GENERAL NOTES

PART I

1. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN JANUARY, 2006 BY WINGS AERIAL MAPPING CO., INC.

3. HORIZONTAL AND VERTICAL SURVEY CONTROLS:

UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.

WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE

NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 16IB AND NO. 17AB.

4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS 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 THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE

6. FOR DETAILS NOT SHOWN ON THE DRAWING, 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. 7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL 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

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

AT&T	1-800-252-1133
BGE (CONTRACTOR SERVICES)	
BGE (EMERGENCY)	
BUREAU OF UTILITIES	
COLONIAL PIPELINE CO	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033

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

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

PART II WATER

1. ALL WATER MAINS TO BE PVC C900 DR-18 UNLESS OTHERWISE NOTED.

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

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

4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS. 5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND

6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM. 7. TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.

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 CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE 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 RECORDS RECEIVED.

9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS SACRIFICIAL ANODES SHALI STALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACC 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 DUCTILE IRON.

10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTIONLINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE HE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO

11. ALL CHANGES IN HORIZONTAL AND 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 LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION 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) STOP COUPLINGS OR EQUAL.

5-DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL. 12. WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, CONTRACTOR SHALL INSTALL DEVICESFOR 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 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 EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.

PART III 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.
- 3. FORCE MAINS SHALL BE D.I.P. ONLY.

4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY. 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 OTHERWISE NOTED ON THE DRAWINGS.

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

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

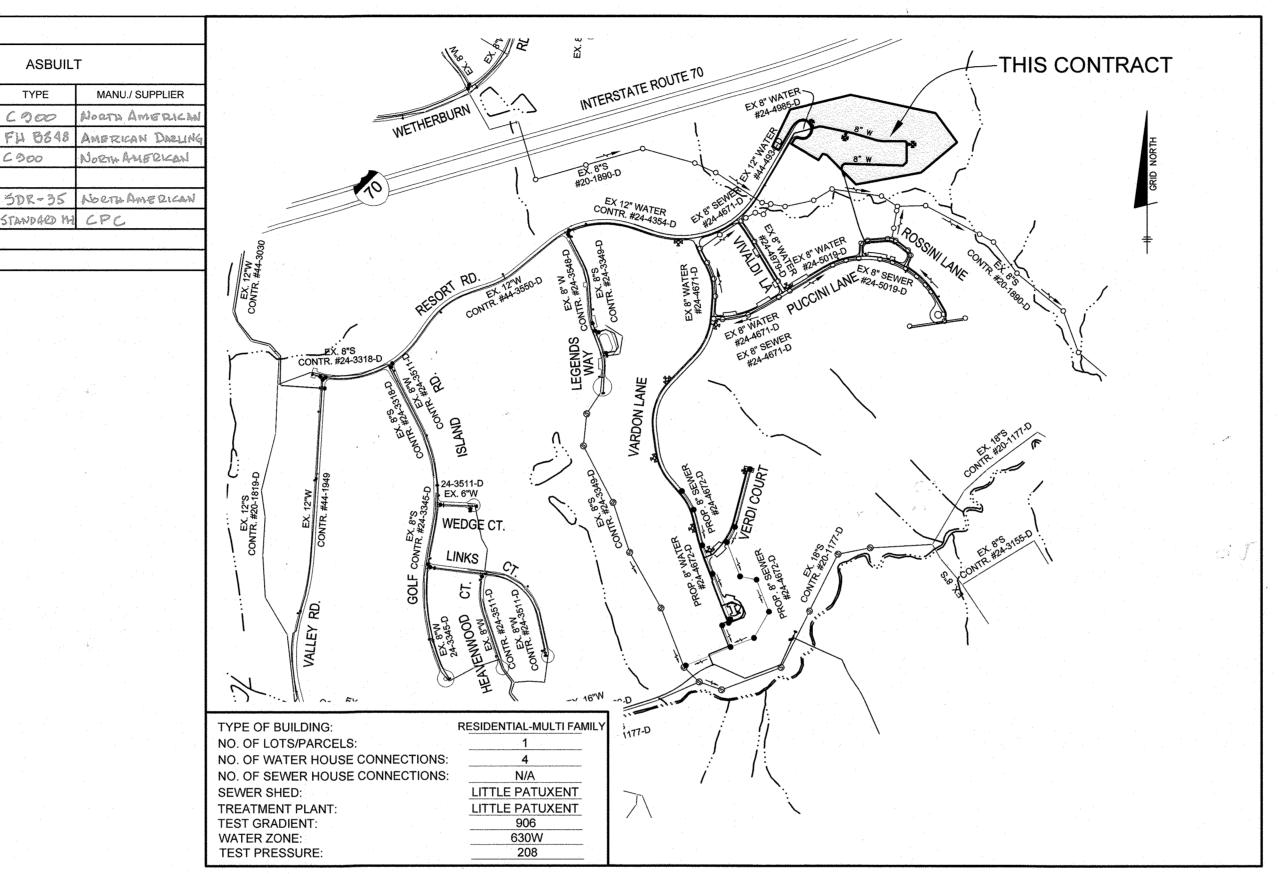
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SDP-20-036 / F-18-027

