

GENERAL NOTES:

- PART I:**
- APPROXIMATE LOCATION 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.
 - EXISTING TOPOGRAPHY HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., PERFORMED IN JUNE, 2018. OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 17GA AND 17GB WERE USED FOR THIS PROJECT. ALL VERTICAL CONTROLS ARE BASED ON NAVD'88. VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
HOWARD COUNTY BENCHMARK - 17GA (CONC. MONUMENT) N 591048.52 E 1352732.11 ELEV. 432.03
LOCATION: NORTHWEST CORNER OF BETHANY LANE AND GERMAN ROAD
HOWARD COUNTY BENCHMARK - 17GB (CONC. MONUMENT) N 592656.77 E 1353019.98 ELEV. 441.52
LOCATION: NORTHEAST CORNER OF BETHANY LANE AND POSTWICK DRIVE
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED.
 - 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 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 TO SCHEDULE THE BRACING OF THE POLES.
 - 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 LOCATION OF THE TEST PIT. A NOTES 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 OPERATION AT HIS OWN EXPENSE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN THESE PLANS:
1-800-252-1133 AT&T
410-850-4620 BGE (CONTRACTOR SERVICE)
410-685-1400 BGE (EMERGENCY)
410-313-4900 BUREAU OF UTILITIES
410-795-1390 COLONIAL PIPELINE CO
1-800-257-7777 MISS UTILITY
410-531-5533 STATE HIGHWAY ADMINISTRATION
1-800-743-0033/410-224-9210 VERIZON
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR
 - THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE ANY 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:**
- ALL WATER MAINS SHALL BE AWWA STANDARD C900 DR-18 PVC UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - 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 IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 - TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTRY DESIGN MANUAL.
 - 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 REST RECORDS RECEIVED.
 - UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, 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. 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.
 - 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 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.
 - 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 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.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH FINAL ROAD CONSTRUCTION F-20-064.

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

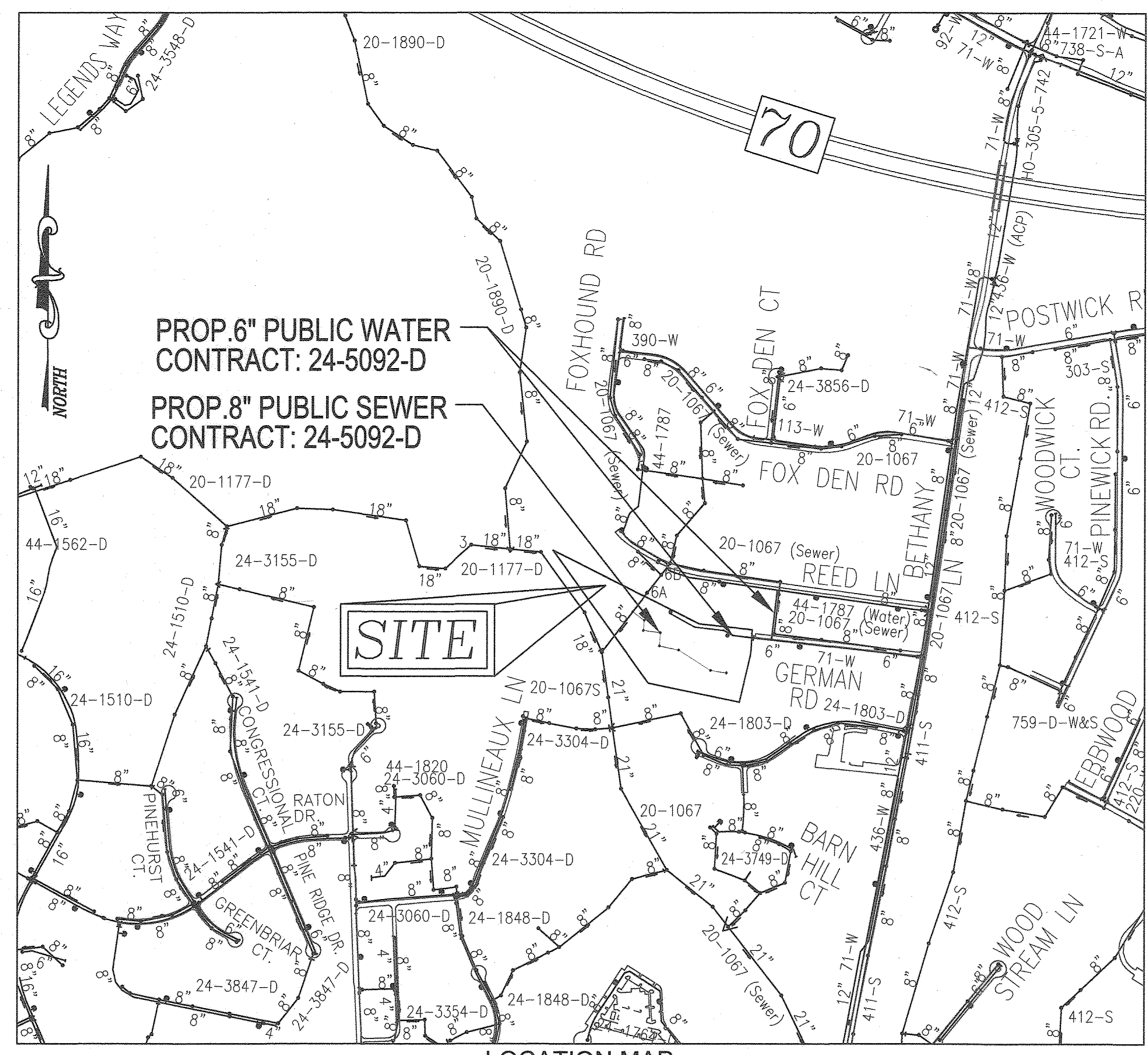
Alexander Britchis 11/10/2020
SOIL CONSERVATION DISTRICT DATE

