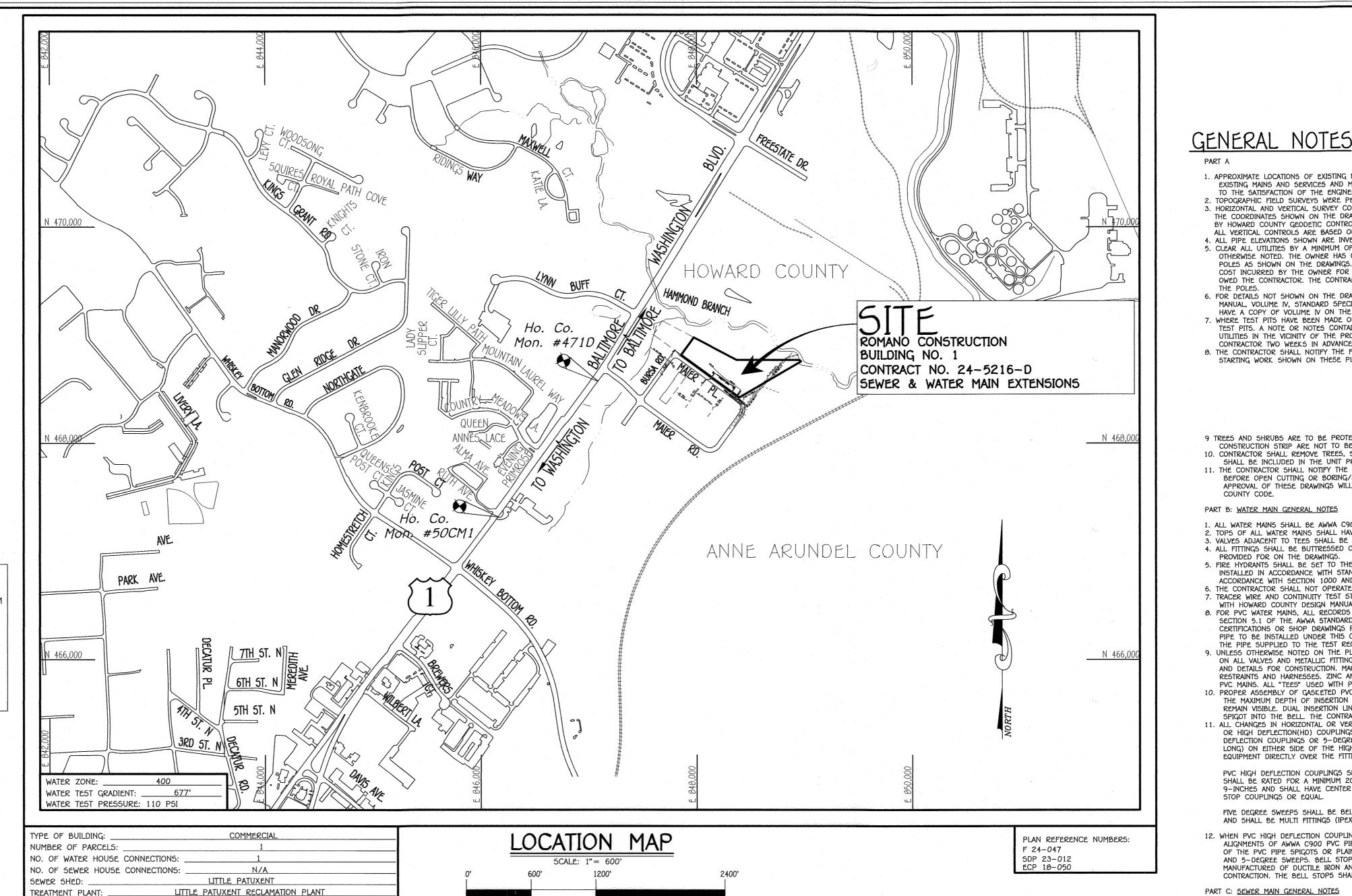
BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #50CM1 - HORIZONTAL - NAD '83) (LOCATED ALONG US ROUTE 1, JUST NORTH OF WHISKEY BOTTOM ROAD. APPROX. 29.9' SOUTH FROM THE CENTER LINE OF WHISKEY BOTTOM ROAD. E 1.360.543.6788

ELEVATION = 225.331 - VERTICAL - (NAVD '88)

B.M.#2 - HOWARD COUNTY CONTROL STATION #471D - HORIZONTAL - (NAD '83)
(LOCATED ALONG THE SOUTH SIDE OF US RTE 1 SOUTH OF MAIER ROAD, APPROX. 2.5' OFF THE EDGE OF PAVING. APPROX. 43' SOUTH OF TELEPHONE MANHOLE LOCATED IN SIDEWALK) E 1.361.467.9820

ELEVATION = 180.229 - VERTICAL - (NAVD '88)



CONTRACT NO. 24-5216-D ROMANO CONSTRUCTION BUILDING No.

