

BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #37BA - HORIZONTAL - NAD '83) (LOCATED ALONG THE SOUTH SIDE OF MONTGOMERY ROAD. EAST OF BRANDONS WAY. APPROX. 9.7' OFF EDGE OF PAVING AND 64' EAST OF CL DRIVEWAY FOR #6020) E 1,376,343.290

ELEVATION = 393.965 - VERTICAL - (NAVD '88)

B.M.#2 - HOWARD COUNTY CONTROL STATION #37BC - HORIZONTAL - (NAD '83) (LOCATED ALONG THE NORTH SIDE OF MONTGOMERY ROAD, WEST OF BELLANCA DRIVE. APPROX. 1' BEHIND SIDEWALK AND 8.2' EAST OF 3RD POST ON GUARD RAIL) E 1,378,054.921

ELEVATION = 373.107 - VERTICAL - (NAVD '88)

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 NECESSARYA"

Paul W. Karebel: FOR:

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."

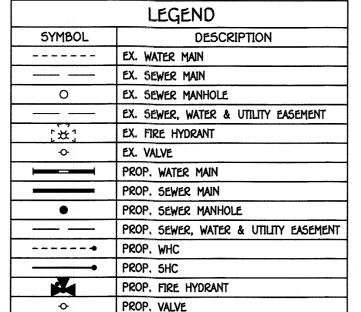
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME IV: STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION

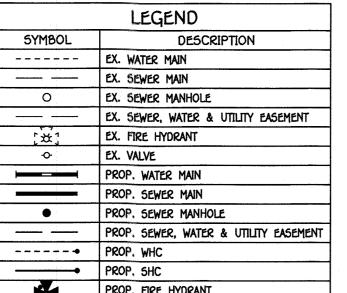
AND AS SHOWN ON THE FINAL ROAD CONSTRUCTION PLANS; Paul W. Keidrel; FOR:

F-18-093

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

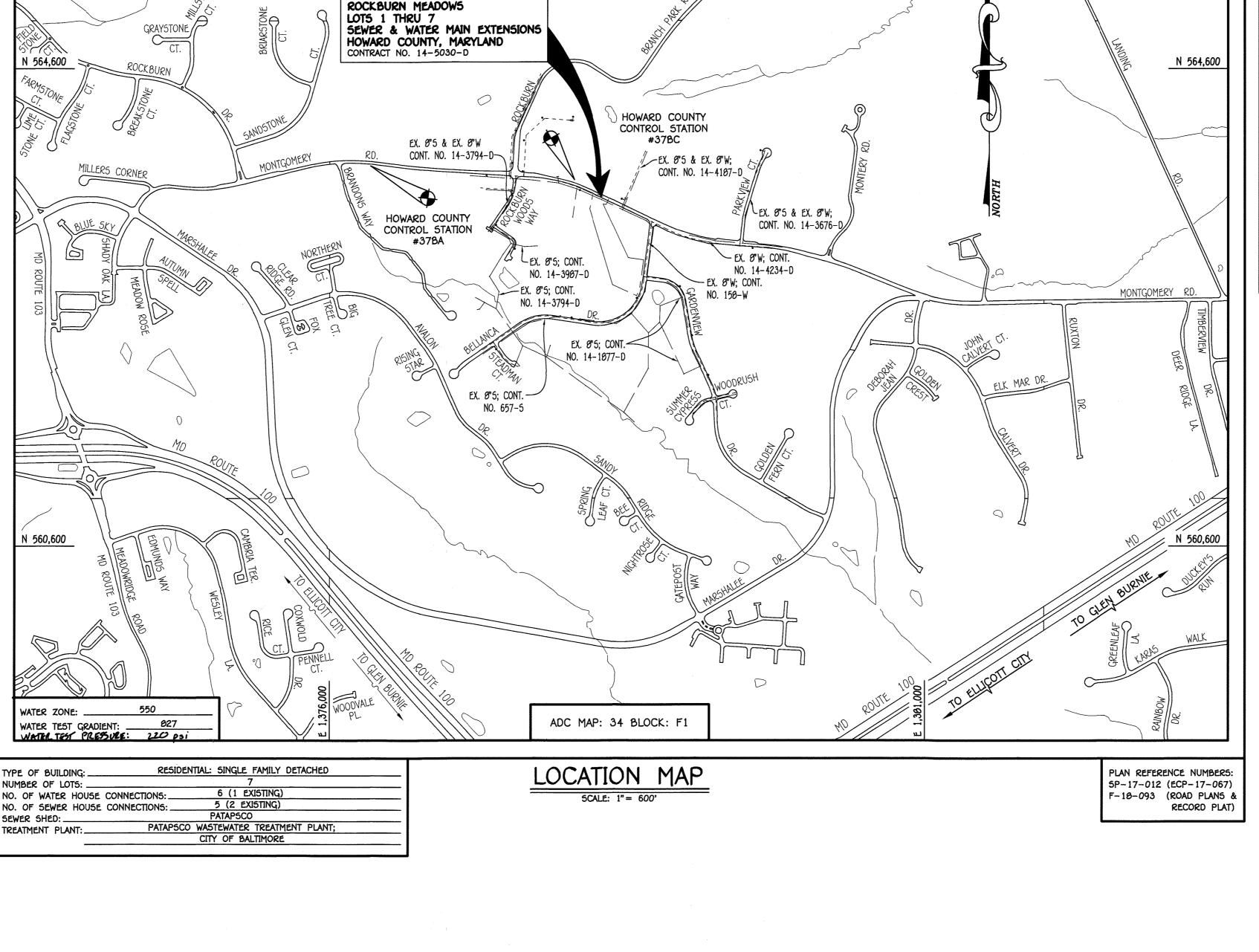






DEPARTMENT OF PLANNING AND ZONING

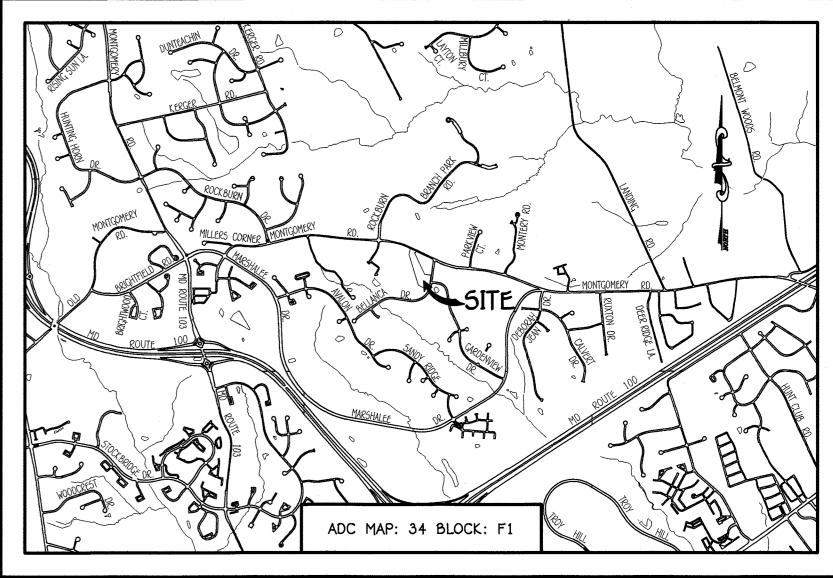
HOWARD COUNTY, MARYLAND



CONTRACT NO. 14-5030-D ROCKBURN MEADOWS

SEWER & WATER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

OWNERS TRACEY R. FUHR 5014 BELLANCA DRIVE ELKRIDGE, MD 21075 WALTER A. MAYER 6198 MONTGOMERY ROAD ELKRIDGE, MD 21075 DEVELOPER MG LAND HOLDINGS, LLC 4652 SHEPPARD LANE ELLICOTT CITY, MD 21042 410-409-0333



GENERAL NOTES

1. 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 MAY, 2017 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. 37BC & NO. 37BA. ALL VERTICAL CONTROLS ARE BASED ON NAVD '86. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS.

. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS. 5. 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

6. 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.

7. 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 B. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE

> BGE (CONTRACTOR SERVICES) 410-637-8713

9 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

EQUIPMENT DIRECTLY OVER THE FITTING.

PART 8: WATER MAIN GENERAL NOTES

1. ALL WATER MAINS SHALL BE AWWA C900 PVC; DR-10.

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

3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.

4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE 5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.

. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE

7. TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL.

8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.

9. 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 HAPPESSES. TINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED, WITH

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.

