

**QUANTITIES**

ITEM	QUANTITIES		AS - BUILT	
	ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
8" WATER-DIP CL-54	632 LF.	632 L.F.	C-900	NORTH AMERICAN/HDSUPPLY
6" WATER-DIP CL-54	322 LF.	322 L.F.	C-900	NORTH AMERICAN/HDSUPPLY
6" VALVES, EXCL. FH VALVES	8 EA.	8 EA.	GATE	KENNEDY/HD SUPPLY
8"X8" TAPPING SLEEVE AND VALVES	2 EA.	2 EA.	T. VALVE	FORD METER BOX/HDSUPPLY
8" VALVES	1 EA.	1 EA.	GATE	FORD METER BOX/HDSUPPLY
6" SEWER	150 LF.	150 L.F.	SDR-35	JM/EAGLE - BRS
FIRE HYDRANTS	3 EA.	3 EA.	5'-6"	KENNEDY / HD SUPPLY
4" DIAMETER MANHOLES	16 VF.	16 V.F.	PRECAST	ATLANTIC
8" SEWER-DR-35	221 LF.	221 L.F.	SDR-35	JM/EAGLE - BRS
8" DROP CONN. TYPE 'B'	1 EA.	1 EA.	INSIDE	JM/EAGLE - BRS
UTILITY CONTRACTOR	MOROCCO CONSTR. CO.			
				SURVEY AND DRAFTING DIVISION AS-BUILT DATE

**GENERAL NOTES**

- 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 DECEMBER, 2007 BY MARKS AND ASSOCIATES.
- HORIZONTAL AND VERTICAL 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. BM 0024 AND NO. BM 0055. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE BRASS DISCS.
- 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 THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED TO THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE 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.
- 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 (CONSTRUCTION SERVICES).....410-637-8713  
BGE (EMERGENCY).....410-685-0123  
BUREAU OF UTILITIES.....410-313-4900  
COLONIAL PIPELINE CO.....410-795-1390  
MISS UTILITY.....1-800-257-7777  
STATE HIGHWAY ADMINISTRATION.....410-531-5533  
VERIZON.....1-800-743-0033
- 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 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(g) OF THE HOWARD COUNTY CODE.
- ALL EX. WMC AND SHC LABELED "TO BE REMOVED" WILL BE REMOVED AND PLUGGED AT THE MAIN.
- THERE WILL BE NO LANDSCAPING INSTALLED WITHIN 7.5' EACH SIDE OF THE FIRE DEPT. CONNECTIONS.

