RELOCATED MONTEVIDEO ROAD WATER AND SEWER PLANS
PHASE 1, SEGMENT A
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT NO. W8248
CONTRACT NO. 14-4852

GENERAL NOTES

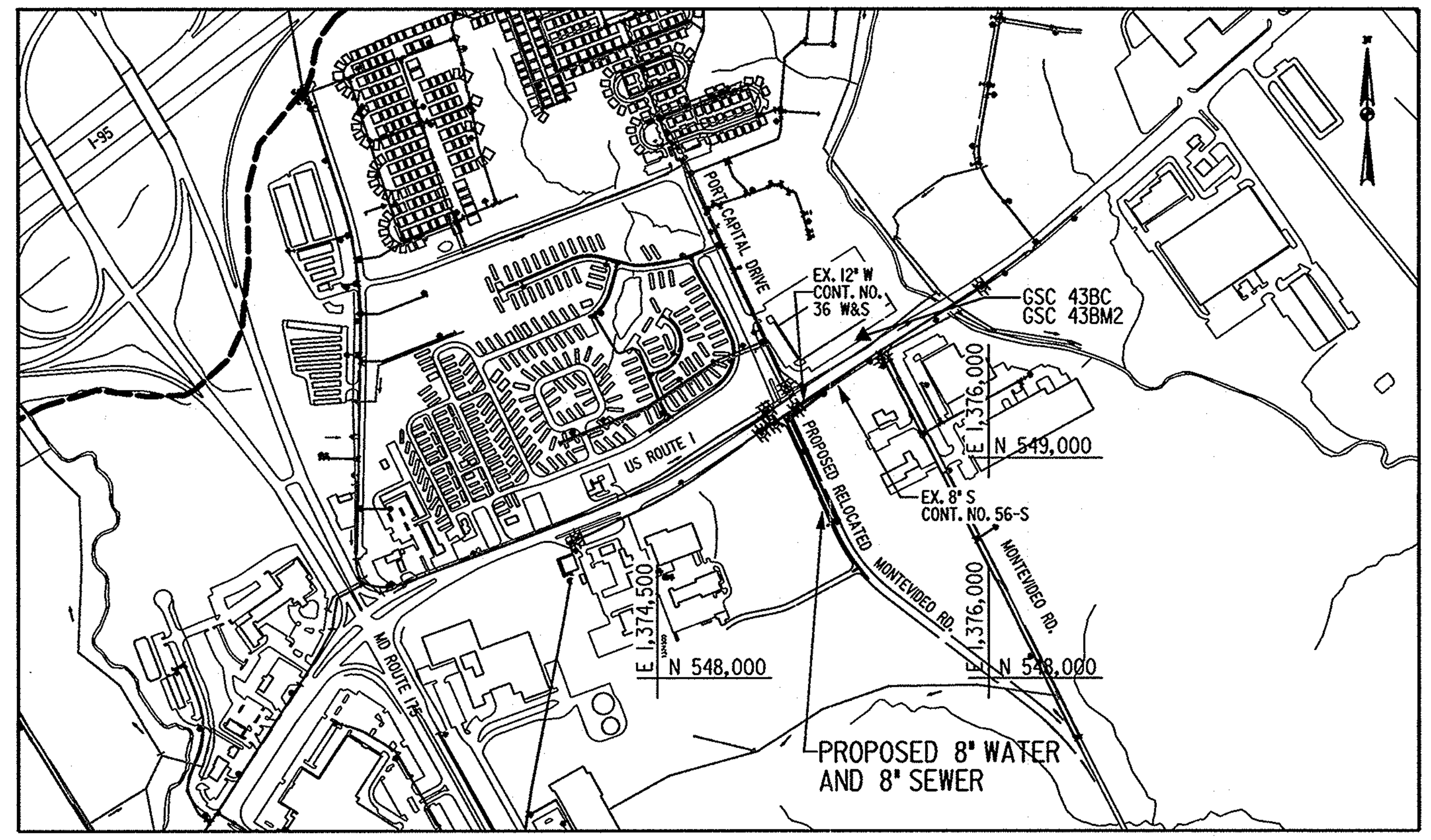
1. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED MAY AND AUGUST 2011 BY JMT.
3. 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 43BC AND 43BM2. ALL VERTICAL CONTROLS BASED ON NAVD 1988 DATUM.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT Ø ELEVATIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 12". 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 MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
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.
7. WHERE TEST PITS HAVE BEEN MADE ON THE EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL ◩ AT THE LOCATION OF THE TEST PIT. 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 2 WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST 5 WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS:
   - AT&T 1-800-252-1133
   - BG&E (CONSTRUCTION SERVICES)............ 1410-637-8713
   - BG&E (EMERGENCY)................ 410-685-0123
   - BUREAU OF UTILITIES (DPW)............ 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
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.
10. THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OR EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT 410-313-7450 AT LEAST 5 WORKING DAYS BEFORE ANY OPEN CUT OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OR THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.
12. FOR ROAD WIDENING AND RELOCATION, SEDIMENT CONTROLS, AND TRAFFIC CONTROLS, REFER TO CAPITAL PROJECT NO. J-4206-1A DRAWINGS.