FINAL PUBLIC WATER AND SEWER PLAN RAVENWOOD CONDOMINIUMS

AT TURF VALLEY

BUILDABLE BULK PARCEL 'AA' HOWARD COUNTY, MARYLAND

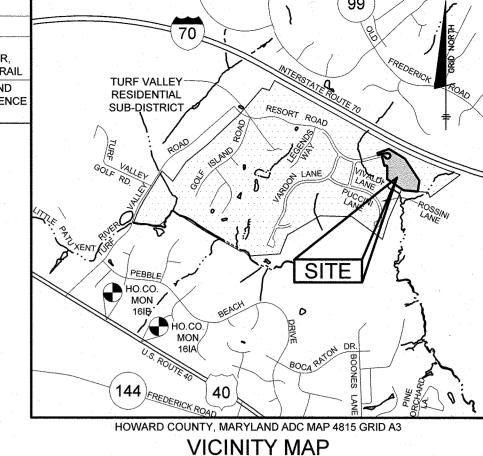
CONTRACT NO. #24-5133-D

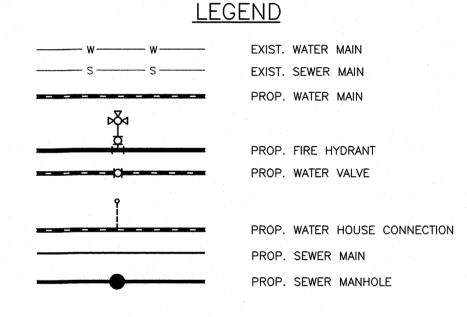


LOCATION PLAN SCALE:1"=600'

DESCRIPTION NORTHING EASTING ELEVATION 11.5' SOUTHWEST OF WBL RT. 40. 20.8' WEST OF PK NAIL IN SHOULDER 1,344,753.9350 66,4' SOUTH OF LAST POST IN GUARDRAIL SE OF INTERSECTION OF RTE, 99 AND WETHERBURN ROAD, 14.8' WEST OF FENCE 598,435.249 1,348,615.2482 POST, 35' NE OF MANHOLE

BENCHMARKS





SHEET INDEX				
NO.	DESCRIPTION			
1	TITLE SHEET			
2	PUBLIC WATER AND SEWER PLAN			
3	PUBLIC WATER AND SEWER PROFILES			

WMB = WATER MARKER BOARD

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE						
BLDG	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2			
1	10421 RESORT ROAD	46 WMB TO B" VB BLOG "	102' WHE TO FH & Z			
2	10411 RESORT ROAD	47' WMB TO 8" VE BLDG #2	301 WHO TO FH # 3			
3	10401 RESORT ROAD	48 WM6 TO 6" VE BLD4 #3	48' WM8 % F# #3			
4	10391 RESORT ROAD	92' WHO TOB" VE BLD6 #4	78' WMB P F H & 4			