**SEWER NOTES**

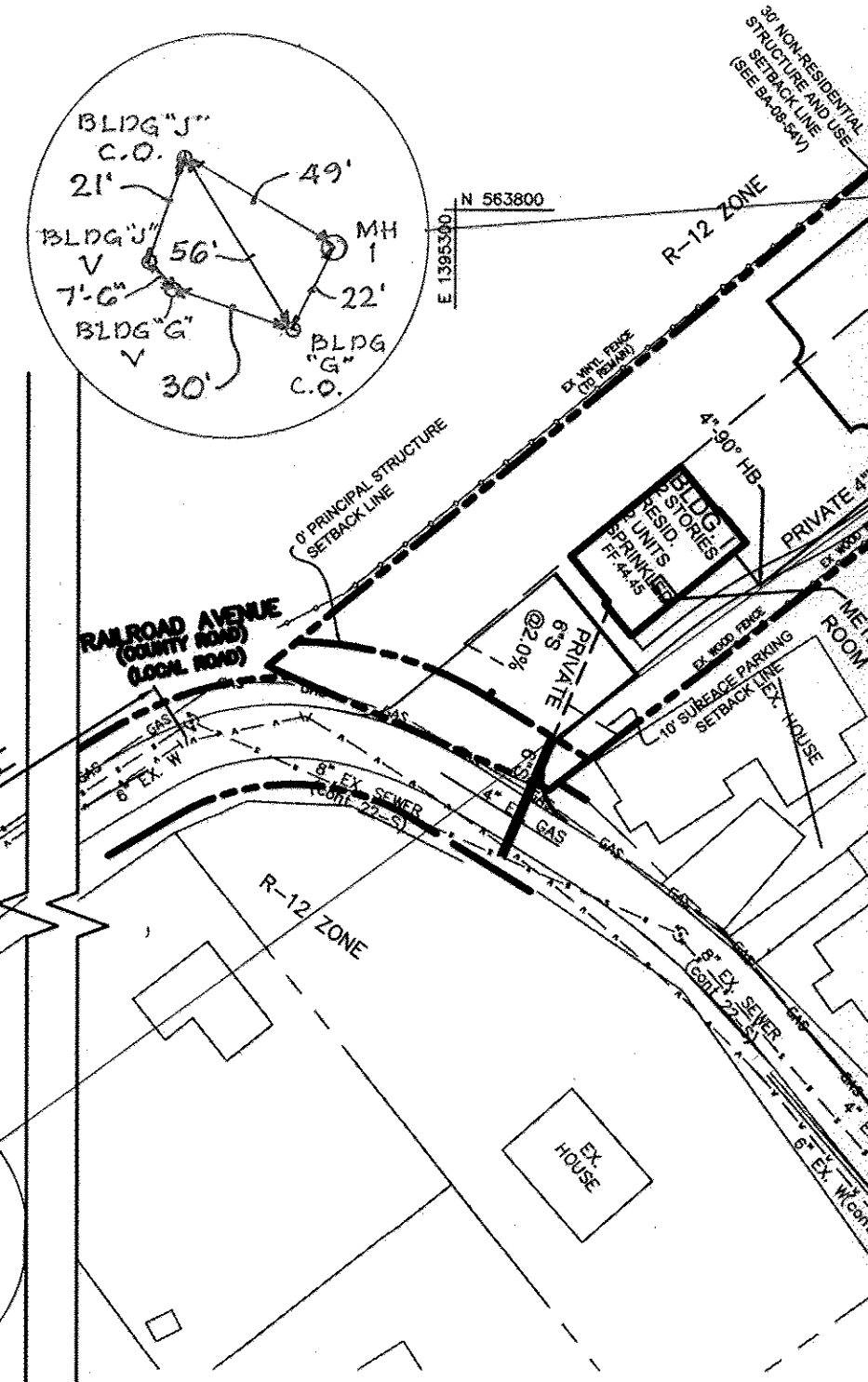
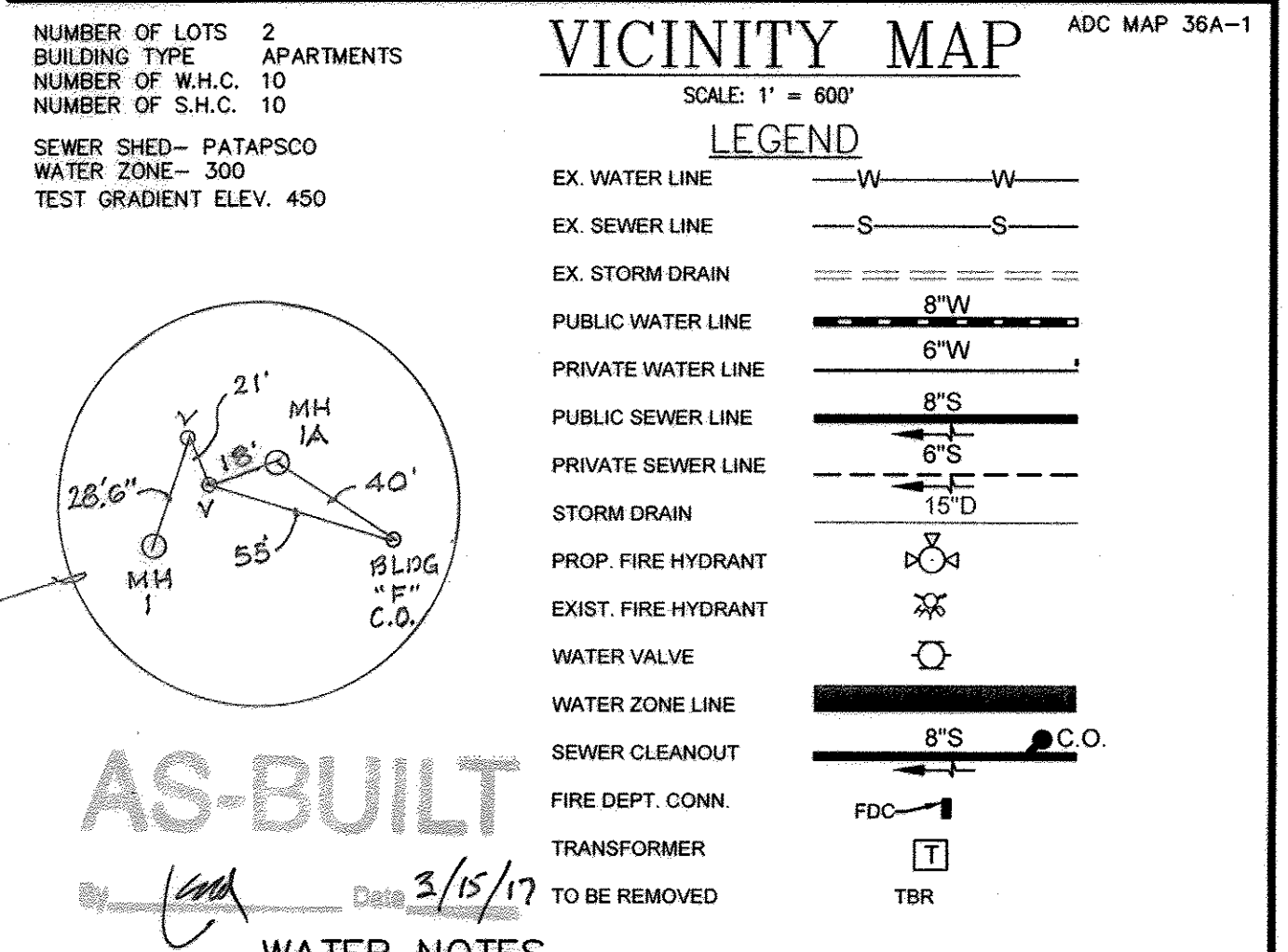
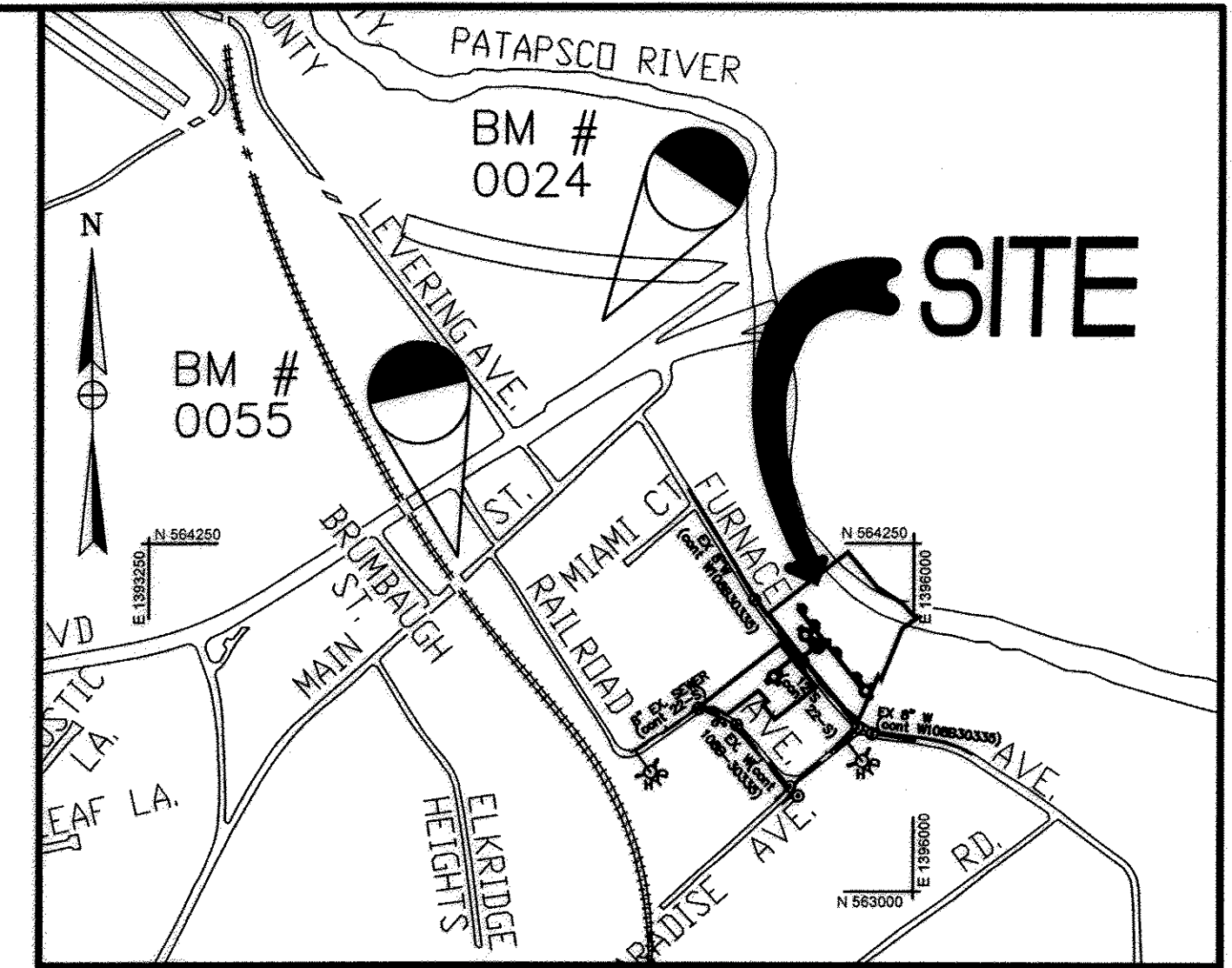
- ALL SEWER MAINS SHALL BE DIP OR PVC SDR-35 UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAIN SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERIGHT FRAME AND COVER, STANDARD DETAIL GS.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 INDICATES THAT THE CELLAR CANNOT BE SERVED.