FINAL WATER AND SEWER PLAN

RIVER BIRCH MANOR

HOWARD COUNTY, MARYLAND

CONTRACT: 24-5092-D



LOCATION MAP
SCALE: 1"=600'

WATER ZONE:	630
TEST PRESSURE:	225
TEST GRADIENT:	908

PART II - WATER CONTINUED:

PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES 1-1/2-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 CERTAINTED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.

FIVE 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 (PEX) 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, THE CONTRACTOR SHALL INSTALL 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 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.

13. SPRINKLER SYSTEM FOR SINGLE RESIDENTIAL DWELLING UNITS SHALL HAVE WATER HOUSE CONNECTIONS AND WATER METERS THAT ARE SIZED IN ACCORDANCE WITH THE DESIGN OF THE SPRINKLER SYSTEMS. SPRINKLER SYSTEMS FOR SINGLE RESIDENTIAL DWELLINGS SHALL HAVE A MINIMUM OF 1.5" SERVICE CONNECTION WITH A 1" OUTSIDE METER SETTING

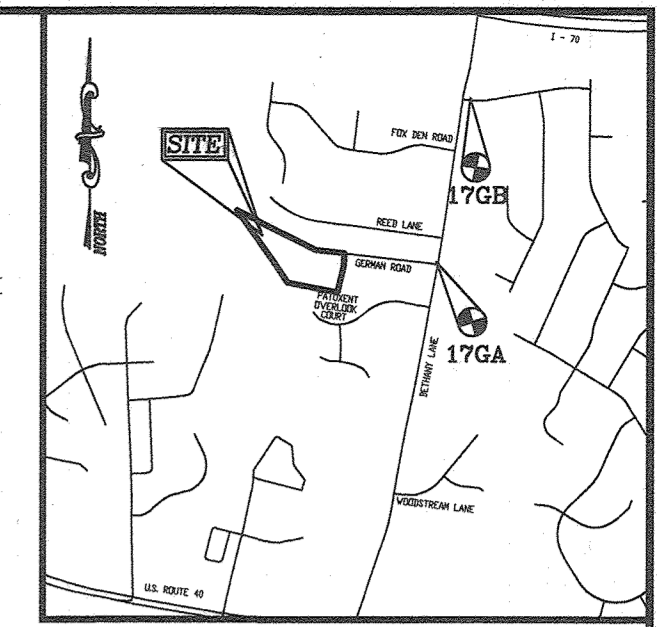
PART III - SEWER:

- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C UNLESS OTHERWISE NOTED.
- 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 COVERS. STANDARD DETAIL C5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

