

QUANTITIES				
ITEM	ESTIMATED QUANTITIES	AS-BUILT QUANTITIES	TYPE	SUPPLIER
8" I.D. PVC 95	807 L.F.	807 L.F.	SDR 35	National Pipe & Plastic
8" S. CL. 52 D.I.P.	169 L.F.	169 L.F.	D.I.P.	Atlantic States
4" S.	704 L.F.	704 L.F.	PVC	National Pipe & Plastic
MANHOLES	17 EACH	17 Ea.	Concrete	Contractors Precast Corp.
TYPE "B" DROP MH	1 EACH	1 Ea.	Concrete	Contractors Precast Corp.
CLEAN-OUTS	26 EACH	26 Ea.	Concrete	Contractors Precast Corp.
12" W. C900 PVC	1,258 L.F.	1,258 L.F.	PVC	National Pipe & Plastic
8" W. C900 PVC	213 L.F.	213 L.F.	PVC	National Pipe & Plastic
6" W. C900 PVC	24 L.F.	24 L.F.	C900 PVC	National Pipe & Plastic
1-1/2" W.H.C.	291 L.F.	291 L.F.	Copper	Mueller Industries
2" DEFLECTION COUPLING	1 EACH	1 Ea.	PVC	Tyler/Union Foundry
3" DEFLECTION COUPLING	5 EACH	5 Ea.	PVC	Tyler/Union Foundry
1/16" H.B.	3 EACH	3 Ea.	M.S. 12	M.S. 12 Fittings
1/32" H.B.	10 EACH	10 Ea.	D.I.P.	M.S. 12 Fittings
12" X6" TEE	3 EACH	3 Ea.	M.J.	Tyler/Union Foundry
8" X6" TEE	1 EACH	1 Ea.	D.I.P.	Tyler/Union Foundry
12" VALVE	4 EACH	4 Ea.	M.J.	Mueller Industries
8" VALVE	2 EACH	2 Ea.	M.J.	Tyler/Union Foundry
6" VALVE	4 EACH	4 Ea.	M.J.	Mueller Industries
FIRE HYDRANT	4 EACH	4 Ea.	Hydrant	Mueller Industries
CONTINUITY TEST STATION	4 EACH	4 Ea.	Concrete	Vestol Manufacturing
1" OUTSIDE METER SETTING	23 EACH	23 Ea.	Meiter	AY Mc Donald
8" SEWER MANHOLE	1 LUMP SUM	1 L.S.		
8" I.D. PVC 95	718 L.F.	718 L.F.	P.V.C.	National Pipe & Plastic
12" X20" REDUCER	1 EACH	1 Ea.	MJ/DIP	Tyler/Union Foundry

BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION #25GE - HORIZONTAL - NAD '83 (LOCATED ALONG OLD ANNAPOLIS ROAD, ON THE SOUTH SIDE, JUST ACROSS THE STREET FROM HOUSE #9718 DORNEYWAY. APPROX. 1.6' OFF EDGE OF ROAD, AND 31.9' WEST OF POWER POLE #363182) N 578.706.5244 E 1,352,699.6686 ELEVATION = 445.695 - VERTICAL - (NAVD '88)	
B.M.#2 - HOWARD COUNTY CONTROL STATION #30BA - HORIZONTAL - (NAD '83) (LOCATED NEAR THE FARMERS & MERCHANTS NATIONAL BANK PARKING LOT, JUST OFF OF OLD ROUTE 108, SET BEHIND THE GUARD RAIL, APPROX. 37.1' SW OFF POWER POLE #268715) N 573,149.0939 E 1,357,083.1735 ELEVATION = 397.140 - VERTICAL - (NAVD '88)	

PRIVATE WELL & PRIVATE SEPTIC SYSTEM CHART				
PARCEL NO.	ADDRESS	OWNER	ABANDON WELL	ABANDON SEPTIC
0086	9725 OLD ANNAPOLIS ROAD	JOHN TENNEY HASON JR FAMILY LLC	YES	YES

NOTE: WATER METERS WILL NOT BE RELEASED BY HOWARD COUNTY TO ANY NEW BUILDING UNTIL THE EXISTING WELLS AND SEPTIC SYSTEMS HAVE BEEN ABANDONED IN ACCORDANCE WITH HOWARD COUNTY HEALTH DEPARTMENT REGULATIONS AND THE EXISTING BUILDINGS ARE CONNECTED TO THE PUBLIC WATER AND SEWER MAINS.

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.

Signature: Paul W. Reichel, for
 BEAZER HOMES CORPORATION, 05-30-14
 SIGNATURE OF DEVELOPER DATE

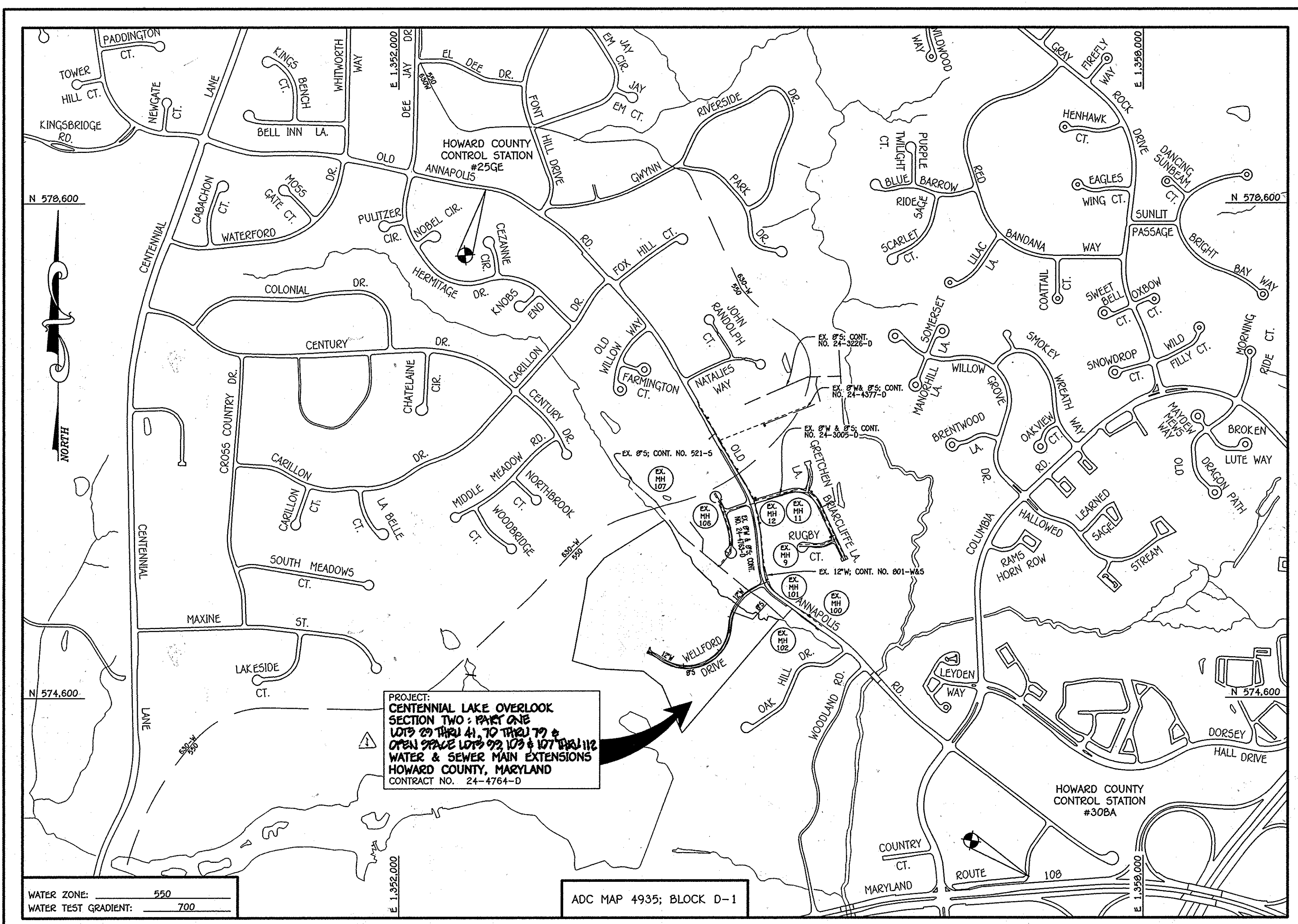
ENGINEER'S CERTIFICATION
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: Paul W. Reichel, for
 BEAZER HOMES CORPORATION, 05-30-14
 SIGNATURE OF DEVELOPER DATE

F-14-081
 MDE TRACKING #2013602051/13-NT-3385

APPROVED:
 Signature: John P. Roberts, for
 HOWARD SOIL CONSERVATION DISTRICT DATE: 6/16/14

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Signature: Susan Green, Chief, Bureau of Utilities
 DATE: 6/16/14



TYPE OF BUILDING:	RESIDENTIAL: SINGLE FAMILY DETACHED
NUMBER OF BUILDABLE LOTS:	29
NUMBER OF OPEN SPACE LOTS:	9
NO. OF WATER HOUSE CONNECTIONS:	28
NO. OF SEWER HOUSE CONNECTIONS:	28
SEWER SHED:	LITTLE PATUXENT
TREATMENT PLANT:	LITTLE PATUXENT WATER RECLAMATION PLANT SAVAGE, MD