**CORROSION CONTROL FOR DIP**

DUCTILE IRON PIPE WILL REQUIRE GALVANIC CATHODIC PROTECTION TO PROTECT THE WATER MAIN FROM EXTERNAL CORROSION AND PREMATURE FAILURE DUE TO CORROSIVE SOILS AND STRAY CURRENT. THE CATHODIC PROTECTION SYSTEM WILL INCLUDE MAGNESIUM ANODE GROUND BEDS AT SELECT LOCATIONS, PER THE HOWARD COUNTY DESIGN MANUAL VOLUME IV, SECTION 967.09-967.28. THE DESIGN OF THE CATHODIC PROTECTION SHALL BE PREPARED IN ACCORDANCE WITH HOWARD COUNTY DESIGN STANDARDS BY A CORROSION PREVENTION DESIGN COMPANY ENGAGED BY THE CONTRACTOR. THE CATHODIC PROTECTION SYSTEM INCLUDES SPECIAL TEST FACILITIES FOR MONITORING STRAY CURRENT LEVELS ON THE WATER MAINS AT EACH FIRE HYDRANT, OR AS DIRECTED BY THE COUNTY. SEE STANDARD DETAIL W-1.15. AN AS-BUILT PLAN, INCLUDING THE CATHODIC PROTECTION INFORMATION, SHALL BE PROVIDED TO THE HOWARD COUNTY BUREAU OF UTILITIES UPON COMPLETION OF CONSTRUCTION.

