## **GENERAL NOTES**

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. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED JUNE 2017, AND SUPPLEMENTED WITH

HOWARD COUNTY GIS FOR OFFSITE AREAS BY ROBERT H. VOGEL ENGINEERING, INC. HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 47GD AND 47GE. ALL VERTICAL CONTROLS ARE BASED ON NAVD' 88. VERTICAL CONTROLS PROVIDED ON DRAWINGS

GEODETIC SURVEY CONTROL 47GD (N 530494.49/E 1350872.35) BRASS DISC SET ON TOP OF A CONCRETE MONUMENT. GEODETIC SURVEY CONTROL 47GE (N 529044.94/E 1350855.03)

BRASS DISC SET ON TOP OF A CONCRETE MONUMENT. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS. 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 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 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

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

BGE (CONSTRUCTION SERVICES) 410-637-8713

BGE (EMERGENCY) 410-685-0123 410-313-4900 BUREAU OF UTILITIES 410-795-1390 COLONIAL PIPELINE CO 1-800-257-7777 MISS UTILITY STATE HIGHWAY ADMINISTRATION 410-531-5533

1-800-743-0033 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 SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION

. 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 C900 PVC-DR-18 UNLESS OTHERWISE NOTED.

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

VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH

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 SECTION 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 COUNTY 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 TEST 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 MANUFACTOR'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTIONOF 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

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. WHÈRE HIGH DEFECTION 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 DEFECTION 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 DEFECTION 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 CERTAINTEED 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 (IPEX) BLUE BRUTE DR18 OR EQUAL.

WHEN PVC HIGH DEFECTION 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 DEFECTION 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

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.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH SITE DEVELOPMENT PLAN F-18-059

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

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND





## ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS SURVEYORS PLANNERS 3300 N. RIDGE ROAD, SUITE 110 TEL: 410.461.7666

ELLICOTT CITY, MD 21043



TYPE OF BUILDING

NO. OF SINGLE WATER HOUSE CONNECTIONS NO. OF SINGLE SEWER HOUSE CONNECTIONS

NO. OF UNITS:

DRAINAGE AREA: TREATMENT PLANT

	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: 09-27-2018				FINA
	DES: RHV	2	REVISE TO REMOVE A 6" VALVE FROM WATER MAIN	6-1-21	CONSTR
	DRN: KG	ı	REVISE WATER MAIN TIE-IN CONFIGURATION TO ANOID CONFLICT WITH	7-9-19	CONTRACT N
	CHK: RHV		NEWLY IDENTIFIED/LOCATED DUCT BANK IN THE FIELD	A COLUMN TO THE PARTY OF THE PA	OOM IN IN IN I
3	DATE: AUGUST 2018	NO.	REVISION	DATE	600' SCALE MAP NO. 47

WATER ZONE:

TEST PRESSURE:

TEST GRADIENT:

FINAL WATER CONSTRUCTION PLAN CONTRACT NO. 24-5032-D

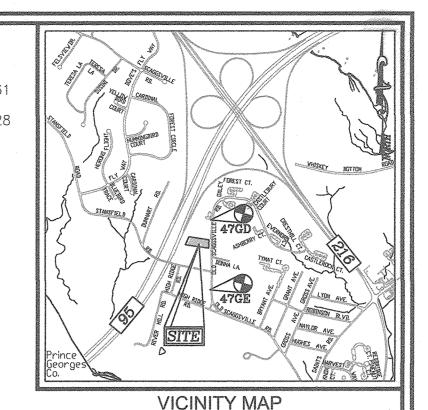
MAGNOLIA MANOR WEST LOTS 1 - 7 AND OPEN SPACE LOT 8 A SUBDIVISION OF TAX MAP 47 - PARCEL 558 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 157 - GIDDINGS PROPERTY -

LOTS 1 AND 2 (PLAT 5708) GRID 19, ZONED: R-SC 1 OF 2 HOWARD COUNTY, MARYLAND TAX MAP 47, PARCELS: 157 & 558 BLOCK NO. 19 6TH ELECTION DISTRICT

14"SOR-351 JM EAGLE

**BENCHMARKS** 

HOWARD COUNTY BENCHMARK - 47GE N 529044.94 E 1350855.03 ELEV.: 337.61 HOWARD COUNTY BENCHMARK - 47GD N 530494.49 E 1350872.35 ELEV.: 312.28



SCALE: 1"=2,000' ADC MAP COORDINATE: 40- A6

LEGEND

CONNECTION

. mommon mommon. EXISTING TREELINE mPROPOSED TREELINE EXISTING WATER MAIN PROPOSED WATER MAIN FIRE HYDRANT PROPOSED VALVE PROPOSED TEE PROPOSED STORM DRAIN EXISTING STORM DRAIN EXISTING SEWER PRIVATE WATER HOUSE CONNECTION PRIVATE SEWER HOUSE

	QUANTITIES								
NAME OF UTILITY CONTRACTOR : HIGHLAND TURF INC.									
-	SURVEY AND DRAFTING DIVISION AS-BUILT DATE: 3-18-21								
·		QUANTITIES	AS-BUILT						
-	ITEMS	ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER -BRS				
-	WATER								
Ì	6" WATER (PVC C-900) (DR-18)	<b>438</b> LF	438 LF.	C-90002-19	National Pipe				
	6" WATER DIP (FH)	9 LF	9 LF.	DIP CL-54	TYTON PIPE				
	8" X 6" TAPPING SLEEVE & V.	1 EA	I EA.	5.5	JOM INDUSTRIES				
L	6" X 6" TEE	1 EA	I EA.	DIP	STAR PIPE				
-	6" VALVE	J EA	2 EA.	DIP	MUELLER				
-	FIRE HYDRANT & TEST STATION	1 EA	I EA.	4.5 DIP	MUELLER				
promoter	6" - 1/16 HORIZ. BEND	2 EA	2. EA.	DIP	STAR PIPE				
L	6" - 1/32 HORIZ. BEND	1 EA	2 EA.	DIP	STARPIPE				
-	6" - VERT. COUPLING	3 EA	3 ea.		STAR PIPE				
-	1 1/2" WHC	135 LF	130 LF.	K COPPER	CAMBRIDGE LEE				
-	6" CAP + BUTTRESS	1 EA	I GA.	DIB	STAR PIPE				
	6"-1/4 BEND MEGA-LUG	2EA	H EA.	DIG	STAR PIPE				
-	6"-1/8 BEND MEGA-LUG	2EA	4 EA.	DIP	s tad pipe				
-	6"-1/8 BEND	2EA			•				

**LOCATION MAP** 

SCALE: 1"=600'

RESIDENTIAL

7 SINGLE FAMILY DETACHED

LITTLE PATUXENT RIVER

LITTLE PATUXENT WRP

FINAL WATER CONSTRUCTION PLAN

MAGNOLIA MANOR WEST

LOTS 1 - 7 AND OPEN SPACE LOT 8

A SUBDIVISION OF TAX MAP 47 - PARCEL 558

AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 157 "GIDDINGS PROPERTY - LOTS 1 AND 2" (PLAT 5708)

CONTRACT# 24-5032-D HOWARD COUNTY, MARYLAND

44-3955

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

SCALE

AS

SHOWN

SHEET

Fax: 410.461.8961

STANSFIELD "

6" PUBLIC -

(CONT#24-5032-D)

