		∆ QU	IANTITIES				
	ITEMS	ESTIMATED QUANTITIES	AS-BUILT				
			QUANTITIES	TYPE	MANUF./SUPPLIER		
*	16"WATER (PVC C900 DR14)	<del>644 L.F.</del>	ė lauro	-	-		
	8"WATER (PVC C900 DR14)	995 L.F.	890	C-900	NATIONAL PIPE & PLASTICS		
	6"WATER (PVC C900 DR14)	141 L.F.	140	C-900	NATIONAL PIPE & PLASTICS		
	FIRE HYDRANT	4 EACH	2	A423	MUELLER COMPANY		
	8"X6" TEE & VALVE	3 EACH	3	C-153	TYLER / UNION		
	8"x8" TS&V	1 EACH	ı	C-153	TYLER/UNION		
	8"x8" TEE	1 EACH	- 1	C-153	TYLER /UNION		
*	-16"x8" TEE-	-2 EACH-	-	-			
*	16"x6" TEE & VALVE	-1 EACH-	-	-			
*	-16" CAP & BUTTRESS-	-1 EACH-		<del>-</del>	-		
*	16" VALVE-	-2 EACH-	-	-			
	8" VALVE	4 EACH	3	A236I23	MUELLER COMPANY		
*	8" CAP & BUTTRESS	-2 EACH-		-	- 8		
	8" SEWER (PVC)	910 L.F.	915	-	CONTRACTORS PRECAST		
	MH (G-5.12)	5 EACH	5	·· <b>-</b>			
					•		
	NAME OF UTILITY CONTRACTO	R: KINSLEY	CONSTRUCTIO	N			
	SURVEY AND DRAFTING DIVISION AS-BUILT DATE: 4-27-21						

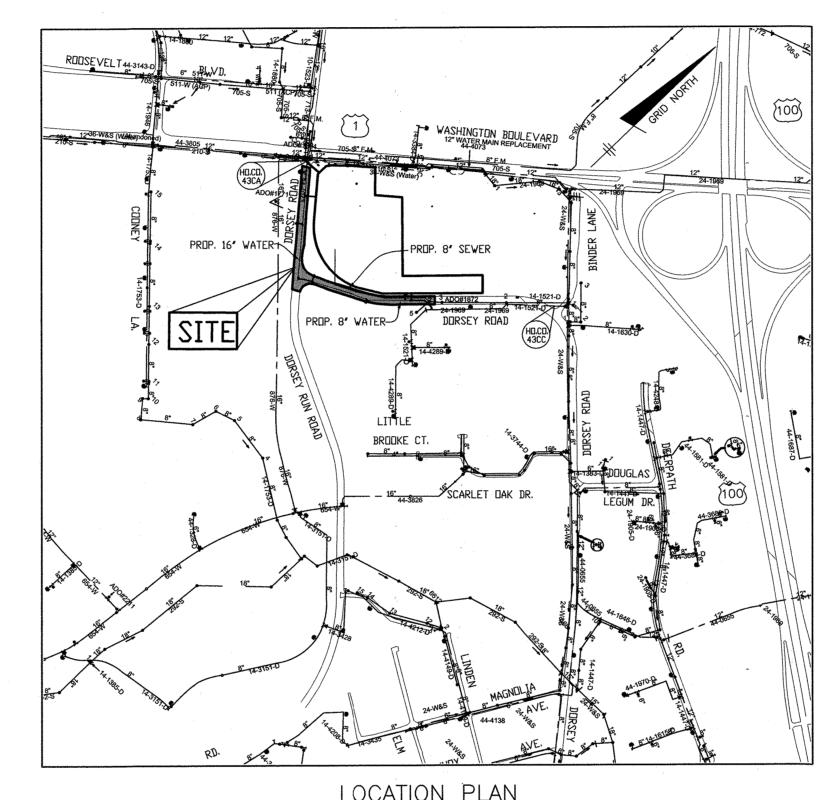
	,
	SHEET INDEX
NO.	DESCRIPTION
. 1	WATER AND SEWER TITLE SHEET
2	WATER AND SEWER PLAN
3.	WATER AND SEWER PROFILES
4	SEDIMENT AND EROSION CONTROL PLAN
5	MAINTENANCE OF TRAFFIC PLAN

\*CONSTRUCTED UNDER CONTRACT # 44-5116

## ----- EXIST. WATER MAIN EXIST. FIRE HYDRANT ---- EXIST. SEWER MAIN EXIST. SEWER MANHOLE PROP. PUBLIC SEWER MAIN PROP. SEWER MANHOLE - — — — — PROP. PRIVATE SEWER PROP. PRIVATE WATER

# PUBLIC WATER AND SEWER CORRIDOR SQUARE PARCEL A

1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO.: 14-5029-D



(IN FEET) 1 inch = 600 ft.

