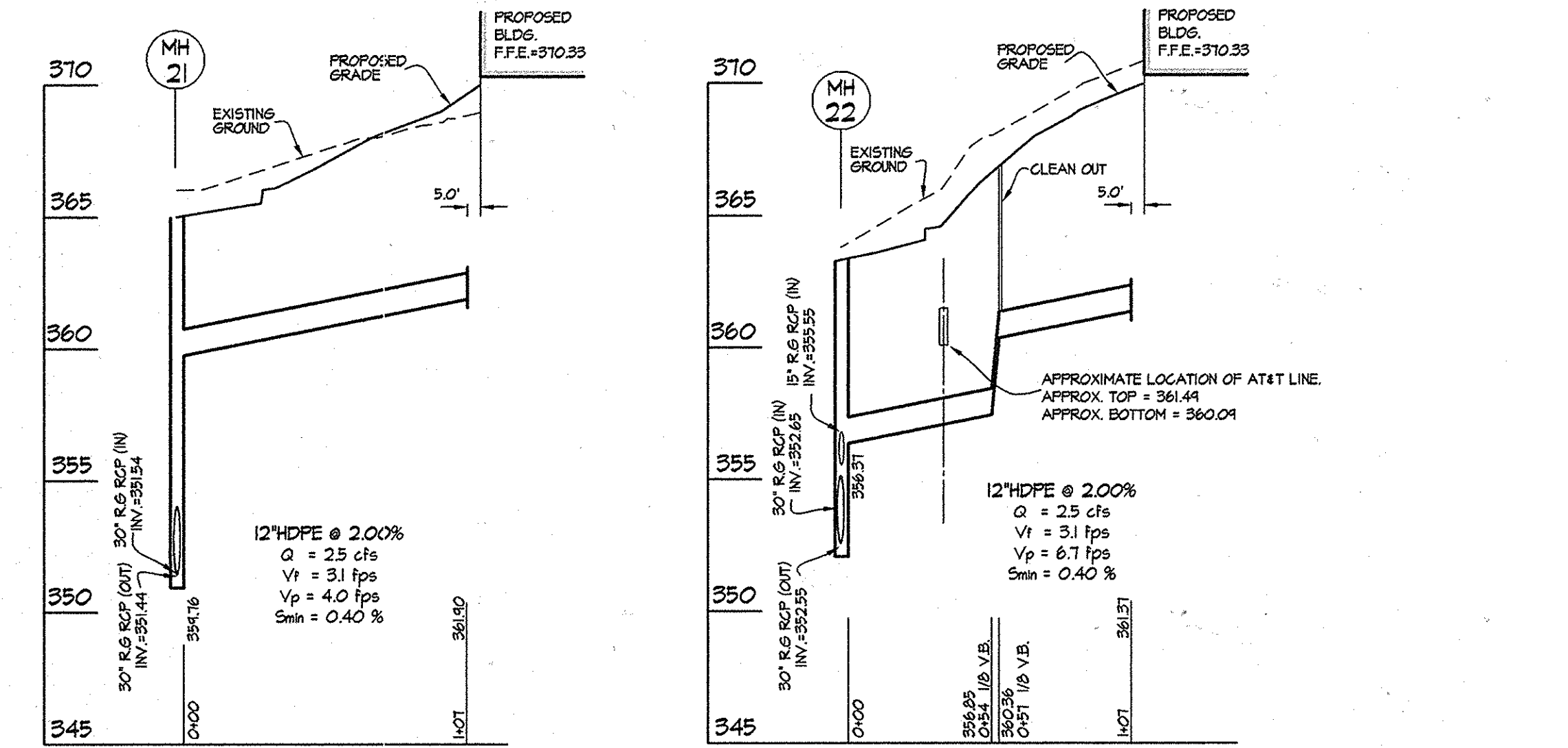
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Mona S. Futtler 11/23/10
 Director Date

Kent Shelton 11/24/10
 Chief, Division of Land Development Date

Mona S. Futtler 11/22/10
 Chief, Development Engineering Division Date

PROFESSIONAL CERTIFICATION
 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. 12475, EXPIRATION DATE: MAY 26, 2012.



GLW GUTSCHICK 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

NO.	DATE	REVISION	BY	APP'R.
1	10/2010	REVISE PROFILES & STRUCTURE SCHEDULE DUE TO NEW (SINGLE) BUILDING	KLP	
2				

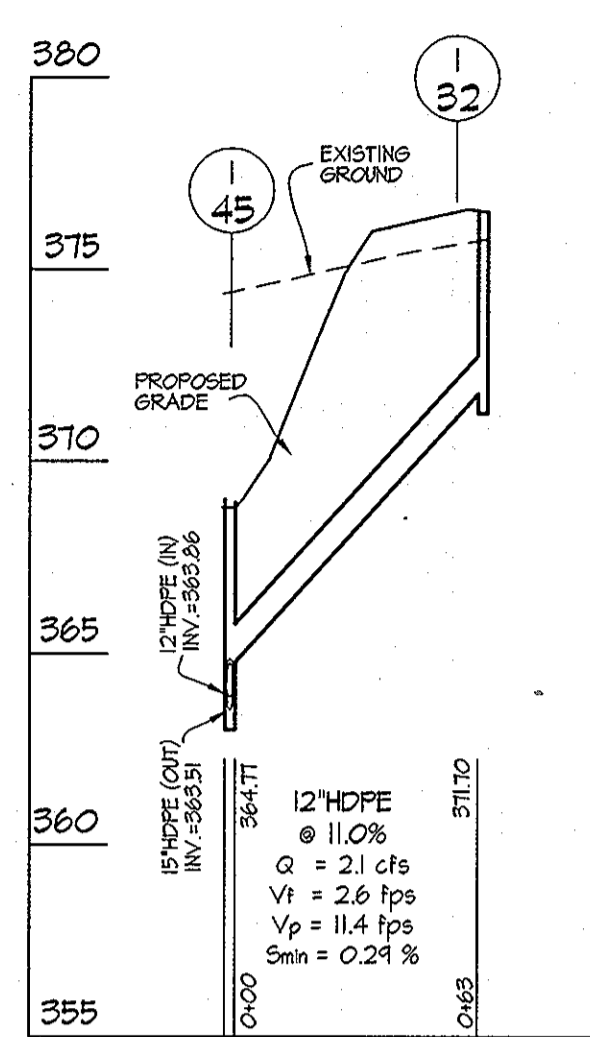
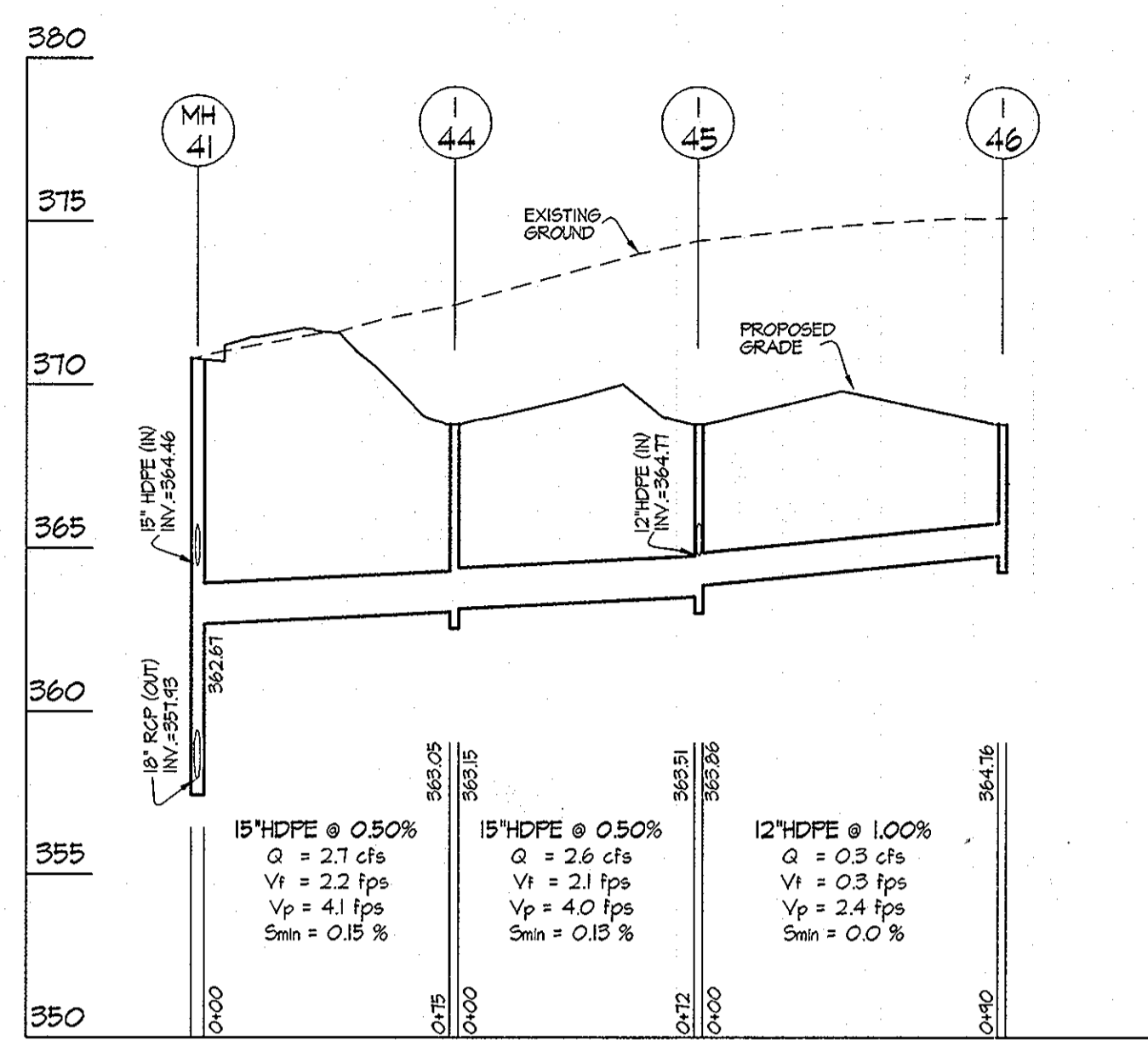
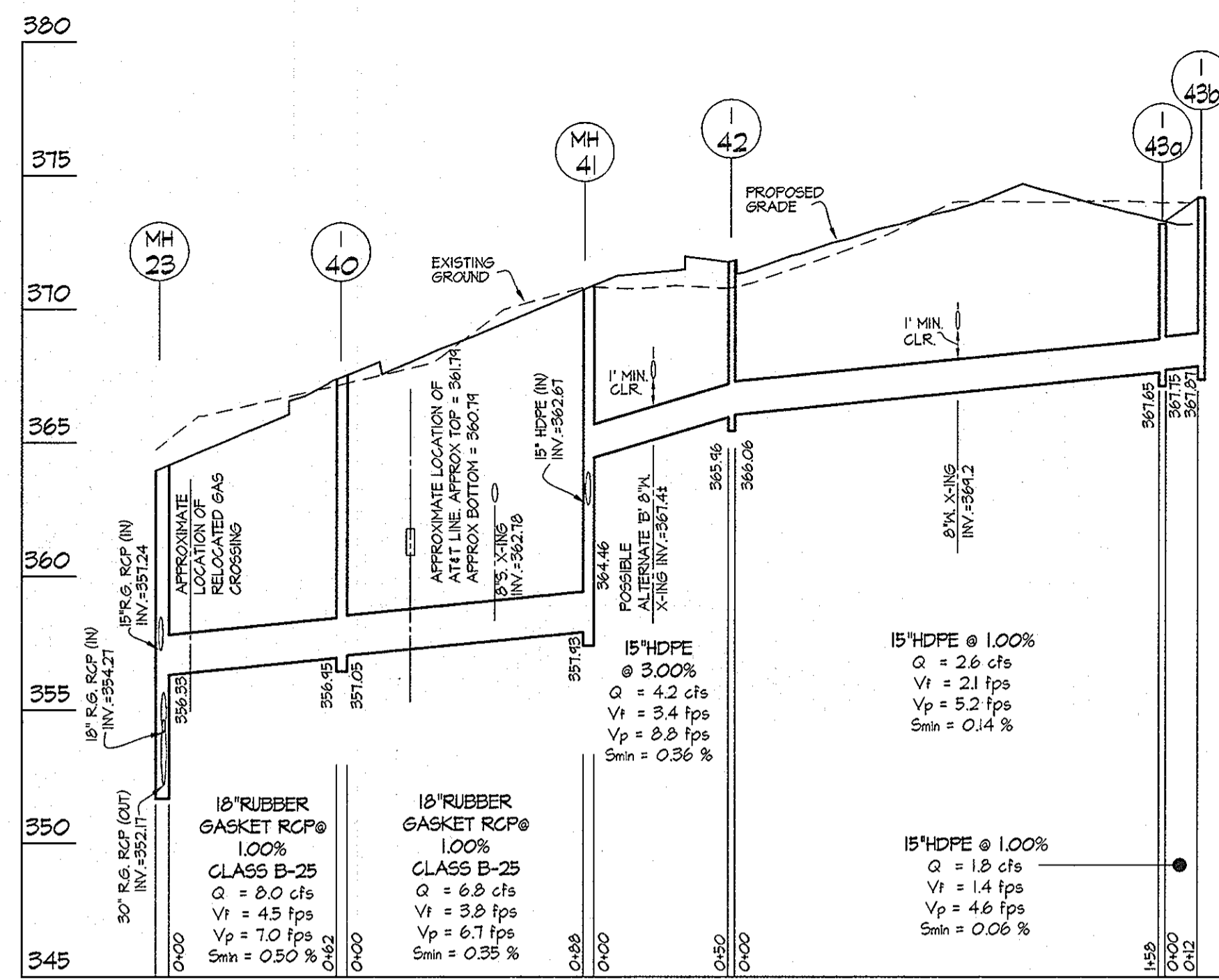
PREPARED FOR:
 OWNER/DEVELOPER
COPT Riverwood, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 6711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-8949
 Attn: SEAN MOORE

(REVISED) STORM DRAIN PROFILES & UTILITY PROFILES

RIVERS CORPORATE PARK
SECTION 1, AREA 2
PARCELS 'A-1' and 'C-3'
 PLAT No. 11730 & 20428-20429 & 21287 & F-14-050

SCALE AS SHOWN	ZONING NT-EC, IND	G. L. W. FILE No. 06003
DATE Nov./2010	TAX MAP - GRID 41 - 12	SHEET 11 OF 23

GUILFORD ELECTION DISTRICT No. 6



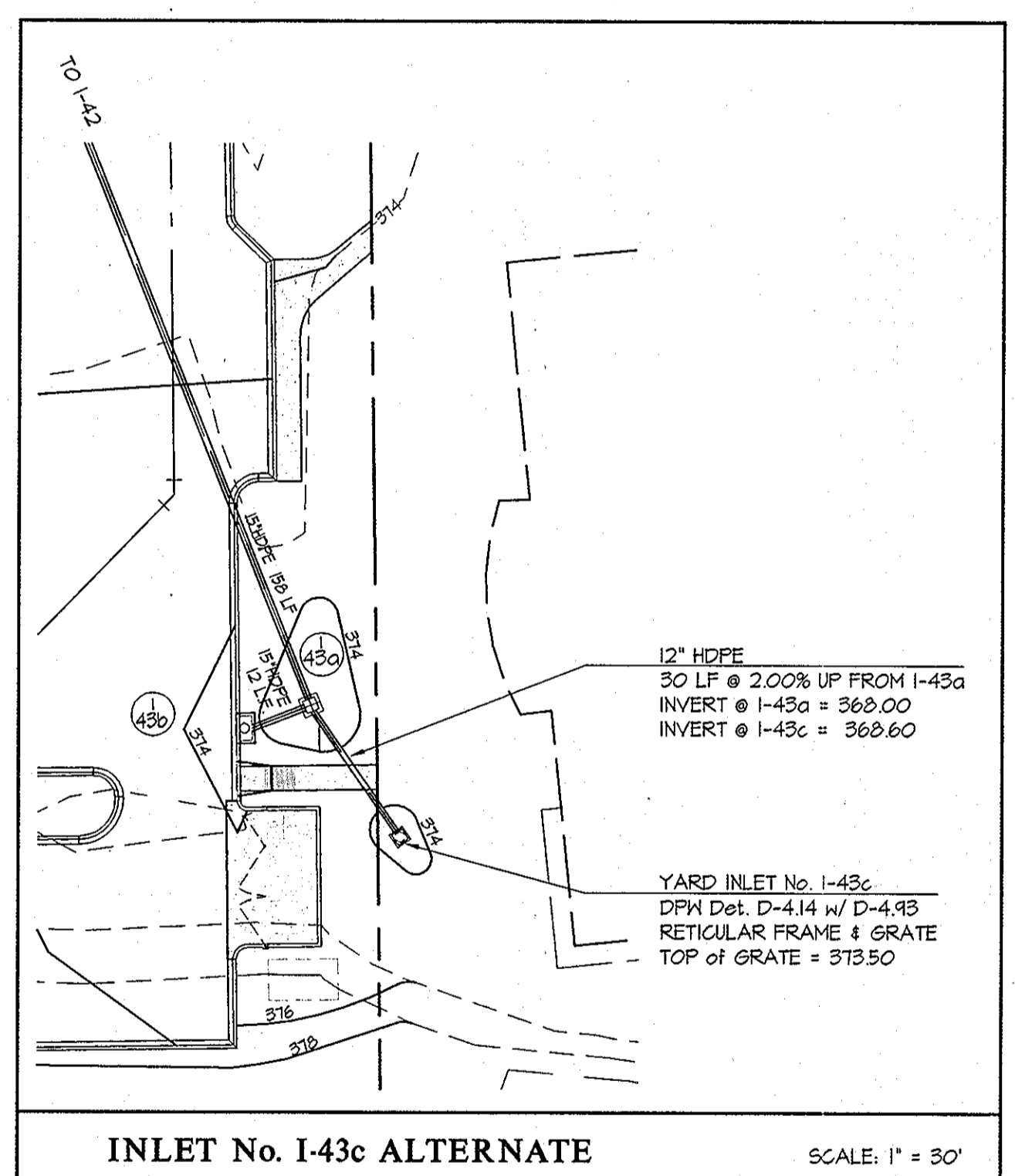
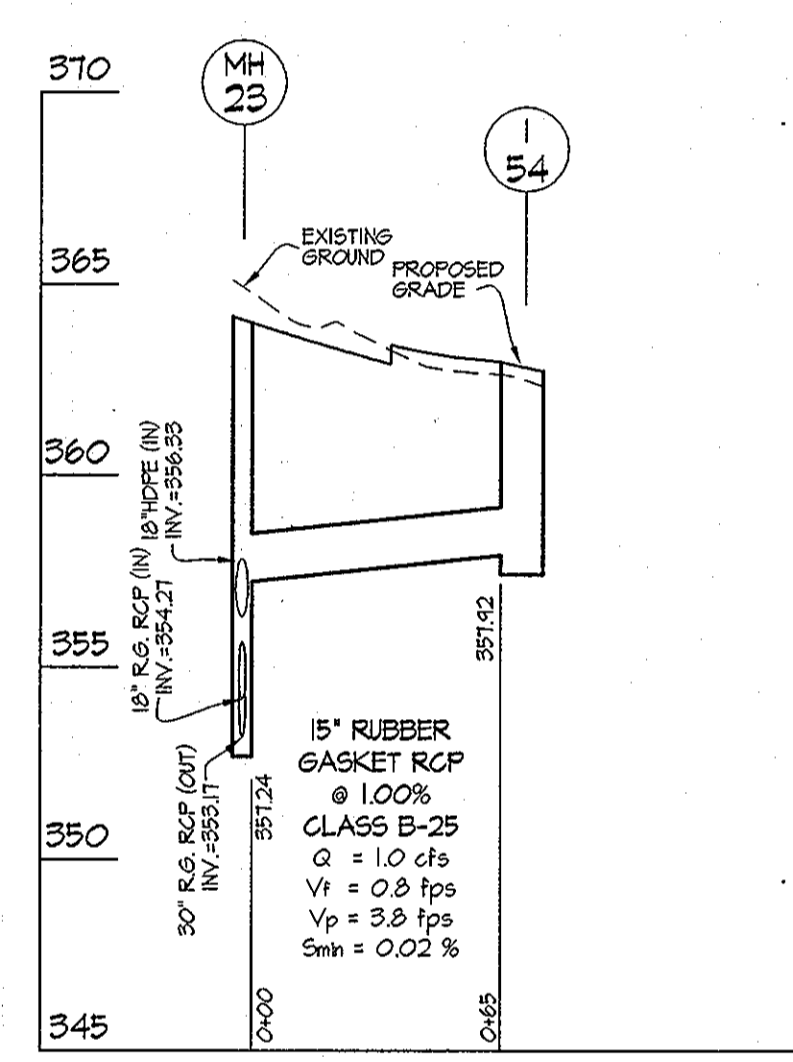
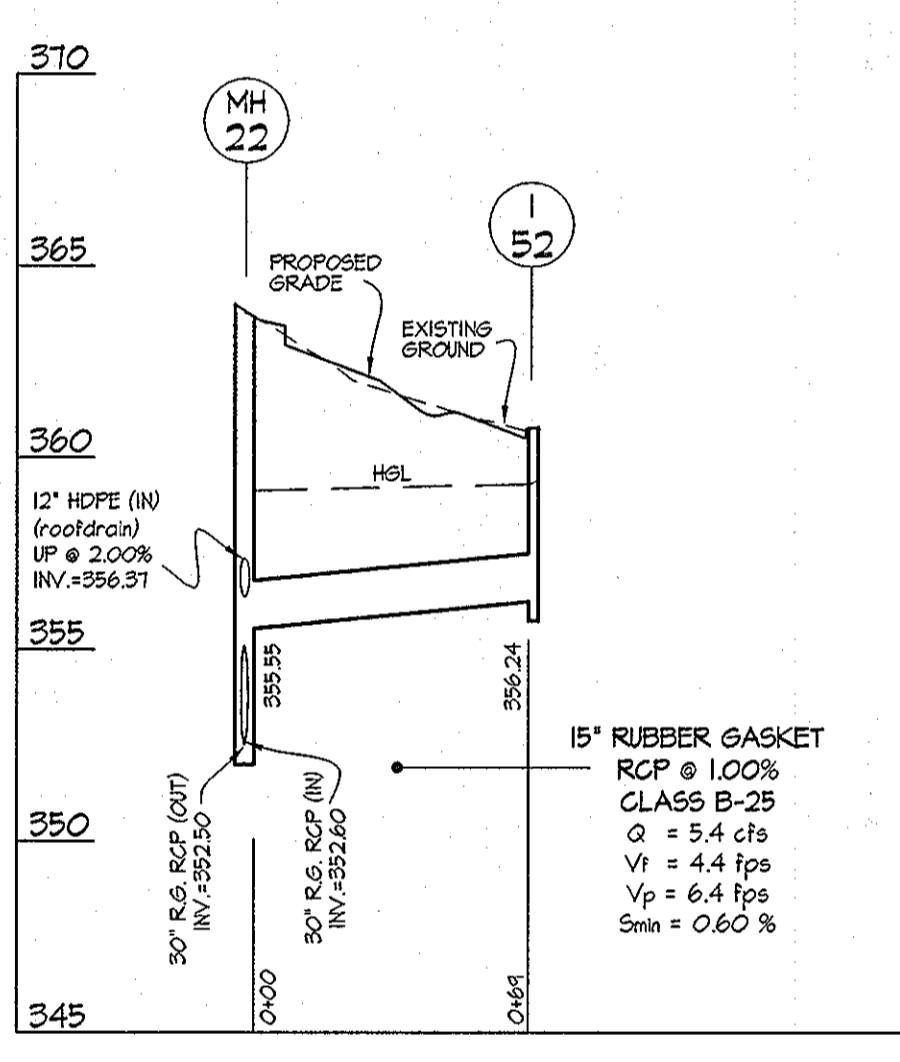
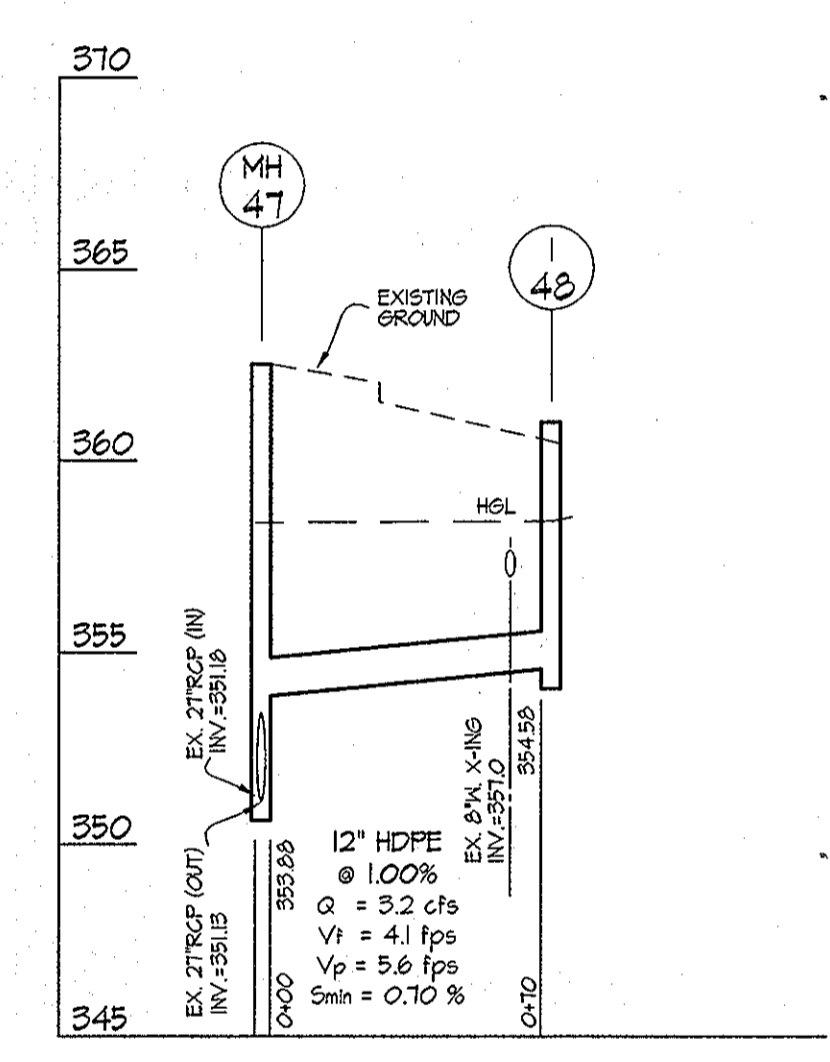
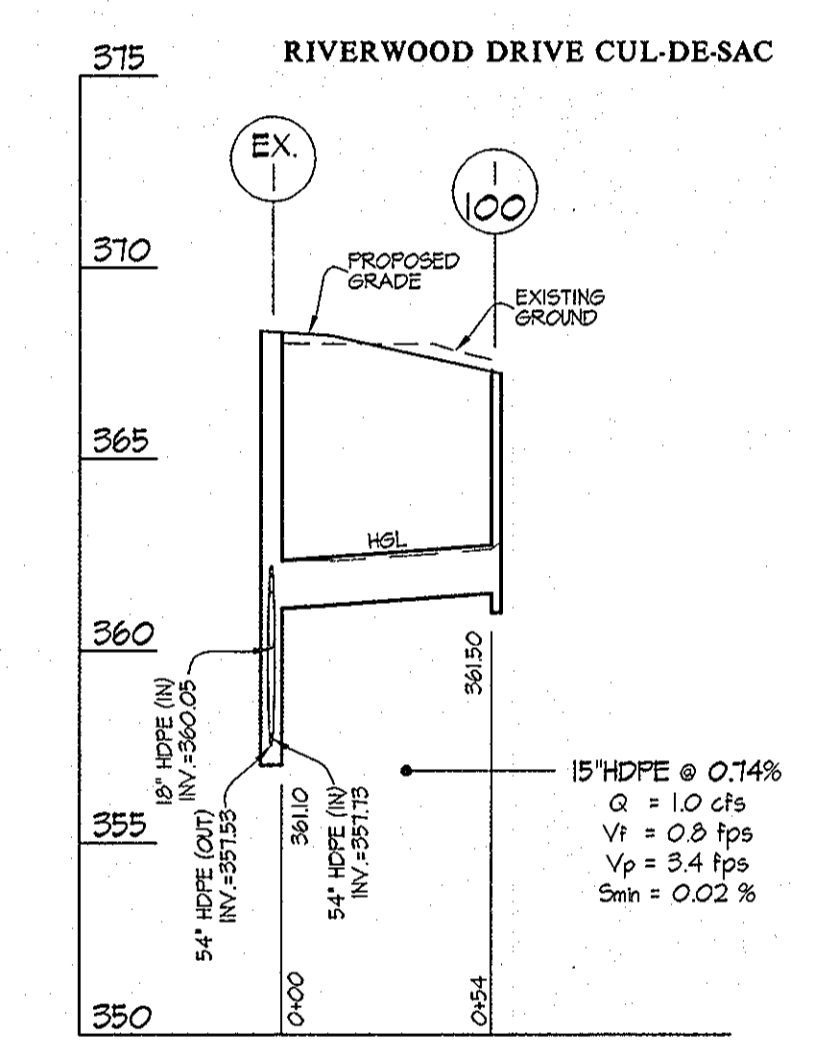
STRUCTURE SCHEDULE									
NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	LOCATIONS & REMARKS	
			UPPER	LOWER	UPPER	LOWER			
MH-47	MANHOLE	5'-0"	362.52	----	353.08	351.13	HO. CO. STD. G-5.11		
I-48	NR INLET	4'-0"	361.20	----	terminal	354.58	HO. CO. STD. D-4.02		
I-52	A-10 INLET	2'-6"	361.00	361.00	terminal	356.24	HO. CO. STD. D-4.03		
I-54	A-10 INLET	2'-6"	362.55	362.30	terminal	357.92	HO. CO. STD. D-4.03		
I-40	COB-10 INLET	4'-0"	367.27	366.81	terminal	357.05	MD 374.62		
MH-41	MANHOLE	4'-0"	370.71	----	364.46	357.93	HO. CO. STD. G-5.12		
I-42	A-5 INLET	2'-6"	371.23	----	366.06	365.96	HO. CO. STD. D-4.02		
I-44	YARD INLET	2'-0"	368.80	----	363.15	363.05	HO. CO. STD. D-4.14		
I-45	YARD INLET	2'-0"	368.80	----	364.77	363.51	HO. CO. STD. D-4.14		
I-46	YARD INLET	2'-0"	368.80	----	364.78	363.51	HO. CO. STD. D-4.14		
I-32	A-5 INLET	2'-6"	376.50	----	terminal	371.70	HO. CO. STD. D-4.02		
I-100	A-5 INLET	2'-6"	367.32	----	terminal	361.50	HO. CO. STD. D-4.02		
EX-1	-----	-----	369.04	----	361.10	361.53			New Riverwood Drive cul-de-sac
I-43a	S-INLET	2'-1"	373.20	----	terminal	367.87	HO. CO. STD. D-4.22		
I-43b	A-5	2'-6"	374.11	----	367.75	367.65	HO. CO. STD. D-4.01		
I-43c	YARD INLET	-----	-----	-----	-----	-----	-----		See plan below. This inlet is an alternate to the 9x14 culvert draining to inlet 43a