PLAN REFERENCE NUMBERS:
 F-14-081
 ECP-12-053

CONTRACT NO. 24-4764-D

CENTENNIAL LAKE OVERLOOK

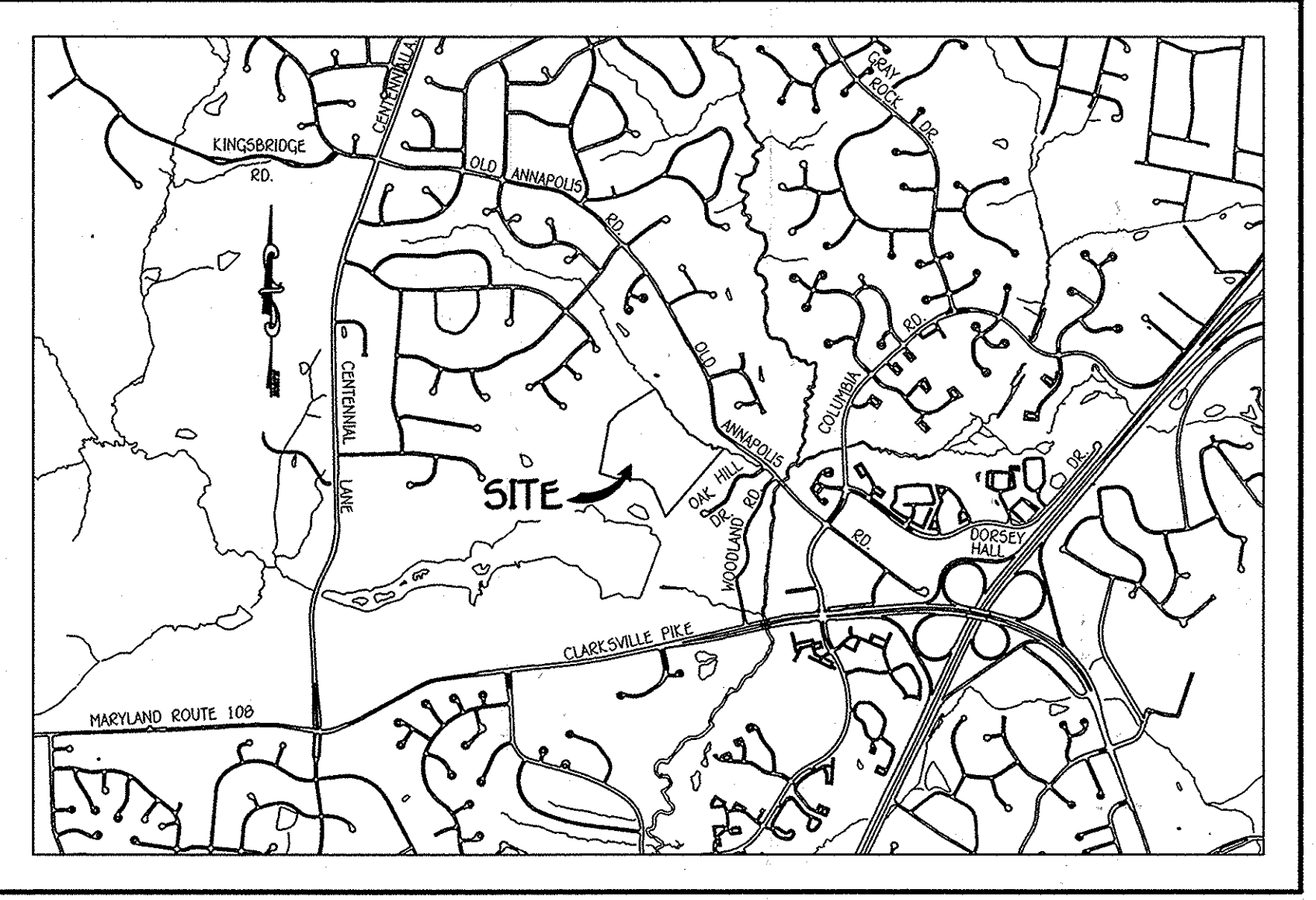
SECTION TWO: PART ONE

LOTS 29 THRU 41, LOTS 70 THRU 79 & OPEN SPACE LOTS 99, 103 & 107 THRU 112

WATER & SEWER MAIN EXTENSIONS

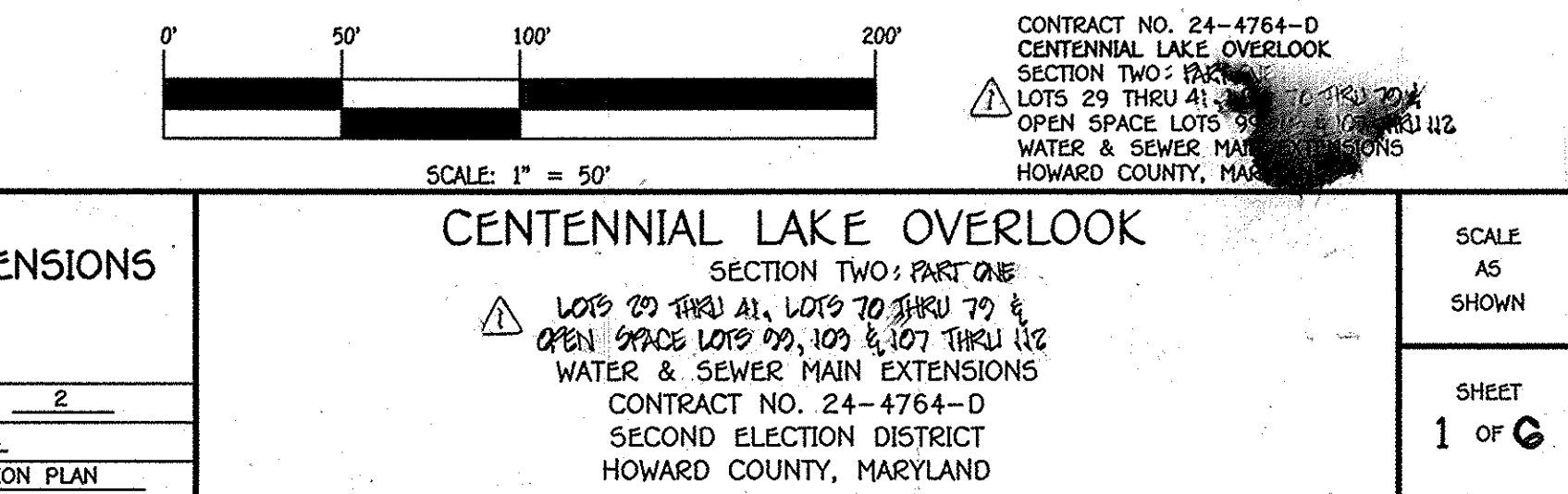
HOWARD COUNTY, MARYLAND

LEGEND	
---	EX. WATER MAIN
---	EX. SEWER MAIN
o	EX. SEWER MANHOLE
---	EX. WATER, SEWER & UTILITY EASEMENT
o	EX. FIRE HYDRANT
o	EX. VALVE
---	PROP. WATER MAIN
---	PROP. SEWER MAIN
o	PROP. SEWER MANHOLE
---	PROP. WATER, SEWER & UTILITY EASEMENT
o	PROP. V.H.C.
o	PROP. S.H.C.
o	PROP. FIRE HYDRANT
o	PROP. VALVE

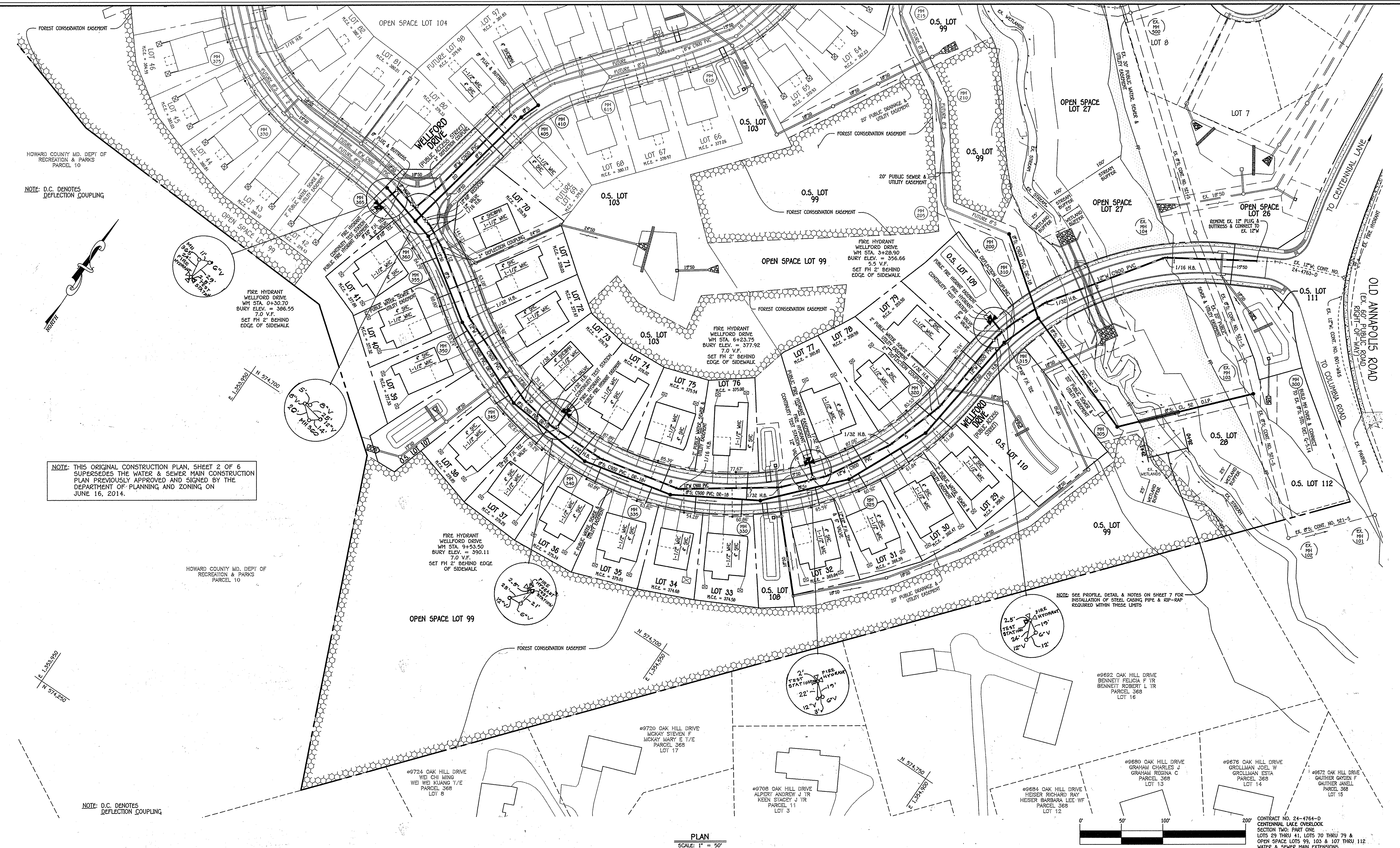


GENERAL NOTES
 SCALE: 1" = 200'

