

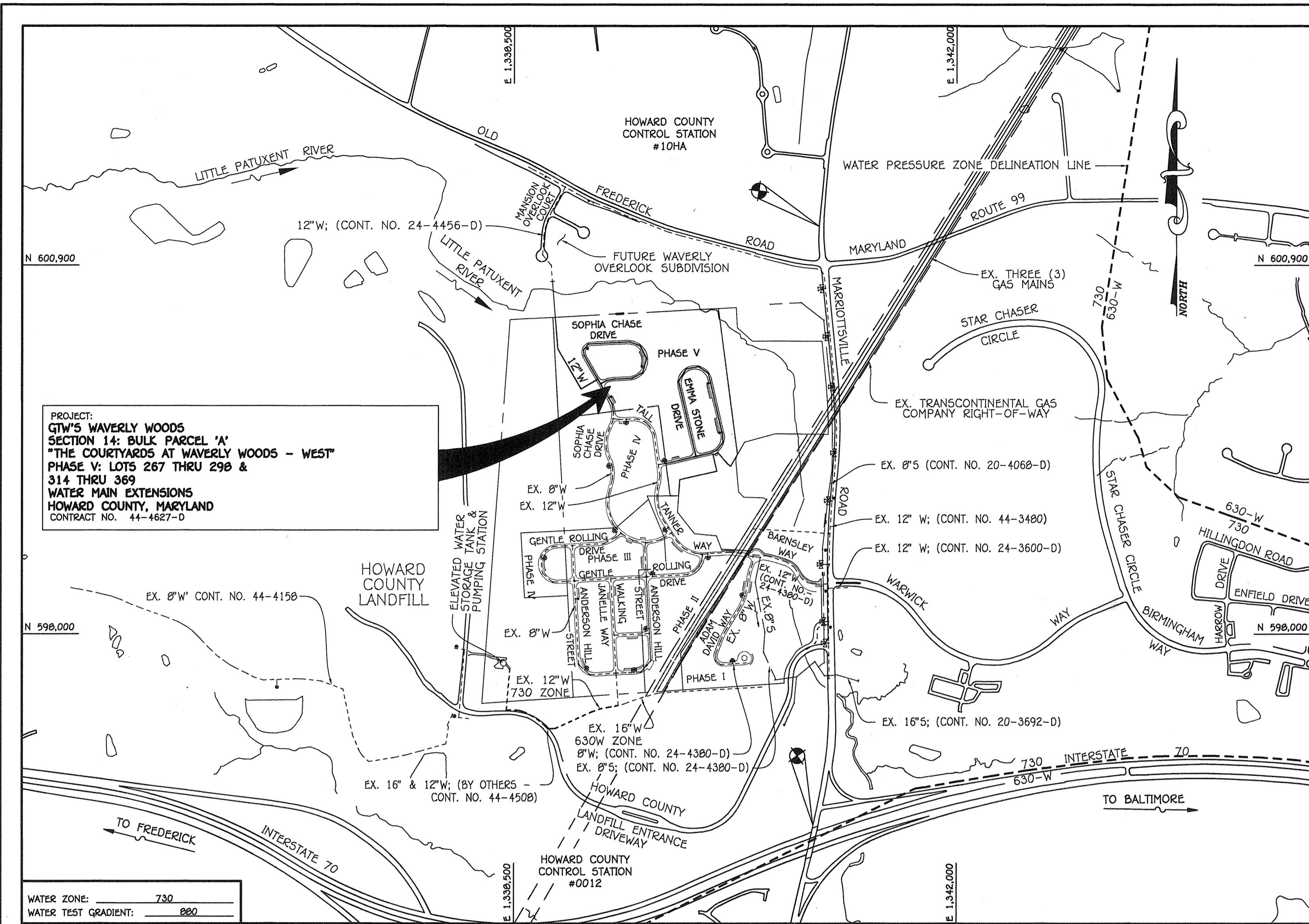
QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
12" WATER	1,341 L.F.	1,440 L.F.	AW C900	JM EAGLE
8" WATER	3,451 L.F.	3,500 L.F.	AW C900	JM EAGLE
6" WATER	138 L.F.	150 L.F.	AW C900	JM EAGLE
1-1/2" WHC	2,065 L.F.	2,065	COPPER	BRADING TUBE
12"x12" TEE	1 EACH	1 EACH	DIP	STAR PIPE
12"x8" TEE	1 EACH	1 EACH	DIP	STAR PIPE
12"x6" TEE	1 EACH	1 EACH	DIP	STAR PIPE
8"x8" TEE	2 EACH	2 EACH	DIP	STAR PIPE
8"x6" TEE	5 EACH	5 EACH	DIP	STAR PIPE
12"x8" REDUCER	1 EACH	1 EACH	DIP	STAR PIPE
8"x8" REDUCER	1 EACH	1 EACH	DIP	STAR PIPE
12" VALVE	3 EACH	3 EACH	MUELLER	
8" VALVE	8 EACH	8 EACH	MUELLER	
6" VALVE	7 EACH	7 EACH	MUELLER	
4" H.B.	2 EACH	2 EACH	DIP	STAR PIPE
1/8" H.B.	10 EACH	10 EACH	DIP	STAR PIPE
1/16" H.B.	8 EACH	8 EACH	DIP	STAR PIPE
1/32" H.B.	3 EACH	3 EACH	DIP	STAR PIPE
FIRE HYDRANT	6 EACH	8 EACH	MUELLER	
12" PLUG & BUTTRESS	1 EACH	1 EACH		
6" PLUG & BUTTRESS	1 EACH	1 EACH	DIP	STAR PIPE
OUTSIDE METER SETTING	88 EACH	88 EACH		PIREBORGH STEEL
CONTINUITY TEST STATION	14 EACH	14 EACH		

NAME OF UTILITY CONTRACTOR: CTG
 SURVEY & DRAFTING DIVISION AS-BUILT DATE: 1/25/2014

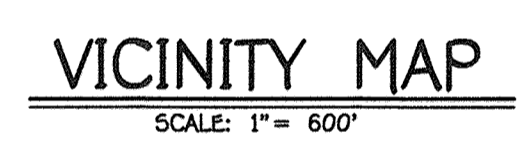
BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #0012 (NAD '83)
 (LOCATED ALONG THE WEST SIDE OF MARRIOTTVILLE ROAD; JUST NORTH OF INTERSTATE 70)
 N 598,502.7604 - HORIZONTAL = (NAD '83)
 E 1,340,964.3654 - HORIZONTAL = (NAD '83)
 ELEVATION = 486,905 - VERTICAL = (NGVD '29)