10. 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 LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF PVC PIPE. 11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION(HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. 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 ETTING.

PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL OF 3-DEGREES (1 1-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEED PVC HIGH DEFLECTION (HD)

FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR-10 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR-18 OR EQUAL.

12. WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSERT 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 EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND

CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.

13. 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: <u>SEWER MAIN GENERAL NOTES</u> 1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED. 2. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.

3. FORCE MAINS SHALL BE D.I.P. ONLY.

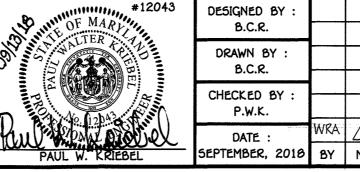
4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

CONTRACT NO. 14-5030-D ROCKBURN MEADOWS LOTS 1 THRU 7 SEWER & WATER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS





_	SEPTEMBER, 2018	BY	NO.	REVISION	DATE	
	DATE :	WRA		ASBUILT INFORMATION ADDED	4 28 20	
	CHECKED BY : P.W.K.					
	DRAWN BY : B.C.R.					
	B.C.R.					

SEWER & WATER MAIN EXTENSIONS TITLE SHEET 600' SCALE MAP NO. 37 BLOCK NO. 5 F.C.C. WORK ORDER NO. 17017-3001 SEWER & WATER MAIN EXTENSION PLAN

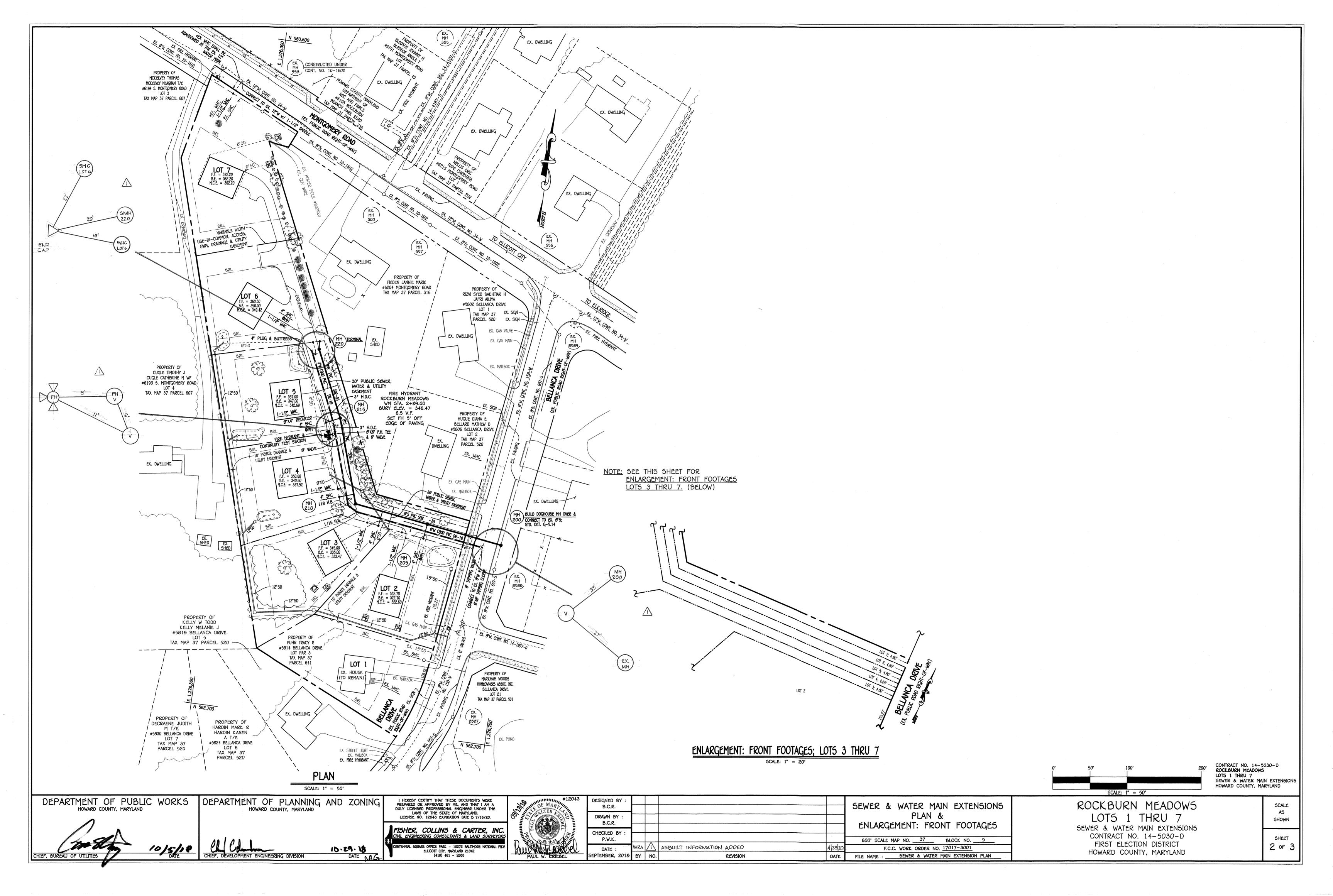
ROCKBURN MEADOWS LOTS 1 THRU SEWER & WATER MAIN EXTENSIONS CONTRACT NO. 14-5030-D