SEWER & WATER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

> OWNER/DEVELOPER A.J. ROMANO CONSTRUCTION COMPANY 8790 MAIER PLACE LAUREL, MARYLAND 20723 ATTN: ANTONIO ROMANO, PRESIDENT TELE: (301)-362-0080 FAX: (301)-362-0081

5DP 23-012 THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT



CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

03/27/24

FX. WATER MAIN -----w-----EX. SEWER MAIN ----- ¹S -----EX. SEWER MANHOLE EX. WATER, SEWER & UTILITY EASEMENT EX. FIRE HYDRANT EX. VALVE PROP. WATER MAIN PROP. SEWER MAIN PROP. SEWER MANHOLE PROP. WATER, SEWER & UTILITY EASEMENT PROP WHO _____ PROP. 5HC PROP. FIRE HYDRANT PROP. VALVE

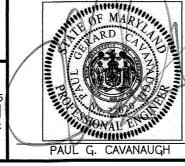
LEGEND

DESCRIPTION

DEPARTMENT OF PLANNING AND ZONING DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND



SAVAGE, MD.



1	DESIGNED BY :					
	DAM					SEWER & WATER MAIN EXTENSIONS
	DRAWN BY : J.L.					TITLE SHEET
	CHECKED BY :					
	L.G.					600' SCALE MAP NO. 47 BLOCK NO. 23
	DATE :		-			F.C.C. WORK ORDER NO. 17051-3001
	MARCH 2024	BY	NO.	REVISION	DATE	FILE NAME : SEWER & WATER MAIN EXTENSIONS PLAN

ROMANO CONSTRUCTION BUILDING No.

1. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT

THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91' AS PROJECTED

COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF 6. 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

7. 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

9 TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE

11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS

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

CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE

9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED

ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING

RESTRAINTS AND HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH

10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES

LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION

PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL OF 3-DEGREES (1 1-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEED PVC HIGH DEFLECTION (HD)

FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR-18 MEETING THE REQUIREMENTS OF AWWA C900

12. WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL

MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND

5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS

ALIGNMENTS OF AWWA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSERT DEVICES FOR THE PREVENTION OF OVER-INSERTION

OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS

CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVAD EQUAL.

IND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE

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 PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF PVC PIPE. 11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION(HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20 FOOT

PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF

5. 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

7. TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE

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

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

10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL

.410-795-1390

1-800-257-7777 410-531-5533

8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE

5. CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES BRACING OF ADDITIONAL POLES, ANY

2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT MAY, 2010 BY FISHER, COLLINS & CARTER, INC.

ALL VERTICAL CONTROLS ARE BASED ON NAVO '99. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS 4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.

CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.

SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.

2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.

ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS. 6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 38GA & NO. 43CB.

3. HORIZONTAL AND VERTICAL SURVEY CONTROLS:

HAVE A COPY OF VOLUME IV ON THE JOB SITE.

STARTING WORK SHOWN ON THESE PLANS:

PART B: WATER MAIN GENERAL NOTES

PROVIDED FOR ON THE DRAWINGS.

WITH HOWARD COUNTY DESIGN MANUAL.

EQUIPMENT DIRECTLY OVER THE FITTING.

PART C: SEWER MAIN GENERAL NOTES

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

OTHERWISE NOTED ON THE DRAWINGS.

1. ALL WATER MAINS SHALL BE AWWA C900 PVC; DR-18.

3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.

THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.

PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.

AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR-18 OR EQUAL.

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.