White framework	56W	er house a	SUNSCIION AS-BUILT	LOCATION TABLE	
- American	8104		LOCATION DIM.	· I LOCATION DIM.2	
		D.0		181 14 SMB TO SMH PG	
	2	D.0		#4 13' SMB TO SMU # 5	
	3	7.0	29' 5MB TO SMH	#3 97' SMB TO SMH #2	
	4	D.0	LIBERT SNB TO SHU	57 46' SM9 TO SMW "8	

BLOCK: 12 &

SMB = SEWER MARKER BOARD

QUANTITIES

QUANTITIES

QUANTITIES

1162 LF

40 LF

117 LF

1 EA

NAME OF UTILITY CONTRACTOR UTILITIES UNLIMITED

ITEMS

8" WATER (PVC C900 DR18)

6" FIRE HYDRANT, TEE & VALVE

8" PVC WHC

8" PVC SDR-35 SEWER

SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

ASBUILT

TYPE

MANGIONE ENTERPRISES OF TURF VALLEY, LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

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: 6-30-2021.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

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



18.60	DATE:	7/2020	BY	NO.	REVISIONS DATE	600 SCALE MAP # 16 & 17
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	CHK:	DBT				
* .						
	DRAFT:	LDD				COVER
	DES:	LDD				

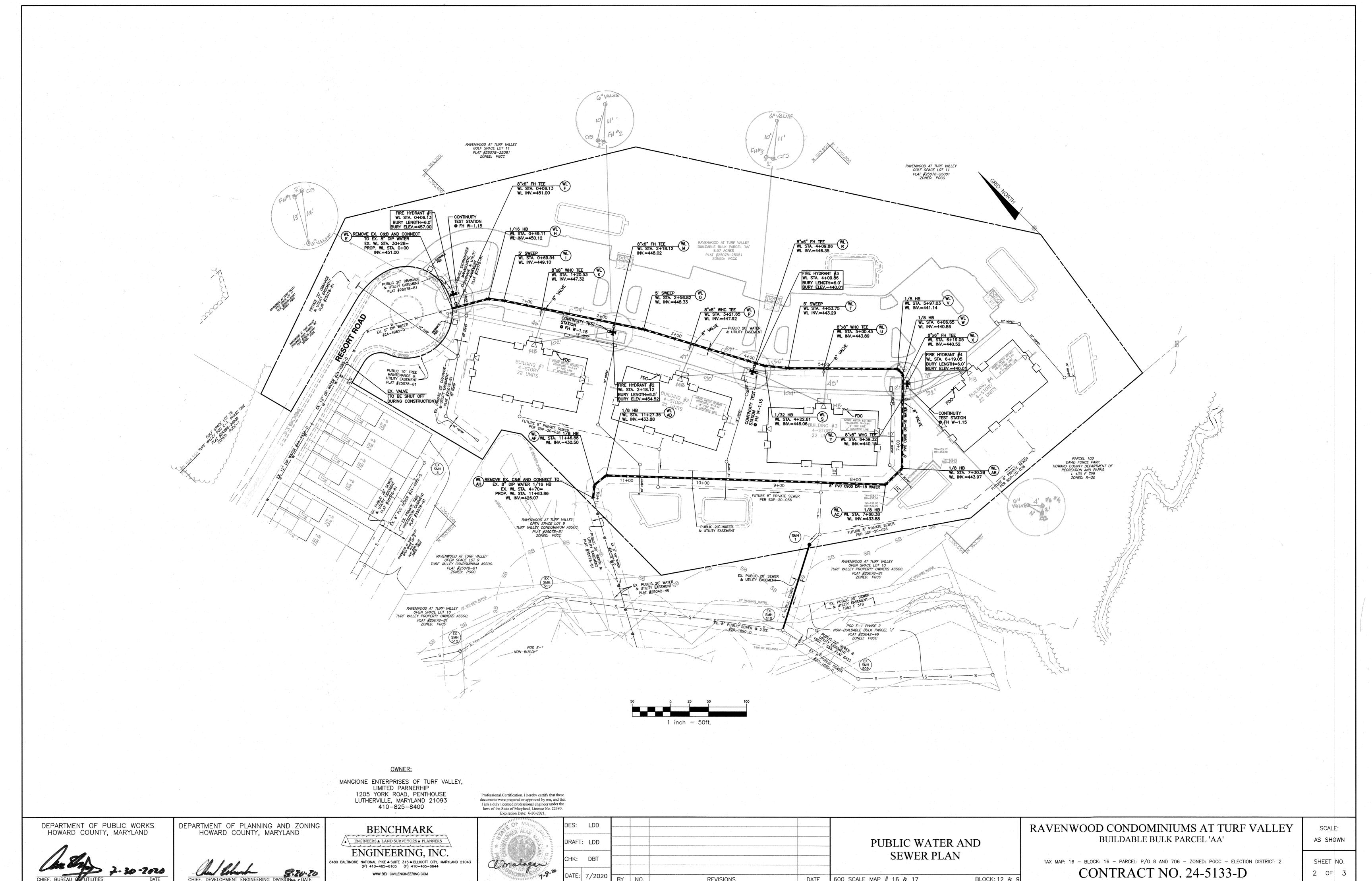
COVER SHEET

RAVENWOOD CONDOMINIUMS AT TURF VALLEY BUILDABLE BULK PARCEL 'AA'

TAX MAP: 16 - BLOCK: 16 - PARCEL: P/O 8 AND 706 - ZONED: PGCC - ELECTION DISTRICT: 2

AS SHOWN SHEET NO. 1 OF 3

CONTRACT NO. 24-5133-D



BY NO.

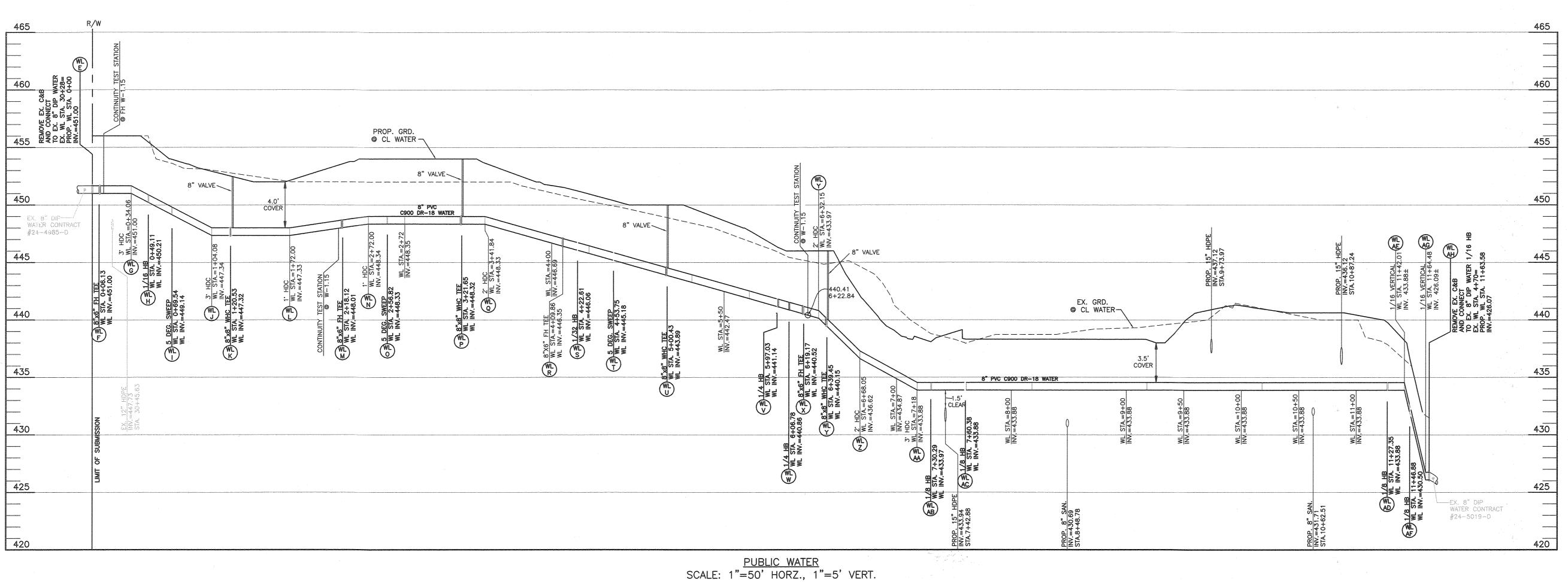
REVISIONS

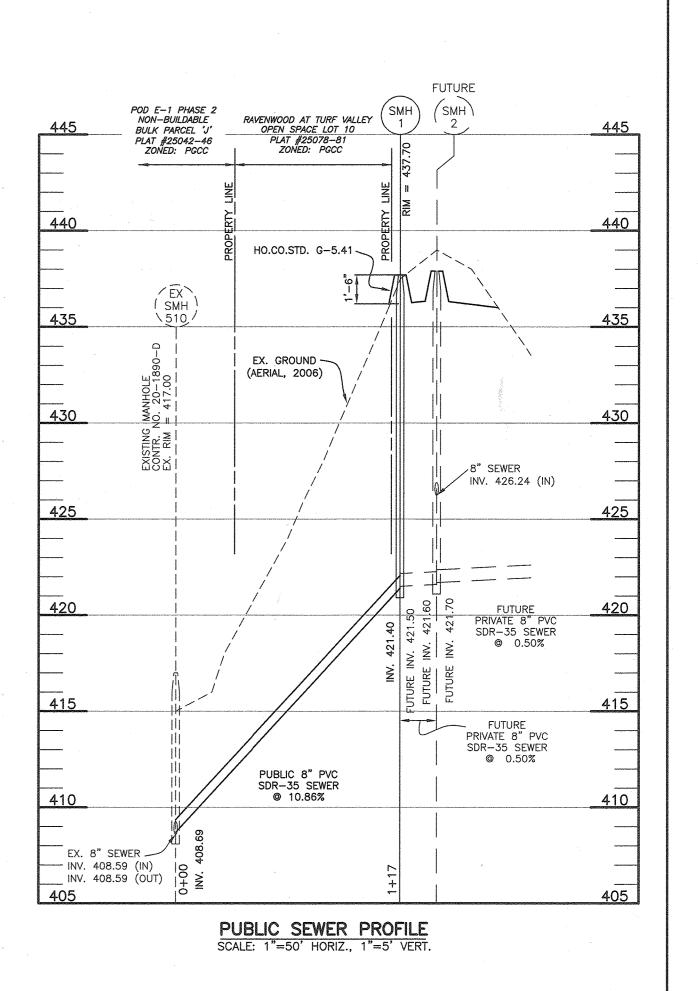
600 SCALE MAP # 16 & 17

BLOCK: 12 & 9

NIADAT	ADDIDTEMANCE	MATER HAVE OTATION	MODELLING	FACTIMO
NAME	APPURTENANCE	WATER LINE STATION	NORTHING	EASTING
WLE	8" CONNECTION	WL STA.0+00.00	594049.7733	1350298.5556
WLF	8"x6" FH TEE	WL STA.0+06.13	594046.7076	1350303.8601
WL G	3° HIGH DEFLECTION COUPLING	WL STA.0+34.06	594032.7282	1350328.0479
WL H	1/16 HORIZONTAL BEND	WL STA.0+49.11	594025.2010	1350341.0719
WLI	5 DEG. SWEEP	WL STA.0+69.54	594009.1690	1350353.7456
WL J	3° HIGH DEFLECTION COUPLING	WL STA.1+04.08	593980.3070	1350372.7198
WLK	8"x8" TEE	WL STA.1+20.53	593966.5661	1350381.7594
WLL	1° HIGH DEFLECTION COUPLING	WL STA.1+72.00	593923.5612	1350410.0376
WL M	8"x6" FH TEE	WL STA.2+18.12	593885.0291	1350435.3747
WL N	1° HIGH DEFLECTION COUPLING	WL STA.2+49.47	593866.3513	1350447.6564
WL O	5 DEG. SWEEP	WL STA.2+56.82	593852.6924	1350456.6380
WLP	8"x8" TEE	WL STA.3+21.65	593795.6261	1350487.4000
