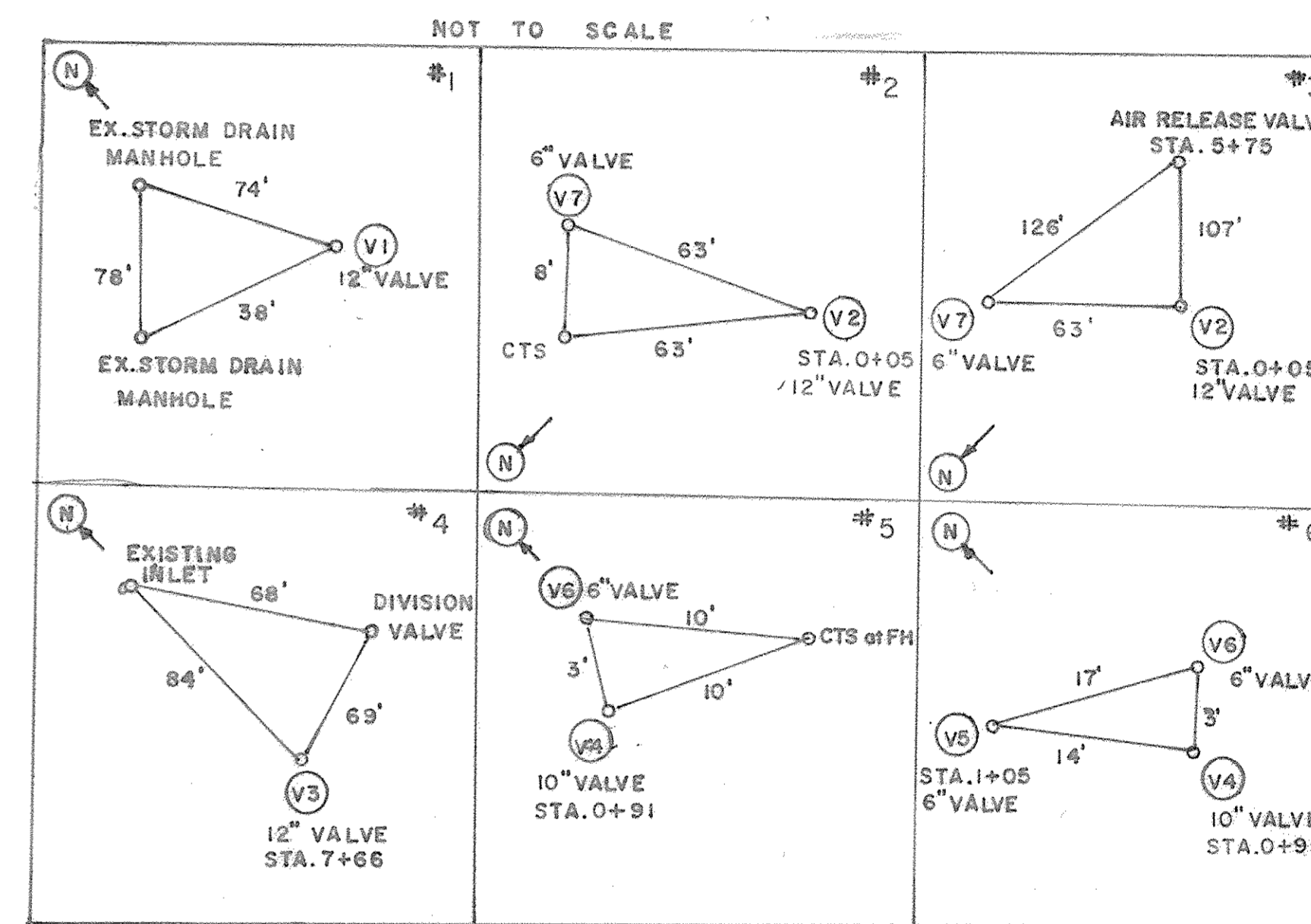


TYPE OF BUILDING: COMMERCIAL
 NUMBER OF PARCELS: 2
 WATER HOUSE CONNECTIONS: 1
 SEWER HOUSE CONNECTIONS: 0
 DRAINAGE AREA: HAMMOND BRANCH
 PRESSURE ZONE: ELEV. 630S
 WATER TEST GRADIENT: ELEV. 860

VICINITY MAP
 SCALE: 1"=600'



BILL OF MATERIALS			
ITEM	QUANTITY	AS-BUILT QUANTITY	MANUFACTURER/SUPPLIER
12" PVC C900 WATER MAIN	769 LF	758	NATIONAL PIPE & PLASTICS
12"x12" TAPPING SLEEVE	2	2	SMITH BLAIR
12"x12" TEE	1	1	TYLER/UNION FOUNDRY
12" - 5' SWEEP	4	0	
12" - 11.25' BEND	2	0	
12" - 45' BEND	2	8	TYLER/UNION FOUNDRY
12" VALVE	2	2	MUELLER COMPANY
AIR RELEASE VALVE	1	1	VALMATIC
JHU/APL CONNECTION:			
12" PVC C900 WATER MAIN	112 LF	100	NATIONAL PIPE & PLASTICS
12" VALVE	1	1	MUELLER COMPANY
12"x10" REDUCER	2	2	TYLER/UNION FOUNDRY
12" - 22.5' BEND	2	0	
12" - 45' BEND	7	9	TYLER/UNION FOUNDRY
10" DIP WATER MAIN	12 LF	12	TYLER/UNION FOUNDRY
10" VALVE	2	2	TYLER/UNION FOUNDRY
10"x6" TEE	2	2	TYLER/UNION FOUNDRY
6" PVC C900 WATER MAIN	31 LF	35.5	NATIONAL PIPE & PLASTICS
6" - 45' BEND	2	2	TYLER/UNION FOUNDRY
6" - 90' BEND	2	2	TYLER/UNION FOUNDRY
6" VALVE	2	2	TYLER/UNION FOUNDRY
CONTINUITY TEST STATION	1	1	HORNE CONCRETE
12"x6" FIRE HYDRANT TEE	1	1	MUELLER COMPANY
6" FIRE HYDRANT	1	1	AMERICAN - DARLING
8"x10' METER VAULT	1	1	A C MILLER
10" SWING CHECK VALVE	1	1	MILKEN
NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED			
AS-BUILT DATE: 1/31/17			

630 SOUTH ZONE WATER MAIN EXTENSION CAPITAL PROJECT NO. W8306 CONTRACT NO. 44-4945 HOWARD COUNTY, MARYLAND



AS-BUILT
 By: [Signature] Date: 1/31/17

DRAWING/SHEET INDEX		
DWG.	SHEET	DESCRIPTION
G-1	1	VICINITY MAP, TITLE, BILL OF MATERIALS AND SHEET INDEX
G-2	2	GENERAL NOTES, SEQUENCE OF WATER LINE CONSTRUCTION, ABBREVIATIONS, LEGEND AND TEST PIT RESULTS TABLE
C-1	3	PLAN AND PROFILE
C-2	4	630S/550 ZONE BOUNDARY MAP, ENLARGED PLAN AND STAKEOUT GEOMETRY
C-3	5	SOIL BORING LOGS, DETAILS AND FIRE HYDRANT PROFILE
SC-1	6	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
TC-1	7	TEMPORARY TRAFFIC CONTROL GENERAL NOTES AND LEGEND AND ROAD RESTORATION LIMITS
TC-2	8	SEGMENT 1A & 1B: TEMPORARY TRAFFIC CONTROL PLANS AND NOTES
TC-3	9	SEGMENT 1C: TEMPORARY TRAFFIC CONTROL PLAN AND NOTES
TC-4	10	SEGMENT 2: TEMPORARY TRAFFIC CONTROL PLAN AND NOTES
TC-5	11	SEGMENT 3: TEMPORARY TRAFFIC CONTROL PLAN AND NOTES
TC-6	12	SEGMENT 4: TEMPORARY TRAFFIC CONTROL PLAN AND NOTES
TC-7	13	SEGMENT 5: TEMPORARY TRAFFIC CONTROL PLAN AND NOTES

PURPOSE STATEMENT:

THIS PROJECT WILL EXTEND THE 630 WATER ZONE TO PROVIDE 630 ZONE WATER SERVICE TO THE JOHNS HOPKINS APPLIED PHYSICS LABORATORY CAMPUSES.

DWG. G-1
 SCALE AS SHOWN
 SHEET 1 OF 13

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

Director of Public Works: [Signature] Date: 6/30/16
 Chief, Bureau of Utilities: [Signature] Date: 6/30/16

Chief, Bureau of Engineering: [Signature] Date: 6/30/16
 Chief, Utility Design Division: [Signature] Date: 6/30/16

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. 24478, EXPIRATION DATE: 10/28/17.

PREPARED BY: WRA
 Whitman, Requardt & Associates, LLP
 801 South Caroline Street, Baltimore, Maryland 21231

STATE OF MARYLAND PROFESSIONAL ENGINEER [Signature] Date: 6/27/16

DES: ACM			
DRN: ACM			
CHK: PAC			
DATE: 6/10/16	BY: NO.	REVISION	DATE


VICINITY MAP, TITLE, BILL OF MATERIALS AND SHEET INDEX

600' SCALE MAP NO. 41 BLOCK NO. 16

630 SOUTH ZONE WATER MAIN EXTENSION
 CAPITAL PROJECT NO. W8306
 CONTRACT NO. 44-4945

ELECTION DISTRICT 4 HOWARD COUNTY, MARYLAND

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 IN AUGUST, 2014 BY WRA. UTILITY DATA WAS PERFORMED IN APRIL, 2015 BY WRA. UTILITY LOCATE WAS PERFORMED IN SEPTEMBER, 2015 BY AB CONSULTANTS INC. AERIAL SURVEY WAS PERFORMED ON APRIL, 2014 BY AXIS GEOSPATIAL.
- 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. 41CA, NO. 41EB AND NO. HOPKINS. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE WRAS7 AND WRASO (CROSS CUTS ON SIDEWALK).
- 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 THE BRACING OF 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 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. 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
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.
- THE 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(A) OF THE HOWARD COUNTY CODE.
- REFER TO UTILITY PLAN SHEETS FOR SOIL BORING AND AUGER LOCATIONS AND DRAWING C-3 FOR SOIL BORING LOGS AND AUGER DATA.

WATER NOTES

- ALL WATER MAINS SHALL BE CL 54 DIP UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 4'-0" 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 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 WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE 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 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.
- 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 HARNESSSES. 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.

- 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.
- 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 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 COMPACTOR 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 CERTAINTED 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 MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.
- WHEN PVC HIGH DEFLECTION 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 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.






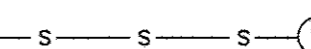
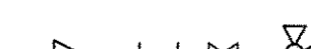





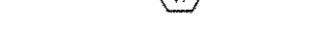


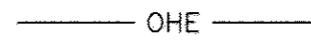
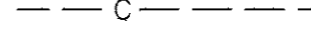










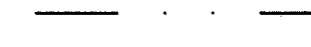


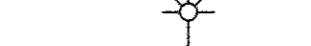




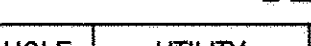
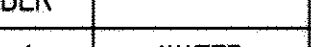

SEQUENCE OF WATER LINE CONSTRUCTION

- PROVIDE EROSION AND SEDIMENT CONTROL AS REQUIRED. REFER TO SC DRAWING.
- PROVIDE MOT AS SHOWN IN TC DRAWINGS. FOLLOW PHASING OF TC DEVICE INSTALLATION AND REMOVAL.
- COORDINATE WITH THE COUNTY FOR SHUTDOWN OF EXISTING 12" VALVE AT INTERSECTION OF JOHNS HOPKINS ROAD / SANNER ROAD / MAPLE LAWN BOULEVARD.
- INSTALL NEW 12" X 12" TAPPING SLEEVES AND 12" VALVES AT STA. 0+00 AND STA. 7+69. RESTRAIN AS REQUIRED.
- INSTALL 12"W AND RESTRAIN PIPING AS SHOWN.
- INSTALL METER VAULT WMV-1 AND ASSOCIATED PIPING.
- TEST AND DISINFECT WATER MAIN.
- CONNECT NEW 12"W TO EXISTING 12"W SERVING JHU/APL SOUTH CAMPUS AT NEW TS&V. OPEN VALVES V-1, V-2 & V-3. VALVES V-4, V-5 & V-6 TO REMAIN CLOSED FOR FUTURE CONNECTION.
- RESTORE AREA AROUND METER VAULT.
- RESTORE ROADWAYS AS SHOWN ON TC-1 AND PER THE ROADWAY RESTORATION NOTES AND DETAILS, INCLUDING PAVEMENT MILL AND OVERLAY.
- REMOVE EROSION AND SEDIMENT CONTROL DEVICES PER SC DRAWINGS.
- THE COUNTY AND JHU/APL WATER OPERATIONS TO COORDINATE ZONE BOUNDARY CHANGE AND SERVICE OF SOUTH CAMPUS FROM 630S ZONE. COUNTY TO OPEN AND CLOSE ISOLATION AND DIVISION VALVES AS REQUIRED.

ABBREVIATIONS

C.E.	CELLAR ELEVATION	LOD	LIMIT OF DISTURBANCE
C.N.S.	CELLAR NOT SERVED	MIN.	MINIMUM
C.T.S.	CONTINUITY TEST STATION	N	NORTH
D	DRAIN	N/A	NOT APPLICABLE
DEF.	DEFLECTION	NIC	NOT IN CONTRACT
DES	DESIGN	PROP	PROPOSED
DIA.	DIAMETER	PVC	POLYVINYL CHLORIDE
DIP	DUCTILE IRON PIPE	R/W	RIGHT OF WAY
DR	DIMENSION RATIO	S	GRAVITY SANITARY SEWER
E	ELECTRIC, EAST	SAN	SANITARY
ELEV.	ELEVATION	SD	STORM DRAIN
ESC	EROSION AND SEDIMENT CONTROL	SF	SILT FENCE
EX.	EXISTING	SSF	SUPER SILT FENCE
FM	FORCE MAIN	T	TELEPHONE
FPS	FEET PER SECOND	TC	TRAFFIC CONTROL
G	GAS	TP	TEST PIT
H.B.	HORIZONTAL BEND	TS&V	TAPPING SLEEVE AND VALVE
HDC	HIGH DEFLECTION COUPLING	TYP.	TYPICAL
HORIZ.	HORIZONTAL	V	VALVE
HDPE	HIGH DENSITY POLYETHYLENE	VERT.	VERTICAL
INV.	INVERT	V.B.	VERTICAL BEND
LF	LINEAR FOOT	W	WATER
		WT	WATER TIGHT

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		CONTOUR
		CURB
		SIGN
		TREELINE
		TREE
		SANITARY SEWER & MH
		REDUCER, TEE, VALVE & FIRE HYDRANT
		WATER MAIN
		WATER METER
		WATER AIR RELEASE OR VALVE MANHOLE
		WELL
		STORM DRAIN NLET W/ STORM DRAIN PIPE
		TELEPHONE
		UNDERGROUND ELECTRIC
		OVERHEAD ELECTRIC
		UNDERGROUND CABLE
		GAS
		FENCE WIRE
		FENCE WOOD
		100 YEAR FLOOD PLAIN
		PAVED ROADWAY (MILL AND OVERLAY)
		WETLAND BOUNDARY
		WETLAND BUFFER
		TRAVERSE POINT
		BORING LOCATION AND NUMBER (SEE GENERAL NOTE 12.)
		TEST PIT
		BENCHMARK/SURVEY CONTROL POINT
		PROPERTY LINE
		RIGHT OF WAY LINE
		PERMANENT EASEMENT
		MAILBOX
		POWER/UTILITY POLE WITH GUY WIRE
		STREET LIGHT
		ELECTRIC METER
		SIGN
		GUARDRAIL

TEST PIT RESULTS TABLE

TEST HOLE NUMBER	UTILITY	SIZE	MATERIAL	TOP OF UTILITY ELEV.	COVER	INVERT±
TP-1	WATER	12"	DIP	410.72	3.83'	409.72
TP-2	TELEPHONE	N/A	N/A	N/A	N/A	N/A
TP-3	GAS	N/A	N/A	N/A	N/A	N/A
TP-4	WATER	N/A	N/A	413.94	4.18'	N/A
TP-5	ELECTRIC	4"	PLASTIC	416.11	3.57'	415.86
TP-6	ELECTRIC	6"	PLASTIC	416.38	7.07'	415.88
TP-7	ELECTRIC	6"	PLASTIC	423.70	6.64'	423.20
TP-8	GAS	4"	PLASTIC	424.35	3.65'	424.10
TP-9	GAS	4"	PLASTIC	422.26	3.59'	422.01
TP-10	WATER	12"	DIP	422.49	4.46'	421.49

AS-BUILT
[Signature] DATE 1/30/17

"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. 24478, EXPIRATION DATE: 10/28/17."

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

[Signature] DATE 6/10/16
 DIRECTOR OF PUBLIC WORKS

[Signature] DATE 6/10/16
 CHIEF, BUREAU OF ENGINEERING

[Signature] DATE 6/10/16
 CHIEF, BUREAU OF UTILITIES

[Signature] DATE 6/10/16
 CHIEF, UTILITY DESIGN DIVISION

PREPARED BY:

WRA
 Whitman, Reardon & Associates, LLP
 801 South Caroline Street, Baltimore, Maryland 21231

[Professional Engineer Seal]

DES: ACM			
DRN: ACM			
CHK: PAC			
DATE: 6/10/16	BY	NO.	REVISION

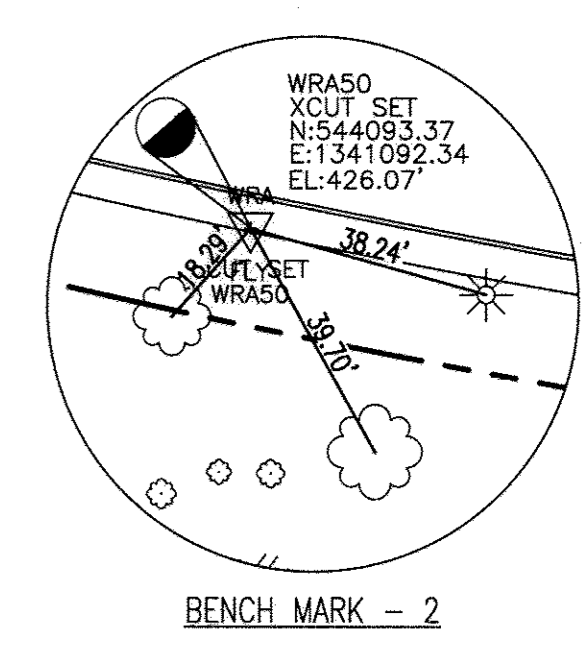
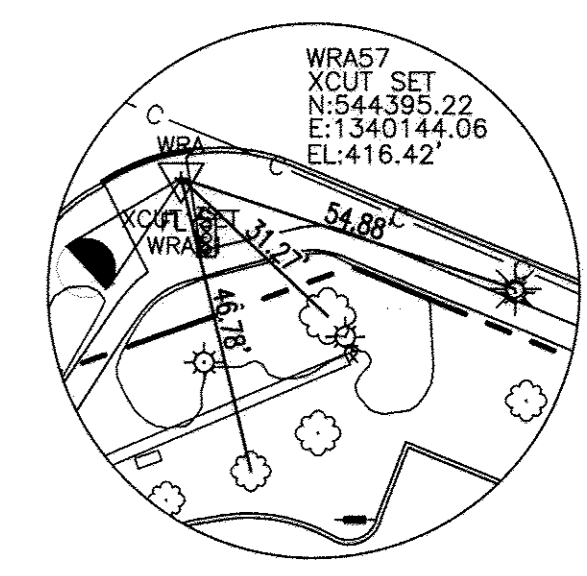
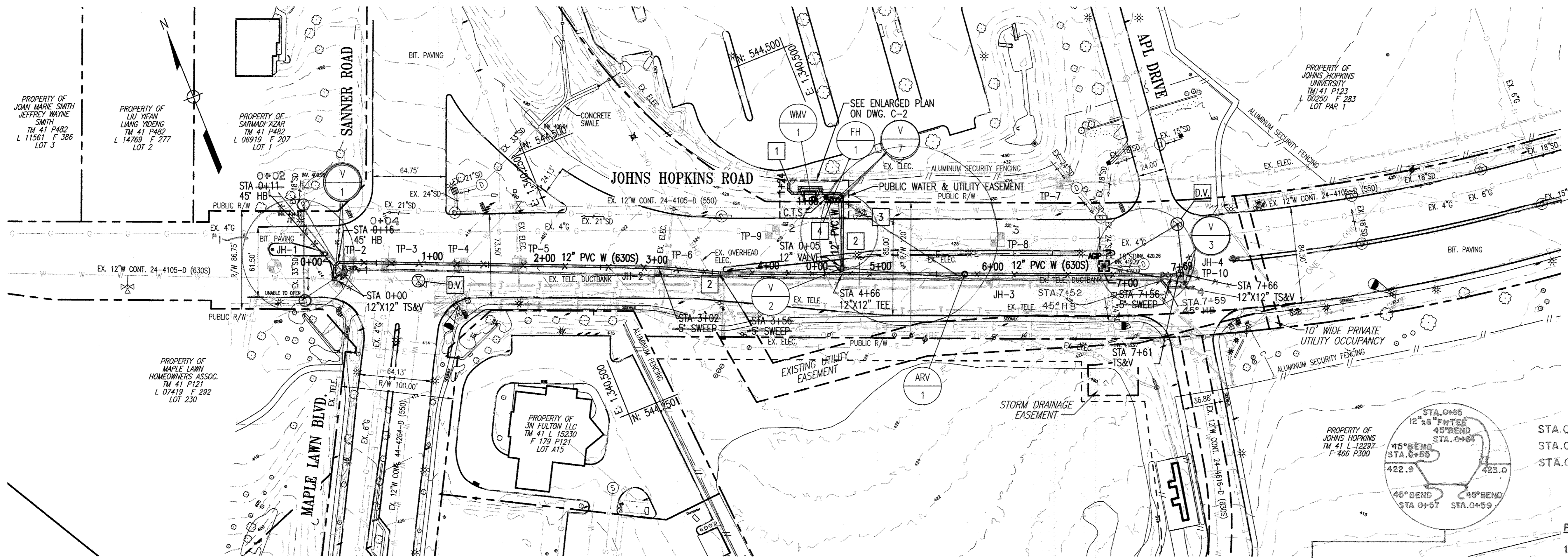
GENERAL NOTES, SEQUENCE OF WATER LINE CONSTRUCTION, ABBREVIATIONS, LEGEND AND TEST PIT RESULTS TABLE

600' SCALE MAP NO. 41 BLOCK NO. 16

630 SOUTH ZONE WATER MAIN EXTENSION
 CAPITAL PROJECT NO. W8306
 CONTRACT NO. 44-4945

ELECTION DISTRICT 4 HOWARD COUNTY, MARYLAND

DWG. G-2
 SCALE NTS
 SHEET 2 OF 13



* UNMARKED
 STA. 0+47 > DUCTBANKS 12" W x 8" D
 STA. 0+50 > 3' BELOW TOP OF PAVEMENT
 STA. 0+51 - FIBER OPTIC 72" BELOW TOP OF CURB

AS-BUILT
 Date: 1/31/17

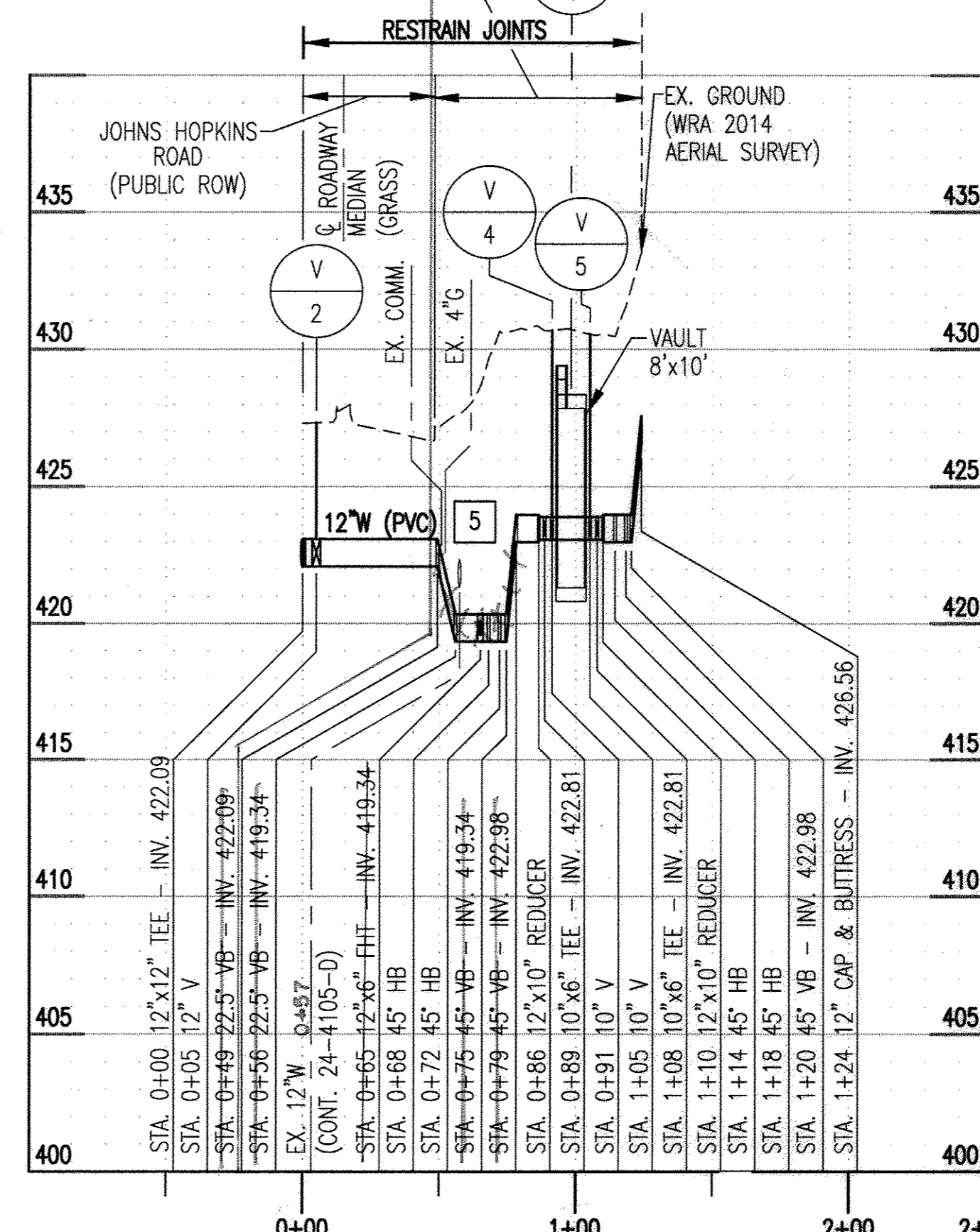
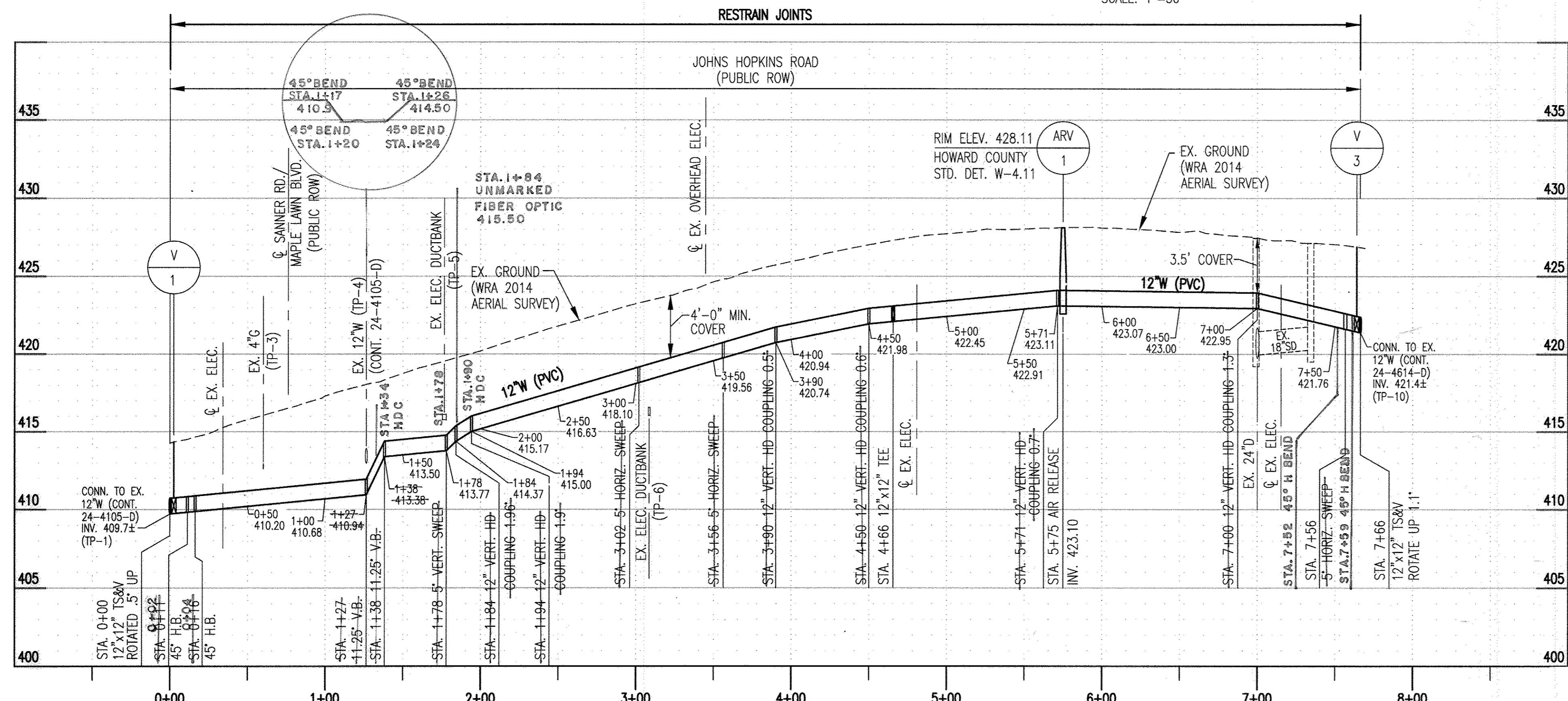
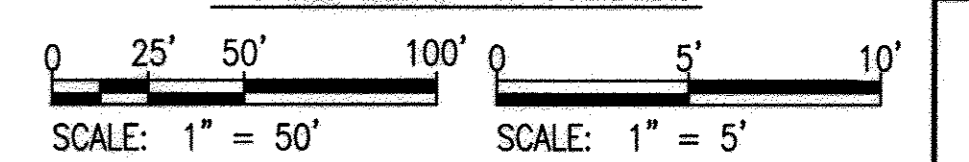
PLAN NOTES:

- MARKING TAPE SHALL BE CUSTOM ORDERED BY THE CONTRACTOR. TAPE SHALL BE PRINTED WITH THE FOLLOWING TEXT "630 PRESSURE ZONE WATER MAIN". CONSULT WITH HOWARD COUNTY FOR COLOR REQUIREMENTS.
- ALL FITTINGS AND VALVES SHALL BE DUCTILE IRON PIPE. ALL DIP SHALL BE INSTALLED WITH CORROSION PROTECTION PER THE HC STANDARD SPECIFICATIONS AND DETAILS C-5.01 THROUGH C-5.04. ALL PIPE JOINTS SHALL BE RESTRAINED.
- FOR EXISTING VALVES TO BE CLOSED/OPENED FOR WATER PRESSURE ZONE BOUNDARY SHIFT, SEE DWG. C-2.
- FOR WATER MAIN STAKEOUT GEOMETRY SEE DWG. C-2.
- FOR MILL AND OVERLAY EXTENTS SEE TC-1.
- FOR TEST PIT INFORMATION, SEE DWG. G-2. FOR SOIL BORING INFORMATION, SEE DWG. C-3.
- LIMIT OF DISTURBANCE SHALL BE 15' CENTERED ON THE NEW PIPELINE OR EXTENTS OF MILL AND OVERLAY SHOWN ON TC-1.
- FOR ESC AT VALVE SITE, SEE ENLARGED PLAN ON DWG. C-2.

CONSTRUCTION NOTES:

- [D.V.] EX. VALVE TO BE CLOSED BY HOWARD COUNTY DPW
- [1] CAP AND BUTTRESS 12" 630S ZONE STUB BEYOND NEW METER VAULT FOR FUTURE CONNECTION.
- [2] CONCRETE AND GRASS MEDIAN BETWEEN STA. 3+50 AND STA. 4+75 TO BE DEMOLISHED TO THE MINIMUM EXTENTS NECESSARY TO COMPLETE CONSTRUCTION OF THE WATER MAIN. MEDIAN SHALL BE REPLACED IN-KIND AT COMPLETION OF UTILITY WORK.
- [3] EXISTING 550 ZONE FIRE HYDRANT.
- [4] PROPOSED 630 ZONE FIRE HYDRANT.
- [5] CONTRACTOR TO TEST PIT EXISTING COMMUNICATION, GAS AND WATER LINE TO DETERMINE DEPTH, AND TO CONTACT THE ENGINEER IF DEPTH DIFFERS FROM DEPTH SHOWN ON PROFILE.

GRAPHIC SCALES



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

Director of Public Works: [Signature]
 Chief, Bureau of Engineering: [Signature]
 Chief, Bureau of Utilities: [Signature]

DATE: 6/10/16

PREPARED BY:
WRA
 Whitman, Reardon & Associates, LLP
 801 South Caroline Street, Baltimore, Maryland 21231

DES: ACM
 DRN: ACM
 CHK: PAC
 DATE: 6/10/16

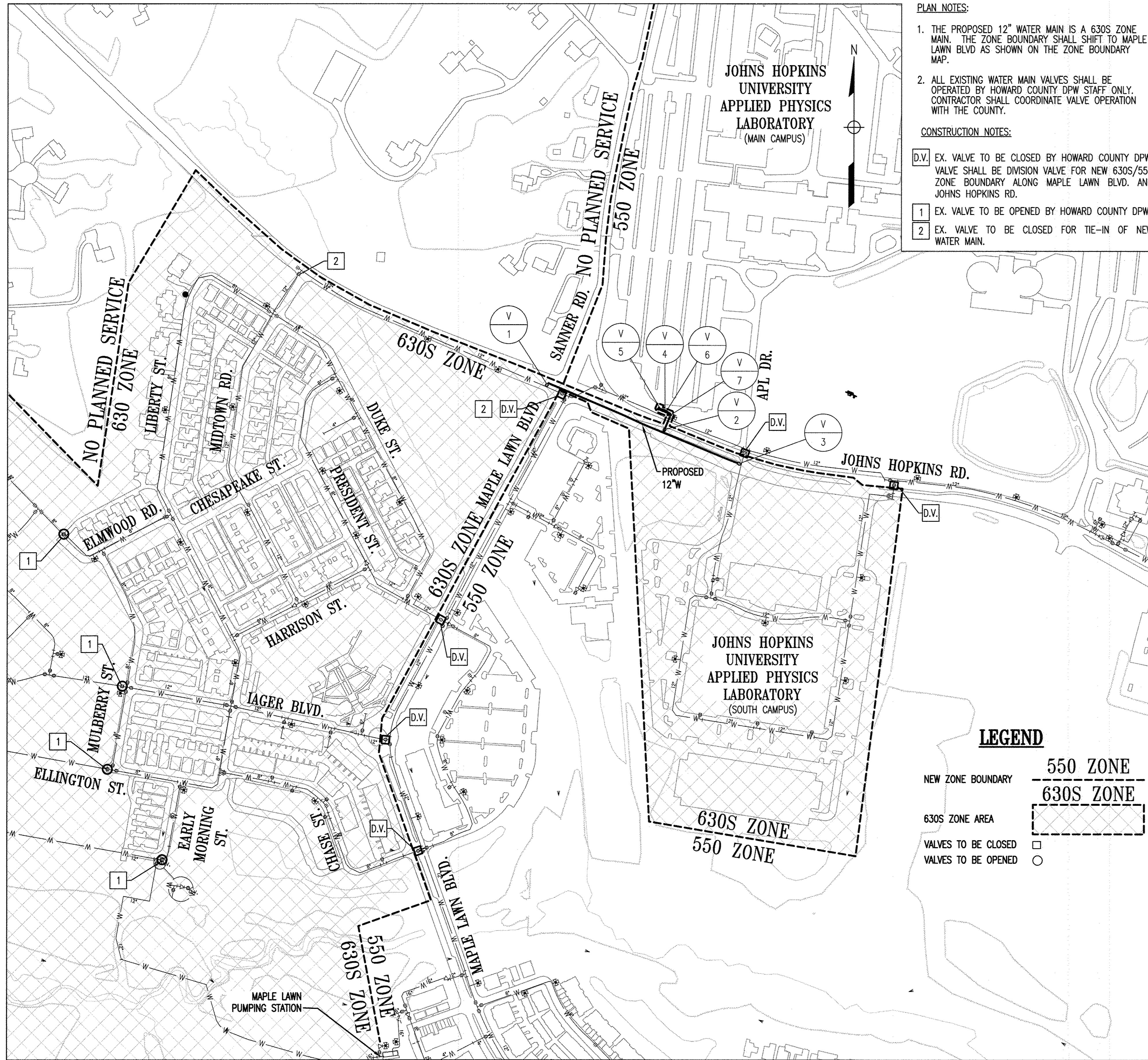
BY	NO.	REVISION	DATE

60' SCALE MAP NO. 41 BLOCK NO. 16

630 SOUTH ZONE WATER MAIN EXTENSION
 CAPITAL PROJECT NO. W8306
 CONTRACT NO. 44-4945

ELECTION DISTRICT 4
 HOWARD COUNTY, MARYLAND

DWG. C-1
 SCALE AS SHOWN
 SHEET 3 OF 13



630S/550 ZONE BOUNDARY MAP
SCALE: 1" = 200'

- PLAN NOTES:**
1. THE PROPOSED 12" WATER MAIN IS A 630S ZONE MAIN. THE ZONE BOUNDARY SHALL SHIFT TO MAPLE LAWN BLVD AS SHOWN ON THE ZONE BOUNDARY MAP.
 2. ALL EXISTING WATER MAIN VALVES SHALL BE OPERATED BY HOWARD COUNTY DPW STAFF ONLY. CONTRACTOR SHALL COORDINATE VALVE OPERATION WITH THE COUNTY.
- CONSTRUCTION NOTES:**
- D.V. EX. VALVE TO BE CLOSED BY HOWARD COUNTY DPW. VALVE SHALL BE DIVISION VALVE FOR NEW 630S/550 ZONE BOUNDARY ALONG MAPLE LAWN BLVD. AND JOHNS HOPKINS RD.
 - 1 EX. VALVE TO BE OPENED BY HOWARD COUNTY DPW.
 - 2 EX. VALVE TO BE CLOSED FOR TIE-IN OF NEW WATER MAIN.

STAKEOUT GEOMETRY - 12" WATER

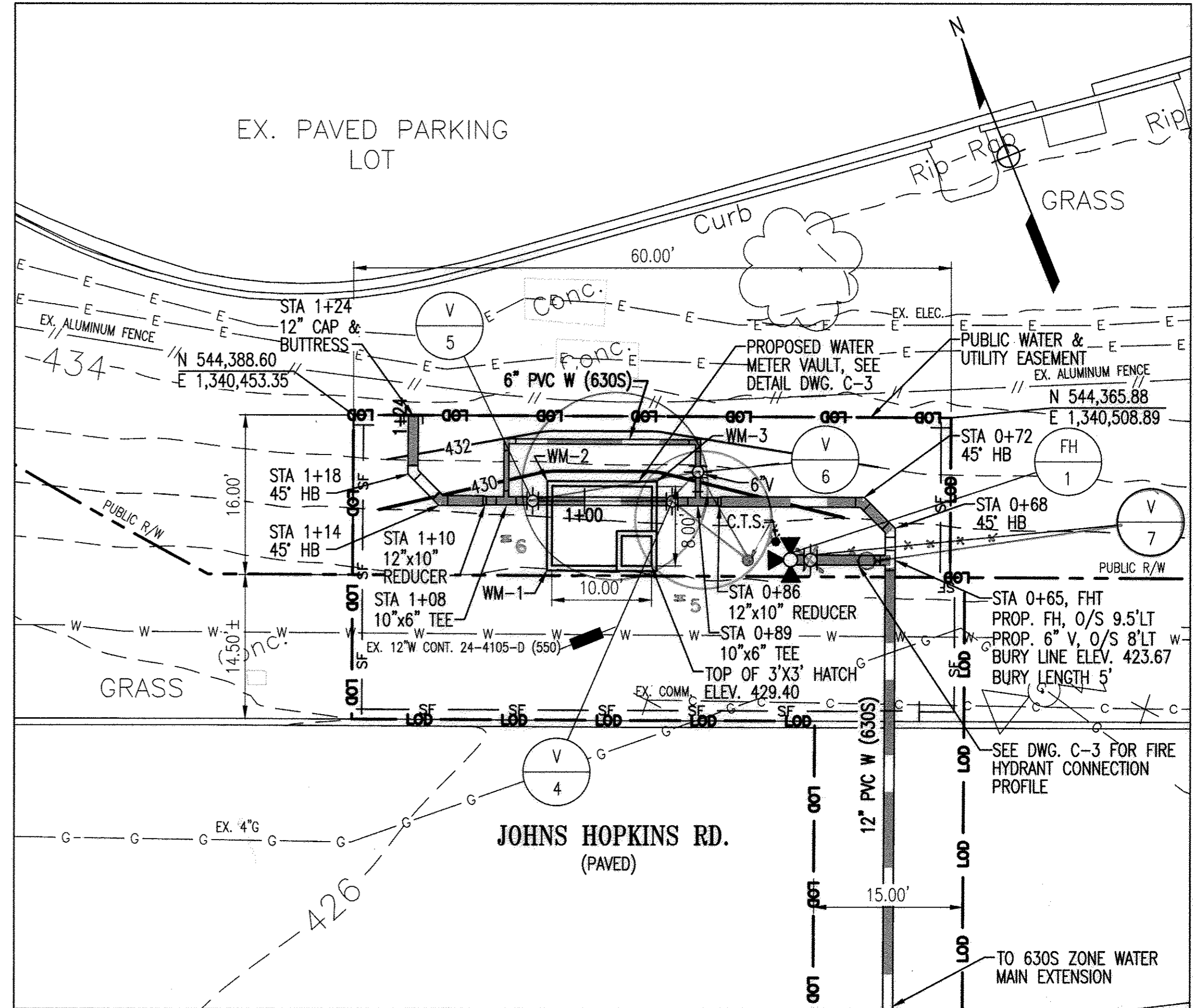
STATION	DESCRIPTION	NORTHING	EASTING
0+00	12"x12" TS&V (V1)	544,459.56	1,340,051.42
0+11	45" H.B.	544,469.93	1,340,055.83
0+16	45" H.B.	544,471.84	1,340,060.53
1+27	11.25" V.B.	544,428.98	1,340,162.05
1+38	11.25" V.B.	544,424.43	1,340,172.82
1+78	5" VERT. SWEEP	544,406.52	1,340,209.49
1+84	VERT. HD COUPLING	544,406.52	1,340,215.24
1+94	VERT. HD COUPLING	544,402.66	1,340,224.39
3+02	5" HORIZ. SWEEP	544,360.75	1,340,323.66
3+56	5" HORIZ. SWEEP	544,336.01	1,340,372.08
3+90	VERT. HD COUPLING	544,323.20	1,340,403.40
4+50	VERT. HD COUPLING	544,300.55	1,340,458.77
4+66	12"x12" TEE	544,294.64	1,340,473.21
5+71	VERT. HD COUPLING	544,254.58	1,340,571.17
5+75	AIR RELEASE VALVE	544,253.23	1,340,574.47
7+00	VERT. HD COUPLING	544,205.91	1,340,690.16
7+56	5" HORIZ. SWEEP	544,183.49	1,340,744.98
7+66	12"x12" TS&V (V3)	544,180.56	1,340,754.54

STAKEOUT GEOMETRY - VAULT

POINT	DESCRIPTION	NORTHING	EASTING
MV-1	SOUTHWEST CORNER	544,366.88	1,340,465.53
MV-2	NORTHWEST CORNER	544,375.20	1,340,468.94
MV-3	NORTHEAST CORNER	544,371.04	1,340,479.12

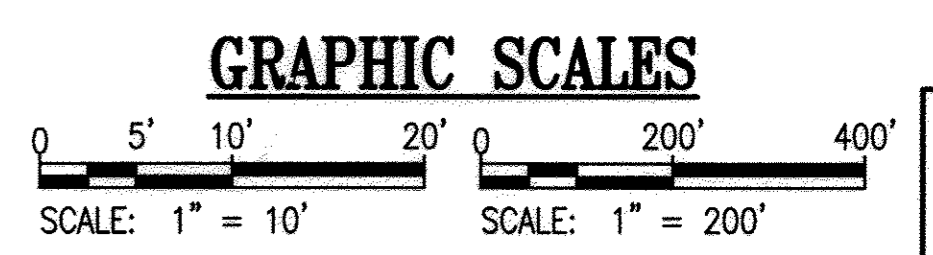
STAKEOUT GEOMETRY - 12" CONN.

STATION	DESCRIPTION	NORTHING	EASTING
0+00	12"x12" TEE	544,294.64	1,340,473.21
0+05	12" VALVE (V2)	544,299.27	1,340,475.11
0+49	22.5" V.B.	544,340.30	1,340,491.89
0+56	22.5" V.B.	544,346.45	1,340,494.40
0+65	12"x6" FHT	544,354.91	1,340,497.87
	6"-45" V.B.	544,355.79	1,340,495.71
	6"-45" V.B.	544,357.34	1,340,491.93
	6" VALVE (V7)	544,357.94	1,340,490.46
	FIRE HYDRANT	544,358.70	1,340,488.61
0+68	45" H.B.	544,357.69	1,340,499.00
0+72	45" H.B.	544,361.38	1,340,497.45
0+75	45" V.B.	544,362.29	1,340,495.22
0+79	45" V.B.	544,364.16	1,340,490.65
0+86	12"x10" REDUCER	544,366.81	1,340,484.18
0+89	10"x6" TEE	544,367.63	1,340,482.17
	6" VALVE (V6)	544,370.38	1,340,483.30
	6"-90" H.B.	544,373.13	1,340,484.42
0+91	10" VALVE (V4)	544,368.61	1,340,479.78
1+05	10" VALVE (V5)	544,373.91	1,340,466.83
1+08	10"x6" TEE	544,374.91	1,340,464.37
	6"-90" H.B.	544,380.42	1,340,466.62
1+10	12"x10" REDUCER	544,375.73	1,340,462.36
1+14	45" H.B.	544,377.39	1,340,458.31
1+18	45" H.B.	544,381.08	1,340,456.76
1+20	45" V.B.	544,382.93	1,340,457.52
1+24	CAP & BUTTRESS	544,386.25	1,340,458.87



ENLARGED PLAN
SCALE: 1" = 10'

AS-BUILT
By: [Signature] Date: 1/31/17



"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. 24478, EXPIRATION DATE: 10/28/17."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: [Signature] DATE: 6/29/16
Chief, Bureau of Utilities: [Signature] DATE: [Blank]

Chief, Bureau of Engineering: [Signature] DATE: 6/29/16
Chief, Utility Design Division: [Signature] DATE: [Blank]

PREPARED BY:
WRA
Whitman, Reardon & Associates, LLP
801 South Carolina Street, Baltimore, Maryland 21231



DES:	ACM		
DRN:	ACM		
CHK:	PAC		
DATE:	6/10/16	BY:	NO.
		REVISION:	
		DATE:	

630S/550 ZONE BOUNDARY MAP, ENLARGED PLAN AND STAKEOUT GEOMETRY

630 SOUTH ZONE WATER MAIN EXTENSION
CAPITAL PROJECT NO. W8306
CONTRACT NO. 44-4945

HOWARD SOIL CONSERVATION DISTRICT (HSCD)
STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

- A. PRIOR TO THE START OF EARTH DISTURBANCE.
- B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
- C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
- D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.

4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).

5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.

6. SITE ANALYSIS:
TOTAL AREA OF SITE: 0.48 ACRES
AREA DISTURBED: 0.48 ACRES
AREA TO BE ROOFED OR PAVED: 0.42 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 0.04 ACRES
TOTAL CUT: 883 CU. YDS.
TOTAL FILL: 883 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION: N/A

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:

- INSPECTION DATE
- INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
- NAME AND TITLE OF INSPECTOR
- WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):

- USE I AND IP MARCH 1 - JUNE 15
- USE III AND IIIIP OCTOBER 1 - APRIL 30
- USE IV MARCH 1 - MAY 31

16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

17. SECTION I - TEMPORARY SEEDING

VEGETATION - ANNUAL GRASS OR GRAIN USED TO PROVIDE COVER ON DISTURBED AREAS FOR UP TO 12 MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.

- A. SEED MIXTURES - TEMPORARY SEEDING
 - I. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW IN THE TEMPORARY SEEDING SUMMARY TABLE.
 - II. FOR SITES HAVING SOIL TESTS PERFORMED, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
 - III. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SEEDING AND MULCHING AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

NO.	SPECIES	SEED MIXTURE (FOR HARDNESS ZONE 6B)			SEEDING DEPTHS	FERTILIZER RATE (10-20-20)		LIME RATE
		APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		N	P ₂ O ₅	
1	ANNUAL RYEGRASS	40	3/1 - 5/15 8/1 - 10/15	0.5"	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)		

SECTION II - PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM PERIOD OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

- A. SEED MIXTURES - PERMANENT SEEDING
 - I. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW IN THE TEMPORARY SEEDING SUMMARY TABLE. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAMBANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-SCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING. FOR SPECIAL LAWN MAINTENANCE AREAS, SEE SECTION IV SOD AND V TURFGRASS IN THE 1994 MARYLAND STANDARDS AS SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - II. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE WRITTEN.
 - III. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3 1/2 LBS./1000 SQ.FT. (150 LBS/AC), IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

- B. TURFGRASS MIXTURES
 - I. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
 - II. IDEAL TIMES OF SEEDING FOR TURFGRASS MIXTURES:
 - WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDNESS ZONES: 5B, 6A)
 - CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 6B)
 - SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 7A, 7B)
 - III. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE ZONES AND DEBRIS OVER 1.5 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE OWING OF GRASSES WILL POSE NO DIFFICULTY.
 - IV. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (.5 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

NO.	SPECIES	SEED MIXTURE (FOR HARDNESS ZONE 6B)			FERTILIZER RATE (10-20-20)			LIME RATE
		APPLICATION RATE LB/AC	SEEDING DATES	SEEDING DEPTH	N	P ₂ O ₅	K ₂ O	
9	TALL FESCUE	60	3/1 - 5/15	1/4-1/2"	45 LB/AC (1.0 LB/1000 SF)	90 LB/AC (2 LB/1000 SF)	90 LB/AC (2 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)
	KENTUCKY BLUEGRASS	40	8/15 - 10/15	1/4-1/2"				

SECTION IV - SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

- A. GENERAL SPECIFICATIONS
 - I. CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR APPROVED. SOD LABELS SHALL BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 - II. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4", PLUS OR MINUS 1/8", AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIERS WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5 PERCENT. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
 - III. STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
 - IV. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - V. SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
- B. SOD INSTALLATION
 - I. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, THE SUBSOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD.
 - II. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - III. WHEREVER POSSIBLE, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. SOD SHALL BE ROLLED AND TAMPED, PEGGED OR OTHERWISE SECURED TO PREVENT SLIPPAGE ON SLOPES AND TO ENSURE SOLID CONTACT BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 - IV. SOD SHALL BE WATERED IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.

"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. 24478, EXPIRATION DATE: 10/28/17."

PREPARED BY:



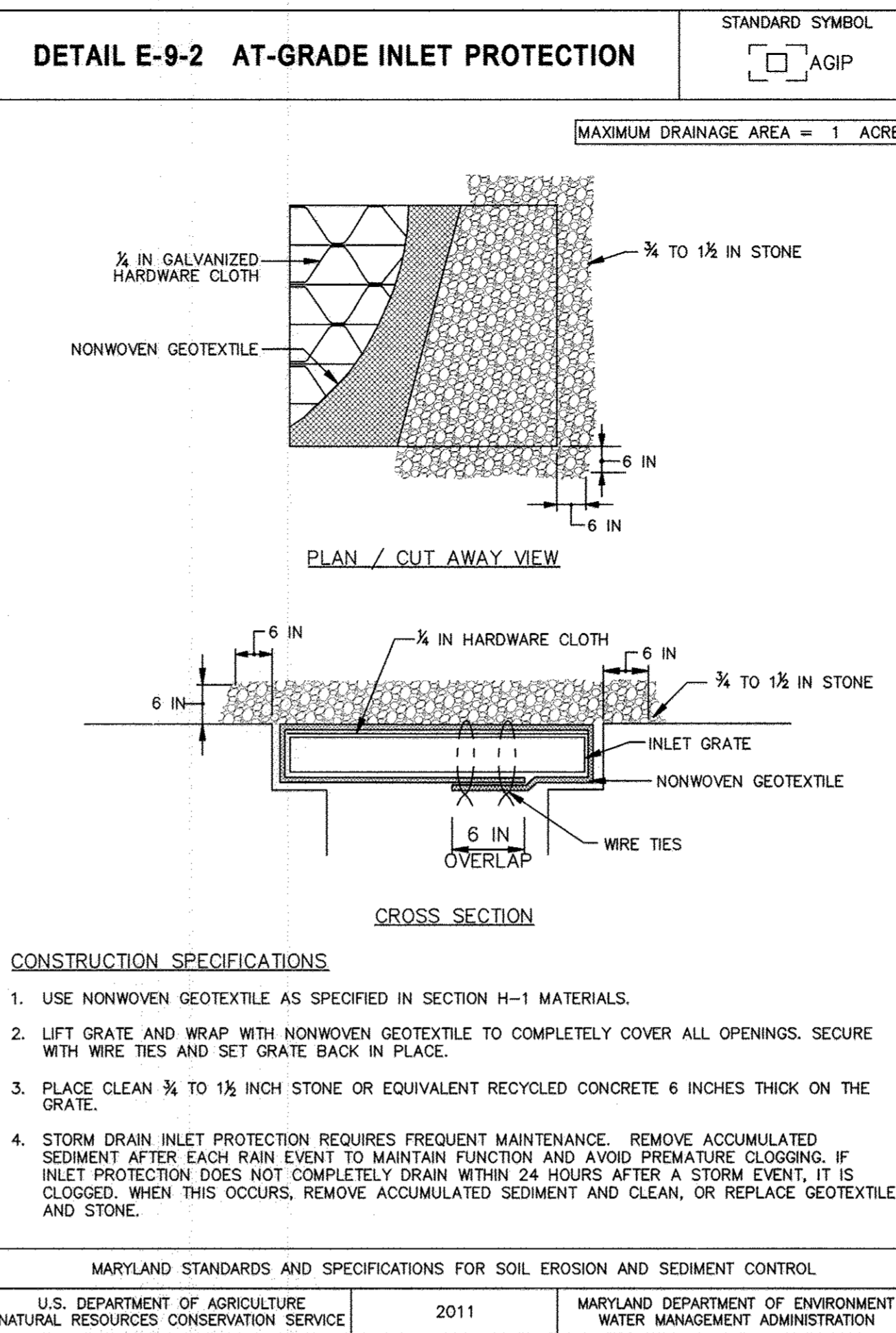
DES:	ACM			
DRN:	ACM			
CHK:	PAC			
DATE:	6/10/16	BY	NO.	
REVISION		DATE		

AS-BUILT

1/24/17

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

600' SCALE MAP NO. 41 BLOCK NO. 16



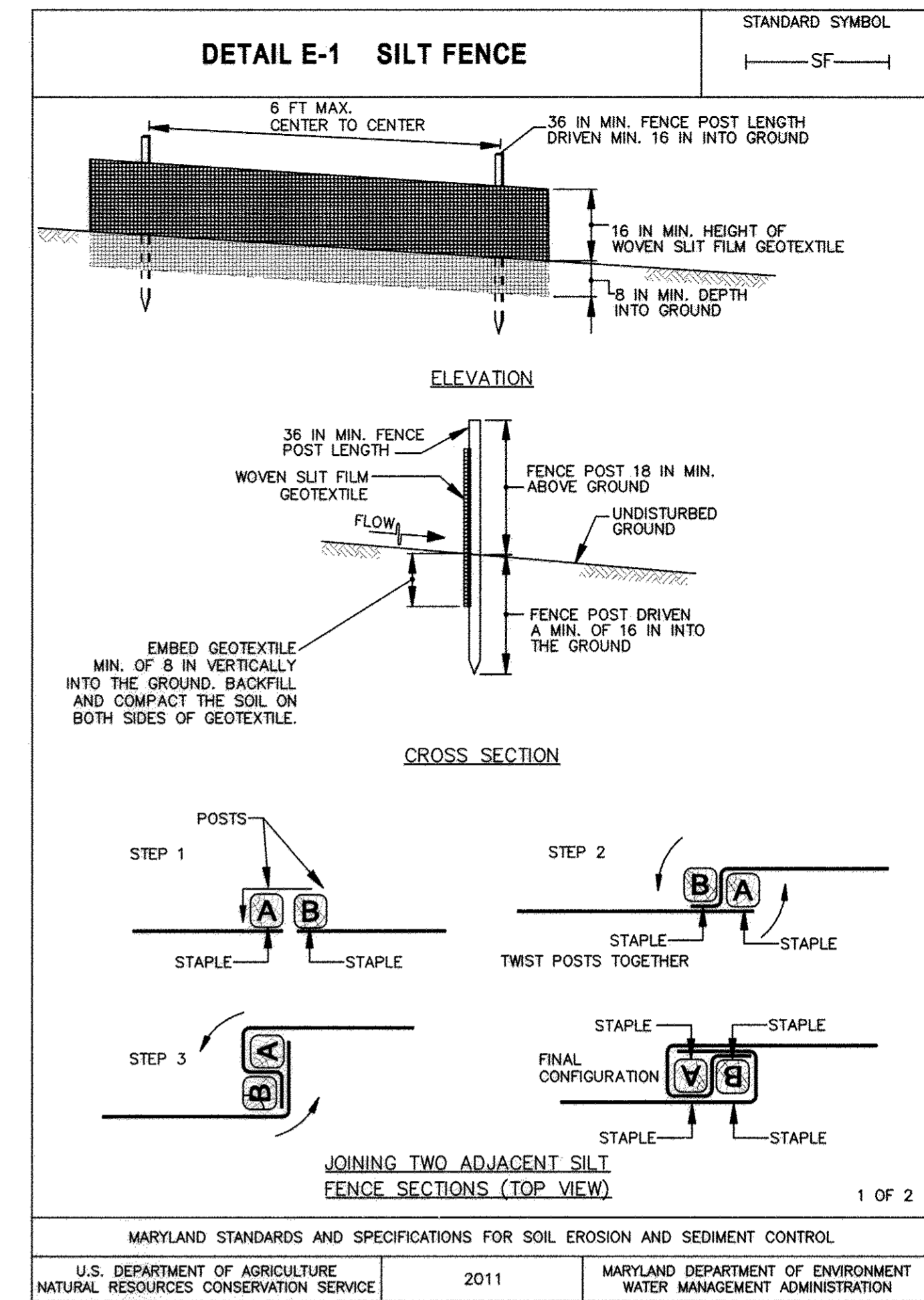
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

- C. SOD MAINTENANCE
 - I. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATERING SHOULD BE DONE DURING THE HEAT OF THE DAY TO PREVENT WILTING.
 - II. AFTER THE FIRST WEEK, WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 - III. THE FIRST MOWING OF SOD SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2"-3" UNLESS OTHERWISE SPECIFIED.

REQUIRED SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. CONTACT THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID) AT 410-313-1855 PER THE HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES.
3. SEVEN DAYS PRIOR TO ANY LAND DISTURBING ACTIVITY, CONTACT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) - WATER MANAGEMENT ADMINISTRATION (WMA) PER THE MDE STANDARD EROSION AND SEDIMENT CONTROL NOTES.
4. INSTALL ANY EROSION AND SEDIMENT CONTROL MEASURES, PRIMARILY INLET PROTECTION AND SILT FENCE AS PER THE APPROVED PLAN.
5. PERFORM INSTALLATION OF WATER MAIN. UTILITY WORK SHALL PROCEED IN A LINEAR FASHION. ALL EXCAVATION FROM UTILITY WORK SHALL BE PLACED SO AS TO NOT ALLOW RUNOFF ONTO ROADS, DRIVEWAYS OR PRIVATE PROPERTY. EXCAVATE ONLY A PORTION OF WORK WHICH CAN BE STABILIZED AT THE END OF EACH WORK DAY. IF FOR SOME REASON STABILIZATION IS UNABLE TO BE PERFORMED AT THE END OF THE WORK DAY, ADDITIONAL CONTROLS MEASURES, E.G. SILT FENCE, FILTER LOGS, SHALL BE PROVIDED AS NECESSARY. ALL UTILITY TRENCHES SHALL BE BACKFILLED, COMPACTED, AND RESTORED PER THE ROADWAY RESTORATION NOTES. VEGETATED AREAS DISTURBED ADJACENT TO THE ROADWAY AND WHERE LANDSCAPING IS REMOVED SHALL BE RESTORED AND STABILIZED THE SAME WORK DAY.
6. RESTORE AND STABILIZE ALL VEGETATED AREAS DISTURBED TO EQUAL OR BETTER THAN ORIGINAL CONDITION.
7. REMOVE TEMPORARY SEDIMENT CONTROL MEASURES. REMOVAL OF SEDIMENT CONTROL PRACTICES SHALL ONLY OCCUR UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
8. STABILIZE THE REMOVED SEDIMENT CONTROL MEASURE AREAS.



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

- CONSTRUCTION SPECIFICATIONS
 1. USE WOOD POSTS 1 1/4 x 1 1/4 x 1/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
 2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
 3. USE WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
 4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
 5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
 6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
 7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING UNDER THE ENDS OF THE SILT FENCE.
 8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

1. OBTAIN A GRADING PERMIT.
2. CONTACT THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID) AT 410-313-1855 PER THE HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES.
3. SEVEN DAYS PRIOR TO ANY LAND DISTURBING ACTIVITY, CONTACT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) - WATER MANAGEMENT ADMINISTRATION (WMA) PER THE MDE STANDARD EROSION AND SEDIMENT CONTROL NOTES.
4. INSTALL ANY EROSION AND SEDIMENT CONTROL MEASURES, PRIMARILY INLET PROTECTION AND SILT FENCE AS PER THE APPROVED PLAN.
5. PERFORM INSTALLATION OF WATER MAIN. UTILITY WORK SHALL PROCEED IN A LINEAR FASHION. ALL EXCAVATION FROM UTILITY WORK SHALL BE PLACED SO AS TO NOT ALLOW RUNOFF ONTO ROADS, DRIVEWAYS OR PRIVATE PROPERTY. EXCAVATE ONLY A PORTION OF WORK WHICH CAN BE STABILIZED AT THE END OF EACH WORK DAY. IF FOR SOME REASON STABILIZATION IS UNABLE TO BE PERFORMED AT THE END OF THE WORK DAY, ADDITIONAL CONTROLS MEASURES, E.G. SILT FENCE, FILTER LOGS, SHALL BE PROVIDED AS NECESSARY. ALL UTILITY TRENCHES SHALL BE BACKFILLED, COMPACTED, AND RESTORED PER THE ROADWAY RESTORATION NOTES. VEGETATED AREAS DISTURBED ADJACENT TO THE ROADWAY AND WHERE LANDSCAPING IS REMOVED SHALL BE RESTORED AND STABILIZED THE SAME WORK DAY.
6. RESTORE AND STABILIZE ALL VEGETATED AREAS DISTURBED TO EQUAL OR BETTER THAN ORIGINAL CONDITION.
7. REMOVE TEMPORARY SEDIMENT CONTROL MEASURES. REMOVAL OF SEDIMENT CONTROL PRACTICES SHALL ONLY OCCUR UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
8. STABILIZE THE REMOVED SEDIMENT CONTROL MEASURE AREAS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

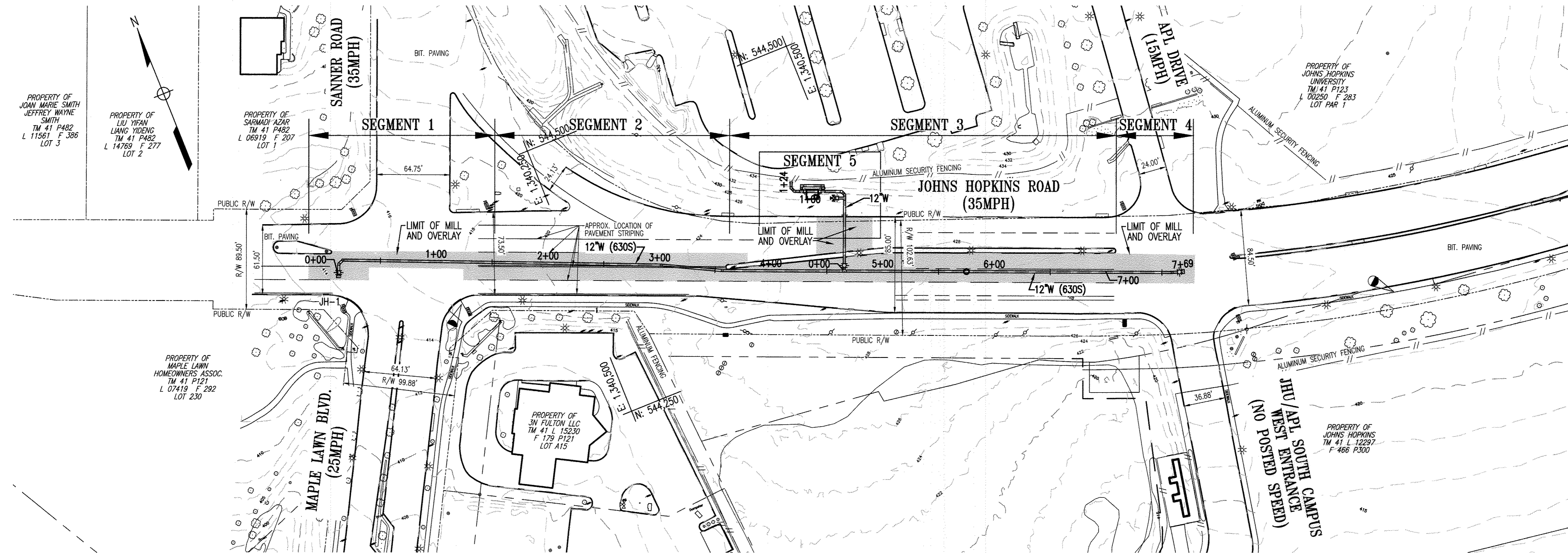
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DWG. SC-1

SCALE

SHEET 6 OF 13

ELECTION DISTRICT 4 HOWARD COUNTY, MARYLAND



PLAN
SCALE: 1"=50'

GENERAL TEMPORARY TRAFFIC CONTROL NOTES

1. THE WATER MAIN SEGMENT MAINTENANCE OF TRAFFIC SET-UPS (SEE DWG. TC-2 THRU TC-7) ARE SHOWN FOR COORDINATION OF TEMPORARY TRAFFIC CONTROL SET-UPS. CONTRACTOR MAY ELECT TO CONSTRUCT IN ANY ORDER WITH THE APPROVAL OF THE ENGINEER.
2. IF THE CONTRACTOR ELECTS TO MILL AND OVERLAY THE PAVEMENT UPON COMPLETION OF THE WATER MAIN INSTALLATION THE MAINTENANCE OF TRAFFIC SET-UPS SHOWN ON DRAWINGS TC-2 THRU TC-7 SHALL BE USED TO MAINTAIN TRAFFIC. ALTERNATIVELY, THE CONTRACTOR MAY SUBMIT THEIR OWN MAINTENANCE OF TRAFFIC PLAN FOR APPROVAL BY THE ENGINEER.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION WORK ZONE TRAFFIC CONTROL TYPICALS, THE MDMUTC AND SUBSEQUENT REVISIONS ADOPTED BY THE STATE OF MARYLAND, AND THESE PLANS.
4. ADVANCE WARNING SIGNS SHALL BE INSTALLED AT A MINIMUM SPACING OF 200 FEET TO AN EXISTING SIGN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
5. NO WORK IS TO BEGIN UNTIL ALL ADVANCE WARNING SIGNS, CHANNELIZATION DEVICES AND PAVEMENT MARKINGS ARE IN PLACE AND OPERATIONAL.
6. PORTABLE VARIABLE MESSAGE SIGNS (PVMS) SHALL BE PLACED 10 DAYS PRIOR TO ROAD WORK. MESSAGE AND LOCATIONS (RECOMMENDED ONE FOR EACH APPROACH, 4 TOTAL) SHALL BE APPROVED BY THE ENGINEER.
7. THE HOWARD COUNTY PUBLIC SCHOOL SYSTEM, (410) 313-6278, SHALL BE ADVISED OF WORK ACTIVITIES WHICH MAY AFFECT BUS ROUTE TIMING AS EARLY AS PRACTICAL.
8. ALL OPEN EXCAVATIONS AND TRENCHES IN AREAS THAT WILL BE OPEN FOR TRAVEL DURING PEAK PERIODS SHALL BE PLATED AT THE END OF EACH WORK DAY. STEEL PLATES SHALL BE PINNED AND AN ASPHALT WEDGE SHALL BE PROVIDED. ADVANCE SIGN SHALL INCLUDE W8-8(4) "STEEL PLATES" SIGNS ON ALL APPROACHES.
9. SPACING BETWEEN CHANNELIZATION DEVICES SHALL BE PER STD. NO. MD 104.01-30B.
10. THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ADEQUATE SIGHT DISTANCES WHEN INSTALLING TEMPORARY SIGNS AND OTHER MAINTENANCE OF TRAFFIC ITEMS THROUGHOUT THE CONSTRUCTION AREA.
11. THE CONTRACTOR SHALL BACKFILL THE TRENCH IMMEDIATELY AFTER THE INSTALLATION OF A SECTION OF PIPE. THE CONTRACTOR SHALL NOT LEAVE AN OPEN TRENCH UNATTENDED.
12. CONSTRUCTION VEHICLES SHALL NOT BE PARKED IN A MANNER THAT WILL IMPEDE TRAFFIC OR IMPAIR SIGHT DISTANCE.
13. THE CONTRACTOR SHALL CONTACT THE HOWARD COUNTY TRAFFIC DIVISION 3 DAYS PRIOR TO START OF LANE CLOSURES AT (410) 313-2430.
14. CONTRACTOR WORK HOURS WITH LANE CLOSURES ARE RESTRICTED TO 9 A.M. TO 3 P.M. MON-FRI AND 9 P.M. TO 5 A.M. SUN-THURS.
15. CONTRACTOR'S TRAFFIC MANAGER MUST HAVE A MDSA ORANGE CARD.

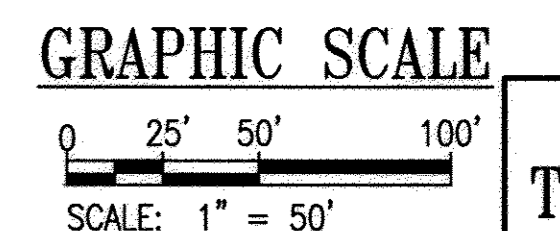
TEMPORARY TRAFFIC CONTROL LEGEND

- DRUM
- ● ● TYPE 3 BARRICADE
- TEMPORARY TRAFFIC SIGN AND SUPPORT
- ➔ DIRECTION OF TRAFFIC

ROAD RESTORATION NOTES

1. SEE DWG. C-3 FOR TEMPORARY AND PERMANENT ROAD RESTORATION DETAILS.
2. 2" MILL AND OVERLAY OF THE ENTIRE LANE WIDTH IS REQUIRED FOR ANY LANE ENCROACHMENT GREATER THAN 1 FOOT.
3. CONTRACTOR SHALL MILL AND OVERLAY 25' ON BOTH SIDE OF THE UTILITY TRENCH OF THE JHU/APL 630S ZONE CONNECTION IN WESTBOUND JOHNS HOPKINS ROAD.

AS-BUILT
1/31/17



"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. 27048, EXPIRATION DATE: 01/28/18."

PREPARED BY :



Whitman, Reardon & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231



DES: ACM

DRN: ACM

CHK: PAC

DATE: 6/10/16

BY	NO.	REVISION	DATE

TEMPORARY TRAFFIC CONTROL
GENERAL NOTES AND LEGEND AND
ROAD RESTORATION LIMITS

600' SCALE MAP NO. 41 BLOCK NO. 16

630 SOUTH ZONE WATER MAIN EXTENSION
CAPITAL PROJECT NO. W8306
CONTRACT NO. 44-4945

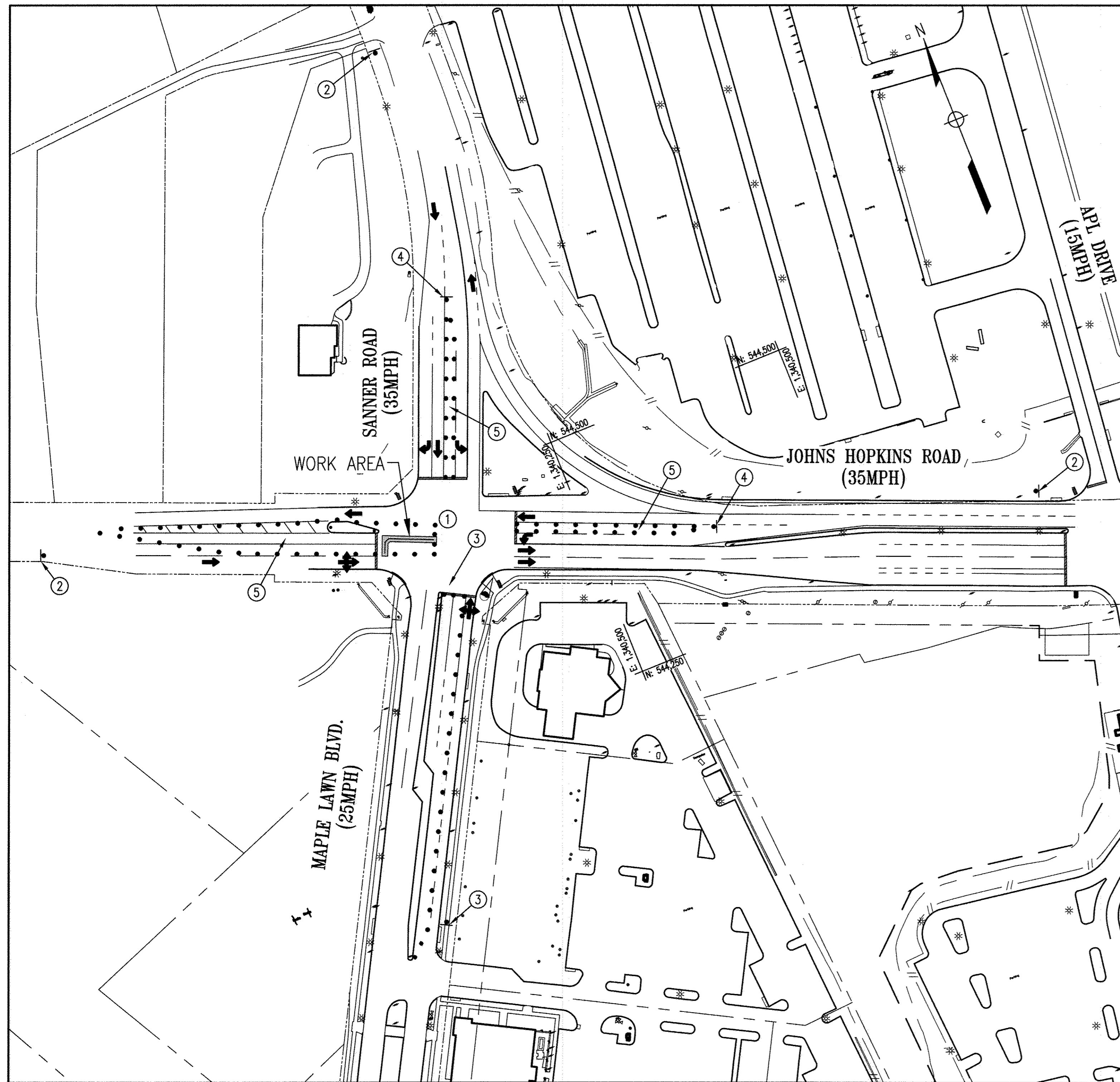
ELECTION DISTRICT 4

HOWARD COUNTY, MARYLAND

DWG.
TC-1

SCALE
AS SHOWN

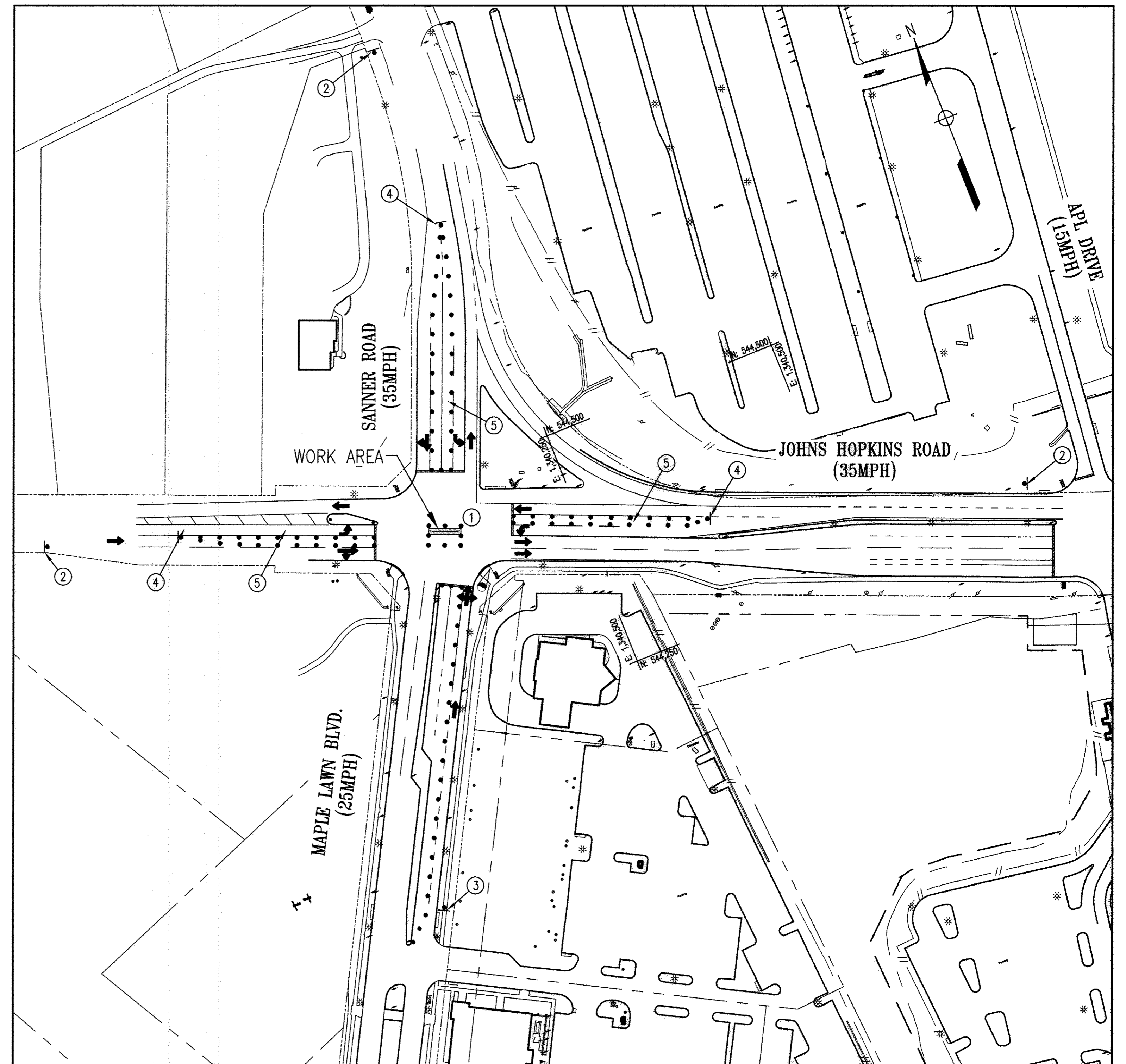
SHEET
7 OF 13



PLAN
SCALE: N.T.S.

SEGMENT 1A - MOT SET-UP - WATER MAIN STA. 0+00 TO STA. 0+62

- ① INTERSECTION SHALL BE CONTROLLED VIA INTERSECTION FLAGGING. SUFFICIENT FLAGGERS SHALL BE PROVIDED TO CONTROL ALL INTERSECTION APPROACHES. SIGNAL SHALL BE TURNED TO FLASHING. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND HOWARD COUNTY TRAFFIC DIVISION TO HAVE SIGNAL TURNED TO FLASHING.
- ② ADVANCE SIGNING FOR NOTIFICATION OF INTERSECTION FLAGGING SHALL BE MODIFIED SHA STD. NO. MD 104.02-10 WITH THE FOLLOWING THREE SIGNS: "ROAD WORK 1/2 MILE", "FLAGGER AHEAD", AND "FLAGGER (SYMBOL)".
- ③ CLOSE LEFT LANE OF NORTHBOUND MAPLE LAWN BLVD. AS PER SHA STD. NO. MD 104.04-04.
- ④ PROVIDE LEFT TURN LANE SIGN R3-7(4)L.
- ⑤ CLOSE TURN LANES AS SHOWN.



PLAN
SCALE: N.T.S.

SEGMENT 1B - MOT SET-UP - WATER MAIN STA. 0+62 TO STA. 0+90

- ① INTERSECTION SHALL BE CONTROLLED VIA INTERSECTION FLAGGING. SUFFICIENT FLAGGERS SHALL BE PROVIDED TO CONTROL ALL INTERSECTION APPROACHES. SIGNAL SHALL BE TURNED TO FLASHING. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND HOWARD COUNTY TRAFFIC DIVISION TO HAVE SIGNAL TURNED TO FLASHING.
- ② ADVANCE SIGNING FOR NOTIFICATION OF INTERSECTION FLAGGING SHALL BE MODIFIED SHA STD. NO. MD 104.02-10 WITH THE FOLLOWING THREE SIGNS: "ROAD WORK 1/2 MILE", "FLAGGER AHEAD", AND "FLAGGER (SYMBOL)".
- ③ CLOSE LEFT LANE OF NORTHBOUND MAPLE LAWN BLVD. AS PER SHA STD. NO. MD 104.04-04.
- ④ PROVIDE LEFT TURN LANE SIGN R3-7(4)L.
- ⑤ CLOSE TURN LANES AS SHOWN.

AS-BUILT

1/21/17

"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. 27048, EXPIRATION DATE: 01/28/18."

PREPARED BY:



Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231



DES: ACM

DRN: ACM

CHK: PAC

DATE: 6/10/16

BY NO.

REVISION

DATE

600' SCALE MAP NO. 41 BLOCK NO. 16

SEGMENT 1A & 1B:
TEMPORARY TRAFFIC CONTROL
PLANS AND NOTES

630 SOUTH ZONE WATER MAIN EXTENSION
CAPITAL PROJECT NO. W8306
CONTRACT NO. 44-4945

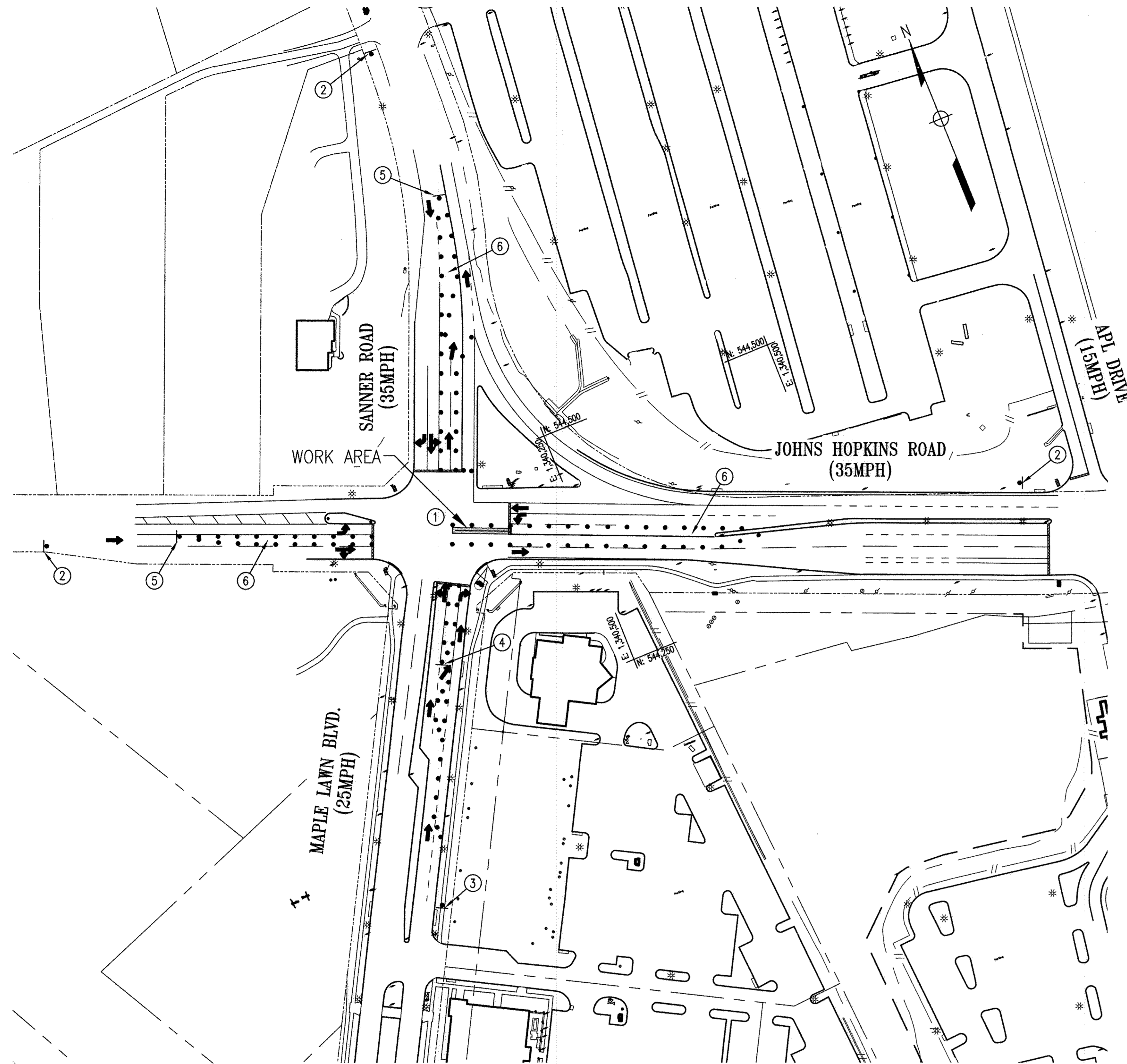
ELECTION DISTRICT 4

HOWARD COUNTY, MARYLAND

DWG.
TC-2

SCALE
AS SHOWN

SHEET
8 OF 13



PLAN
SCALE: N.T.S.

SEGMENT 1C - MOT SET-UP - WATER MAIN STA. 0+90 TO STA. 1+45

- ① INTERSECTION SHALL BE CONTROLLED VIA INTERSECTION FLAGGING. SUFFICIENT FLAGGERS SHALL BE PROVIDED TO CONTROL ALL INTERSECTION APPROACHES. SIGNAL SHALL BE TURNED TO FLASHING. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND HOWARD COUNTY TRAFFIC DIVISION TO HAVE SIGNAL TURNED TO FLASHING.
- ② ADVANCE SIGNING FOR NOTIFICATION OF INTERSECTION FLAGGING SHALL BE MODIFIED SHA STD. NO. MD 104.02-10 WITH THE FOLLOWING THREE SIGNS: "ROAD WORK 1/2 MILE", "FLAGGER AHEAD", AND "FLAGGER (SYMBOL)".
- ③ CLOSE RIGHT LANE OF NORTHBOUND MAPLE LAWN BLVD. AS PER SHA STD. NO. MD 104.04-06.
- ④ PROVIDE RIGHT TURN LANE SIGN R3-7(4)R.
- ⑤ PROVIDE LEFT TURN LANE SIGN R3-7(4)R.
- ⑥ CLOSE TURN LANES AS SHOWN.

AS-BUILT
By: *[Signature]* Date: 1/31/17

"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. 27048, EXPIRATION DATE: 01/28/18."

PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231



DES:	ACM			
DRN:	ACM			
CHK:	PAC			
DATE:	6/10/16	BY:	NO.	
		REVISION		DATE

SEGMENT 1C:
TEMPORARY TRAFFIC CONTROL
PLAN AND NOTES

600' SCALE MAP NO. 41 BLOCK NO. 16

630 SOUTH ZONE WATER MAIN EXTENSION
CAPITAL PROJECT NO. W8306
CONTRACT NO. 44-4945

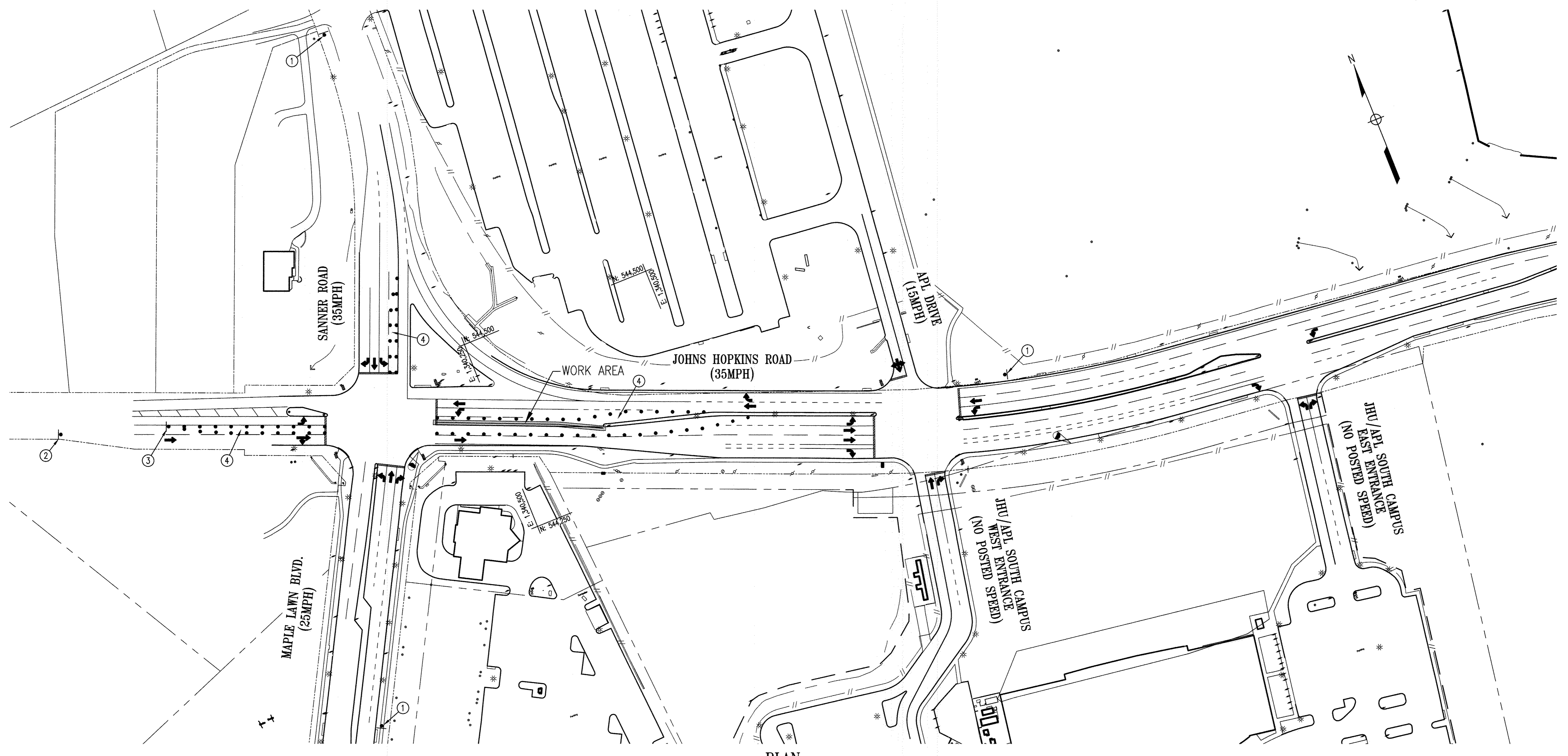
ELECTION DISTRICT 4 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* Date: 6/30/2016
Chief, Bureau of Utilities: *[Signature]* Date: / /


Chief, Bureau of Engineering: *[Signature]* Date: 6/30/16
Chief, Utility Design Division: *[Signature]* Date: / /

DWG. TC-3
SCALE AS SHOWN
SHEET 9 OF 13



PLAN
SCALE: N.T.S.

SEGMENT 2 - MOT SET-UP - WATER MAIN STA. 1+45 TO STA. 3+59

- ①  ROAD WORK AHEAD
- ② SHIFT EASTBOUND JOHNS HOPKINS ROAD AS PER SHA STD. NO. MD 104.02-04, AND AS MODIFIED AS SHOWN ON THE DRAWINGS.
- ③ PROVIDE LEFT TURN LANE SIGN R3-7(4)L.
- ④ CLOSE TURN LANES AS SHOWN.

AS-BUILT
[Signature] 1/31/17

"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. 27048, EXPIRATION DATE: 01/28/18."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

[Signature] 6/30/16
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 6/30/16
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 6/30/16
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 6/30/16
CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231



DES: ACM				
DRN: ACM				
CHK: PAC				
DATE: 6/10/16	BY:	NO.:	REVISION:	DATE:

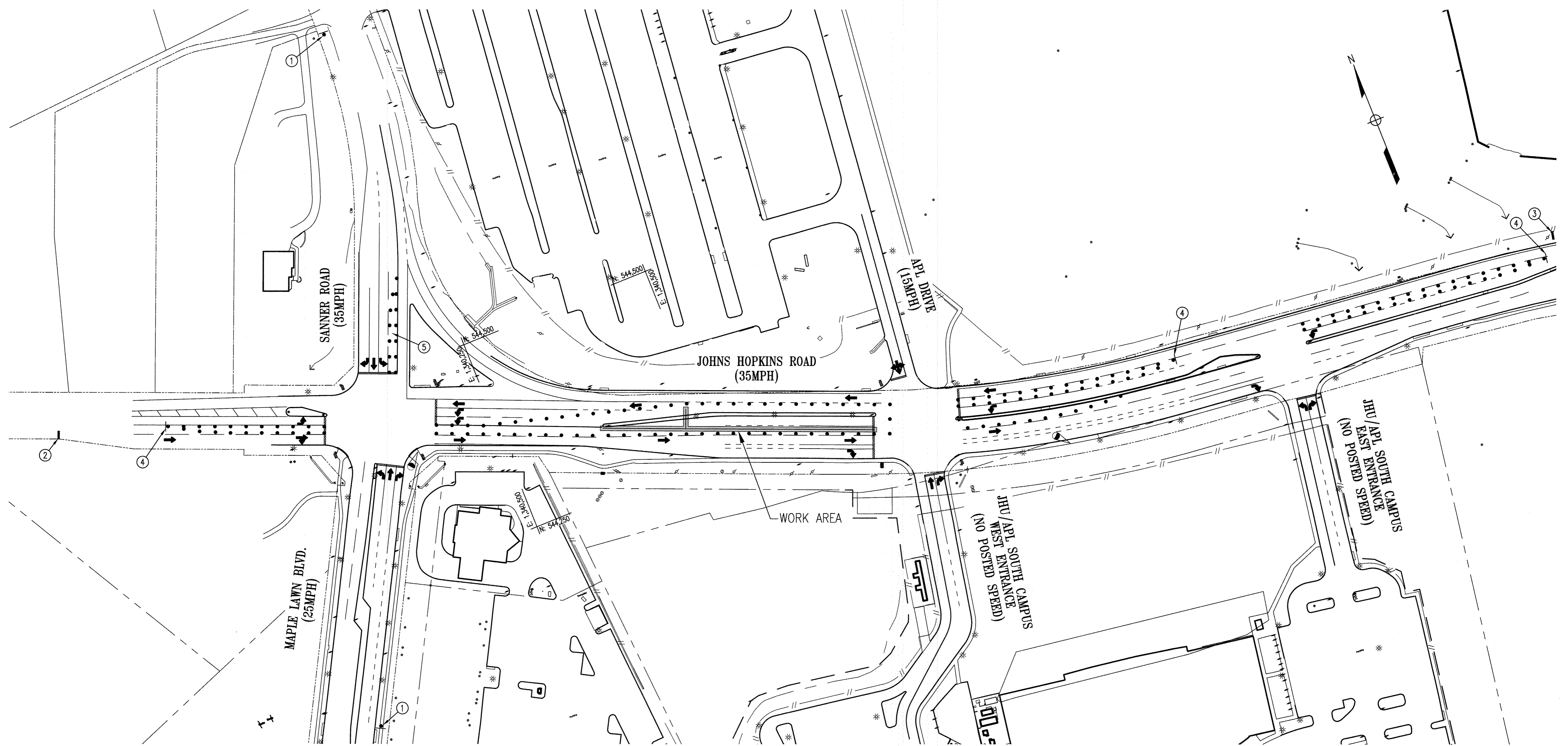
SEGMENT 2:
TEMPORARY TRAFFIC CONTROL
PLAN NOTES

600' SCALE MAP NO. 41 BLOCK NO. 16

630 SOUTH ZONE WATER MAIN EXTENSION
CAPITAL PROJECT NO. W8306
CONTRACT NO. 44-4945

ELECTION DISTRICT 4 HOWARD COUNTY, MARYLAND

DWG. TC-4
SCALE AS SHOWN
SHEET 10 OF 13



PLAN
SCALE: N.T.S.

SEGMENT 3 - MOT SET-UP - WATER MAIN STA. 3+59 TO STA. 7+06

- ① ROAD WORK AHEAD
- ② SHIFT EASTBOUND JOHNS HOPKINS ROAD AS PER SHA STD. NO. MD 104.02-04, AND AS MODIFIED AS SHOWN ON THIS DRAWING. INSTALL PVMS WITH THE FOLLOWING MESSAGE EAST OF MIDTOWN ROAD.
MSG. 1 NO LEFT SECOND SIGNAL
MSG. 2 APL MAIN CAMPUS NEXT LT
- ③ CLOSE LEFT LANE OF WESTBOUND JOHNS HOPKINS ROAD AS PER STD. NO. MD 104.04-16, AND AS MODIFIED AS SHOWN ON THIS DRAWING. ALLOW LEFTS-IN TO BOTH APL SOUTH CAMPUS ENTRANCES.
- ④ PROVIDE LEFT TURN LANE SIGN R3-7(4)L.
- ⑤ CLOSE TURN LANES AS SHOWN.

"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. 27048, EXPIRATION DATE: 01/28/18."

PREPARED BY:

Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

DES:	ACM				
DRN:	ACM				
CHK:	PAC				
DATE:	6/10/16	BY:	NO.	REVISION	DATE

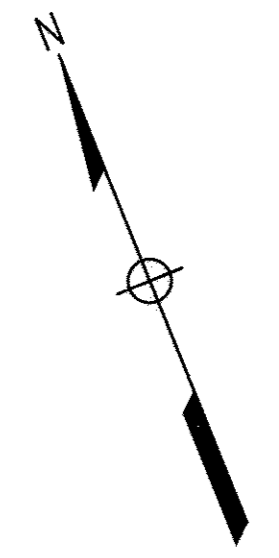
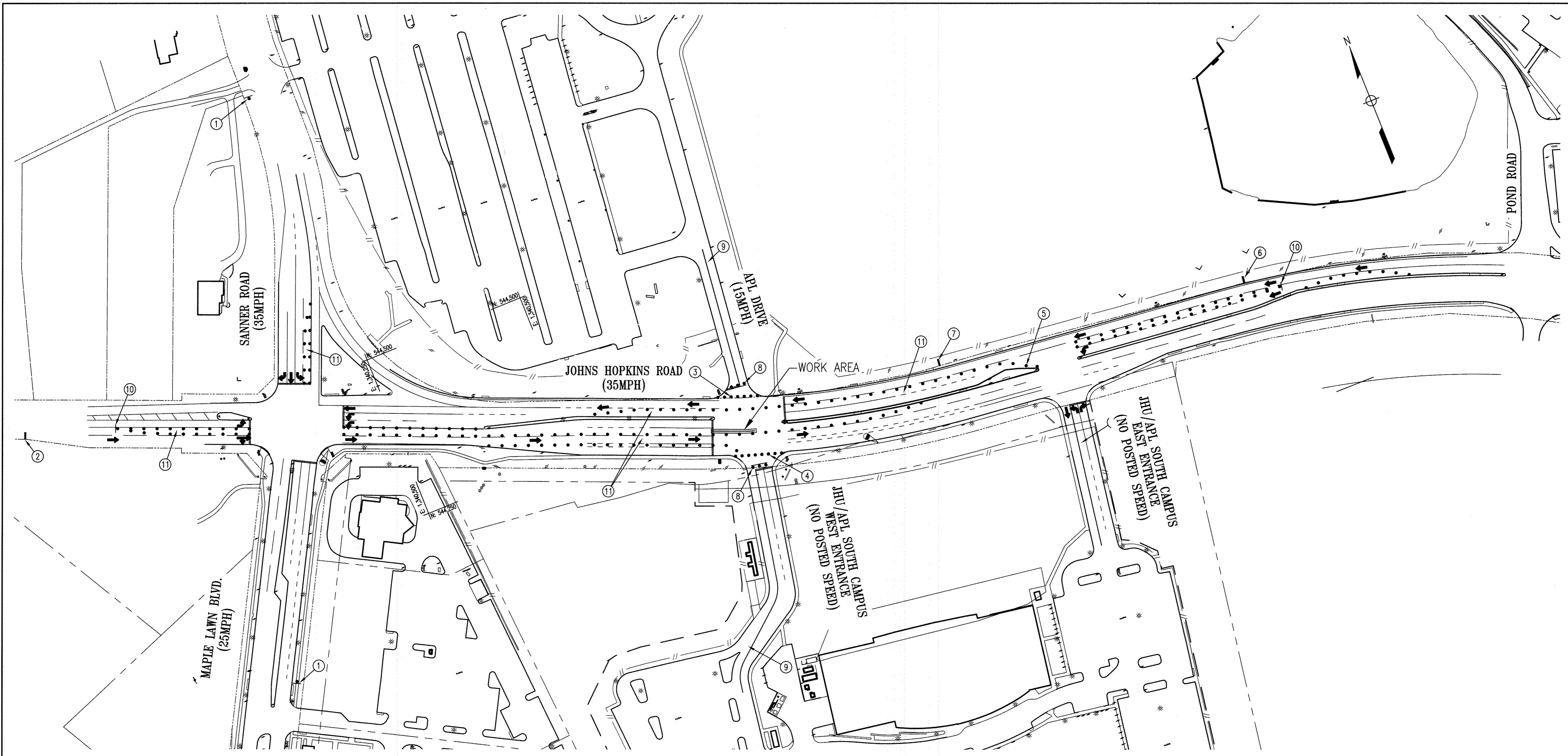
SEGMENT 3:
TEMPORARY TRAFFIC CONTROL
PLAN AND NOTES

630 SOUTH ZONE WATER MAIN EXTENSION
CAPITAL PROJECT NO. W8306
CONTRACT NO. 44-4945

ELECTION DISTRICT 4 HOWARD COUNTY, MARYLAND

AS-BUILT
By: *[Signature]* Date: 1/31/17

DWG. TC-5
SCALE AS SHOWN
SHEET 11 OF 13



PLAN

SCALE: N.T.S.

SEGMENT 4 - MOT SET-UP - WATER MAIN STA. 7+06 TO STA. 7+69

- ① ROAD WORK AHEAD
- ② SHIFT EASTBOUND JOHNS HOPKINS ROAD AS PER SHA STD. NO. MD 104.02-04. INSTALL PVMS WITH THE FOLLOWING MESSAGE EAST OF MIDDOWN ROAD.
MSG. 1: APL DRIVE CLOSED
MSG. 2: APL MAIN CAMPUS NEXT LT
- ③ CLOSE APL DRIVE AT JOHNS HOPKINS ROAD WITH DRUMS AND DOUBLE-SIDED TYPE 3 BARRICADES AS SHOWN.
- ④ CLOSE APL SOUTH CAMPUS-WEST ENTRANCE AT JOHNS HOPKINS ROAD WITH DRUMS AND DOUBLE-SIDED TYPE 3 BARRICADES AS SHOWN.

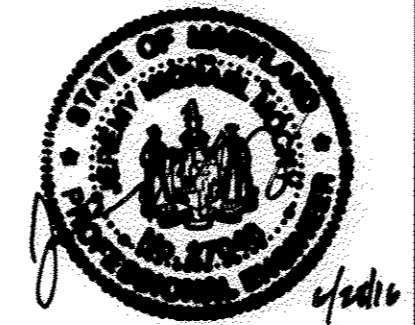
- ⑤ APL SOUTH CAMPUS EAST ENTRANCE OPEN TO ALL MOVEMENTS, ADJUST DRUMS FOR WESTBOUND JOHNS HOPKINS ROAD LEFT LANE CLOSURE TO ALLOW LEFT-OUT MOVEMENT.
- ⑥ CLOSE LEFT LANE OF WESTBOUND JOHNS HOPKINS ROAD WEST OF POND ROAD AS PER SHA STD. NO. MD 104.04-16. ALLOW LEFT-IN TO APL SOUTH CAMPUS-EAST ENTRANCE. INSTALL PVMS WITH THE FOLLOWING MESSAGE WEST OF POND ROAD.
MSG. 1: NO LEFT AT SIGNAL
MSG. 2: APL S CAMPUS NEXT LEFT
- ⑦ INSTALL PVMS WITH THE FOLLOWING MESSAGE EAST OF APL DRIVE.
MSG. 1: APL DRIVE CLOSED
MSG. 2: RIGHT AT SECOND SIGNAL

- ⑧ DOUBLE-SIDED TYPE 3 BARRICADE (REVERSE SIDE SAME):
- ⑨ CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO CONTACT JHU APL TO NOTIFY THEM 1 WEEK IN ADVANCE OF STAGE 4 CONSTRUCTION AND FOR JHU APL TO COORDINATE THE CLOSURE OF APL DRIVE AT THE FIRST PARKING LOT ENTRANCE AND CLOSURE OF JHU/APL SOUTH CAMPUS WEST ENTRANCE AT THE FIRST PARKING LOT ENTRANCE.
- ⑩ PROVIDE LEFT TURN LANE SIGN R3-7(4)L
- ⑪ CLOSE TURN LANES AS SHOWN.

"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. 27048, EXPIRATION DATE: 01/28/18."

PREPARED BY:

Whitman, Reardon & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231



DES:	ACM				
DRN:	ACM				
CHK:	PAC				
DATE:	6/10/16	BY:	NO.	REVISION	DATE

SEGMENT 4:
TEMPORARY TRAFFIC CONTROL
PLAN AND NOTES

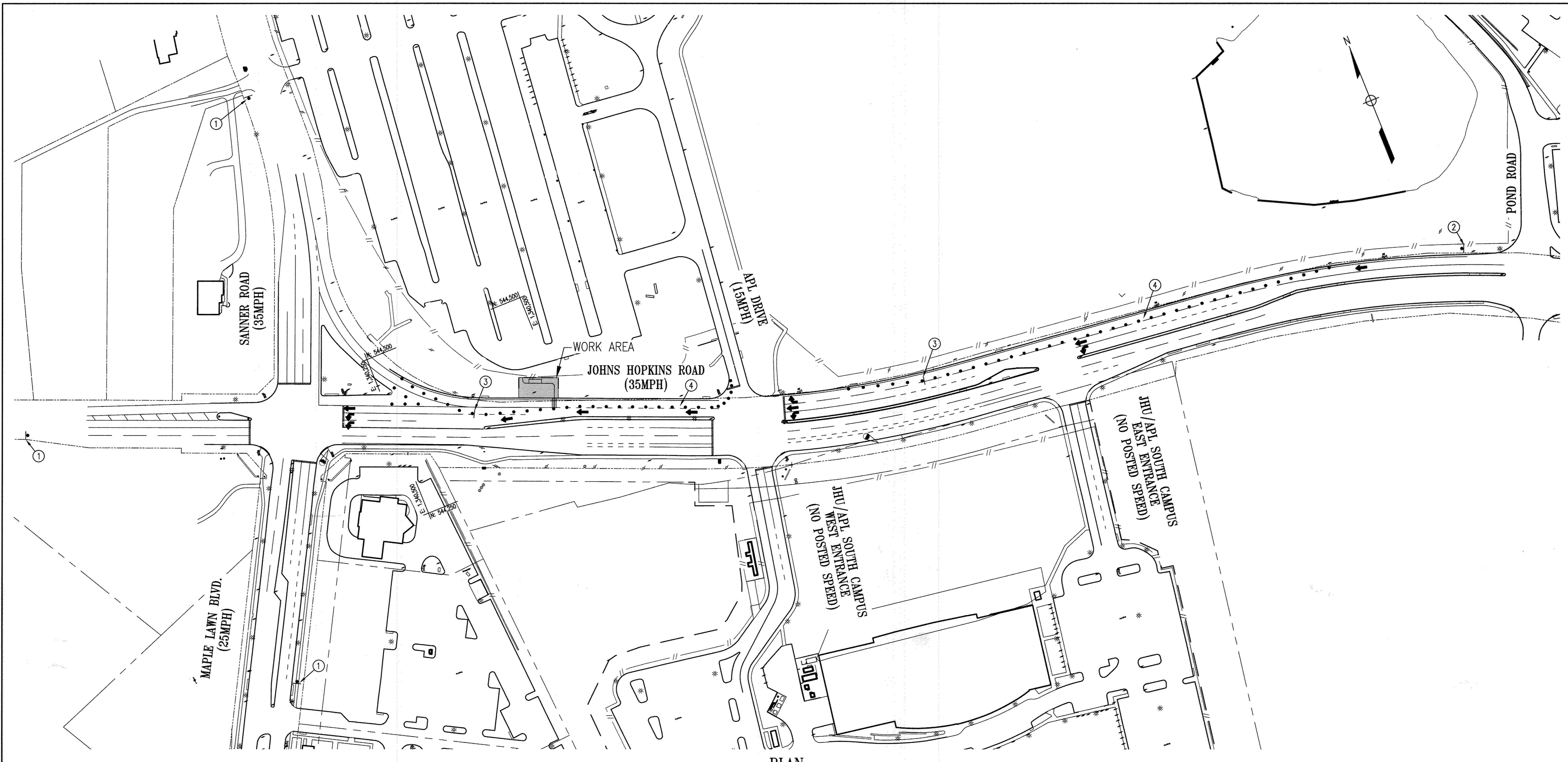
630 SOUTH ZONE WATER MAIN EXTENSION
CAPITAL PROJECT NO. W8306
CONTRACT NO. 44-4945

ELECTION DISTRICT 4
HOWARD COUNTY, MARYLAND

AS-BUILT


1/31/17

DWG. TC-6
SCALE AS SHOWN
SHEET 12 OF 13



PLAN
SCALE: N.T.S.

SEGMENT 5 - MOT. SET-UP - WATER MAIN CONNECTION STA. 0+34 TO STA. 1+24

- ①  ROAD WORK AHEAD
- ② CLOSE RIGHT LANE OF WESTBOUND JOHNS HOPKINS ROAD AS PER STD. DETAIL NO. MD 104-.04-06, AND MODIFIED AS SHOWN ON THIS DRAWING. ALLOW RIGHT TURN AT APL DRIVE.
- ③ PROVIDE RIGHT TURN LANE SIGN R3-7(4)R.
- ④ CLOSE TURN LANES AS SHOWN.

AS-BUILT
By *jea* Date 1/31/17

"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. 27048, EXPIRATION DATE: 01/28/18."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

David C. ... 6/30/16
DIRECTOR OF PUBLIC WORKS DATE

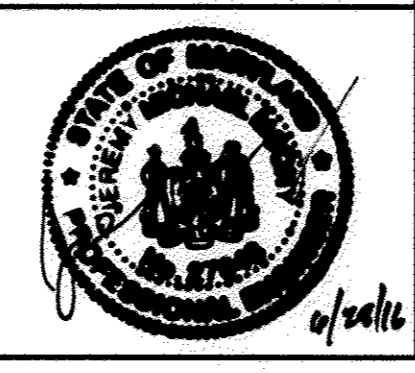
... 6/20/16
CHIEF, BUREAU OF UTILITIES DATE

... 6/20/16
CHIEF, BUREAU OF ENGINEERING DATE

... 6/20/16
CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231



DES: ACM					
DRN: ACM					
CHK: PAC					
DATE: 6/10/16	BY	NO.	REVISION	DATE	

SEGMENT 5:
TEMPORARY TRAFFIC CONTROL
PLAN AND NOTES

600' SCALE MAP NO. 41 BLOCK NO. 16

630 SOUTH ZONE WATER MAIN EXTENSION
CAPITAL PROJECT NO. W8306
CONTRACT NO. 44-4945

ELECTION DISTRICT 4 HOWARD COUNTY, MARYLAND

DWG. TC-7
SCALE AS SHOWN
SHEET 13 OF 13