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

6. HOUSE(5) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED

EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY

SEWER & WATER MAIN EXTENSIONS CONTRACT NO. 24-5216-D SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

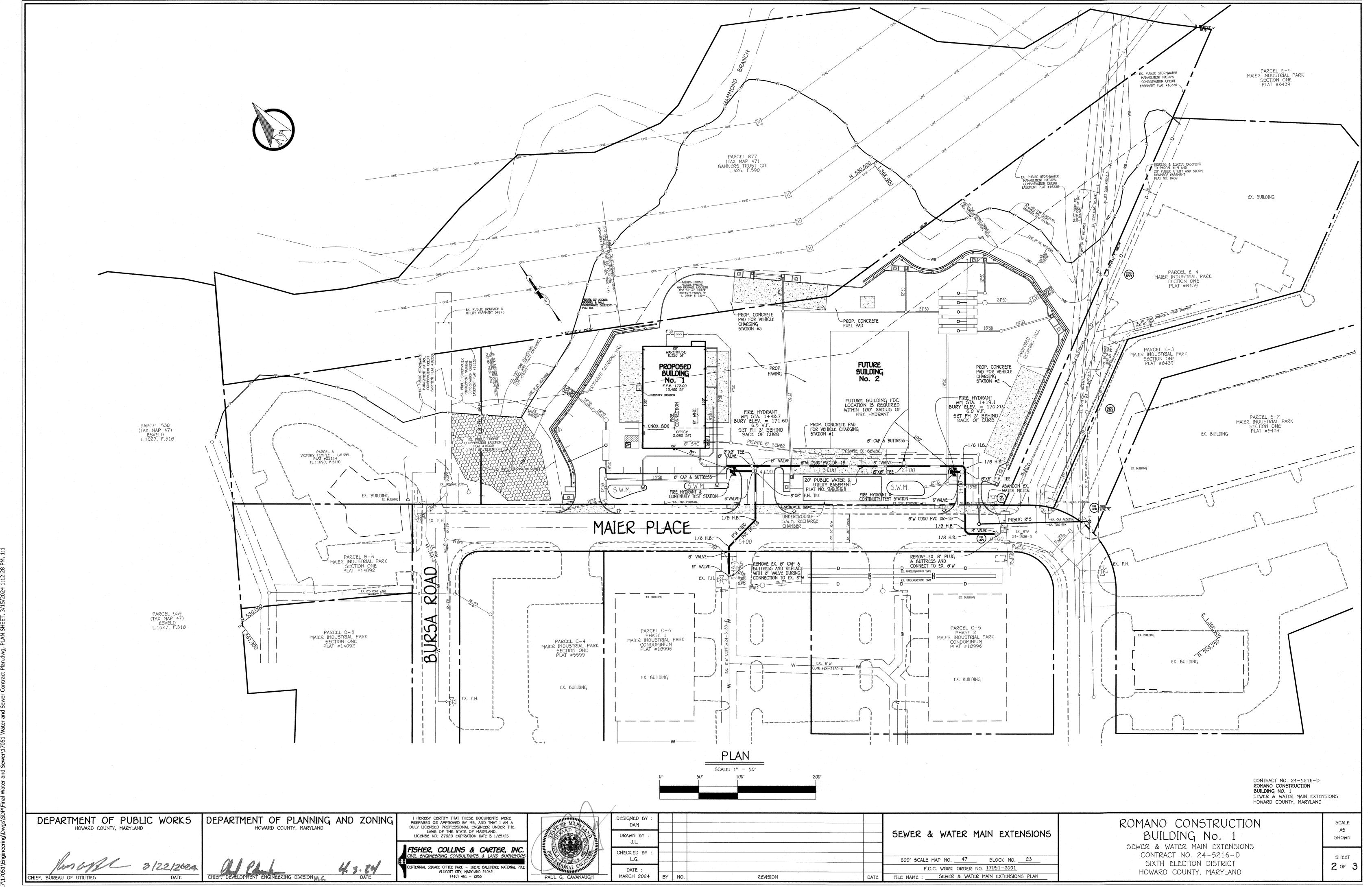