WL Q	2° HIGH DEFLECTION COUPLING	WL STA.3+41.84	593777.8508	1350496.9819
WLR	8"X6" FH TEE	WL STA.4+22.61	593706.7531	1350535.3077
WLS	1/32 HORIZONTAL BEND	WL STA.4+22.61	593706.7531	1350535.3077
WLT	5 DEG. SWEEP	WL STA.4+53.75	593682.7660	1350555.1640
WL U	8"x8" TEE	WL STA.5+00.43	593649.5494	1350587.9590
WL V	1/8 HORIZONTAL BEND	WL STA.5+97.03	593580.7950	1350655.8178
WL W	1/8 HORIZONTAL BEND	WL STA.6+23.00	593562.4723	1350646.9216
WL X	8"x6" FH TEE	WL STA.6+23.00	593562.4723	1350646.9216
WL Y	8"x8" TEE	WL STA.6+39.32	593548.2294	1350632.4874
WL Z	2° HIGH DEFLECTION COUPLING	WL STA.6+68.05	593528.1479	1350612.1327
WL AA	3° HIGH DEFLECTION COUPLING	WL STA.7+18.05	593492.9379	1350576.4531
WL AB	1/8 HORIZONTAL BEND	WL STA.7+30.29	593484.3351	1350567.7348
WL AC	1/8 HORIZONTAL BEND	WL STA.7+60.38	593484.9077	1350537.6518
WL AD	1/8 HORIZONTAL BEND	WL STA.11+27.35	593752.4101	1350286.4408
WL AE	1/16 VERTICAL BEND	WL STA.11+42.01	593753.9109	1350271.8604
WL AF	1/8 HORIZONTAL BEND	WL STA.11+46.88	593752.3469	1350264.4786