WATER NOTES

1. ALL WATER MAINS SHALL BE PVC C900 UNLESS OTHERWISE APPROVED. FOR CORROSION CONTROL NOTES, SEE SHEET 2.
2. TOP OF WATER MAINS SHALL HAVE A MINIMUM 4'-0" 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 PROVIDED FOR ON THE DRAWINGS.
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 SECTIONS 1000 AND 1005 OF THE STANDARD DETAIL.
6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
7. TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE 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 CERTIFICATION OR SHOP DRAWING 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 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. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. TWELVE (12) POUND 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 DEFECTION 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. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES 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 DEFLECTION 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 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) STOP COUPLINGS OR EQUAL.

    FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTIFITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.
12. WHEN PVC HIGH DEFECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL 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 DEFECTION 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.

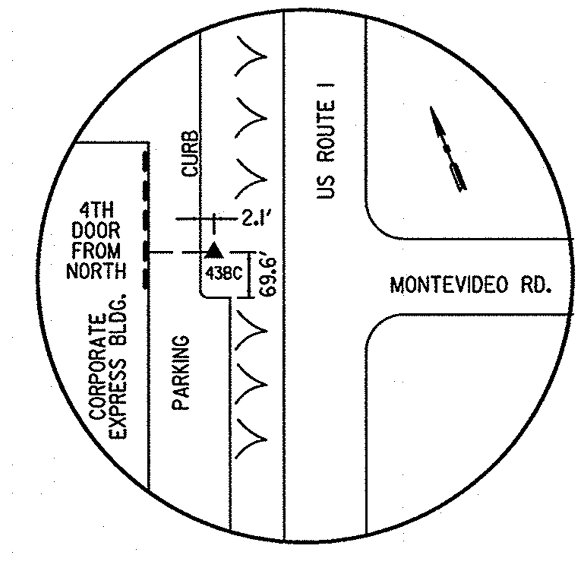


LOCATION MAP
SCALE: 1" = 600'

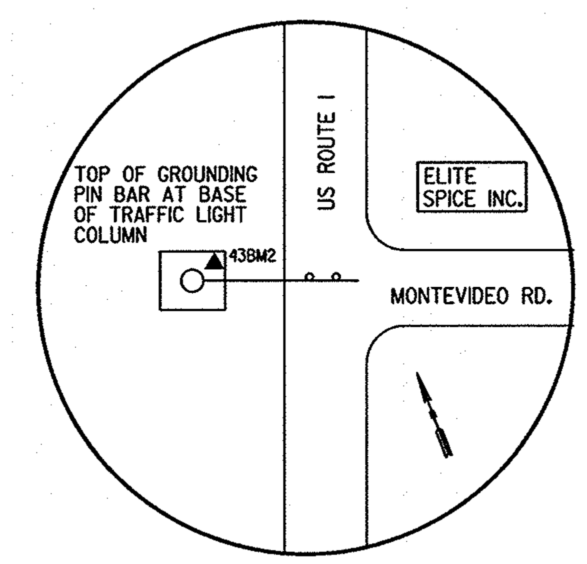
TYPE OF BUILDING:	COMMERICAL
NUMBER OF HOUSE CONNECTIONS:	1 WHC and 1 SHC
DRAINAGE AREA:	PATAPSCO
PRESSURE ZONE:	400
WATER TEST PRESSURE:	150 PSI

