

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.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN MAY 2005. BY ROBERT H. VOGEL ENGINEERING, INC.
- THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 36CA AND 33CB.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD' 88. VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
 GEODETIC SURVEY CONTROL 3805 (N 558378.575/E 1386524.158)
 BRASS DISC SET ON TOP OF A CONCRETE MONUMENT, LOCATED AT NORTH SIDE OF ROUTE 1, EAST SIDE OF INTERSECTION WITH TRAILER PARK PAVING OF WB LANE OF 175' AND 45' WEST AND DIRECTLY SIDE OF THE WEST AND 38.8' WEST SIDE OF FIRE HYDRANT
 GEODETIC SURVEY CONTROL 3806 (N 557155.459/E 1384992.262)
 BRASS DISC SET ON TOP OF A CONCRETE MONUMENT, LOCATED AT BETWEEN TRIPRAP AND CHAIN FENCE ALONG SOUTH SIDE OF ROUTE 1, 44' WEST SIDE OF LIGHT POLE AND 149' EAST SIDE OF GATE.
- 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:
 AT&T 1-800-252-1133
 BGE (CONTRACTOR SERVICE) 410-850-4620
 BGE (EMERGENCY) 410-685-1400
 BUREAU OF UTILITIES 410-313-4900
 COLONIAL PIPELINE CO 410-795-1390
 MISS UTILITY 1-800-257-7777
 STATE HIGHWAY ADMINISTRATION 410-531-5533
 VERIZON 1-800-743-0033/410-224-9210
- 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 LACKING 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(c) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS TO BE D.I.P. CLASS 54 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 RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAIL. 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.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
- FOR SPRINKLER SYSTEM FOR ALL TOWN HOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1" CONNECTION WITH A 3/4" METER.

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 GS.52. WHERE WATERTIGHT FRAME AND COVER IS 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.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH SITE DEVELOPMENT PLAN SDP-07-094.

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

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

[Signature]
 SOIL CONSERVATION DISTRICT
 DATE: 5/12/08

[Signature]
 U.S. SOIL CONSERVATION DISTRICT
 DATE: 5/12/08

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961



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: 09-27-2008

DES: DZ
 DRN: DZ
 CHK: RHV
 DATE: APRIL 18, 2008 NO. _____ REVISION _____ DATE _____

FINAL WATER AND SEWER PLAN COVER SHEET

HARWOOD INDUSTRIAL PARK PARCEL E-2

CONTRACT NO. 14-4479-D

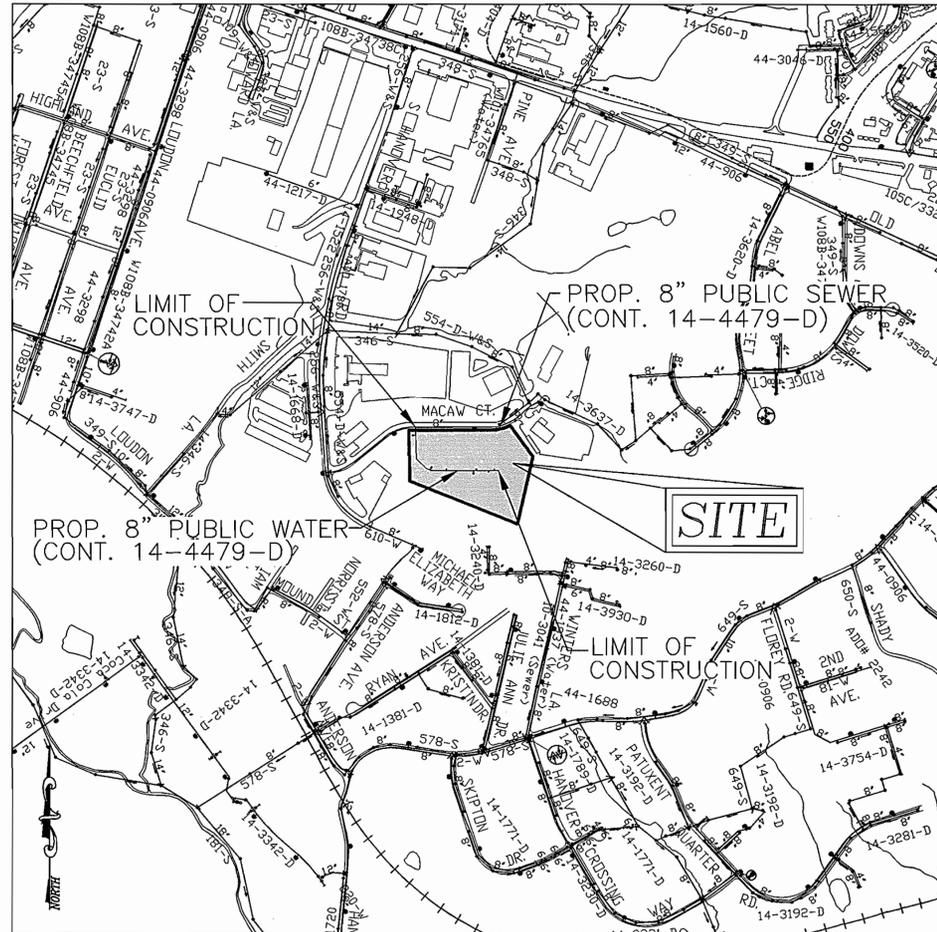
TAX MAP 38 BLOCK 14
 1ST ELECTION DISTRICT