WL AG	1/16 VERTICAL BEND	WL STA.11+64.48	593745.7607	1350256.4652
WL AH	1/8 HORIZONTAL BEND	WL STA.11+63.86	593743.7178	1350253.8374

STRUCTURE TABLE									
NUMBER	TYPE	NORTHING	EASTING	INVERT IN	INVERT OUT	TOP ELEV.	STD. DETAIL	OWNER	REMARKS
SMH 1	48" MH	593499.8363	1350411.4265	421.50(8")	421.40(8")	437.70	HO. CO. STD. G-5.14	PUBLIC	





OWNER:

MANGIONE ENTERPRISES OF TURF VALLEY, LIMITED PARNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

WWW.BEI-CIVILENGINEERING.COM

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: 6-30-2021.

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DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

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

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PUBLIC WATER AND SEWER PROFILE

BLOCK: 12 &

600 SCALE MAP # 16 & 17

RAVENWOOD CONDOMINIUMS AT TURF VALLEY BUILDABLE BULK PARCEL 'AA'

TÂX MAP: 16 - BLOCK: 16 - PARCEL: P/O 8 AND 706 - ZONED: PGCC - ELECTION DISTRICT: 2 CONTRACT NO. 24-5133-D

SCALE: AS SHOWN

SHEET NO. 3 OF 3