BM# 0024 NAD83 Elevation: 26.934  
Description: Brass disc, located at the intersection of southbound US Rt. 1 and the off ramp from I-895, 600' +/- east of Levinger 600' +/- east of Levinger Avenue, 81.75' NE of BGE Pole #229974  
Northing: 565065.4512  
Easting: 1395212.1044

BM# 0055 NAD83 Elevation: 68.812  
Description: Brass disc located in a concrete wingwall 9.3' east of the intersection of US RT 1 and the B&O Railroad tracks  
Northing: 564363.703  
Easting: 1394202.3634



**PLAN**

SCALE: 1" = 50'

**GRAPHIC SCALE**



OWNER: THOMAS PALACOROLLA  
12183 TRIADELPHIA RD  
ELLCOTT CITY, MD 21042

DEVELOPER: RIVERWATCH  
NKC, LLC  
12183 TRIADELPHIA RD  
ELLCOTT CITY, MD 21042

RIVERWATCH  
TAX MAP 38, PARCEL 420, 421, 422, 620, 623, 624, 625  
CONTRACT NO. 14-4581-D  
SDP 08-109

SCALE: 1" = 50'

DRAWING NO. 1 OF 3

9-02-2014 6-24-16

PROFESSIONAL CERTIFICATION: 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. 14920 Exp. Date: 5-12-16

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SITE DEVELOPMENT PLAN SDP 08-109

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

*John R. Blanton* 9/18/14  
HOWARD SOIL CONSERVATION DISTRICT

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*Steve Cam* 9/18/14  
CHIEF, BUREAU OF UTILITIES DATE

*Chad Edwards* 9-24-14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**PHOENIX ENGINEERING, INC.**  
CONSULTING ENGINEERS  
1420-A JOH AVENUE  
BALTIMORE, MARYLAND 21227  
(410) 247-8833