NOTES:
 1. ALL STRUCTURES TO BE PRECAST. ALL STRUCTURES ARE PRIVATE.
 2. THE STRUCTURE SCHEDULE IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. IF DISCREPANCIES EXIST BETWEEN VALUES SHOWN ON THE SCHEDULE AND THOSE SHOWN ON THE PLANS & PROFILES, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR CLARIFICATION PRIOR TO ORDERING THE STRUCTURES.

ALL PROFILES
 SCALE: 1" = 5' VERT.
 1" = 50' HORZ.

PIPE SCHEDULE		
SIZE & TYPE	QUANTITY (LF)	REMARKS
15' RUBBER GASKET RCP	147	
12' HDPE	223 (253 w/ I-43c alternate)	
15' HDPE	421	
18' RUBBER GASKET RCP	150	

*ALL PIPES TO BE PRIVATE.



APPROVED
 PLANNING BOARD OF HOWARD COUNTY
 DATE NOVEMBER 13, 2008

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: [Signature] 11/29/12
 Chief, Division of Land Development: [Signature] 11/29/12
 Chief, Development Engineering Division: [Signature] 11/29/12

PROFESSIONAL CERTIFICATION
 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. 12475, EXPIRATION DATE: MAY 26, 2014.
 11-15-12 [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 FAX: 301-421-4188





DATE	REVISION	BY	APPR.
10/2012	REPLACE INLET 43 with NEW INLETS 43a, 43b & 43c. UPDATE PROFILE & SCHEDULES ACCORDINGLY.	KLP	
10/2010	REVISE PROFILES & STRUCTURE SCHEDULE DUE TO NEW (SINGLE) BUILDING	BY	APPR.

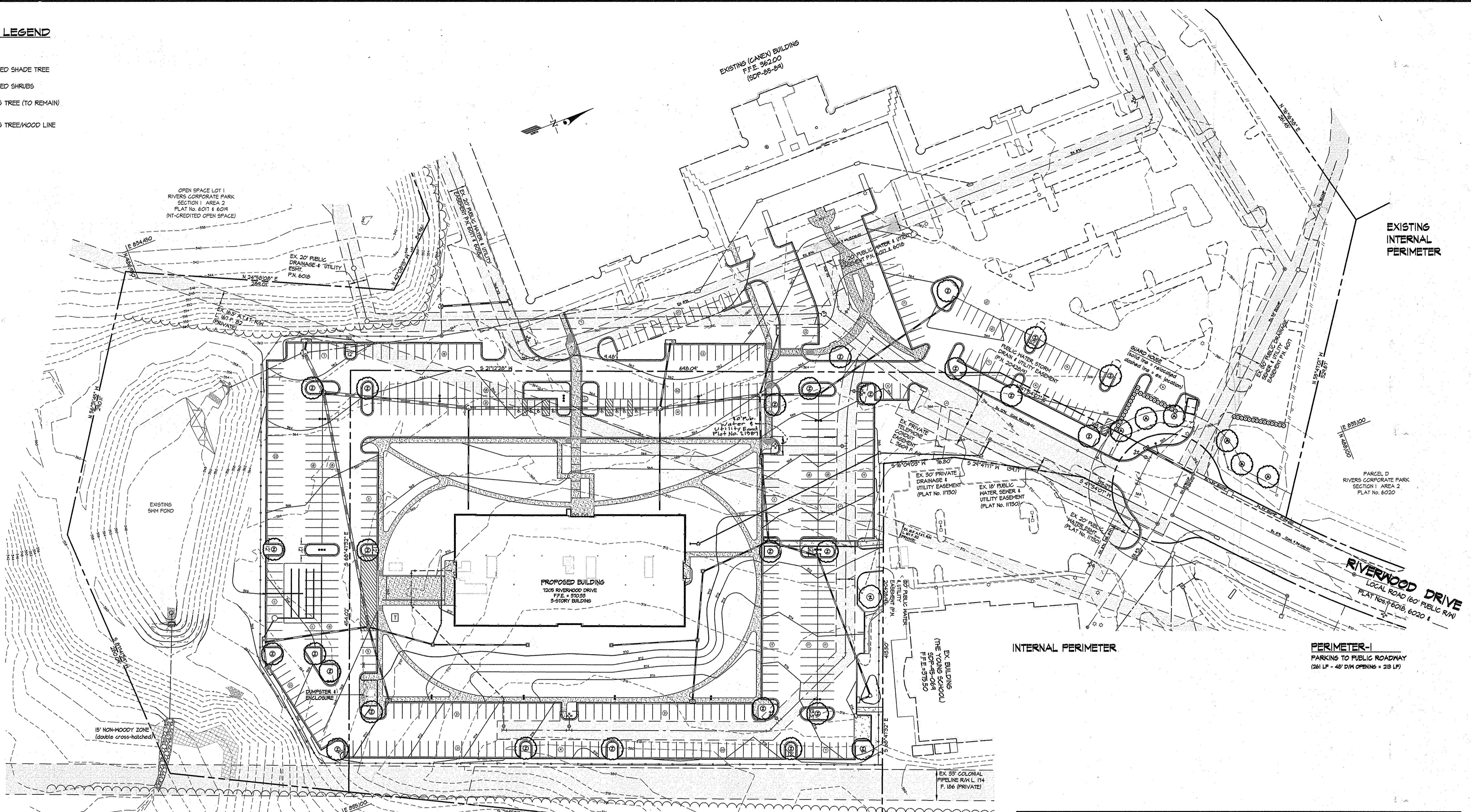
PREPARED FOR:
 OWNER/DEVELOPER
 COPT Riverwood, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 6711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5400
 Attn: Lauren Taylor

(REVISED) STORM DRAIN PROFILES
RIVERS CORPORATE PARK
 SECTION 1, AREA 2
 PARCELS 'A-1' and 'C-3'
 PLAT No. 11730, 20428-20429 & 21387
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
Nov, 2010	41 - 12	12 OF 14

LANDSCAPE LEGEND

-  PROPOSED SHADE TREE
-  PROPOSED SHRUBS
-  EXISTING TREE (TO REMAIN)
-  EXISTING TREE/MOOD LINE






APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE NOVEMBER 13, 2008

STATE OF MARYLAND
Michael J. Tran
933
LANDSCAPE ARCHITECT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Thomas S. Butcher 11/23/10
 Director Date
Ketchum 11/23/10
 Chief, Division of Land Development Date
Thomas S. Butcher 11/23/10
 Chief, Development Engineering Division Date

EXISTING INTERNAL PERIMETER

THIS PLAN IS FOR PLANTING PURPOSES ONLY.

PLANT SCHEDULE					
TYPE	SYMBOL	QUANT.	NAME (BOTANICAL/COMMON)	SIZE	COMMENTS
CANOPY SHADE TREE		6	ACER RUBRUM 'BOYHALL' / BOYHALL COLUMNAR MAPLE	25'-30" CAL.	B4B, FULL
		28	ZELKOVA SERRATA 'GREEN VASE' / 'GREEN VASE'	25'-30" CAL.	B4B, FULL
SHRUB		54	TAXUS CUSPIDATA 'DENSE' / DENSE YEW	24'-30" HT.	B4B, SPACE 3'-4" O.C.

NOTE: All plants shall be grown and supplied by a nursery that is less than 500 miles from this site. The contractor shall provide documentation in accordance with LEED requirements.

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 BAL: 410-980-1820 DC/NK: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.
10/14/2011	Revise parking northeast end of site; rev. walkway, e.d. & landscaping accordingly	kjp	
11/2010	REVISED TO SINGLE BLDGS.; REVISED PARKING, GRADING & LANDSCAPING ACCORDINGLY		

PREPARED FOR:
 OWNER/DEVELOPER
 COPT Riverwood, LLC
 5711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5200
 Attn: Lauren Taylor

(REVISED) LANDSCAPE PLAN
RIVERS CORPORATE PARK
 SECTION 1, AREA 2
 PARCELS 'A-1' and 'C-3'
 PLAT No. 11730 & 20428-20429 & 21007 & F-14-059
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
Nov./2010	41 - 12	13 OF 13

SPECIFICATIONS: PLANT MATERIALS AND PLANTING METHODS

A. PLANT MATERIALS

THE LANDSCAPE CONTRACTOR SHALL FURNISH AND INSTALL AND/OR DIG, BALL, BURLAP AND TRANSPLANT ALL OF THE PLANT MATERIALS CALLED FOR ON DRAWINGS AND/OR LISTED IN THE PLANT SCHEDULE.

1. PLANT NAMES
PLANT NAMES USED IN THE PLANT SCHEDULE SHALL CONFORM WITH "STANDARDIZED PLANT NAMES," LATEST EDITION.

2. PLANT STANDARDS
ALL PLANT MATERIAL SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK" LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERMEN (HERE- AFTER REFERRED TO AS "AAN" STANDARDS). ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY. SHALL HAVE A NORMAL HABIT OF GROWTH AND SHALL BE FIRST QUALITY, SOUND, VIGOROUS, WELL-BRANCHED AND WITH HEALTHY, WELL-FURNISHED ROOT SYSTEMS. THEY SHALL BE FREE OF DISEASE, INSECT PESTS AND MECHANICAL INJURIES.
ALL PLANTS SHALL BE NURSERY GROWN AND SHALL HAVE BEEN GROWN UNDER THE SAME CLIMATE CONDITIONS AS THE LOCATION OF THIS PROJECT FOR AT LEAST TWO YEARS BEFORE PLANTING. NEITHER HEELED-IN PLANTS NOR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

3. PLANT MEASUREMENTS
ALL PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED IN THE PLANT SCHEDULE AS APPROVED BY THE DESIGN REVIEW COMMITTEE (DRG).

A. CALIPER MEASUREMENTS SHALL BE TAKEN SIX INCHES (6") ABOVE GRADE FOR TREES UNDER FOUR-INCH (4") CALIPER AND TWELVE (12") ABOVE GRADE FOR TREES FOUR INCHES (4") IN CALIPER AND OVER.

B. MINIMUM BRANCHING HEIGHT FOR ALL SHADE TREES SHALL BE SIX FEET (6'), MAXIMUM EIGHT FEET (8').

C. CALIPER, HEIGHT, SPREAD AND SIZE OF BALL SHALL BE GENERALLY AS FOLLOWS:

CALIPER	HEIGHT	SPREAD	SIZE OF BALL
3" - 5.5"	14'-16'	6'-8'	32" DIAMETER
5.5" - 4"	14'-16'	8'-10'	36" DIAMETER
4" - 4.5"	16'-18'	8'-10'	40" DIAMETER
4.5" - 5"	16'-17'	10'-12'	44" DIAMETER
5" - 5.5"	16'-20'	10'-12'	48" DIAMETER
5.5" - 6"	18'-20'	12'-14'	52" DIAMETER

ALL PLANT MATERIAL SHALL GENERALLY AVERAGE THE MEDIAN FOR THE SIZE RANGES INDICATED ABOVE AS INDICATED IN THE "AAN" STANDARDS.

4. PLANT IDENTIFICATION
LEGIBLE LABELS SHALL BE ATTACHED TO ALL SHADE TREES, MINOR TREES, SPECIMEN SHRUBS AND BUNDLES OR BOXES OF OTHER PLANT MATERIAL GIVING THE BOTANICAL AND COMMON NAMES, SIZE AND QUANTITY OF EACH. EACH SHIPMENT OF PLANTS SHALL BEAR CERTIFICATES OF INSPECTION AS REQUIRED BY FEDERAL, STATE AND COUNTY AUTHORITIES.

5. PLANT INSPECTION
THE DESIGN REVIEW COMMITTEE MAY, UPON REQUEST BY THE BUILDER OR DEVELOPER, AT LEAST TEN (10) DAYS PRIOR TO THE INSTALLATION OF ANY PROPOSED PLANT MATERIAL, INSPECT ALL PROPOSED PLANT MATERIAL AT THE SOURCE OF ORIGIN.

B. PLANTING METHODS

ALL PROPOSED PLANT MATERIALS THAT MEET THE SPECIFICATIONS IN SECTION A ARE TO BE PLANTED IN ACCORDANCE WITH THE FOLLOWING METHODS DURING THE PROPER PLANTING SEASONS AS DESCRIBED IN THE FOLLOWING:

1. PLANTING SEASONS
THE PLANTING OF DECIDUOUS TREES, SHRUBS AND VINES SHALL BE FROM MARCH 15TH TO JUNE 15TH AND FROM SEPTEMBER 15TH TO DECEMBER 15TH. PLANTING OF DECIDUOUS MATERIAL MAY BE CONTINUED DURING THE WINTER MONTHS PROVIDING THERE IS NO FROST IN THE GROUND AND FROST-FREE TOPSOIL PLANTING MIXTURES ARE USED.
THE PLANTING OF EVERGREEN MATERIAL SHALL BE FROM MARCH 15TH TO JUNE 15TH AND FROM AUGUST 15TH TO DECEMBER 15TH. NO PLANTING SHALL BE DONE WHEN THE GROUND IS FROZEN OR EXCESSIVELY MOIST. NO FROZEN OR WET TOPSOIL SHALL BE USED AT ANY TIME.

2. DIGGING
ALL PLANT MATERIAL SHALL BE DIG, BALLED AND BURLAPPED (B4B) IN ACCORDANCE WITH THE "AAN" STANDARDS.

3. EXCAVATION OF PLANT FITS
THE LANDSCAPING CONTRACTOR SHALL EXCAVATE ALL PLANT FITS, VINE FITS, HEDGE TRENCHES AND SHRUB BEDS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

A. LOCATIONS OF ALL PROPOSED PLANT MATERIAL SHALL BE STAKED AND APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT BEFORE ANY OF THE PROPOSED PLANT MATERIAL IS INSTALLED BY THE LANDSCAPE CONTRACTOR.

B. ALL FITS SHALL BE GENERALLY CIRCULAR IN OUTLINE, VERTICAL SIDES. DEPTH SHALL NOT BE LESS THAN 6" DEEPER THAN THE ROOT BALL. DIAMETER SHALL NOT BE LESS THAN TWO TIMES THE DIAMETER OF THE ROOT BALL AS SET FORTH IN THE FOLLOWING SCHEDULE.

C. IF AREAS ARE DESIGNATED AS SHRUB BEDS OR HEDGE TRENCHES, THEY SHALL BE EXCAVATED TO AT LEAST 18" DEPTH MINIMUM. AREAS DESIGNATED FOR GRASS COVERS AND VINES SHALL BE EXCAVATED TO AT LEAST 12" IN DEPTH MINIMUM.

D. DIAMETER AND DEPTH OF TREE FITS SHALL GENERALLY BE AS FOLLOWS:

PLANT SIZE	ROOT BALL	FIT DIA.	FIT DEPTH
3" - 3.5" CAL.	32"	64"	28"
3.5" - 4" CAL.	36"	72"	32"
4" - 4.5" CAL.	40"	80"	36"
4.5" - 5" CAL.	44"	88"	40"
5" - 5.5" CAL.	48"	96"	44"
5.5" - 6" CAL.	52"	104"	48"

A 20% COMPACTION FIGURE OF THE SOIL TO BE REMOVED IS ASSUMED AND WILL BE ALLOWED IN CALCULATION OF EXTRA TOPSOIL. THE TABULATED FIT SIZES ARE FOR PURPOSES OF UNIFORM CALCULATION AND SHALL NOT OVERRIDE THE SPECIFIED DEPTHS BELOW THE BOTTOMS OF THE ROOT BALLS.

4. STAKING, GUYING AND WRAPPING
ALL PLANT MATERIAL SHALL BE STAKED OR GUYED, AND WRAPPED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

A. STAKES SHALL BE SOUND WOOD 2" X 2" ROUGH SAWN OAK OR SIMILAR DURABLE WOODS, OR LENGTHS, MINIMUM 1'-0" FOR MAJOR TREES AND 3'-0" MINIMUM FOR MINOR TREES.

B. WIRE AND CABLE WIRE SHALL BE #10 GA. GALVANIZED OR BETHANIZED ANNEALED STEEL WIRE. FOR TREES OVER 3" CALIPER, PROVIDE 3/16" TURN BUCKLES, EYE AND EYE WITH 4" TAKE-UP. FOR TREES OVER 5" CALIPER, PROVIDE 3/16", 1 STRAND CABLE GALVANIZED PLATED STEEL WITH GALVANIZED "EYE" THIMBLES OF WIRE AND HOSE ON TREES UP TO 3" IN CALIPER.