- 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 MARCH, 2012 BY FISHER, COLLINS & CARTER, 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 NO. 30BA & NO. 25GA.
 ALL VERTICAL CONTROLS ARE BASED ON NAVD '88 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. THE CONTRACTOR'S WORK REQUIREMENTS FOR 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 DRUG 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) 410-657-8713
 BGE (EMERGENCY) 410-685-0123
 BUREAU OF UTILITIES 410-313-4900
 COLUMBIA PIPELINE CO. 410-795-1950
 MISS UTILITY 1-800-257-7777
 STATE HIGHWAY ADMINISTRATION 410-531-9533
 VERTEL 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 STOP ARE 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.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAY ADMINISTRATION, 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 DWP REQUIREMENTS PER SECTION 18.114(b) OF THE HOWARD COUNTY CODE.
- PART B: WATER MAIN GENERAL NOTES**
- ALL WATER MAINS SHALL BE AWMA C900 PVC, DR-18.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-0" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
 - 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 STANDARD SPECIFICATIONS AND SECTION 4.02 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 - TRACKER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE WITH 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 SPECIFICATIONS FOR PVC 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, SEVENTEEN (17) POUND 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. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. 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: 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 UNDER INSERT 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 3-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE OBTAINABLE PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.
 - FIVE DEGREE SWEEPS SHALL BE BELL SPIGOT, RATED FOR A MINIMUM 225 PSI, DR-18 MEETING THE REQUIREMENTS OF AWMA C900 AND SHALL BE MULTI FITTINGS (RFX) 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 INSERT DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR FLAN 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 EBA IRON, INC. OR APPROVAL EQUAL TO ACCOMMODATE A SPREADER SYSTEM. ALL RESIDENTIAL DWELLING UNITS SHALL HAVE A 1-1/2" 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 WATERIGHT FRAME AND COVER, STANDARD DETAIL 05.52. WHERE WATERIGHT 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.I.S." INDICATES THAT CELLAR CANNOT BE SERVED.



DESIGNED BY:		DRAWN BY:		CHECKED BY:		DATE:	
	B.C.R.		B.C.R.		P.M.K.		6/16/14
W & S MAINS TO SERVICE LOTS 29, 103, 107 & 112. REVISE CONTRACT TITLE/QUANTITIES 9/6/15							
FILE NAME:	WATER & SEWER MAIN EXTENSION PLAN			SCALE:	600' SCALE MAP NO. 30 BLOCK NO. 2		
F.C.C. WORK ORDER NO.	11042-3001			SHEET:	1 OF 6		



NOTE: D.C. DENOTES DEFLECTION COUPLING

FIRE HYDRANT
WELLFORD DRIVE
WM STA. 0+30.70
BURY ELEV. = 386.55
7.0' V.F.
SET FH 2' BEHIND
EDGE OF SIDEWALK

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 2 OF 6 SUPERSEDES THE WATER & SEWER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON JUNE 16, 2014.

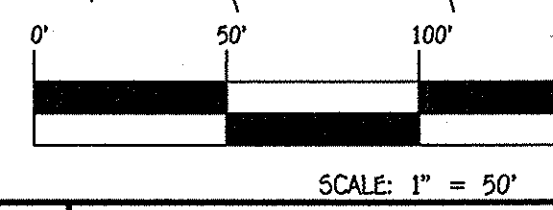
HOWARD COUNTY MD. DEPT OF RECREATION & PARKS PARCEL 10

FIRE HYDRANT
WELLFORD DRIVE
WM STA. 9+53.50
BURY ELEV. = 390.11
7.0' V.F.
SET FH 2' BEHIND
EDGE OF SIDEWALK

NOTE: SEE PROFILE DETAIL & NOTES ON SHEET 7 FOR INSTALLATION OF STEEL CASING PIPE & RFP-RAP REQUIRED WITHIN THESE LIMITS

NOTE: D.C. DENOTES DEFLECTION COUPLING

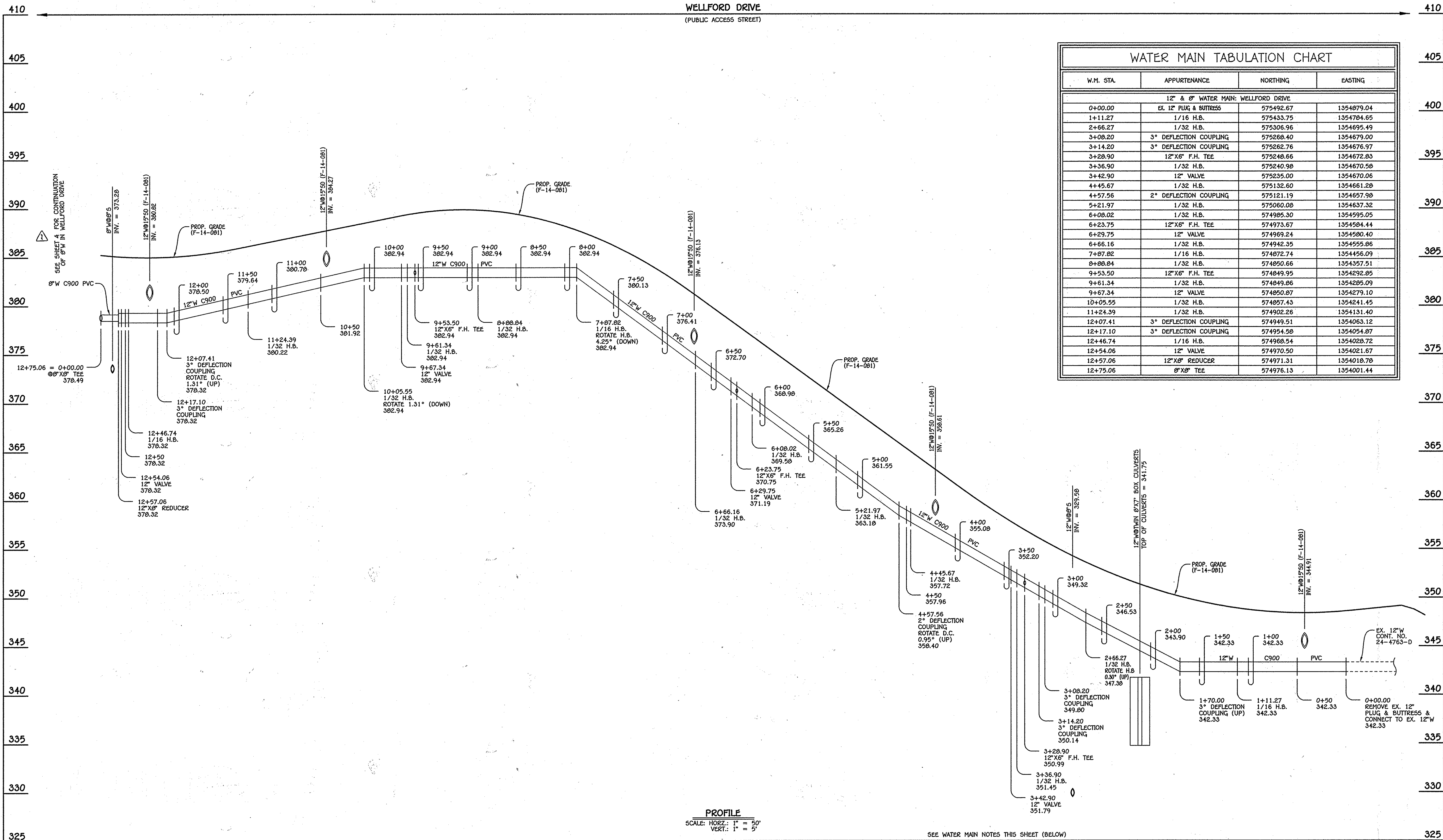
PLAN
SCALE: 1" = 50'



CONTRACT NO. 24-4764-D
CENTENNIAL LAKE OVERLOOK
SECTION TWO: PART ONE
LOTS 29 THRU 41, LOTS 70 THRU 79 &
OPEN SPACE LOTS 99, 103 & 107 THRU 112
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Stacy C. Con</i> CHIEF, BUREAU OF UTILITIES</p>	<p>DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND</p> <p><i>John E. Hill</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION</p> <p>3-26-15</p>	<p>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.</p> <p>FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS</p> <p>CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELIJAH CITY, HOWARD COUNTY, MARYLAND (410) 461-2295</p>	<p>DESIGNED BY: B.C.R.</p> <p>DRAWN BY: B.C.R.</p> <p>CHECKED BY: P.W.K.</p> <p>DATE: MARCH, 2015</p>	<p>BY NO. REVISION DATE</p>	<p>WATER & SEWER MAIN EXTENSIONS PLAN</p> <p>600' SCALE MAP NO. 30 BLOCK NO. 2 F.C.C. WORK ORDER NO. 11042-3001 FILE NAME: WATER & SEWER MAIN EXTENSION PLAN</p>	<p>CENTENNIAL LAKE OVERLOOK SECTION TWO: PART ONE LOTS 29 THRU 41, LOTS 70 THRU 79 & OPEN SPACE LOTS 99, 103, & 107 THRU 112 WATER & SEWER MAIN EXTENSIONS CONTRACT NO. 24-4764-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p> <p>SCALE AS SHOWN</p> <p>SHEET 2 OF 6</p>
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I:\2015\1002\1002\Water & Sewer\Contract\Contract No. 24-4764-d - Phase 2\Station #1 Feb. 2015 Phase 2 Part 1\1002-3002 Water and Sewer Contract Plan (Phase 2) - Part Long, 3/2/2015 9:52:08 AM

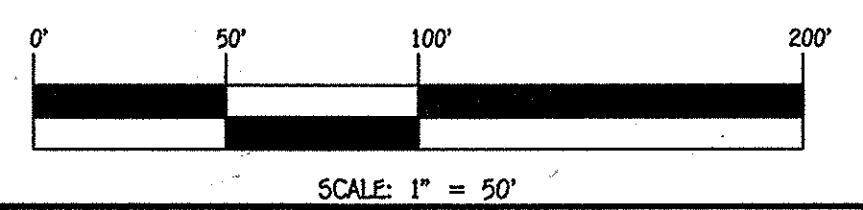


WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
0+00.00	EX. 12" PLUG & BUTRESS	575492.67	1354879.04
1+11.27	1/16 H.B.	575433.75	1354784.65
2+66.27	1/32 H.B.	575306.96	1354695.49
3+08.20	3" DEFLECTION COUPLING	575268.40	1354679.00
3+14.20	3" DEFLECTION COUPLING	575262.76	1354676.97
3+28.90	12" X 6" F.H. TEE	575248.66	1354672.83
3+36.90	1/32 H.B.	575240.98	1354670.58
3+42.90	12" VALVE	575235.00	1354670.06
4+45.67	1/32 H.B.	575132.60	1354661.28
4+57.56	2" DEFLECTION COUPLING	575121.19	1354657.98
5+21.97	1/32 H.B.	575060.08	1354637.32
6+08.02	1/32 H.B.	574985.30	1354595.05
6+23.75	12" X 6" F.H. TEE	574973.57	1354584.44
6+29.75	12" VALVE	574969.24	1354580.40
6+66.16	1/32 H.B.	574942.35	1354555.86
7+87.82	1/16 H.B.	574872.74	1354456.09
8+88.84	1/32 H.B.	574850.66	1354357.51
9+53.50	12" X 6" F.H. TEE	574849.95	1354292.85
9+61.34	1/32 H.B.	574849.86	1354285.09
9+67.34	12" VALVE	574850.87	1354279.10
10+05.55	1/32 H.B.	574857.43	1354241.45
11+24.39	1/32 H.B.	574902.26	1354131.40
12+07.41	3" DEFLECTION COUPLING	574949.51	1354063.12
12+17.10	3" DEFLECTION COUPLING	574954.98	1354054.87
12+46.74	1/16 H.B.	574968.54	1354028.72
12+54.06	12" VALVE	574970.50	1354021.67
12+57.06	12" X 8" REDUCER	574971.31	1354018.78
12+75.06	8" X 8" TEE	574976.13	1354001.44

12" & 8" WATER MAIN: WELLFORD DRIVE

- WATER MAIN NOTES:**
- ALL WATER MAINS SHALL BE AMWA C900 PVC PIPE; DR-18.
 - 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.
 - DEFLECTION COUPLINGS SHALL BE CERTAIN-TIED PVC HIGH DEFLECTION COUPLINGS.
 - ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

NOTE: A COMPLETE SECTION OF 20' LENGTH WATER MAIN PIPE SHALL BE CENTERED UNDER ALL STORM DRAIN CROSSING.



CONTRACT NO. 24-4764-D
CENTENNIAL LAKE OVERLOOK
SECTION TWO: PART ONE
LOTS 29 THRU 41, LOTS 70 THRU 72 &
OPEN SPACE LOTS 99, 103 & 107 THRU 112
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities DATE: 6/16/14	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND Chief, Development Engineering Division DATE: 6-16-14
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I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY 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 - 30275 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21036
(410) 461-2299

PAUL W. REIBEL

DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	P.M.K.
DATE:	MAY, 2014

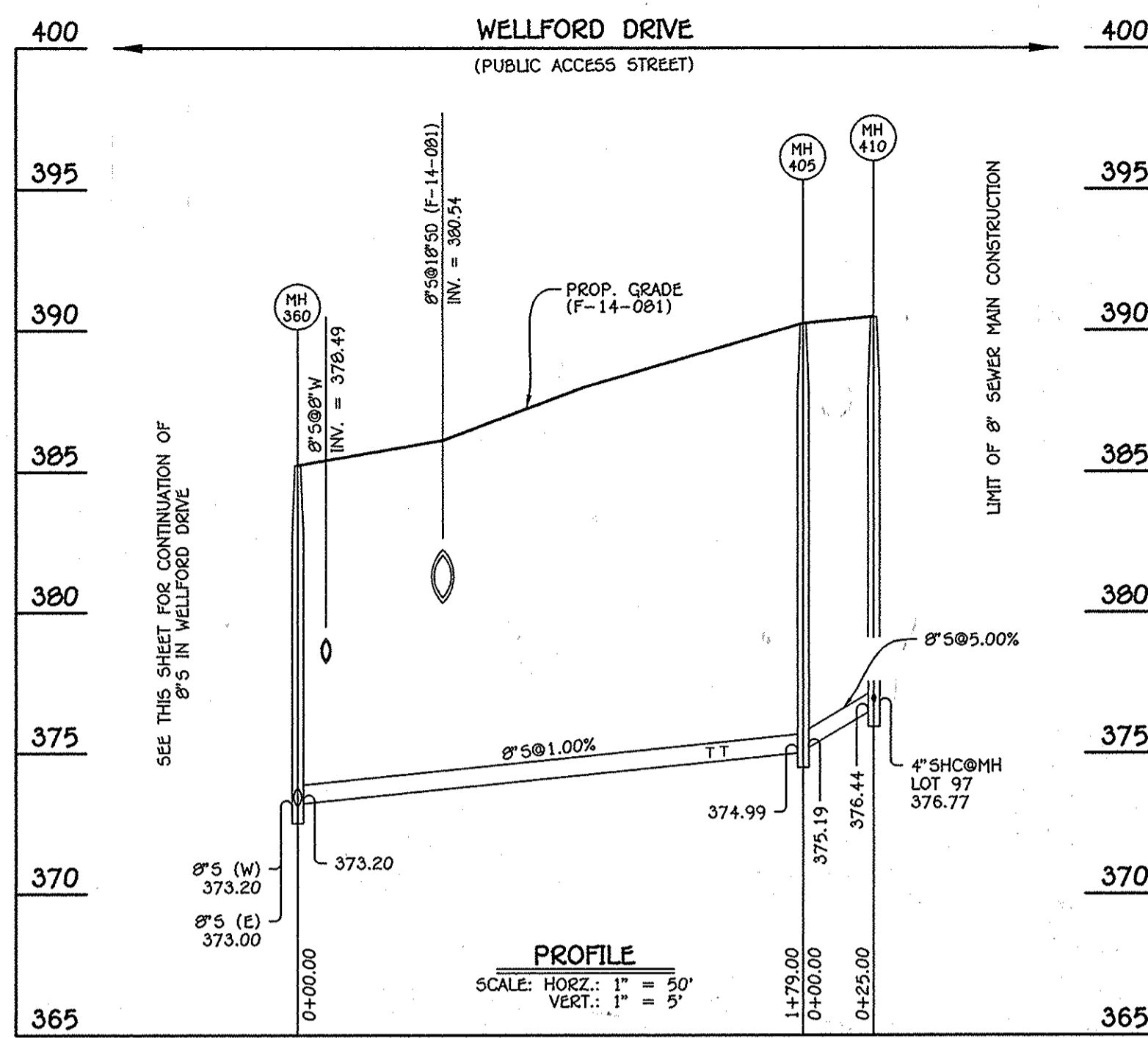
60' SCALE MAP NO. 30 BLOCK NO. 2
F.C.C. WORK ORDER NO. 11042-3001
FILE NAME: WATER & SEWER MAIN EXTENSION PLAN

**WATER MAIN EXTENSION
PROFILE, CHART & NOTES**

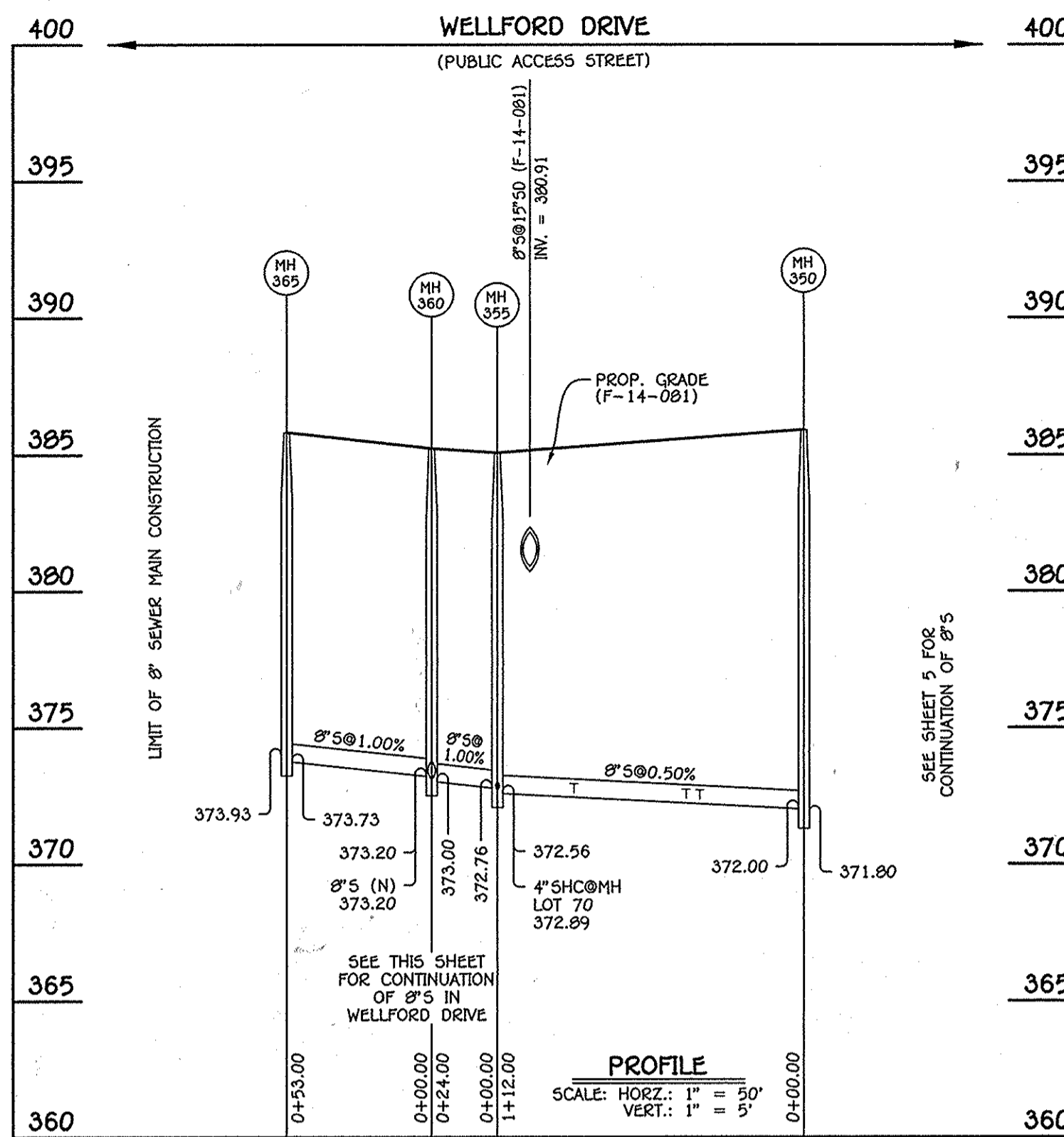
CENTENNIAL LAKE OVERLOOK

SECTION TWO: PART ONE
 △ LOTS 29 THRU 41, LOTS 70 THRU 72 &
 OPEN SPACE LOTS 99, 103 & 107 THRU 112
 WATER & SEWER MAIN EXTENSIONS
 CONTRACT NO. 24-4764-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

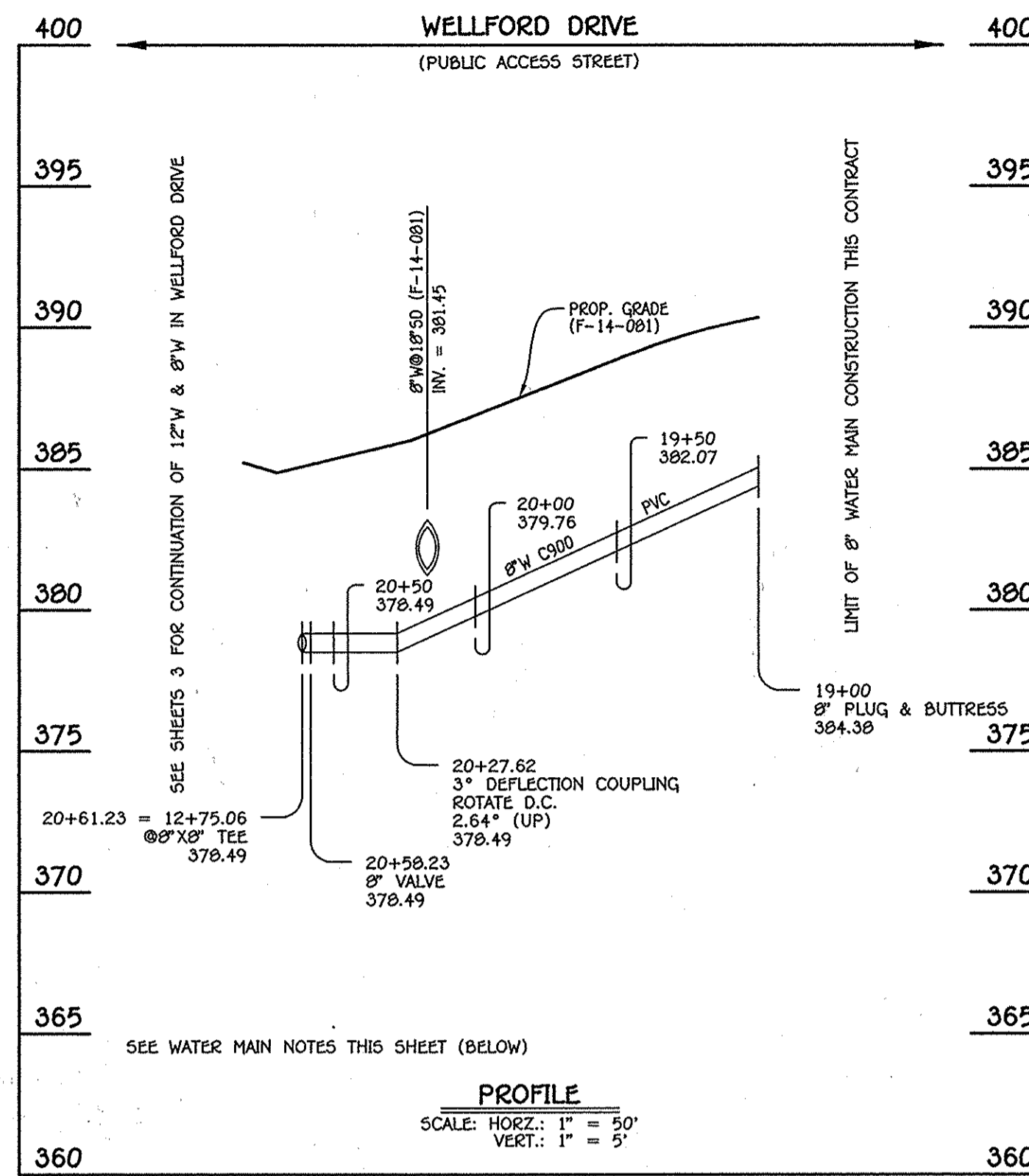
SCALE AS SHOWN
SHEET 3 OF 6



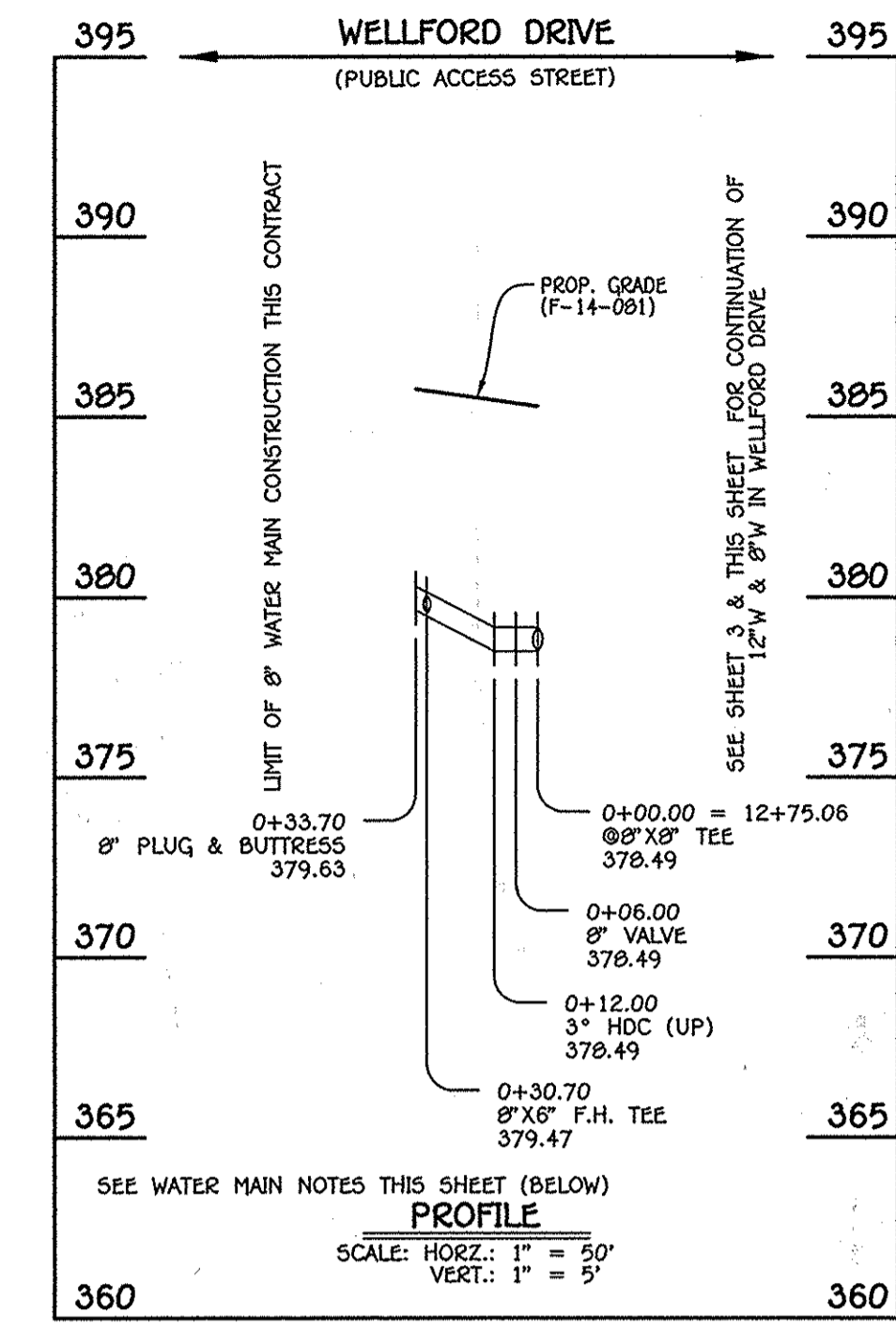
8" SEWER MAIN: WELLFORD DRIVE - MH 360 TO MH 410



8" SEWER MAIN: WELLFORD DRIVE - MH 350 TO MH 365



8" WATER MAIN: WELLFORD DRIVE



8" WATER MAIN: WELLFORD DRIVE

MANHOLE TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
360	574963.10	1354010.96	305.03
405	575130.62	1354046.08	390.32
410	575162.00	1354054.93	391.00

NOTE: SET MH RIMS FLUSH W/PROPOSED GRADE.

SEWER HOUSE CONNECTION CHART					
STATION	LOT	ELEVATION AT MAIN	ELEVATION AT R/W	M.C.E.	B.E.
MH 360 TO MH 405					
1+46 RT.	69	374.83	375.27	379.67	380.50
1+51 LT.	98	374.88	375.54	379.94	384.40
MH 405 TO MH 410					
@MH 410 LT.	97	376.77	377.43	381.83	384.50

MANHOLE TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
355	574956.67	1354034.08	384.67
360	574963.10	1354010.96	385.00
365	574977.30	1353999.90	385.95

NOTE: SET MH RIMS FLUSH W/PROPOSED GRADE.

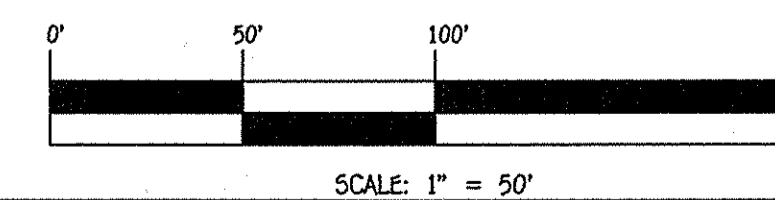
SEWER HOUSE CONNECTION CHART					
STATION	LOT	ELEVATION AT MAIN	ELEVATION AT R/W	M.C.E.	B.E.
MH 350 TO MH 355					
0+30 LT.	40	372.36	372.72	377.32	380.75
0+43 RT.	71	372.39	373.13	377.73	380.55
0+64 LT.	41	372.59	372.99	377.49	379.55
@MH 355 RT.	70	372.89	373.69	378.19	381.85

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN: WELLFORD DRIVE			
19+00.00	8" PLUG & BUTTRESS	575133.93	1354034.02
20+27.62	3" DEFLECTION COUPLING	575008.51	1354010.44
20+50.23	8" VALVE	574979.02	1354002.24
20+61.23	8"X8" TEE	574976.13	1354001.44

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN: WELLFORD DRIVE			
0+00.00	8"X8" TEE	574976.13	1354001.44
0+06.00	8" VALVE	574977.73	1353995.66
0+30.70	8"X6" F.H. TEE	574984.35	1353971.86
0+33.70	8" PLUG & BUTTRESS	574985.15	1353968.97

NOTE: A COMPLETE SECTION OF 20' LENGTH WATER MAIN PIPE SHALL BE CENTERED UNDER ALL STORM DRAIN CROSSINGS.

- WATER MAIN NOTES:**
- ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE; DR-18.
 - 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.
 - DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
 - ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.



NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 4 OF 6 SUPERSEDES THE WATER & SEWER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON JUNE 16, 2014.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

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.



DESIGNED BY :
B.C.R.
DRAWN BY :
B.C.R.
CHECKED BY :
P.W.K.
DATE :
MARCH, 2015

WATER & SEWER MAIN EXTENSIONS
PROFILES, CHARTS & NOTES

600' SCALE MAP NO. 30 BLOCK NO. 2
F.C.C. WORK ORDER NO. 11042-3001
FILE NAME : WATER & SEWER MAIN EXTENSION PLAN

CENTENNIAL LAKE OVERLOOK

SECTION TWO: PART ONE
LOTS 29 THRU 41, LOTS 70 THRU 79 &
OPEN SPACE LOTS 99, 103 & 107 THRU 112
WATER & SEWER MAIN EXTENSIONS
CONTRACT NO. 24-4764-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 6

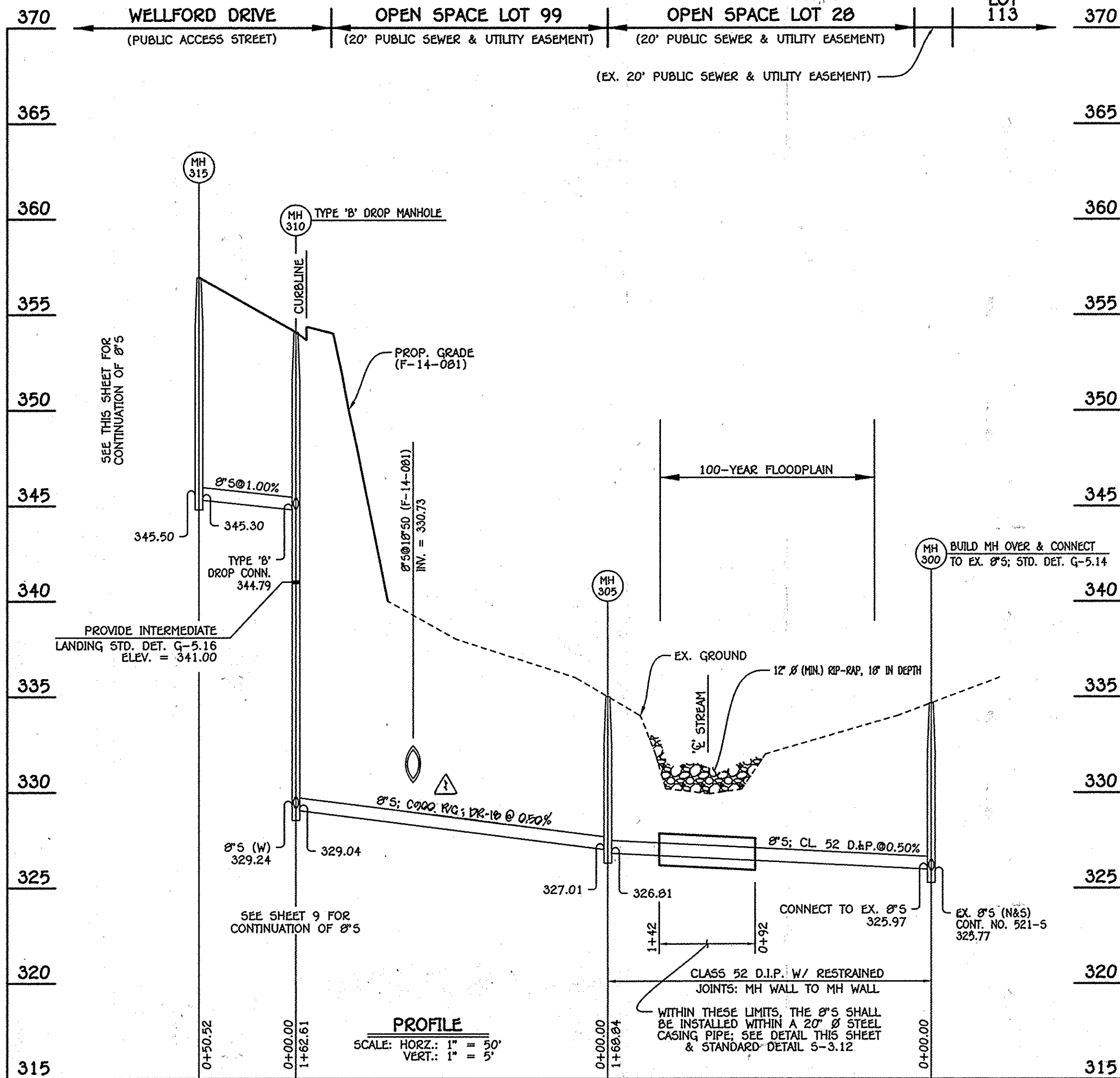
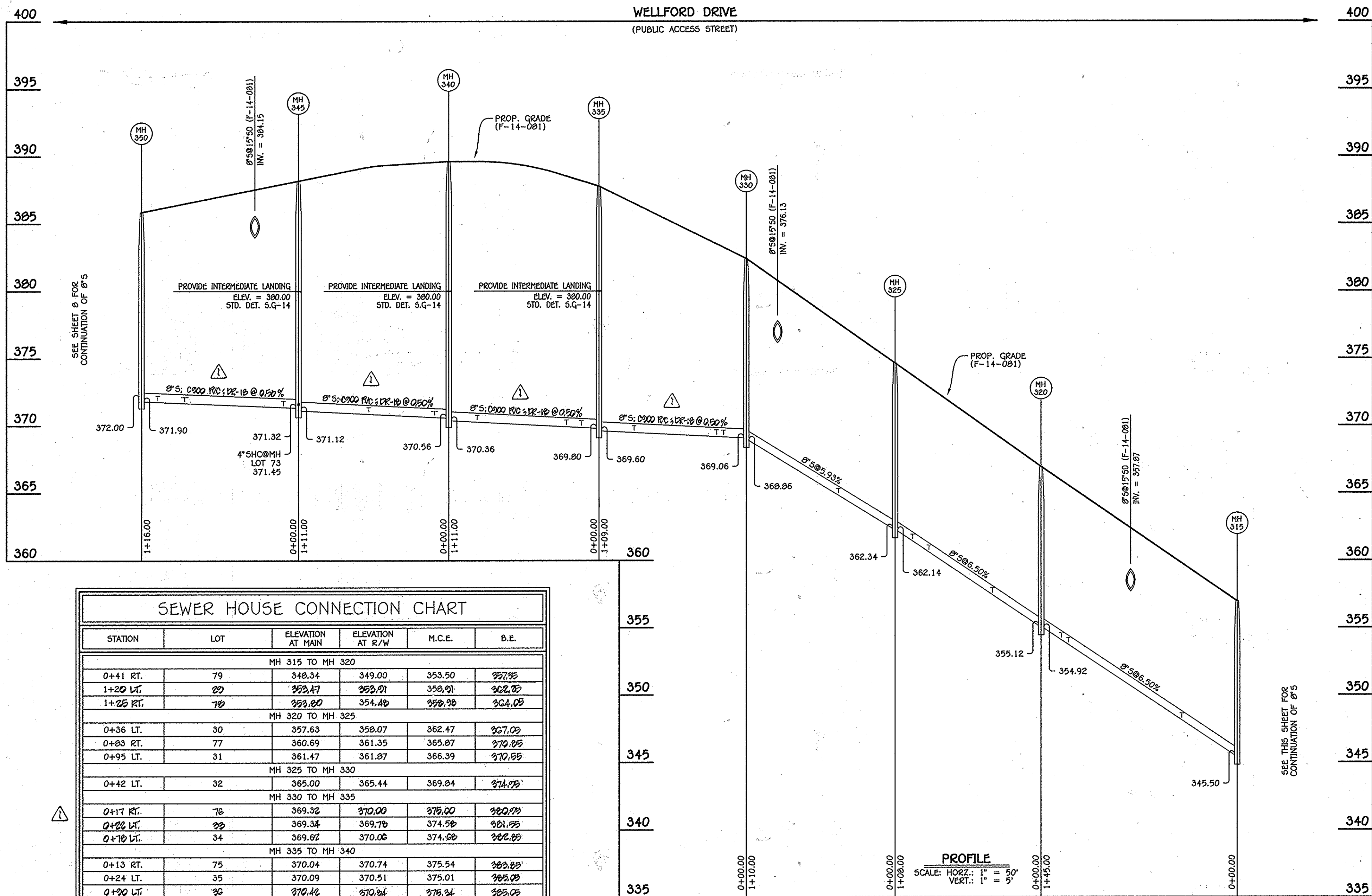
CHIEF, BUREAU OF UTILITIES
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2255