TYPE OF BUILDING:NO. OF BUILDABLE PARCELS:	1
NUMBER OF SHC'S:	4
NUMBER OF WHC'S:	2
DRAINAGE AREA	DEEP RUN
TREATMENT PLANT:	
WATER ZONE:	
TEST GRADIENT:	677(8")
TEST GRADIENT:	<b>631</b> -586(16")
TEST PRESSURE:	
TEST PRESSURE:	198(16")

OWNER: CORRIDOR SQUARE, LLC 6800 DEERPATH ROAD ELKRIDGE, MD 21075 410.579.2442 DEVELOPER: MURN DEVELOPMENT 6800 DEERPATH ROAD

ELKRIDGE, MD 21075

410.579.2442

#### CONSTRUCTION NOTES:

ALL JOINTS AND CONNECTIONS LOCATED WITHIN STRUCTURAL FILL AREAS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION)

TESTING SHALL MEET SHA COMPACTION STANDARDS AND REQUIREMENTS AND DONE BY A MARTCP CERTIFIED TECH.

3. IF PLATES ARE TO BE USED THEY NEED TO BE MILLED IN WITH 6" PINS IN EACH CORNER. TOTAL OF 4 PINS PER PLATE WITH COLD PATCH AROUND THEM. IF MORE THAN ONE PLATE IS NEEDED THEY WILL NEED TO BE WELDED BY A CERTIFIED WELDER PER SHA SPECS. IF PLATES ARE NOT USED THEN SIGNS WILL BE NEEDED TO INDICATE NO PLATES.

4. COLD PATCH MAY BE USED AND GOOD FOR 21 DAYS. HOT MIX ASPHALT WILL NEED TO BE INSTALLED UNTIL THE MILLING AND OVERLAY IS

5. ANY DISTURBANCE IN THE GRASSY AREAS FROM THE INSTALLATION OF THE FIRE HYDRANTS WILL NEED TO BE STABILIZED USING SEED/MULCH OR CURLEX MATTING.

IF THERE ARE ANY SIDEWALK CLOSURES A DETOUR PLAN WILL NEED TO BE IN PLACE.

7. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.

8. PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.

#### **ELEVATION** l. 552742.5052 E. 1380706.3780 N. 552373.9839 E. 1380259.2000 174.73 N. 552089.3228 E. 1379901.6930

185,58

TRAVERSE CHART

COORDINATE

N. 552395.0730 E. 1379503.5100

NO. DESCRIPTION

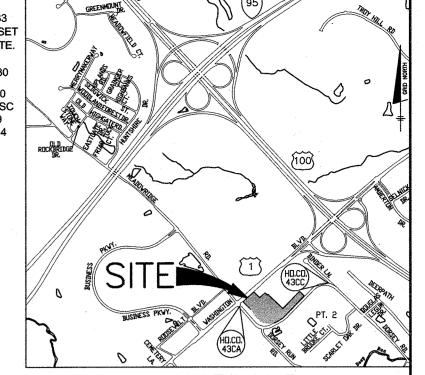
2

3

4

BENCH MARKS (NAD'83) HO.CO. No.43CA STAMPED (BRASS OR ALUMINUM) DISC SET TOP OF A 3' DEEP COLUMN OF CONCRETE. AT CORNER US-1 AND DORSEY ROAD

HO.CO. No.43CC CONCRETE MONUMENT WITH BRASS DISC AT RT-103(DORSEY ROAD)1/3 MI.E.US-29 N 553201.462 E 1381152.814



### GENERAL NOTES

O PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL

E REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. 2. A TOPOGRAPHIC FIELD SURVEY WAS PERFORMED ON NOVEMBER 2016 BY BENCHMARK ENGINEERING, INC.

PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 0070 AND 41C2. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE HO.CO. GEODETIC CONTROL STA. 0070 & 41C2.

OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING F POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES

FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.

WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL . AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

1-800-257-777

SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN. WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS

OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.

ALL WATER MAINS TO BE PVC C900 DR14 UNLESS OTHERWISE NOTED TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.

TO SCHEDULE THE BRACING OF THE POLES.

4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS

UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.

6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

7. TRACE WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND P.V.C. WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.