PARCEL E-2, ZONED M-1
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 1 OF 2

FINAL WATER & SEWER PLAN HARWOOD INDUSTRIAL PARK PARCEL E-2

CONTRACT NO. 14-4479-D



LOCATION MAP
 SCALE: 1"=600'

WATER CODE: A01
 SEWER CODE: 2150517
 TEST GRADIENT: 550

Type of Building :	WAREHOUSE/OFFICE
No. of Lots/Parcels :	1
No. of single Water House Connections :	4
No. of twin Water House Connections :	0
No. of Sewer House Connections :	1
Sewer Shed:	PATAPSCO RIVER LOWER NORTH BRANCH
Treatment Plant :	PATAPSCO RIVER

BENCHMARKS
 HOWARD COUNTY BENCHMARK 3905 (CONCRETE MONUMENT)
 N 558378.575 E 1386524.158 ELEV. 193.726
 HOWARD COUNTY BENCHMARK 3806 (CONCRETE MONUMENT)
 N 557155.459 E 1384992.262 ELEV. 175.228



VICINITY MAP
 SCALE: 1"=2000'
 ADC MAP COORDINATE: 17 G9

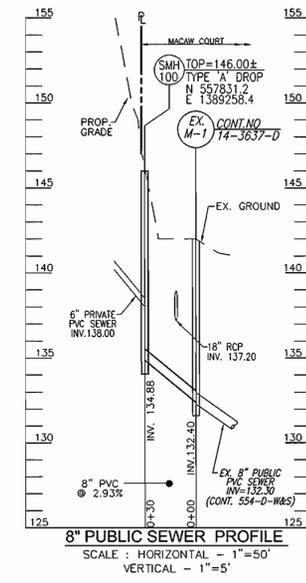
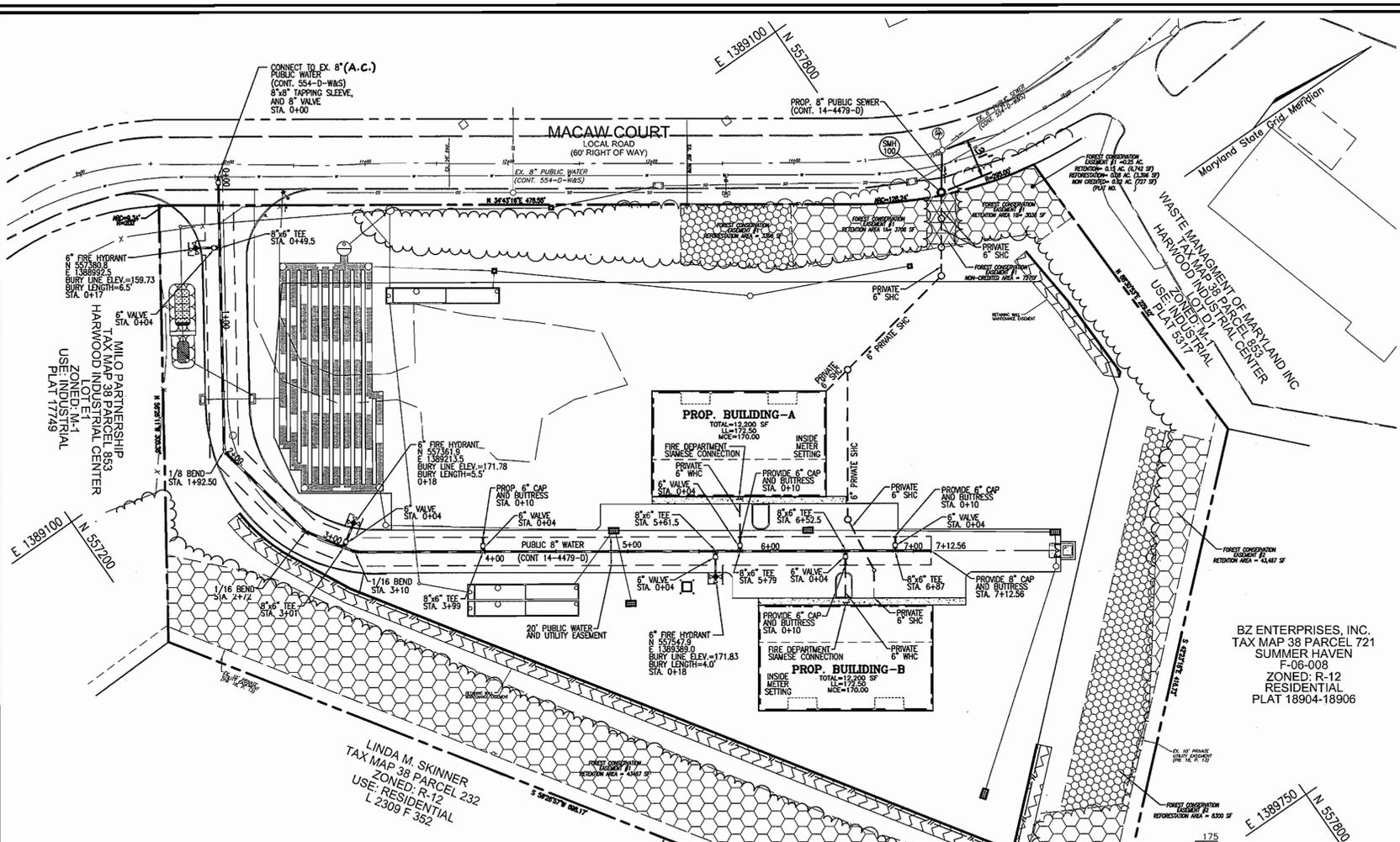
QUANTITIES