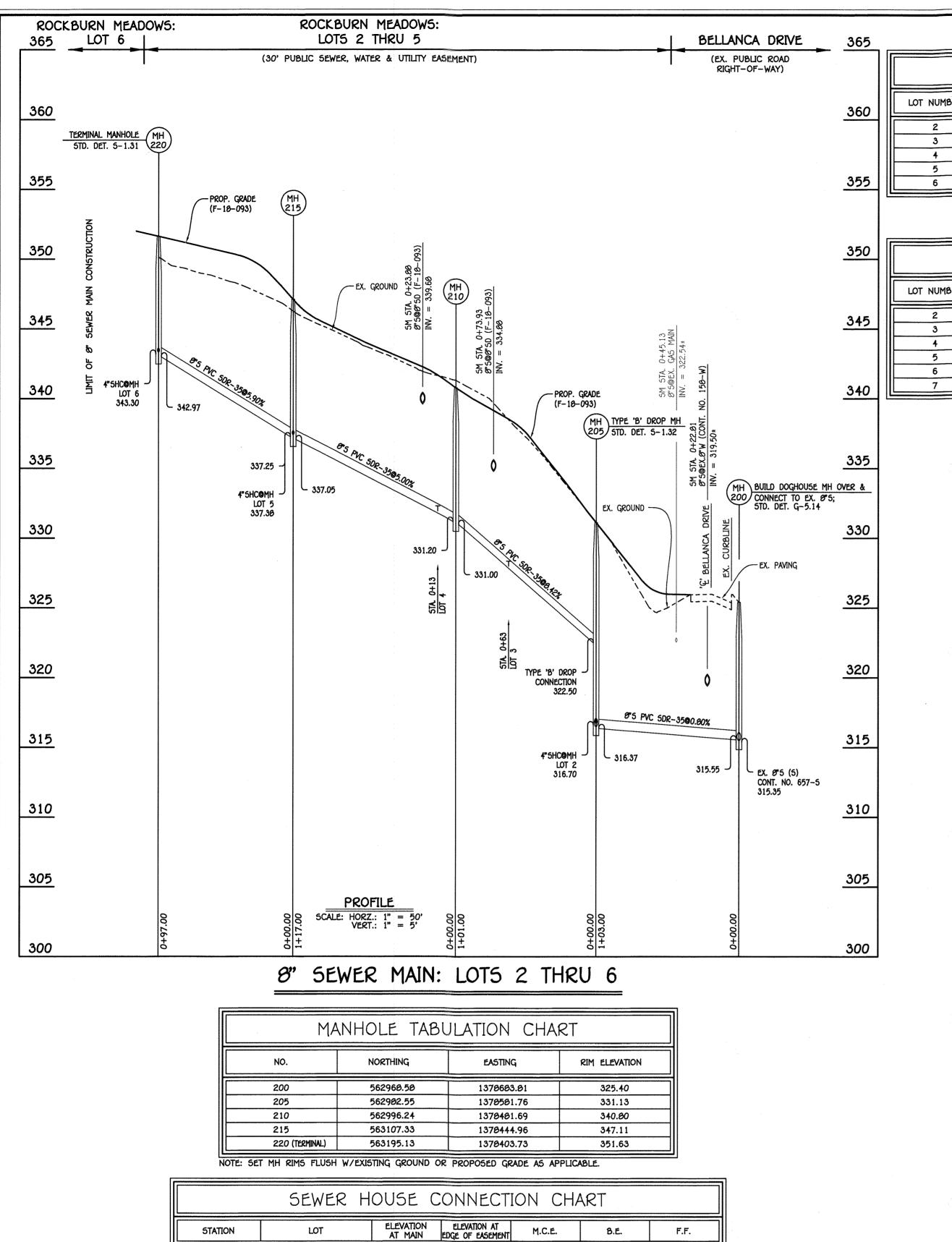
FIRST ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