8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUANTITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL

CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF MATERIAL FOR USE. TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORD RECEIVED. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL

VALVES AND METALIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE PROPER ASSEMBLY OF GASKETED P.V.C. PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GAKETED PVC PIPE JOINTS

INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT. THE INSERTION LINE SHALL REMAIN VISIBLE, DUAL INSERTION LINES ON GASKETED P.V.C. PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION INTO THE SPIGOT BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF THE

11. ALL CHANGES IN HORIZONTAL AND VERTICAL DIRECTION OF P.V.C. WATER PIPE SHALL BE MADE WITH STANDARD BENDS. 5-DEGREE SWEEPS, OR HIGH-DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF P.V.C. PIPE JOINTS IS PERMITTED. WHERE HIGH-DEFLECTION (HD) COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH-DEFLECTION (HD) COUPLINGS OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPRÔVED MEANS TO THOROUGHLY COMPACT THE THE #57 STONE ON BOTH SIDES OF THE HIGH-DEFLECTION (HD) COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

P.V.C. HIGH-DEFLECTION (HD) COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLETION OF 3-DEGREES (1-1/2 DEGREES ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM OF 200-PSI MEETING THE REQUIREMENTS OF AWWA-C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9—INCHES AND SHALL HAVE CENTER STOPS. P.V.C. HIGH—DEFLECTION (HD) COUPLINGS SHALL BE CERTAIN-TEED P.V.C. HIGH-DEFLECTION (HD) COUPLINGS OR EQUAL.

5-DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225-PSI, DR-18 MEETING THE REQUIREMENTS OF AWWA-C900, AND SHALL BE MULTI-FITTING (IPEX) BLUE BRUTE DR-18 OR EQUAL.

12. WHEN P.V.C. HIGH-DEFLECTION (HD) COUPLINGS OR P.V.C 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA-C900 P.V.C. PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER—INSERTION OF THE P.V.C. SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION (HD) COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE XPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR EQUAL.

13. FIRE SPRINKLER SYSTEMS FOR ALL SINGLE FAMILY DWELLINGS SHALL HAVE A MINIMUM OF A 1-1/2" CONNECTION WITH A 1" OUTSIDE METER SETTING.

PART 3 - SEWER

1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.

2. ALL MANHOLES SHALL BE 4' - 0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.

FORCE MAINS SHALL BE D.I.P. ONLY.

MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.

MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G-5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT

IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY STANDARD

SPECIFICATIONS AND AS SHOWN ON SHEET 4 ON THIS PLAN. REFERENCE

DEPARTMENT OF PLANNING AND ZONING

HOWARD COUNTY, MARYLAND

BENCHMARK ENGINEERS A LAND SURVEYORS A PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 315 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM

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14111	A. J. 70-18

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. 22390. Expiration Date: 6-30-2019.

	CHK:	CAM	WRA		AS-BUILT. ADDED QUANTITIES	6/22/2021	
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WATER AND SEWER TITLE SHEET