SHOWN

1 of 3

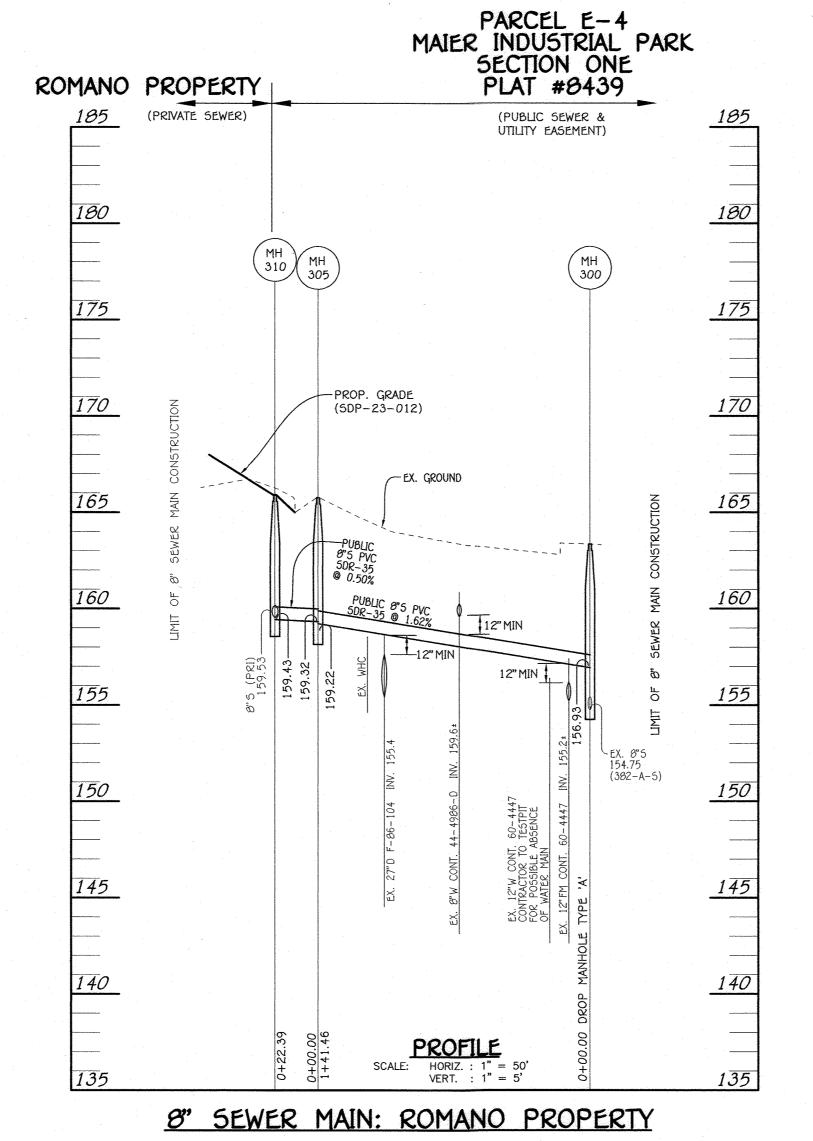
CONTRACT NO. 24-5216-D ROMANO CONSTRUCTION BUILDING NO. 1 SEWER & WATER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A

DESIGNED BY .



I:\2017\17051\Engineering\Dwgs\SDP\Final Water and Sewer\17051 Water and Sewer Contract Plan.dwg, PLAN SHEET, 3/15/2024 1:12:2