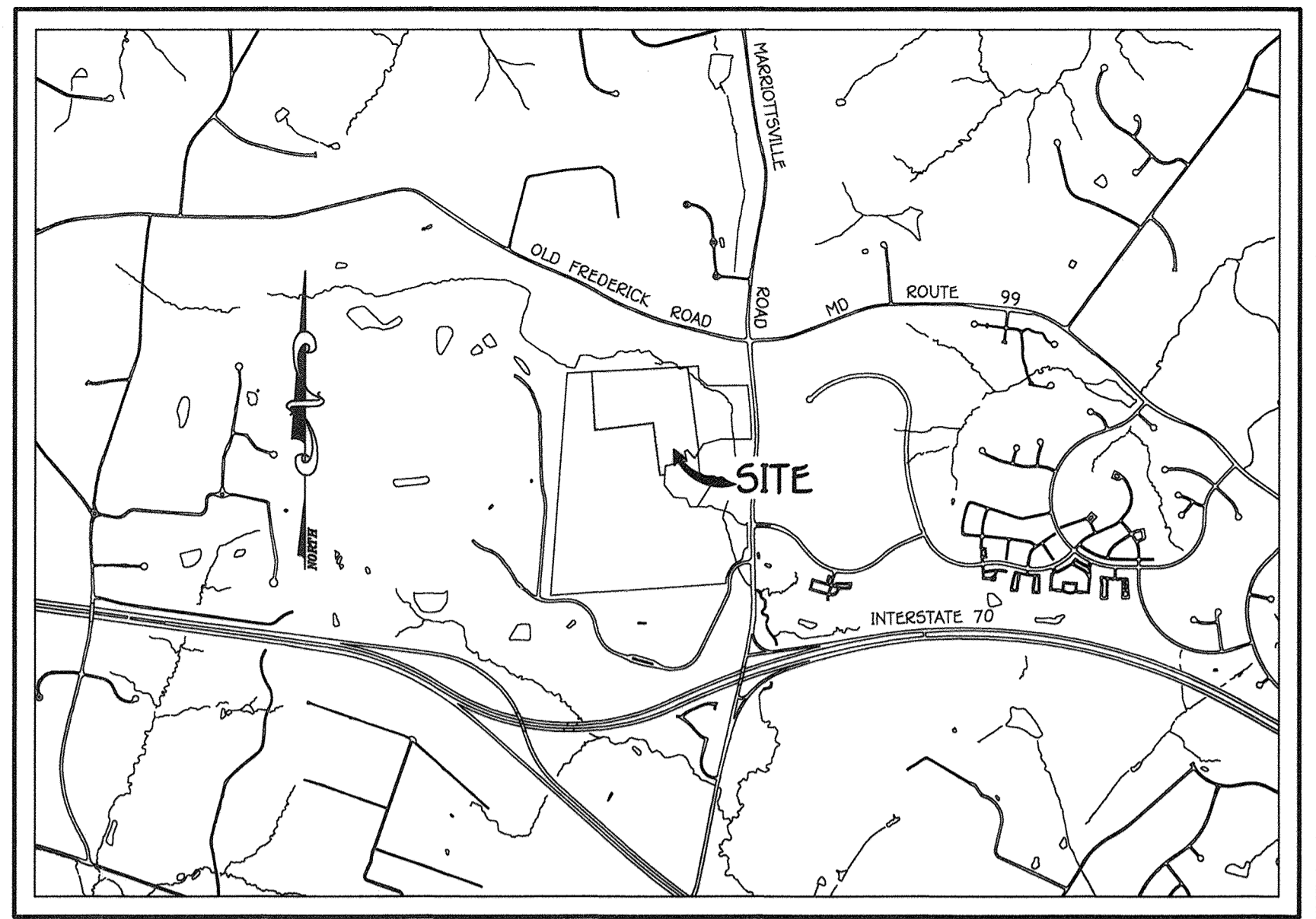
B.M.#2 - HOWARD COUNTY CONTROL STATION #10HA (NAD '83)
 (LOCATED ALONG THE WEST SIDE OF MARRIOTTVILLE ROAD, JUST NORTH OF OLD FREDERICK ROAD,
 APPROX. 21 WEST OF THE CENTERLINE OF ROAD)
 N 601,206.59 - HORIZONTAL = (NAD '83)
 E 1,340,912.325 - HORIZONTAL = (NAD '83)
 ELEVATION = 483,086 - VERTICAL = (NGVD '29)



TYPE OF BUILDING: RESIDENTIAL - SINGLE FAMILY DETACHED & TOWNHOUSE CONDOMINIUMS
 NUMBER OF UNITS: 88
 NO. OF WATER HOUSE CONNECTIONS: 88
 NO. OF SEWER HOUSE CONNECTIONS: 0
 SEWER SHED: LITTLE PATUXENT
 TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION PLANT, SAVAGE, MARYLAND



PLAN REFERENCE NUMBERS:
 SP-06-013 SOP-09-039
 P-08-010 (RECORD PLAT)



GENERAL NOTES LOCATION MAP
 SCALE: 1" = 2000'

- PART A:**
- 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 ON OR ABOUT JULY, 2005 BY FISHER, COLLINS & CARTER, INC.
 - HORIZONTAL AND VERTICAL SURVEY CONTROLS: AS INDICATED IN THE BENCH MARK INFORMATION CHART. THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91' AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 10HA & NO. 0012.
 - ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS.
 - 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 BRACING OF ADDITIONAL POLES, ANY 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 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 SITE.
 - 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 ON THESE PLANS.

AT&T	1-800-252-1133
BGE (CONTRACTOR SERVICES)	410-837-8713
BGE (EMERGENCY)	410-899-0163
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO.	410-799-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033 / 410-224-9210
- PART B: WATER MAIN GENERAL NOTES**
- ALL WATER MAINS SHALL BE AWMA C900 PVC, DR-14.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF 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 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 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(b) OF THE HOWARD COUNTY CODE.
 - 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 VOL. IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HANGERSSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL TESTS 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 PVC PIPE INDICATES 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 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, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.
 - PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL 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 AWMA 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, OR-18 MEETING THE REQUIREMENTS OF AWMA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR-18 OR EQUAL.
 - WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWMA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSURE 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 EXPANDING RESTRICTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAM INC, OR APPROVED EQUAL.
 - TO ACCOMMODATE A SPRINKLER SYSTEM, ALL RESIDENTIAL DWELLING UNITS SHALL HAVE A 1-1/2" WATER HOUSE CONNECTION WITH A 1" OUTSIDE METER SETTING STD. DET. W-3.28.
- PART C: SEWER MAIN GENERAL NOTES**
- 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 18" WALLS ARE FOR BRICK MANHOLES ONLY.
 - 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.
 - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Paul W. Kriebel, FOR:
 WAVERLY WOODS DEVELOPMENT CORP. 10/27/14
 SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Paul W. Kriebel, FOR:
 WAVERLY WOODS DEVELOPMENT CORP. 10/27/14
 SIGNATURE OF DEVELOPER DATE

SEDMIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND AS SHOWN ON SDP-09-039.

Paul W. Kriebel, FOR:
 WAVERLY WOODS DEVELOPMENT CORP. 10/27/14
 SIGNATURE OF DEVELOPER DATE

GP-09-073

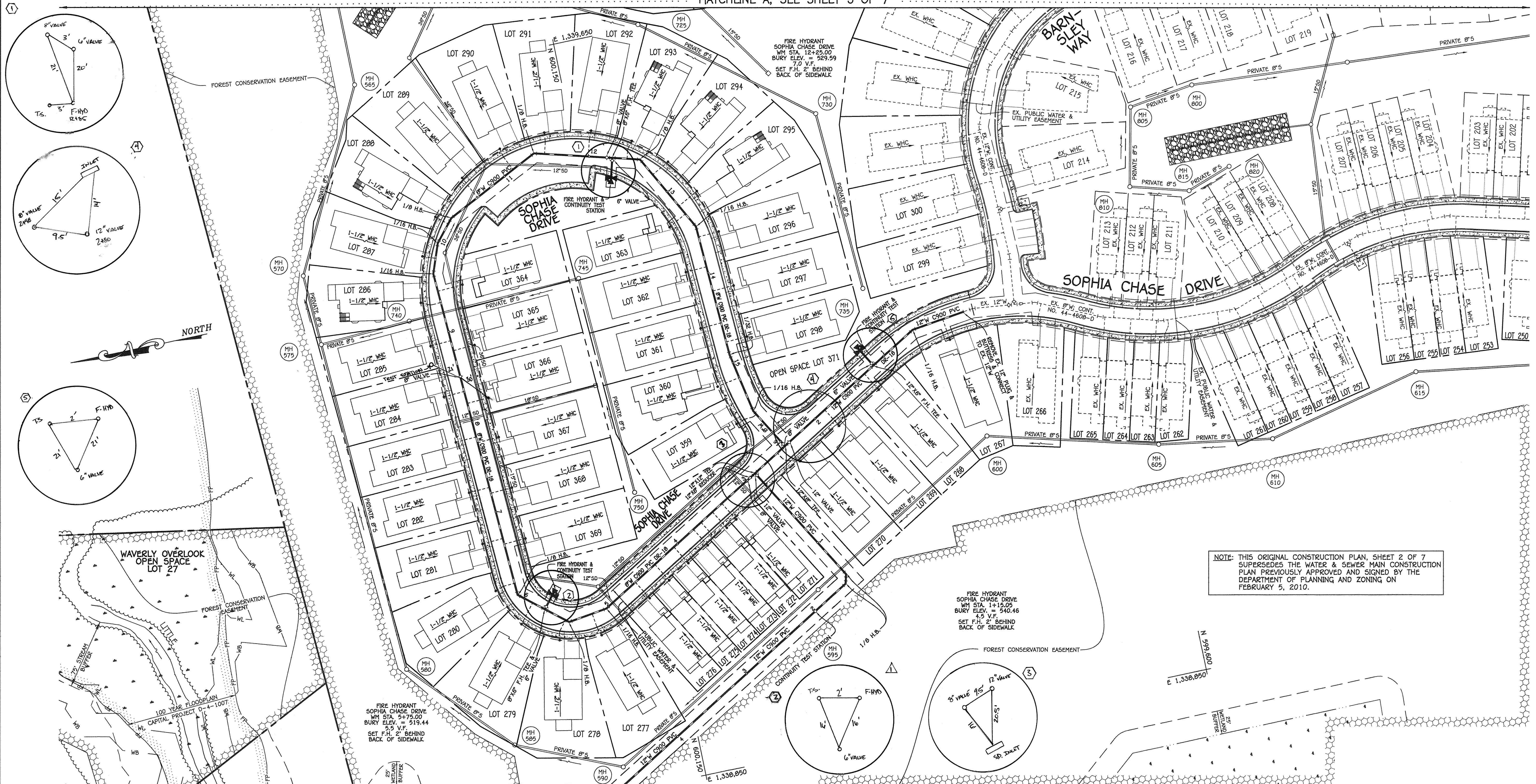
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