BLOCK23 & 05 00 SCALE MAP #37 & 43

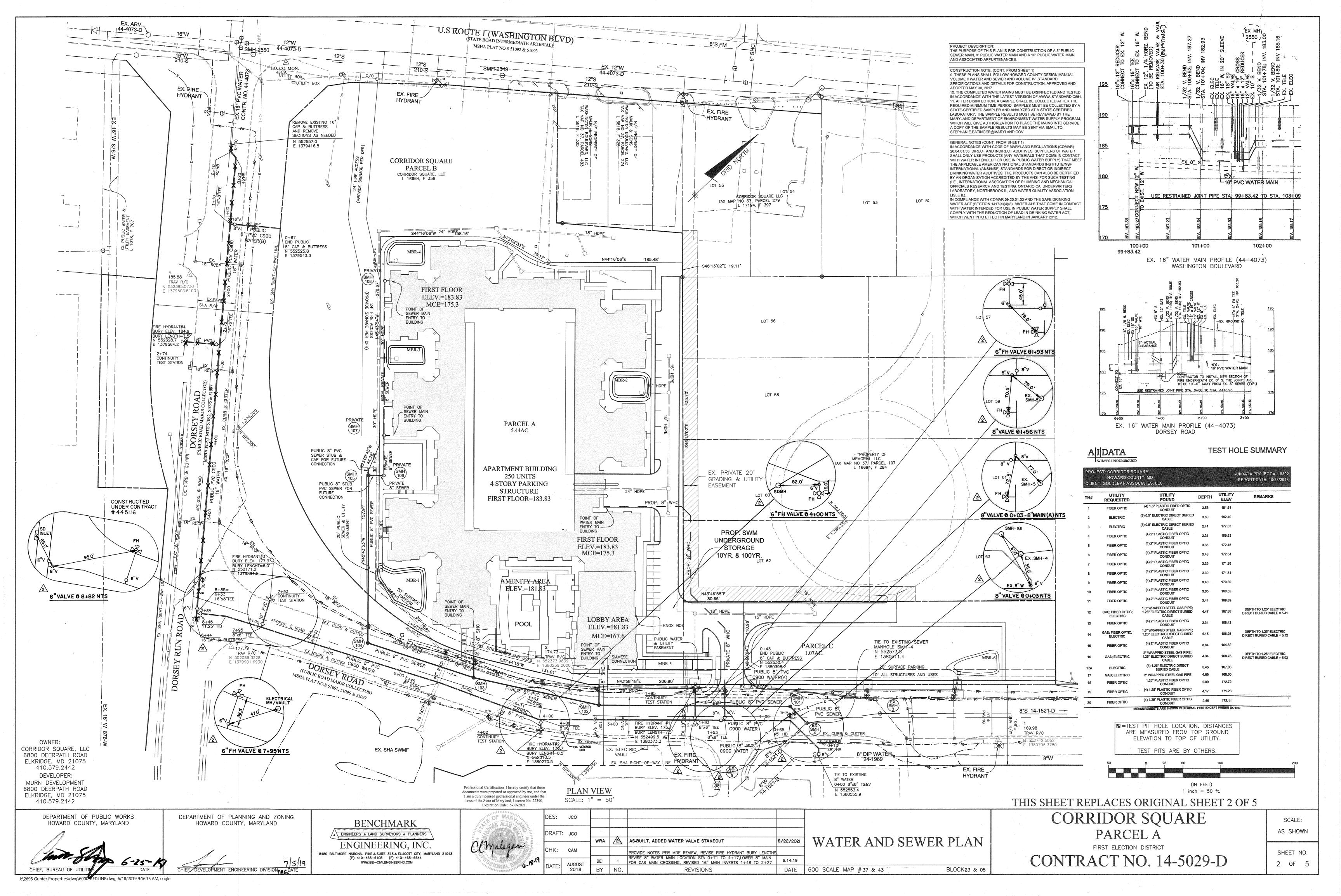