HORIZONTAL AND VERTICAL CONTROL BASED ON MARYLAND NAD 1983/1991 AND NAVD 1988 DATUM. HOWARD COUNTY GEODETIC SURVEY CONTROL NUMBERS:

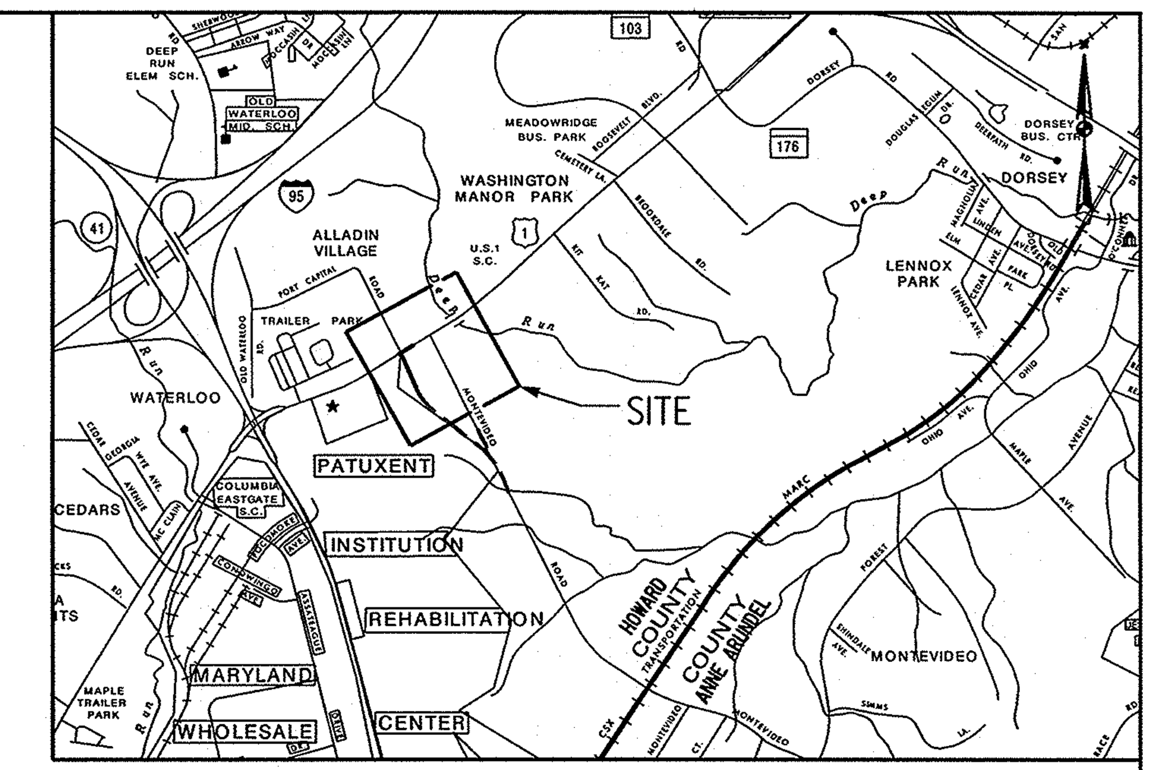
HOWARD COUNTY MONUMENTS	
GSC 43BC (Horiz. & Vert.)	GSC 43BM2 (Horiz. & Vert.)
N 549,592.108	N 549,600.000
E 1,375,466.624	E 1,375,500.00
ELEV. 214.063	ELEV. 193.599



43BC
CONCRETE MONUMENT



43BM2
GROUNDING BAR



VICINITY MAP
SCALE 1" = 2000'

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN
3	PROFILES

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
8" W PVC	L.F.	420		
6" W PVC	L.F.	40		
6" W PVC (FH)	L.F.	46		
12"X8" TS&V	EA.	1		
8" 11.25 BEND	EA.	3		
FIRE HYDRANT	EA.	2		
8"X6" TEE (FH)	EA.	2		
6" VALVE (FH)	EA.	2		
8" VALVE	EA.	1		
8" CAP	EA.	1		
8" S PVC	L.F.	705		
6" S PVC	L.F.	25		
24" FRAME & COVER	EA.	4		
4 FT. PRECAST MH	V.F.	50		
NAME OF UTILITY CONTRACTOR:				
			AS-BUILT DATE:	