5CALE SHOWN

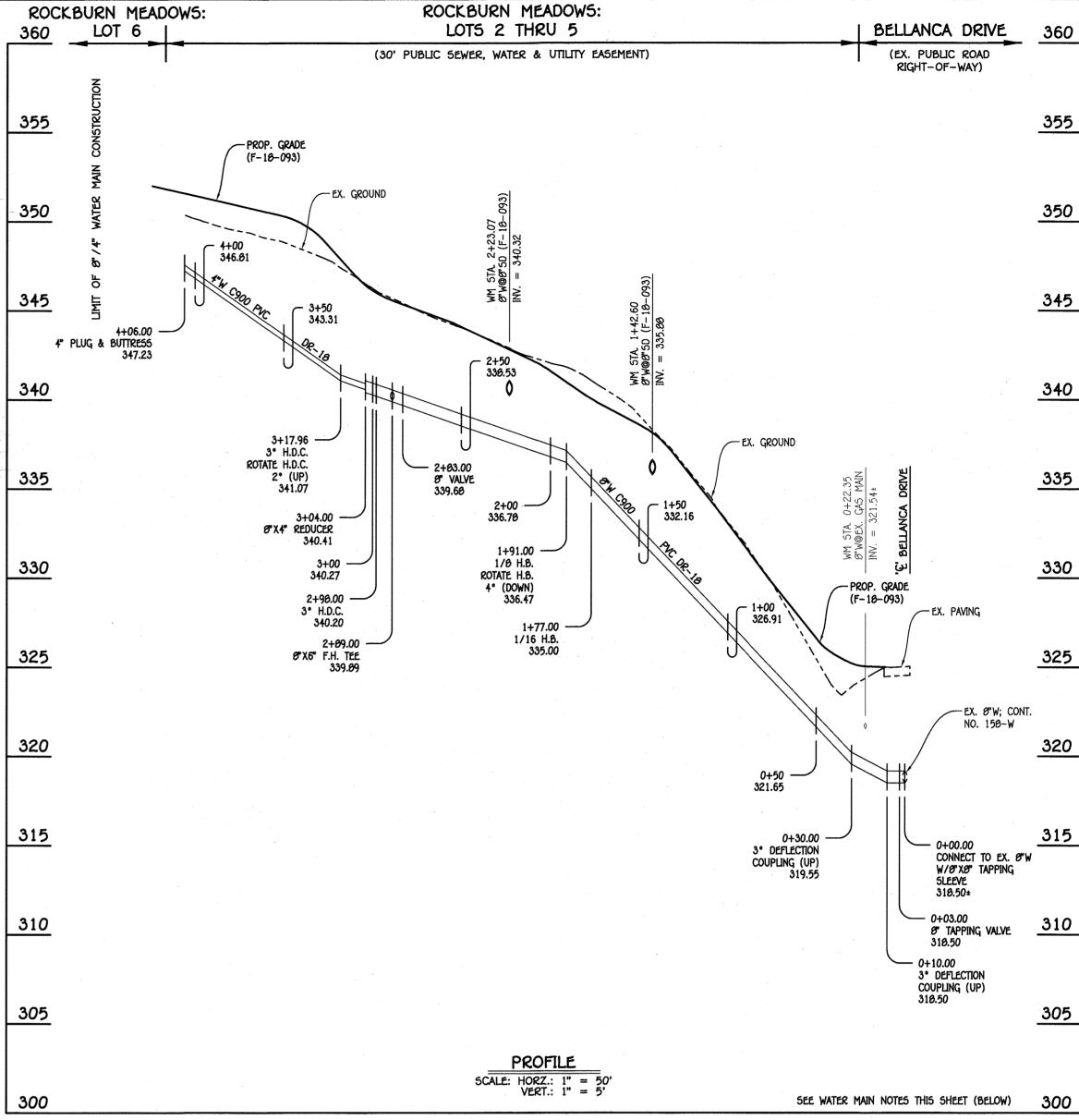
SHEET of 3





	SEWER HOUSE CONNE	ECTION AS-BUILT LOCA	TION TABLE
LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
2		5MH 205 24'	WATER VALVE 78
3		SMH 205 68'	SMH 210 44'
4		SMH 210 26'	FH 84'
5	4.7	FH 17'	SMH 215 21'
6		SMH 220 11'	WHG LOT 6 10'

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE						
OT NUMBER	ADDRE55	LOCATION DIMENSION 1	LOCATION DIMENSION 2			
2		SMH 210 41'	SMH 205 71'			
3		SMH 210 30'	DRAIN BASIN 45'			
4		5MH 210 31'	DRAIN BASIN 31'			
5		SMH 215 26'	FH 33'			
6		5MH 220 13'	LOT 6 SHG 10'			
7		FH 31'	FHV 39'			



8"/4" WATER MAIN: LOTS 2 THRU 6

WATER MAIN TABULATION CHART							
W.M. STA.	APPURTENANCE	NORTHING	EASTING				
8" / 4" WATER MAIN: LOTS 2 THRU 6							
0+00.00	8"X8" TAPPING SLEEVE	562961.75	1378659.91				
0+03.00	8" TAPPING VALVE	562962.16	1370656.94				
1+77.00	1/16 H.B.	562205.76	1370404.54				
1+91.00	1/0 H.B.	562292.49	1378472.27				
2+03.00	8" VALVE	563079.04	1370443.39				
2+89.00	Ø"X6" F.H. TEE	563005.54	1378441.50				
2+98.00	3° H.D.C.	563094.00	1370430.60				
3+04.00	8"X4" REDUCER	563099.66	1370436.46				
3+17.96	3° H.D.C.	563112.63	1370431.29				
4+06.00	4" PLUG & BUTTRESS	563192.31	1370393.06				

WATER MAIN NOTES:

1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE; DR-18.
2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND

- OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - 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.