CORRIDOR SQUARE PARCEL A

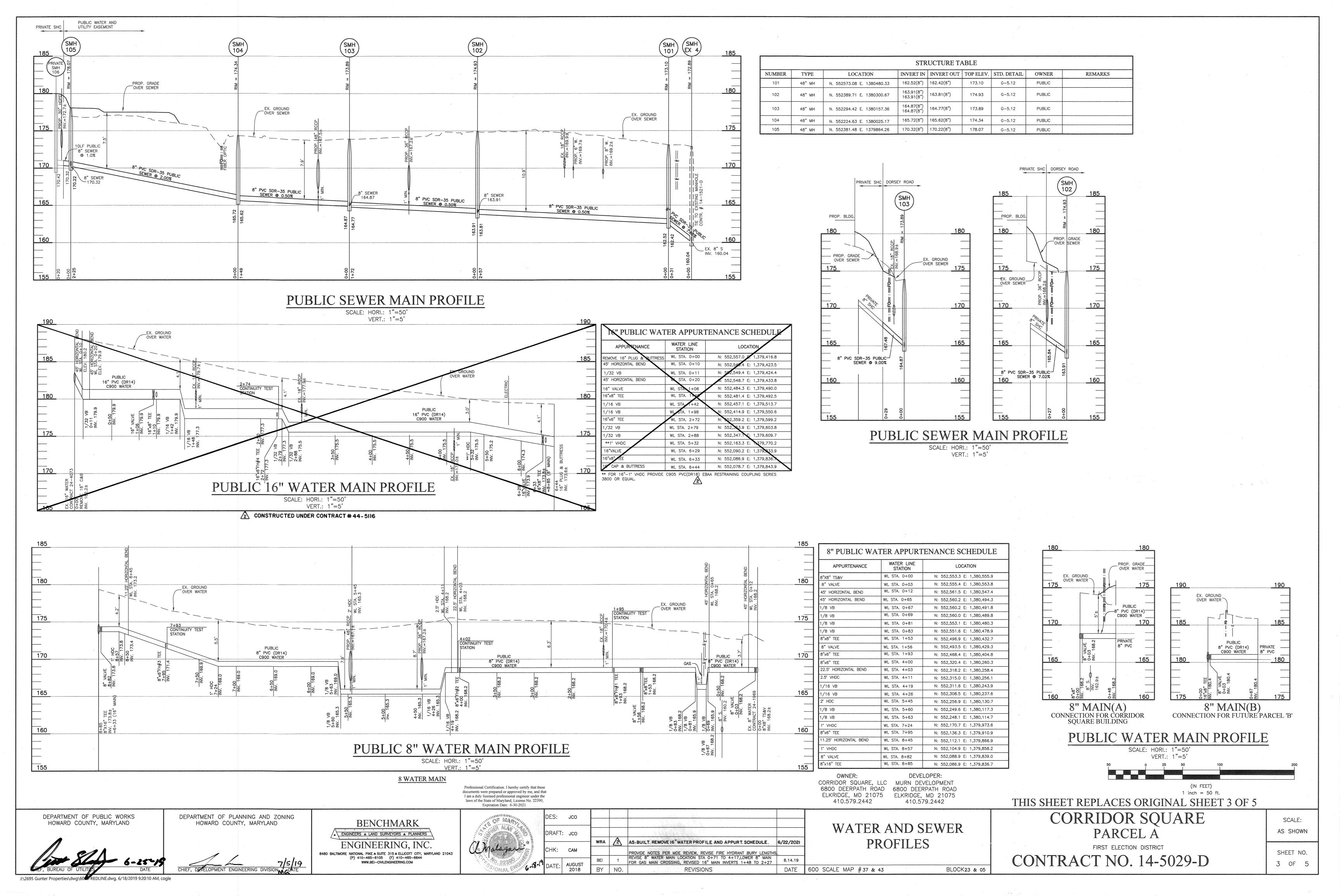
FIRST ELECTION DISTRICT