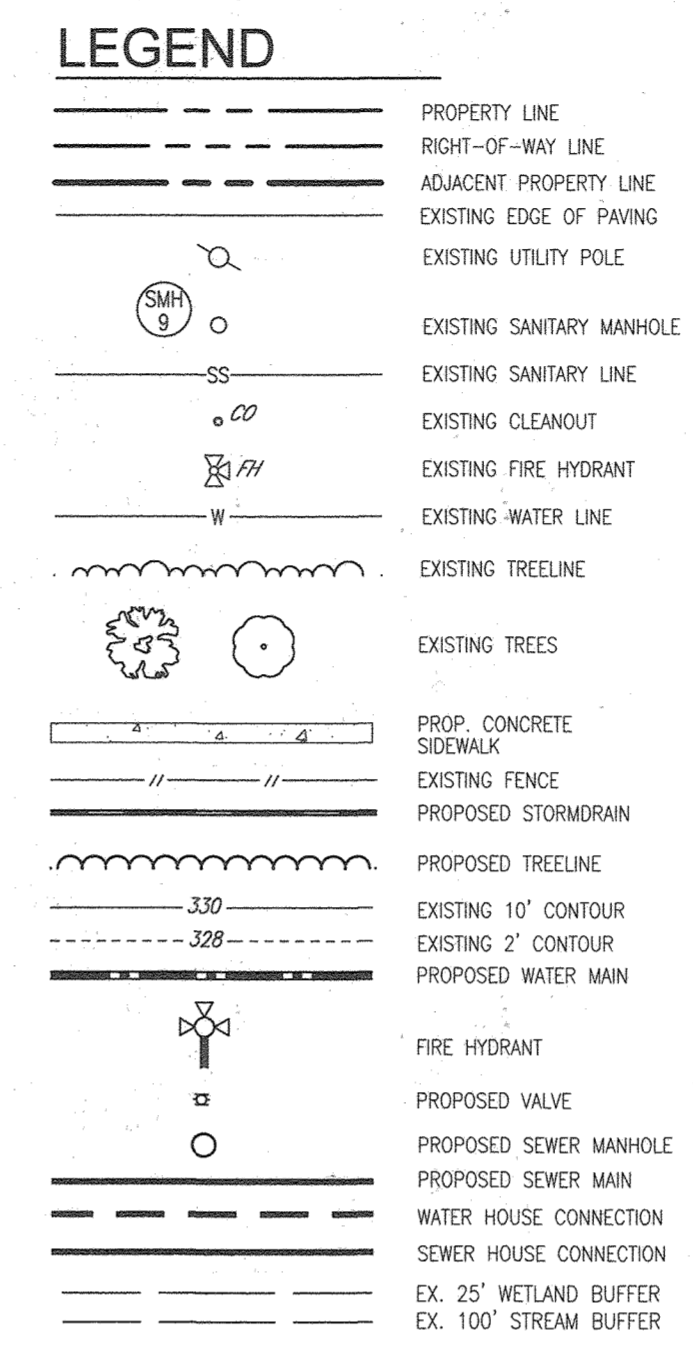
BENCHMARKS

HOWARD COUNTY BENCHMARK - 17GA (CONC. MONUMENT)
N 591048.52 E 1352732.11 ELEV. 432.03
LOCATION: NORTHWEST CORNER OF BETHANY LANE AND GERMAN ROAD

HOWARD COUNTY BENCHMARK - 17GB (CONC. MONUMENT)
N 592656.77 E 1353019.98 ELEV. 441.52
LOCATION: NORTHEAST CORNER OF BETHANY LANE AND POSTWICK DRIVE



VICINITY MAP
SCALE: 1"=200'
ADC MAP 11 GRID G/5



EXISTING PROPERTIES AFFECTED BY WATER MAIN EXTENSION

ADDRESS	OWNER	DEED REF.
10001 GERMAN ROAD	WANG KAI YU	L 12349/F. 481
10003 REED LANE	HWANG PAULINE	L 18969/F. 197
10005 GERMAN ROAD	MOON WAN JOO	L 13345/F. 490
10009 GERMAN ROAD	LEE SANG H	L 16296/F. 334
10013 GERMAN ROAD	SCHARD RICHARD S	L 8575/F. 420
10017 GERMAN ROAD	BILLINGS DENROY C	L 18638/F. 154
10018 GERMAN ROAD	ISAKOVICH VLADIMIR	L 15692/F. 232
10019 GERMAN ROAD	WANG TAO	L 15844/F. 001
10021 GERMAN ROAD	GETZ MICHAEL R SR	L 17909/F. 074
10025 GERMAN ROAD	GATES RYAN HANS	L 18289/F. 117
10027 GERMAN ROAD	KRASNOFF STEVEN M	L 12825/F. 040
10029 GERMAN ROAD	LENZ DAVID B	L 05080/F. 145
10030 GERMAN ROAD	FROCK SUZANNE D	L 12349/F. 481
10031 GERMAN ROAD	WIENECKE JONATHAN L	L 12070/F. 055

TYPE OF BUILDING :	DETACHED SINGLE FAMILY HOMES
NO. OF LOTS/PARCELS :	7
NO. OF SINGLE WATER HOUSE CONNECTIONS :	7
NO. OF TWIN WATER HOUSE CONNECTIONS :	0
NO. OF SEWER HOUSE CONNECTIONS :	7
DRAINAGE AREA:	LITTLE PATUXANT RIVER (UPPER)

QUANTITIES

NAME OF UTILITY CONTRACTOR: _____
SURVEY AND DRAFTING DIVISION AS-BUILT DATE: _____

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
8" WATER (C900 PVC-DR-18)	630 LF	630 LF	DR-18	NORTH AMERICAN / BRS
8" WATER (C900 PVC-DR-18)	121 LF	121 LF	DR-18	NORTH AMERICAN / BRS
6" WATER D.I.P. (FOR FH)	25 LF	25 LF	CL54	U.S. PIPE / BRS
6" VALVE	5 EA	5 LF	MJ GATE	MUELLER / BRS
FIRE HYDRANT	2 EA	2	6 FT.	MUELLER / BRS
8"x6" FHT	2 EA	2	EPOXY	STAR PIPE / BRS
6" 1/16" HORIZONTAL BEND	2 EA	1	MJ	STAR PIPE / BRS
8" 1/16" HORIZONTAL BEND	1 EA	1	MJ	STAR PIPE / BRS
8" CAP AND BUTTRESS	1 EA	1	MJ	STAR PIPE / BRS
6"x6" TAPPING SLEEVE	1 EA	1	SST5	JCM IND. / BRS
8"x6" TAPPING SLEEVE	1 EA	1	SST5	JCM IND. / BRS
8"x6" REDUCER	3 EA	3	EPOXY MJ	STAR PIPE / BRS
6" V. COUPLING DOWN	4 EA	4	PPOGDC	NORTH AMERICAN / BRS
6" V. COUPLING UP	1 EA	1	PPOGDC	NORTH AMERICAN / BRS
6" V. SWEEP	2 EA	2	C 900	PLASTIC TRNPS / BRS
1.5" WWC	702 LF	165 LF	K COPPER	CAMDRIDGE LBS / BRS
SEWER				
8" SEWER (PVC)	688 LF	506 LF	SDR-35	NORTH AMERICAN / PRS
STANDARD MANHOLES	7 EA	7	PRECAST	ATLANTIC CONCRETE
TYPE "B" DROP MANHOLES	1 EA	1 LF	PRECAST	ATLANTIC CONCRETE
4" SHC	360 LF	360 LF	SDR-35	NORTH AMERICAN / BRS
8" SEWER (DIP)	41 LF	91 LF	CL54	U.S. PIPE / BRS
6" TAP VALVE	2 EA	2 EA	MJ TAPPING	MUELLER / BRS