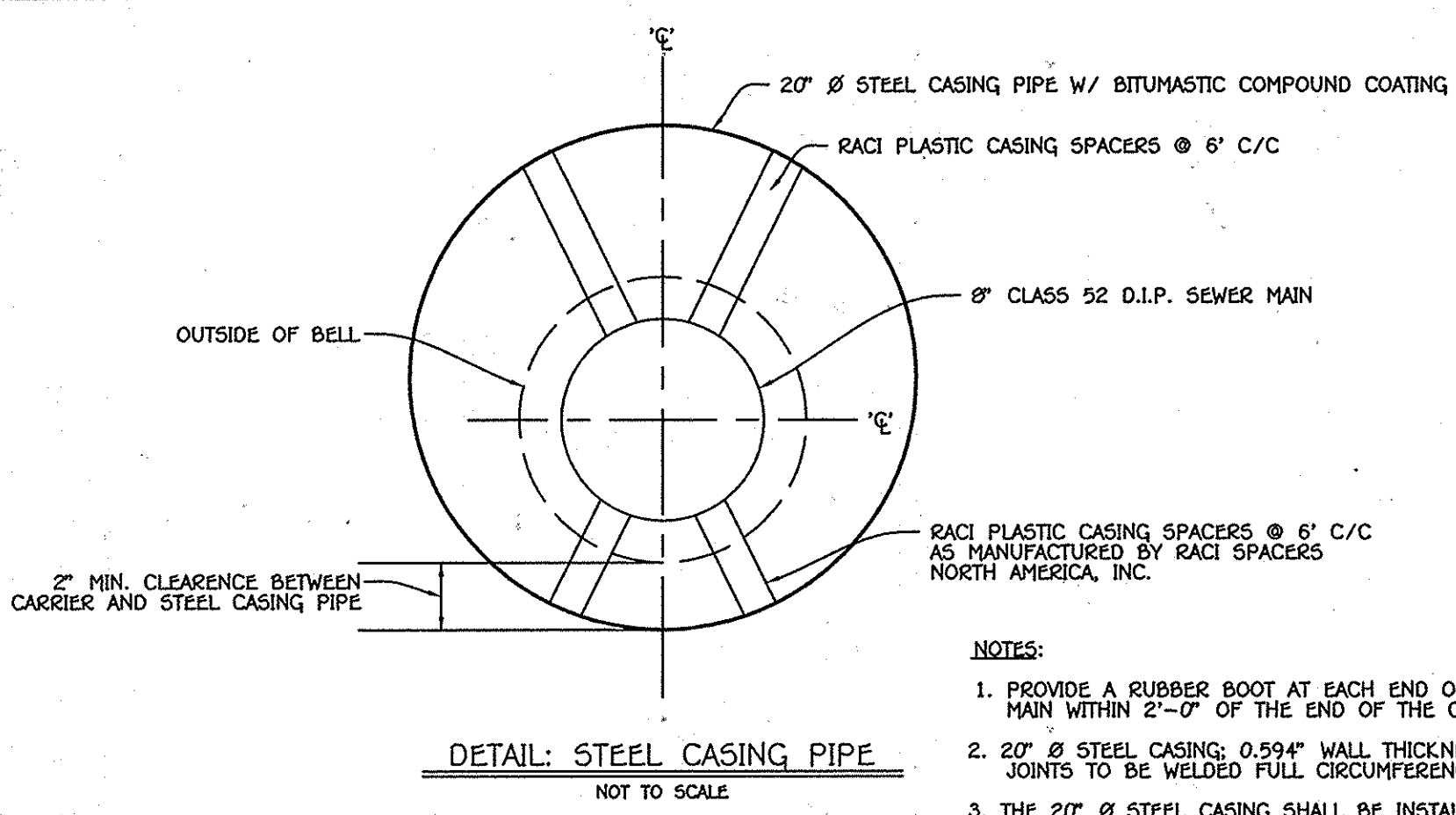
3-26-15

M6.



SEWER HOUSE CONNECTION CHART					
STATION	LOT	ELEVATION AT MAIN	ELEVATION AT R/W	M.C.E.	B.E.
MH 315 TO MH 320					
0+41 RT.	79	348.34	349.00	353.50	357.75
1+20 LT.	29	353.47	353.91	358.91	362.70
1+25 RT.	78	353.00	354.48	359.98	364.05
MH 320 TO MH 325					
0+36 LT.	30	357.63	358.07	362.47	367.03
0+83 RT.	77	360.69	361.35	365.87	370.85
0+95 LT.	31	361.47	361.87	366.39	370.85
MH 325 TO MH 330					
0+42 LT.	32	365.00	365.44	369.84	374.99
MH 330 TO MH 335					
0+17 RT.	76	369.32	370.00	375.00	380.75
0+22 LT.	28	369.34	369.78	374.58	381.15
0+78 LT.	34	369.82	370.06	374.68	382.85
MH 335 TO MH 340					
0+13 RT.	75	370.04	370.74	375.54	383.85
0+24 LT.	35	370.09	370.51	375.01	385.05
0+90 LT.	36	370.42	370.84	376.34	385.05
MH 340 TO MH 345					
0+10 RT.	74	370.78	371.48	376.02	384.05
0+59 LT.	37	371.03	371.49	376.29	385.05
0+14 RT.	73	371.45	372.19	376.79	384.05
MH 345 TO MH 350					
0+11 LT.	38	371.55	371.95	376.85	383.75
0+84 RT.	72	371.91	372.57	377.47	385.05
1+04 LT.	39	372.01	372.43	377.89	384.85

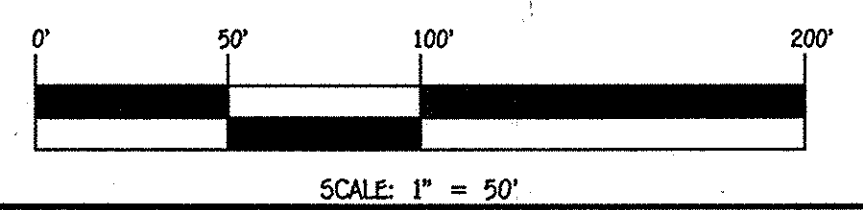
8" SEWER MAIN: WELLFORD DRIVE - MH 315 TO MH 350



- NOTES:
1. PROVIDE A RUBBER BOOT AT EACH END OF CASING. PROVIDE A JOINT IN THE MAIN WITHIN 2'-0" OF THE END OF THE CASING.
 2. 20" Ø STEEL CASING: 0.594" WALL THICKNESS, A.W.W.A. C-203 OR C-210, IN 10' LENGTHS. JOINTS TO BE WELDED FULL CIRCUMFERENCE.
 3. THE 20" Ø STEEL CASING SHALL BE INSTALLED BY OPEN CUT METHOD.