C. HOSE SHALL BE NEW 3 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.

D. ALL TREES UNDER 5" IN CALIPER ARE TO BE PLANTED AND STAKED IN ACCORDANCE WITH THE ATTACHED PLANTING DETAILS.

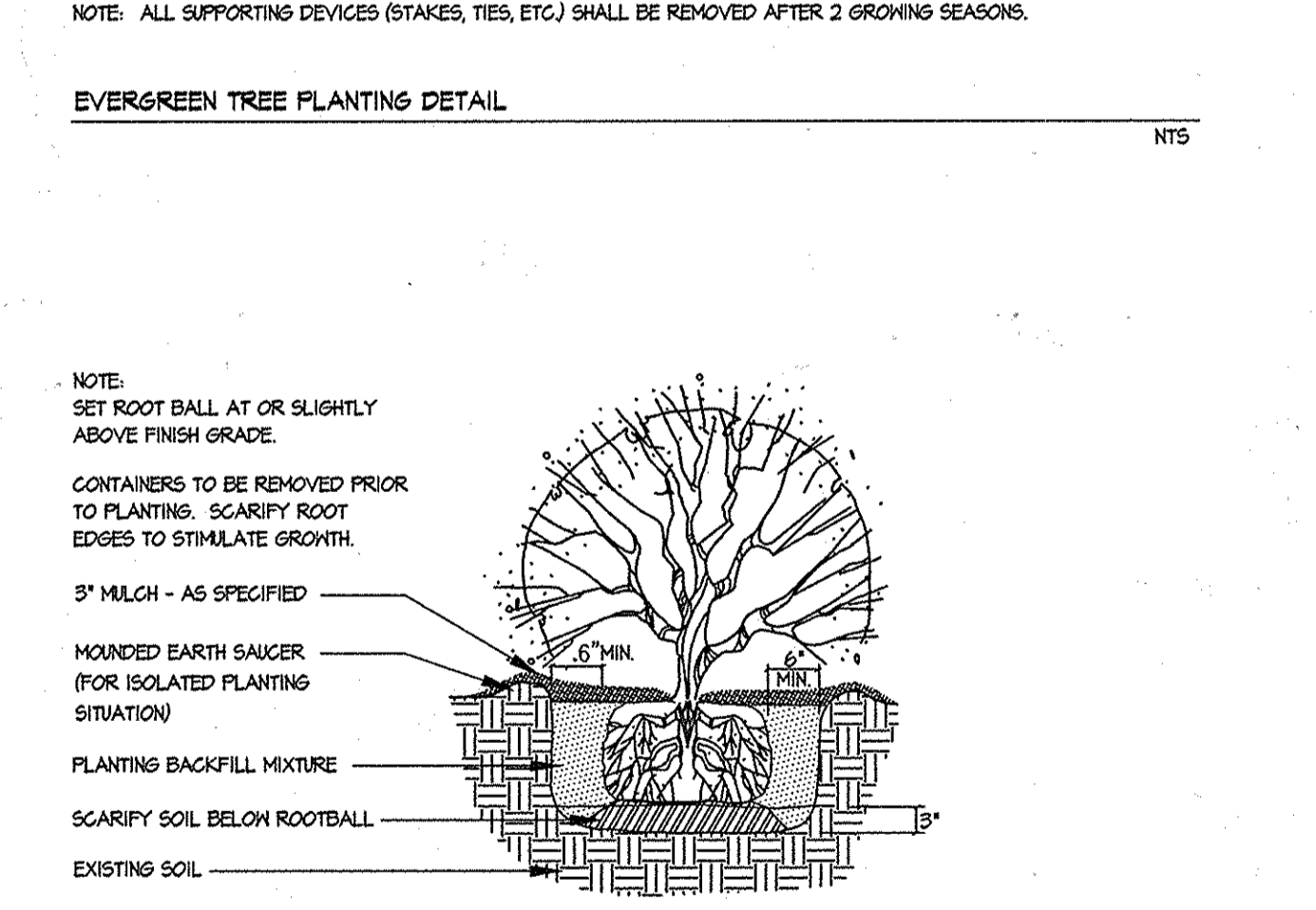
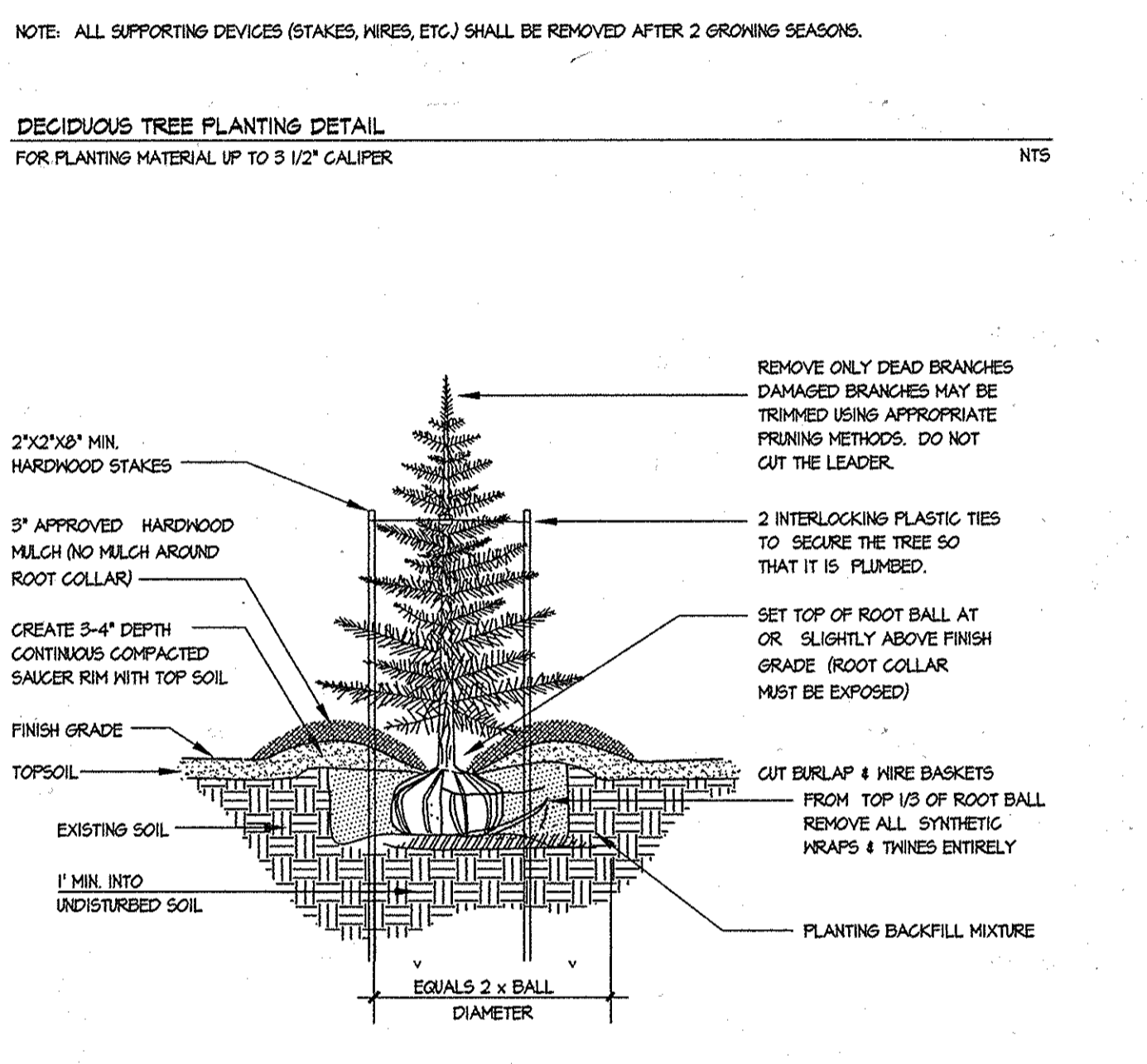
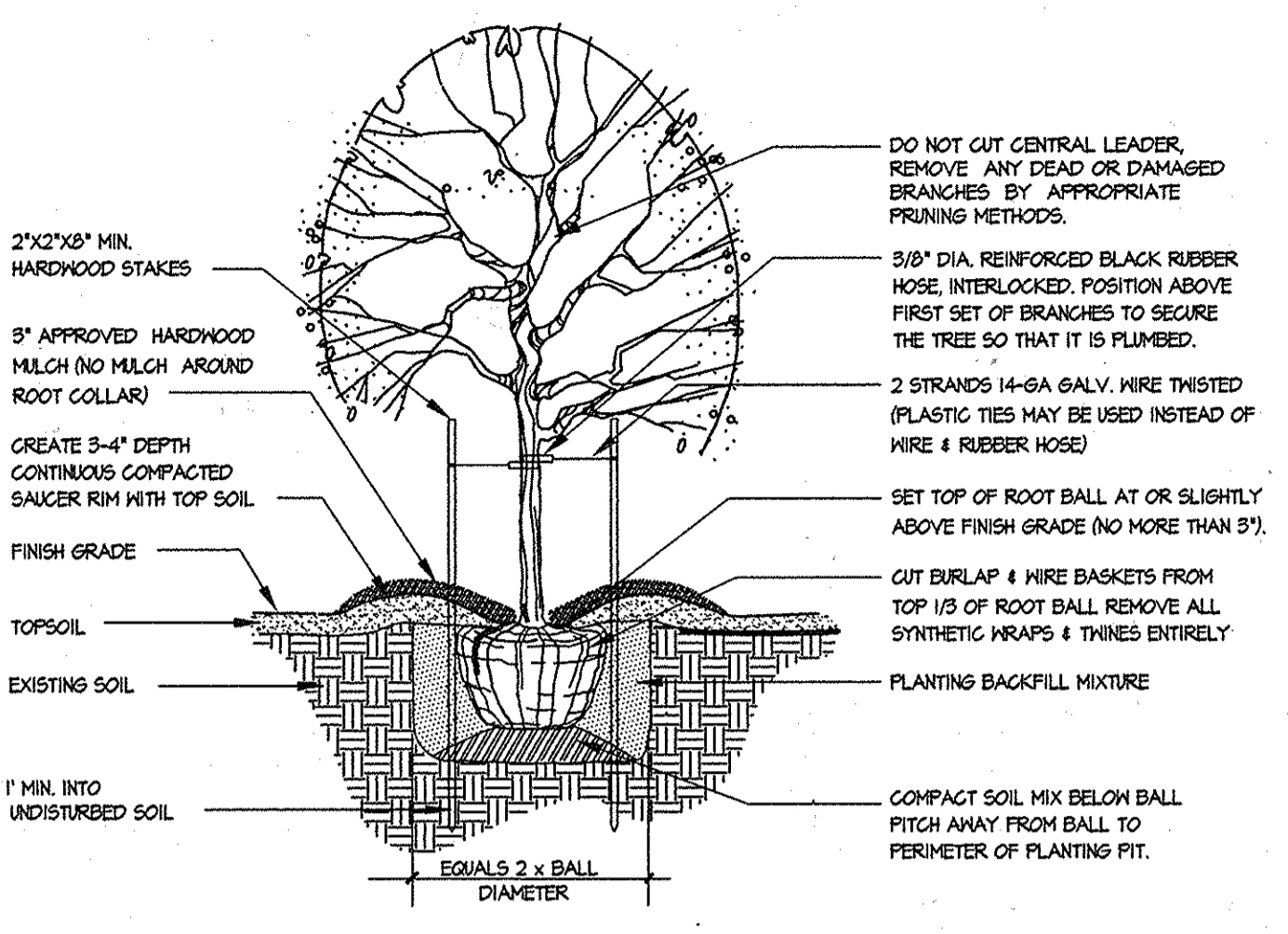
5. PLANT PRUNING, EDGING AND MULCHING
A. EACH TREE, SHRUB OR VINE SHALL BE PRUNED IN AN APPROPRIATE MANNER TO ITS PARTICULAR REQUIREMENTS, IN ACCORDANCE WITH ACCEPTED STANDARD PRACTICE. BROKEN OR BRUISED BRANCHES SHALL BE REMOVED WITH CLEAN CUTS FLUSH WITH THE ADJACENT TRUNK OR BRANCHES. ALL CUTS OVER 1" IN DIAMETER SHALL BE PAINTED WITH AN APPROVED ANTISEPTIC TREE WOUND DRESSING.
B. ALL TRENCHES AND SHRUB BEDS SHALL BE EDGED AND CULTIVATED TO THE LINES SHOWN ON THE DRAWINGS. THE AREAS AROUND ISOLATED PLANTS SHALL BE EDGED AND CULTIVATED TO THE FULL DIAMETER OF THE FIT. SOD HIGH HAS BEEN REMOVED AND STACKED SHALL BE USED TO TRIM THE EDGES OF ALL EXCAVATED AREAS TO THE NEAT LINES OF THE PLANT FIT SAUCERS, THE EDGES OF SHRUB AREAS, HEDGE TRENCHES AND VINE POCKETS.
C. AFTER CULTIVATION ALL PLANT MATERIALS SHALL BE MULCHED WITH A 3" LAYER OF FINE SHREDDED FINE BARK, FEAT MOSS, OR ANOTHER APPROVED MATERIAL OVER THE ENTIRE AREA OF THE BED OR SAUCER.

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.

7. 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 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.

SODDING
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.
ALL SOD SHALL BE STRONGLY ROOTED SOD, NOT LESS THAN TWO YEARS OLD AND FREE OF WEEDS AND UNDESIRABLE NATIVE 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.



SCHEDULE-A: PERIMETER LANDSCAPE EDGE

PERIMETER No.	ONE (1)	ALL OTHER PERIMETERS ARE INTERNAL
USE SITUATION	PARKING ADJ. TO ROADWAY	N/A
LANDSCAPE BUFFER TYPE	E	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	213'	
CREDIT FOR EXISTING VEGETATION	NONE	
CREDIT FOR WALL, FENCE OR BERM	NONE	
NUMBER OF PLANTS REQUIRED		
SHADE TREES	6	
EVERGREEN TREES	0	
SHRUBS	54	
NUMBER OF PLANTS PROVIDED		
SHADE TREES	6	
EVERGREEN TREES	N/A	
OTHER TREES (@ 2:1 substitution)	N/A	
SHRUBS (10:1 substitution)	54	

SCHEDULE B -- PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	1320 NEW SPACES
NUMBER OF TREES REQUIRED (at 1 per 20 commercial spaces)	27 (ON A LEAST 27 LANDSCAPED ISLANDS).
NUMBER OF TREES PROVIDED	28
SHADE TREES	
OTHER TREES (2:1 substitution)	

LANDSCAPE SURETY FOR REQUIRED TREES PER SCHEDULE-A AND SCHEDULE-B:

54 SHRUBS @ \$30/SHRUB = \$1,620.00
33 SHADE TREES @ \$300/TREE = \$9,900.00
\$11,520.00

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 AAN 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 THIS PLAN. SEE SHEET 4 FOR PLANTING DETAILS.
- 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 SEEDING 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 THE PUBLIC WATER, SEWER AND UTILITY EASEMENT.
- VERIFY THE LOCATION AND DEPTH OF THE COMMUNICATION LINES) WITHIN THE AT&T R/W PRIOR TO ANY PLANTING WITHIN THIS R/W. THE CONTRACTOR SHALL CONTACT BLM FOR ANY NECESSARY RELOCATION OF PLANT MATERIALS.
- "SCHEDULE-A" AND "SCHEDULE-B" IS PROVIDED FOR LANDSCAPE SURETY CALCULATION PURPOSES. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPH DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$11,520 FOR THE FOLLOWING PLANTS:

APPROVED
PLANNING BOARD OF HOWARD COUNTY

DATE **NOVEMBER 13, 2008**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Thomas G. Butler 5/29/09
Director, DEP. Date

Cathy Kamte 5/28/09
Chief, Division of Land Development Date

John Williams 5/21/09
Chief, Development Engineering Division Date

STATE OF MARYLAND
Michael B. Tran
933 LANDSCAPE ARCHITECTS
APPROVED 5/21/09

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 FAX: 410-880-1820 DC/VA: 301-889-2524 FAX: 301-421-4188

4/16
11/10/11 Updated schedule b parking count
12/10/10 Rev. schedule B to reflect site plan revisions for single bldg. klp
DATE REVISION BY APPR.

PREPARED FOR:
OWNER/DEVELOPER
COPT Riverwood, LLC
c/o COPT DEVELOPMENT SERVICES, LLC
6711 COLUMBIA GATEWAY DRIVE, SUITE 300
COLUMBIA, MD 21046
Phone: 443-285-5400
Attn: Lauren Taylor

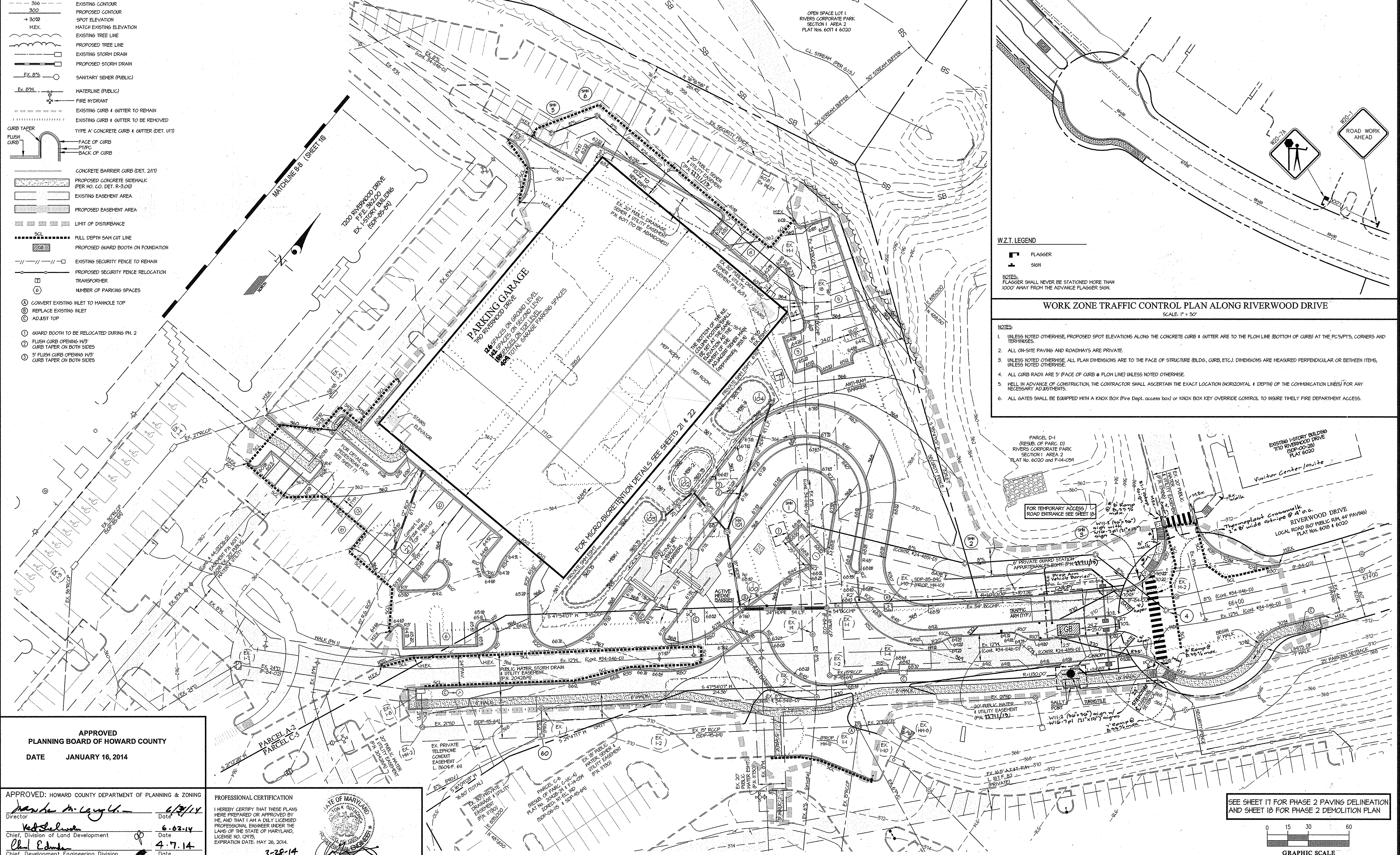
LANDSCAPE NOTE & DETAILS
RIVERS CORPORATE PARK
SECTION 1, AREA 2
PARCELS 'A-1' and 'C-3'
PLAT No. 11730 & 20428-20429, 21287 and F-14-059

SCALE 1"=50'
ZONING NT-EC, IND
G. L. W. FILE No. 06003

DATE Feb/2009
TAX MAP - GRID 41 - 12
SHEET 14 of 13

GULFORD ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

- LEGEND (PHASE 2)**
- 366 --- EXISTING CONTOUR
 - 300 --- PROPOSED CONTOUR
 - + 302.2 SPOT ELEVATION
 - MEX. MATCH EXISTING ELEVATION
 - EXISTING TREE LINE
 - PROPOSED TREE LINE
 - EXISTING STORM DRAIN
 - PROPOSED STORM DRAIN
 - EX 8" S SANITARY SEWER (PUBLIC)
 - EX 8" W WATERLINE (PUBLIC)
 - FIRE HYDRANT
 - EXISTING CURB & GUTTER TO REMAIN
 - EXISTING CURB & GUTTER TO BE REMOVED
 - TYPE 'A' CONCRETE CURB & GUTTER (DET. INT)
 - CURB TAPER
 - FLUSH CURB
 - FACE OF CURB
 - P/T/C
 - BACK OF CURB
 - CONCRETE BARRIER CURB (DET. 217)
 - PROPOSED CONCRETE SIDEWALK (PER MD. CO. DET. R-3-5(1))
 - EXISTING EASEMENT AREA
 - PROPOSED EASEMENT AREA
 - LIMIT OF DISTURBANCE
 - FULL DEPTH SAW CUT LINE
 - PROPOSED GUARD BOOTH ON FOUNDATION
 - EXISTING SECURITY FENCE TO REMAIN
 - PROPOSED SECURITY FENCE RELOCATION
 - TRANSFORMER
 - NUMBER OF PARKING SPACES
 - ① CONVERT EXISTING INLET TO MANHOLE TOP
 - ② REPLACE EXISTING INLET
 - ③ ADJUST TOP
 - ④ GUARD BOOTH TO BE RELOCATED DURING PH. 2
 - ⑤ FLUSH CURB OPENING W/3' CURB TAPER ON BOTH SIDES
 - ⑥ 5' FLUSH CURB OPENING W/3' CURB TAPER ON BOTH SIDES



- W.Z.T. LEGEND**
- FLAGGER
 - SIGN
- NOTES:**
FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.

WORK ZONE TRAFFIC CONTROL PLAN ALONG RIVERWOOD DRIVE
SCALE: 1" = 50'

- NOTES:**
- UNLESS NOTED OTHERWISE, PROPOSED SPOT ELEVATIONS ALONG THE CONCRETE CURB & GUTTER ARE TO THE FLOW LINE (BOTTOM OF CURB) AT THE PC/SPT'S, CORNERS AND TERMINUSES.
 - ALL ON-SITE PAVING AND ROADWAYS ARE PRIVATE.
 - UNLESS NOTED OTHERWISE, ALL PLAN DIMENSIONS ARE TO THE FACE OF STRUCTURE (BLDG., CURB, ETC.). DIMENSIONS ARE MEASURED PERPENDICULAR OR BETWEEN ITEMS, UNLESS NOTED OTHERWISE.
 - ALL CURB RADI ARE 5' (FACE OF CURB @ FLOW LINE) UNLESS NOTED OTHERWISE.
 - WELL IN ADVANCE OF CONSTRUCTION THE CONTRACTOR SHALL ASCERTAIN THE EXACT LOCATION (HORIZONTAL & DEPTH) OF THE COMMUNICATION LINES FOR ANY NECESSARY ADJUSTMENTS.
 - ALL GATES SHALL BE EQUIPPED WITH A KNOX BOX (Fire Dept. access box) or KNOX BOX KEY OVERRIDE CONTROL TO INSURE TIMELY FIRE DEPARTMENT ACCESS.

APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE **JANUARY 16, 2014**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director: *Harold M. Lough* Date: **6/2/14**

Chief, Division of Land Development: *Vest Salovey* Date: **6-22-14**

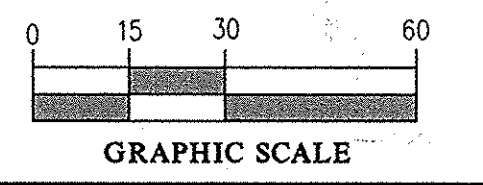
Chief, Development Engineering Division: *Chad Edwards* Date: **4-7-14**

PROFESSIONAL CERTIFICATION

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. 12175, EXPIRATION DATE: MAY 26, 2014.

3-28-14

SEE SHEET 17 FOR PHASE 2 PAVING DELINEATION AND SHEET 18 FOR PHASE 2 DEMOLITION PLAN



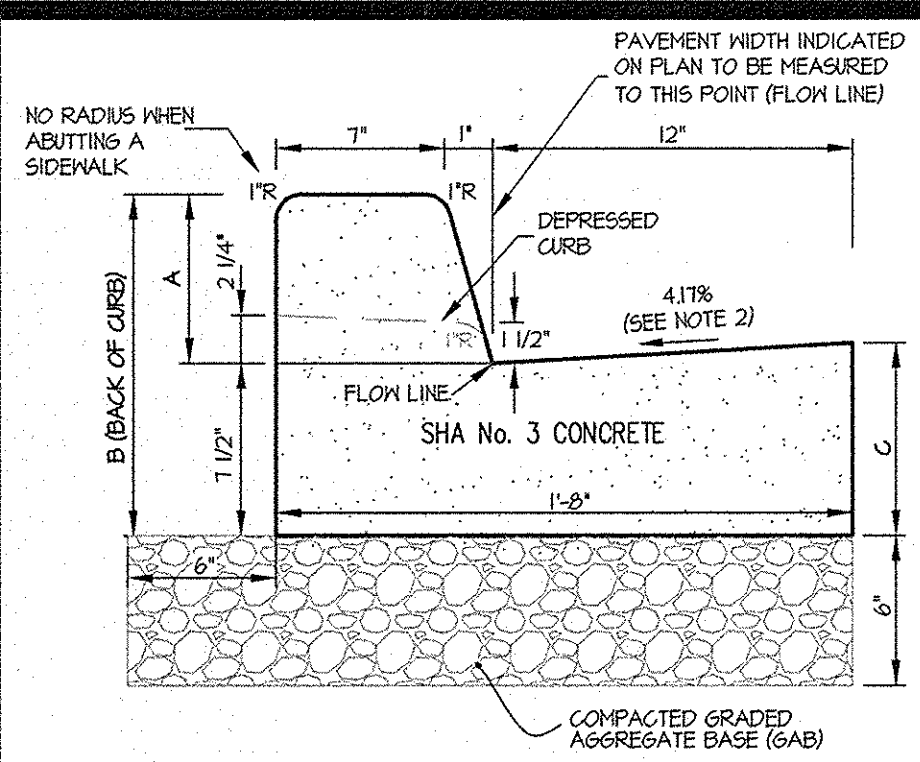
GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	1/1/2014	REVISION	Added crosswalks in Riverwood Drive
DATE		REVISION	
DATE		REVISION	
DATE		REVISION	
DATE		REVISION	

PREPARED FOR:
OWNER/DEVELOPER
COPT Riverwood, LLC
c/o COPT DEVELOPMENT SERVICES, LLC
6711 COLUMBIA GATEWAY DRIVE, SUITE 300
COLUMBIA, MD 21046
Phone: 443-285-5400
Attn: DAVID NORFOLK

SITE DEVELOPMENT PLAN (PHASE 2)
RIVERS CORPORATE PARK
SECTION 1, AREA 2
PARCELS 'A-2', 'C-5' and 'C-6'
PLAT No. 11730, 20428-20429, 21387 and F-14-059

SCALE	1" = 30'	ZONING	NT-EC, IND	G. L. W. FILE No.	06003
DATE	MARCH 2014	TAX MAP - GRID	41 - 12	SHEET	15 OF 23

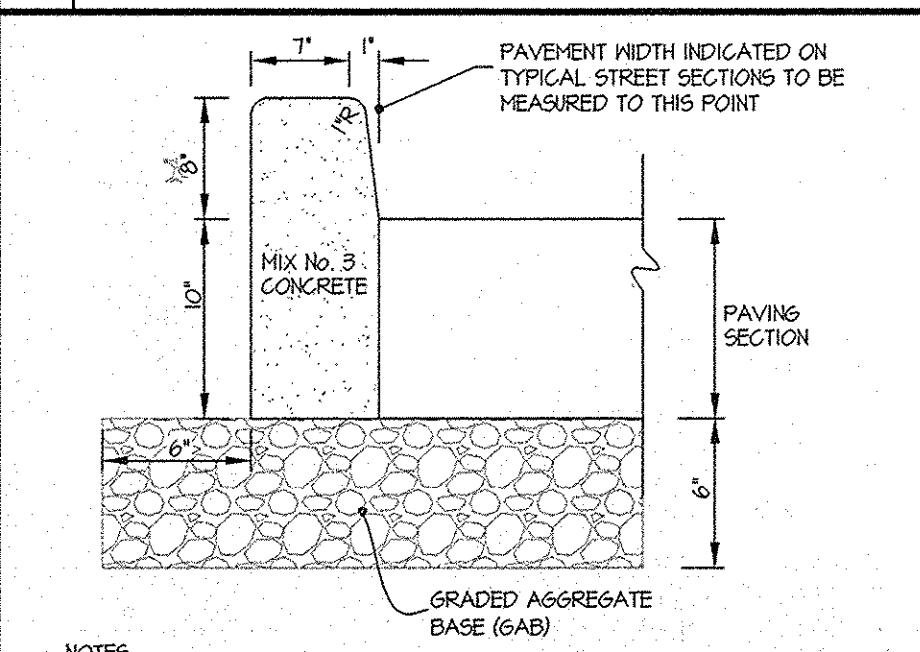


STANDARD COMBINATION CURB AND GUTTER

- NOTES:**
1. REVERSE GUTTER PAN SHALL HAVE A GUTTER SLOPE OF 4:1% AWAY FROM THE FLOW LINE, AND SHALL NOT BE USED WHERE THIS CREATES A HAZARDOUS CONDITION.
 2. GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 2% FOR MOORED CURB AND GUTTER.
 3. A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
 4. POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.
 5. 50' MAX. BETWEEN EXPANSION JOINTS & 10' MAX. BETWEEN CONTROL JOINTS.
 6. UNLESS NOTED OTHERWISE, ALL ON-SITE CURB & GUTTER SHALL BE 6" HIGH. CURB & GUTTER IN PUBLIC ROW SHALL BE T-TYPE.