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

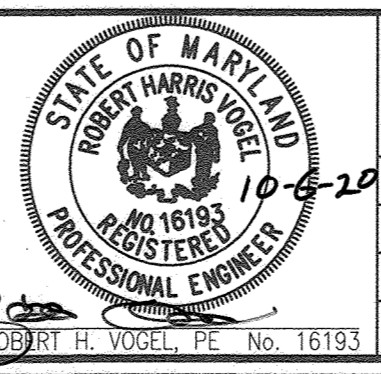
[Signature] 10/20/2020
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 11/23/20
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

VOGEL ENGINEERING
TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE 06/30/2022

DES:	ES/AMP
DRN:	MVP
CHK:	RHV
DATE:	SEPT. 2020
NO.:	1
REVISION:	AS BUILT QUANTITIES
DATE:	9/25/23

FINAL WATER AND SEWER PLAN
COVER SHEET

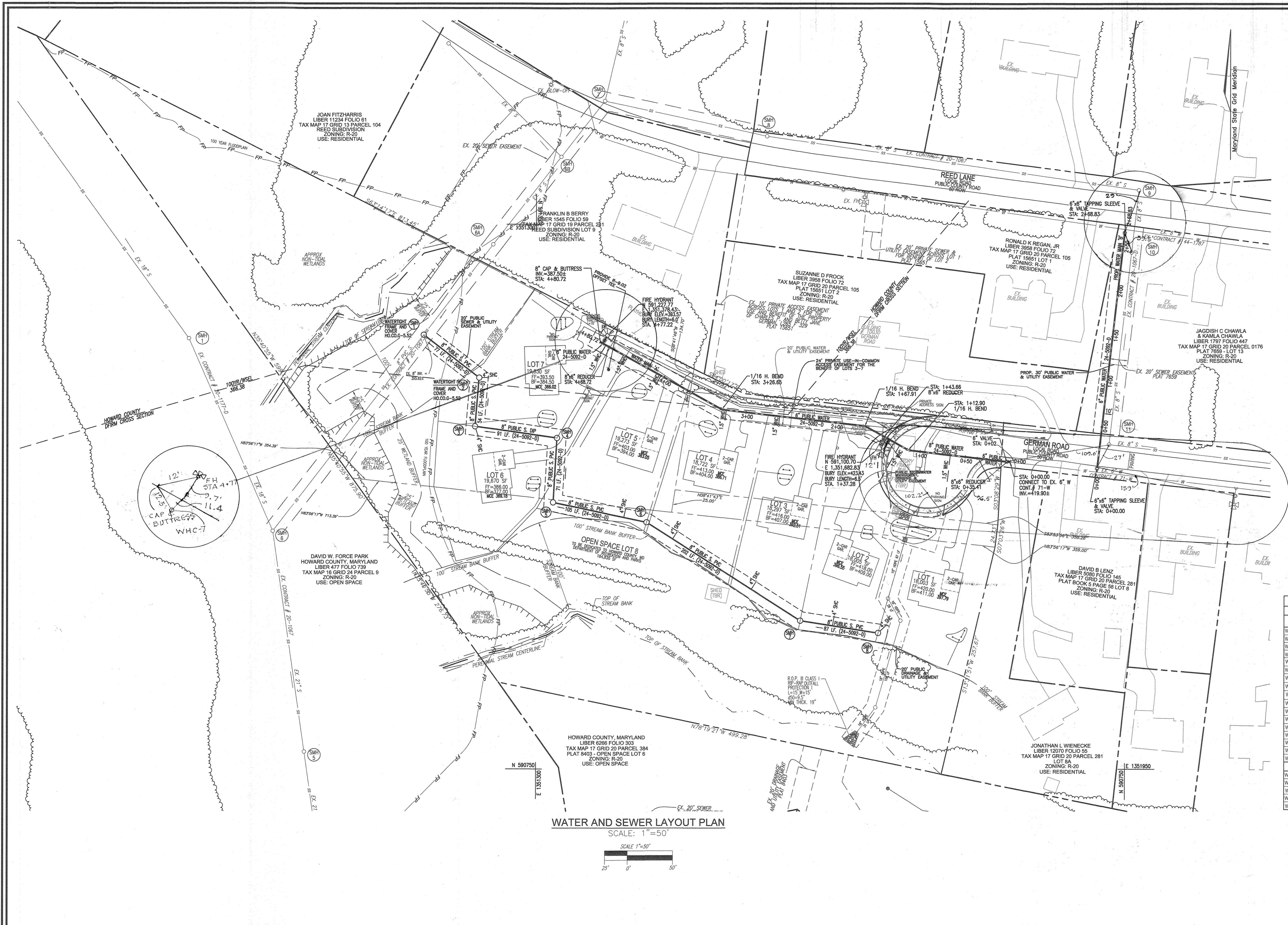
DATE: 600' SCALE MAP NO. 17 BLOCK NO. 20