NAME OF UTILITY CONTRACTOR : CALVERT UTILITIES
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE : NOVEMBER 2008

ITEMS	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
8" DIP WATER	713 LF	700 L.F.	CL 54, DIP	GRIFFIN PIPE/BELAIR RD. SUPPLY
6" DIP WATER	92 LF	120 L.F.	CL 54, DIP	GRIFFIN PIPE/BELAIR RD. SUPPLY
8" x 8" TAPPING SLEEVE	1 EA	1 EA.	SS T&S	JCM/BELAIR ROAD SUPPLY
8" x 6" TEE	7 EA.	7 EA.	CL 54, DIP	SIGMA CORP/BELAIR RD. SUPPLY
8" VALVE	1 EA.	1 EA.	GATE VALVE	MUELLER CO./BELAIR RD. SUPPLY
6" FIRE HYDRANT	3 EA.	3 EA.	MUELLER	MUELLER CO./BELAIR RD. SUPPLY
8" - 1/16 BEND	2 EA.	2 EA.	CL 54, DIP	SIGMA CORP/BELAIR RD. SUPPLY
8" - 1/8 BEND	1 EA.	1 EA.	CL 54, DIP	SIGMA CORP/BELAIR RD. SUPPLY
8" CAP AND BUTTRESS	1 EA.	1 EA.	CL 54, DIP	SIGMA CORP/BELAIR RD. SUPPLY
6" CAP AND BUTTRESS	4 EA.	4 EA.	CL 54, DIP	SIGMA CORP/BELAIR RD. SUPPLY
SEWER				
8" PVC SEWER	30 LF	30 L.F.	SDR-35 PVC	JM MAUPG/BELAIR RD. SUPPLY
MANHOLE	1 EA.	1 EA.	PRECAST CONC.	FREDERICK PRECAST

AS BUILT
 DATE: NOVEMBER 2008

OWNER/DEVELOPER
 MIDDLE PATUXENT PROPERTIES, LLC
 12421 HOOPER COURT
 FULTON, MD 20759-9645
 240-372-9038



LEGEND:

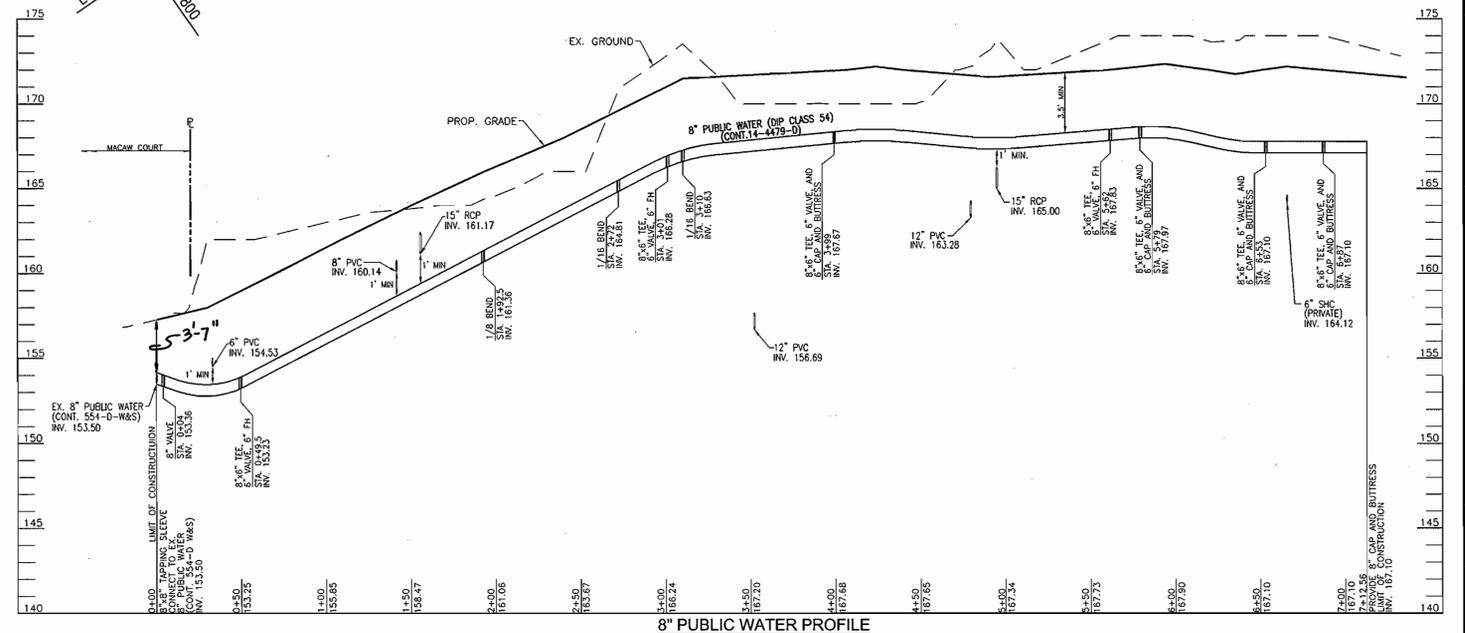
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SIDEWALK
- FOREST CONSERVATION EASEMENT RETENTION
- FOREST CONSERVATION EASEMENT REFORESTATION
- EXISTING TREELINE (FIELD LOCATED)
- PROP. TREELINE
- SEWER FLOW ARROW
- EXISTING FENCE

PUBLIC WATER MAIN

STA.	FITTING
0+00	8"x8" TAPPING SLEEVE
0+04	8" VALVE
0+49.5	8"x6" TEE, 6" VALVE, 17LF. WATER, AND 6" FIRE HYDRANT
1+92.5	1/8" BEND
2+72	1/16" BEND
3+01	8"x6" TEE, 6" VALVE, 18LF. WATER, AND 6" FIRE HYDRANT
3+10	1/16" BEND
3+99	8"x6" TEE, 6" VALVE, 10LF. 6" WHC, 6" CAP AND BUTTRISS
5+61.5	8"x6" TEE, 6" VALVE, 18LF. WATER, AND 6" FIRE HYDRANT
5+79	8"x6" TEE, 6" VALVE, 10LF. 6" WHC, 6" CAP AND BUTTRISS
6+53	8"x6" TEE, 6" VALVE, 10LF. 6" WHC, 6" CAP AND BUTTRISS
6+87	8"x6" TEE, 6" VALVE, 10LF. 6" WHC, 6" CAP AND BUTTRISS
7+12.56	8" CAP AND BUTTRISS

WATER AND SEWER - AS BUILTS

VALVES	FROM	TO	DISTANCE	REMARKS
8"	STA. 0+00 TSEV	8" VALVE	50'	FH VALVE
6"	STA. 0+49	6" VALVE	10'	
6"	STA. 3+01	6" VALVE	18'	
6"	STA. 3+99	6" VALVE	92'	
6"	STA. 5+61	6" VALVE	17.5'	WHC BLDG. 'A'
6"	STA. 5+79	6" VALVE	25.5'	WHC BLDG. 'A'
6"	STA. 6+52	6" VALVE	30'	WHC BLDG. 'B'
6"	STA. 6+87	6" VALVE	35.5'	FUTURE 6" V
6"	STA. 6+87	6" VALVE	63'	
FUTURE	6" V STA. 6+87	6" VALVE	41'	



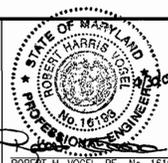
AS BUILT
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CHIEF, BUREAU OF UTILITIES

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CHIEF, DEVELOPMENT ENGINEERING DIVISION

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DATE: APRIL 18, 2008

**FINAL WATER AND SEWER PLAN
PLAN VIEW AND PROFILES**

**HARWOOD INDUSTRIAL PARK
PARCEL E-2
CONTRACT NO. 14-4479-D**

SCALE AS SHOWN

SHEET 2 OF 2

TAX MAP 38 BLOCK 14 PARCEL E-2, ZONED M-1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND