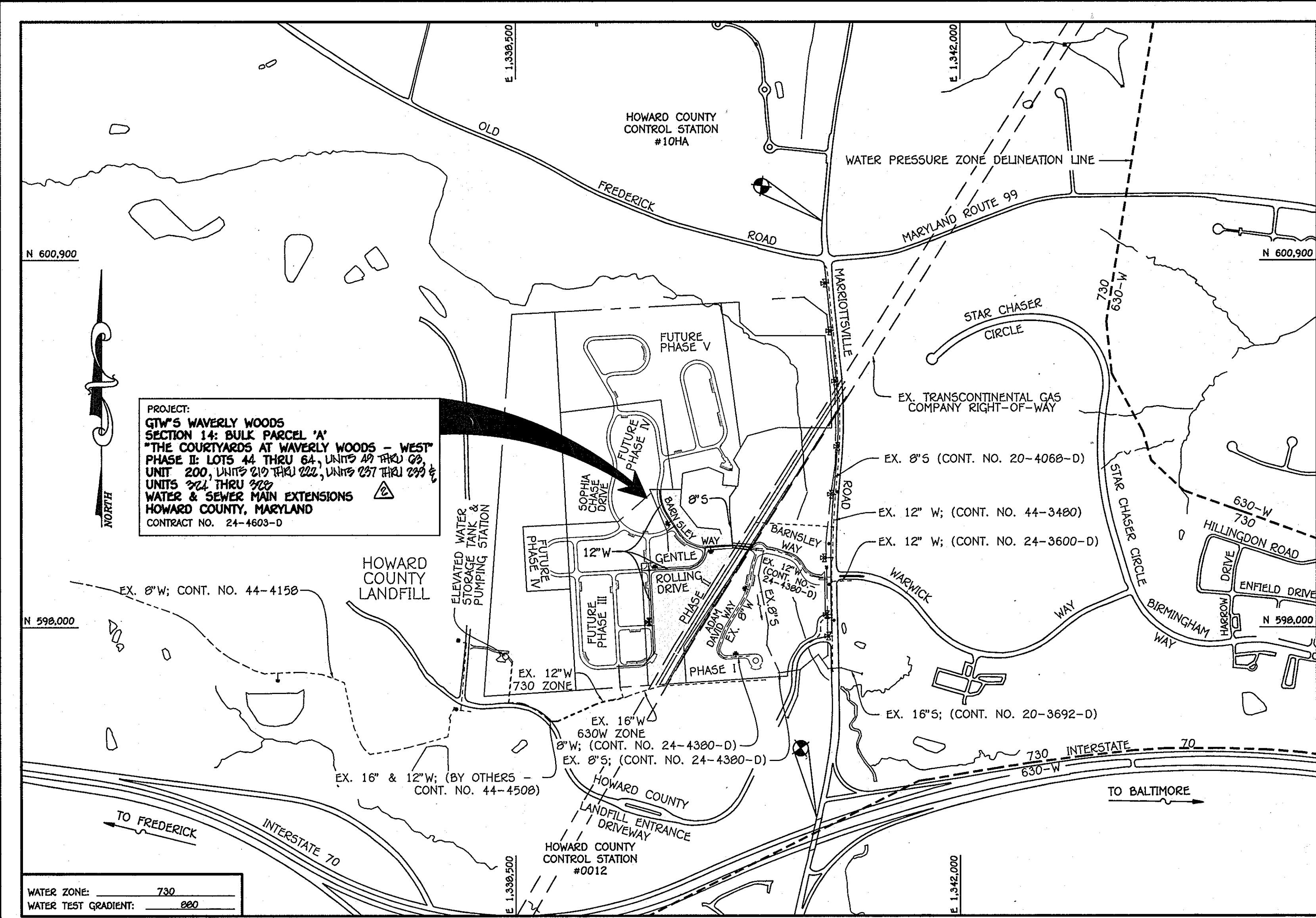


QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8" PVC	302 L.F.			
MANHOLES	9 EACH	3 EACH	PRECAST CONCRETE	ATLANTIC
8" PLUG	9 EACH	3 EACH	DUCTILE CONCRETE BUT.	STAR PIPE
12" WATER	2,711 L.F.	2,712 L.F.	PVC/C900	JM EAGLE
8" WATER	202 L.F.	202 L.F.	PVC/C900	JM EAGLE
6" WATER	108 L.F.	108 L.F.	PVC	JM EAGLE
1-1/2" W/C	715 L.F.	714 L.F.	COPPER	READING TUBE
12" X 12" TEE	1 EACH	1 EACH	D.I.P.	STAR PIPE
12" X 8" TEE	2 EACH	2 EACH	D.I.P.	STAR PIPE
12" X 6" TEE	5 EACH	5 EACH	D.I.P.	STAR PIPE
12" X 12" CROSS	2 EACH	2 EACH	D.I.P.	STAR PIPE
12" X 8" REDUCER	4 EACH	4 EACH	D.I.P.	STAR PIPE
12" VALVE	6 EACH	6 EACH	D.I.P.	MUELLER
8" VALVE	6 EACH	6 EACH	D.I.P.	MUELLER
6" VALVE	5 EACH	5 EACH	D.I.P.	MUELLER
1/8" H.B.	2 EACH	2 EACH	D.I.P.	STAR PIPE
1/16" H.B.	6 EACH	6 EACH	D.I.P.	STAR PIPE
1/32" H.B.	5 EACH	5 EACH	D.I.P.	STAR PIPE
FIRE HYDRANT	5 EACH	5 EACH		MUELLER
12" PLUG & BUTTRESS	2 EACH	2 EACH	DUCTILE CONCRETE BUTTRESS	STAR PIPE
8" PLUG & BUTTRESS	6 EACH	6 EACH	DUCTILE CONCRETE PIPE	STAR PIPE
9 INVALE OUTSIDE WATER METER SETTING	15 EACH	15 EACH		
CONTINUOUS 12" DUCTILE	6 EACH	6 EACH	STEEL	PITTSBURG STEEL
STEEL CASING	150			
NAME OF UTILITY CONTRACTOR: CTG				
SURVEY & DRAFTING DIVISION AS-BUILT DATE:				
TWIN OUTSIDE WATER METER SETTING	17 EACH	17 EACH	PRECAST CONCRETE	HORNE CONCRETE

BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #0012 (LOCATED ALONG THE WEST SIDE OF MARGOTTSVILLE ROAD, JUST NORTH OF INTERSTATE 70)
 N 996,502.7604 - HORIZONTAL = (NAD 83)
 E 1,340,064.3054 - HORIZONTAL = (NAD 83)
 ELEVATION = 466.905 - VERTICAL = (NAD 83)

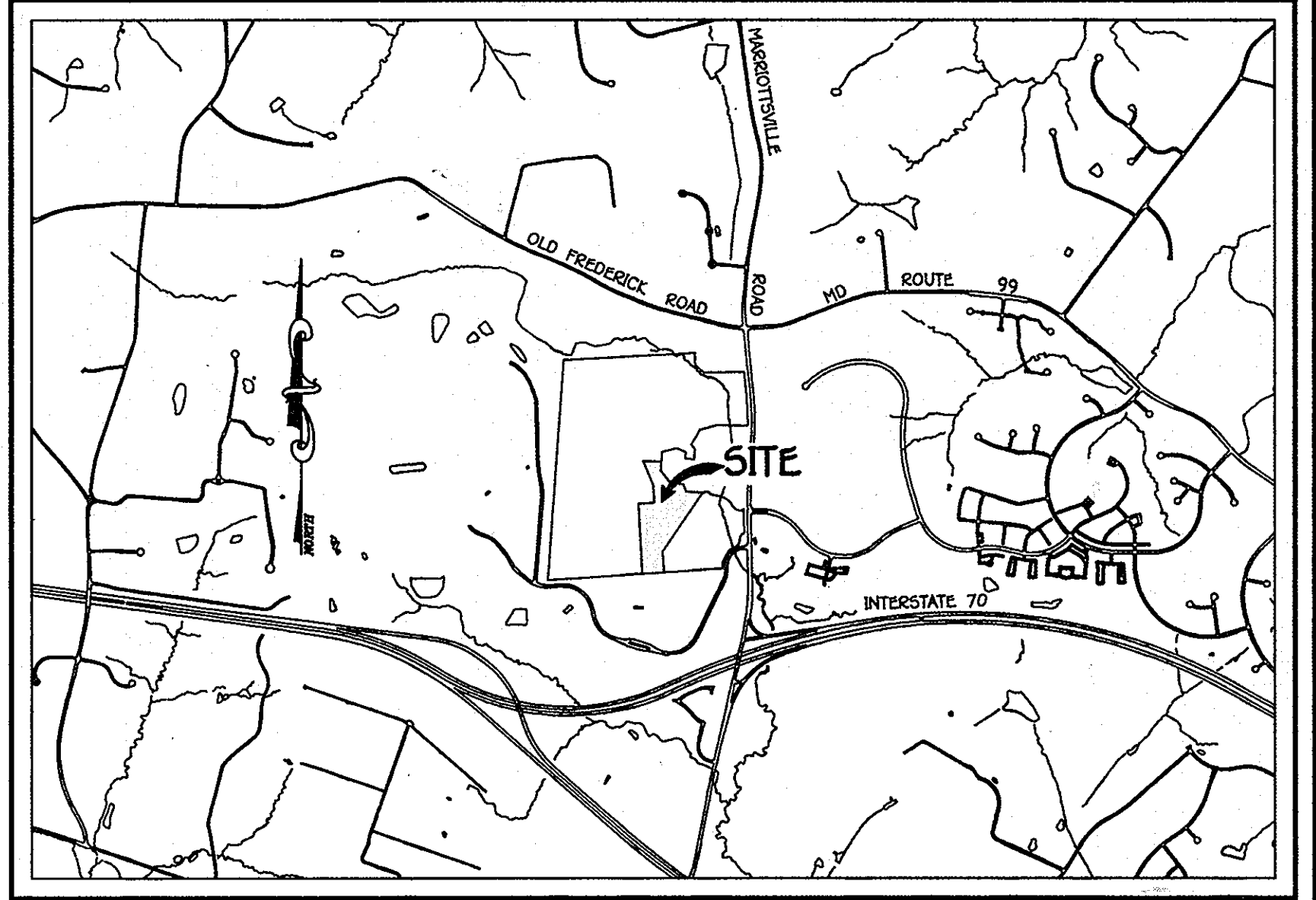
B.M.#2 - HOWARD COUNTY CONTROL STATION #101A (LOCATED ALONG THE WEST SIDE OF MARGOTTSVILLE ROAD, JUST NORTH OF OLD FREDERICK ROAD, APPROX. 211' WEST OF THE CENTERLINE OF ROAD)
 N 601,206.59 - HORIZONTAL = (NAD 83)
 E 1,340,912.325 - HORIZONTAL = (NAD 83)
 ELEVATION = 469.868 - VERTICAL = (NAD 83)



TYPE OF BUILDING: RESIDENTIAL - SINGLE FAMILY DETACHED & TOWNHOUSE CONDOMINIUMS
NUMBER OF UNITS: 49
NO. OF WATER HOUSE CONNECTIONS: 49
NO. OF SEWER HOUSE CONNECTIONS: 0
SEWER SHED: LITTLE PATUXENT
TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION PLANT, SAVAGE, MARYLAND

VICINITY MAP
SCALE: 1" = 600'

PLAN REFERENCE NUMBERS:
 SP-06-013 SGP-09-039
 P-08-010 F-09-057
 (RECORD PLAT)



LOCATION MAP
SCALE: 1" = 2000'

GENERAL NOTES

- 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.
 - 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. 101A & NO. 0012.
 - ALL VERTICAL CONTROLS ARE AS INDICATED IN THE BENCH MARK INFORMATION. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS.
 - 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 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 (S) 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
 - BCE (CONSTRUCTION SERVICES) 410-950-4620
 - BGE (EMERGENCY) 410-685-1400
 - BUREAU OF UTILITIES 410-313-4900
 - COLONIAL PIPELINE CO 410-795-1390
 - MISS UTILITY 1-800-297-7777
 - STATE HIGHWAY ADMINISTRATION 410-551-5533
 - 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.
 - 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 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.

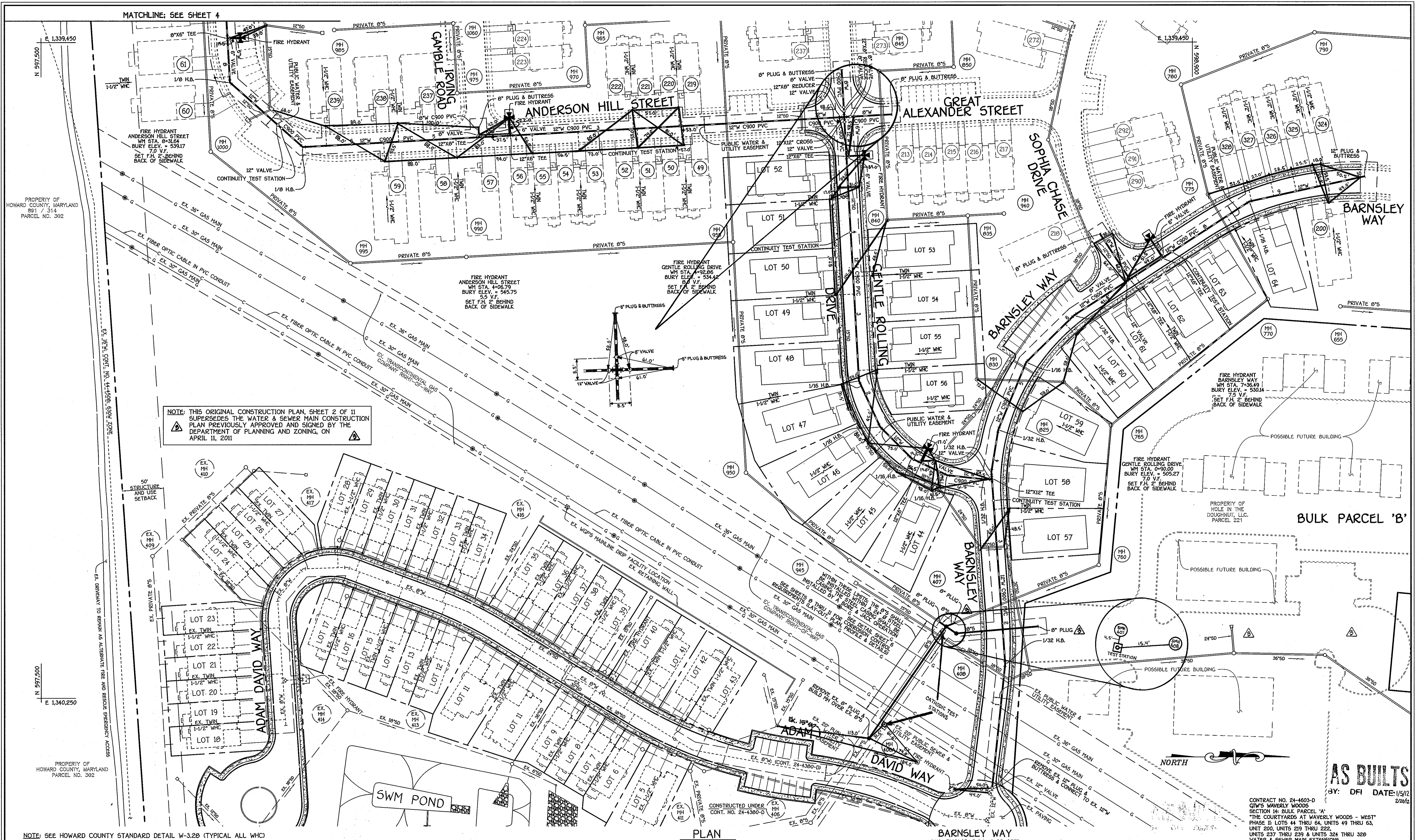
- PART B: WATER MAIN GENERAL NOTES**
- EXCEPT FOR THE 12" X 12" TAPPING SLEEVE & VALVE ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - ALL FITTINGS SHALL BE 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 RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE 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.
 - ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
 - ALL DWELLING UNITS SHALL HAVE A 1/2" WATER HOUSE CONNECTION WITH A 1" OUTSIDE METER SETTING; STD. DETAIL W-3.20, OR STD. DETAIL W-3.22.
- 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 WATER-TIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATER-TIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - HOUSES WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