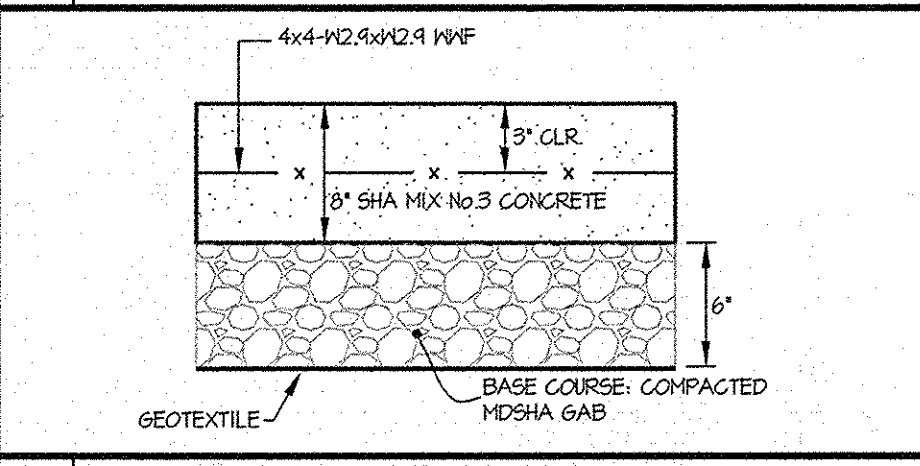
CURB TYPE	A	B	C
6" (HO. CO. DPM DET. R-4.0)	6"	1'-1 1/2"	1"
7" (HO. CO. DPM DET. R-3.0)	7 3/16"	1'-2 11/16"	8"

1 TYPE-A CONCRETE CURB AND GUTTER NO SCALE



- NOTES:**
1. A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
 2. POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

2 CONCRETE BARRIER CURB NO SCALE



3 CONCRETE PAVEMENT DETAIL NO SCALE

PROFESSIONAL CERTIFICATION

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. 10375, EXPIRATION DATE, MAY 26, 2014.

3-28-14 *[Signature]*

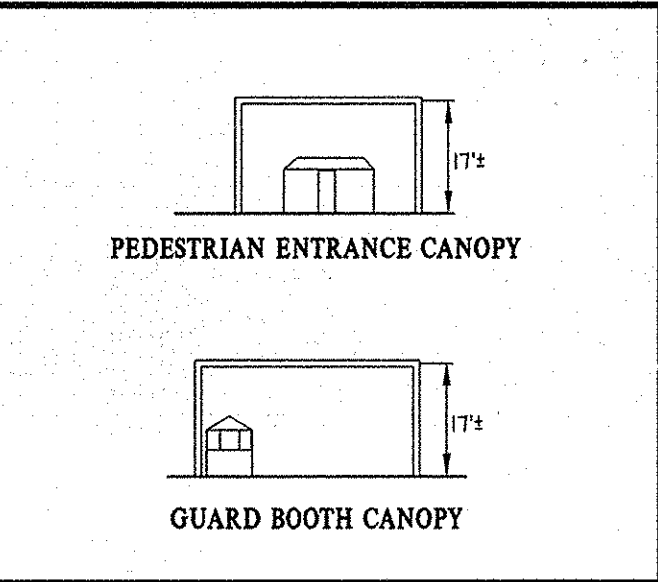
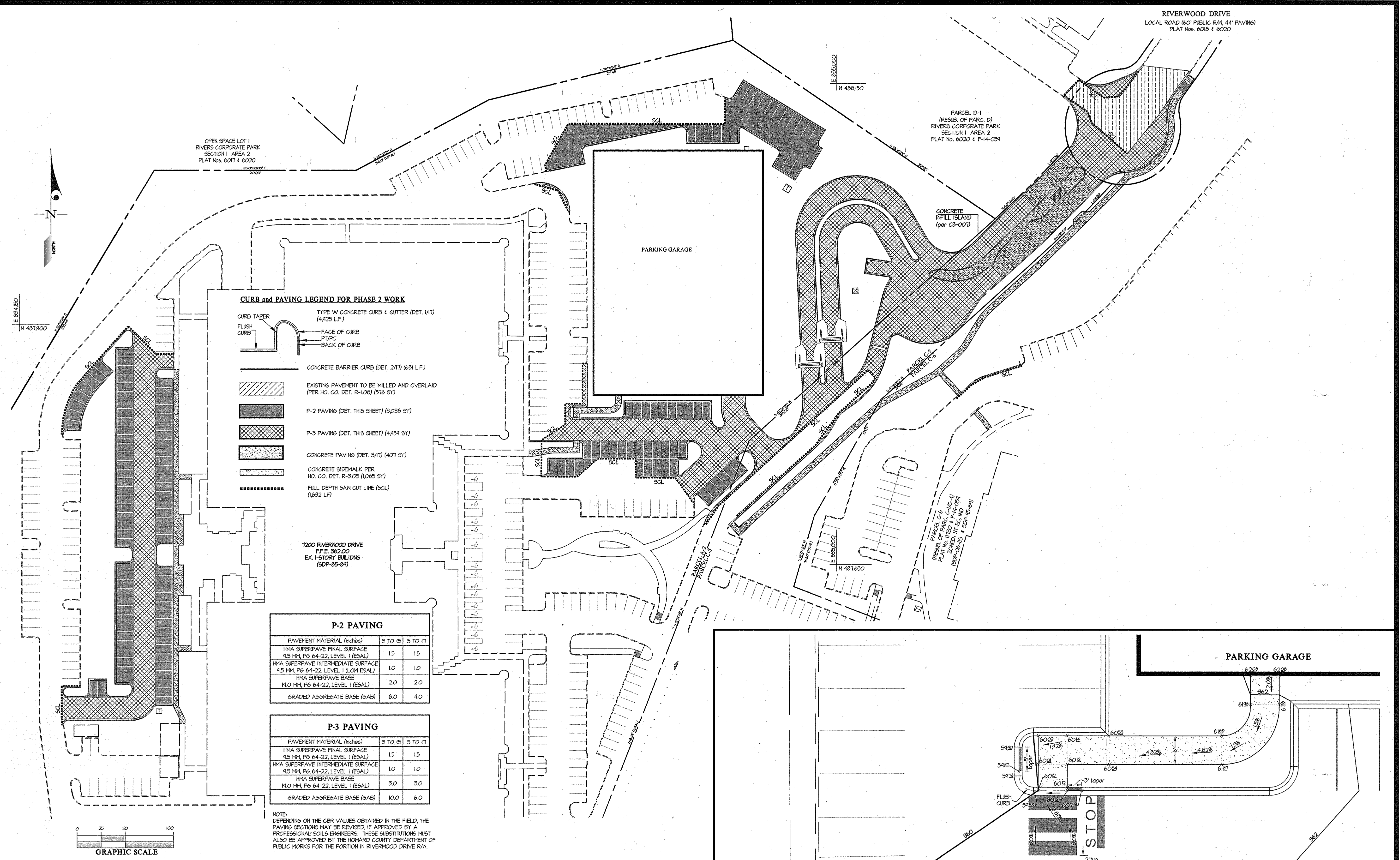
APPROVED
PLANNING BOARD OF HOWARD COUNTY
 DATE **JANUARY 16, 2014**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

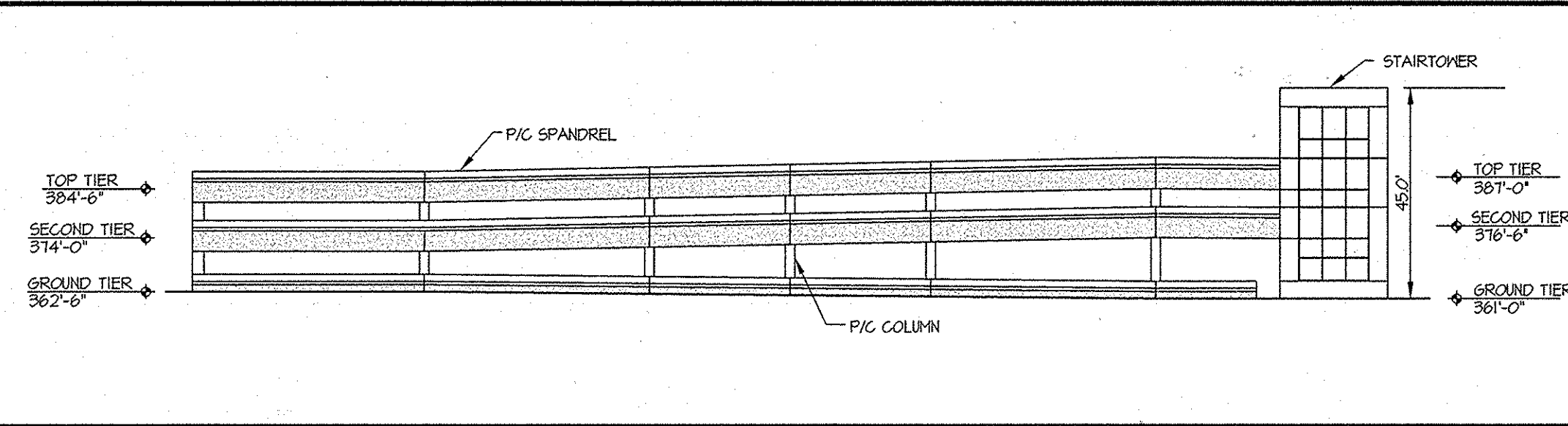
[Signature] 6/3/14
 Director Date

[Signature] 6-02-14
 Chief, Division of Land Development Date

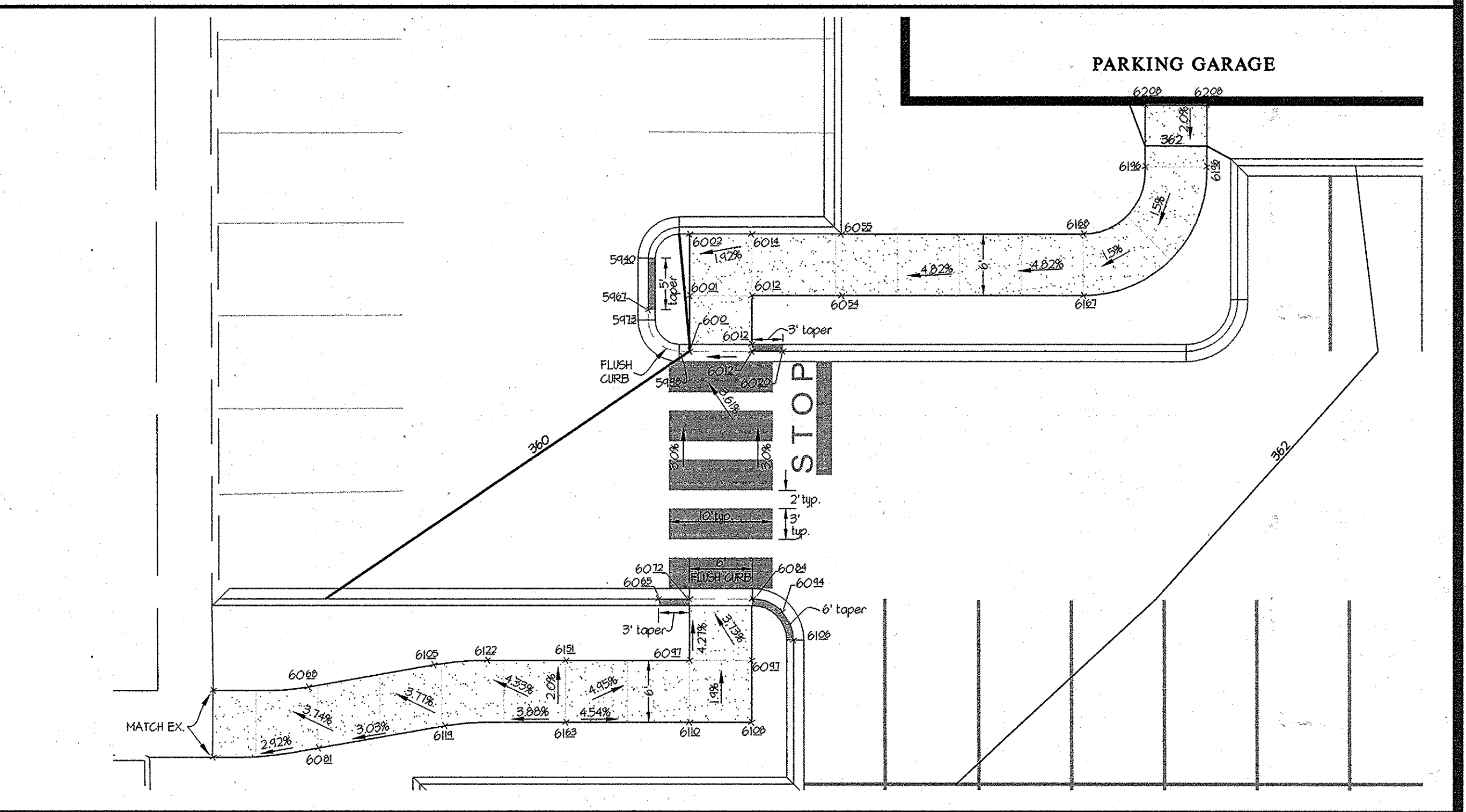
[Signature] 4-7-14
 Chief, Development Engineering Division Date



CANOPY ELEVATIONS SCALE 1" = 30'



PARKING GARAGE (West) ELEVATION SCALE 1" = 30'



HANDICAP ACCESSIBILITY DETAIL SCALE 1" = 10'

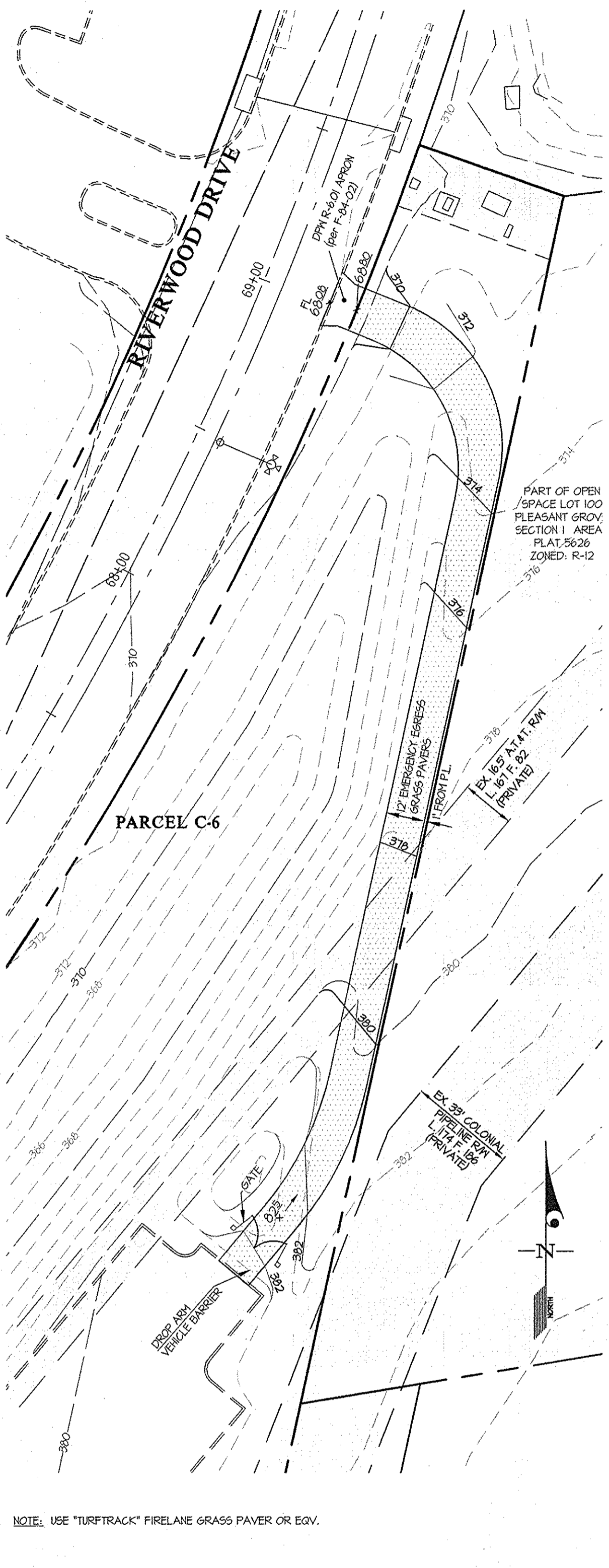
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 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

PREPARED FOR:
 OWNER/DEVELOPER
 COPT Riverwood, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 6711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5400
 Attn: DAVID NORFOLK

CURB & PAVING DELINEATION PLAN and SITE DETAILS (PHASE 2)
RIVERS CORPORATE PARK
 SECTION 1, AREA 2
 PARCELS 'A-2', 'C-5' and 'C-6'
 PLAT No. 11730, 20428-20429, 21387 and F-14-059
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1" = 50'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
MARCH 2014	41 - 12	17 OF 23



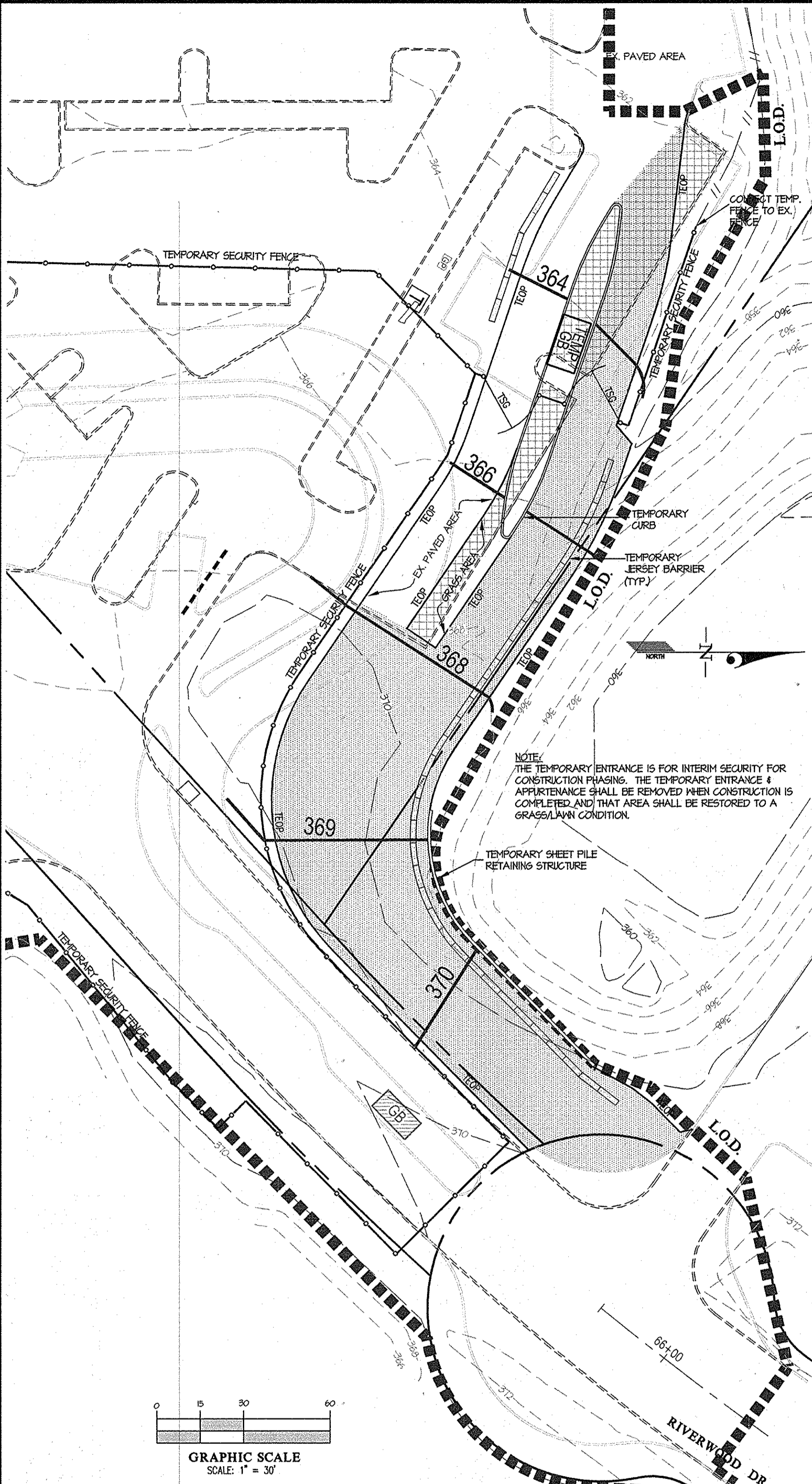
EMERGENCY EGRESS SCALE: 1" = 30'

APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE JANUARY 16, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director: *M. A. Long* Date: 6/8/14
Chief, Division of Land Development: *W. Schuchman* Date: 6.02.14
Chief, Development Engineering Division: *Chad E. Davis* Date: 4.7.14



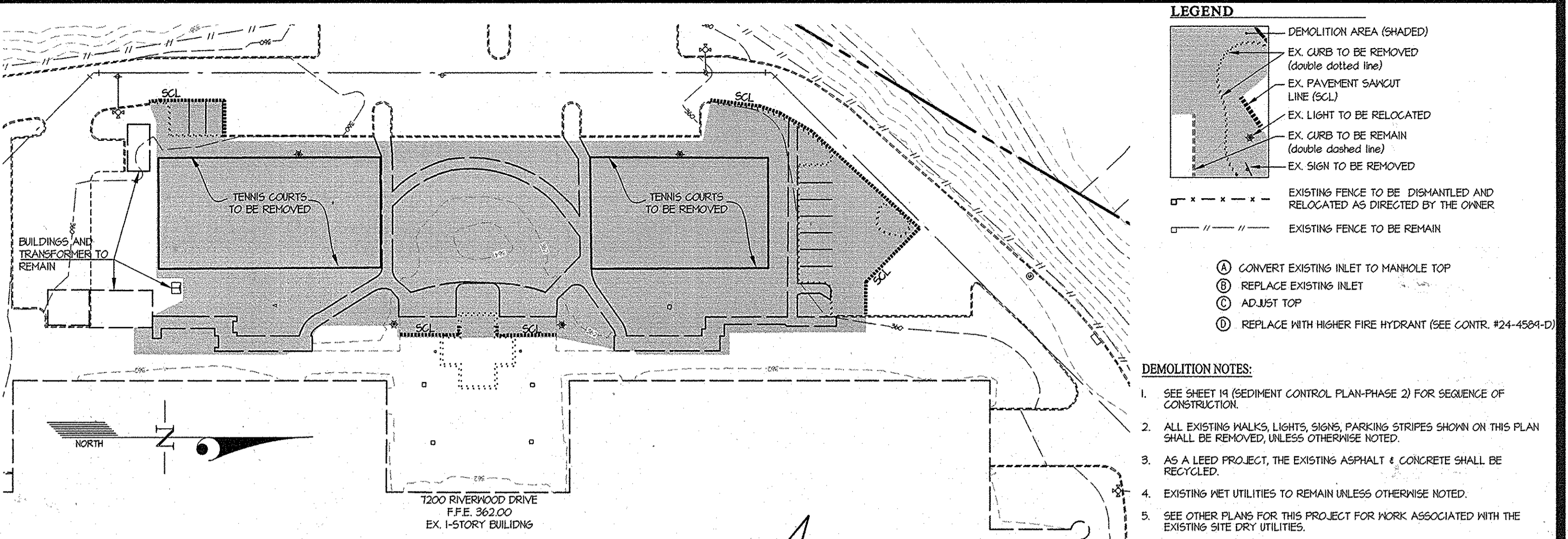
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 10215, EXPIRATION DATE: MAY 26, 2014.



TEMPORARY ACCESS ROAD SCALE: 1" = 30'

LEGEND FOR TEMPORARY ACCESS ROAD

- CURB & GUTTER TO BE REMOVED
- FINAL CURB & GUTTER
- TEMPORARY CURB & GUTTER
- TEMPORARY EDGE OF PAVING
- TEMPORARY JERSEY BARRIERS
- TEMPORARY SHEET PILE RETAINING STRUCTURE
- 366 TEMPORARY GRADING CONTOUR
- TSG TEMPORARY SHING GATE
- TGB TEMPORARY GUARD BOOTH/TRAILER
- Final Guard Booth Location
- TEMPORARY PAVING (6" OF COMPACTED CRUSHER RUN BASE W/ TAR AND CHIP COATING (1-1/2" MIN) (9575 SF)
- AREA TO BE DEMOLISHED FOR TEMPORARY ACCESS ROAD CONSTRUCTION PHASING



DEMOLITION PLAN SCALE: 1" = 50'

LEGEND

- DEMOLITION AREA (SHADED)
- EX CURB TO BE REMOVED (single dotted line)
- EX PAVEMENT SAWCUT LINE (SCL)
- EX LIGHT TO BE RELOCATED
- EX CURB TO BE REMAIN (double dashed line)
- EX SIGN TO BE REMOVED
- EXISTING FENCE TO BE DISMANTLED AND RELOCATED AS DIRECTED BY THE OWNER
- EXISTING FENCE TO BE REMAIN

DEMOLITION NOTES:

- SEE SHEET M (SEEDIMENT CONTROL PLAN-PHASE 2) FOR SEQUENCE OF CONSTRUCTION.
- ALL EXISTING MARKS, LIGHTS, SIGNS, PARKING STRIPES SHOWN ON THIS PLAN SHALL BE REMOVED, UNLESS OTHERWISE NOTED.
- AS A LEAD PROJECT, THE EXISTING ASPHALT & CONCRETE SHALL BE RECYCLED.
- EXISTING WET UTILITIES TO REMAIN UNLESS OTHERWISE NOTED.
- SEE OTHER PLANS FOR THIS PROJECT FOR WORK ASSOCIATED WITH THE EXISTING SITE DRY UTILITIES.