CONTRACT NO. 14-5030-D ROCKBURN MEADOWS LOTS 1 THRU 7 SEWER & WATER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

@MH 205 LT.

0+63 LT.

0+13 LT.

@MH 215 LT.

@MH 220 RT.

CHIEF, DEVELOPMENT ENGINEERING DIVISION

LOT

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

M.C.E.

322.60

337.52

342.68

349.42

MH 200 TO MH 205

316.70 317.10

MH 205 TO MH 210 327.97 328.37

MH 210 TO MH 215

MH 215 TO MH 220 (TERMINAL)

332.42

337.78

343.52

332.02

337.30

343.30

F.F.

350.60

357.00

322.70 332.70

333.47 335.00 345.00

340.60

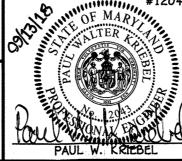
347.00

350.30

10.29.18

DATE MAG

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 7/16/20. FISHER, COLLINS & CARTER, INC CIVIL ENGINEERING CONSULTANTS & LAND SURVEYOR 5QUARE OFFICE PARK — 10272 BALTIMORE NATIONAL F ELLICOTT CITY, MARYLAND 21042 (410) 461 — 2055



BEL	SEPTEMBER, 2018	ВΥ	NO.	REVISION	
Carl D	DATE :	WRA	1	ASBUILT INFORMATION ADDED	
	CHECKED BY : P.W.K.				_
EBELL .	DRAWN BY : B.C.R.				
#12043	Designed by : B.C.R.				

SEWER & WATER MAIN EXTENSIONS PROFILES, CHARTS, NOTES & "AS-BUILT" LOCATION TABLES 600' SCALE MAP NO. ___37 ___ BLOCK NO. ___5 F.C.C. WORK ORDER NO. 17017-3001

FILE NAME : ____ SEWER & WATER MAIN EXTENSION PLAN

DATE

ROCKBURN MEADOWS LOTS 1 THRU 7 SEWER & WATER MAIN EXTENSIONS CONTRACT NO. 14-5030-D FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE SHOWN 3 of 3