RIVER BIRCH MANOR
7 DETACHED SINGLE FAMILY HOMES
CONTRACT NO. 24-5092-D

TAX MAP 17, GRID 20
2ND ELECTION DISTRICT

PARCEL 385
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3



WATER AND SEWER LAYOUT PLAN
SCALE: 1"=50'

LOT #	STREET ADDRESS	LOCATION DIM. 1	LOCATION DIM. 2
1	10038 German Road	FH Sta 4+77.25	WHC-2 73.25
2	10043 German Road	FH Sta 4+77.25	WHC-1 79.5
3	10047 German Road	FH Sta 4+77.25	WHC-4 59
4	10051 German Road	FH Sta 4+77.25	FH Sta 4+77.16
5	10055 German Road	FH Sta 4+77.25	WHC-5 47.6
6	10059 German Road	FH Sta 4+77.25	WHC-6 47.6
7	10063 German Road	FH Sta 4+77.25	WHC-6 29.5

WATER MAIN LOCATION CHART			
WATER MAIN 'A'			
WL STA.	APPURTENANCE	NORTHING	EASTING
WL STA. 0+00	CONNECT TO EX. 6" PUBLIC WATER	591088.58	1351823.24
WL STA. 0+04.00	6" VALVE	591089.03	1351819.27
WL STA. 0+05.46	6" 3' V. COUPLING DOWN		
WL STA. 0+19.16	6" 3' V. COUPLING UP		
WL STA. 0+35.41	8"x6" REDUCER	591,092.59	1,351,788.06
WL STA. 1+12.90	8" 1/16 HORIZONTAL BEND	591,101.35	1,351,711.07
WL STA. 1+37.28	8"x6" FHT	591,100.70	1,351,682.83
WL STA. 1+43.66	8"x6" REDUCER	591,116.27	1,351,684.16
WL STA. 1+67.91	6" 1/16 HORIZONTAL BEND	591,127.97	1,351,663.04
WL STA. 1+76.89	6" 5' V. SWEEP		
WL STA. 3+07.74	6" 2' V. COUPLING DOWN		
WL STA. 3+26.65	6" 1/16 HORIZONTAL BEND	591,145.94	1,351,505.22
WL STA. 3+89.74	6" 1' V. COUPLING DOWN		
WL STA. 4+28.56	6" 1' V. COUPLING DOWN		
WL STA. 4+68.72	8"x6" REDUCER	591,214.81	1,351,380.96
WL STA. 4+77.22	8"x6" FHT	591,218.93	1,351,373.53
WL STA. 4+80.72	8" CAP & BUTTRESS	591,220.63	1,351,370.47
WATER MAIN 'B'			
WL STA. 0+00.00	6"x6" TAPPING SLEEVE	591,077.70	1,351,918.79
WL STA. 0+04.00	6" VALVE	591081.68	1351919.25
WL STA. 2+44.91	6" 5' V. SWEEP		
WL STA. 2+64.88	6" VALVE	591340.76	1351949.36
WL STA. 2+68.83	8"x8" TAPPING SLEEVE	591,344.74	1,351,949.82

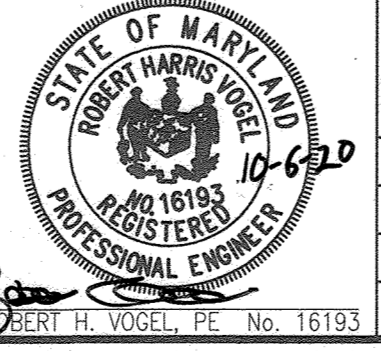
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature]
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THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2022

DES: ES/MVP
DRN: MVP
CHK: RHV
DATE: SEPT. 2020

NO. 1 AS BUILT WATER HOUSE CONNECTIONS 9/25/20

REVISION

DATE: 600' SCALE MAP NO. 17 BLOCK NO. 20

FINAL WATER AND SEWER PLAN LAYOUT SHEET

OWNER
MARANATHA MAG. MANOR LLC
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