CONVERT EXISTING INLET TO MANHOLE TOP
 REPLACE EXISTING INLET
 ADJUST TOP
 REPLACE WITH HIGHER FIRE HYDRANT (SEE CONTR. #24-4504-D)

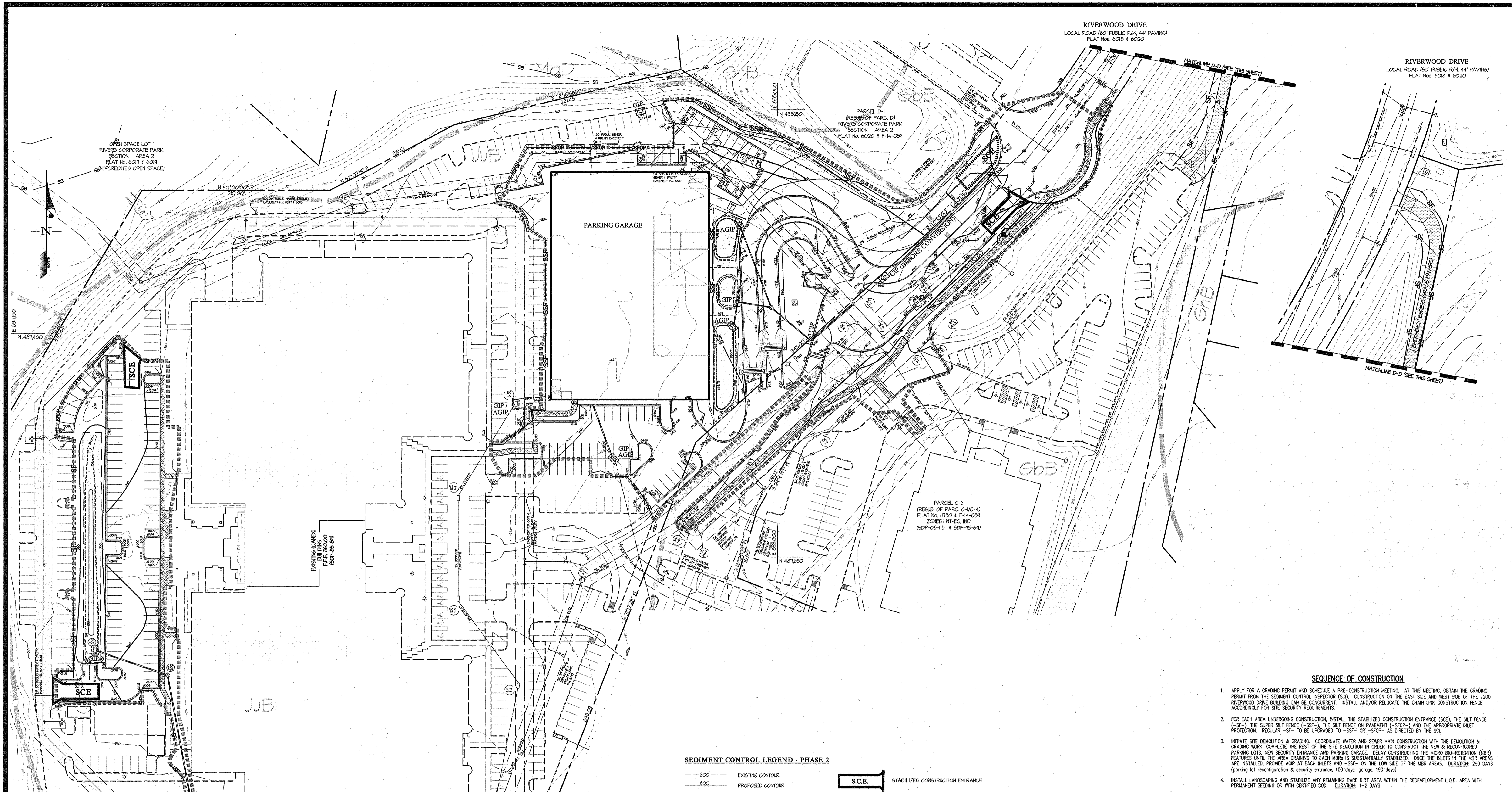
GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.
		KLP	
		BY	APP'R.

PREPARED FOR:
OWNER/DEVELOPER
COPT Riverwood, LLC
c/o COPT DEVELOPMENT SERVICES, LLC
6711 COLUMBIA GATEWAY DRIVE, SUITE 300
COLUMBIA, MD 21046
Phone: 443-285-5400
Attn: DAVID NORFOLK

DEMOLITION PLAN and SITE DETAILS (PHASE 2)
RIVERS CORPORATE PARK
SECTION 1, AREA 2
PARCELS 'A-2', 'C-5' and 'C-6'
PLAT No. 11730, 20428-20429, 21387 and F-14-059
GUILFORD ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
MARCH 2014	41 - 12	18 OF 23



RIVERWOOD DRIVE
LOCAL ROAD (60' PUBLIC R/W, 44' PAVING)
PLAT Nos. 6018 & 6020

RIVERWOOD DRIVE
LOCAL ROAD (60' PUBLIC R/W, 44' PAVING)
PLAT Nos. 6018 & 6020

PARCEL D-1
(RESUB. OF PARC. D)
RIVERS CORPORATE PARK
SECTION 1, AREA 2
PLAT No. 6020 & F-14-054

PARCEL C-6
(RESUB. OF PARC. C-1C-4)
PLAT No. 11730 & F-14-054
ZONED NT-EC, IND
(SDP-06-15 & SDP-05-64)

SEDIMENT CONTROL LEGEND - PHASE 2

- 600 --- EXISTING CONTOUR
- - - 600 - - - PROPOSED CONTOUR
- ===== LIMIT OF DISTURBANCE
- SF --- SILT FENCE
- SFOP --- SUPER SILT FENCE
- SFOP --- SILT FENCE ON PAVEMENT
- CIP --- CURB INLET PROTECTION
- AGIP --- AT-GRADE INLET PROTECTION
- GIP --- GABION INLET PROTECTION
- SOIL BOUNDARY --- SOIL BOUNDARY
- SOIL TYPE --- SOIL TYPE
- [S.C.E.] STABILIZED CONSTRUCTION ENTRANCE
- [S.C.E.] STABILIZED CONSTRUCTION ENTRANCE FOR TEMPORARY ENTRANCE
- TEMPORARY CURB & GUTTER --- TEMPORARY CURB & GUTTER
- TEMPORARY EDGE OF PAVING --- TEMPORARY EDGE OF PAVING
- TEMPORARY JERSEY BARRIERS --- TEMPORARY JERSEY BARRIERS
- TEMPORARY SHEET PILE RETAINING STRUCTURE --- TEMPORARY SHEET PILE RETAINING STRUCTURE
- [TOB] TEMPORARY GUARD BOOTH/TRAILER

- SEQUENCE OF CONSTRUCTION**
1. APPLY FOR A GRADING PERMIT AND SCHEDULE A PRE-CONSTRUCTION MEETING. AT THIS MEETING, OBTAIN THE GRADING PERMIT FROM THE SEDIMENT CONTROL INSPECTOR (SCI). CONSTRUCTION ON THE EAST SIDE AND WEST SIDE OF THE 7200 RIVERWOOD DRIVE BUILDING CAN BE CONCURRENT. INSTALL AND/OR RELOCATE THE CHAIN LINK CONSTRUCTION FENCE ACCORDINGLY FOR SITE SECURITY REQUIREMENTS.
 2. FOR EACH AREA UNDERGOING CONSTRUCTION, INSTALL THE STABILIZED CONSTRUCTION ENTRANCE (SCE), THE SILT FENCE (-SF-) THE SUPER SILT FENCE (-SFOP-), THE SILT FENCE ON PAVEMENT (-SFOP-) AND THE APPROPRIATE INLET PROTECTION. REGULAR -SF- TO BE UPGRADED TO -SF- OR -SFOP- AS DIRECTED BY THE SCI.
 3. INITIATE SITE DEMOLITION & GRADING. COORDINATE WATER AND SEWER MAIN CONSTRUCTION WITH THE DEMOLITION & GRADING WORK. COMPLETE THE REST OF THE SITE DEMOLITION IN ORDER TO CONSTRUCT THE NEW & RECONFIGURED PARKING LOTS, NEW SECURITY ENTRANCES AND PARKING GARAGE. DELAY CONSTRUCTING THE MICRO BIO-RETENTION (MBR) FEATURES UNTIL THE AREA DRAINING TO EACH MBR IS SUBSTANTIALLY STABILIZED. ONCE THE INLETS IN THE MBR AREAS ARE INSTALLED, PROVIDE AGIP AT EACH INLET AND -SF- ON THE LOW SIDE OF THE MBR AREAS. DURATION: 280 DAYS (parking lot reconfiguration & security entrance, 100 days; garage, 190 days)
 4. INSTALL LANDSCAPING AND STABILIZE ANY REMAINING BARE DIRT AREA WITHIN THE REDEVELOPMENT L.O.D. AREA WITH PERMANENT SEEDING OR WITH CERTIFIED SOD. DURATION: 1-2 DAYS
 5. ONCE THE AREA TO THE BIO-RETENTION FACILITY IS SUBSTANTIALLY STABILIZED, OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO CONSTRUCT THE FACILITY DURING A THREE (3) CONSECUTIVE DAYS OF CLEAR WEATHER FORECAST BY THE INSTABILIZED ANY AREA BARE AREA AROUND THE BIO-RETENTION AREA WITH SOD. DURATION: 2-3 CONSECUTIVE DAYS
 6. ONCE THE RE-DEVELOPED SITE IS STABILIZED, OBTAIN PERMISSION FROM THE SCI TO REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES.

APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE **JANUARY 16, 2014**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Mark M. Langlois 4/3/14
 Director Date
Victor Schuler 6-02-14
 Chief, Division of Land Development Date
Chad Edmund 4-7-14
 Chief, Development Engineering Division Date

PROFESSIONAL CERTIFICATION
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. 14175, EXPIRATION DATE: MAY 26, 2014.

John R. Roberts 3-28-14
 DATE

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 DISTRICT.

Chad Edmund 3-28-14
 DATE

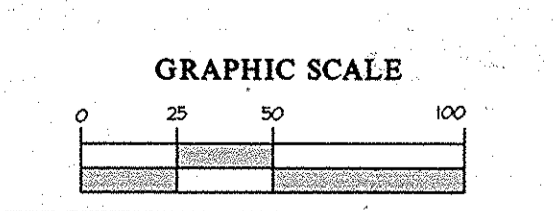
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Roberts 4/1/14
 HOWARD S.C.D. DATE

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 IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD.

John R. Roberts 3-28-14
 SIGNATURE OF DEVELOPER/BUILDER DATE

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY



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

DATE	REVISION	BY	APPR.

PREPARED FOR:
OWNER/DEVELOPER
COPT Riverwood, LLC
c/o COPT DEVELOPMENT SERVICES, LLC
6771 COLUMBIA GATEWAY DRIVE, SUITE 300
COLUMBIA, MD 21046
Phone: 443-285-5400
Attn: DAWD NORFOLK

SEDIMENT CONTROL PLAN (PHASE 2)
RIVERS CORPORATE PARK
SECTION 1, AREA 2
PARCELS 'A-2', 'C-5' and 'C-6'
PLAT No. 11730, 20428-20429, 21387 and F-14-059
GUILFORD ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
MARCH 2014	41 - 12	19 OF 23

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. PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

A. SOIL PREPARATION

- 1. TEMPORARY STABILIZATION
a. SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT...

B. TOPSOILING

- 1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH...

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

- 1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS...

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE: JANUARY 16, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director: Mark A. Laughlin, Date: 6/9/14

Chief, Division of Land Development: V. Stelone, Date: 6.02.14

Chief, Development Engineering Division: Ch. [Signature], Date: 4.7.14

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK

DATE: REVISION BY APPR.

B-4.3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

A. SEEDING

- 1. SPECIFICATIONS
a. ALL SEEDS MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY...

B. MULCHING

- 1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
a. STRAW CONSISTING OF THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY DRY...

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE: JANUARY 16, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director: Mark A. Laughlin, Date: 6/9/14

Chief, Division of Land Development: V. Stelone, Date: 6.02.14

Chief, Development Engineering Division: Ch. [Signature], Date: 4.7.14

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK

PROFESSIONAL CERTIFICATION

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, 2014.

DATE: REVISION BY APPR.

ENGINEER'S CERTIFICATE

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

DATE: REVISION BY APPR.

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 IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A HAZARDOUS DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...

TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...

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1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...

TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

B-4.4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE: TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

A. SEED MIXTURES

- 1. GENERAL USE
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDNESS ZONE...

TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...

TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

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TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

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TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...

TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...

TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

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SEDIMENT CONTROL NOTES

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B-4.5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION. PURPOSE: TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON EXPOSED SOILS.

A. SEED MIXTURES

- 1. GENERAL USE
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE...

TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

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TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

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TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

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TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac.), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac.), LIME RATE (lb./1000 sq ft)

SEDIMENT CONTROL NOTES

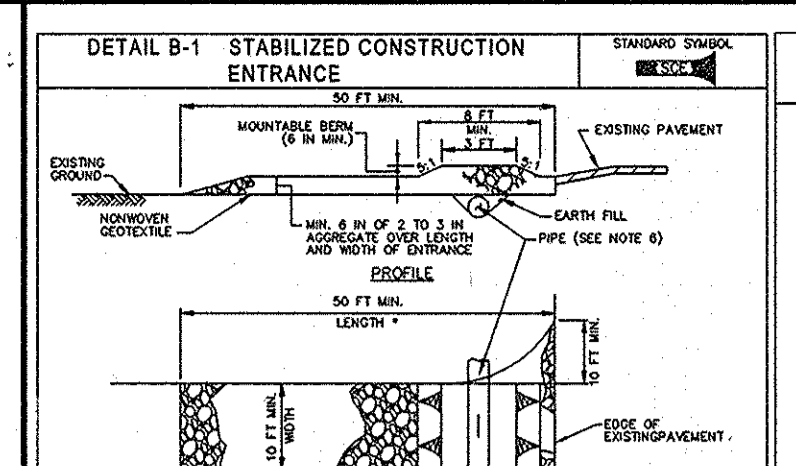
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SEDIMENT CONTROL NOTES

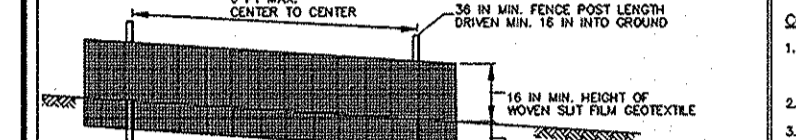
1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...



CONSTRUCTION SPECIFICATIONS

- 1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES SHOULD BE KEPT OFF THE ENTRANCE AT ALL TIMES. THE ENTRANCE SHOULD BE 10 FEET WIDE AND 10 FEET HIGH AT THE ENTRANCE POINT.

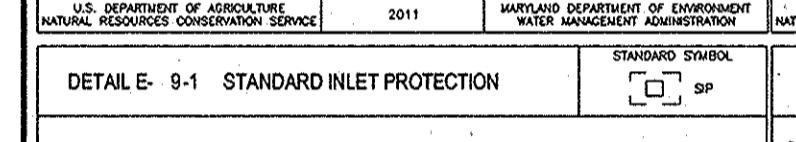
DETAIL E-2 SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

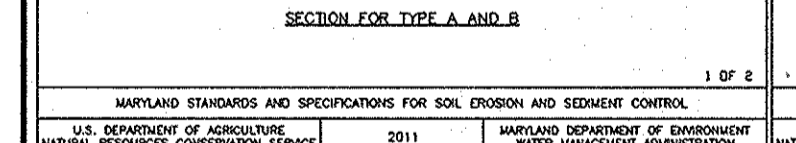
DETAIL E-3 SILT FENCE



CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

DETAIL E-4 AT-GRADE INLET PROTECTION



CONSTRUCTION SPECIFICATIONS

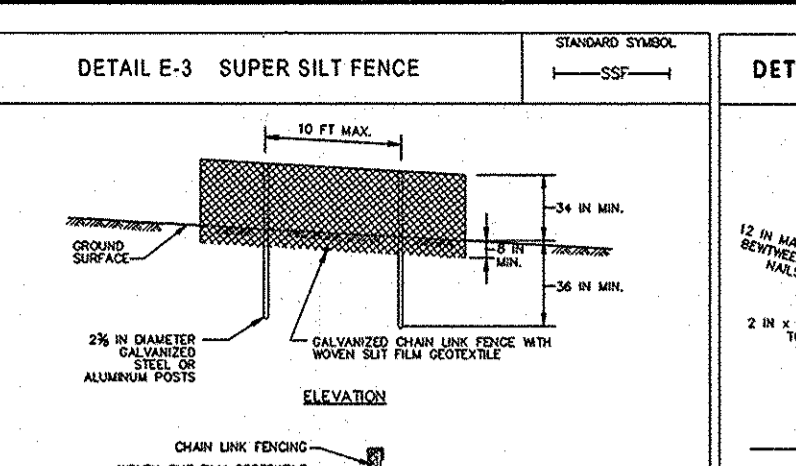
- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

DETAIL E-5 STANDARD INLET PROTECTION



CONSTRUCTION SPECIFICATIONS

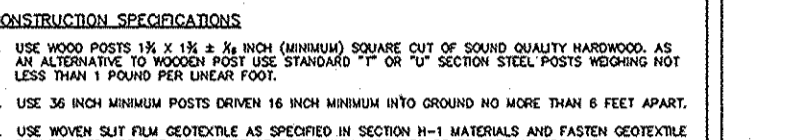
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CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

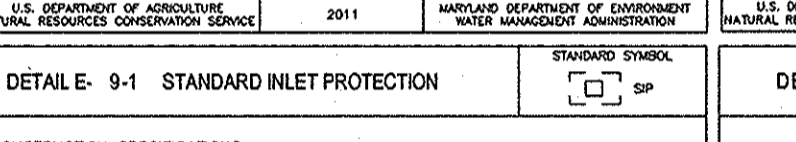
DETAIL E-7 SILT FENCE



CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

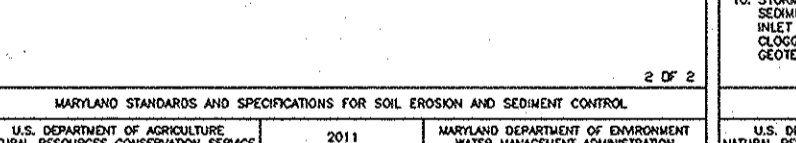
DETAIL E-8 AT-GRADE INLET PROTECTION



CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

DETAIL E-9 CURB INLET PROTECTION



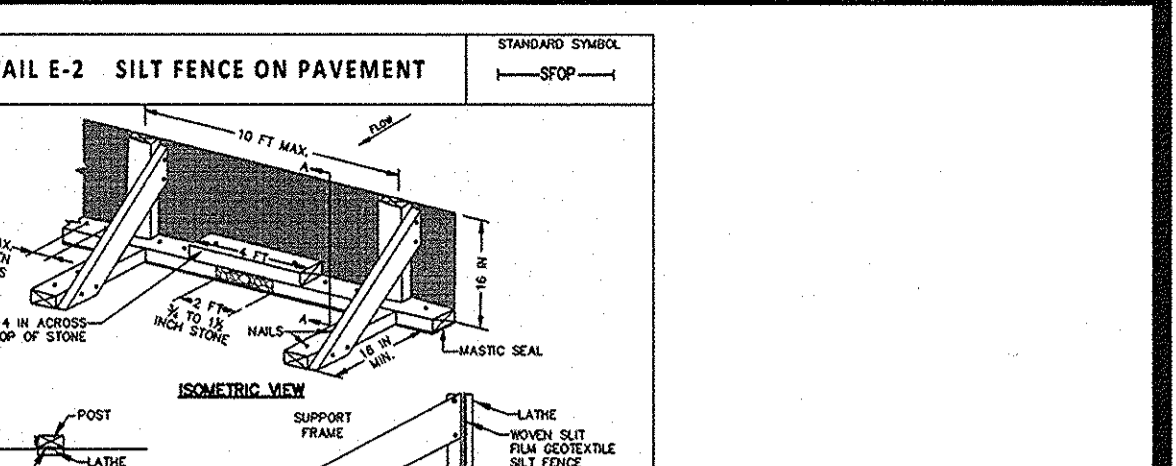
CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

SEDIMENT CONTROL NOTES AND DETAILS (PHASE 2)

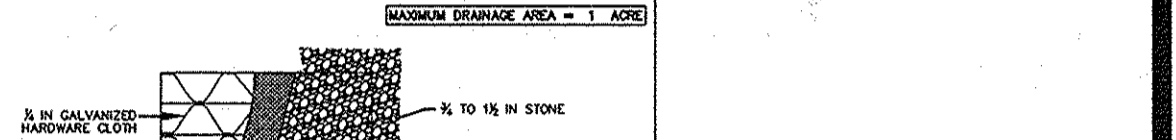
Project information including: RIVERS CORPORATE PARK SECTION 1, AREA 2 PARCELS 'A-2', 'C-5' AND 'C-6'. PLAT NO. 11730, 20428-20429, 21387 and F-14-059. HOWARD COUNTY, MARYLAND. SCALE: NO SCALE. ZONING: NT-EC, IND. SHEET: 20 OF 23.



CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

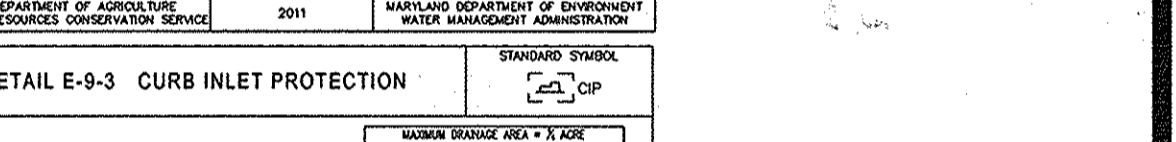
DETAIL E-3 SILT FENCE



CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

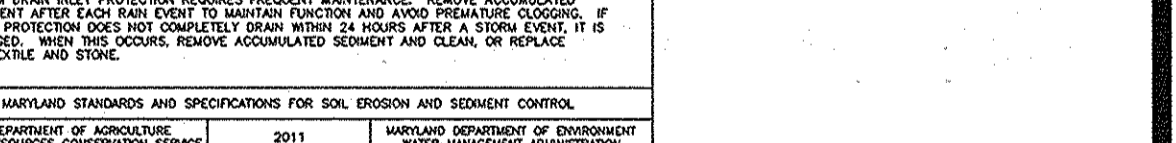
DETAIL E-4 AT-GRADE INLET PROTECTION



CONSTRUCTION SPECIFICATIONS

- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

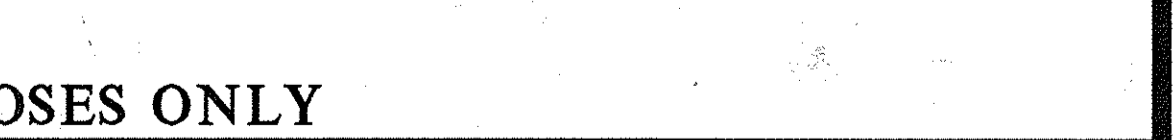
DETAIL E-5 STANDARD INLET PROTECTION



CONSTRUCTION SPECIFICATIONS

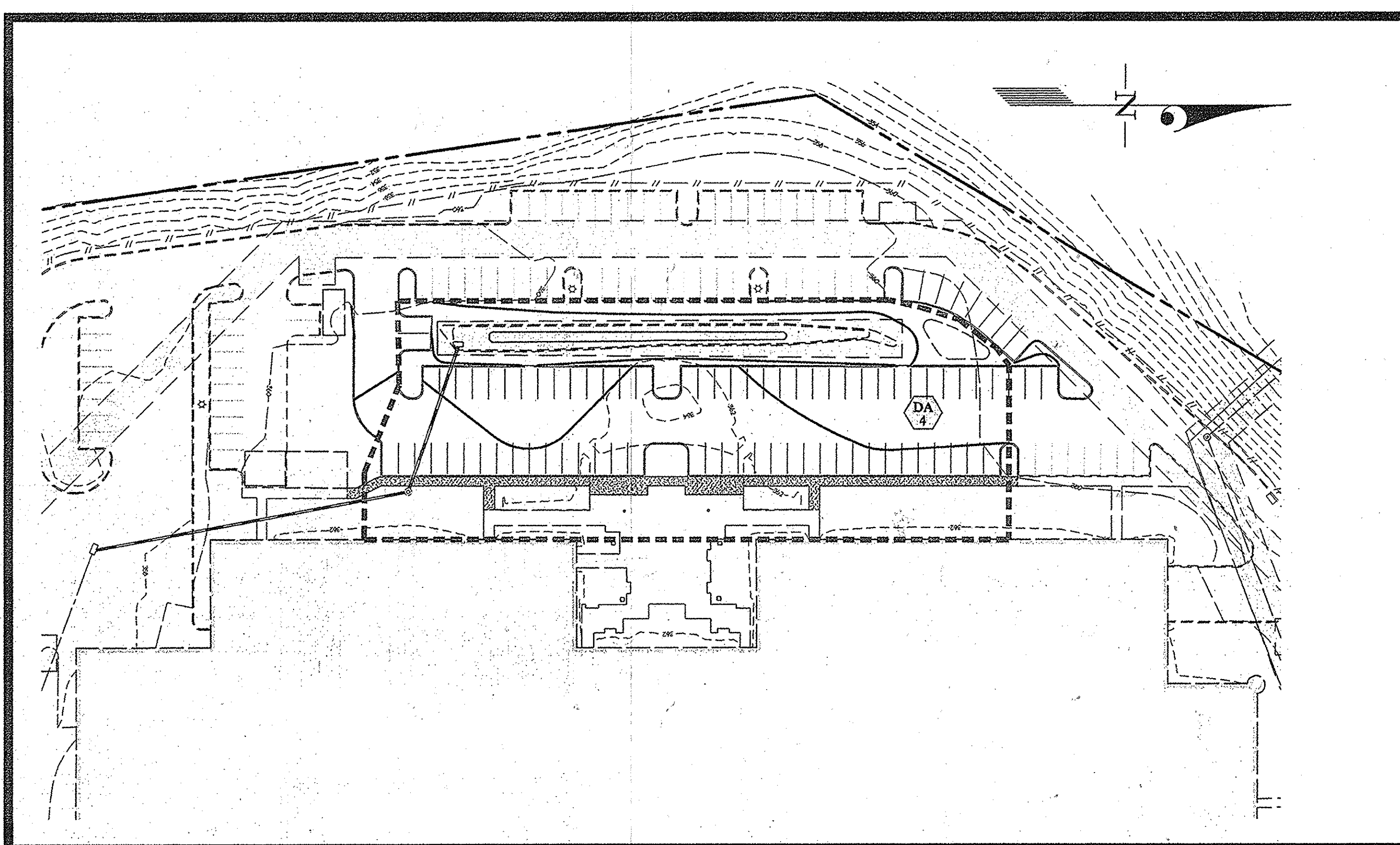
- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.