	MANHOLE TABULATION CHART							
	NO.	NORTHING	EASTING	RIM ELEVATION				
F	300 (PUBLIC)	529,467.55	1,362,855.19	163.35				

1,362,738.85

1,362,751.78

165.76 165.90

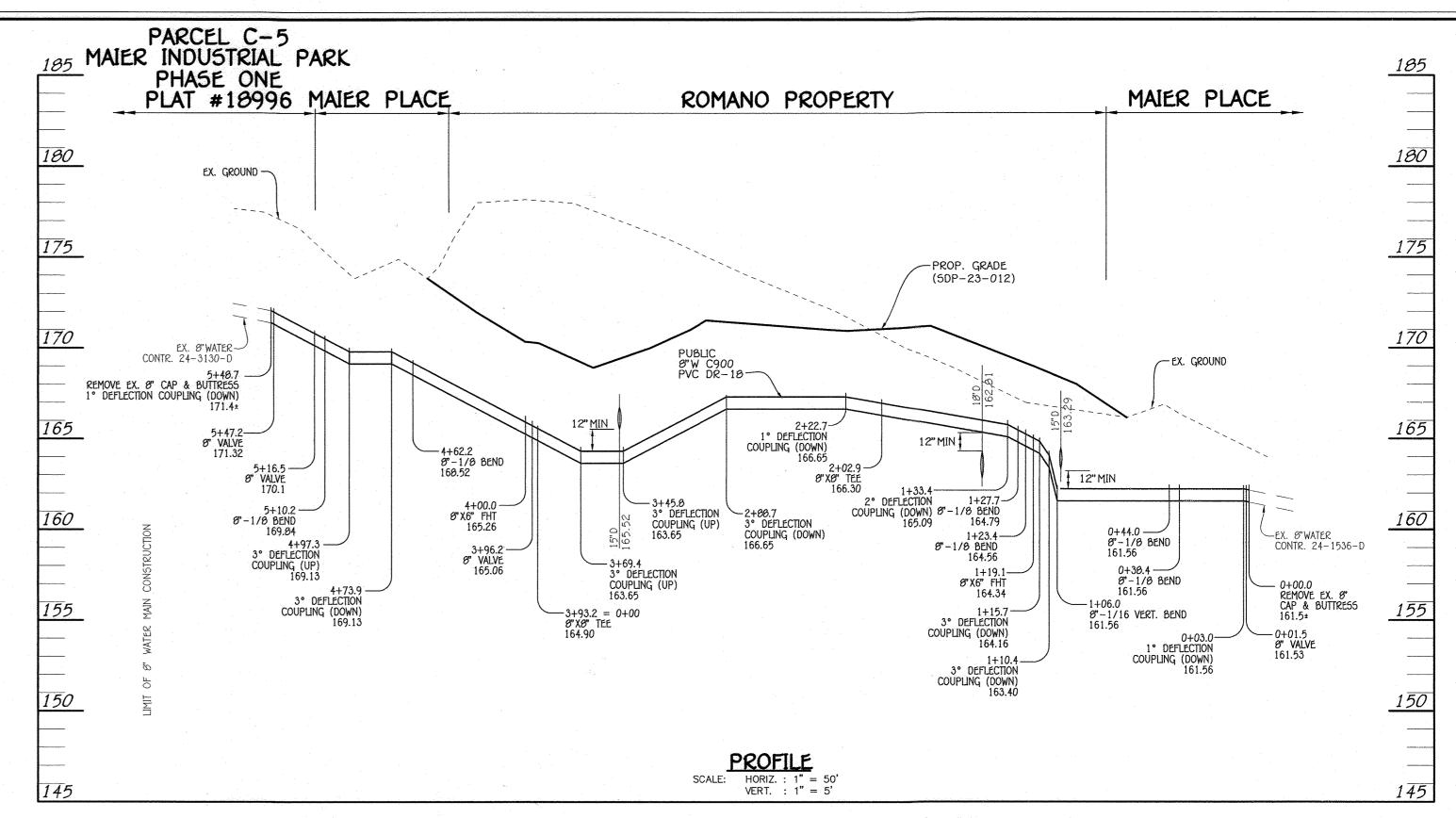
NOTE: SET MH RIMS FLUSH W/PROPOSED GRADE AND SLOPE.

529,548.02

529,566.29

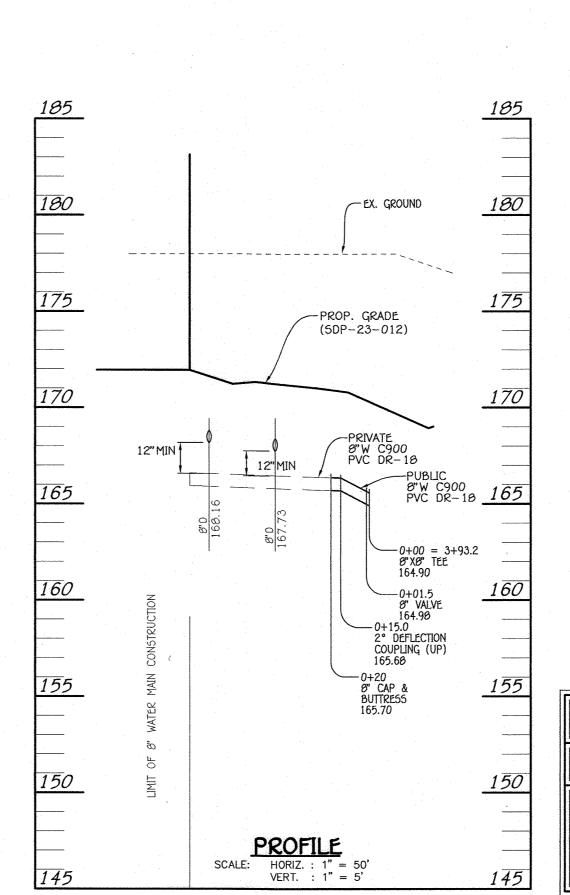
305 (PUBLIC)

310 (PUBLIC)



8" WATER MAIN: ROMANO PROPERTY

W.M. STA.