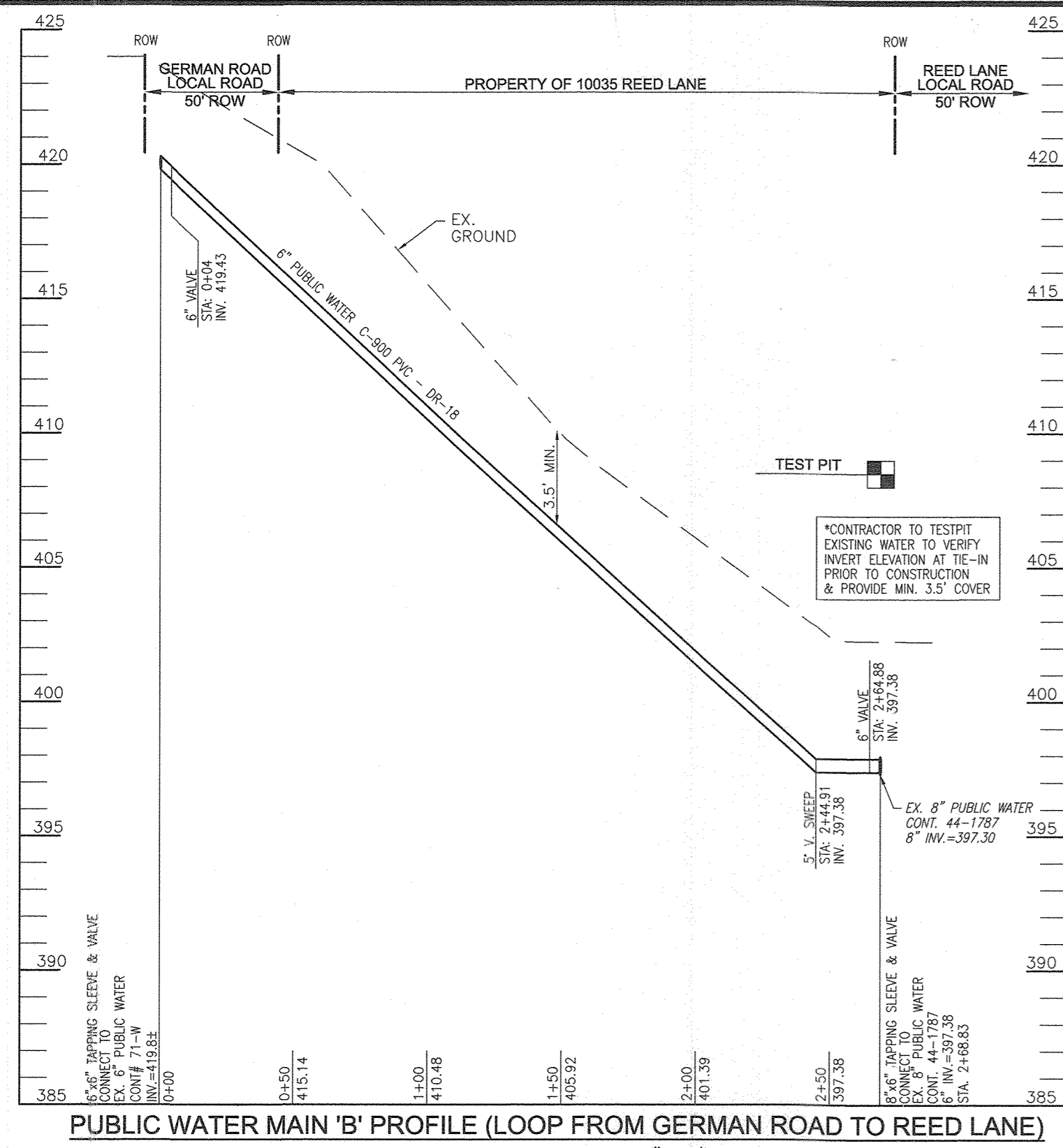
DEVELOPER
TRINITY HOMES MARYLAND, LLC
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

RIVER BIRCH MANOR
7 DETACHED SINGLE FAMILY HOMES
CONTRACT NO. 24-5092-D

TAX MAP 17, GRID 20
2ND ELECTION DISTRICT

PARCEL 385
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 3



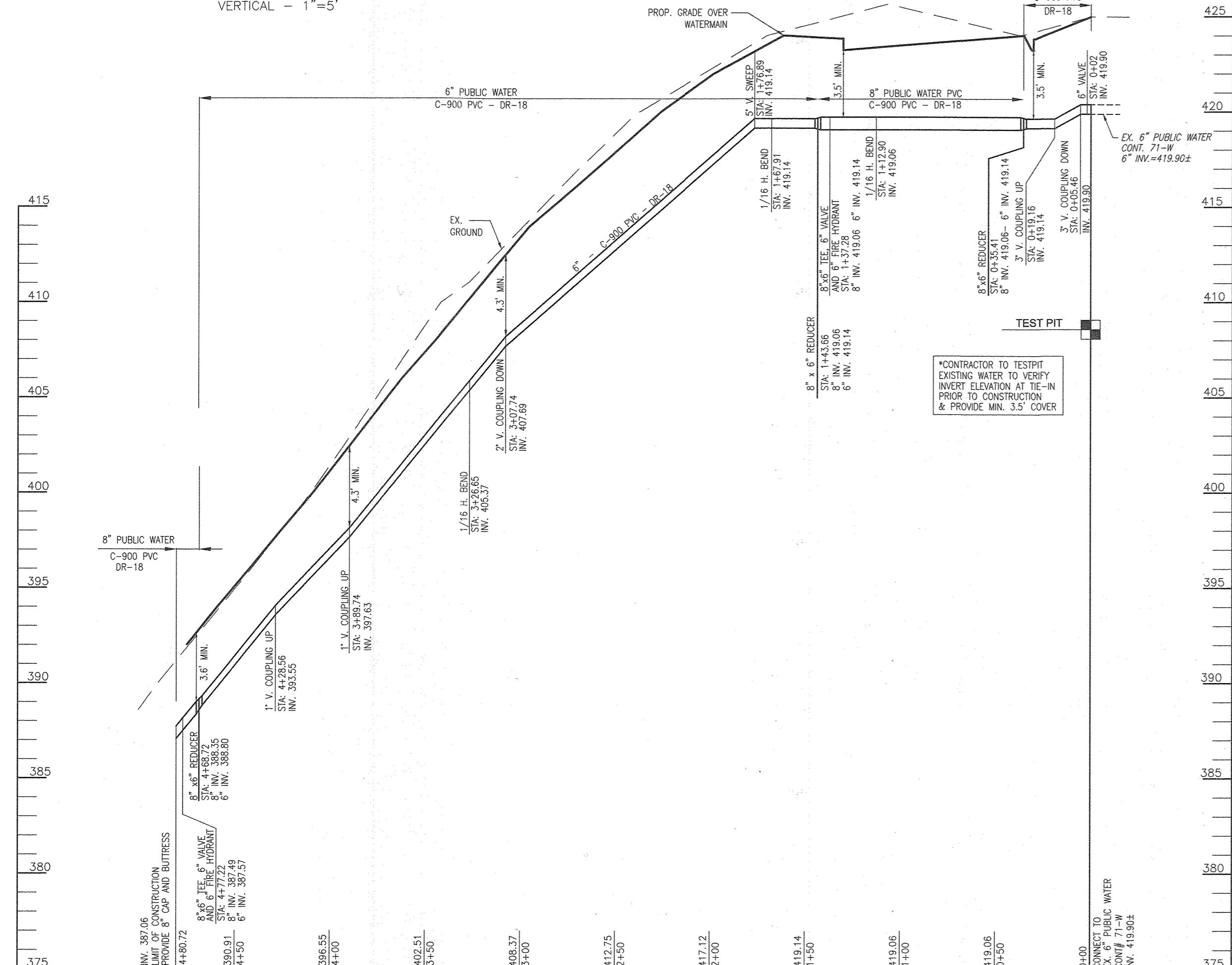
PUBLIC WATER MAIN 'B' PROFILE (LOOP FROM GERMAN ROAD TO REED LANE)

SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

SEWER HOUSE CONNECTION AS-BUILT			
LOT #	STREET ADDRESS	LOCATION DIM. 1	LOCATION DIM. 2
1	10039 German Road	SMH-7 7.4	SMH-8 13
2	10043 German Road	SMH-7 3.9	SMH-8 4.7
3	10047 German Road	SMH-7 6.4	SMH-8 13.9
4	10051 German Road	SMH-7 16.8	SMH-8 37.5
5	10055 German Road	SMH-5 79.5	SMH-6 2.3
6	10059 German Road	SMH-5 12.5	SMH-4 8.9
7	10063 German Road	SMH-3 5.0	SMH-2 8

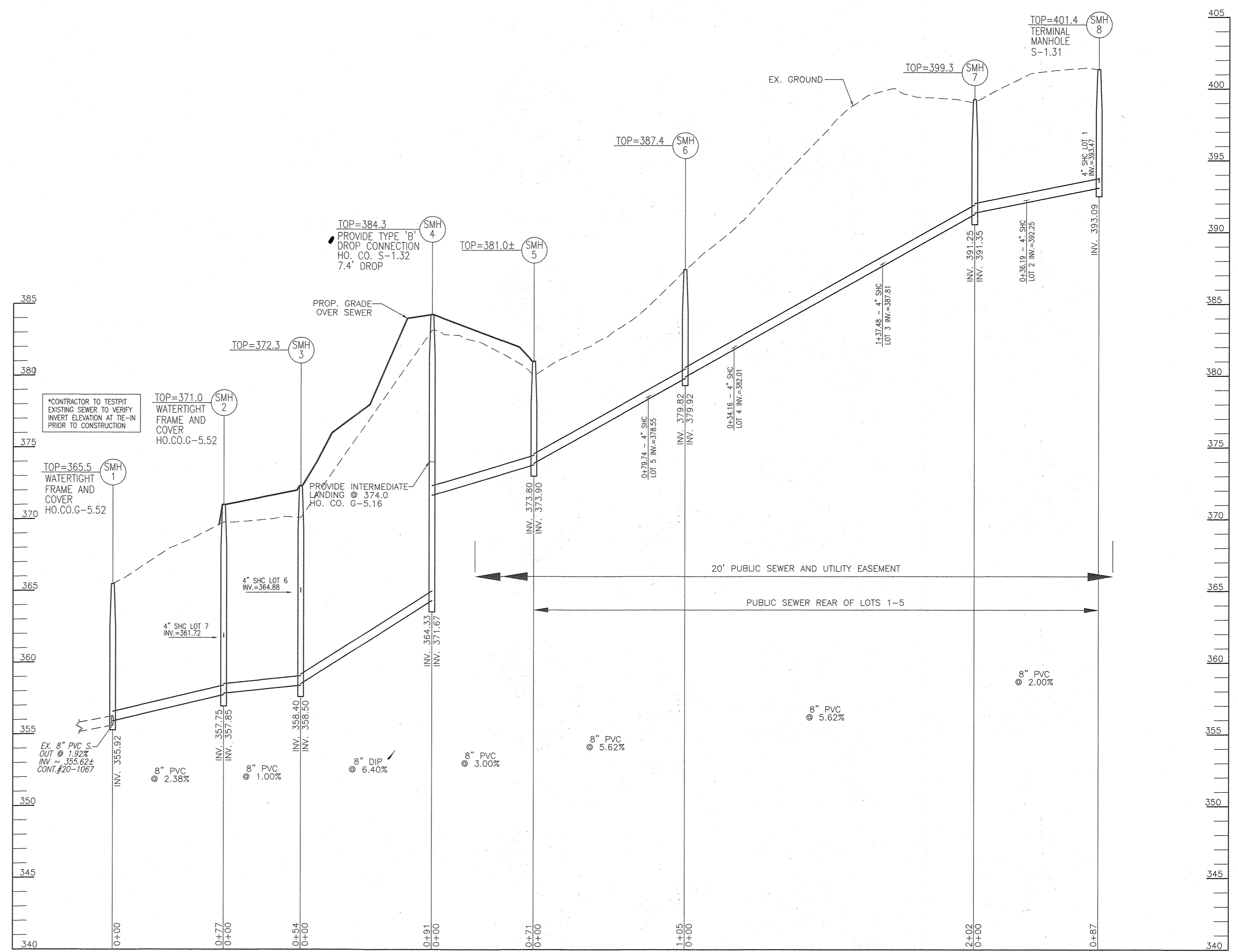
MINIMUM CELLER ELEVATION (MCE)									
LOT #	TYPE	INV. SHC AT MAIN	DIST. TO ESMT/CO	SHC SLOPE TO CO	INV. @ ESMT/CO	DIST. FROM CO TO REAR OF HSE	SHC SLOPE TO HSE	INV. @ REAR HSE	MCE
1	SHC	393.47	12.58'	2.00%	393.72	78.50'	2.00%	395.29	397.79
2	SHC	392.25	10.00'	2.00%	392.45	80.00'	2.00%	394.05	396.55
3	SHC	387.81	10.00'	2.00%	388.01	100.00'	2.00%	390.01	392.51
4	SHC	382.01	10.00'	2.00%	382.21	100.00'	2.00%	384.21	386.71
5	SHC	378.55	10.00'	2.00%	378.75	90.00'	2.00%	380.55	383.05
6	SHC	364.88	11.05'	2.00%	365.10	79.00'	2.00%	366.68	369.18
7	SHC	361.72	9.85'	2.00%	361.92	80.00'	2.00%	363.52	366.02