APPROVED:
John C. Roston 11/13/14
 HOWARD SOIL CONSERVATION DISTRICT DATE

CONTRACT NO. 44-4627-D
GTW'S WAVERLY WOODS
 SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS-WEST"
 PHASE V: LOTS 267 THRU 298 &
 314 THRU 369
 WATER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <u>John C. Roston</u> 11/15/14 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <u>Paul W. Kriebel</u> 11/26/14 CHIEF, 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. 12043 EXPIRATION DATE IS 7/15/16. FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PkE ELLICOTT CITY, MARYLAND 21042 (410) 461-2899	DESIGNED BY: B.C.R. DRAWN BY: B.C.R. CHECKED BY: P.W.K. DATE: OCTOBER, 2014 BY NO. AK-BULLT REVISION	WATER MAIN EXTENSIONS TITLE SHEET 600' SCALE MAP NO. 16 BLOCK NO. 3 & 4 F.C.C. WORK ORDER NO. 30770 WATER MAIN EXTENSION PLAN	GTW'S WAVERLY WOODS SECTION 14: BULK PARCEL 'A' "THE COURTYARDS AT WAVERLY WOODS - WEST" PHASE V: LOTS 267 THRU 298 & 314 THRU 369 WATER MAIN EXTENSIONS CONTRACT NO. 44-4627-D THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 7
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MATCHLINE A; SEE SHEET 3 OF 7



NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 2 OF 7 SUPERSEDES THE WATER & SEWER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON FEBRUARY 5, 2010.

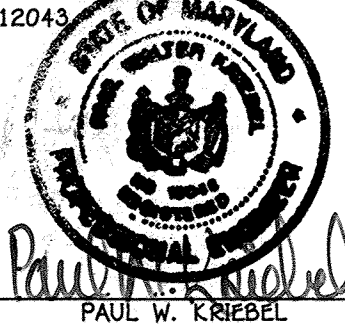
MATCHLINE B; SEE SHEET 4 OF 7

PLAN
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Steve C...
CHIEF, BUREAU OF UTILITIES
11/5/14 DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
11/6/14 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. 12043 EXPIRATION DATE IS 7/16/16.
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10273 BALTIMORE NATIONAL PKWY
ELLIOTT CITY, MARYLAND 21042
(410) 461-2895



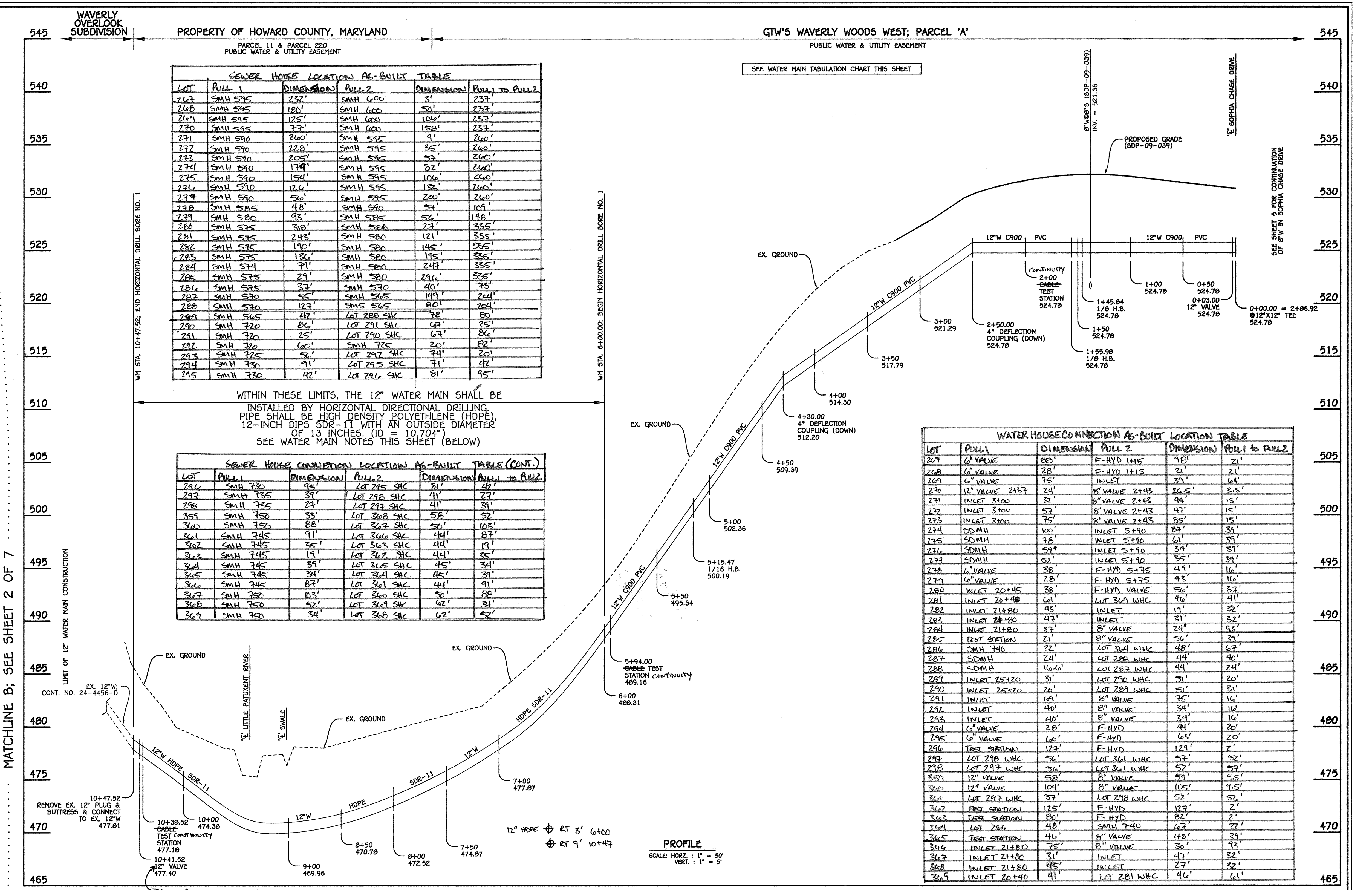
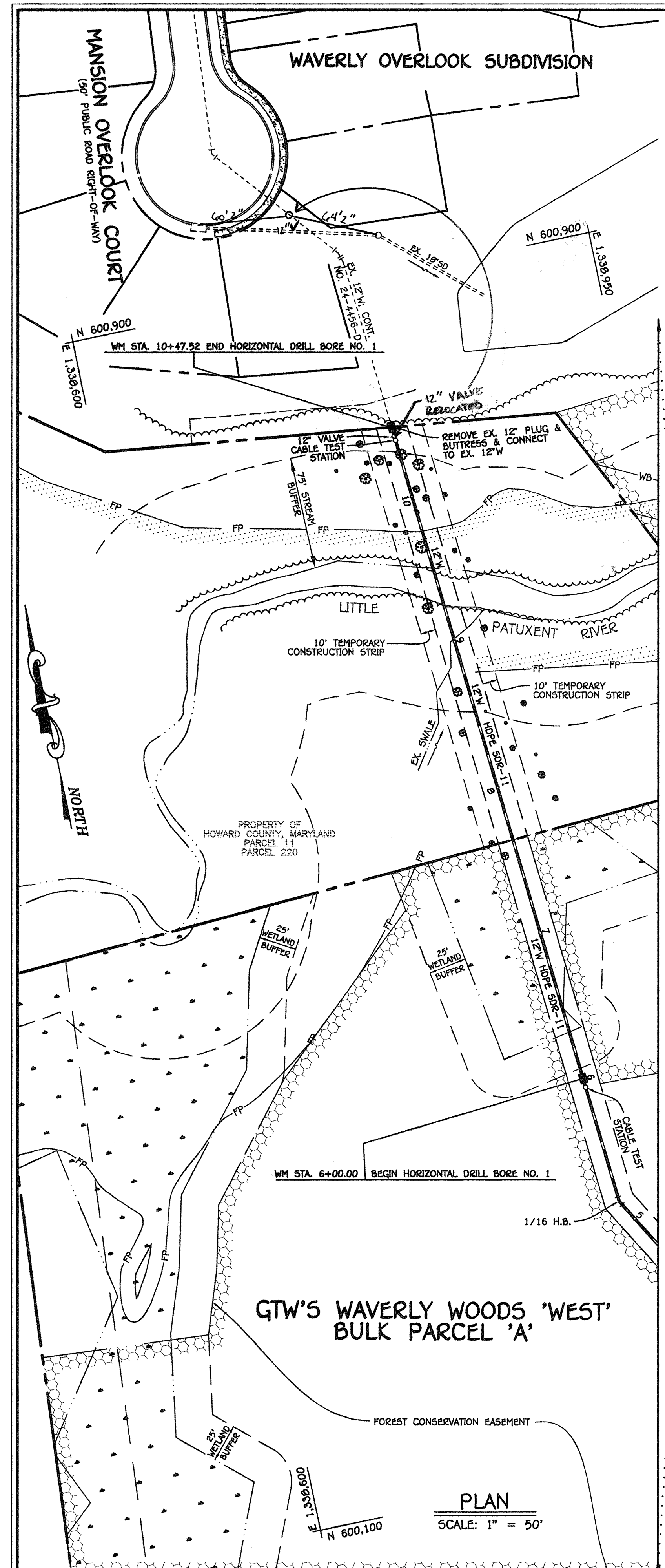
DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.M.K.
DATE: OCTOBER, 2014
BY: [Signature]
NO. [Blank]
AK-BULLET
REVISION
DATE: [Blank]