DETAIL E-6 SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS

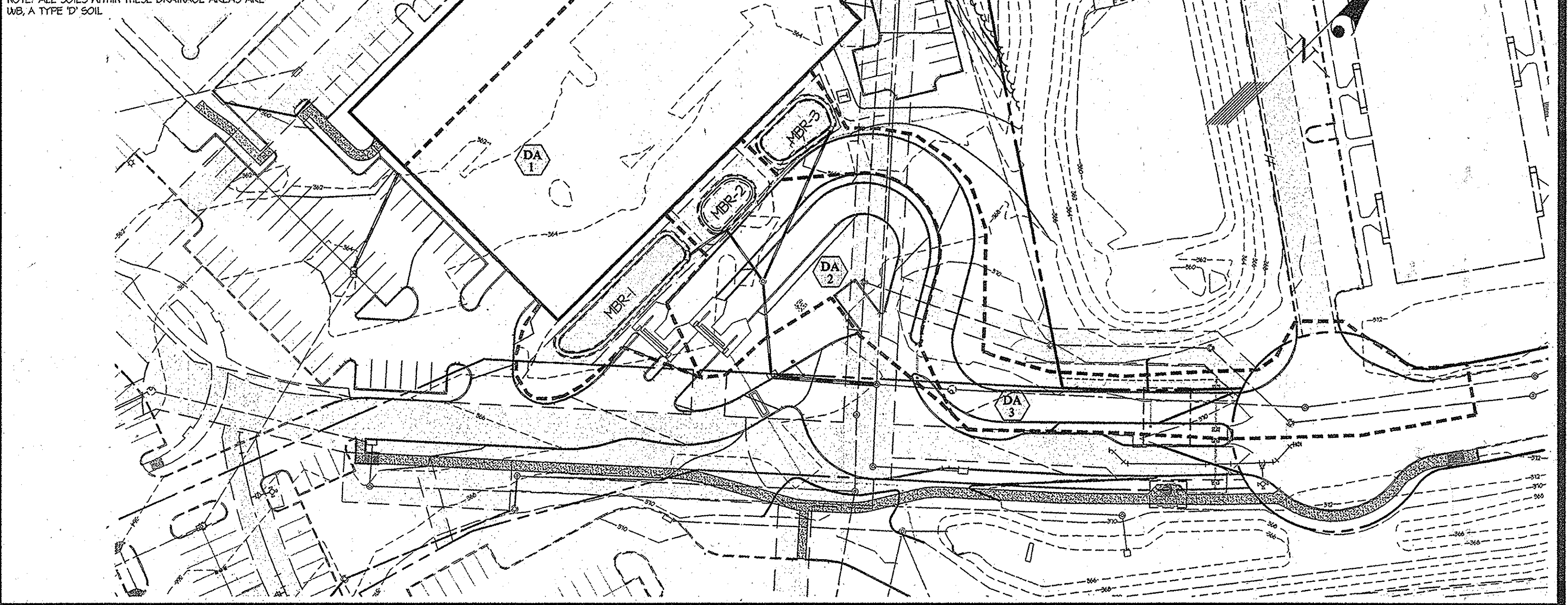
- 1. USE 2x4 OR 2x6 WOOD POSTS AT 4-6 FOOT SPACES. THE SILT FENCE SHOULD BE 10 FEET HIGH AND 10 FEET WIDE AT THE ENTRANCE POINT.



DRAINAGE AREA CHART

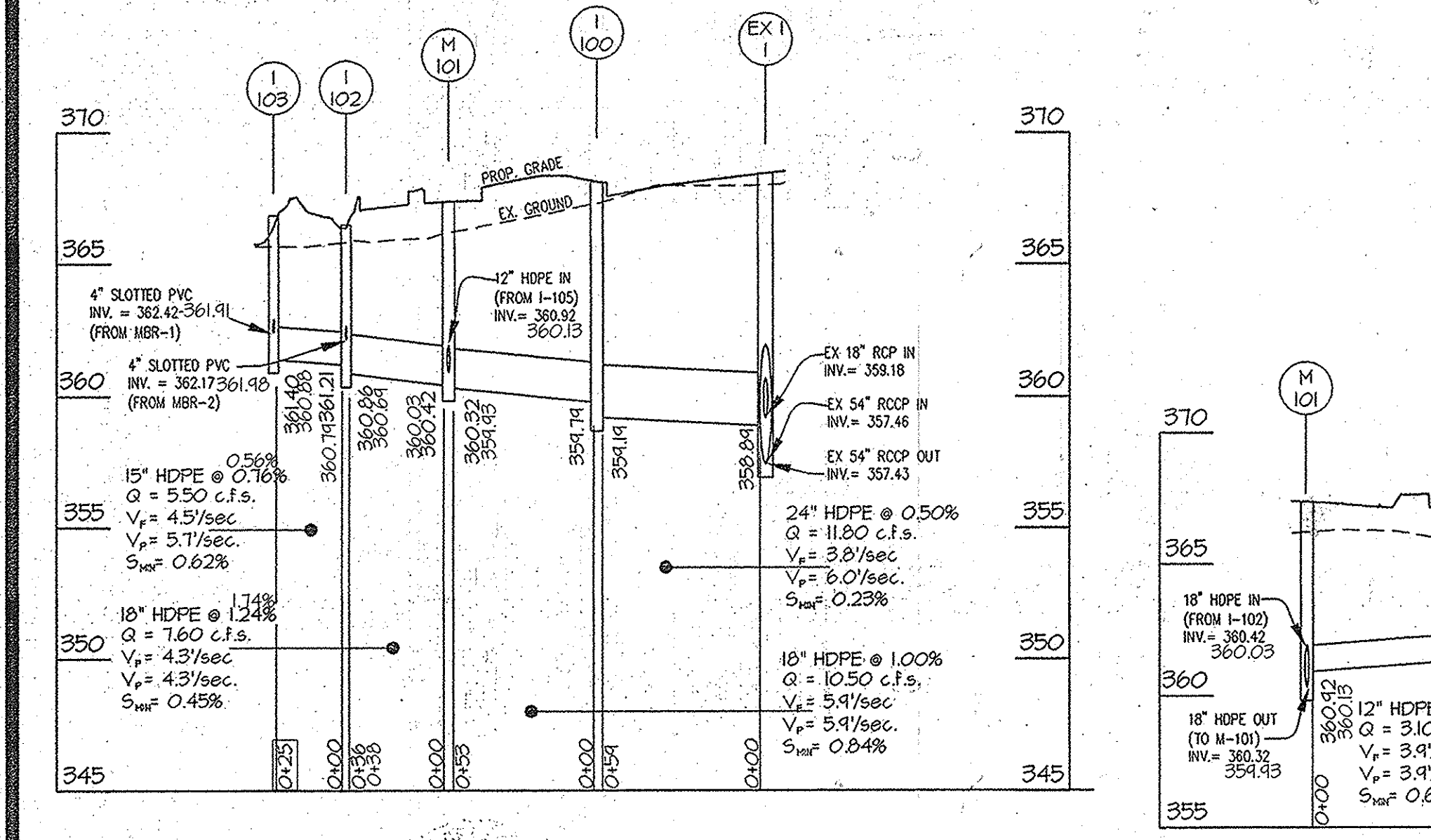
DRAINAGE AREA	SIZE (AC)	PERVIOUS (%)	SPH PROVIDED BY
DA 1	0.90	85%	MBR-1
DA 2	0.35	65%	MBR-2
DA 3	0.50	80%	MBR-3
DA 4	1.02	60%	MBR-4

NOTE: ALL SOILS WITHIN THESE DRAINAGE AREAS ARE UMB, A TYPE 'D' SOIL



MICRO-BIORETENTION #4 DRAINAGE AREA MAP SCALE: 1" = 50'

MICRO-BIORETENTION #1, 2 and 3 DRAINAGE AREA MAP SCALE: 1" = 50'



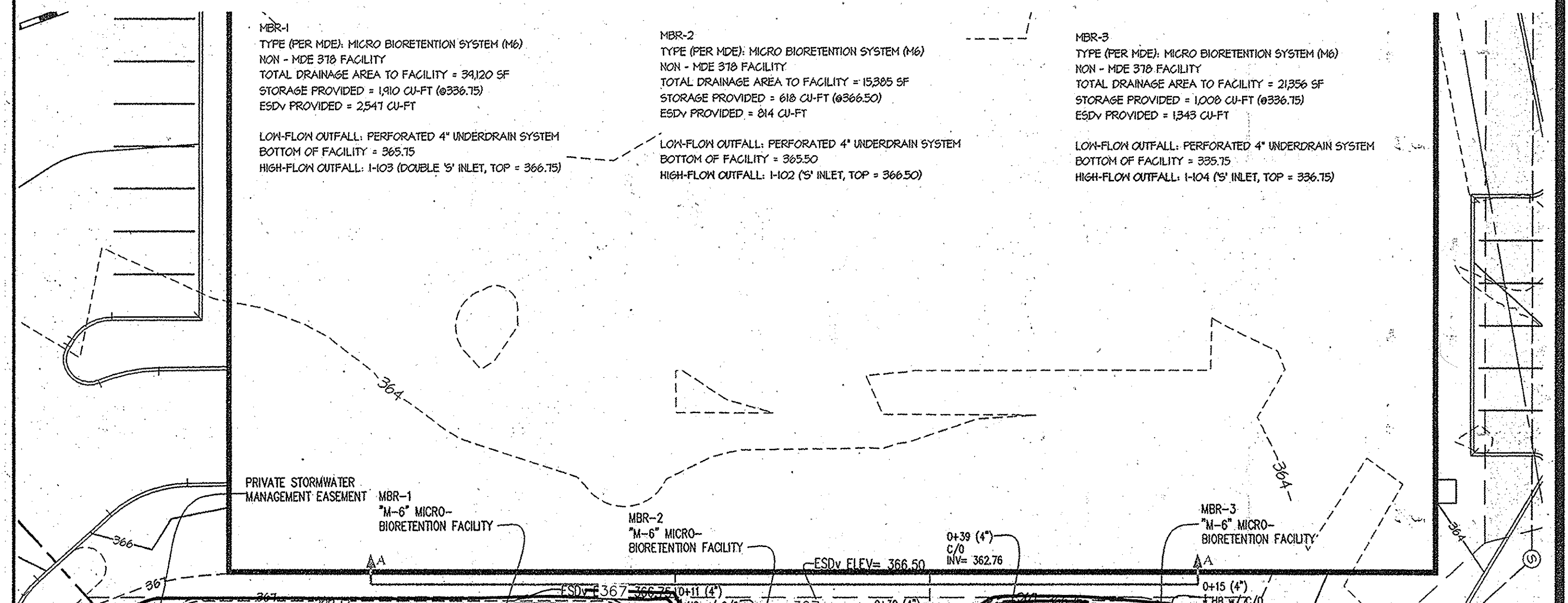
STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	LOCATION
			UPPER	LOWER	UPPER	LOWER		
H-00	A-5 INLET	2'-6"	369.18	369.18	359.74	359.74	HO. CO. D. 4.22	N
M-101	MANHOLE	4'-0"	367.34	---	360.42	360.32	HO. CO. G. 5.12	N
H-102	SINGLE 'S'	2'-1"	366.50	---	361.19	360.84	HO. CO. D. 4.22	N
H-103	DOUBLE 'S'	2'-1"	366.62	---	362.41	360.85	HO. CO. D. 4.22	N
H-104	SINGLE 'S'	2'-1"	366.75	---	361.73	361.14	HO. CO. D. 4.22	N

NOTE: OWNERSHIP AND MAINTENANCE IS PRIVATE

STORM DRAIN PIPE SUMMARY TABLE PRIVATELY OWNED AND MAINTAINED

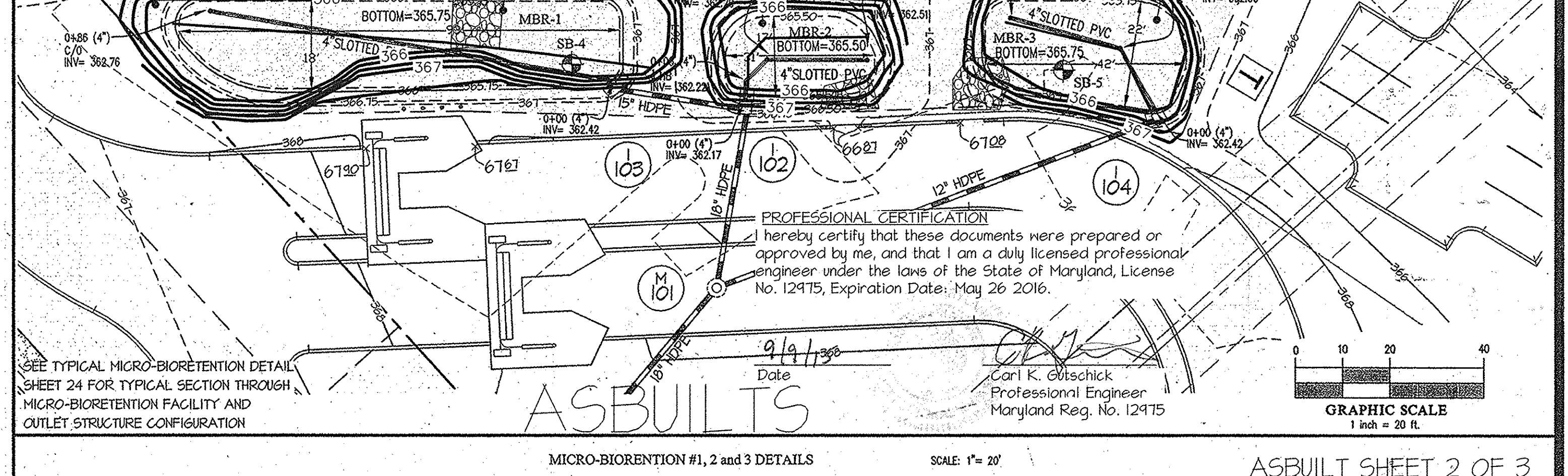
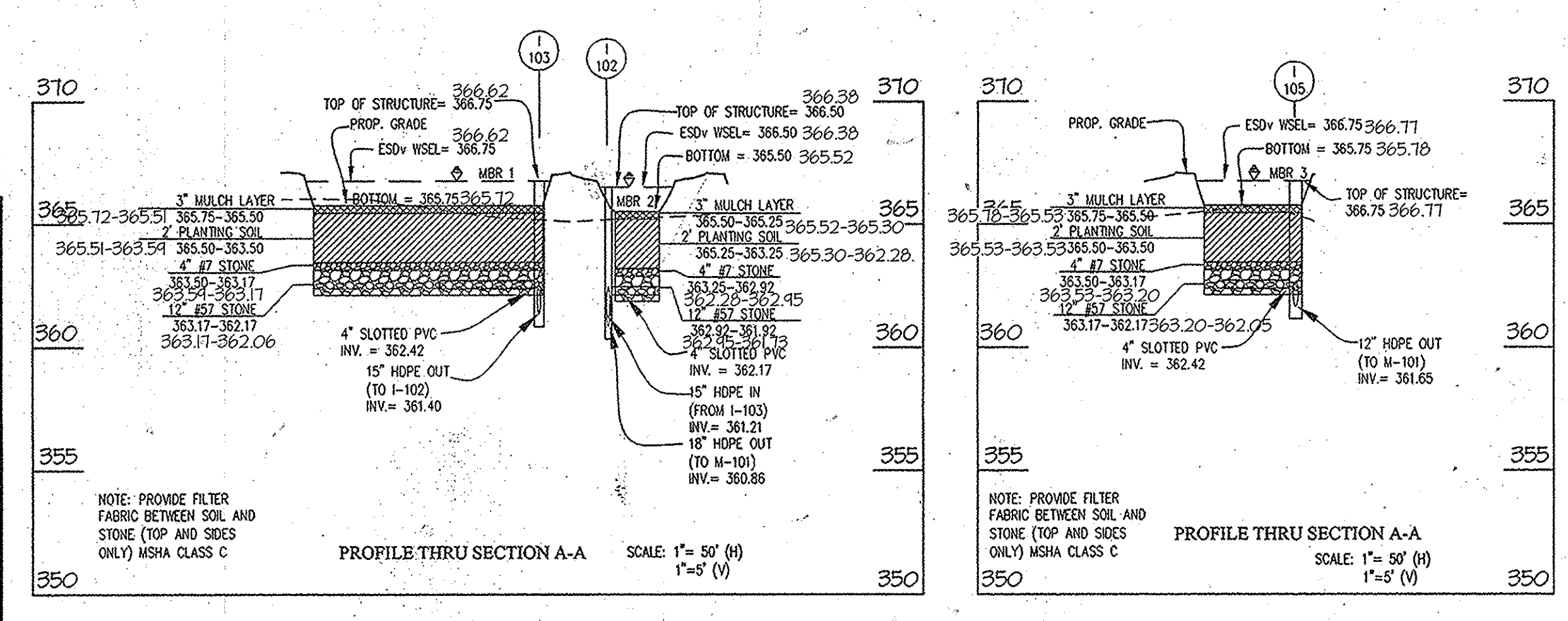
SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	151	SCHEDULE 40
12	HDPE	41	ADS N12 or equiv.
15	HDPE	25	ADS N12 or equiv.
18	HDPE	84	ADS N12 or equiv.
24	HDPE	54	ADS N12 or equiv.



PROFESSIONAL CERTIFICATION
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.

APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE JANUARY 16, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director: *Marsha M. Langley* 6/13/14
Chief, Division of Land Development: *Victor Shindler* 6-02-14
Chief, Development Engineering Division: *Chad Edmund* 4-7-14



GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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BURTONSVILLE, MARYLAND 20886
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-888-2524 FAX: 301-421-4186

REVISION

DATE	REVISION

PREPARED FOR:
OWNER/DEVELOPER
COPT Riverwood, LLC
c/o COPT DEVELOPMENT SERVICES, LLC
6711 COLUMBIA GATEWAY DRIVE, SUITE 300
COLUMBIA, MD 21046
Phone: 443-285-5400
Attn: DAVID NORFOLK

MICRO-BIORETENTION DETAILS
RIVERS CORPORATE PARK
SECTION 1, AREA 2
PARCELS 'A-2', 'C-5' AND 'C-6'
PLAT No. 11730, 20428-20429, 21387 and 22711-22713

SCALE AS SHOWN ZONING NT-EC, IND G. L. W. FILE NO. 06003
DATE AUG. 2015 TAX MAP - GRID SHEET 41 - 12 21 OF 23
MARCH 2014
HOWARD COUNTY, MARYLAND

GENERAL NOTES

1. MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION ARE DETAILED IN TABLE B.2.

2. PLANTING SOIL
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DAMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.02.CS.

3. PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
PH RANGE 5.2 - 7.0
ORGANIC MATTER 15 - 4% (BY WEIGHT)
MAGNESIUM 35 LB./AC
PHOSPHORUS (PHOSPHATE - P2O5) 15 LB./AC
POTASSIUM (POTASH - K2O) 95 LB./AC
SOLUBLE SALTS NOT TO EXCEED 500 PPM

4. BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST, EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED.

5. SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY. SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIVE OR DRY LIME OR LOWER WITH IRON SULFATE PLUS SULFUR.

6. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION APPROXIMATELY B.3. CONSTRUCTION SPECIFICATIONS FOR SAND FILTERS, BIORETENTION AND OPEN CHANNELS B.3.5 AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR NARROW TRACK EQUIPMENT OR LIGHT EQUIPMENT WITH TIRE TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES, AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

7. COMPACTION CAN BE ALLEVATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILERS. THESE TILLING OPERATIONS ARE NOT TO RESTRUCTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

8. ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDING WATER BEFORE PREPARING ROTOTILLING BASE.

9. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

10. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18" DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH NARROW TRACKS.

11. PLANT MATERIAL
SEE LANDSCAPE PLAN, THIS SDP SET.

12. PLANT INSTALLATION
MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3" SHREDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

13. ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO WITHIN OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

14. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

15. GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

16. THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFERS OR AT A MINIMUM DEFERS THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

17. UNDERDRAINS
UNDERDRAINS ARE TO BE PLACED ON A 3" x 3" WIDE SECTION OF FILTER CLOTH. PIPE IS PLACED NEXT FOLLOWED BY THE GRAVEL. BEDDING THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHALL BE CAPPED.

18. THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

19. MISCELLANEOUS
THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

20. OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3) MICRO-BIORETENTION (M-4), RAIN GARDENS (M-1), BIORETENTION SHALE (M-2), ENHANCED FILTERS (M-4)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND FRUITS. REPLACEMENT AND REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND GRASSES, AND REPLACE ALL DEFICIENT STAKES AND WIRING.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE JANUARY 16, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director: *Merrick M. Leagle* 6/3/14
Chief, Division of Land Development: *Kate Schuch* 6/22/14
Chief, Development Engineering Division: *Chad Clark* 4.7.14

GLWGUTSCHICK LITTLE & WEBER, P.A.
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BURTONTVILLE, MARYLAND 20885
TEL: 301-421-4024 FAX: 301-889-1520 DC/VA: 301-889-2524 FAX: 301-421-4186

APPENDIX B.U. - SUPPLEMENTAL POND SPECIFICATIONS (NON-318)

SUPPLEMENTAL STORMWATER PONDS AND WETLAND SPECIFICATIONS (NON-318)
THESE NOTES AND SPECIFICATIONS ARE IN ADDITION TO THE MD-318 SPECIFICATIONS. IF THERE ARE ANY QUESTIONS AS TO THE APPLICABILITY, THE MD-318 SPECIFICATIONS SUPERSEDE.

1. IT IS PREFERRED TO USE THE SAME MATERIAL IN THE EMBANKMENT AS IS BEING INSTALLED FOR THE CORE TRENCH. IF THIS IS NOT POSSIBLE BECAUSE THE APPROPRIATE MATERIAL IS NOT AVAILABLE, A DAM CORE WITH A SMALL MAY BE USED. THE CROSS-SECTION OF THE STORMWATER FACILITY SHOULD SHOW THE LIMITS OF THE DAM CORE (UP TO 10-YEAR WATER SURFACE ELEVATION) AS WELL AS THE ACCEPTABLE MATERIALS FOR THE SLOPE. THE SHAPE OF THE DAM CORE AND THE MATERIAL TO BE USED IN THE SLOPE SHOULD BE PROVIDED BY THE GEOTECHNICAL ENGINEER.

2. IF THE COMPACTION TESTS FOR THE SITE IMPROVEMENTS IS USING MODIFIED PROCTOR (ASTM D 1557), THEN TO MAINTAIN ON-SITE CONSISTENCY, THE MODIFIED PROCTOR MAY BE USED IN LIEU OF A STANDARD PROCTOR (ASTM D 1557). THE MINIMUM DENSITY USING THE MODIFIED PROCTOR TEST METHOD SHALL BE AT LEAST 42% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF 12% OF THE OPTIMUM. THE MINIMUM REQUIRED DENSITY USING THE STANDARD PROCTOR TEST METHOD SHALL BE AT LEAST 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF 12% OF THE OPTIMUM.

3. FOR ALL STORMWATER MANAGEMENT FACILITIES A GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE MUST BE PRESENT TO VERIFY COMPACTION IN ACCORDANCE WITH THE SELECTED TEST METHOD. THIS INFORMATION NEEDS TO BE PROVIDED IN A REPORT TO THE DESIGN ENGINEER, SO THAT CERTIFICATION OF THE COMPACTION OF THE FACILITY, IN ACCORDANCE WITH MD-318 SPECIFICATIONS, CAN BE MADE.

4. A 4-INCH LAYER OF TOPSOIL SHALL BE PLACED ON ALL DISTURBED AREAS OF THE DAM EMBANKMENT. SEEDING, LIMING, FERTILIZING, MULCHING, ETC. SHALL BE IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SERVICE MD-342 OR THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL PERMANENT SEEDING SECTION IN CHAPTER 20. THE PURPOSE OF THE TOPSOIL IS TO ESTABLISH A GOOD GROWTH OF GRASSES WHICH IS NOT ALWAYS POSSIBLE WITH SOME OF THE MATERIALS THAT MAY BE PLACED FOR THE EMBANKMENT FILL.