PUBLIC SEWER - MANHOLE LOCATION CHART							
MH NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS	
1	STD. PRECAST MANHOLE (G-5.12)	N 591,228.27 E 1,351,175.79	365.45	355.92	355.62	WATERTIGHT FRAME & COVER (G-5.52)	
2	STD. PRECAST MANHOLE (G-5.12)	N 591,181.09 E 1,351,237.15	371.00	357.85	357.75	WATERTIGHT FRAME & COVER (G-5.52)	
3	STD. PRECAST MANHOLE (G-5.12)	N 591,127.52 E 1,351,232.58	372.25	358.50	358.40		
4	TYPE 'B' DROP MANHOLE (G-1.32)	N 591,114.83 E 1,351,323.02	384.25	371.67	364.33		
5	STD. PRECAST MANHOLE (G-5.12)	N 591,043.82 E 1,351,318.81	381.00	373.90	373.80		
6	STD. PRECAST MANHOLE (G-5.12)	N 591,021.92 E 1,351,421.87	387.35	379.92	379.82		
7	STD. PRECAST MANHOLE (G-5.12)	N 590,913.39 E 1,351,591.86	399.25	391.35	391.25		
8	STD. PRECAST MANHOLE	N 590,899.85 E 1,351,677.79	401.35	393.47	393.09	TERMINAL MANHOLE S-1.31	



PUBLIC WATER MAIN 'A' PROFILE (GERMAN ROAD & USE-IN-COMMON DRIVEWAY)

SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



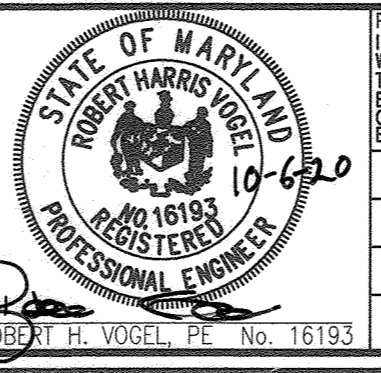
PUBLIC SEWER PROFILE

SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
[Signature]
CHIEF, BUREAU OF UTILITIES
DATE: 10/30/2020

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 11.23.20

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8951 www.timmons.com



PROFESSIONAL CERTIFICATE
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.
DES: ES/MVP
DRN: MVP
CHK: RHV
DATE: SEPT. 2020
NO. 10-620
REVISION: AS-BUILT SEWER HOUSE CONNECTIONS 9/22/23

FINAL WATER AND SEWER PLAN PROFILES
600' SCALE MAP NO. 17
BLOCK NO. 20
TAX MAP 17, GRID 20
2ND ELECTION DISTRICT

RIVER BIRCH MANOR
7 DETACHED SINGLE FAMILY HOMES
CONTRACT NO. 24-5092-D
OWNER: MARANATHA MAG. MANOR LLC, 3675 PARK AVE., SUITE 301, ELLICOTT CITY, MD 21043, (410) 480-0023
DEVELOPER: TRINITY HOMES MARY LAND, LLC, 3675 PARK AVE., SUITE 301, ELLICOTT CITY, MD 21043, (410) 480-0023
SCALE AS SHOWN
SHEET 3 OF 3