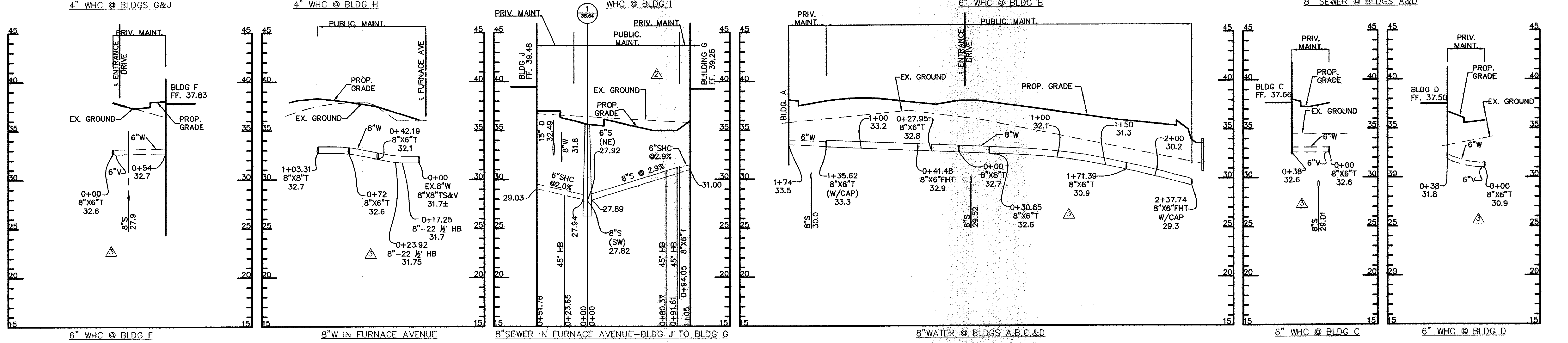
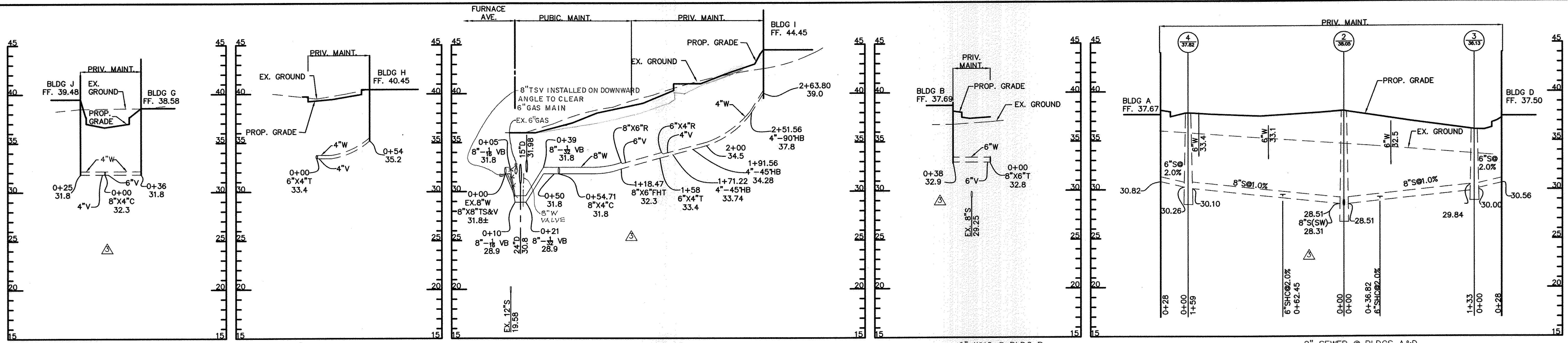
DES: R.J.W.				
DRN: S.E.W.	SEP	▲	REVISED BUILDING LATERALS	5-16
CHK: J.R.H.	SEP	▲	REVISED PUBLIC SEWER ALIGNMENT	3-16
DATE: 9/14	BY	▲	REPLACEMENT SHEETS ADDED	9-14
	NO.		DESCRIPTION	DATE

**PLAN OF WATER AND SEWER MAINS**

REPLACEMENT SHEET FOR ORIGINAL SHEET DATED FEB, 2009  
600' SCALE MAP NO. 38 BLOCK NO. 4

**RIVERWATCH**  
1ST ELECTION DISTRICT  
CONTRACT NO. 14-4581-D





COORDINATE TABLE FOR SEWER LOCATIONS

ITEM	NORTH	EAST
MANHOLE 1	563810.84	1395582.50
MANHOLE 2	563898.73	1395692.10
6" SHC BLDG C	563870.01	1395715.14
MANHOLE 3	563794.94	1395775.34
6" SHC BLDG B	563947.45	1395653.03
MANHOLE 4	564023.26	1395592.25
6" SHC AT BLDG. H	563726.83	1395498.56
MANHOLE 1-A	563837.12	1395615.27
MANHOLE 1-B	563883.47	1395578.09