5. GEOTEXTILE PLACED BENEATH RIP-RAP SHALL BE CLASS 10" GEOTEXTILE OR BETTER (SEE SECTION 24.0, MATERIAL SPECIFICATIONS, 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, I.M.E. 1994). SOME ACCEPTABLE GEOTEXTILES THAT MEET THE CLASS 10" CRITERIA INCLUDE:
AMOCO 4552
GEO ON 1120
HEBTEC 101
CARTRIDGE PX-105
HIRAFI 180-N

6. THIS IS ONLY A PARTIAL LISTING OF AVAILABLE GEOTEXTILES BASED ON INFORMATION PROVIDED BY THE MANUFACTURERS OF THE 1991 SPECIFIER'S GUIDE DATED DECEMBER 1999. IT IS THE RESPONSIBILITY OF THE ENGINEER TO VERIFY THE ADEQUACY OF THE MATERIAL, AS THERE ARE CHANGES IN THE MANUFACTURING PROCESS AND THE TYPE OF FABRIC USED, WHICH MAY AFFECT THE CONTINUED ACCEPTANCE.

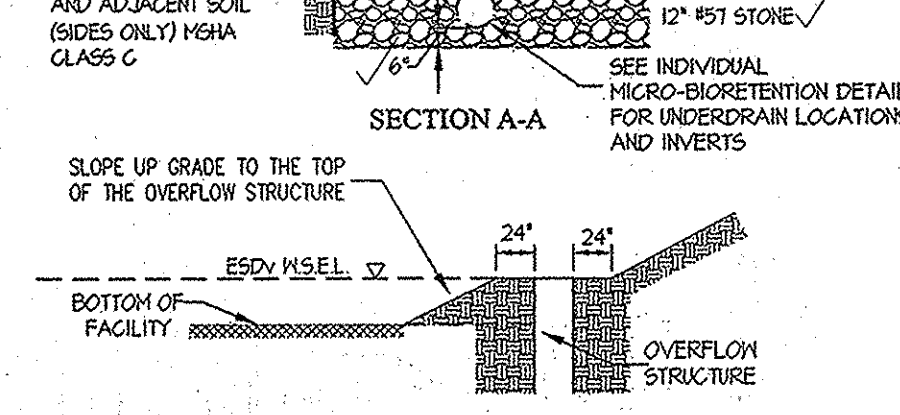
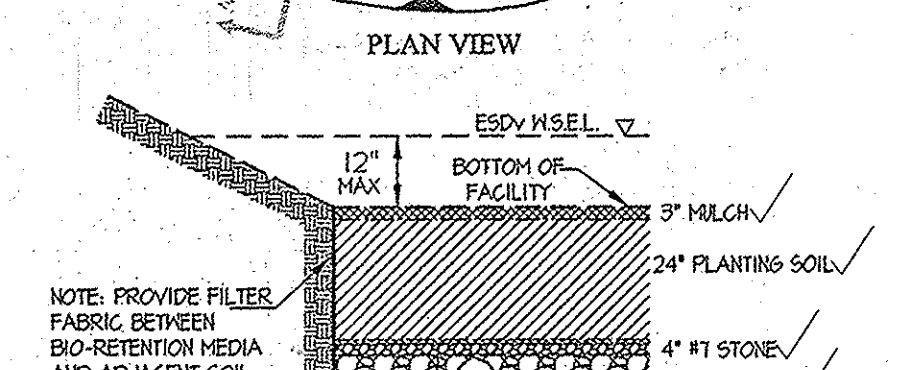
7. A RULE OF THUMB TO DETERMINE WHEN AN EXCAVATED POND MAY NEED TO BE CONSIDERED AN EMBANKMENT POND IS AS FOLLOWS:
PROVIDE CALCULATION OF $10H + 20$ FEET + L, WHERE H HEIGHT FROM POND BOTTOM TO TOP OF DAM. IF THE PROJECTION OF L DOWNSTREAM IS A HORIZONTAL LINE FROM THE UPSTREAM TOE OF SLOPE IS BELOW EXISTING GROUND, THE POND CAN BE CONSIDERED AN EXCAVATED POND. IN ADDITION, THE EXISTING GROUND SLOPE, DOWNSTREAM OF THE TOE, MUST BE LESS THAN 10%.

8. THE DESIGN ENGINEER AND GEOTECHNICAL ENGINEER SHOULD MAKE THE DETERMINATION THAT THE SETTLEMENT OF THE POND WILL NOT CAUSE EXCESSIVE JOINT EXTENSION. FOR FURTHER INFORMATION ON JOINT ANALYSIS, SEE NRCE PUBLICATION TR-10.

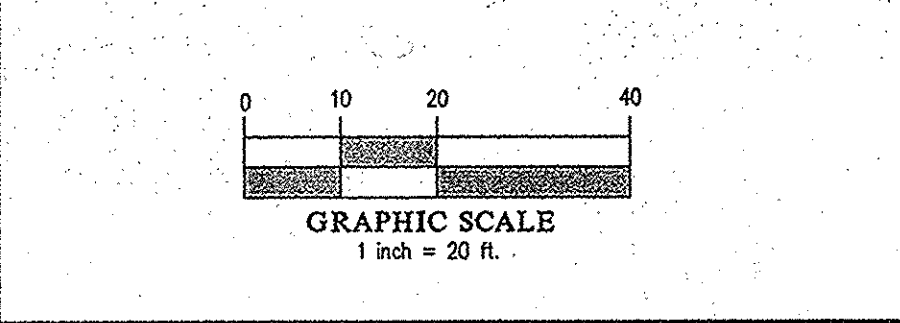
9. FILL PLACEMENT SHALL NOT EXCEED A MAXIMUM 8-INCH, EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF THE EMBANKMENT.

10. THE EMBANKMENT FILL SHALL NOT BE PLACED HIGHER THAN THE CENTERLINE OF THE PRINCIPAL SPILLWAY UNTIL THE PRINCIPAL SPILLWAY HAS BEEN INSTALLED. IF THE EMBANKMENT NEEDS TO BE EXCAVATED TO INSTALL THE PRINCIPAL SPILLWAY, THE SIDE SLOPE SHALL BE NO LESS THAN 2:1.

11. THE SIDE SLOPES OF A CUT TO REPAIR A DAM, INSTALL A PRINCIPAL SPILLWAY FOR AN EXCAVATED POND, OR OTHER REPAIR WORKS, SHALL BE NO LESS THAN 2:1.

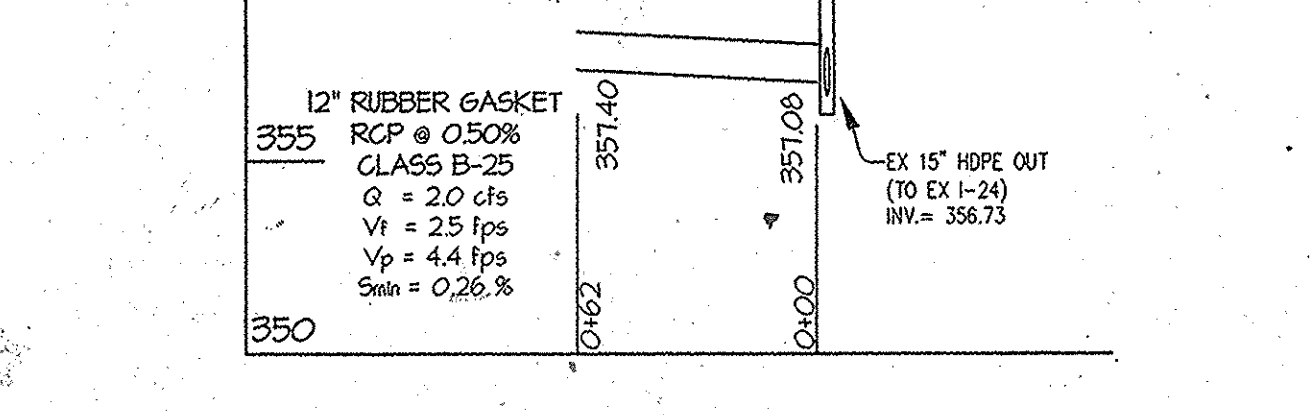
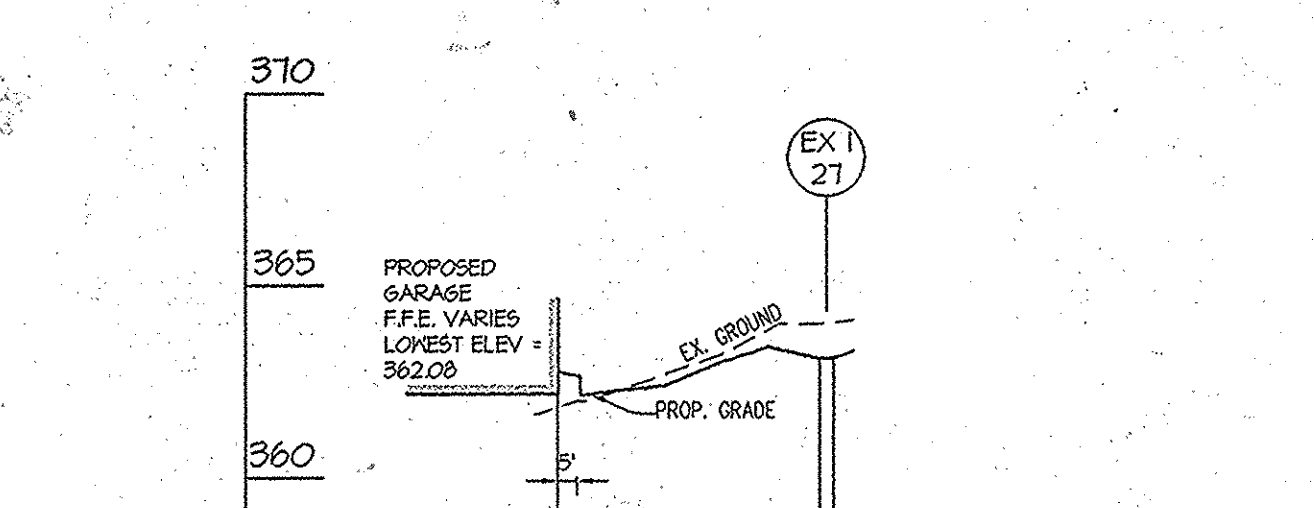
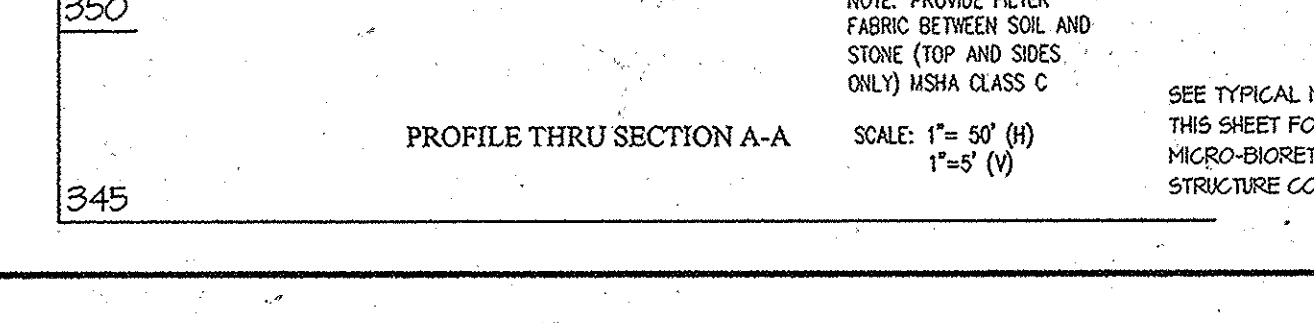
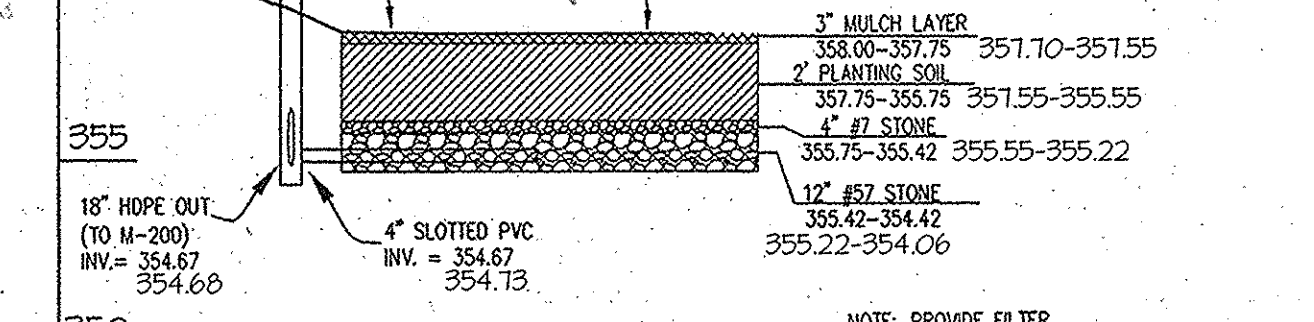
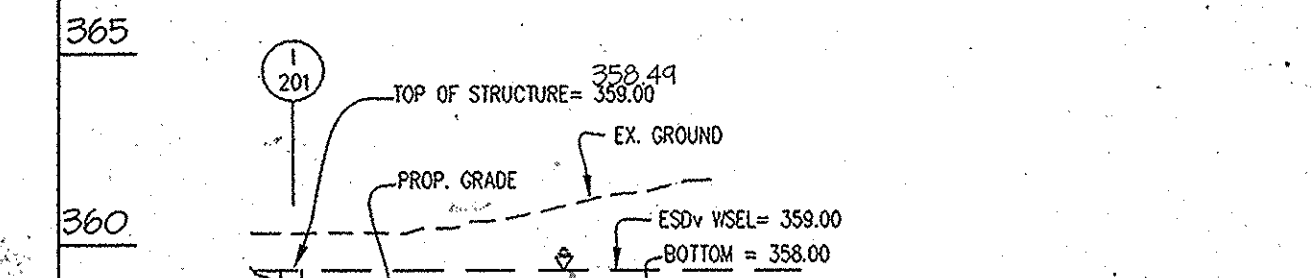
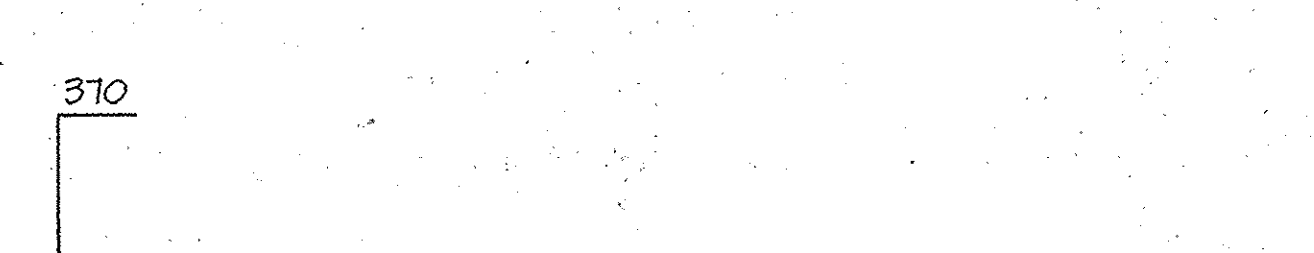
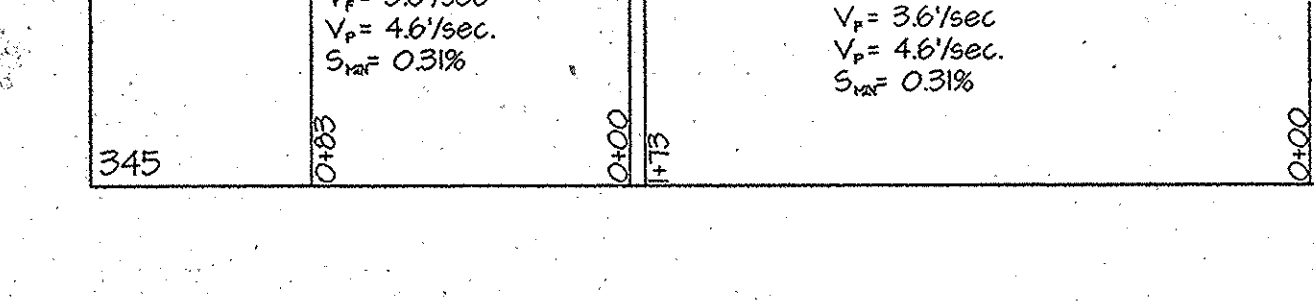
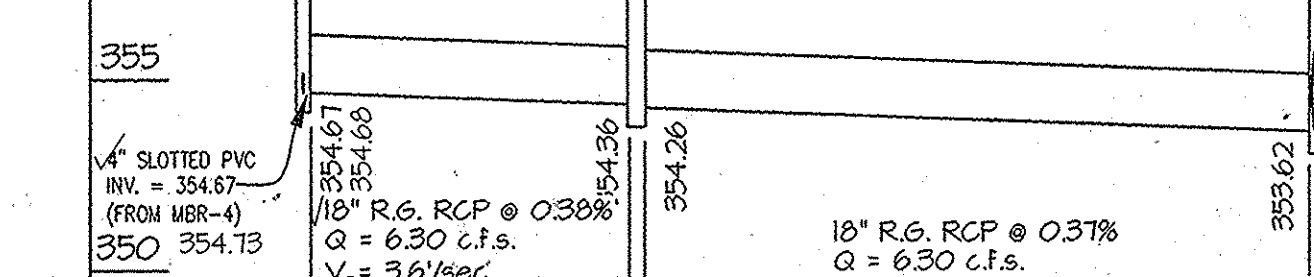
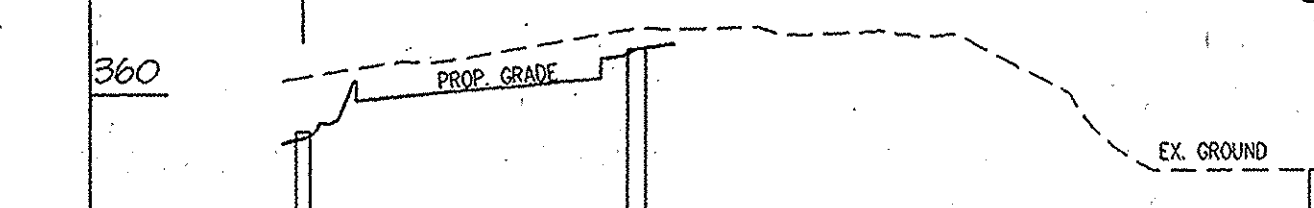
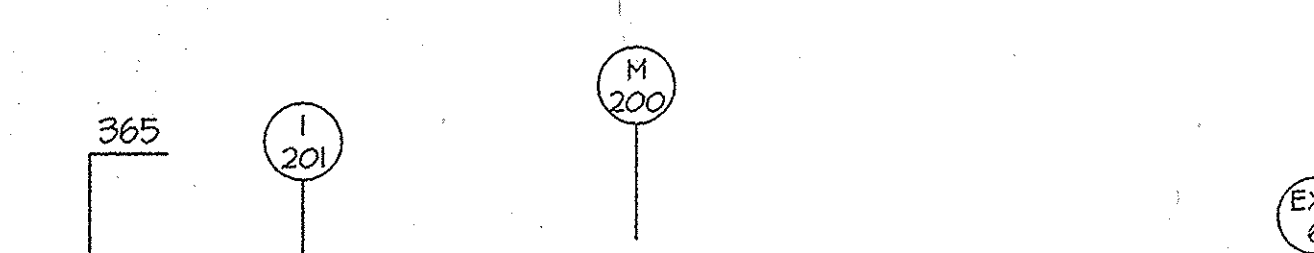


TYPICAL MICRO-BIORETENTION SECTION SCALE: N.T.S.



PROFESSIONAL CERTIFICATION
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. 12915, EXPIRATION DATE: MAY 26, 2014.
3-25-14

DATE	REVISION	BY	APP'R.
		KLP	
		BY	APP'R.

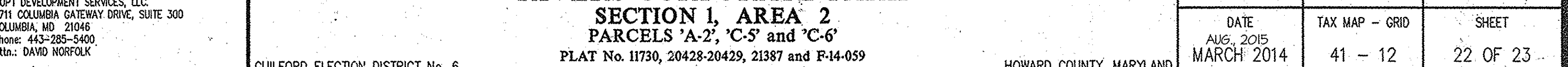
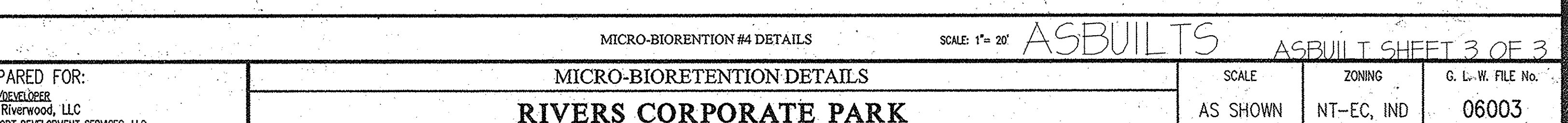
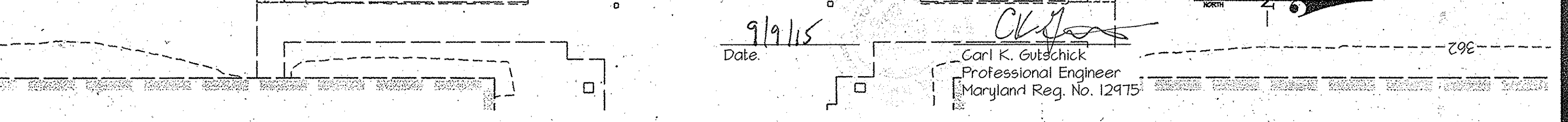
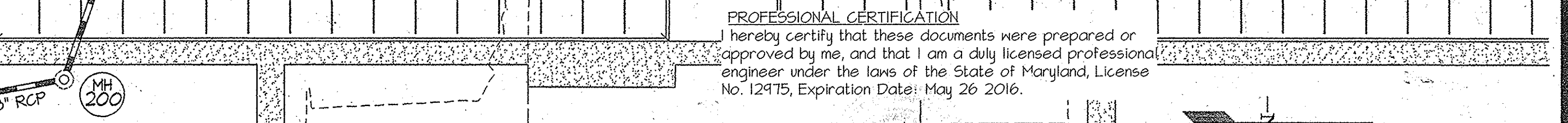
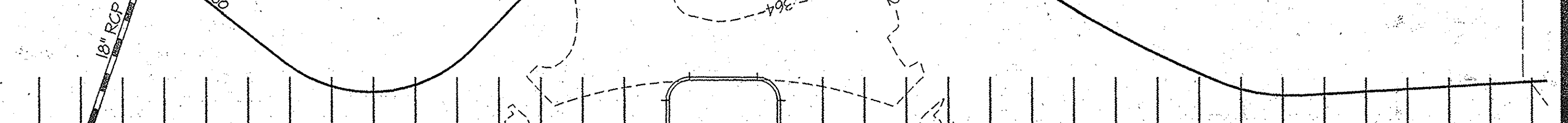
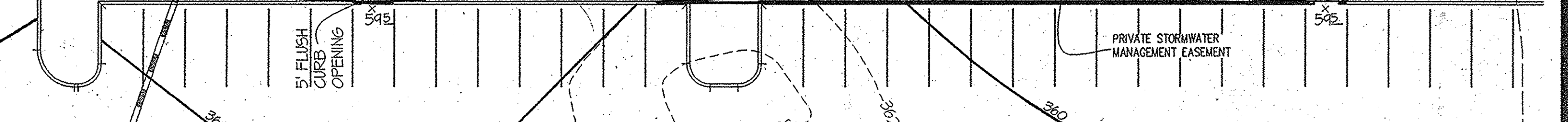
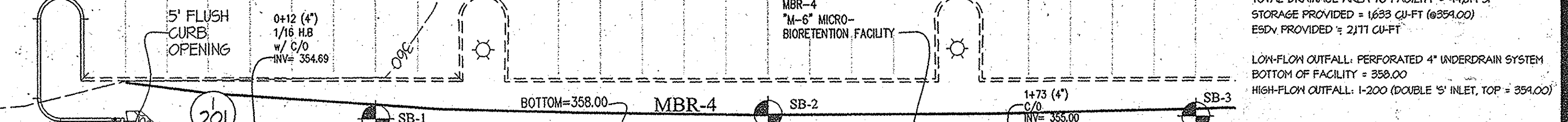
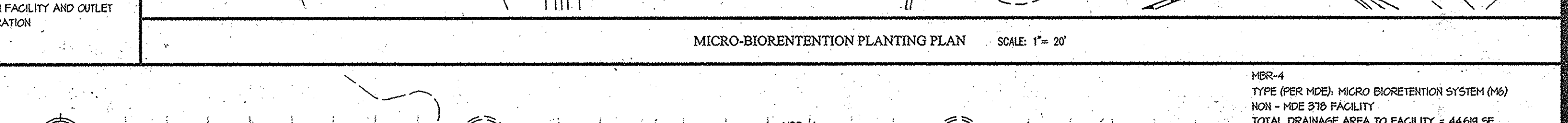
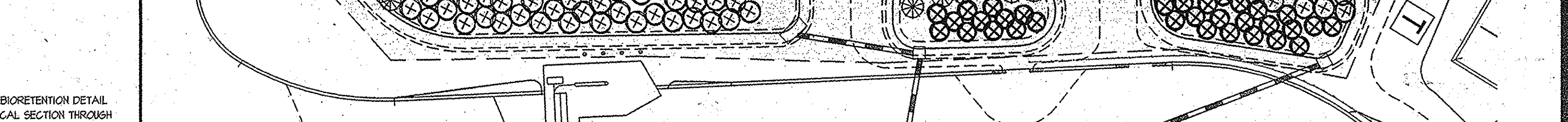
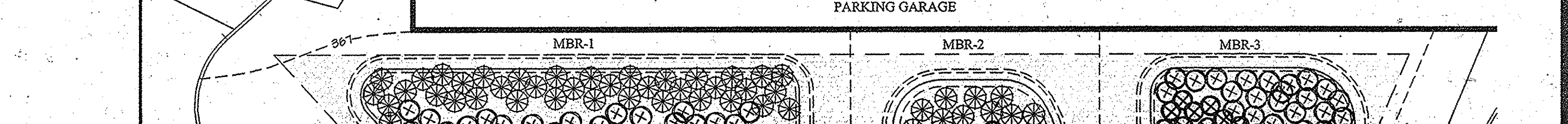
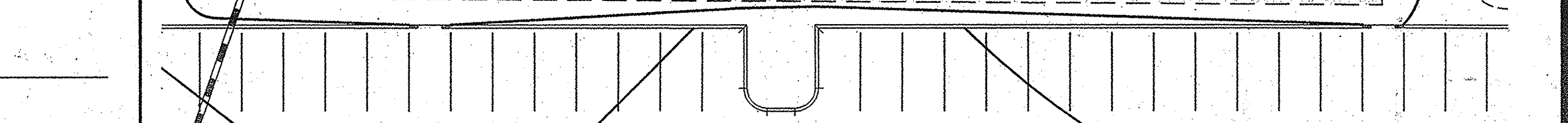
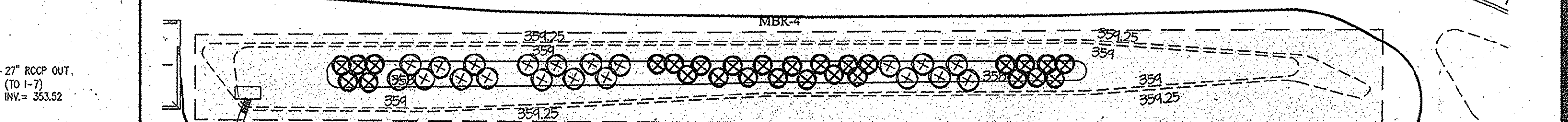
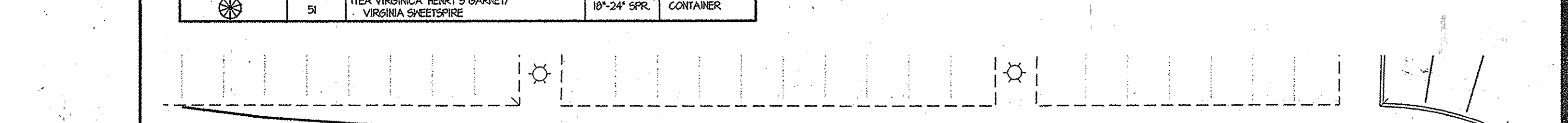
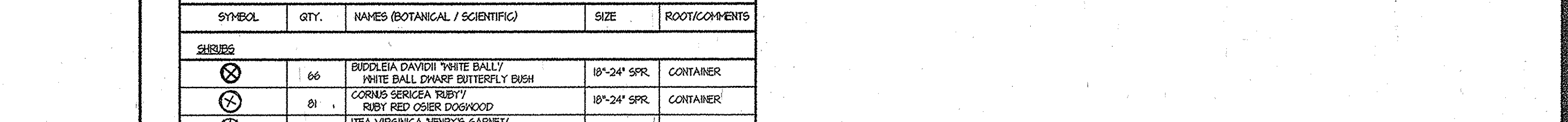


SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	179	SCHEDULE 40
12	RUBBER GASKET RCP	62	B-52
18	RUBBER GASKET RCP	256	B-52

NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	LOCATION
			UPPER	LOWER	UPPER	LOWER		
M-200	HANDHOLE	4'-0"	361.05	---	354.36	354.26	HO. CO. 6. 512	N
I-201	DOUBLE 'S'	2'-1"	354.00	---	354.67	354.67	HO. CO. 6. 428	N
			355.44	---	354.73	354.68		N

NOTE: OWNERSHIP AND MAINTENANCE IS PRIVATE

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT/COMMENTS
⊗	66	BIDOLEIA DAVIDI 'WHITE BALLY'	18"-24" SPR.	CONTAINER
⊗	81	WHITE BALLY DWARF BUTTERFLY BUSH	18"-24" SPR.	CONTAINER
⊗	51	CORONIS SERICEA 'RUBY'	18"-24" SPR.	CONTAINER
⊗		RUBY RED OSIER DOGWOOD	18"-24" SPR.	CONTAINER
⊗		TEA VIRGINICA 'HENRY'S GARNET'	18"-24" SPR.	CONTAINER
⊗		VIRGINIA SWEETSPICE	18"-24" SPR.	CONTAINER



PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12915, Expiration Date: May 26, 2016.
9/19/15
Date: *Carl K. Gutschick*
Professional Engineer
Maryland Reg. No. 12915

LANDSCAPE NOTES (FOR PHASE 2)

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16124 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 N-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 THIS PLAN. SEE SHEET 14 FOR PLANTING DETAILS.
- 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 SOODED 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 THE PUBLIC WATER, SEWER AND UTILITY EASEMENT.
- VERIFY THE LOCATION AND DEPTH OF THE COMMUNICATION LINE(S) WITHIN THE AT&T R/W PRIOR TO ANY PLANTING WITHIN THIS R/W. THE CONTRACTOR SHALL CONTACT GUY FOR ANY NECESSARY RELOCATION OF PLANT MATERIALS.
- "SCHEDULE-B" IS PROVIDED FOR LANDSCAPE SURETY CALCULATION PURPOSES. ADDITIONAL FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPZ DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$2100.00 FOR THE FOLLOWING PLANTS:
 T SHADE TREES at \$300/TREE = \$2100.00

TO 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.

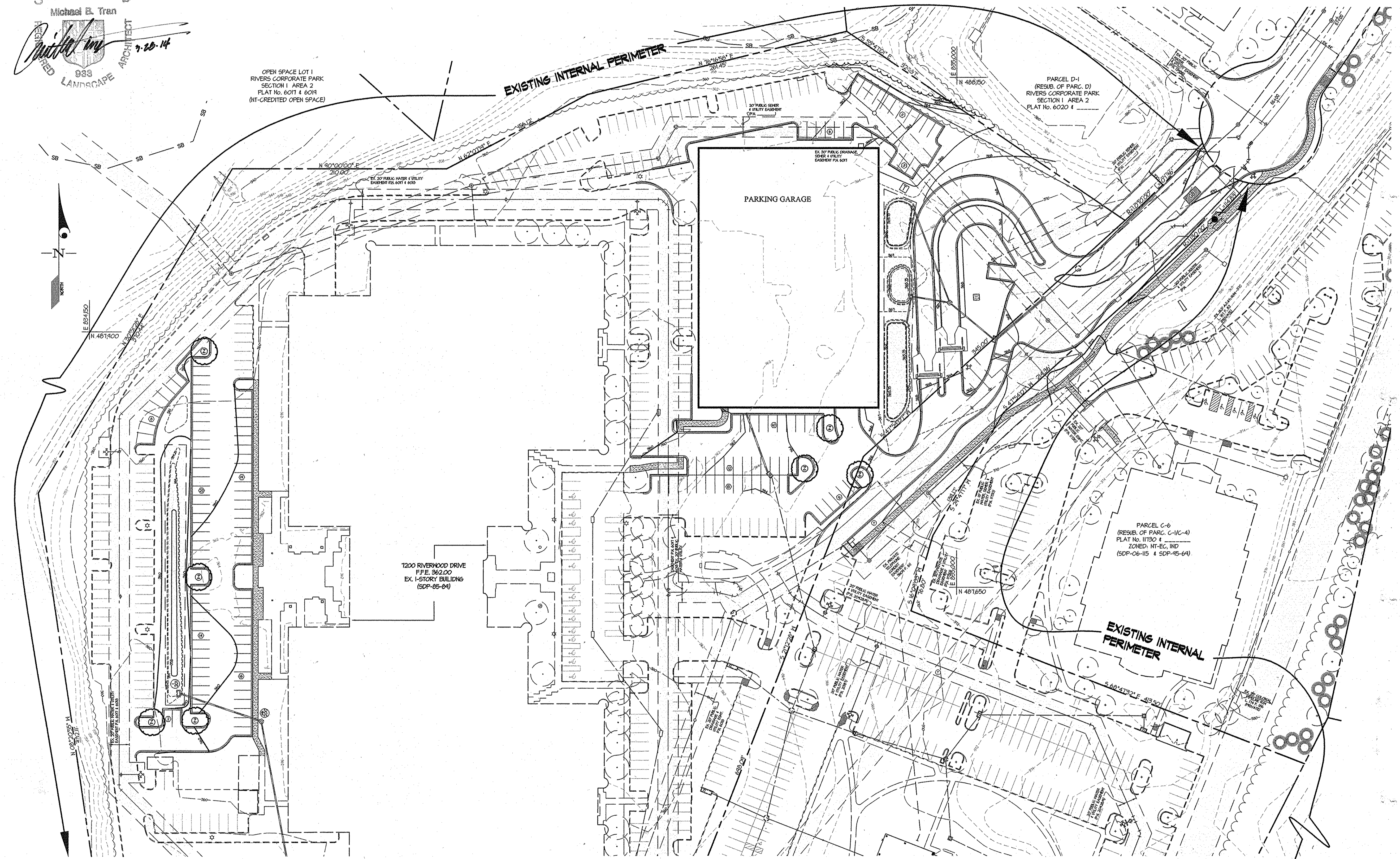
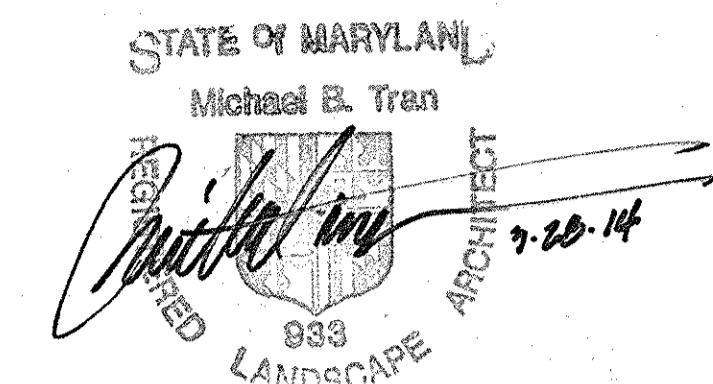
* PREVIOUS LANDSCAPE SURETY POSTED (PHASE-1): \$15200.00
 ADDITIONAL LANDSCAPE SURETY (PHASE-2): \$2100.00
 TOTAL: \$17300.00

PLANT SCHEDULE					
TYPE	SYMBOL	QUANT.	NAME (BOTANICAL/COMMON)	SIZE	COMMENTS
CANOPY SHADE TREE	(Symbol: Circle with 'S')	7	ZELKOVA SERRATA 'GREEN VASE' 'GREEN VASE'	25"-30" CAL.	B4B, FULL

NOTE: ALL PLANTS SHALL BE GROWN AND SUPPLIED BY A NURSERY THAT IS LESS THAN 500 MILES FROM THIS SITE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION IN ACCORDANCE WITH LEED REQUIREMENTS.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	1200 TOTAL SURFACE PARKING SPACES IN PHASE 1 and 825 TOTAL SURFACE PARKING SPACES IN PHASE 2. THERE ARE 65 LESS SURFACE PARKING SPACES IN PHASE 2, THEREFORE TREES PROVIDED ARE FOR THE NEW PARKING IN PHASE 2 ONLY.
NUMBER OF TREES REQUIRED (at 1 per 20 commercial spaces)	4 (88 NEW SURFACE PARKING SPACES IN REAR OF 1200 RIVERWOOD DR. BUILDING AT 1 PER 20 COMMERCIAL SPACES)
NUMBER OF TREES PROVIDED	7 (63 NEW SURFACE PARKING SPACES IN FRONT OF 1200 RIVERWOOD DR. BUILDING AT 1 PER 20 COMMERCIAL SPACES)
SHADE TREES	7
OTHER TREES (2:1 substitution)	

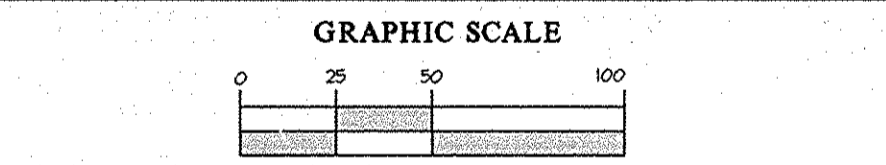
LANDSCAPE SURETY FOR REQUIRED TREES PER SCHEDULE-A AND SCHEDULE-B:
 T SHADE TREES at \$300/TREE = \$ 2100.00



LANDSCAPE LEGEND

- (Symbol: Circle with 'X') EXISTING TREES TO REMAIN
- (Symbol: Dashed line) EXISTING TREELINE
- (Symbol: Solid line) PROPOSED TREELINE
- (Symbol: Circle with 'S') PROPOSED SHADE TREE

NOTE: SEE SHEET 14 FOR TREE PLANTING DETAILS AND "SPECIFICATIONS: PLANT MATERIALS AND PLANTING METHODS"



DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN SECTION 16124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL, AND THE APPROVED MAPLE LAWN FARMS LANDSCAPE DESIGN DEVELOPMENT CRITERIA. 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.

Ol R/W 3-28-14
 NAME (DEVELOPER'S/BUILDERS) DATE

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE JANUARY 16, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Janice A. Gagliardi 6/3/14
 Director Date
Vict Salame 6-23-14
 Chief, Division of Land Development Date
Chad Eshen 4-7-14
 Chief, Development Engineering Division Date

THIS PLAN IS FOR PLANTING PURPOSES ONLY

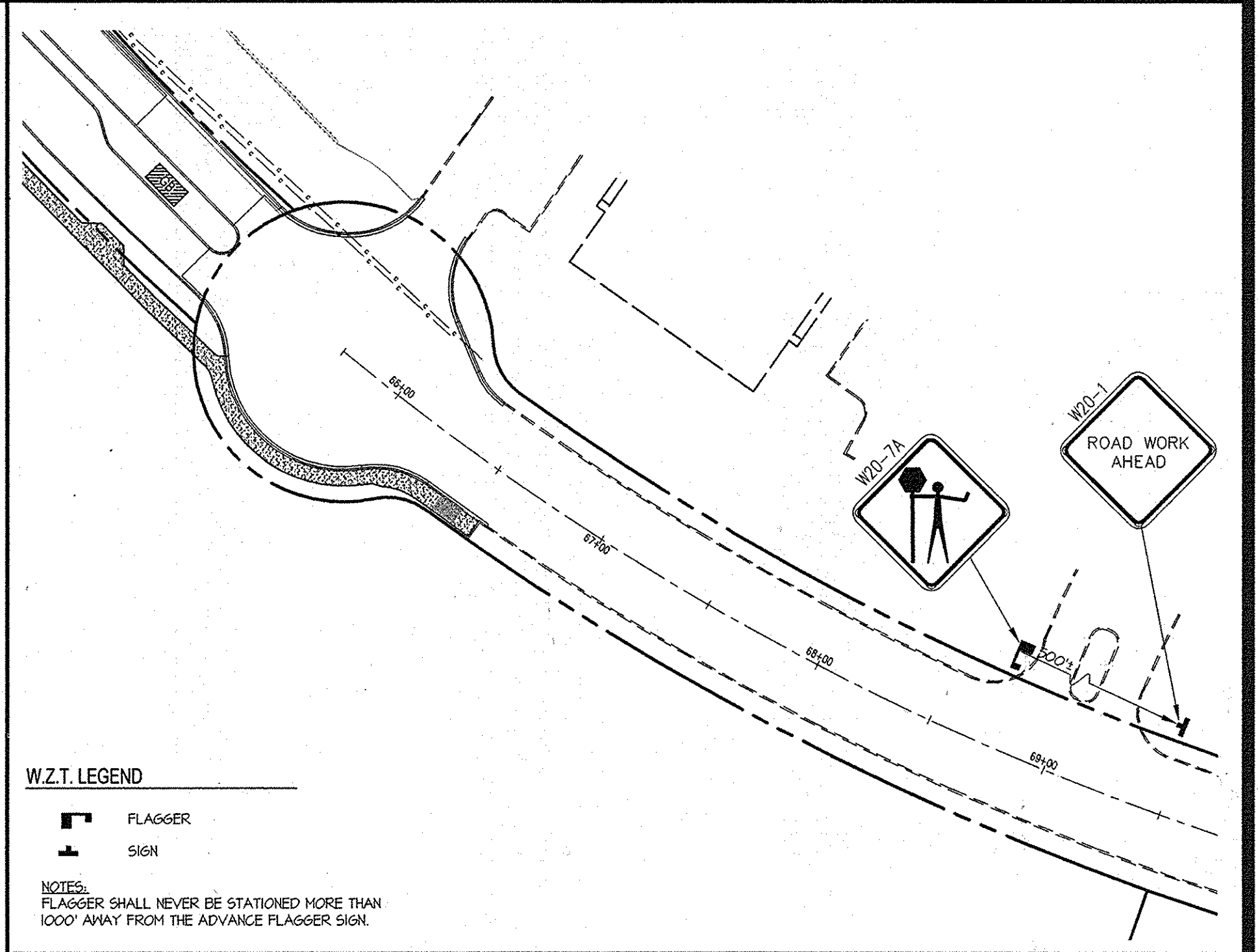
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR:
 OWNER/DEVELOPER
 COPT RIVERWOOD, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 8711 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5400
 Attn: DAVID NORFOLK

LANDSCAPE PLAN (PHASE 2)
RIVERS CORPORATE PARK
 SECTION 1, AREA 2
 PARCELS 'A-2', 'C-5' and 'C-6'
 PLAT No. 11730, 20428-20429, 21387 and F-14-059
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
MARCH 2014	41 - 12	23 OF 23

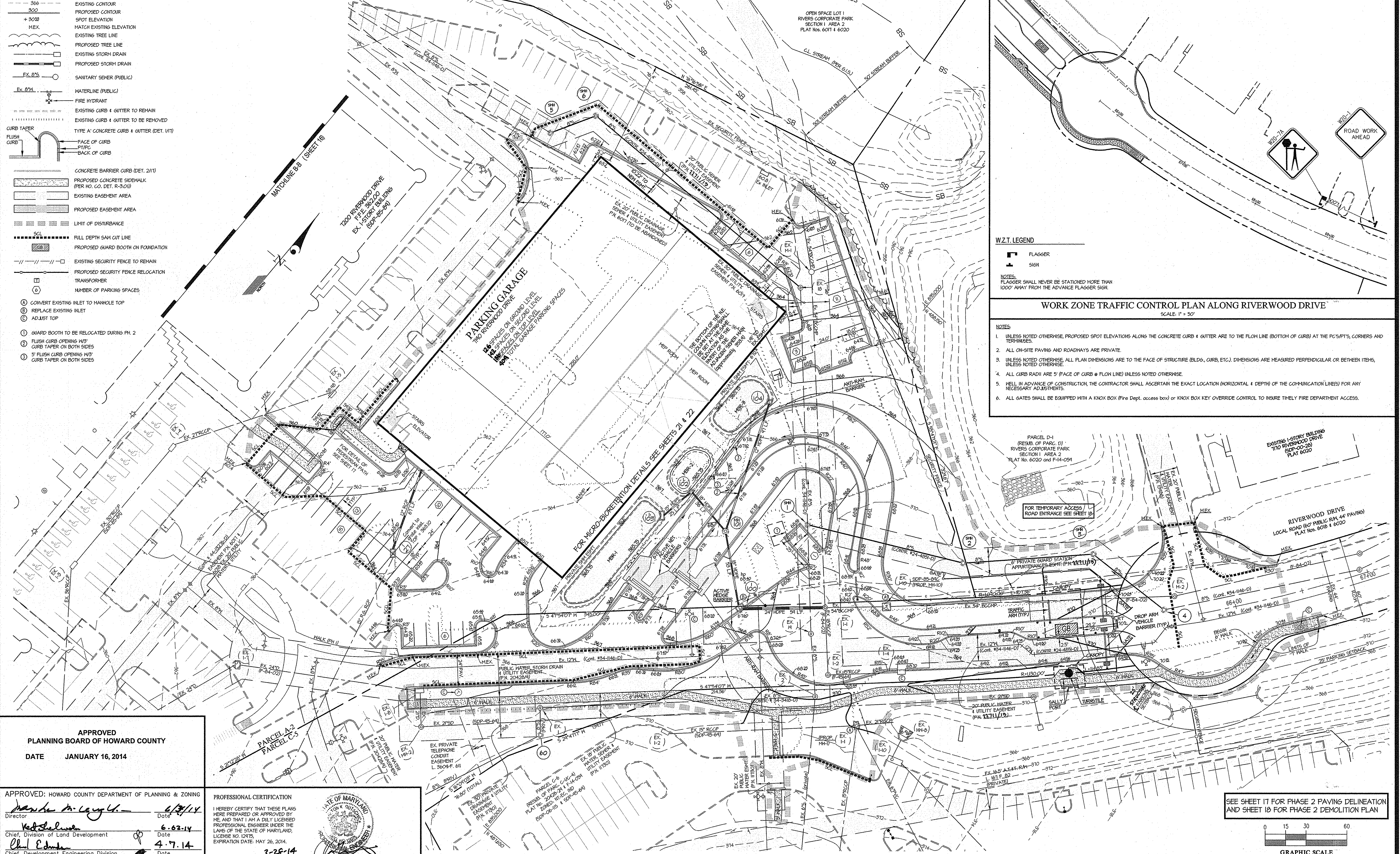
- LEGEND (PHASE 2)**
- 366 --- EXISTING CONTOUR
 - 300 --- PROPOSED CONTOUR
 - + 30.02 SPOT ELEVATION
 - MEX. MATCH EXISTING ELEVATION
 - EXISTING TREE LINE
 - PROPOSED TREE LINE
 - EXISTING STORM DRAIN
 - PROPOSED STORM DRAIN
 - EX. 8" S. SANITARY SEWER (PUBLIC)
 - EX. 8" W. WATERLINE (PUBLIC)
 - FIRE HYDRANT
 - EXISTING CURB & GUTTER TO REMAIN
 - EXISTING CURB & GUTTER TO BE REMOVED
 - TYPE 'A' CONCRETE CURB & GUTTER (DET. 1/17)
 - CONCRETE BARRIER CURB (DET. 2/17)
 - PROPOSED CONCRETE SIDEWALK (PER HO. CO. DET. R-3.0/1)
 - EXISTING EASEMENT AREA
 - PROPOSED EASEMENT AREA
 - LIMIT OF DISTURBANCE
 - FULL DEPTH SAW CUT LINE
 - PROPOSED GUARD BOOTH ON FOUNDATION
 - EXISTING SECURITY FENCE TO REMAIN
 - PROPOSED SECURITY FENCE RELOCATION
 - TRANSFORMER
 - NUMBER OF PARKING SPACES
 - ① CONVERT EXISTING INLET TO HANNOLE TOP
 - ② REPLACE EXISTING INLET
 - ③ ADJUST TOP
 - ④ GUARD BOOTH TO BE RELOCATED DURING PH. 2
 - ⑤ FLUSH CURB OPENING W/ CURB TAPER ON BOTH SIDES
 - ⑥ 5" FLUSH CURB OPENING W/ CURB TAPER ON BOTH SIDES



WORK ZONE TRAFFIC CONTROL PLAN ALONG RIVERWOOD DRIVE
 SCALE: 1" = 50'

NOTES:

- UNLESS NOTED OTHERWISE, PROPOSED SPOT ELEVATIONS ALONG THE CONCRETE CURB & GUTTER ARE TO THE FLOW LINE (BOTTOM OF CURB) AT THE PC/SPT/S, CORNERS AND TERMINUSES.
- ALL ON-SITE PAVING AND ROADWAYS ARE PRIVATE.
- UNLESS NOTED OTHERWISE, ALL PLAN DIMENSIONS ARE TO THE FACE OF STRUCTURE (BLDG., CURB, ETC.), DIMENSIONS ARE MEASURED PERPENDICULAR OR BETWEEN ITEMS, UNLESS NOTED OTHERWISE.
- ALL CURB RADII ARE 5' (FACE OF CURB @ FLOW LINE) UNLESS NOTED OTHERWISE.
- WELL IN ADVANCE OF CONSTRUCTION, THE CONTRACTOR SHALL ASCERTAIN THE EXACT LOCATION (HORIZONTAL & DEPTH) OF THE COMMUNICATION LINES FOR ANY NECESSARY ADJUSTMENTS.
- ALL GATES SHALL BE EQUIPPED WITH A KNOX BOX (Fire Dept. access box) or KNOX BOX KEY OVERRIDE CONTROL TO INSURE TIMELY FIRE DEPARTMENT ACCESS.



APPROVED PLANNING BOARD OF HOWARD COUNTY
 DATE: JANUARY 16, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Wendell M. Long* Date: 6/3/14
 Chief, Division of Land Development: *Robert Schuman* Date: 6-6-14
 Chief, Development Engineering Division: *Chad Edwards* Date: 4-7-14

PROFESSIONAL CERTIFICATION
 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. 1278, EXPIRATION DATE: MAY 26, 2014.
 3-28-14

NO.	REVISION	DATE	BY	APP'R.

PREPARED FOR:
 OWNER/DEVELOPER
 COPT Riverwood, LLC
 c/o COPT DEVELOPMENT SERVICES, LLC
 6771 COLUMBIA GATEWAY DRIVE, SUITE 300
 COLUMBIA, MD 21046
 Phone: 443-285-5400
 Attn: DAVID NORFOLK

SITE DEVELOPMENT PLAN (PHASE 2)
RIVERS CORPORATE PARK
 SECTION 1, AREA 2
 PARCELS 'A-2', 'C-5' and 'C-6'
 PLAT No. 11730, 20428-20429, 21387 and F-14-059

SCALE	ZONING	G. L. W. FILE NO.
1" = 30'	NT-EC, IND	06003
DATE	TAX MAP - GRID	SHEET
MARCH 2014	41 - 12	15 OF 23