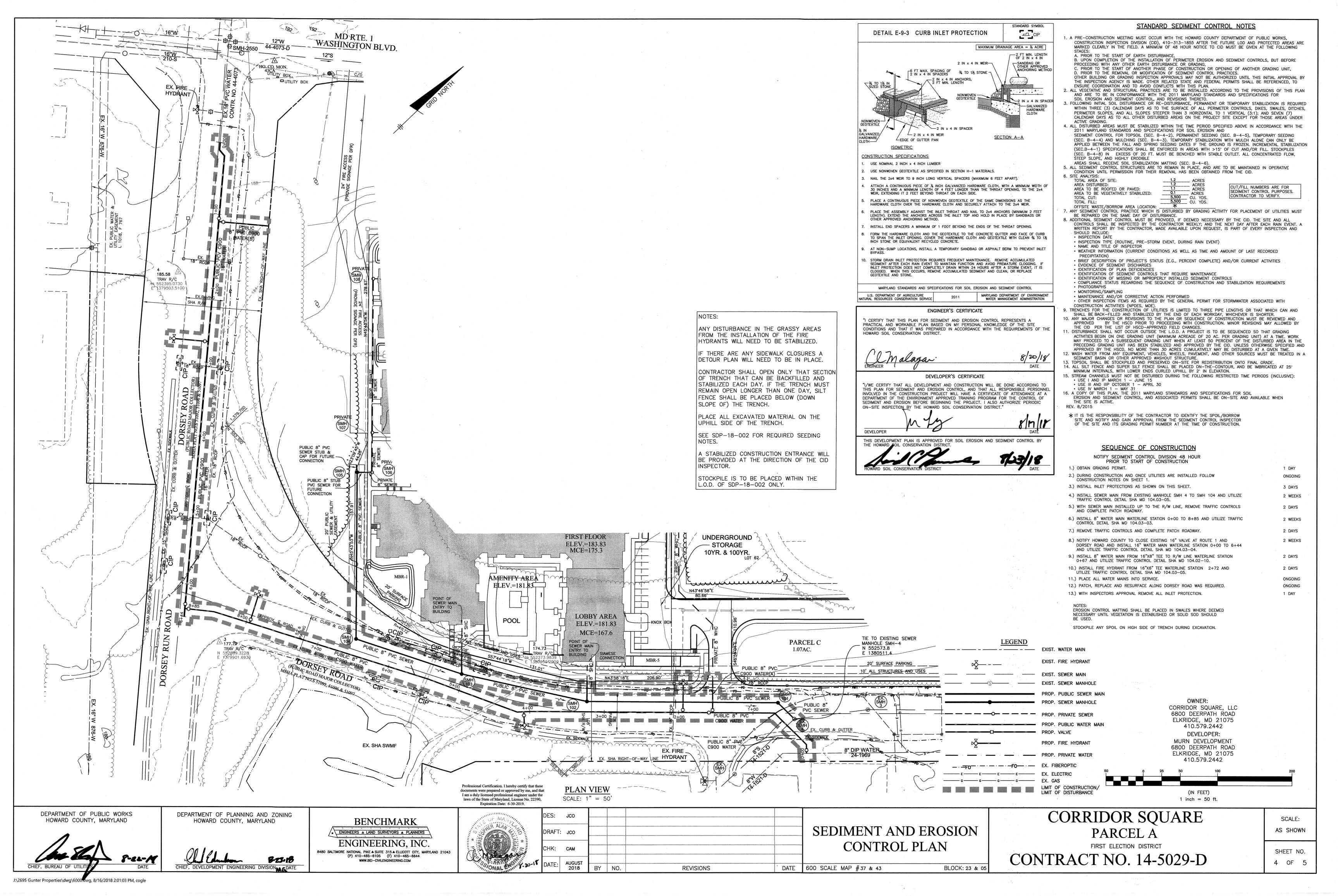
CONTRACT NO. 14-5029-D

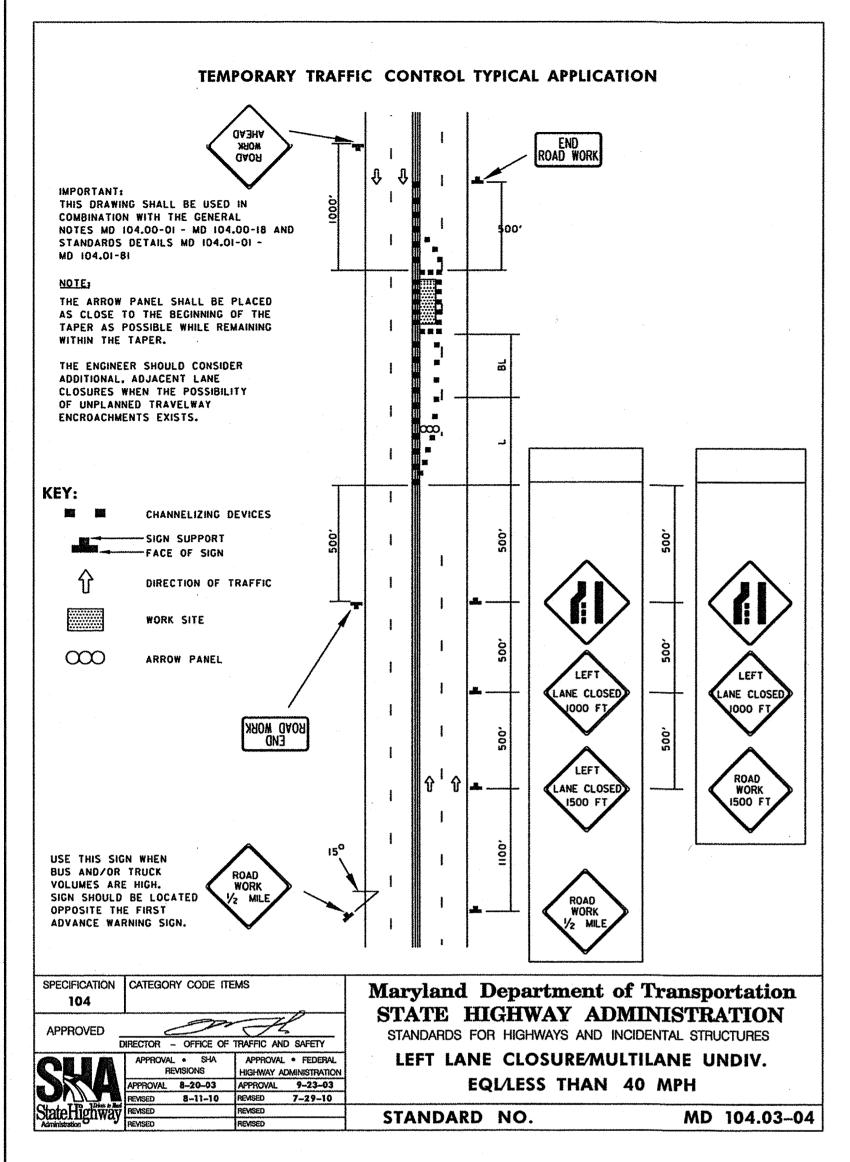
AS SHOWN SHEET NO. 1 OF 5

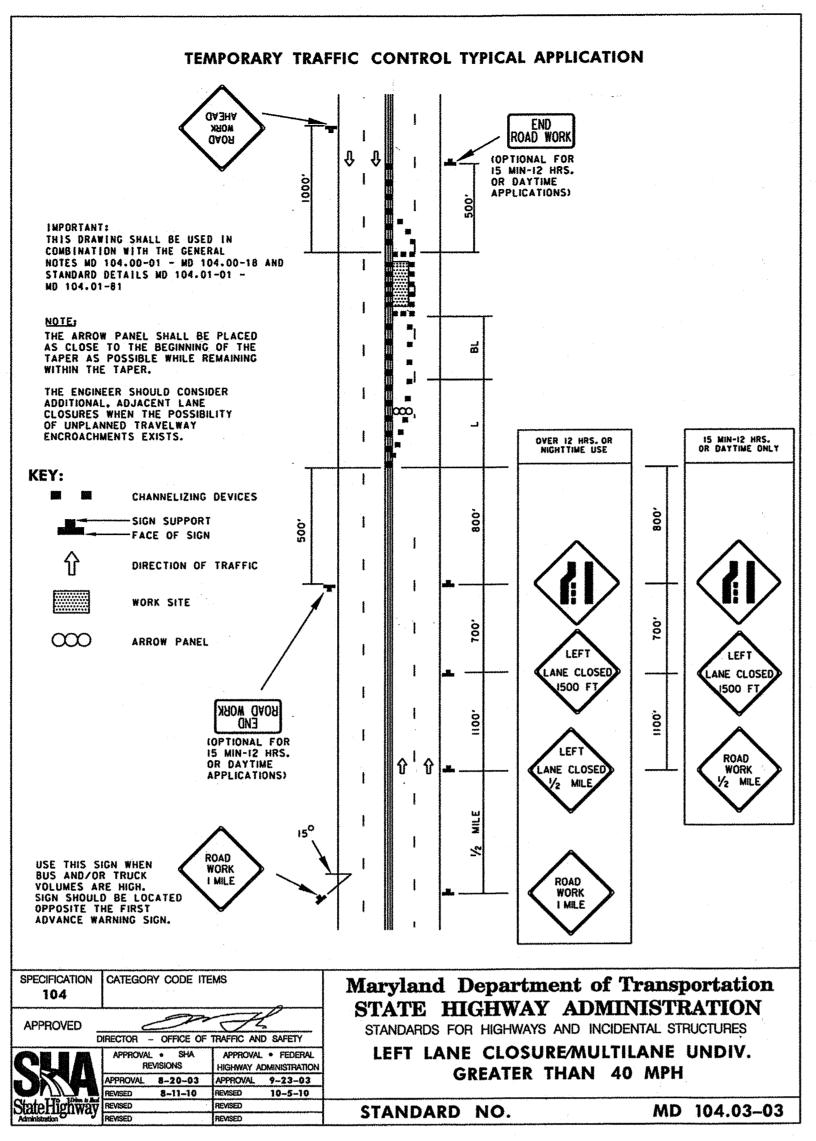
SCALE:

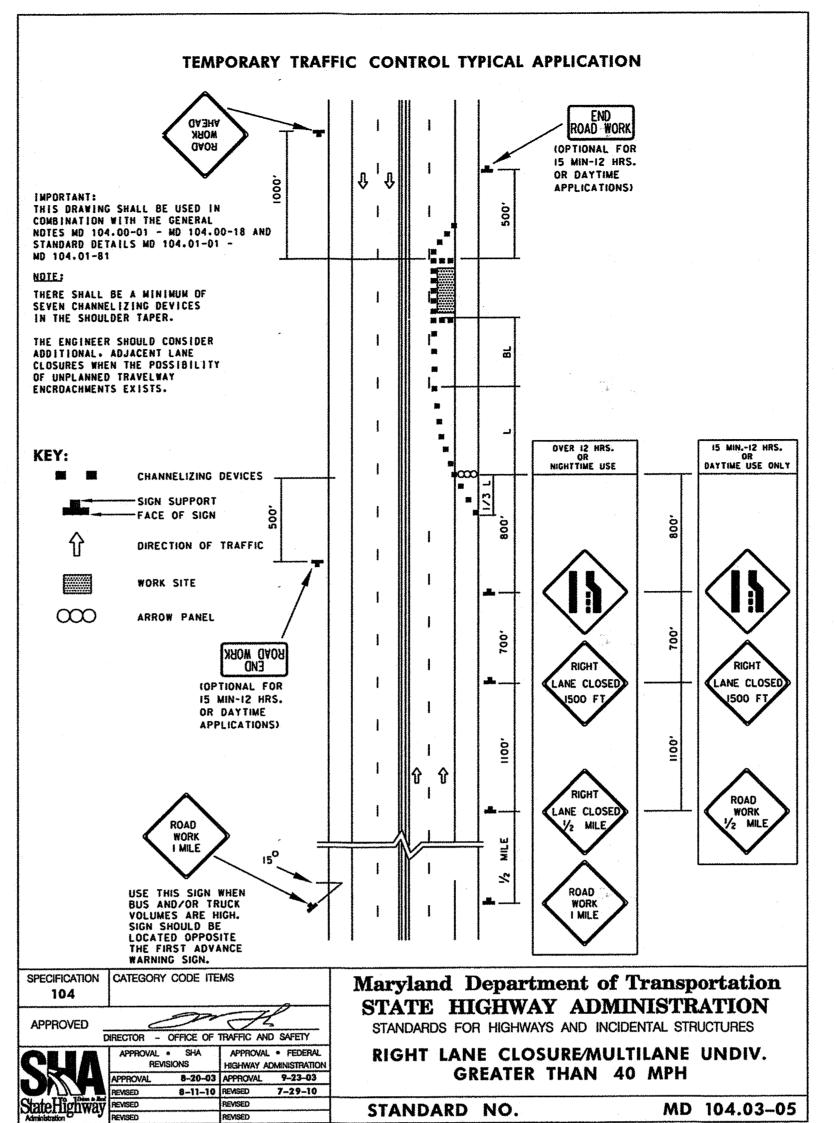


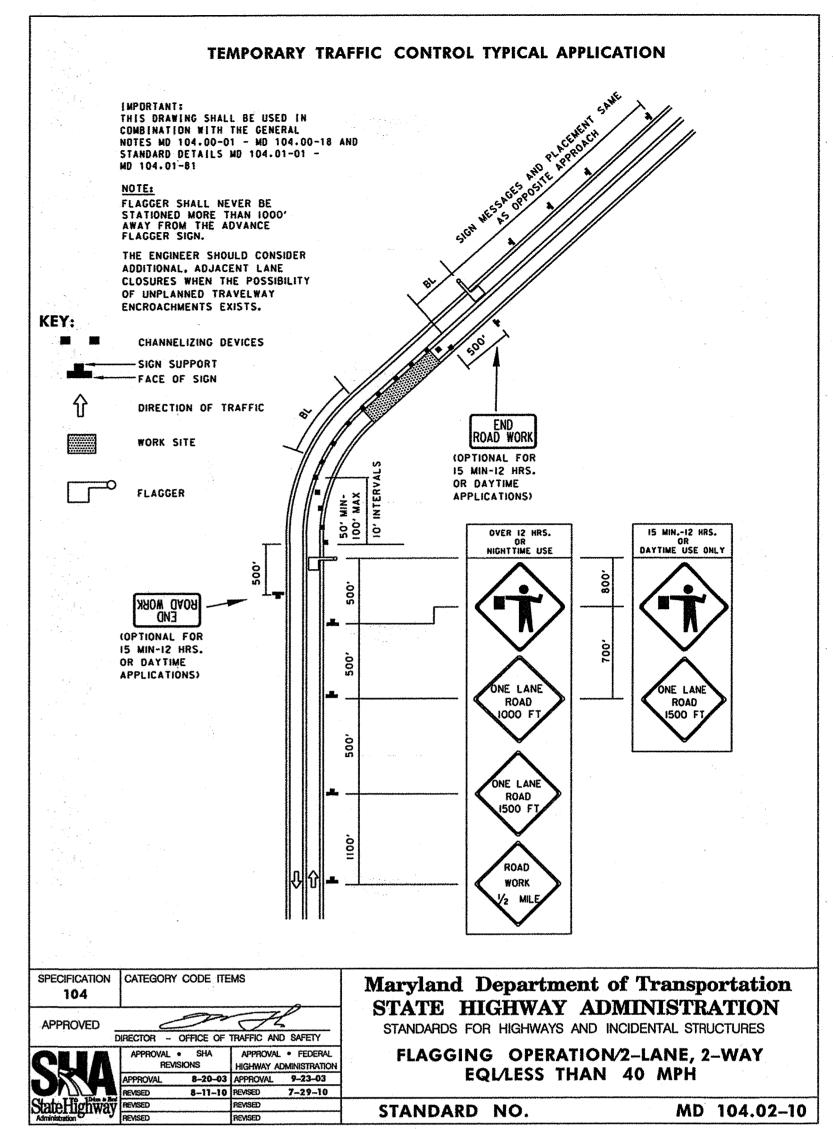












16" WATER MAIN WATER LINE STATION 0+00 TO 6+44

8" WATER MAIN WATER LINE STATION 0+00 TO 8+85

8" SEWER MAIN UP TO R/W LINE, 8" WATER MAIN FROM 8" TEE WATERLINE STATION 1+54 TO R/W LINE, FH TEE OFF 8" WATER MAIN WATERLINE STATION 1+94 TO FIRE HYDRANT AND FROM FH TEE OFF 16" WATER MAIN WATERLINE STATION 2+72 TO FIRE HYDRANT

8" WATER MAIN 'B' FROM 16"x8" TEE TO R/W LINE 8" WATER LINE STATION 0+67

> ELKRIDGE, MD 21075 410.579.2442 **DEVELOPER:** MURN DEVELOPMENT 6800 DEERPATH ROAD ELKRIDGE, MD 21075

> > 1 inch = 50 ft.

CORRIDOR SQUARE, LLC 6800 DEERPATH ROAD

cuments 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. 22390, Expiration Date: 6-30-2019.

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

EVELOPMENT ENGINEERING DIVISION DATE

BENCHMARK ● ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC



DRAFT: JCO AUGUST 2018 BY NO. **REVISIONS** 

MAINTENANCE OF TRAFFIC PLAN PLAN CORRIDOR SQUARE PARCEL A FIRST ELECTION DISTRICT

AS SHOWN SHEET NO. 5 OF 5

DATE 600 SCALE MAP #37 & 43

CONTRACT NO. 14-5029-D BLOCK: 23 & 05