0+00.0	REMOVE EX. CAP AND BUTTRESS	529,523.35	1,362,751.30
0+01.5	8" VALVE	529,524.23	1,362,750.09
0+03.0	1° DEFLECTION COUPLING	529,525.10	1,362,748.87
0+38.4	8"-1/8 BEND	529,545.93	1,362,720.28
0+44.0	8"-1/8 BEND	529,551.52	1,362,719.41
1+06.0	8"-1/16 VERT BEND	529,601.61	1,362,755.88
1+10.4	3° DEFLECTION COUPLING	529,605.17	1,362,758.47
1+15.7	3° DEFLECTION COUPLING	529,609.46	1,362,761.59
1+19.1	8"X6" TEE	529,612.23	1,362,763.61
1+23.4	8"-1/8 BEND	529,615.70	1,362,766.14
1+27.7	8"-1/8 BEND	529,619.89	1,362,765.48
1+33.4	2° DEFLECTION COUPLING	529,623.27	1,362,760.84
2+02.9	8" X8" TEE	529,664.19	1,362,704.64
2+22.7	1° DEFLECTION COUPLING	529,675.84	1,362,600.65
2+88.7	3° DEFLECTION COUPLING	529,714.69	1,362,635.30
3+45.8	3° DEFLECTION COUPLING	529,748.30	1,362,589.14
3+69.4	3° DEFLECTION COUPLING	529,762.19	1,362,570.06
3+93.2	8"X8" TEE	529,776.18	1,362,550.85
3+96.2	8" VALVE	529,773.65	1,362,549.00
4+00.0	8"X6" TEE	529,770.65	1,362,546.82
4+62.2	8"-1/8 BEND	529,720.38	1,362,510.22
4+73.9	3° DEFLECTION COUPLING	529,718.56	1,362,498.64
4+97.3	3° DEFLECTION COUPLING	529,714.93	1,362,475.53
5+10.2	8"-1/8 BEND	529,712.92	1,362,462.78
5+16.5	8" VALVE	529,707.86	1,362,459.09
5+47.2	8" VALVE	529,682.66	1,362,440.72
5+48.7	REMOVE EX. CAP & BUTTRESS	529,681.82	1,362,440.13

WATER MAIN TABULATION CHART

8" WATER MAIN

NORTHING

EASTING

APPURTENANCE

WATER MAIN TABULATION CHART						
W.M. STA.	APPURTENANCE	NORTHING	EASTING			
	8" WATER MAII	1				
0+00.0	8" X8" TEE	529,776.18	1,362,550.85			
0+01.5	8" VALVE	529,778.92	1,362,547.00			
0+15.0	2° DEFLECTION COUPLING	529,785.01	1,362,530.73			
0+20.0	CAP & BUTTRESS	529,798.09	1,362,520.78			

CONTRACT NO. 24-5216-D ROMANO CONSTRUCTION BUILDING NO. 1 SEWER & WATER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

8" WATER MAIN: ROMANO PROPERTY

•	PUBLIC MARYLAND	WORK5	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	I HI PREF DULY
				ЦС
				I FISH

Und Church 4.3.29	
HIEF, DEVELOPMENT ENGINEERING DIVISION DATE	

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. 27020 EXPIRATION DATE IS 1/25/26.	
FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS	
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855	_

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[] /"			
PAUL G.	CAVAN	IAUGH	
 Program :			_

DESIGNED BY : DAM		-			
DRAWN BY :		-			SEWER & WATER MAIN EXTENSIONS PROFILES AND CHARTS
CHECKED BY :		-			600' SCALE MAP NO47 BLOCK NO23
DATE : MARCH 2024	вү	NO.	REVISION	DATE	F.C.C. WORK ORDER NO. 17051-3001 FILE NAME : SEWER & WATER MAIN EXTENSIONS PLAN

ROMANO CONSTRUCTION
BUILDING No. 1
SEWER & WATER MAIN EXTENSIONS
CONTRACT NO. 24-5216-D
SIXTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE AS SHOWN	1
SHEET	

5HEET **3** of **3**