COORDINATE TABLE FOR WATER LOCATIONS

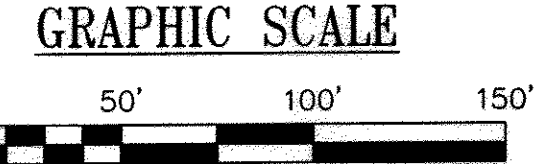
8"XB" TS&V AT SE FURNACE AVE	563838.14	1395594.17
8"XB" CROSS	563883.37	1395650.57
6"V @ WHC FOR BLDG. E	563888.93	1395646.17
6"V @ WHC FOR BLDG. F	563877.87	1395655.04
8"XB" TEE	563902.77	1395674.76
8"V	563897.27	1395679.24
8"XB" TEE	563853.07	1395714.62
6"VB WHC FOR BLDG. C	563883.10	1395699.64
8"XB" TEE	563762.31	1395787.40
6"VB WHC FOR BLDG. D	563773.43	1395787.58
8"XB" FHT AND 8" CAP	563717.30	1395823.49
6" FH @ BLDG. D	563720.33	1395827.27
8"XB" FHT	563935.14	1395648.81
6" FH @ BLDG. E	563930.22	1395642.50
8"XB" TEE	563950.32	1395636.63
6"VB WHC FOR BLDG. B	563828.32	1395662.09
8"XB" TEE AND 8" CAP	564006.67	1395589.92
6"VB WHC FOR BLDG. A	564012.98	1395595.48
8"XB" TS&V AT NW FURNACE AVE	563841.76	1395591.30
8"-# VB	563838.63	1395587.39
8"-# VB	563835.51	1395583.50
8"-# VB	563828.67	1395574.92
8"-# VB	563817.58	1395560.87
8"XB" CROSS	563804.41	1395544.72
6"VB WHC FOR BLDG. J	563807.19	1395542.51
6"VB WHC FOR BLDG. G	563808.65	1395546.85
8"XB" FHT	563772.71	1395488.98
6" FH @ BLDG. J	563778.21	1395490.54
8"XB" R	563763.08	1395493.21
6"V	563761.92	1395491.73
6"XB" X4" TEE	563742.58	1395467.61
4"V	563739.09	1395470.41
6"XB" R	563737.92	1395461.64
4"V	563735.76	1395460.36
45" HB	563730.84	1395452.72
45" HB	563732.86	1395432.51
4" WHC @ BLDG. I	563704.55	1395378.31
4"-90" HB	563695.33	1395385.70

ALL PIPELINES SHALL HAVE SHALL 'C' TRENCH BEDDING UNLESS OTHERWISE NOTED ON PLANS

AS-BUILT  
By: [Signature] Date: 3/15/17

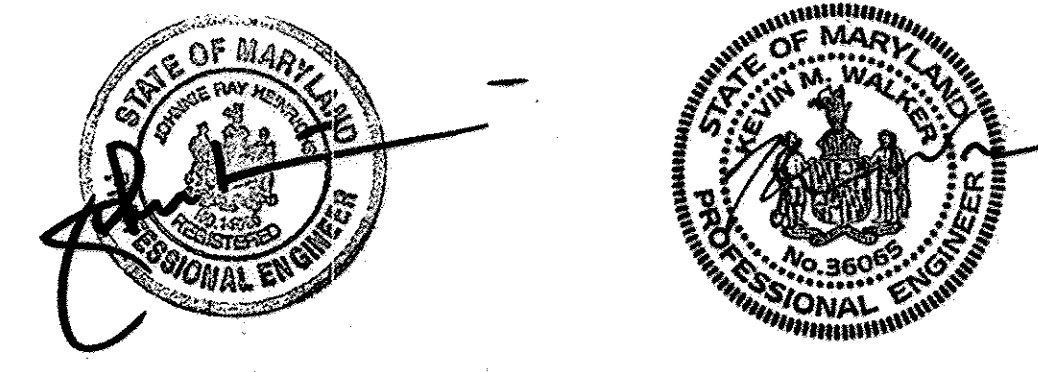
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9-02-2014



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Chief, Bureau of Utilities  
[Signature] 9/2/14

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

Chief, Development Engineering Division  
[Signature] 9-24-14

PHOENIX ENGINEERING, INC.  
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PROFILES OF  
WATER AND SEWER MAINS  
REPLACEMENT SHEET FOR ORIGINAL SHEET DATED FEB, 2009  
600' SCALE MAP NO. 38 BLOCK NO. 4

RIVERWATCH  
1ST ELECTION DISTRICT  
CONTRACT NO. 14-4581-D

SCALE: H:1" = 50'  
V:1" = 5'

DRAWING NO. 2 OF 3  
PROJ: 07-041 PPO1WATER.Dwg