CONTRACT NO. 24-4603-D
GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 44 THRU 64, UNITS 49 THRU 63,
UNIT 200, UNITS 219 THRU 222,
UNITS 237 THRU 239 & UNITS 324 THRU 328
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

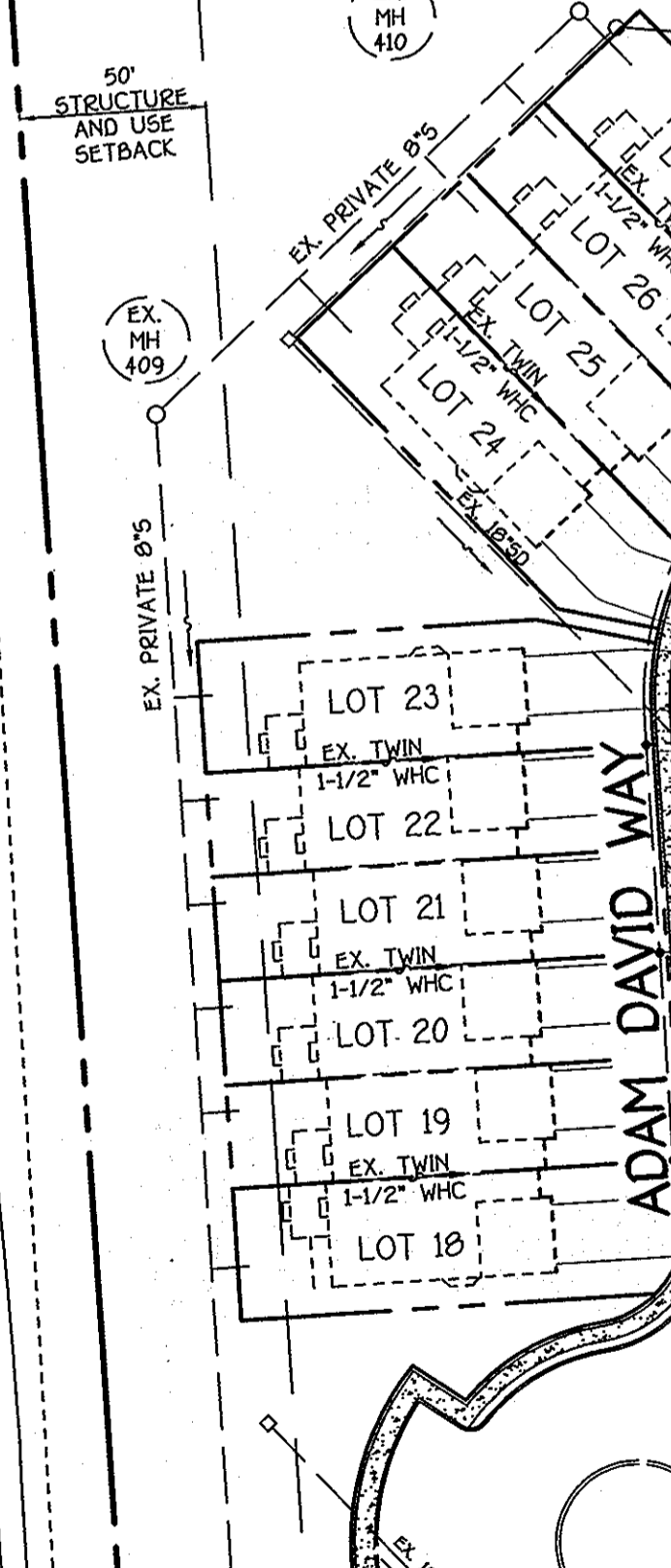
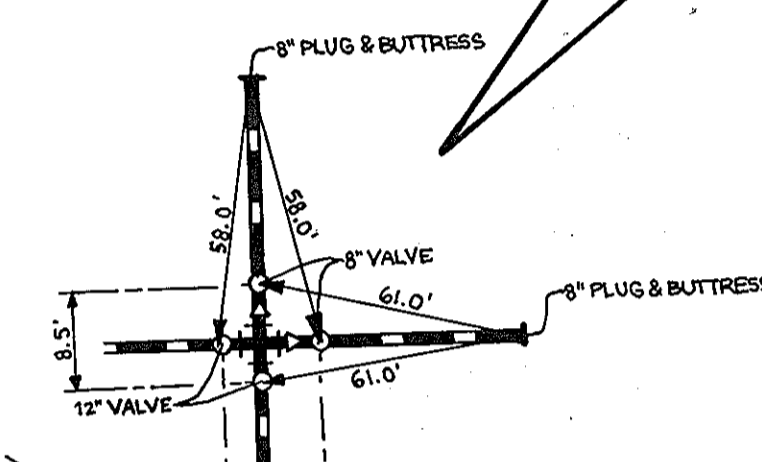
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities DATE: 1/15/10	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND Chief, Development Engineering Division DATE: 2/12/10	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10276 BALTIMORE NATIONAL PIKE ELICOTT CITY, MARYLAND 21042 (410) 461-2095 Paul W. Kriebel	DESIGNED BY: PCC B.C.R. DRAWN BY: PCC B.C.R. CHECKED BY: P.M.K. DATE: JANUARY, 2010 BY NO.	REVISIONS: 1/10/10 4/11/10 11/30/10 11/30/10 11/30/10	WATER & SEWER MAIN EXTENSIONS TITLE SHEET 600' SCALE MAP NO. 16 BLOCK NO. 3 & 4 F.C.C. WORK ORDER NO. 30770 FILE NAME: WATER AND SEWER MAIN EXTENSION TITLE SHEET	GTW'S WAVERLY WOODS SECTION 14: BULK PARCEL 'A' "THE COURTYARDS AT WAVERLY WOODS - WEST" PHASE II: LOTS 44 THRU 64, UNITS 49 THRU 63, UNITS 200, UNITS 219 THRU 222, UNITS 237 THRU 239 & UNITS 324 THRU 328 WATER & SEWER MAIN EXTENSIONS CONTRACT NO. 24-4603-D THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 11
--	--	---	--	--	---	--

K:\505KPROJ\30770 GTW WEST\DWG\SITE DEVELOPMENT PLAN\30770 Water & Sewer Base Plan - Phase 2-Submitted 12-22-2009.dwg, 12/29/2009 2:36:58 PM

MATCHLINE: SEE SHEET 4



NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 2 OF 11 SUPERSEDES THE WATER & SEWER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING, ON APRIL 11, 2011



PLAN SCALE: 1" = 50'

NOTE: SEE HOWARD COUNTY STANDARD DETAIL W-3.28 (TYPICAL ALL WHC)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

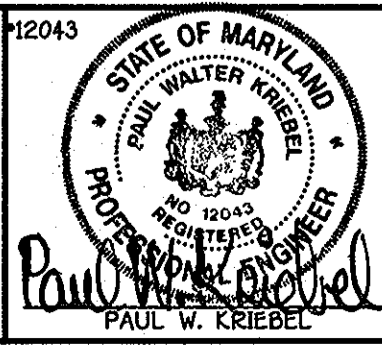


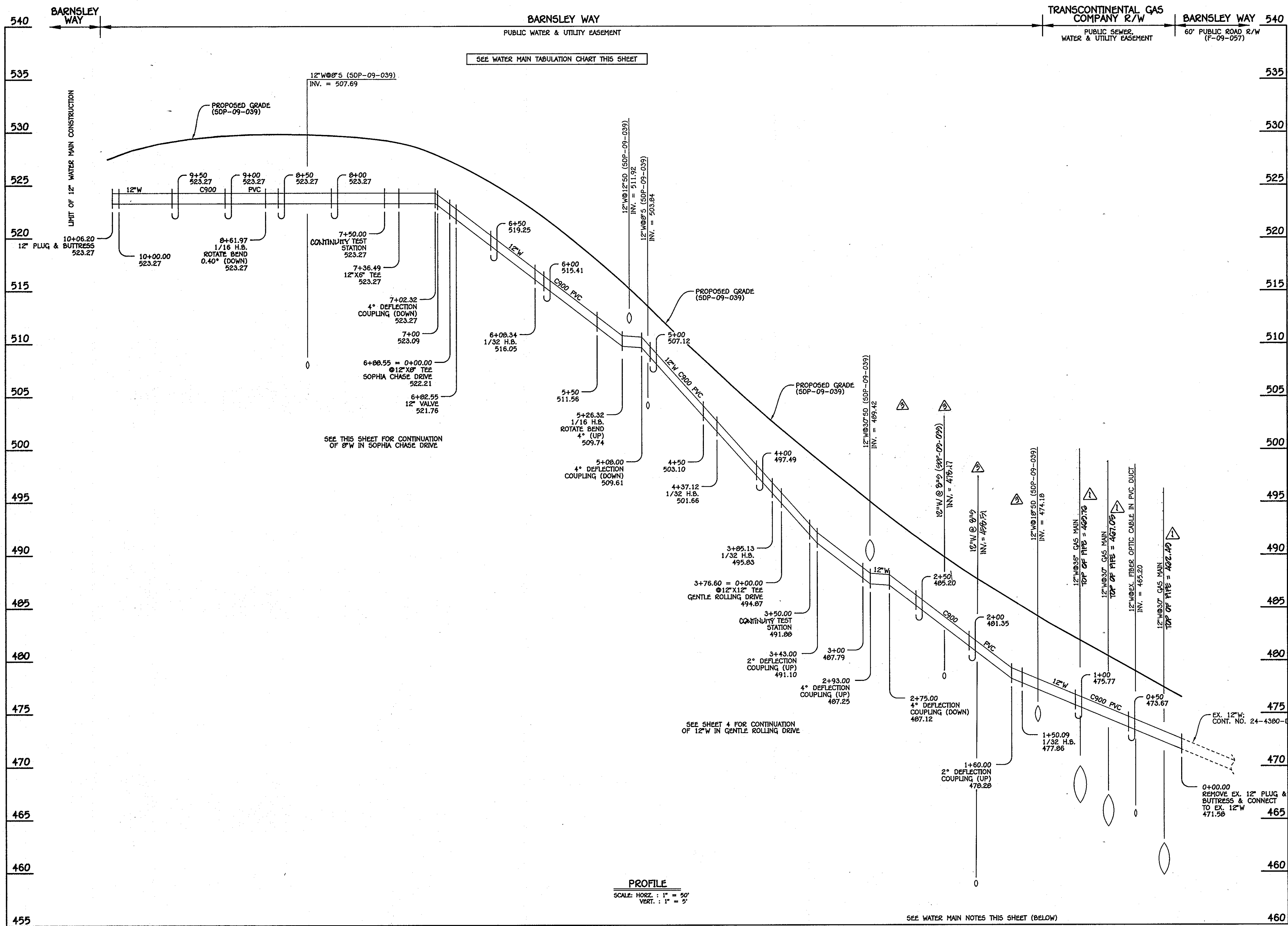
Table with columns for DESIGNED BY, DRAWN BY, CHECKED BY, DATE, and REVISIONS.

WATER & SEWER MAIN EXTENSIONS PLAN

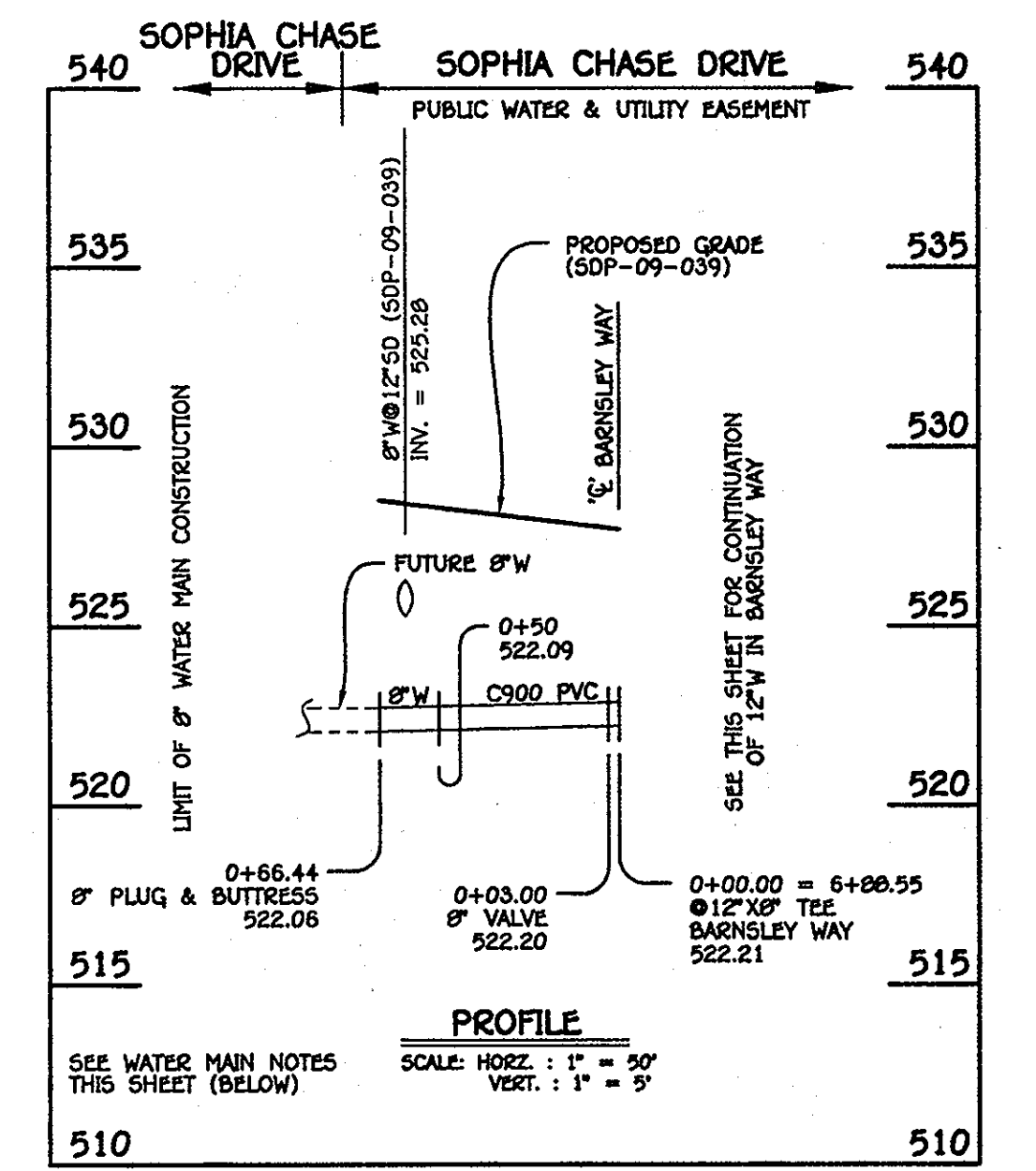
GTW'S WAVERLY WOODS SECTION 14: BULK PARCEL 'A' PHASE II: LOTS 44 THRU 64, UNITS 49 THRU 63, UNIT 200, UNITS 219 THRU 222, UNITS 237 THRU 239 & UNITS 324 THRU 328 WATER & SEWER MAIN EXTENSIONS CONTRACT NO. 24-4603-D THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 2 OF 11