MANHOLE TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
300	575357.03	1354965.48	334.66
305	575231.82	1354892.22	335.00
310	575287.47	1354899.43	334.07
315	575240.00	1354882.14	336.94
320	575096.00	1354665.14	336.91
325	574997.86	1354620.05	334.62
330	574916.60	1354545.91	332.38
335	574861.54	1354451.84	337.77
340	574837.28	1354343.52	339.61
345	574847.35	1354232.98	338.16
350	574893.47	1354126.54	335.85

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



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

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 7/15/18.

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

CENTENNIAL SQUARE OFFICE PARK - 10722 BALDWIN NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21036
(410) 461-2295

DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.M.K.
DATE: MAY, 2014

PAUL W. KREIBEL

CONTRACT NO. 24-4764-D
CENTENNIAL LAKE OVERLOOK
SECTION TWO: PART ONE
LOTS 29 THRU 41, LOTS 70 THRU 73 &
OPEN SPACE LOTS 99, 103 & 107 THRU 112
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 5 OF 6

SEWER MAIN EXTENSIONS
PROFILES & CHARTS

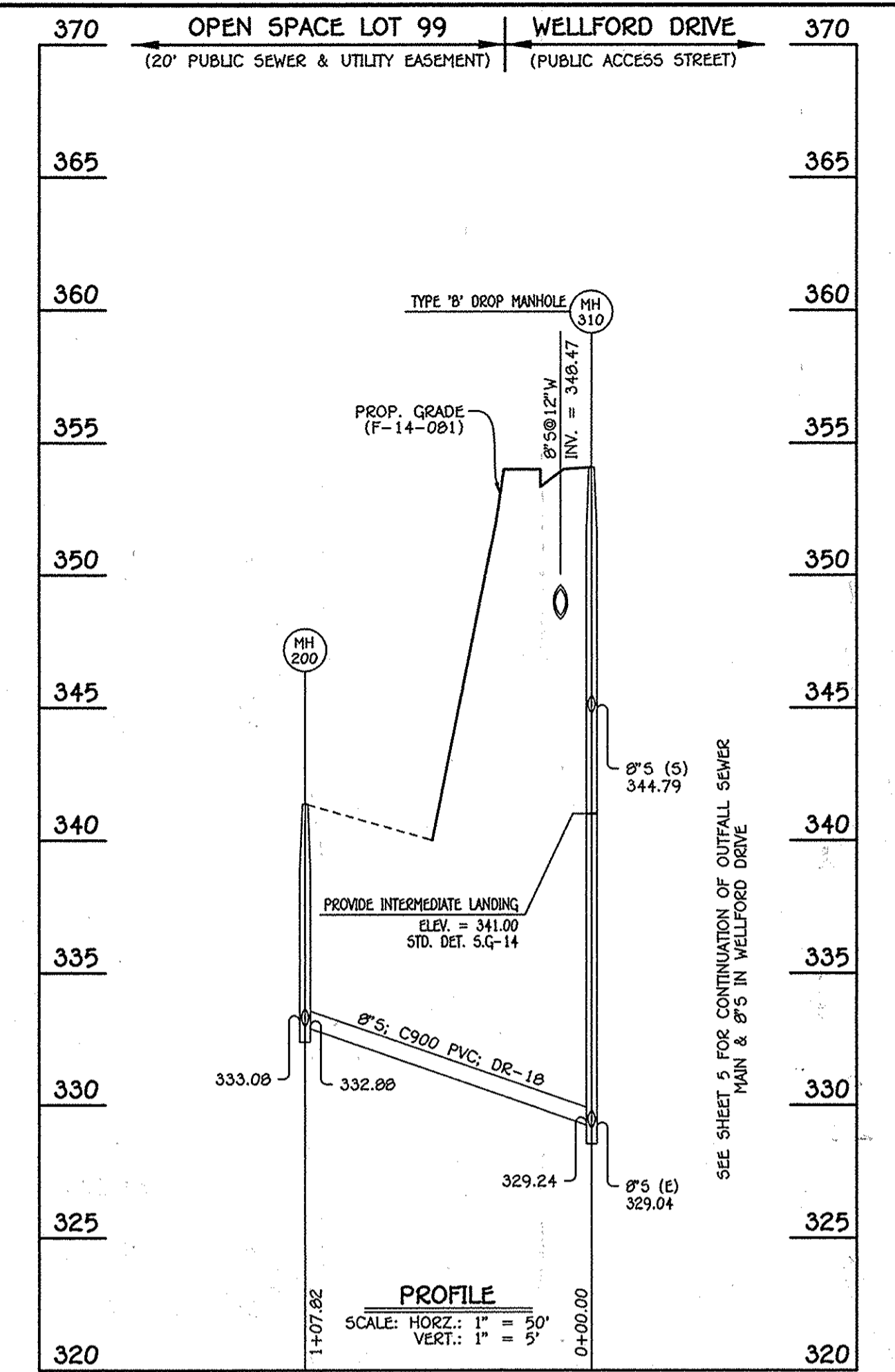
600' SCALE MAP NO. 30 BLOCK NO. 2
F.C.C. WORK ORDER NO. 11042-3001
FILE NAME: WATER & SEWER MAIN EXTENSION PLAN

CENTENNIAL LAKE OVERLOOK
SECTION TWO: PART ONE
LOTS 29 THRU 41, LOTS 70 THRU 73 &
OPEN SPACE LOTS 99, 103 & 107 THRU 112
WATER & SEWER MAIN EXTENSIONS
CONTRACT NO. 24-4764-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
29	WELLFORD DRIVE	36' SMH 320	15' WHC
30		41' SMH 320	11' WHC
31		24' SMH 325	8' WHC
32		32' Hydrant Valve	12' WHC
33		33' SMH 330	9' WHC
34		40' SMH 335	14' WHC
35		34' SMH 335	10' WHC
36		30' SMH 340	10' WHC
37		33' Hydrant Valve	10' WHC
38		25' SMH 345	19' WHC
39		25' SMH 350	11' WHC
40		44' SMH 350	12' WHC
41		19' I 21	23' WHC
70		27' I 15	30' WHC
71		57' SMH 350	10' WHC
72		51' SMH 350	11' WHC
73		58' Fire Hydrant	12' WHC
74		44' Fire Hydrant	10' WHC
75		37' SMH 335	14' WHC
76		30' SMH 330	15' WHC
77		41' SMH 325	11' WHC
78		38' SMH 320	14' WHC
79	WELLFORD DRIVE	33' Storm Manhole 1-4	11' WHC

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
29	WELLFORD DRIVE	24' SMH 320	15' SHC
30		51' SMH 320	11' SHC
31		20' SMH 325	8' SHC
32		30' Hydrant Valve	12' SHC
33		42' SMH 330	9' SHC
34		28' SMH 335	14' SHC
35		42' SMH 335	10' SHC
36		23' SMH 340	10' SHC
37		41' Hydrant Valve	10' SHC
38		19' SMH 345	19' SHC
39		25' SMH 350	11' SHC
40		34' SMH 350	12' SHC
41		16' I 21	23' SHC
70		27' I 15	30' SHC
71		49' SMH 350	10' SHC
72		40' SMH 350	11' SHC
73		48' Fire Hydrant	12' SHC
74		35' Fire Hydrant	10' SHC
75		42' SMH 335	14' SHC
76		47' SMH 330	15' SHC
77		36' SMH 325	11' SHC
78		35' SMH 320	14' SHC
79	WELLFORD DRIVE	48' Storm Drain Manhole 1-4	11' SHC

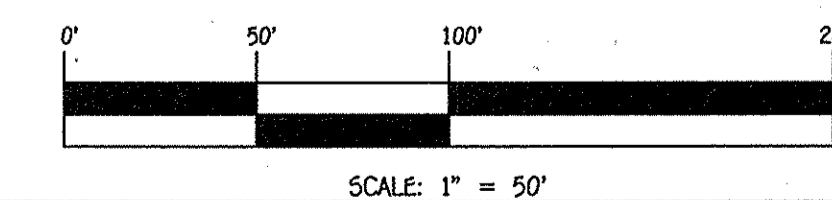


8" SEWER MAIN OUTFALL: WELLFORD DRIVE - MH 310 TO MH 200


MANHOLE TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
310	575287.47	1354699.43	354.07
200	575351.98	1354613.04	341.36

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

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 6 OF 6 SUPERSEDES THE WATER & SEWER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON JUNE 16, 2014.



CONTRACT NO. 24-4764-D
CENTENNIAL LAKE OVERLOOK
SECTION TWO: PART ONE
LOTS 29 THRU 41, LOTS 70 THRU 79 &
OPEN SPACE LOTS 99, 103 & 107 THRU 112
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>S. C. Coe</i> CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>Chad Ebel</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	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 - 10775 BALTIMORE NATIONAL PIKE ELKLOFT CITY, MARYLAND 21036 (410) 461-2255	#12043  DESIGNED BY : B.C.R. DRAWN BY : B.C.R. CHECKED BY : P.W.K. DATE : MARCH, 2015	3-26-15 DATE
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600' SCALE MAP NO. <u>30</u> BLOCK NO. <u>2</u> F.C.C. WORK ORDER NO. 11042-3001 FILE NAME : <u>WATER & SEWER MAIN EXTENSION PLAN</u>	SEWER MAIN EXTENSIONS PROFILE, CHARTS & TABLES	CENTENNIAL LAKE OVERLOOK SECTION TWO: PART ONE LOTS 29 THRU 41, LOTS 70 THRU 79 & OPEN SPACE LOTS 99, 103 & 107 THRU 112 WATER & SEWER MAIN EXTENSIONS CONTRACT NO. 24-4764-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 6 OF 6
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