WATER MAIN EXTENSIONS PLAN
600' SCALE MAP NO. 15 BLOCK NO. 3 & 4
F.C.C. WORK ORDER NO. 36770
FILE NAME: WATER MAIN EXTENSION PLAN

GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE V: LOTS 267 THRU 298 & 314 THRU 369
WATER MAIN EXTENSIONS
CONTRACT NO. 44-4627-D
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 7

K:\S056P003\30770 GTW WEST\Eng\Construction Documents\Construction Document - 30770 Water Main Plan - Phase 5 (Redline) - August 2014.dwg, 10/27/2014 10:26:37 AM



SEWER HOUSE LOCATION AS-BUILT TABLE

LOT	PULL 1	DIMENSION	PULL 2	DIMENSION	PULL TO PULL 2
247	SMH 595	257'	SMH 600	5'	257'
248	SMH 595	186'	SMH 600	50'	237'
249	SMH 595	125'	SMH 600	106'	237'
270	SMH 595	77'	SMH 600	158'	237'
271	SMH 590	260'	SMH 595	9'	260'
272	SMH 590	228'	SMH 595	35'	260'
273	SMH 590	205'	SMH 595	53'	260'
274	SMH 590	179'	SMH 595	72'	260'
275	SMH 590	154'	SMH 595	106'	260'
276	SMH 590	126'	SMH 595	138'	260'
279	SMH 590	510'	SMH 595	200'	260'
278	SMH 585	48'	SMH 590	57'	105'
279	SMH 580	93'	SMH 585	56'	148'
280	SMH 575	310'	SMH 580	23'	355'
281	SMH 575	243'	SMH 580	121'	355'
282	SMH 575	190'	SMH 580	145'	355'
283	SMH 575	136'	SMH 580	175'	355'
284	SMH 574	79'	SMH 580	247'	355'
285	SMH 575	29'	SMH 580	296'	355'
286	SMH 575	37'	SMH 570	40'	73'
287	SMH 570	55'	SMH 565	149'	204'
288	SMH 570	127'	SMH 565	80'	204'
289	SMH 565	42'	LOT 288 SHC	78'	80'
290	SMH 720	86'	LOT 291 SHC	62'	25'
291	SMH 720	25'	LOT 290 SHC	67'	86'
292	SMH 720	60'	SMH 725	20'	82'
293	SMH 725	56'	LOT 297 SHC	74'	20'
294	SMH 730	71'	LOT 295 SHC	71'	42'
295	SMH 730	42'	LOT 296 SHC	81'	95'

WITHIN THESE LIMITS, THE 12" WATER MAIN SHALL BE INSTALLED BY HORIZONTAL DIRECTIONAL DRILLING. PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE), 12-INCH DIPS SDR-11 WITH AN OUTSIDE DIAMETER OF 13 INCHES. (ID = 10.704") SEE WATER MAIN NOTES THIS SHEET (BELOW)

SEWER HOUSE CONNECTION LOCATION AS-BUILT TABLE (CONT.)

LOT	PULL 1	DIMENSION	PULL 2	DIMENSION	PULL TO PULL 2
296	SMH 730	95'	LOT 295 SHC	31'	42'
297	SMH 730	37'	LOT 298 SHC	41'	27'
298	SMH 735	29'	LOT 292 SHC	41'	39'
299	SMH 750	33'	LOT 308 SHC	52'	52'
300	SMH 750	88'	LOT 307 SHC	50'	105'
301	SMH 745	91'	LOT 306 SHC	44'	87'
302	SMH 745	35'	LOT 305 SHC	44'	19'
303	SMH 745	19'	LOT 302 SHC	44'	35'
304	SMH 745	39'	LOT 305 SHC	45'	34'
305	SMH 745	34'	LOT 304 SHC	45'	39'
306	SMH 745	87'	LOT 306 SHC	44'	91'
307	SMH 750	63'	LOT 300 SHC	50'	88'
308	SMH 750	52'	LOT 307 SHC	62'	31'
309	SMH 750	34'	LOT 308 SHC	62'	52'

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT	PULL 1	DIMENSION	PULL 2	DIMENSION	PULL TO PULL 2
207	G VALVE	82'	F-HYD 1415	78'	21'
208	G VALVE	28'	F-HYD 1415	21'	21'
209	G VALVE	75'	INLET	37'	64'
210	12" VALVE 2457	24'	8" VALVE 2443	26.5'	3.5'
211	INLET 3100	57'	8" VALVE 2443	49'	15'
212	INLET 3100	57'	8" VALVE 2443	47'	15'
213	INLET 3100	75'	8" VALVE 2443	85'	15'
214	SDMH	100'	INLET 5190	87'	37'
215	SDMH	78'	INLET 5190	61'	37'
216	SDMH	59'	INLET 5190	35'	37'
217	SDMH	52'	INLET 5190	47'	37'
218	G VALVE	38'	F-HYD 5175	47'	16'
219	G VALVE	28'	F-HYD 5175	43'	16'
220	INLET 20+45	38'	F-HYD VALVE	56'	52'
221	INLET 20+48	61'	LOT 304 WHC	46'	41'
222	INLET 21+80	45'	LOT 304 WHC	19'	32'
223	INLET 21+80	47'	INLET	31'	32'
224	INLET 21+80	37'	8" VALVE	52'	37'
225	TEST STATION	21'	8" VALVE	52'	37'
226	SMH 740	22'	LOT 304 WHC	48'	67'
227	SDMH	24'	LOT 288 WHC	44'	48'
228	SDMH	16.6'	LOT 287 WHC	49'	24'
229	INLET 25+20	31'	LOT 290 WHC	51'	20'
230	INLET 25+20	20'	LOT 289 WHC	51'	31'
231	INLET	64'	8" VALVE	75'	16'
232	INLET	40'	8" VALVE	34'	16'
233	INLET	40'	8" VALVE	34'	16'
234	G VALVE	28'	F-HYD	48'	20'
235	G VALVE	60'	F-HYD	65'	20'
236	TEST STATION	127'	F-HYD	129'	2'
237	LOT 218 WHC	56'	LOT 304 WHC	57'	52'
238	LOT 217 WHC	50'	LOT 304 WHC	52'	57'
239	12" VALVE	52'	8" VALVE	57'	9.5'
240	12" VALVE	104'	8" VALVE	105'	9.5'
241	LOT 217 WHC	57'	LOT 298 WHC	57'	56'
242	TEST STATION	125'	F-HYD	127'	2'
243	TEST STATION	81'	F-HYD	82'	2'
244	LOT 206	48'	SMH 740	62'	72'
245	TEST STATION	46'	8" VALVE	48'	31'
246	INLET 21+80	75'	8" VALVE	30'	32'
247	INLET 21+80	31'	INLET	42'	32'
248	INLET 21+80	45'	INLET	27'	32'
249	INLET 20+40	41'	LOT 281 WHC	46'	61'

12" WATER MAIN LOOP: TO THE WAVERLY OVERLOOK SUBDIVISION

WATER MAIN TABULATION CHART

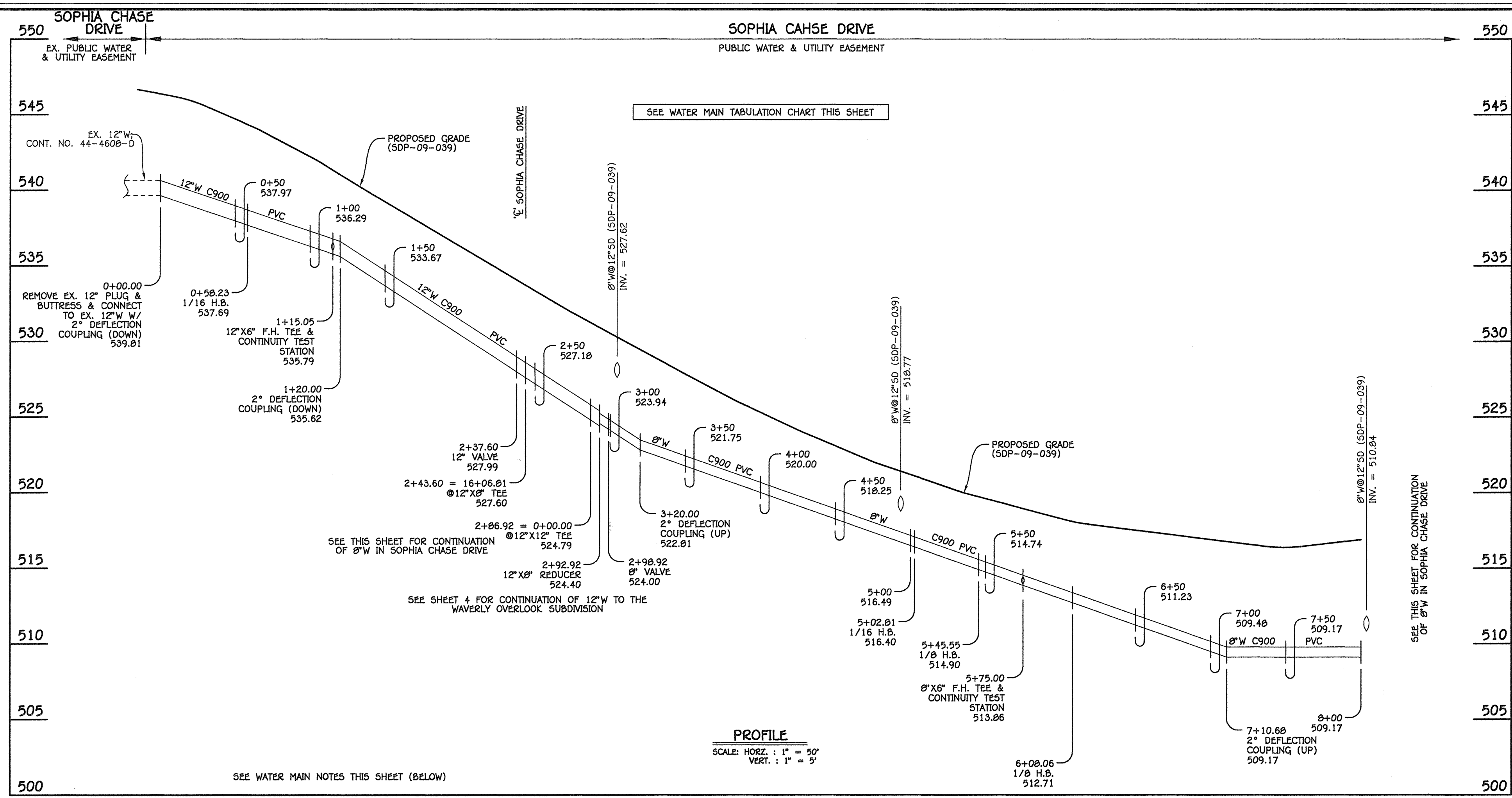
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN LOOP: TO THE WAVERLY OVERLOOK SUBDIVISION			
0+00.00	12" X12" TEE	600031.93	1339155.69
0+03.00	12" VALVE	600030.41	1339153.10
1+45.84	1/8" H.B.	599958.29	1339029.81
1+55.98	1/8" H.B.	599960.86	1339019.99
2+00.00	CONTINUITY	599998.85	1338997.77
5+15.47	1/16" H.B.	600271.16	1338838.47
5+94.00	CONTINUITY	600349.43	1338832.15

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN LOOP: TO THE WAVERLY OVERLOOK SUBDIVISION			
6+00.00	BEGIN HORIZONTAL DRILL #1	600395.41	1338031.67
10+38.52	CABLE TEST STATION	600792.50	1338796.35
10+44.52	12" VALVE	600795.49	1338796.11
10+47.52	END HORIZONTAL DRILL #1	600801.47	1338795.62
10+47.52	12" PLUG & BUTTRISS	600801.47	1338795.62

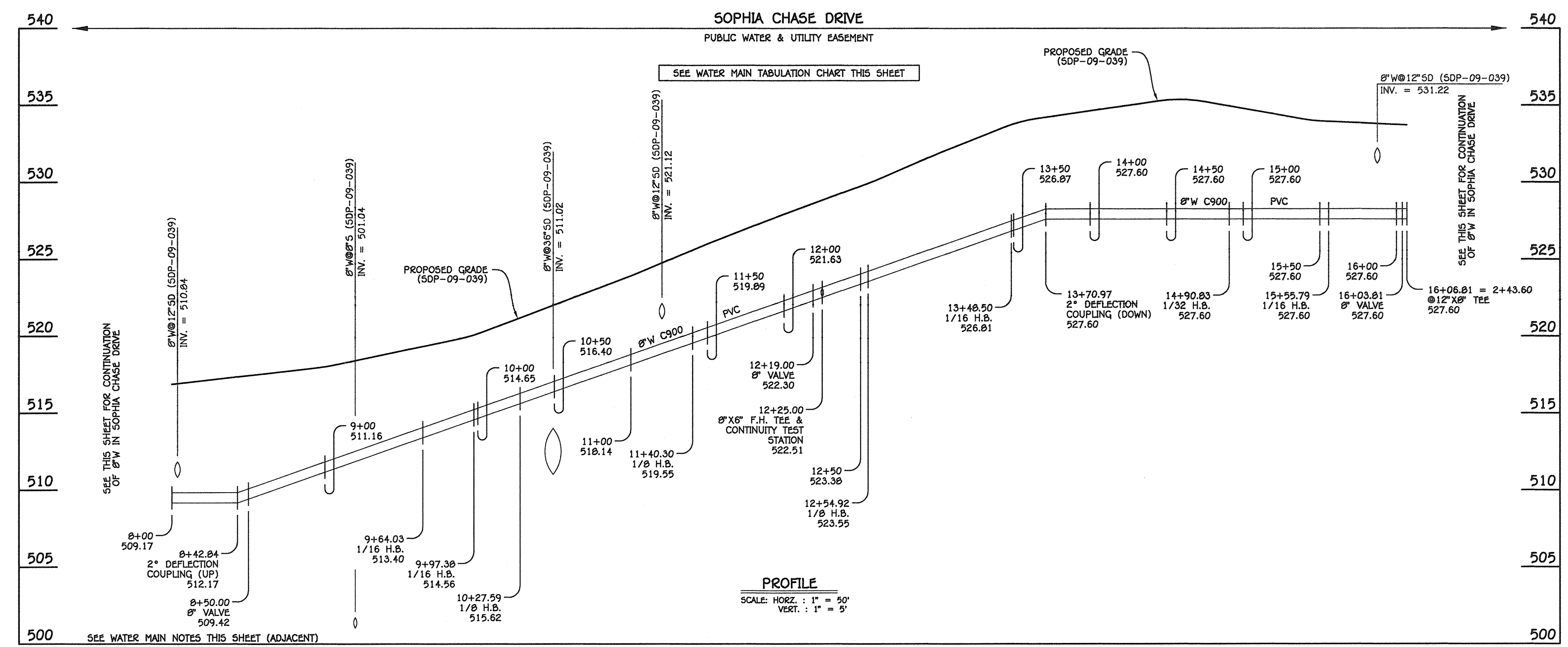
- WATER MAIN NOTES:**
- ALL WATER MAINS WITHIN THE LIMITS OF THE HORIZONTAL DRILL BORE SHALL BE SDR-11 HIGH DENSITY POLYETHYLENE (HDPE) PIPE. (WM STA. 6+00.00 TO WM STA. 10+47.52)
 - ALL OTHER WATER MAINS SHALL BE ANNA C900 PVC.
 - ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR ANNA C900 PVC WATER PIPE INSTALLATION.
 - DEFLECTION COUPLINGS SHALL BE CERTAIN-TIED PVC HIGH DEFLECTION COUPLINGS.
 - ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.
 - CABLE TEST STATIONS ADJACENT TO THE PROPOSED FIRE HYDRANTS SHALL BE IN ACCORDANCE WITH STD. DET. W-1.15.

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 5 OF 7 SUPERSEDES THE WATER & SEWER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING, ON FEBRUARY 5, 2010.



W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" & 8" WATER MAIN: SOPHIA CHASE DRIVE			
0+00.00	EX. 12" PLUG & BUTTRESS	599776.81	1339278.83
0+58.23	1/16 H.B.	599834.54	1339271.16
1+15.05	12" X6" F.H. TEE	599883.57	1339242.47
2+37.60	12" VALVE	599989.36	1339180.59
2+43.60	12" X8" TEE	599994.54	1339177.56
2+86.92	12" X12" TEE	600031.93	1339155.69
2+92.92	12" X8" REDUCER	600037.11	1339152.66
2+98.92	8" VALVE	600042.29	1339149.63
5+02.81	1/16 H.B.	600218.28	1339046.68
5+45.55	1/8 H.B.	600260.60	1339040.75
5+75.00	8" X6" F.H. TEE	600283.35	1339059.46
6+08.06	1/8 H.B.	600308.88	1339080.46
8+50.00	8" VALVE	600321.29	1339322.08
9+64.03	1/16 H.B.	600327.14	1339435.96
9+97.38	1/16 H.B.	600315.66	1339467.27
10+27.59	1/8 H.B.	600296.06	1339490.27
11+40.30	1/8 H.B.	600194.89	1339539.93
12+19.00	8" VALVE	600118.92	1339519.36
12+25.00	8" X6" F.H. TEE	600113.13	1339517.80
12+54.92	1/8 H.B.	600084.25	1339509.98
13+48.50	1/16 H.B.	600040.05	1339427.49
14+90.83	1/32 H.B.	600032.75	1339285.35
15+55.79	1/16 H.B.	600020.30	1339221.59
16+03.81	8" VALVE	599996.05	1339180.15
16+06.81	12" X8" TEE	599994.54	1339177.56

12" & 8" WATER MAIN: SOPHIA CHASE DRIVE

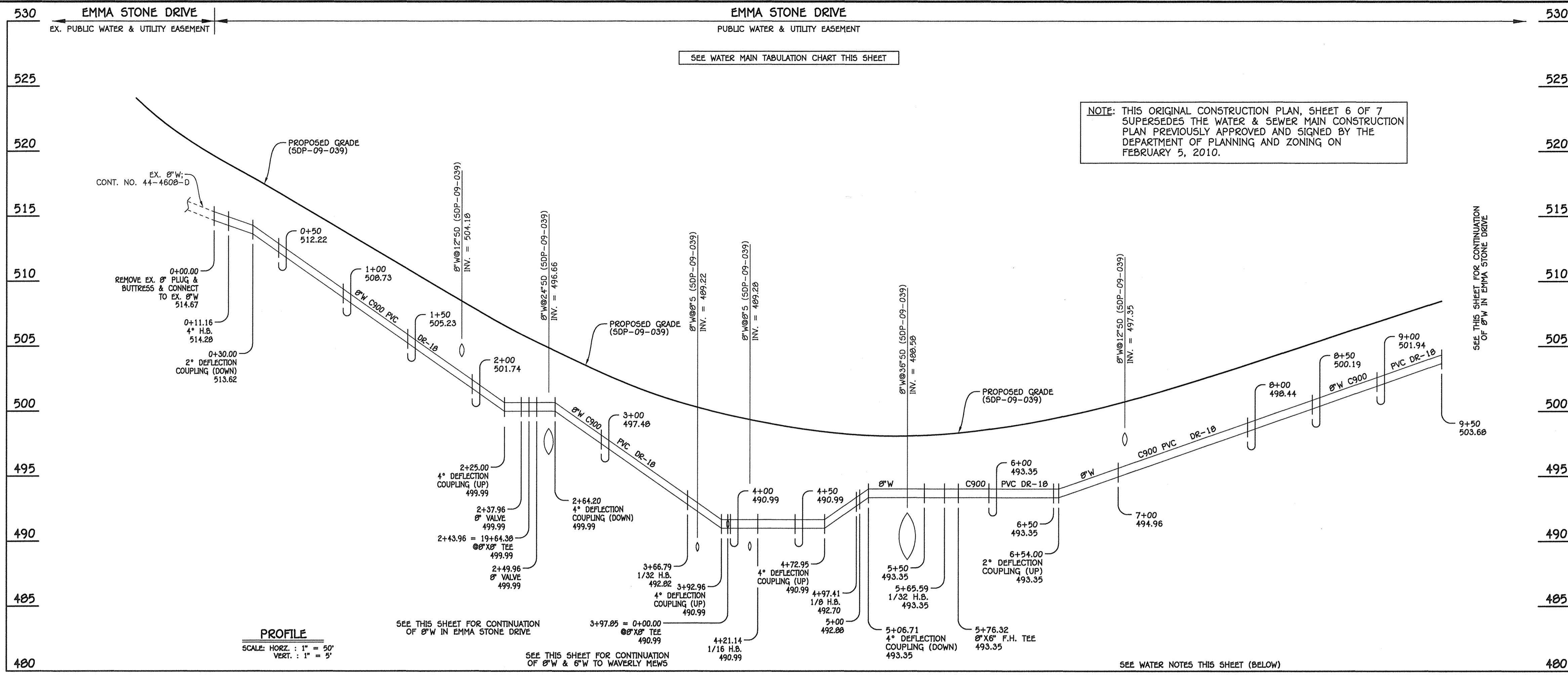


- WATER MAIN NOTES:
1. ALL WATER MAINS SHALL BE AMWA C900 PVC PIPE.
 2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AMWA C900 PVC WATER PIPE INSTALLATION.
 3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
 4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

12" & 8" WATER MAIN: SOPHIA CHASE DRIVE

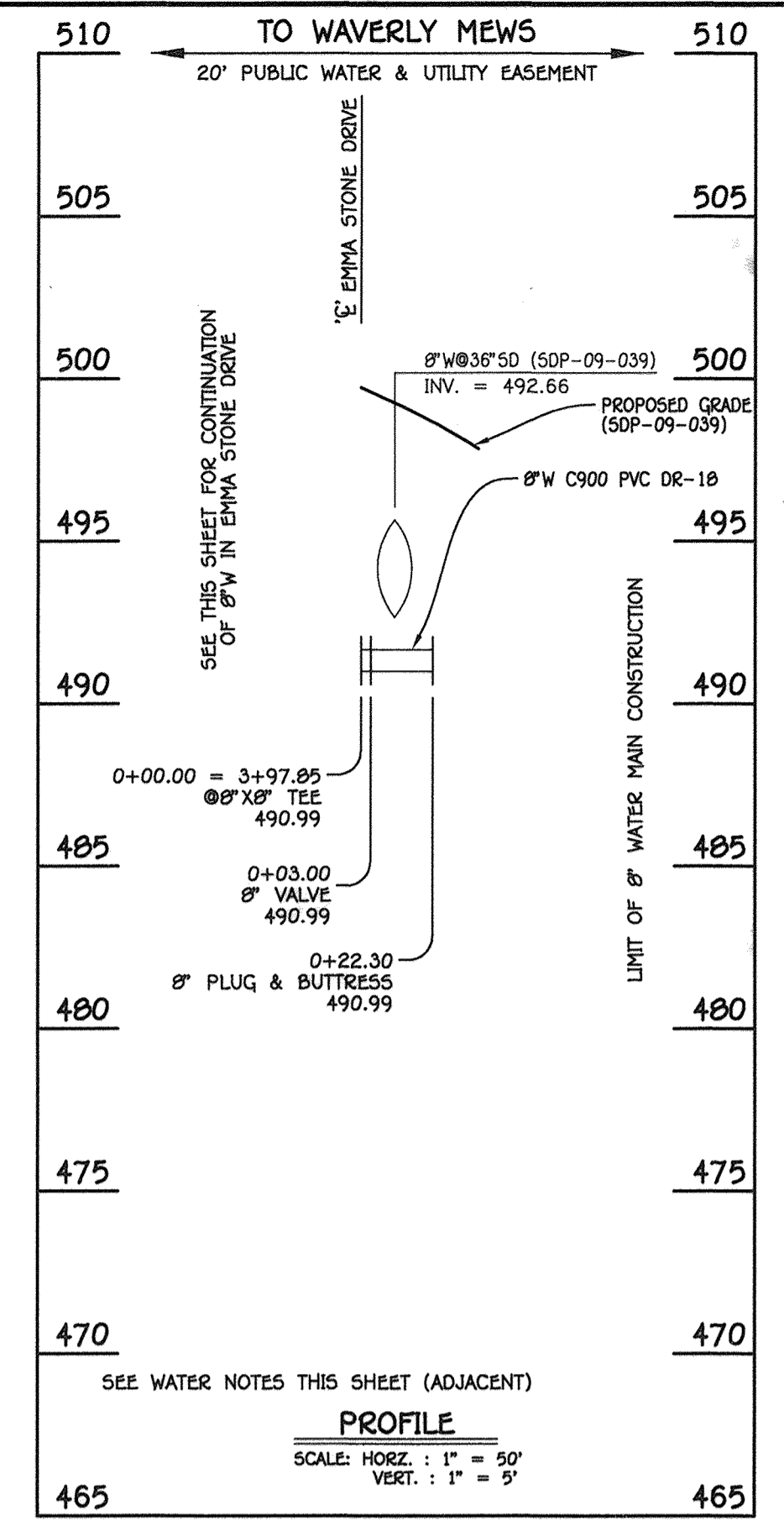
CONTRACT NO. 44-4627-D
 GTW'S WAVERLY WOODS
 SECTION 14: BULK PARCEL 'A'
 THE COURTYARDS AT WAVERLY WOODS - WEST
 PHASE V: LOTS 267 THRU 298 & 314 THRU 369
 WATER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities Date: 11/24/14	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND Chief, Development Engineering Division Date: 11/24/14	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. 12043 EXPIRATION DATE IS 7/16/16. FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK - 10272 BALDORF NATIONAL PIKE ELLSWORTH CITY, MARYLAND 21042 (410) 461-2899	DESIGNED BY: B.C.R. DRAWN BY: B.C.R. CHECKED BY: P.W.K. DATE: OCTOBER, 2014	WATER MAIN EXTENSIONS PROFILES & CHART 600' SCALE MAP NO. 16 BLOCK NO. 3 & 4 F.C.C. WORK ORDER NO. 30770 DATE: FILE NAME: WATER MAIN EXTENSION PROFILES	GTW'S WAVERLY WOODS SECTION 14: BULK PARCEL 'A' *THE COURTYARDS AT WAVERLY WOODS - WEST* PHASE V: LOTS 267 THRU 298 & 314 THRU 369 WATER MAIN EXTENSIONS CONTRACT NO. 44-4627-D THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 5 OF 7
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8" WATER MAIN: EMMA STONE DRIVE

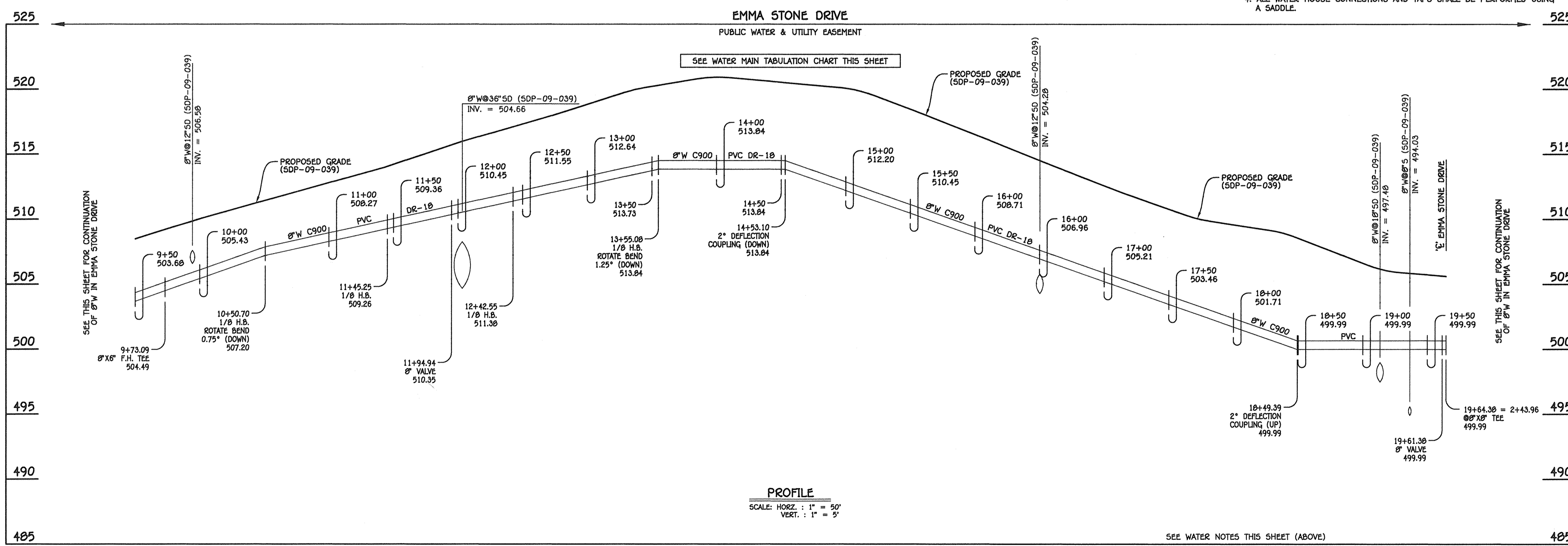
- WATER MAIN NOTES:**
1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE.
 2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
 4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.



8" WATER MAIN: TO WAVERLY MEWS

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN: TO WAVERLY MEWS			
0+00.00	8" X 8" TEE	599466.96	1340080.32
0+03.00	8" VALVE	599464.30	1340081.70
0+22.30	8" PLUG & BUTTRESS	599447.15	1340090.57



8" WATER MAIN: EMMA STONE DRIVE

SEE WATER NOTES THIS SHEET (ABOVE)

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN: EMMA STONE DRIVE			
0+00.00	EX. 8" PLUG & BUTTRESS	599370.01	1339695.33
0+11.16	4" H.B.	599371.55	1339706.40
2+37.96	8" VALVE	599423.26	1339927.22
2+43.96	8" X 8" TEE	599424.63	1339933.06
2+49.96	8" VALVE	599428.00	1339938.91
3+66.79	1/32 H.B.	599452.64	1340052.65
3+97.95	8" X 8" TEE	599466.96	1340080.32
4+21.14	1/16 H.B.	599477.63	1340100.92
4+97.41	1/8 H.B.	599538.75	1340146.54
5+65.59	1/32 H.B.	599606.61	1340140.02
5+76.32	8" X 8" F.H. TEE	599617.06	1340137.57
9+73.09	8" X 8" F.H. TEE	600003.38	1340071.10
10+50.70	1/8 H.B.	600078.95	1340029.48
11+45.25	1/8 H.B.	600130.65	1339950.23
11+94.94	8" VALVE	600121.53	1339901.38
12+42.25	1/8 H.B.	600112.84	1339854.58
13+55.08	1/8 H.B.	600017.88	1339794.14
19+61.38	8" VALVE	599427.55	1339932.38
19+64.38	8" X 8" TEE	599424.63	1339933.06

CONTRACT NO. 44-4627-D
 GTW'S WAVERLY WOODS
 SECTION 14: BULK PARCEL 'A'
 "THE COURTYARDS AT WAVERLY WOODS - WEST"
 PHASE V: LOTS 267 THRU 298 & 314 THRU 369
 WATER MAIN EXTENSIONS
 CONTRACT NO. 44-4627-D
 THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

1 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. 12043 EXPIRATION DATE IS 7/16/16.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PkE
 ELLIOTT CITY, MARYLAND 21042
 (410) 481-2895

DESIGNED BY: B.C.R.
 DRAWN BY: B.C.R.
 CHECKED BY: P.W.K.
 DATE: OCTOBER, 2014

PAUL W. KRIEBEL
 LICENSE NO. 12043

CHIEF, BUREAU OF UTILITIES
 DATE: 11/16/14

WATER MAIN EXTENSIONS PROFILES & CHARTS

600' SCALE MAP NO. 15 BLOCK NO. 3 & 4
 F.C.C. WORK ORDER NO. 30770

DATE FILE NAME: WATER MAIN EXTENSION PROFILES

GTW'S WAVERLY WOODS
 SECTION 14: BULK PARCEL 'A'
 "THE COURTYARDS AT WAVERLY WOODS - WEST"
 PHASE V: LOTS 267 THRU 298 & 314 THRU 369
 WATER MAIN EXTENSIONS
 CONTRACT NO. 44-4627-D
 THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

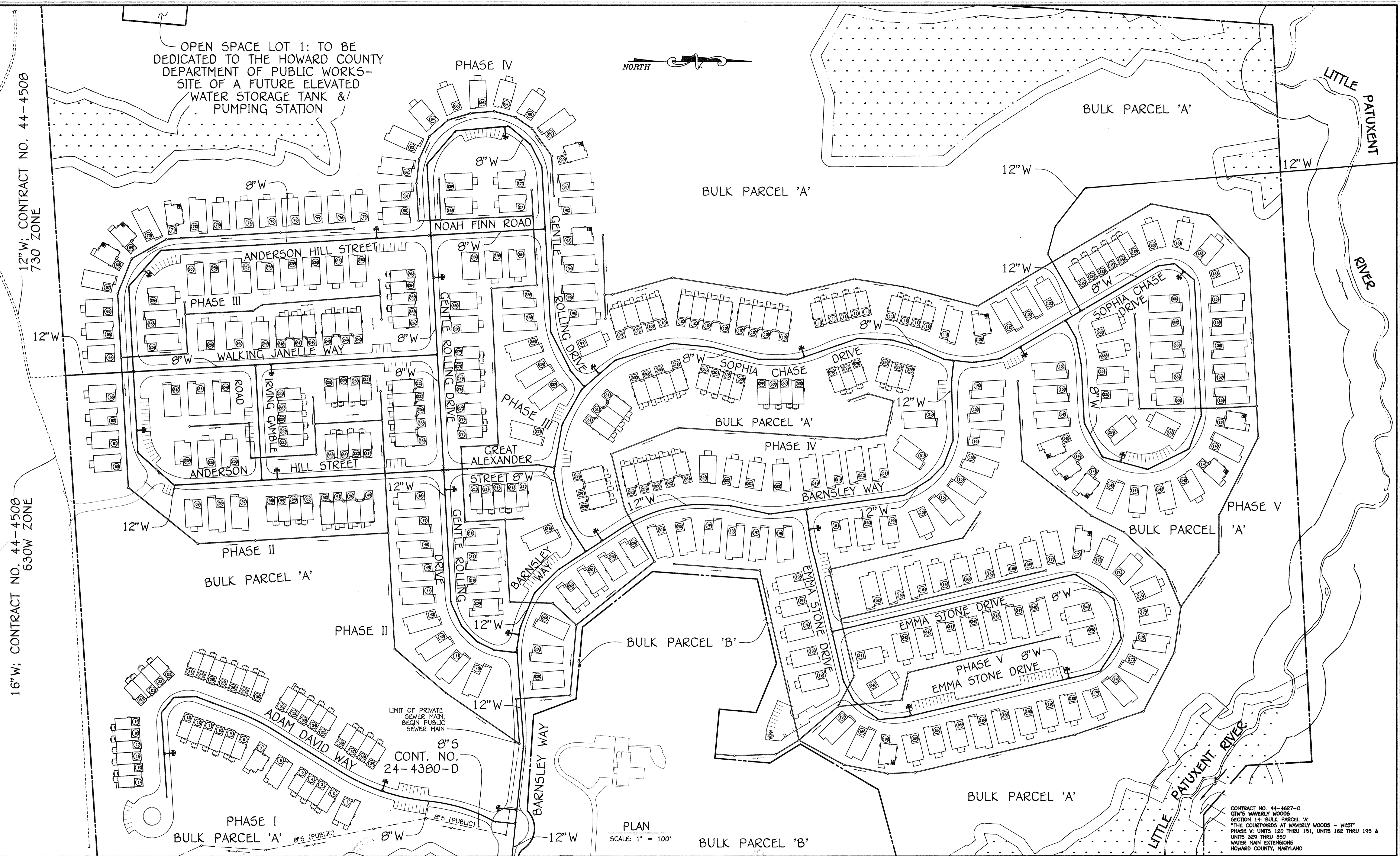
SCALE AS SHOWN
 SHEET 6 OF 7

OPEN SPACE LOT 1: TO BE DEDICATED TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS- SITE OF A FUTURE ELEVATED WATER STORAGE TANK & PUMPING STATION



12" W; CONTRACT NO. 44-4508
730 ZONE

16" W; CONTRACT NO. 44-4508
630W ZONE



LIMIT OF PRIVATE SEWER MAIN; BEGIN PUBLIC SEWER MAIN
CONT. NO. 24-4380-D

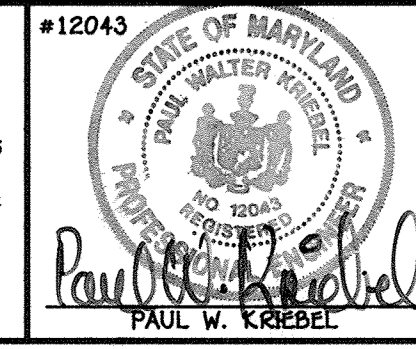
PLAN
SCALE: 1" = 100'

CONTRACT NO. 44-4627-D
GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE V: UNITS 120 THRU 151, UNITS 162 THRU 195 &
UNITS 329 THRU 350
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 2/5/10
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
DATE: 2/5/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21142
(410) 461-2899



DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	P.W.K.
DATE:	DECEMBER, 2009
BY NO.	
REVISION	
DATE	

WATER MAIN EXTENSIONS OVERVIEW
60' SCALE MAP NO. 16 BLOCK NO. 3 & 4
F.C.C. WORK ORDER NO. 30770
FILE NAME: WATER MAIN EXTENSION PHASING

GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE V: UNITS 120 THRU 151, UNITS 162 THRU 195 &
UNITS 329 THRU 350
WATER MAIN EXTENSIONS
CONTRACT NO. 44-4627-D
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 7

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