SEWER NOTES

1. ALL SEWER MAINS SHALL BE P.V.C. UNLESS OTHERWISE NOTED.
2. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.

LEGEND

FENCE LINE	—X——X—
RIGHT OF WAY LINE	
PROPERTY LINE	
LIMIT OF DISTURBANCE	— LOD —
WATER	— — W — –
GAS	— — G — –
SAN. SEWER	— — SAN —
UG ELECTRIC	— — E — –
UG TELEPHONE	— — T — –
UTILITY POLE	
TRAVERSE POINT	△
PROPOSED SEWER MAIN	
PROPOSED WATER MAIN	
PROPOSED WATER VALVE	
PROPOSED FIRE HYDRANT	
PROPOSED WATER CAP	E— — W —
EX. WATER VALVE	
EX. FIRE HYDRANT	
EX. WATER METER	
PROP. STORM DRAIN PIPE (CAPITAL PROJECT NO. J-4206-1A)	

PURPOSE STATEMENT:

THE PURPOSE OF THIS PROJECT IS TO EXTEND THE WATER AND SEWER IN COORDINATION WITH THE RELOCATION OF MONTEVIDEO ROAD AT U.S. ROUTE 1 (CAPITAL PROJECTS J4206-1A & W8248).

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. 25830, EXPIRATION DATE: 02/05/2017

UT-1 OF 3

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 3/10/16
CHIEF, BUREAU OF ENGINEERING 3/9/16
CHIEF, BUREAU OF UTILITIES 3/8/16
CHIEF, UTILITY DESIGN DIVISION 3/9/16

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — LISA A. FRANKE — 25830 — PROFESSIONAL ENGINEER — 3.7.2016

DES: RAF			
DRN: RAF			
CHK: LAF			
DATE: 3/7/2016	BY	NO.	DATE

TITLE SHEET

600' SCALE MAP NO. 43 BLOCK NO. 9

RELOCATED MONTEVIDEO ROAD
WATER AND SEWER PLANS
PHASE 1, SEGMENT A

CAPITAL PROJECT No. W8248
CONTRACT No. 14-4852

ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

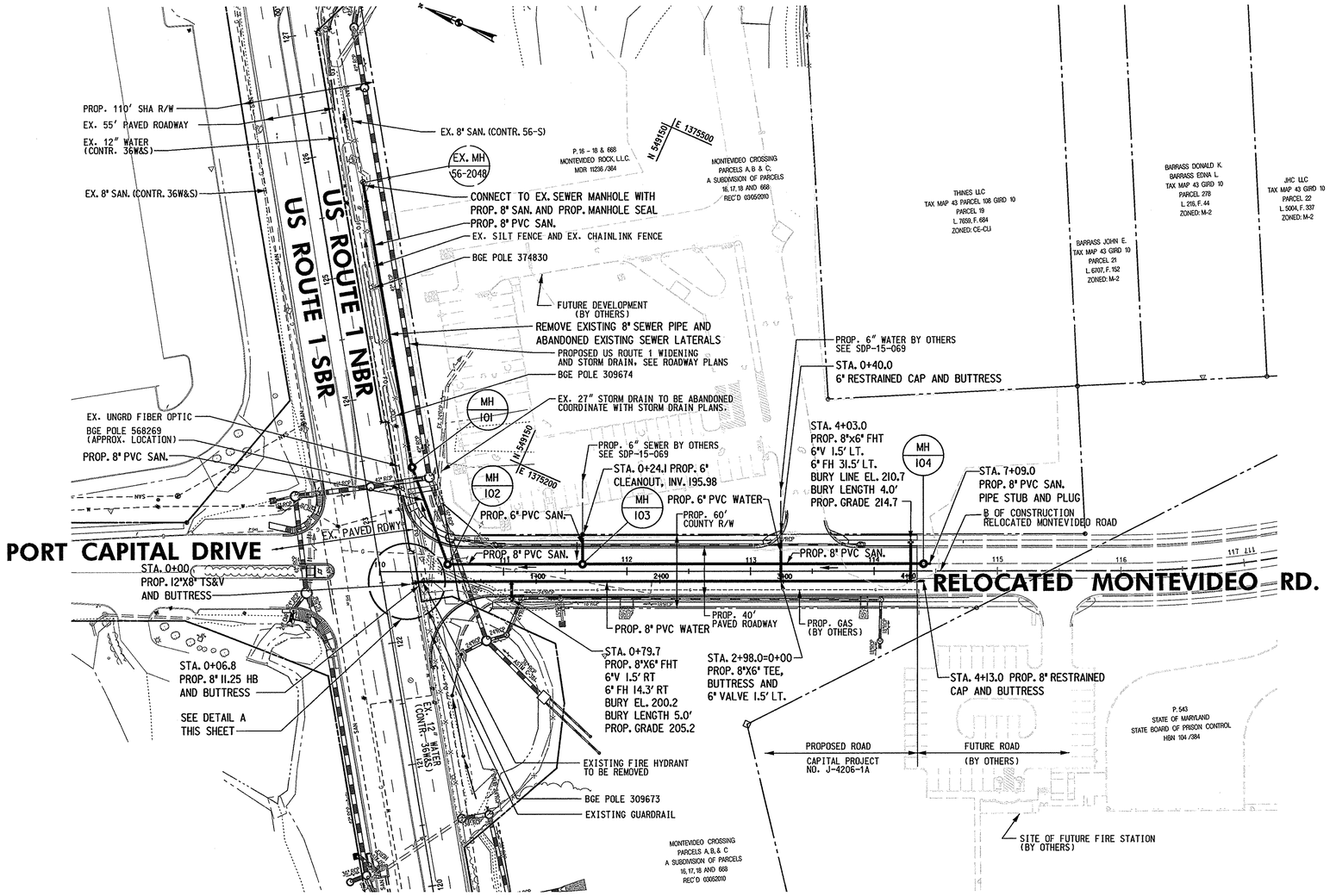
SCALE AS SHOWN

SHEET 1 OF 3

FILE: O:\SMD\080488-001_Montevideo_Road\CADD\pGN-T001_Montevideo-1A-UT.dgn
DATE: Monday, March 07, 2016 AT 12:09 PM 12:09 PM

WATER MAIN STAKEOUT COORDINATE SCHEDULE				
STATION	FITTING	INVERT	NORTHING	EASTING
0+00	12"x8" TS&V	199.2+/-	549189.39	1375076.19
0+06.8	8" 11.25° HB	199.4	549183.85	1375080.27
0+09.3	8" 11.25° VB	199.5	549181.57	1375081.30
0+12.8	8" 11.25° VB	200.2	549178.37	1375082.73
0+79.7	8"x6" FHT	200.2	549117.34	1375110.16
0+86.2	8" HD COUPLING	200.3	549111.59	1375112.73
1+31.5	8" HD COUPLING	200.9	549070.27	1375131.29
2+98.0	8"x6" FHT	206.5	548918.44	1375199.48
4+03.0	8"X6" FHT	210.4	548822.63	1375242.53
4+13.0	8" CAP	210.5	548813.15	1375246.78

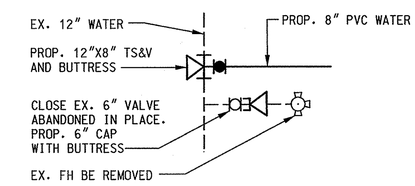
SEWER MAIN STAKEOUT COORDINATE SCHEDULE						
MH NO.	RIM EL.	INV. IN	INV. OUT	NORTHING	EASTING	STD. DTL. NO.
EX. MH 56-2048	198.0	189.30+/-	189.30+/-	549359.62	1375357.35	
101	202.7	190.62	190.52	549228.63	1375162.01	G-5.12
102	204.0	191.04	190.94	549170.17	1375101.66	G-5.12
103	206.4	194.96/195.03	194.86	549070.53	1375146.41	G-5.12
104	214.2	204.72	204.62	548818.24	1375259.46	G-5.12



PLAN
SCALE: 1"=50'

CORROSION CONTROL GENERAL NOTES (PVC):

1. ALL NEW DUCTILE IRON FITTINGS, VALVES, TAPPING SLEEVES, AND FIRE HYDRANT PIPE ALONG THE PVC WATER MAIN ARE TO BE PROVIDED WITH CORROSION PROTECTION, SEE DETAILS C-5.01, -5.03, C-5.04, 5-5.05, C-5.07, C-5.08, AND C-5.09.
2. FOR THERMITE WELD TO CONNECTOR PLATE, SEE DETAIL C-5.13.
3. FOR HORIZONTAL THERMITE WELDS TO DUCTILE IRON PIPE, SEE DETAIL C-3.04. FOR VERTICAL THERMITE WELDS TO DUCTILE IRON PIPE, SEE DETAIL C-3.05.
4. FOR PLACEMENT OF ANODES, SEE DETAILS C-5.14 OR C-5.15.
5. DO NOT MAKE THERMITE WELDS TO PVC PIPE.
6. POLYETHYLENE ENCASEMENT SHALL NOT BE INSTALLED ON NEW DUCTILE IRON WATER PIPING.
7. DUCTILE IRON PIPE THAT WILL BE IN DIRECT CONTACT WITH POURED CONCRETE, SUCH AS AT THRUST BLOCKS, ETC., SHALL BE FIELD COATED WITH 20 MILS OF MASTIC (ROYSTON R28 OR APPROVED EQUAL). THE MASTIC COATING SHALL BE APPLIED IN TWO COATS, EACH COAT TO BE A MINIMUM OF 10 MILS IN THICKNESS.
8. INSTALL SEPARATOR MESH ON WATER MAIN AT EXISTING UTILITY CROSSINGS IF THERE IS LESS THAN 12 INCHES OF SPACING BETWEEN THEM, SEE DETAIL C-4.06.
9. CONTRACTOR TO NOTIFY ENGINEER 72 HOURS PRIOR TO INSTALLATION OF CORROSION CONTROL COMPONENTS.



PLAN
DETAIL A
SCALE: NONE

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. 25830, EXPIRATION DATE: 02/05/2017

UT-2 OF 3

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — 3/10/16
CHIEF, BUREAU OF ENGINEERING — 3/9/16
CHIEF, BUREAU OF UTILITIES — 3/8/16
CHIEF, UTILITY DESIGN DIVISION — 3/9/16

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3-7-2016 STATE OF MARYLAND LISA A. FRANK No. 25830 PROFESSIONAL ENGINEER

DES: RAF				
DRN: RAF				
CHK: LAF				
DATE: 3/7/2016	BY	NO.		DATE

PLAN

600' SCALE MAP NO. 43 BLOCK NO. 9

RELOCATED MONTEVIDEO ROAD
WATER AND SEWER PLANS
PHASE I, SEGMENT A

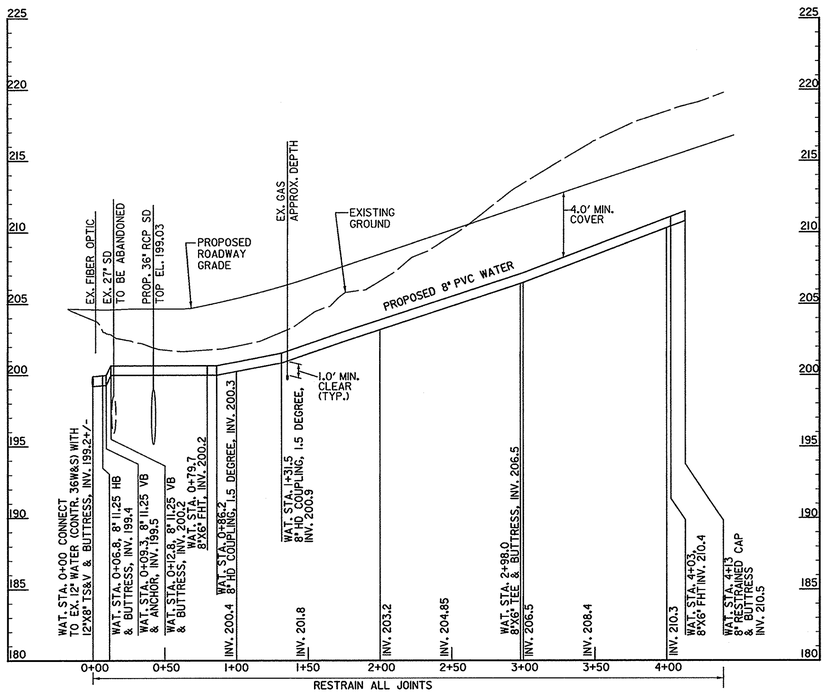
CAPITAL PROJECT No. W8248
CONTRACT No. 14-4852

ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

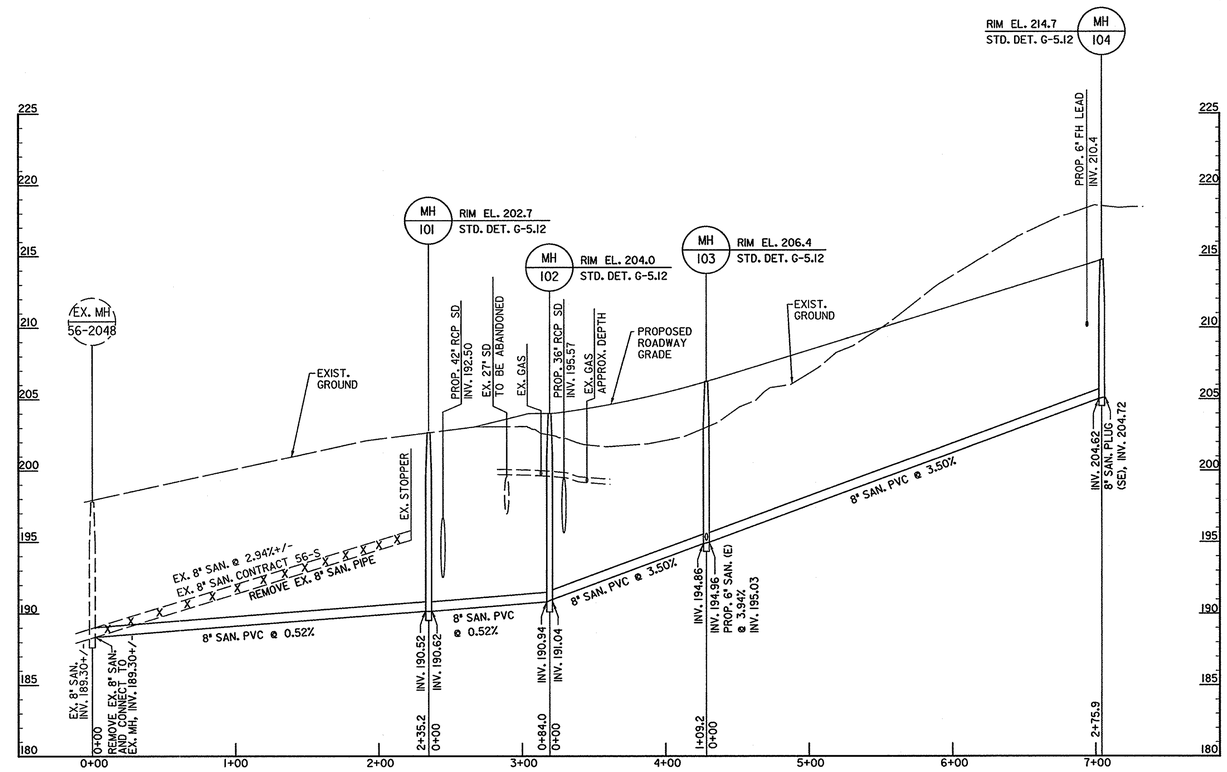
SHEET 2 OF 3

FILE: G:\SHD\080188-09_Montevideo_Rough-CADD\UT-P09_Montevideo-1A.dgn
DATE: Monday, March 07, 2016 AT 11:53 AM 11:53 AM



WATER PROFILE

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'



SEWER PROFILE

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

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UT-3 OF 3

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3.7.2016 STATE OF MARYLAND USA A. FRANKLIN No. 25830 PROFESSIONAL ENGINEER

DES: RAF				
DRN: RAF				
CHK: LAF				
DATE: 3/7/2016	BY	NO.		DATE

PROFILES

600' SCALE MAP NO. 43 BLOCK NO. 9

RELOCATED MONTEVIDEO ROAD
WATER AND SEWER PLANS
PHASE I, SEGMENT A

CAPITAL PROJECT No. W8248
CONTRACT No. 14-4852

ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 3 OF 3

FILE: Q:\SMD\080488-001_Montevideo_Road\CADD\UT-V001_Montevideo-1A.dgn
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