K:\SDS\KRCU\30770 GTW WEST\tag\Construction Documents\30770 Water & Sewer Base Plan - Phase 2 (Revised - 3).dwg, 8/30/2011 4:07:32 PM



WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN: BARNSELEY WAY			
0+00.00	EX. 12" PLUG & BUTTRESS	598656.60	1340357.72
1+50.09	1/32 H.B.	598672.29	1340208.45
3+50.00	CONTINUITY TEST STATION	598658.04	1340009.05
3+76.60	12" X 12" TEE	598656.14	1339982.52
3+85.13	1/32 H.B.	598655.53	1339974.00
4+37.12	1/32 H.B.	598663.80	1339922.69
5+26.32	1/16 H.B.	598697.95	1339840.26
6+08.34	1/32 H.B.	598756.47	1339782.70
6+82.55	12" VALVE	598818.68	1339742.32
6+88.55	12" X 8" TEE	598823.71	1339739.05
7+36.49	12" X 6" TEE	598863.89	1339712.91
7+50.00	CONTINUITY TEST STATION	598875.22	1339705.54
8+61.97	1/16 H.B.	598969.08	1339644.48
10+06.20	12" PLUG & BUTTRESS	599109.97	1339613.63



8" WATER MAIN: SOPHIA CHASE DRIVE

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN: SOPHIA CHASE DRIVE			
0+00.00	12" X 8" TEE	598823.71	1339739.05
0+03.00	8" VALVE	598822.07	1339736.53
0+66.44	8" PLUG & BUTTRESS	598787.48	1339683.36

12" WATER MAIN: BARNSELEY WAY

- 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.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21041
(410) 461-2892

DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.M.K.
DATE: JANUARY, 2010

PAUL W. KRIBBEL
PROFESSIONAL ENGINEER
#12043

DATE: 1/15/10
DATE: 2/12/10

WATER MAIN EXTENSIONS
PROFILES & CHARTS

60" SCALE MAP NO. 16 BLOCK NO. 3 & 4
F.C.C. WORK ORDER NO. 30770

FILE NAME: WATER & SEWER MAIN EXTENSION PLAN

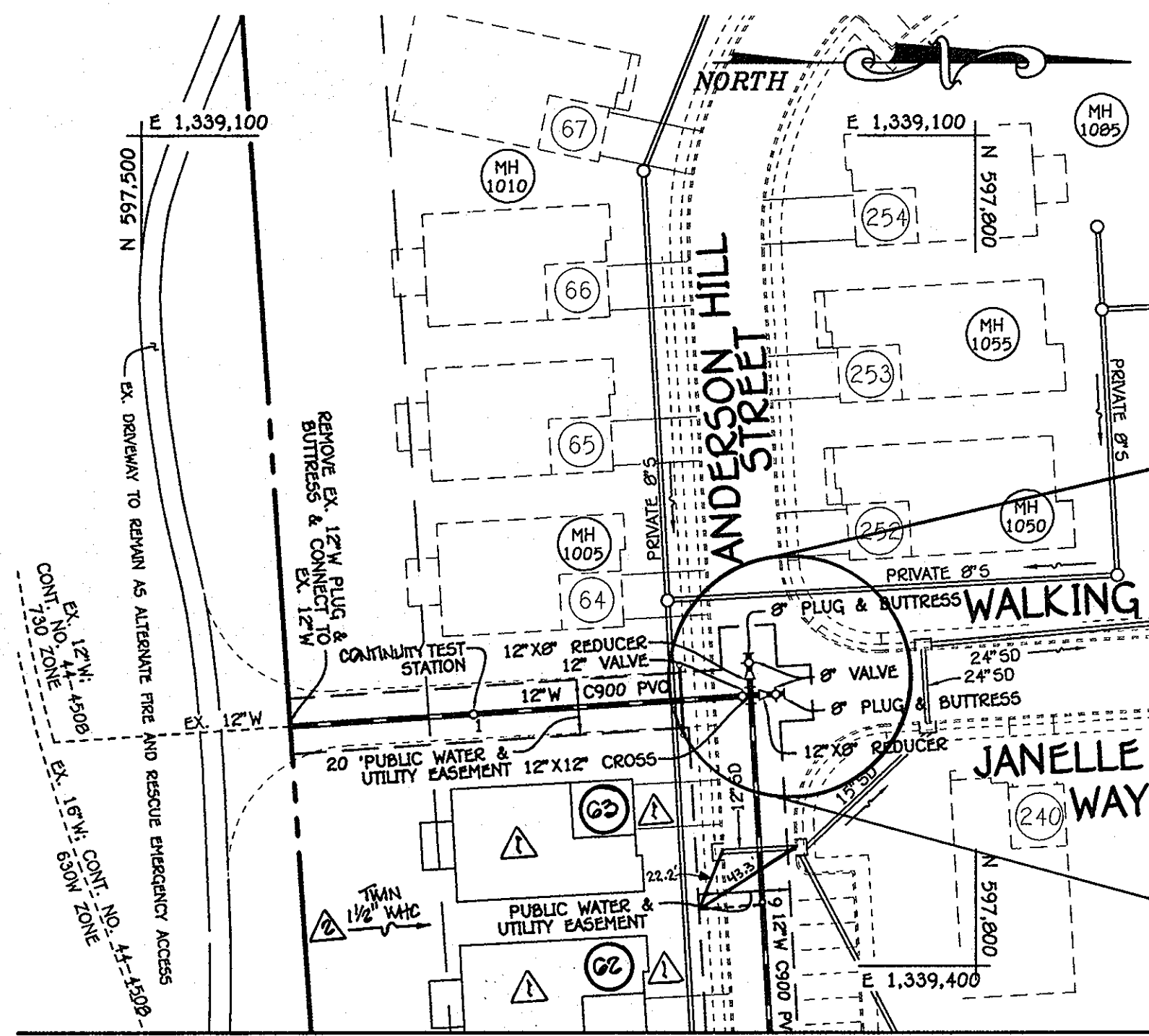
AS BUILTS

BY: DFI DATE: 1-5-12

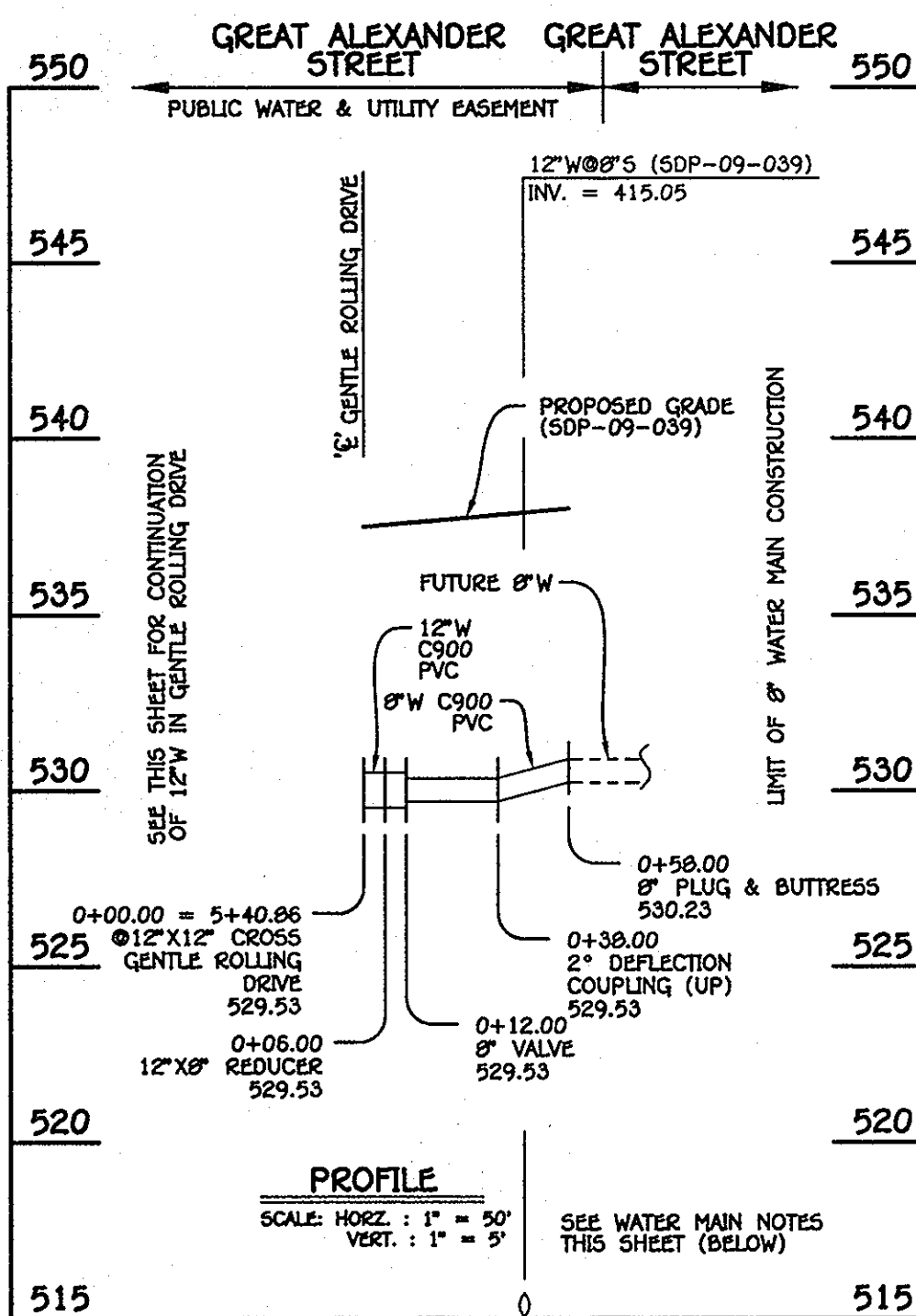
CONTRACT NO. 24-4603-D
GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 44 THRU 64, UNITS 40 THRU 60,
UNIT 220, UNITS 219 THRU 222,
UNITS 231 THRU 239 & UNITS 321 THRU 328
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 11

K:\508KPROJ\30770 GTW WEST.dwg - Phase 2-Submitted 12-2009.dwg, 12/29/2009 2:32:11 PM

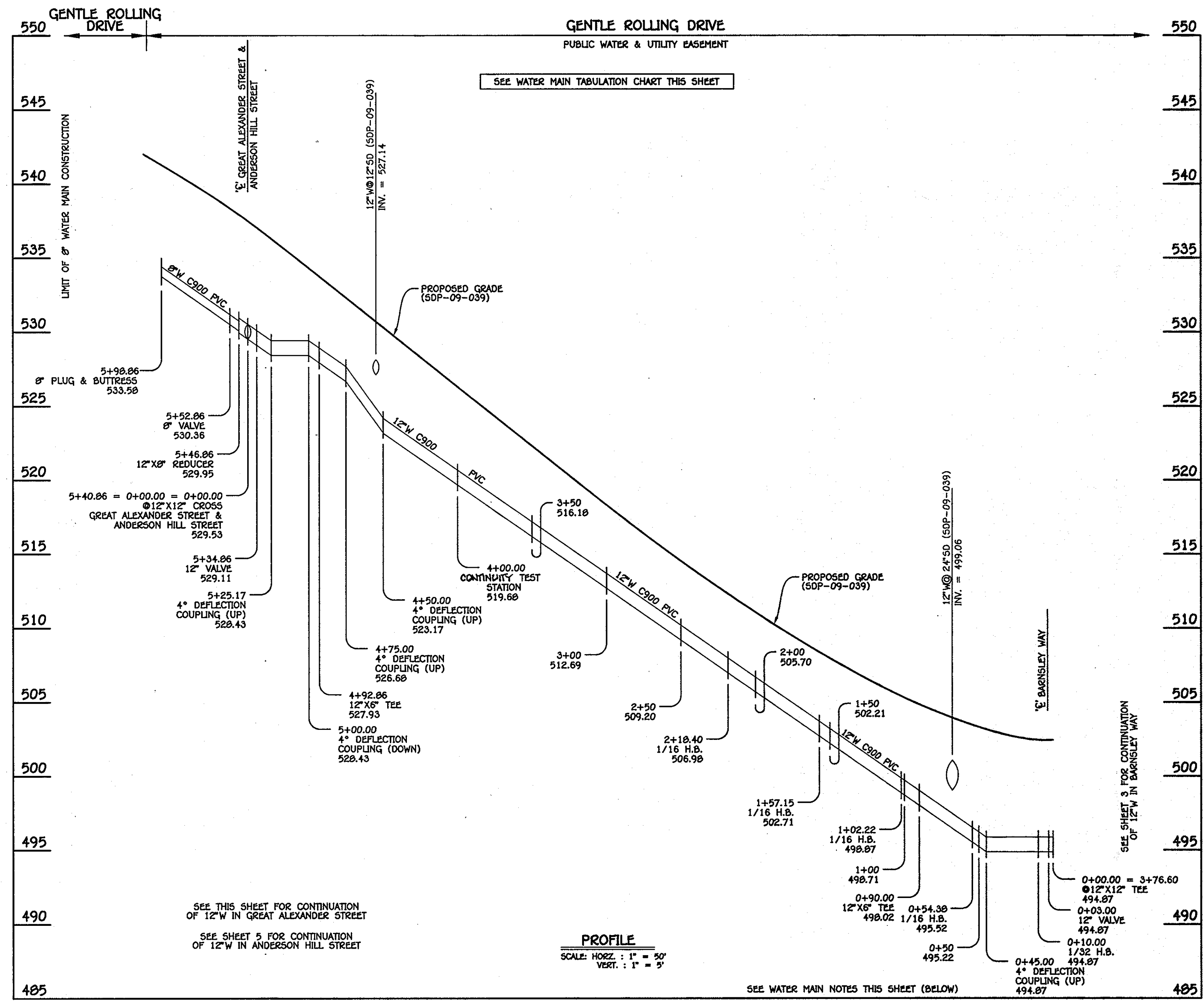


MATCHLINE; SEE SHEET 2



12" & 8" WATER MAIN: GREAT ALEXANDER STREET

W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" & 8" WATER MAIN: GREAT ALEXANDER STREET			
0+00.00	12"X12" CROSS	598476.90	1339541.09
0+06.00	12"X8" REDUCER	598482.89	1339540.76
0+12.00	8" VALVE	598488.88	1339540.43
0+58.00	8" PLUG & BUTTRESS	598534.81	1339537.89



12" & 8" WATER MAIN: GENTLE ROLLING DRIVE

W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" & 8" WATER MAIN: GENTLE ROLLING DRIVE			
0+00.00	12"X12" TEE	598656.14	1339982.52
0+03.00	12" VALVE	598653.15	1339982.73
0+10.00	1/32 H.B.	598646.17	1339983.23
0+54.38	1/16 H.B.	598602.07	1339978.23
0+90.00	12"X6" TEE	598569.88	1339962.99
1+02.22	1/16 H.B.	598558.82	1339957.75
1+57.15	1/16 H.B.	598520.12	1339918.78
2+18.40	1/16 H.B.	598494.70	1339863.06
4+00.00	CONTINUITY TEST STATION	598484.68	1339881.73
4+92.86	12"X6" TEE	598479.55	1339589.02
5+34.86	12" VALVE	598477.23	1339547.08
5+40.86	12"X12" CROSS	598476.90	1339541.09
5+46.86	12"X8" REDUCER	598476.57	1339535.10
5+52.86	8" VALVE	598476.24	1339529.11
5+98.86	8" PLUG & BUTTRESS	598473.70	1339483.18

- 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 I - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TREED PVC HIGH DEFLECTION COUPLINGS.
 4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

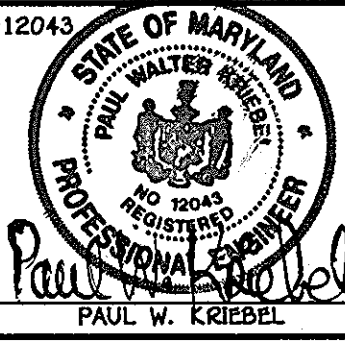
AS BUILT
BY: DFI DATE: 1-5-12
2:20:12

CONTRACT NO. 24-4603-D
GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 44 THRU 64, UNITS 40 THRU 63,
UNIT 200, UNITS 210 THRU 222,
UNITS 237 THRU 257 & UNITS 261 THRU 282
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
1/15/10
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
2/12/10
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21116
(410) 461 - 2825



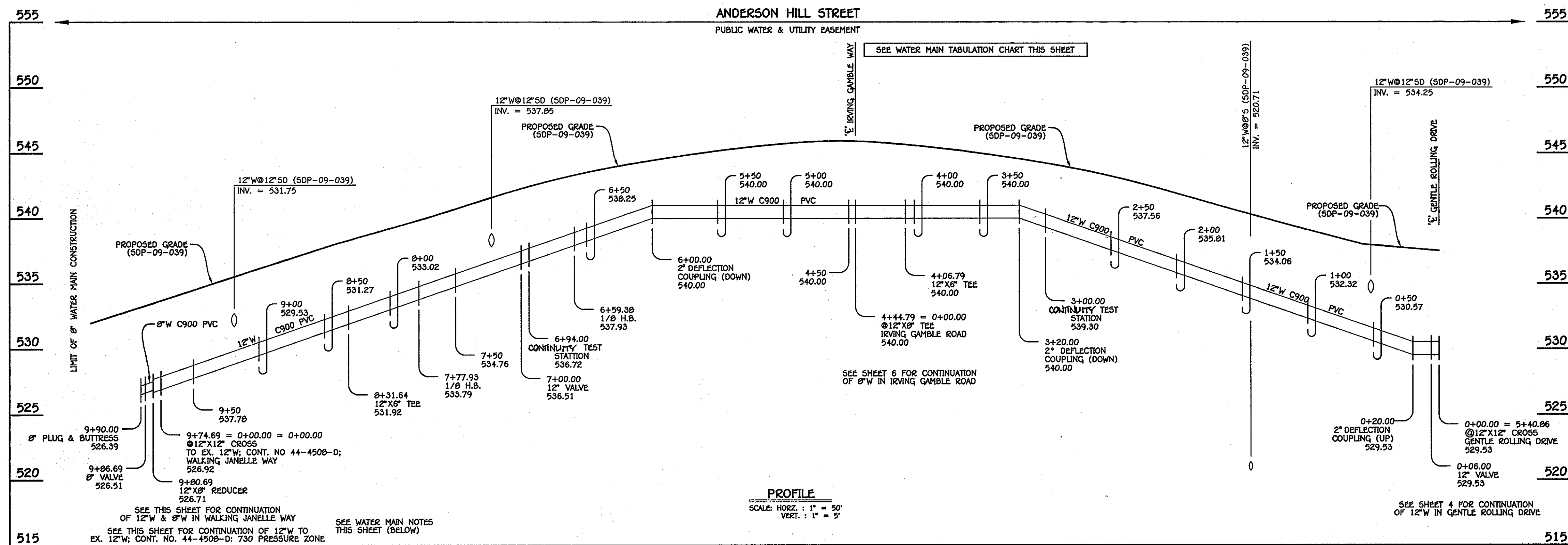
DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.M.K.
DATE: JANUARY, 2010

REVISIONS:
1. REVISE CONTRACT TITLE & SHEET TOTAL NO. & INDICATE THAN 4/11/11
2. REVISE WHO'S TO INDICATE 1/2" W/OUTSIDE METER SETTING 11/30/10
3. INDICATE UNIT NUMBERS FOR TWO (2) PROPOSED DWELLINGS 11/30/10

WATER MAIN EXTENSIONS
PLAN, PROFILES & CHARTS
600' SCALE MAP NO. 16 BLOCK NO. 3 & 4
F.C.C. WORK ORDER NO. 30770
FILE NAME: WATER & SEWER MAIN EXTENSION PLAN

GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 44 THRU 64, UNITS 40 THRU 63,
UNIT 200, UNITS 210 THRU 222,
UNITS 237 THRU 257 & UNITS 261 THRU 282
WATER & SEWER MAIN EXTENSIONS
CONTRACT NO. 24-4603-D
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 of 11



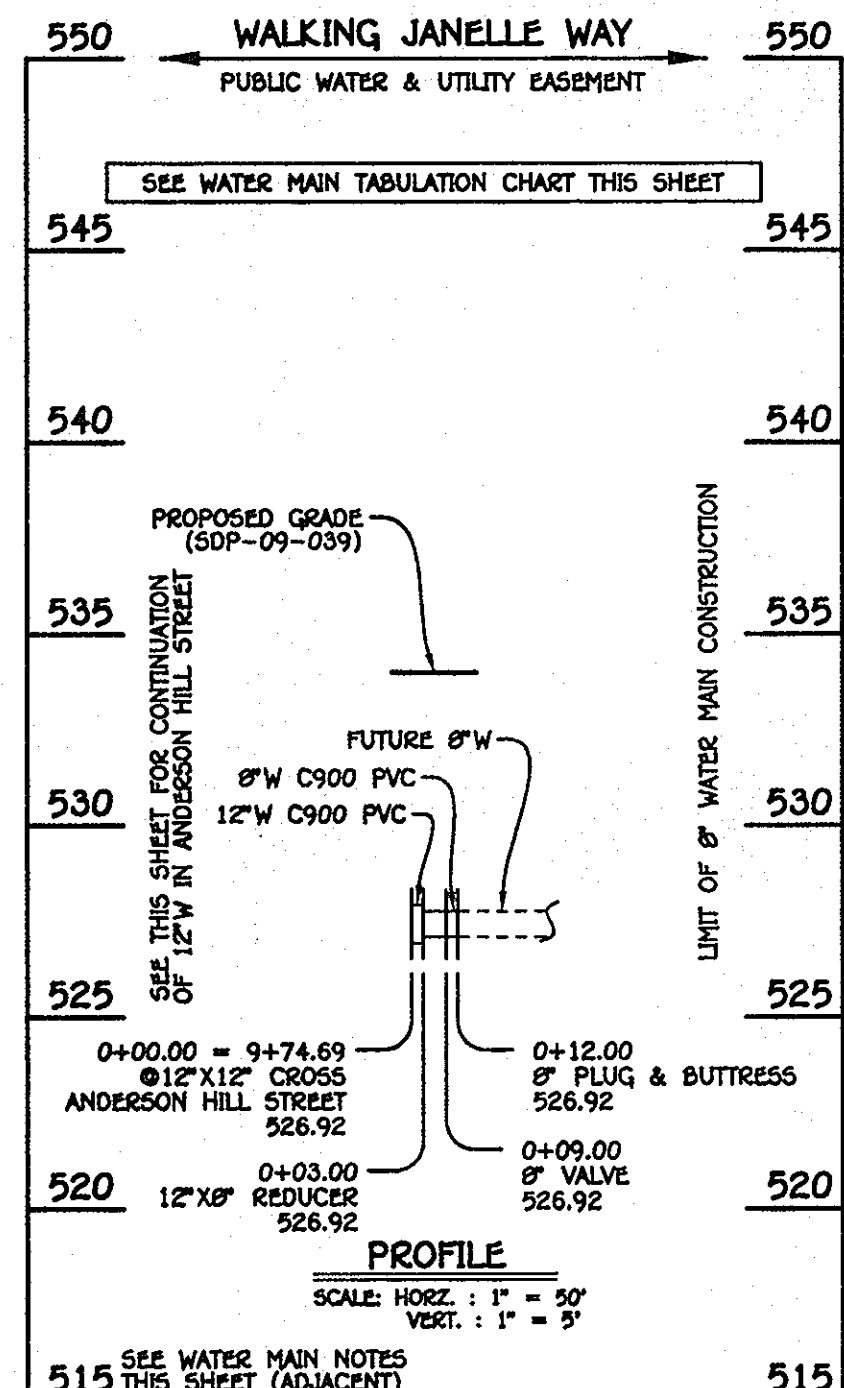
12" & 8" WATER MAIN: ANDERSON HILL STREET

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" & 8" WATER MAIN: ANDERSON HILL STREET			
0+00.00	12"X12" CROSS	598476.90	1339541.09
0+06.00	12" VALVE	598470.91	1339541.42
3+00.00	CONTINUITY TEST STATION	598177.36	1339557.65
4+06.79	12"X6" TEE	598070.73	1339563.54
4+44.79	12"X8" TEE	598032.79	1339565.64
6+59.38	1/8 H.B.	597818.53	1339577.48
6+94.00	CONTINUITY TEST STATION	597792.65	1339554.48
7+00.00	12" VALVE	597788.17	1339550.50
7+77.93	1/8 H.B.	597729.93	1339498.72
8+31.64	12"X6" TEE	597726.97	1339445.09
9+74.69	12"X12" CROSS	597719.07	1339302.25
9+80.69	12"X8" REDUCER	597718.74	1339296.26
9+86.69	8" VALVE	597718.41	1339290.27
9+90.00	8" PLUG & BUTTRESS	597718.23	1339288.97

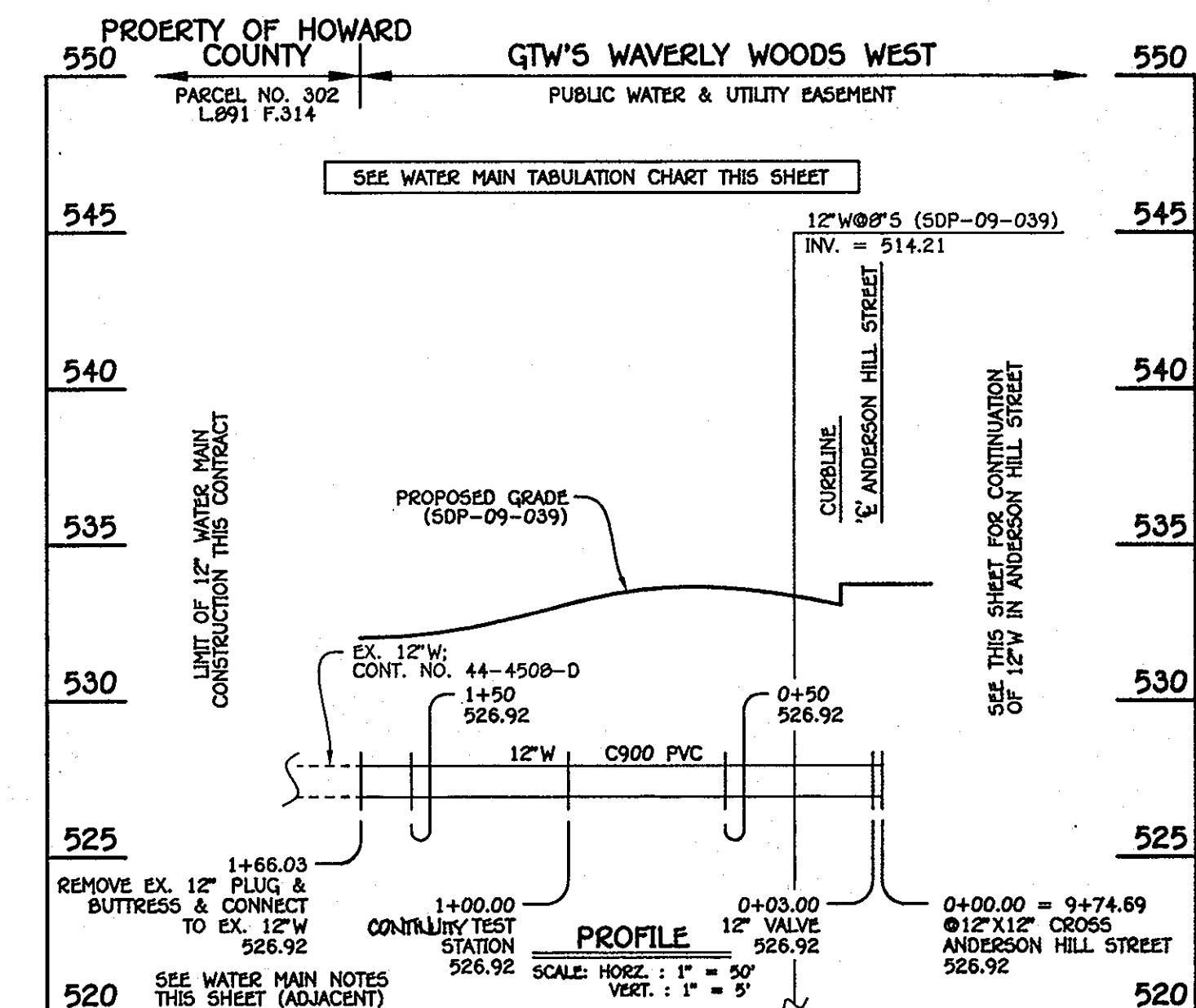
- WATER MAIN NOTES:**
1. ALL WATER MAINS SHALL BE AMVA C900 PVC PIPE.
 2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME II - WATER AND SEWER STANDARDS FOR AMVA C900 PVC WATER PIPE INSTALLATION.
 3. DEFLECTION COUPLINGS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

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" TO 8" WATER MAIN: WALKING JANELLE WAY			
0+00.00	12"X12" CROSS	597719.07	1339302.25
0+03.00	12"X8" REDUCER	597722.07	1339302.09
0+09.00	8" VALVE	597728.06	1339301.75
0+12.00	8" PLUG & BUTTRESS	597731.05	1339301.59

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" W TO EX. 12" W; CONT. NO. 44-4508; 730 PRESSURE ZONE			
0+00.00	12"X12" CROSS	597719.07	1339302.25
0+03.00	12" VALVE	597716.09	1339302.45
1+00.00	CONTINUITY TEST STATION	597619.29	1339308.91
1+66.03	12" PLUG & BUTTRESS	597553.41	1339313.31



12" & 8" WATER MAIN: WALKING JANELLE WAY



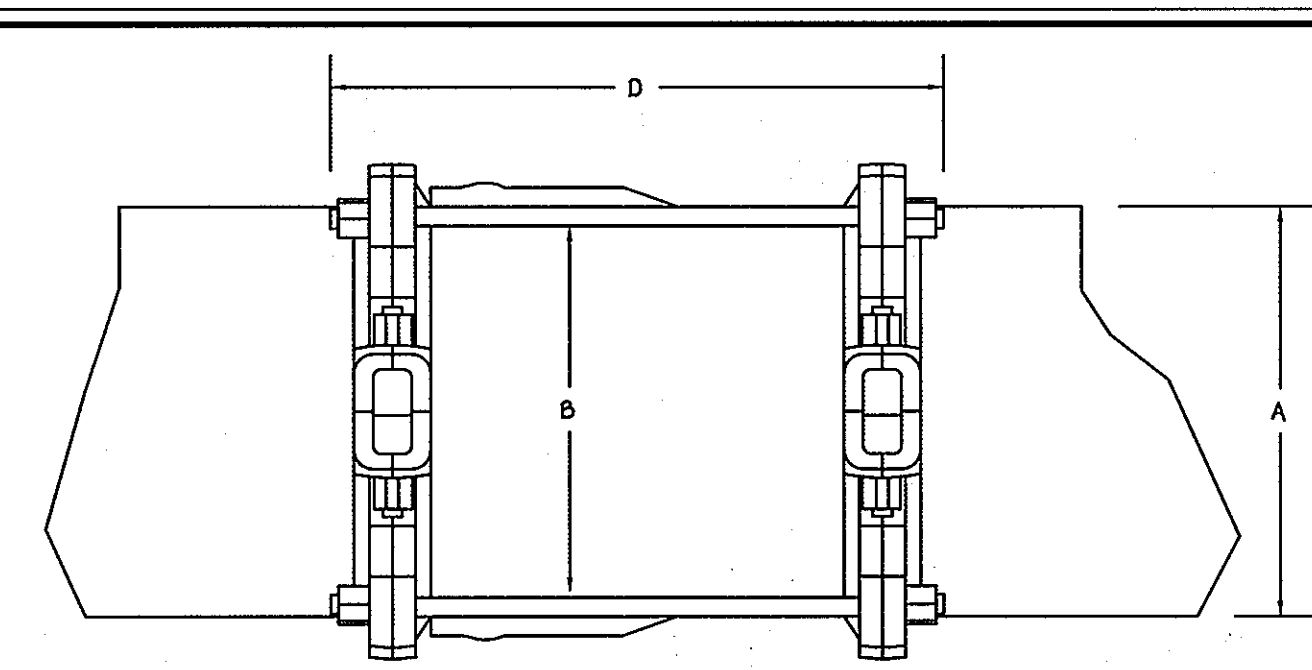
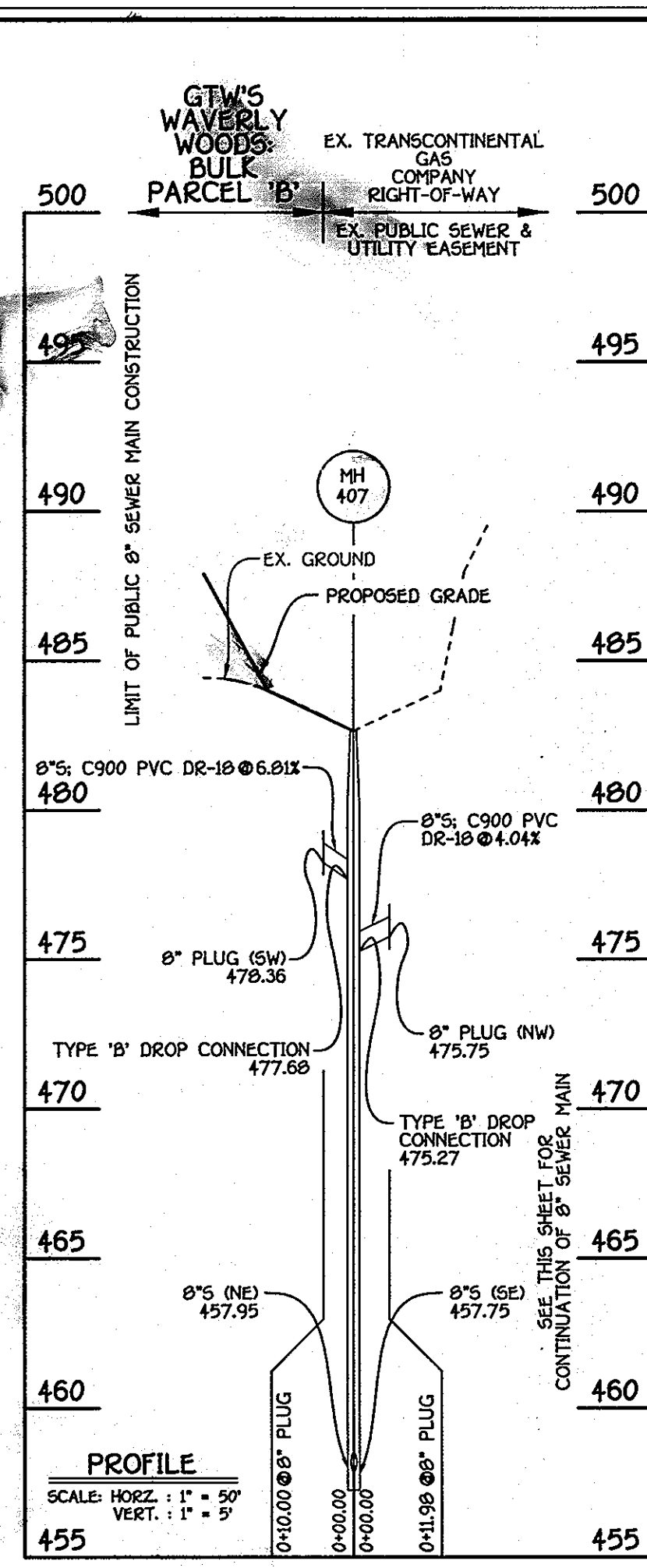
12" WATER MAIN: TO EX. 12" W; CONT. NO. 44-4508; 730 PRESSURE ZONE

AS BUILT
BY: DR DATE: 1/5/12
2/20/12

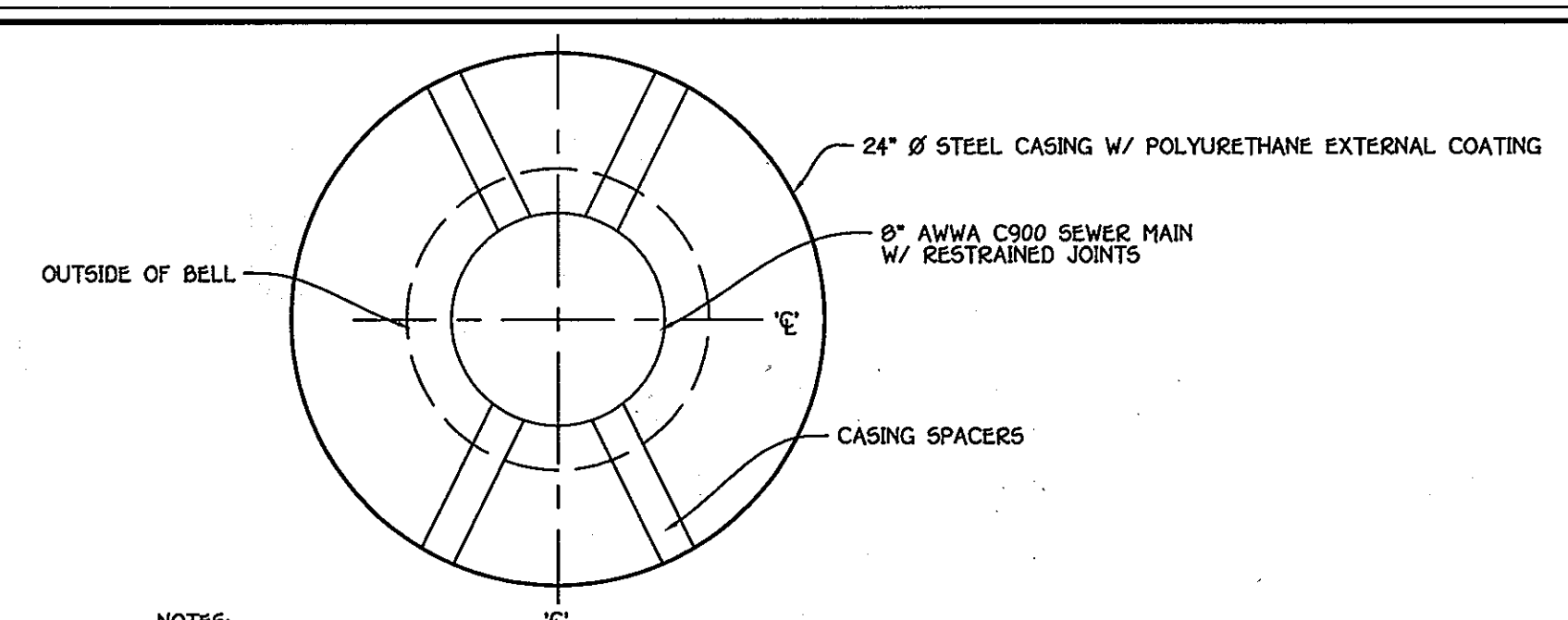
CONTRACT NO. 24-4603-D
GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 224 THRU 228, UNITS 227 THRU 232,
UNIT 222, UNITS 229 THRU 232,
UNITS 227 THRU 229 & UNITS 324 THRU 328
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities 1/15/12 DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND Chief, Development Engineering Division 2/12/12 DATE	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELICOTT CITY, MARYLAND 21042 (410) 461-2295	#12043 STATE OF MARYLAND PROFESSIONAL ENGINEER PAUL W. KRIEDEL	DESIGNED BY: B.C.R. DRAWN BY: B.C.R. CHECKED BY: P.W.K. DATE: JANUARY, 2010	WATER MAIN EXTENSIONS PROFILES & CHARTS 600' SCALE MAP NO. 16 BLOCK NO. 3 & 4 F.C.C. WORK ORDER NO. 30770 FILE NAME: WATER & SEWER MAIN EXTENSION PLAN	GTW'S WAVERLY WOODS SECTION 14: BULK PARCEL 'A' "THE COURTYARDS AT WAVERLY WOODS - WEST" PHASE II: LOTS 224 THRU 228, UNITS 227 THRU 232, UNIT 222, UNITS 229 THRU 232, UNITS 227 THRU 229 & UNITS 324 THRU 328 WATER & SEWER MAIN EXTENSIONS CONTRACT NO. 24-4603-D THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 5 of 11
--	--	--	---	--	--	---	---------------------------------------

K:\SOSKPROJ\30770 GTW WEST\SITE DEVELOPMENT PLAN\30770 Water & Sewer Base Plan - Phase 2-Submitted 12-2009.dwg, 12/29/2009 2:37:55 PM



EBAA IRON INC.						
ACTUAL PIPE SIZE	SERIES NUMBER	A	B	C	D	THRUST BOLT
8"	1508	9.05	12.25	14.75	18	2 - 3/4 X 18
(INCHES)		(PIPE O.D.)	(MAX. BELL O.D. CLEARED)	(CASING CLEARANCE)	(OVERALL LENGTH)	(QTY. - SIZE)



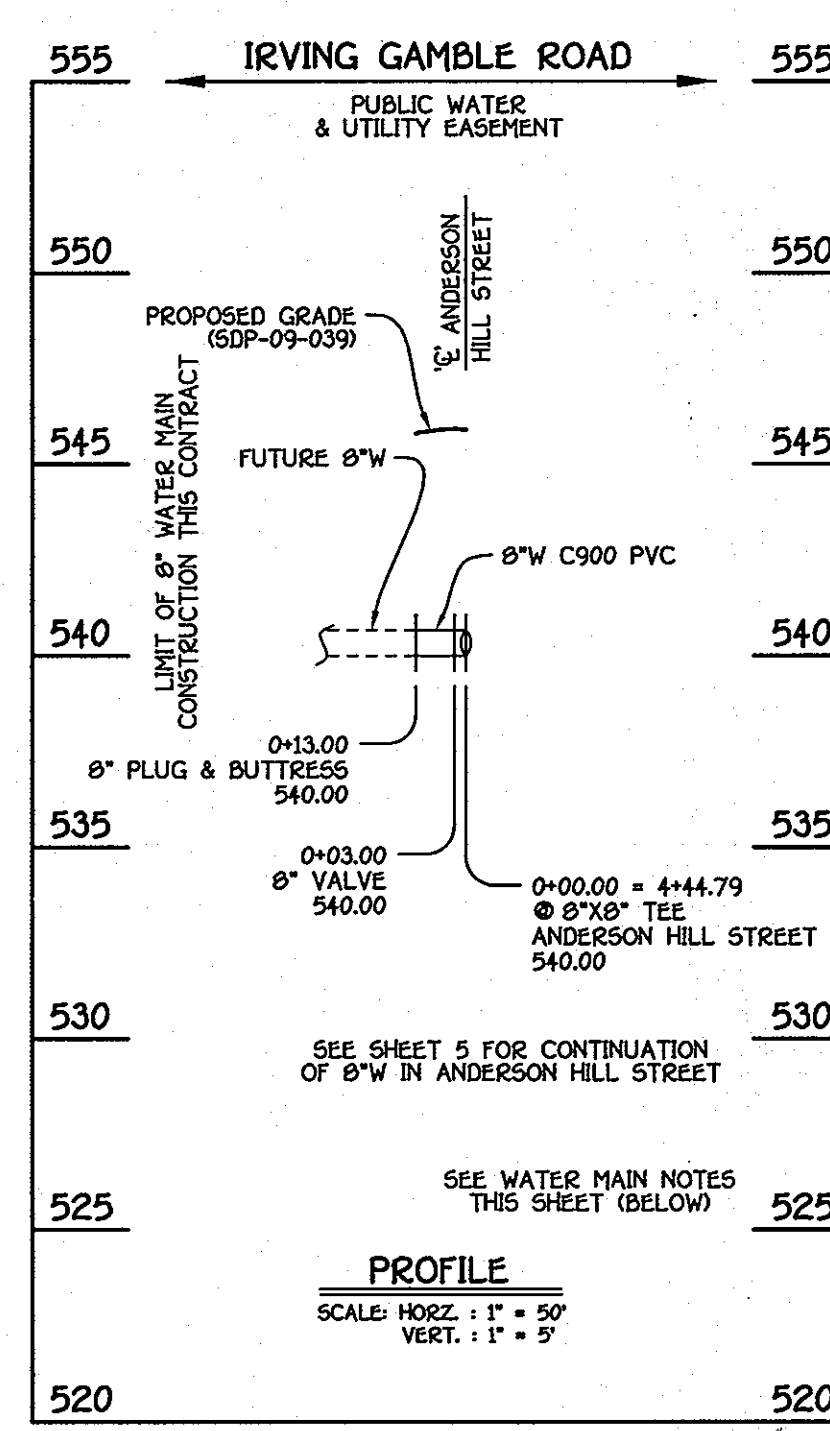
- NOTES:**
1. THE 24" Ø STEEL CASING SHALL HAVE A MINIMUM THICKNESS OF 0.50"
 2. THE POLYURETHANE EXTERNAL COATING FOR THE 24" Ø CASING SHALL BE IN ACCORDANCE W/ SECTION 961.04 OF THE CORROSION CONTROL SPECIFICATIONS.
 3. THE CASING SPACERS SHALL BE AS MANUFACTURED BY ADVANCE PRODUCTS & SYSTEMS, INC. OR EQUAL.
 4. RESTRAINED JOINT/ANTI-HOMING DEVICE SHALL BE EBAA-IRON, SERIES 1500, SEE DETAILS THIS SHEET.
- 8" CARRIER PIPE / CASING DETAIL**
NOT TO SCALE

MANHOLE TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
406A	598506.65	1340299.08	472.65
407	598600.45	1340162.70	482.65
408	598612.81	1340171.20	481.70
8" PLUG	598721.54	1340199.73	-----

NOTE: SET MH RIMS FLUSH W/EXISTING GROUND OR PROPOSED GRADE AS APPLICABLE.

8" SEWER MAIN: MH 407 TO 8" PLUGS

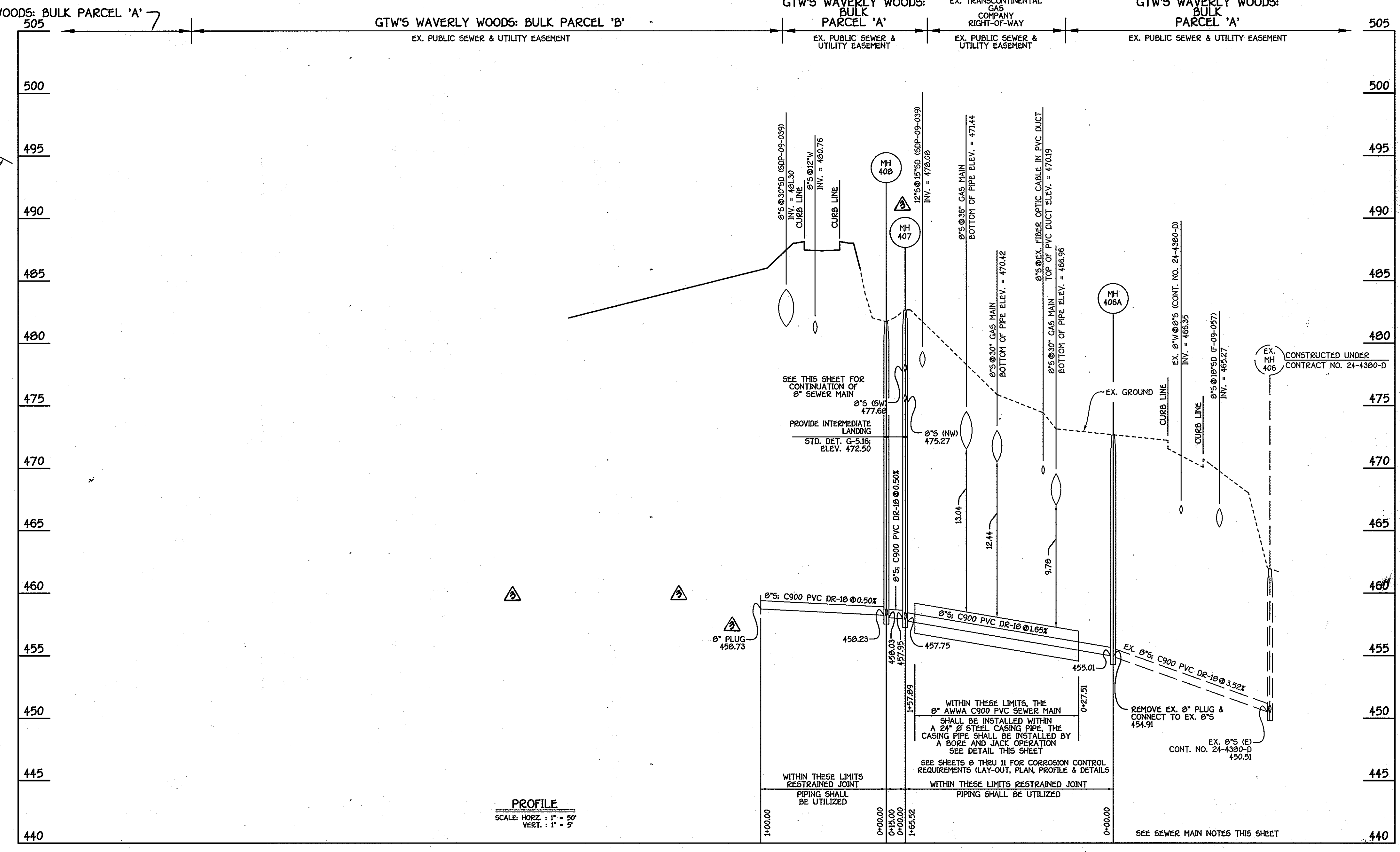
RESTRAINED JOINT / ANTI-HOMING DEVICE DETAILS
NOT TO SCALE



WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN: IRVING GAMBLE ROAD			
0+00.00	8"X8" TEE	598032.79	1339565.64
0+03.00	8" VALVE	598032.62	1339562.65
0+13.00	8" PLUG & BUTTRESS	598032.07	1339552.66

8" WATER MAIN: IRVING GAMBLE ROAD

- 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.



- SEWER MAIN NOTES:**
1. ALL SEWER MAINS SHALL BE AWWA C900 PVC DR-18 PIPE.
 2. ALL PIPE BEDDING SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC SEWER PIPE INSTALLATION.

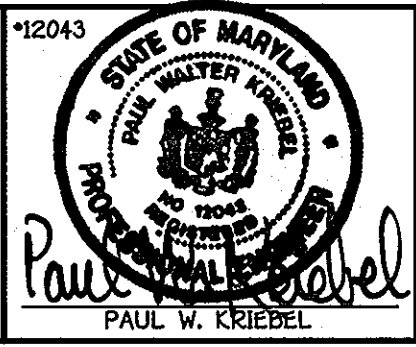
8" SEWER MAIN

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 6 OF 11 SUPERSEDES THE WATER & SEWER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING, ON APRIL 11, 2011

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
SILVE CLERMONT
10/27/11
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
PAUL W. FRIEDEL
11/2/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
410-461-2922



DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: OCTOBER, 2011
BY NO. REVISION DATE

SEWER MAIN EXTENSIONS
PROFILES & CHARTS
600' SCALE MAP NO. 16 BLOCK NO. 3 & 4
F.C.C. WORK ORDER NO. 30770
FILE NAME: WATER & SEWER MAIN EXTENSION PLAN

GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 44 THRU 64, UNITS 49 THRU 63, UNITS 219 THRU 222, UNITS 237 THRU 239 & UNITS 324 THRU 328
WATER & SEWER MAIN EXTENSIONS
CONTRACT NO. 24-4603-D
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 6 OF 11

AS BUILTS
BY: DR DATE: 1-5-12
2-20-12

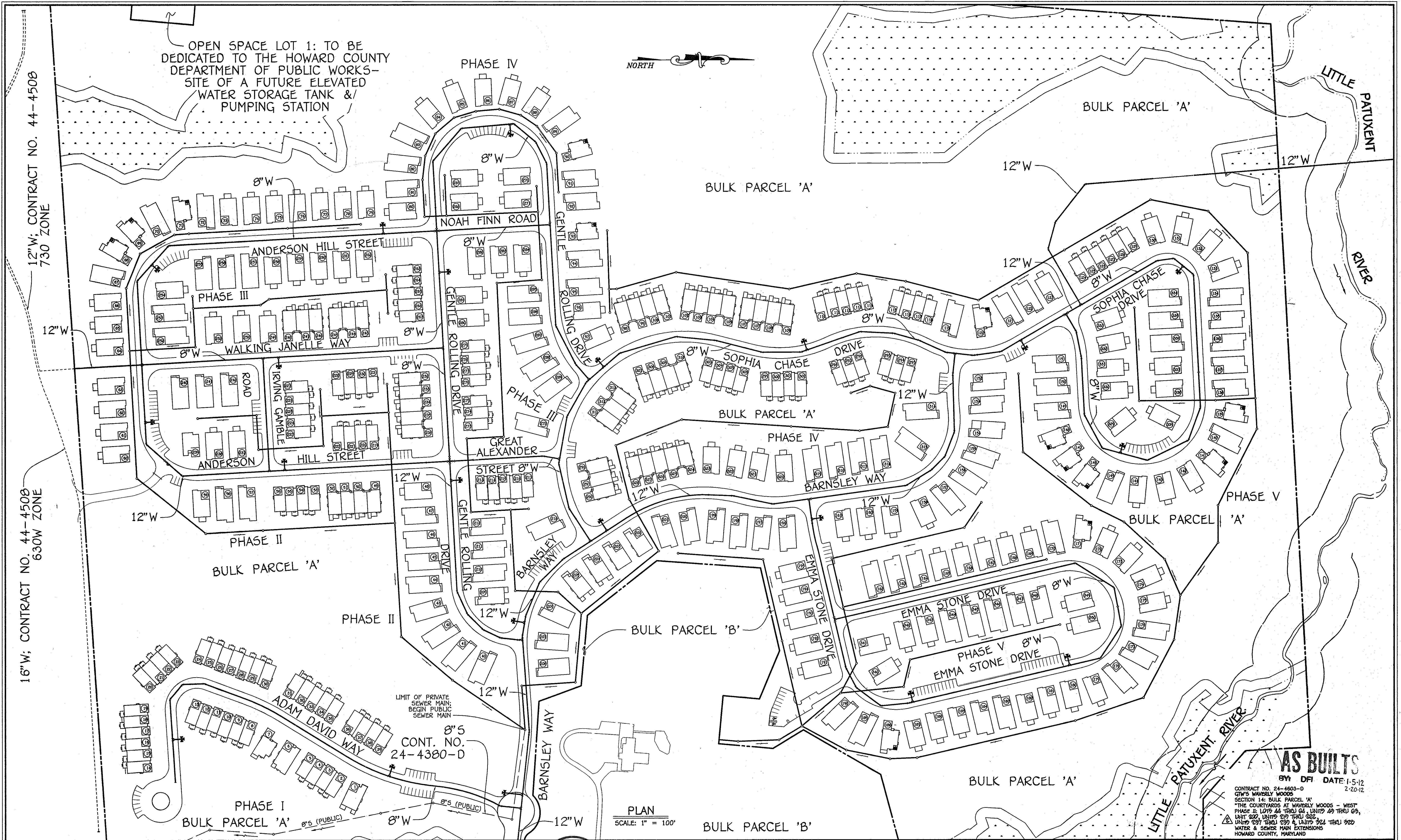
CONTRACT NO. 24-4603-D
GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 44 THRU 64, UNITS 49 THRU 63, UNITS 219 THRU 222, UNITS 237 THRU 239 & UNITS 324 THRU 328
WATER & SEWER MAIN EXTENSIONS
CONTRACT NO. 24-4603-D
HOWARD COUNTY, MARYLAND

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



PLAN
SCALE: 1" = 100'

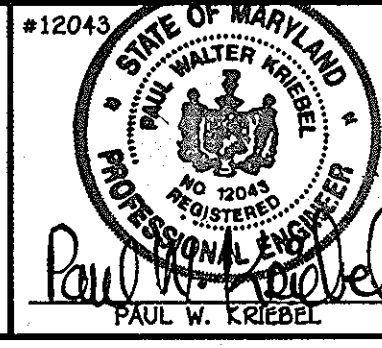
AS BUILT
BY DFI DATE 1-5-12
2-20-12

CONTRACT NO. 24-4603-D
GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 44 THRU 64, UNITS 49 THRU 69,
UNIT 222, UNITS 219 THRU 222
UNITS 221 THRU 222 & UNITS 224 THRU 222
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 2/12/10
DATE: 2/12/10

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
DATE: 2/12/10
DATE: 2/12/10

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CONTINENTAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
BELLEVILLE CITY, MARYLAND 21034
(410) 461-2292



DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	P.M.K.
DATE:	JANUARY, 2010
DATE:	4/11/11
BY:	NO.
REVISION:	

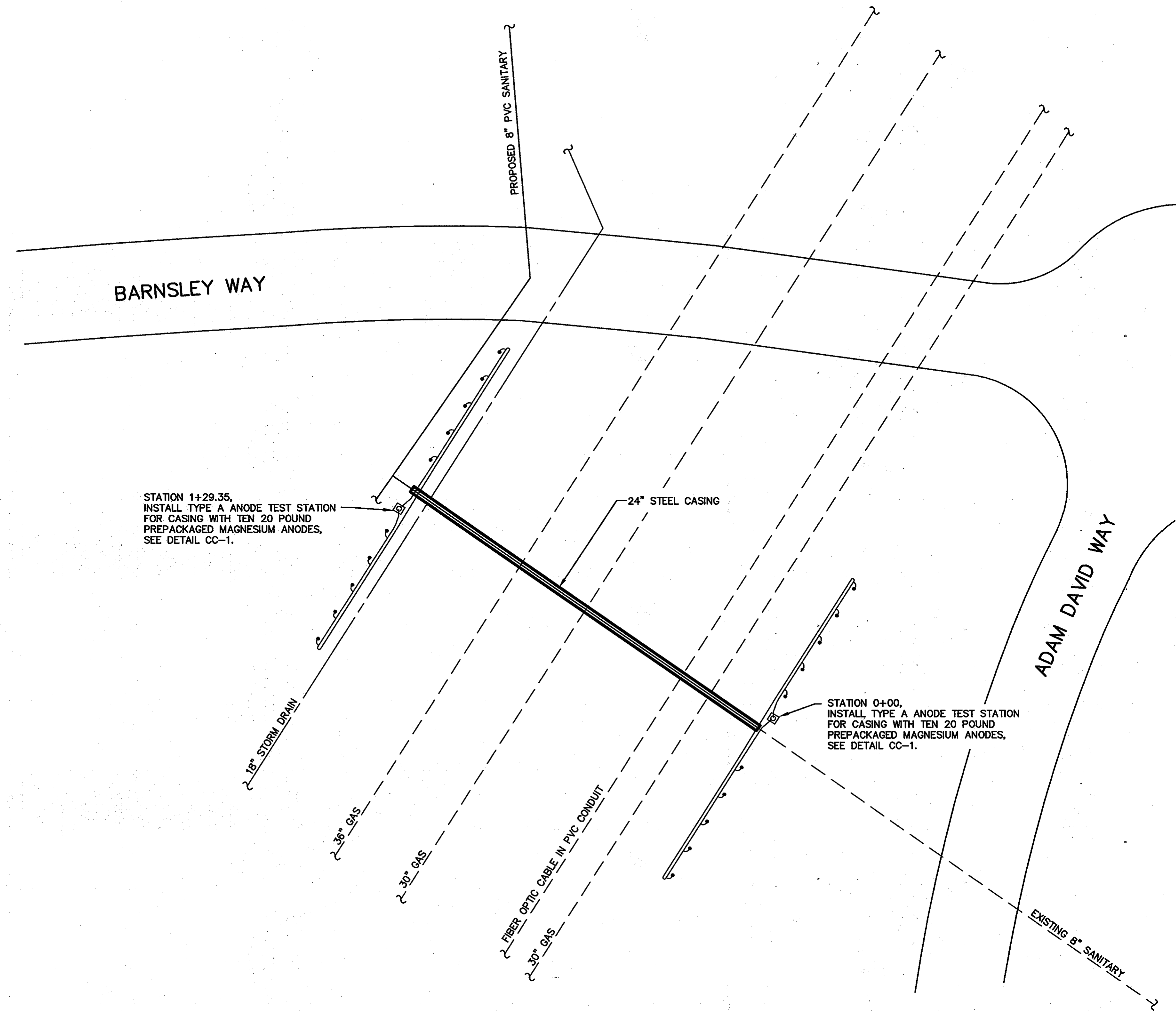
WATER MAIN EXTENSIONS
OVERVIEW
600' SCALE MAP NO. 16 BLOCK NO. 3 & 4
F.C.C. WORK ORDER NO. 30770
FILE NAME: WATER & SEWER MAIN EXTENSION

GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 44 THRU 64, UNITS 49 THRU 69,
UNIT 222, UNITS 219 THRU 222
UNITS 221 THRU 222 & UNITS 224 THRU 222
WATER & SEWER MAIN EXTENSIONS
CONTRACT NO. 24-4603-D
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 11

K:\505KPROJ\30770 GTW WEST\dwg\SITE DEVELOPMENT PLAN\30770 Water Phasing Plan.dwg, 12/29/2009 2:39:07 PM

- NOTES:**
1. STEEL CASING TO BE EXTERNALLY COATED IN ACCORDANCE WITH THE SPECIFICATIONS.
 2. BOND ALL NON WELDED CASING PIPE JOINTS, SEE DETAIL CC-3.



CORROSION CONTROL LAYOUT
SCALE 1"=20'

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

AS BUILT
BY: DJF DATE: 1-5-12
2-20-12

CONTRACT NO. 24-4603-D
GTW'S WAVERLY WOODS
SECTIONS 14; BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 40 THRU 48, LOTS 200 THRU 212,
UNITS 237 THRU 239
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Silvia C. Green
CHIEF, BUREAU OF UTILITIES
DATE: 9/14/11

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
John P. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 9/22/11

RUSSELL CORROSION CONSULTANTS, INC.
7130 MINISTREL WAY, SUITE 230
COLUMBIA, MD 21045



DESIGNED BY:	MJS				
DRAWN BY:	DJD				
CHECKED BY:	MJS				
DATE:	8/24/2011	BY	NO.	REVISION	DATE

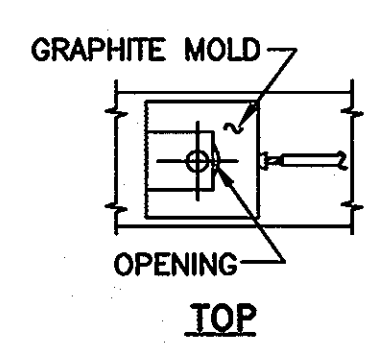
CORROSION CONTROL LAYOUT FOR STEEL CASING	
600' SCALE MAP NO. 16	BLOCK NO. 3 & 4
F.C.C. WORK ORDER NO. 30770	
FILE NAME:	WATER & SEWER MAIN EXTENSIONS

GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
"THE COURTYARDS AT WAVERLY WOODS - WEST"
PHASE II: LOTS 40 THRU 48, LOTS 200 THRU 212,
UNITS 49 THRU 63, UNITS 219 THRU 222 & UNITS 237 THRU 239
WATER & SEWER MAIN EXTENSIONS
CONTRACT NO. 24-4603-D
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

CP-1
SCALE AS SHOWN
SHEET 8 OF 11

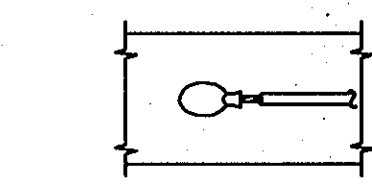


STEP 1



HOLD GRAPHITE MOLD FIRMLY OVER ADAPTER SLEEVE WITH OPENING AWAY FROM OPERATOR - IGNITE STARTING POWDER.

STEP 3



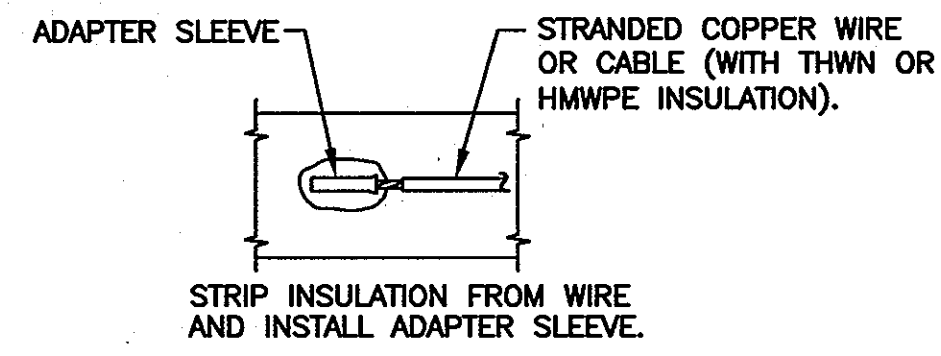
REMOVE SLAG FROM CONNECTION. THOROUGHLY CLEAN WELD AREA.

STEP 4

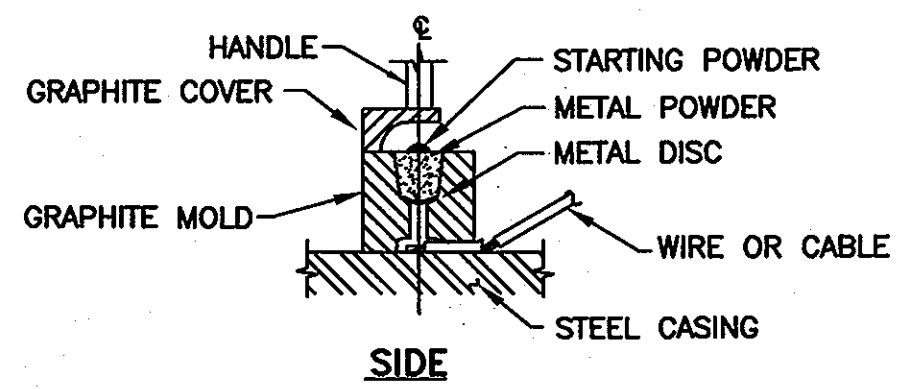
NOTE:
THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE-PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.

CC-2: HORIZONTAL THERMITE WELD

NOT TO SCALE

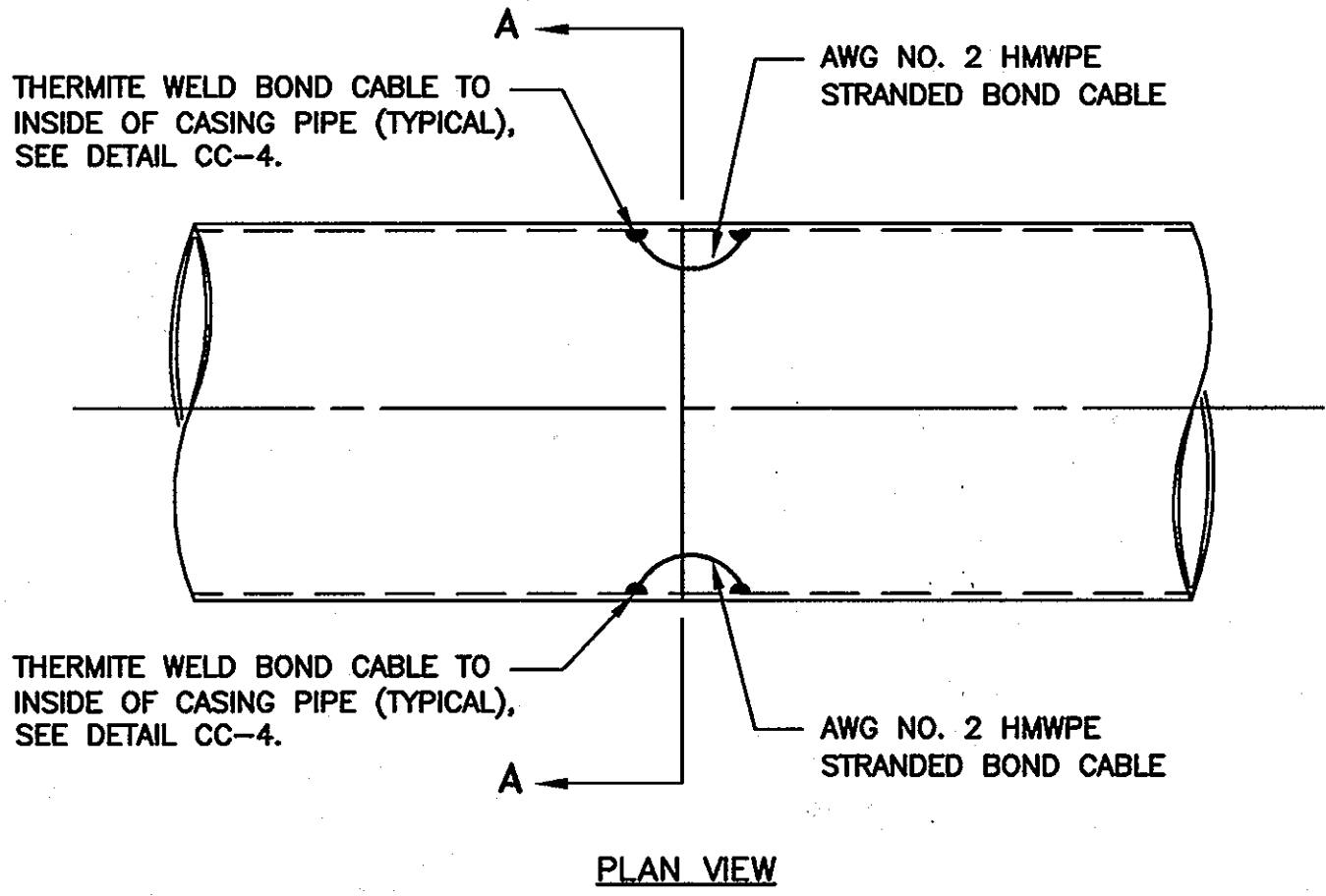


STEP 2

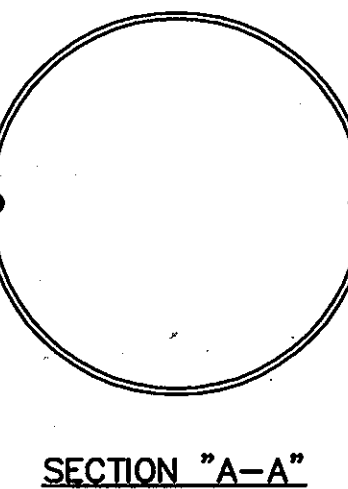


STEP 5

PRIME AND COAT ALL EXPOSED METAL AT WELD AREA.



PLAN VIEW

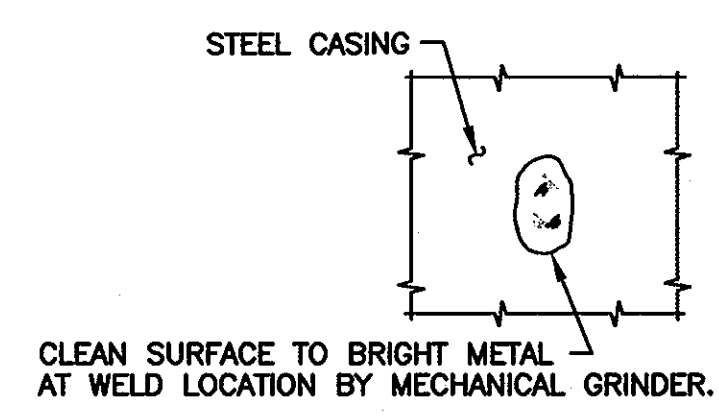


SECTION "A-A"

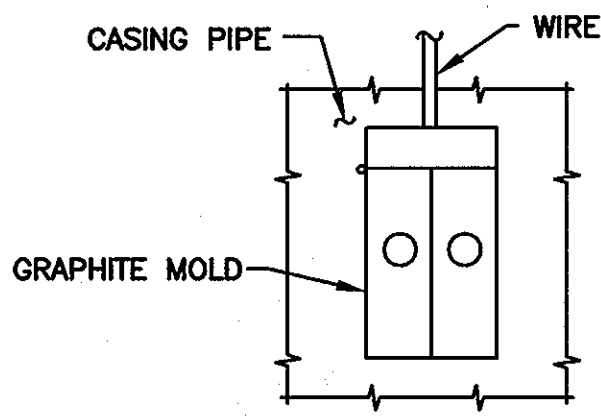
NOTES:
1. THERMITE WELD BOND CABLES TO INSIDE OF CASING PIPE AT SPRINGLINE.
2. BOND CABLES NOT REQUIRED FOR WELDED JOINTS

CC-3: JOINT BONDING

NOT TO SCALE

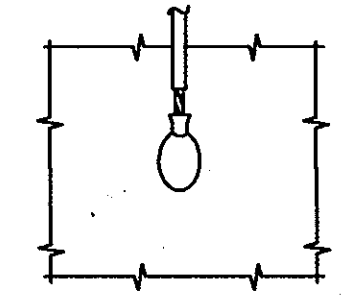


STEP 1



HOLD GRAPHITE MOLD FIRMLY OVER WIRE WITH OPENING AWAY FROM OPERATOR - IGNITE STARTING POWDER.

STEP 3



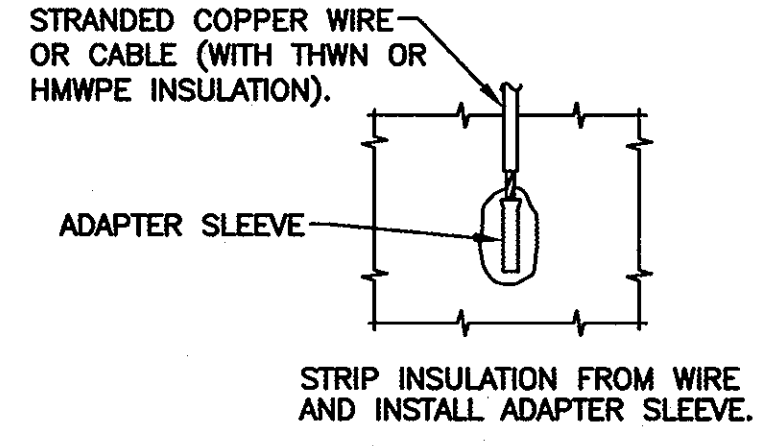
REMOVE SLAG FROM CONNECTION. THOROUGHLY CLEAN WELD AREA.

STEP 4

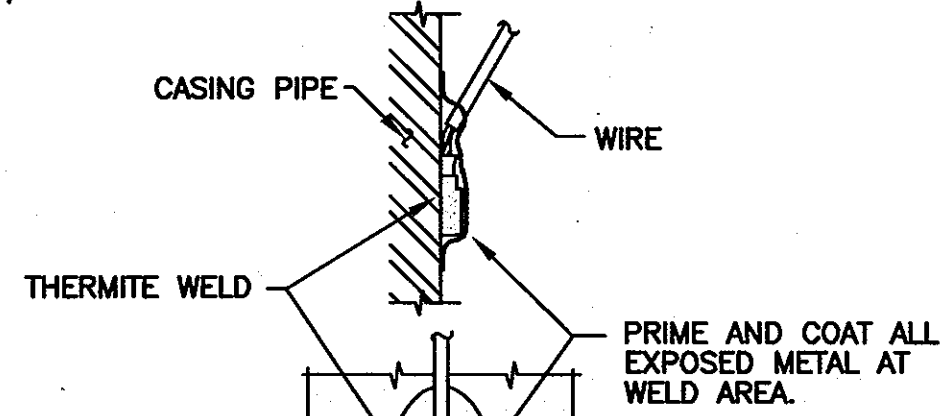
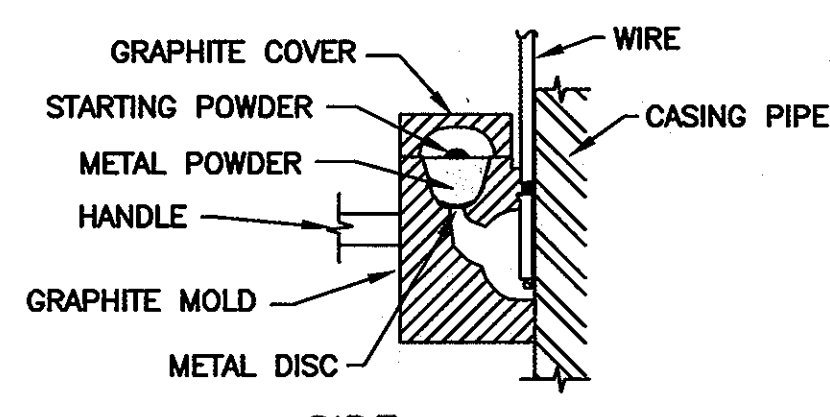
NOTE:
THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE-PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.

CC-4: VERTICAL THERMITE WELD

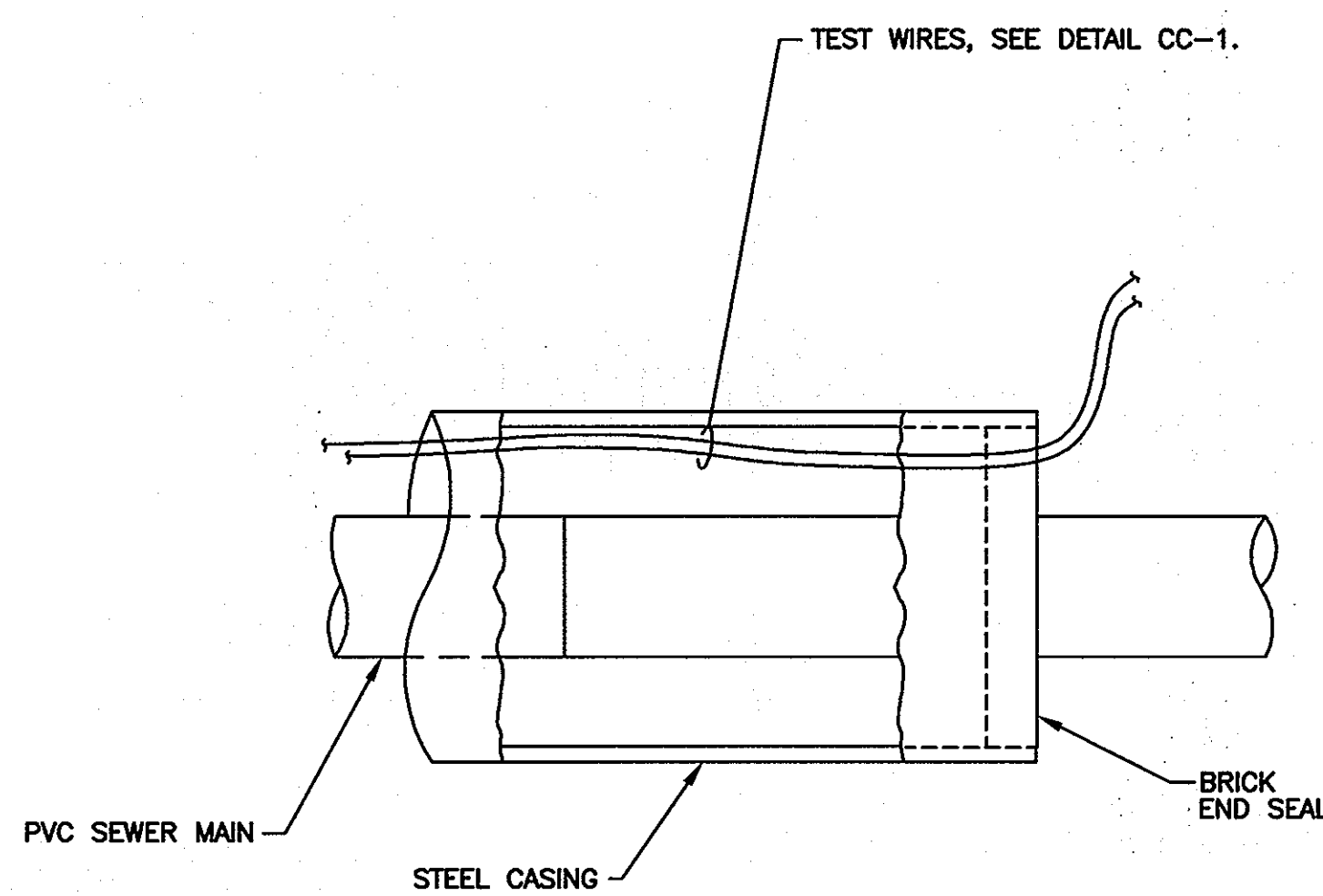
NOT TO SCALE



STEP 2



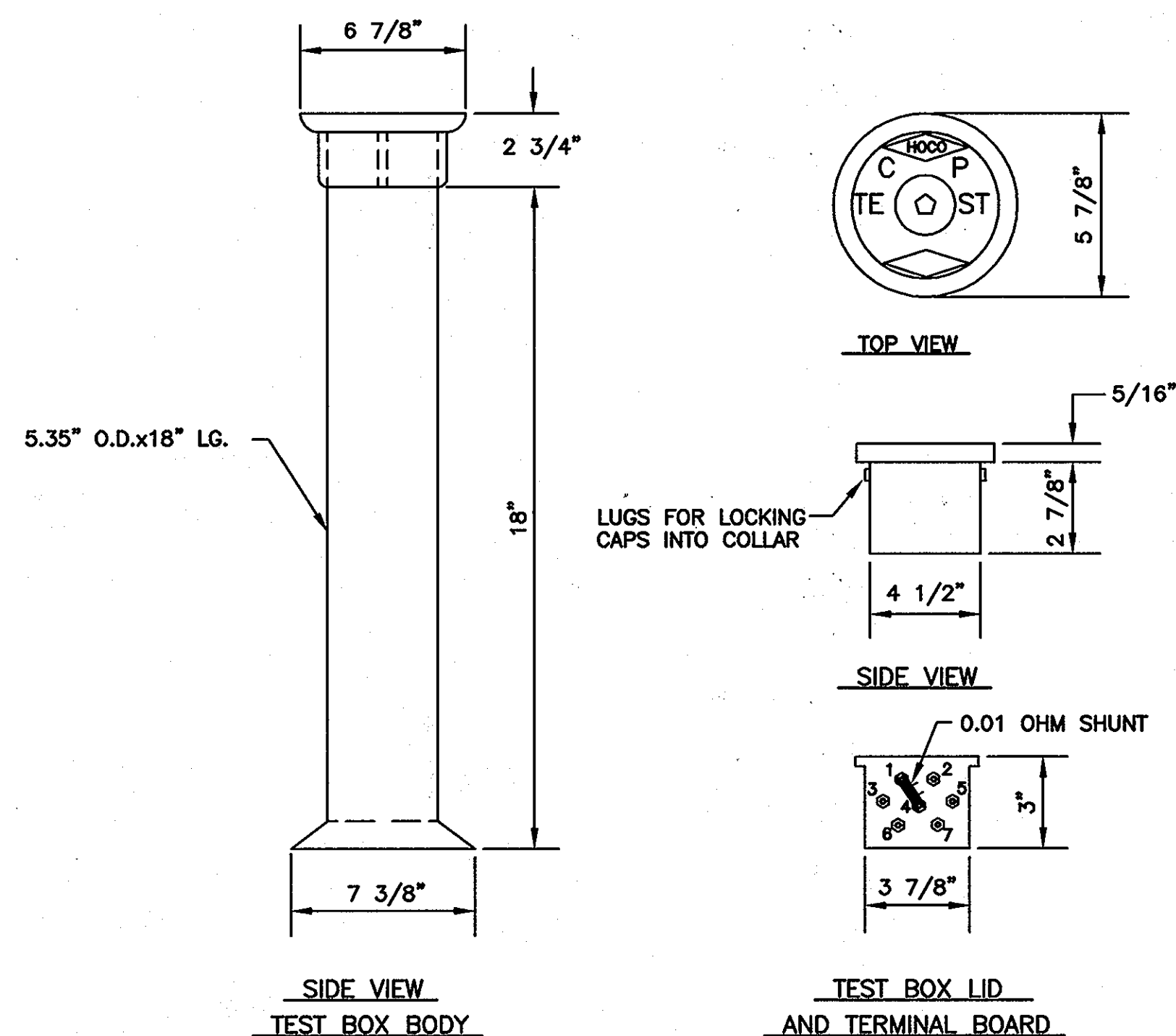
STEP 5



NOTE:
PIPE SUPPORTS NOT SHOWN FOR CLARITY.

CC-5: CASING TEST WIRES

NOT TO SCALE

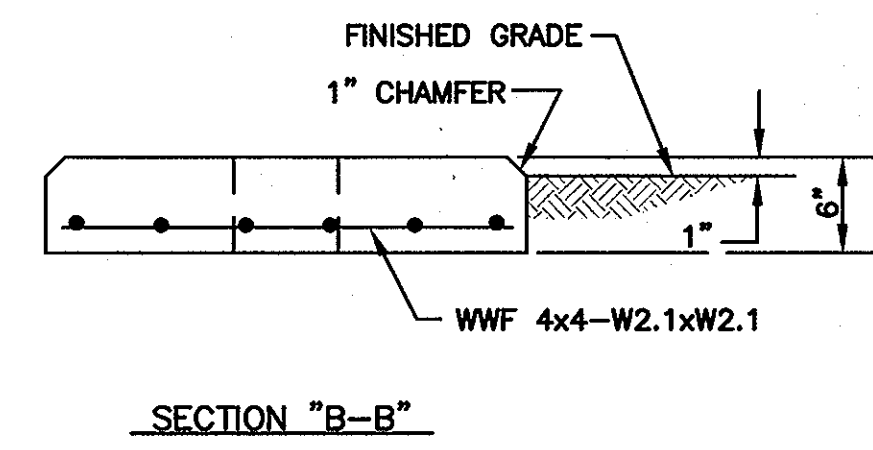


SIDE VIEW
TEST BOX BODY

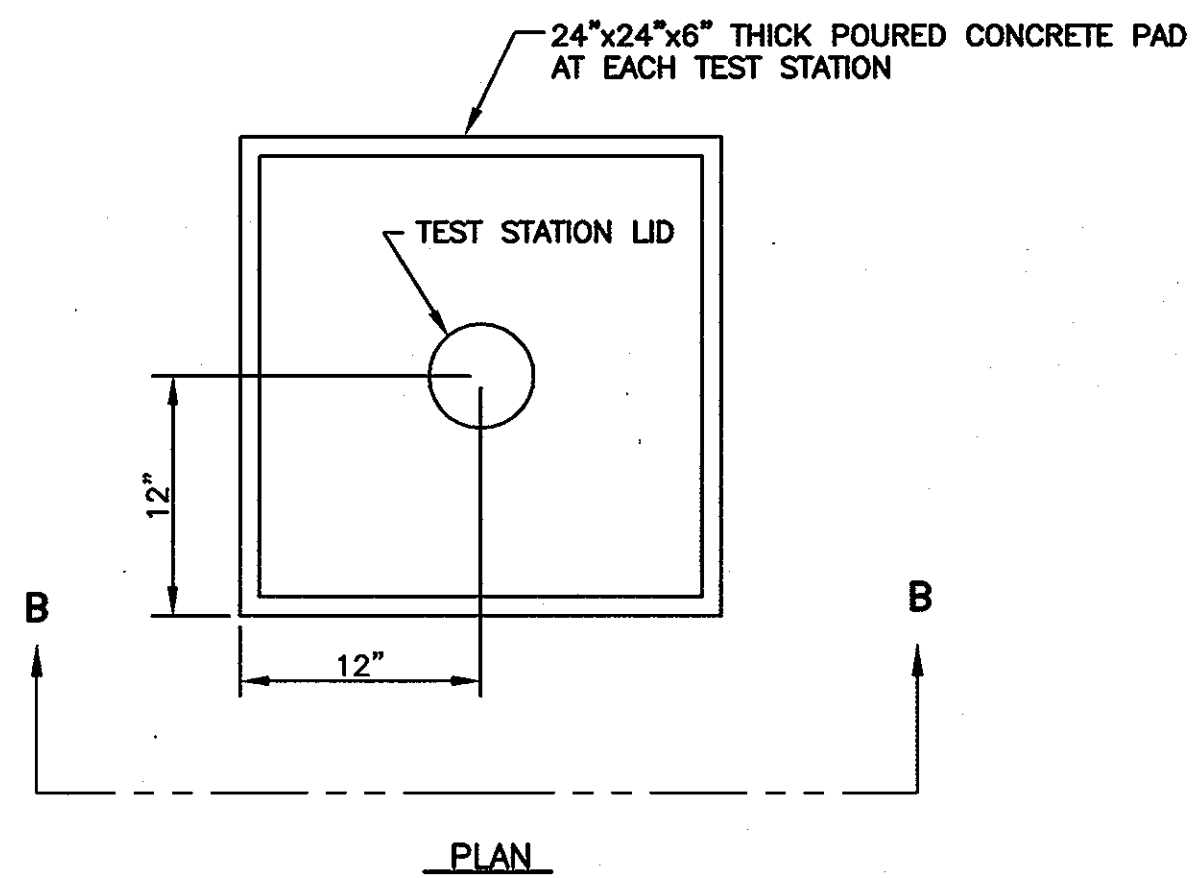
TOP VIEW
TEST BOX LID
AND TERMINAL BOARD

CC-6: TEST BOX

NOT TO SCALE



SECTION "B-B"



PLAN

CC-7: TEST STATION PAD

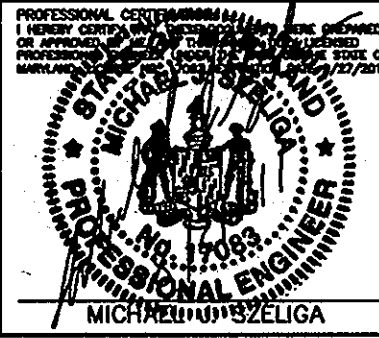
NOT TO SCALE

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

RUSSELL CORROSION CONSULTANTS, INC.
7130 MINISTREL WAY, SUITE 230
COLUMBIA, MD 21045



DESIGNED BY:	MJS	DATE:	8/24/2011
DRAWN BY:	DJD	BY:	
CHECKED BY:	MJS	NO.	
REVISION:		REVISION:	

CORROSION CONTROL DETAILS - 2 FOR STEEL CASING	
600' SCALE MAP NO. 16	BLOCK NO. 3 & 4
F.C.C. WORK ORDER NO. 30770	
FILE NAME:	WATER & SEWER MAIN EXTENSIONS

CONTRACT NO. 24-4603-D
GTW'S WAVERLY WOODS
SECTIONS 14: BULK PARCEL 'A'
'THE COURTYARDS AT WAVERLY WOODS - WEST'
PHASE II: LOTS 40 THRU 48, LOTS 200 THRU 212,
UNITS 237 THRU 239
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

AS BUILTS
BY: DFI DATE: 1-5-12
2-20-12

GTW'S WAVERLY WOODS
SECTION 14: BULK PARCEL 'A'
'THE COURTYARDS AT WAVERLY WOODS - WEST'
PHASE II: LOTS 40 THRU 48, LOTS 200 THRU 212,
UNITS 49 THRU 63, UNITS 219 THRU 222 & UNITS 237 THRU 239
WATER & SEWER MAIN EXTENSIONS
CONTRACT NO. 24-4603-D
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

CP-3
SCALE AS SHOWN
SHEET 10 OF 11

