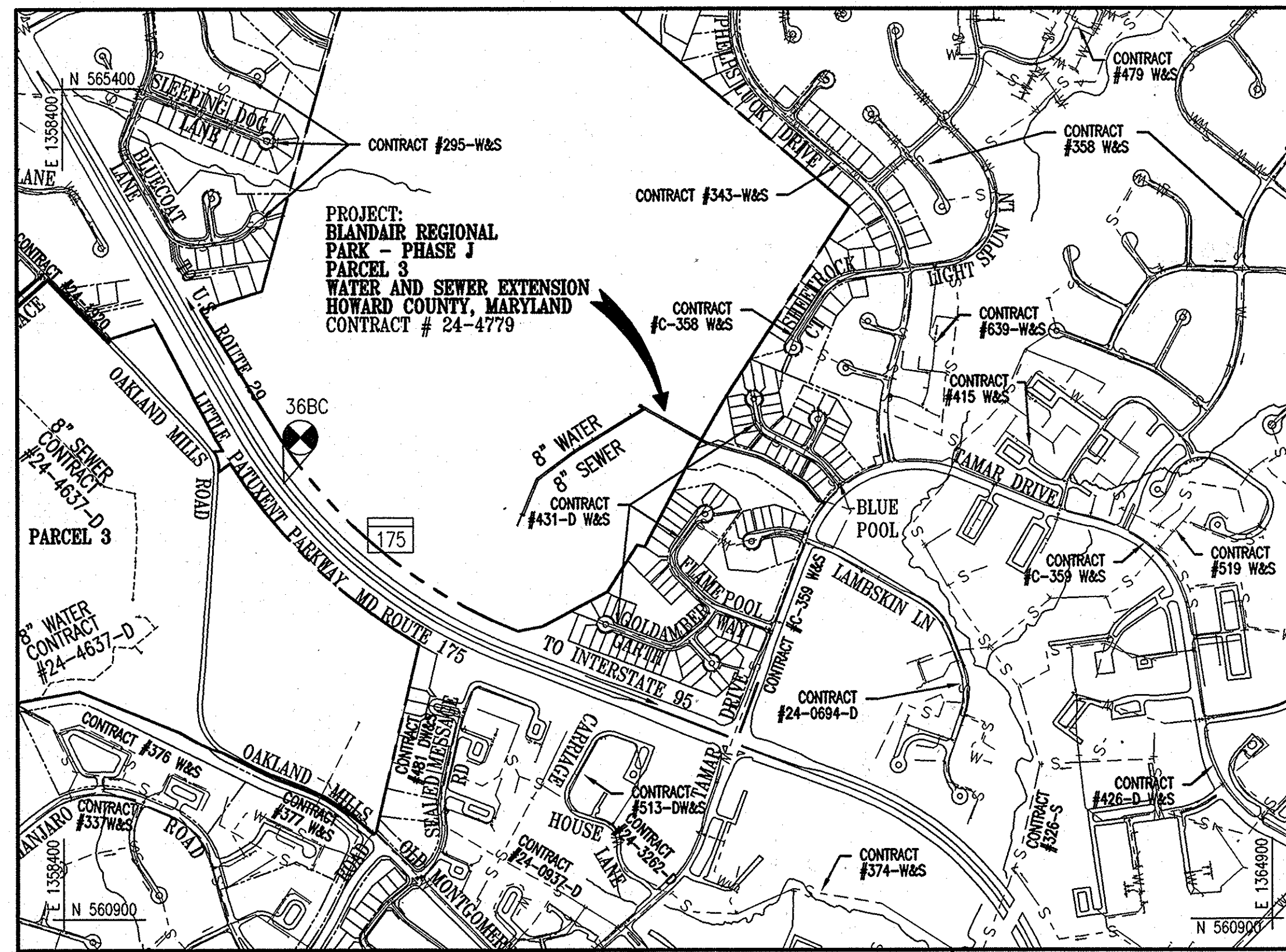


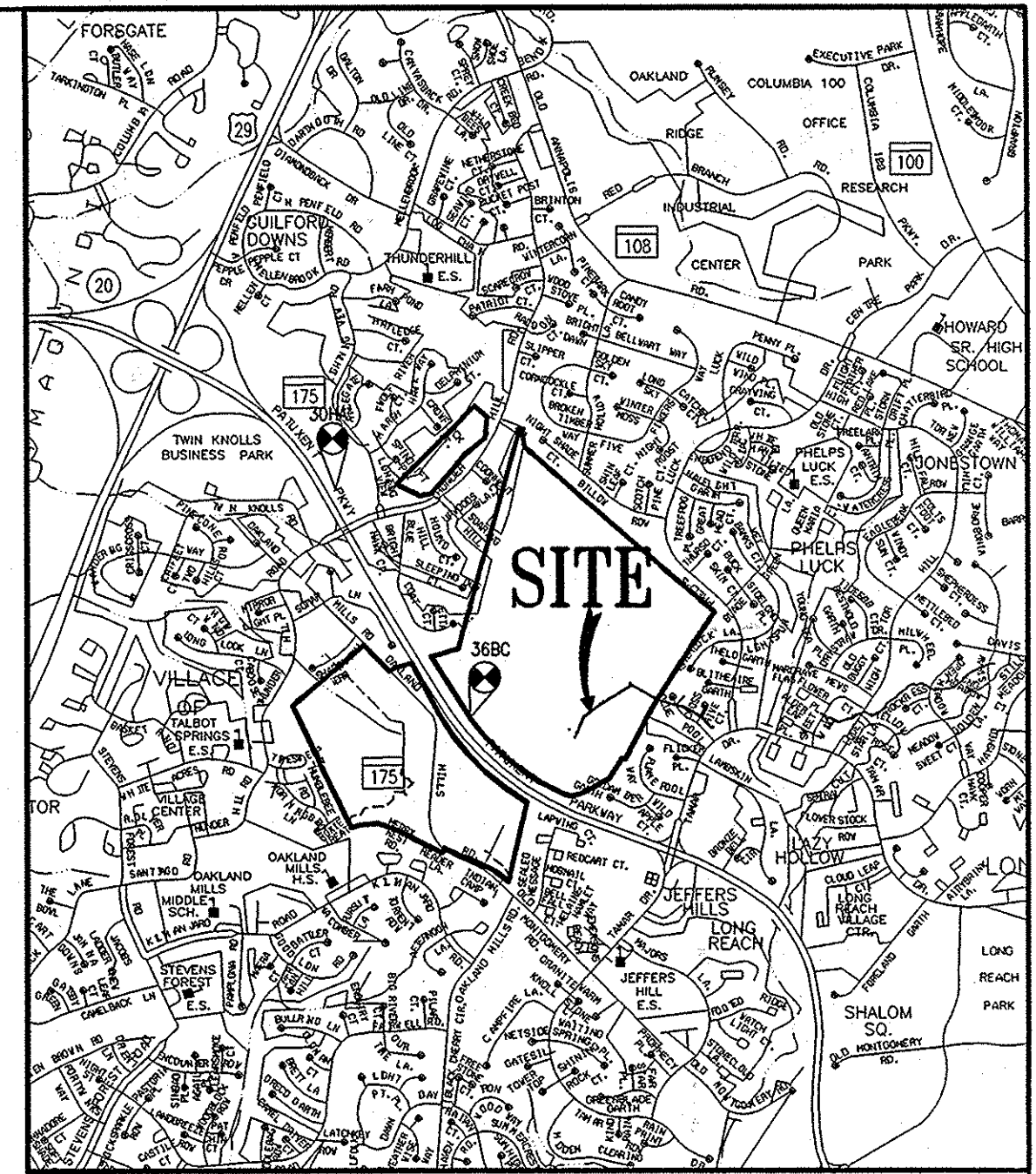
BILL OF MATERIALS				
ITEM	ESTIMATED QUANTITY	AS-BUILT		
		QUANTITY	MATERIALS	MANUFACTURER
8" WATER	2130 LF			
6" WATER	34 LF			
8"x8" TAPPING SLEEVE AND VALVE	1 EA			
8" 1/8 BEND	2 EA			
8" 1/16 BEND	4 EA			
8" 90° BEND	2 EA			
8"x8" TEE	1 EA			
8"x6" TEE	3 EA			
WATER HOUSE CONNECTIONS	3 EA			
8" VALVE	3 EA			
6" VALVE	3 EA			
FIRE HYDRANT	3 EA			
8" RESTRAINED CAP	1 EA			
8" CAP & BUTTRESS	1 EA			
8" ANCHOR BLOCK	1 EA			
5' SWEEP	7 EA			
HIGH DEFLECTION COUPLING	21 EA			
8" SEWER	2031 LF			
MANHOLES	11 EA			
SEWER HOUSE CONNECTIONS	4 EA			
NAME OF UTILITY CONTRACTOR:				



LOCATION MAP  
 1" = 600'

TYPE OF BUILDING: HISTORIC  
 NUMBER OF PARCELS: 1  
 WATER HOUSE CONNECTIONS: 3  
 SEWER HOUSE CONNECTIONS: 3  
 DRAINAGE AREA: LITTLE PATUXENT  
 TREATMENT PLANT: LITTLE PATUXENT  
 WASTEWATER RECLAMATION PLANT  
 PRESSURE ZONE: 630  
 WATER TEST GRADIENT: 780

SHEET INDEX	
SHEET	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES, TABLE OF COORDINATES, AND LEGEND
3	WATER AND SEWER PLAN
4	SEWER PROFILE
5	WATER PROFILE
6	WATER CONNECTION ENLARGEMENT
7	EROSION & SEDIMENT CONTROL PLAN
8	EROSION & SEDIMENT CONTROL GENERAL NOTES
9	EROSION & SEDIMENT CONTROL NOTES
10	EROSION & SEDIMENT CONTROL DETAILS



ADC MAP: 4935  
 GRID: G7

VICINITY MAP  
 1" = 2000'

# BLANDAIR REGIONAL PARK PHASE J CAPITAL PROJECT #W-8319 WATER AND SEWER EXTENSION CONTRACT NO. #24-4779 HOWARD COUNTY, MARYLAND

DEVELOPER'S CERTIFICATION

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A 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.

*[Signature]*  
 SIGNATURE OF DEVELOPER  
 DATE: 1/14/14

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT SHALL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND AS SHOWN ON EROSION AND SEDIMENT CONTROL PLAN SHEETS 7 - 10.

"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. 19376, EXPIRATION DATE: 9/22/2015."

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 2/26/14  
 DIRECTOR, PUBLIC WORKS DATE

*[Signature]* 2/25/14  
 CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 2/21/14  
 CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:  
 WHITMAN, REQUARDT & ASSOCIATES, LLP  
 801 South Caroline Street, Baltimore, MD 21231

**WR&A**



DES:	RBC				
DRN:	CYH				
CHK:	AUO				
DATE:	11/21/2013	BY:	NO.	REVISION	DATE

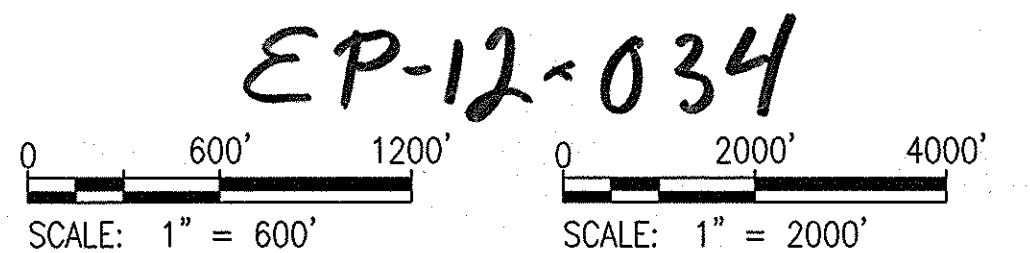
TITLE SHEET

600' SCALE MAP NO. 36 BLOCK NO. 5


BLANDAIR REGIONAL PARK - PHASE J  
 WATER AND SEWER EXTENSION  
 CONTRACT NO. 24-4779

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. WSO.0  
 SCALE AS SHOWN  
 SHEET 1 OF 10



**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 OCTOBER 2010 BY WHITMAN, REQUARDT & ASSOCIATES LLP.
- HORIZONTAL DATUM: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE COORDINATE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 30HA AND NO. 36BC ON LITTLE PATUXENT PARKWAY. SEE SURVEY INFORMATION TABLE ON THIS DRAWING.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD '88 AND WERE DERIVED FROM CONCRETE MONUMENTS AT SURVEY CONTROL STATION 30HA AND 36BC. SEE SURVEY INFORMATION TABLE ON THIS DRAWING.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- 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 UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF THE POLES WHICH ARE CALLED OUT ON 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 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.
- WHERE TEST PITS HAVE BEEN MADE ON 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 SHALL BE LOCATED BY THE CONTRACTOR BY TEST PIT TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES 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	1-800-743-0033/410-224-9210
- 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(q) OF THE HOWARD COUNTY CODE.
- CONTRACTOR SHALL INSTALL A TREE PROTECTION FENCE ALONG THE LIMIT OF DISTURBANCE FOR THE ENTIRE PROJECT AND WHERE THE LOD IS LINED WITH SILT FENCE OR SUPER SILT FENCE (STABILIZED CONSTRUCTION ENTRANCES EXCLUDED).
- SEE EROSION AND SEDIMENT CONTROL PLANS FOR TREE PROTECTION FENCE DETAIL.
- STOCKPILE SPOILS FROM TRENCHING OPERATIONS ON THE UPHILL SIDE OF THE TRENCH, EXCEPT DO NOT STORE OR WASTE ANY SPOILS WITHIN 100-YEAR FLOOD PLAIN. ALL EXCESS MATERIALS SHALL BE REMOVED BY CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LINES, GRADES AND ELEVATIONS, AND CUT SHEETS SHALL BE PREPARED BASED ON THE LINES AND GRADES SHOWN ON THE CONTRACT DRAWINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING STAGING AND STOCKPILE AREAS.
- FOR THIS PROJECT THE STATE OF MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) PERMIT TRACKING NUMBER IS 201061556/10-NT-0417.

**SANITARY SEWER NOTES:**

- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED ON THE PLANS.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED "WT" IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAILS 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.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATED THAT THE CELLAR CANNOT BE SERVED.

**POTABLE WATER NOTES:**

- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" 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 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.
- 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 BEND, 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 ON FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE 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 CERTAINTIED 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.

**SURVEY INFORMATION TABLE**

GEODETIC CONTROL STA.	NORTHING	EASTING	ELEV.
30HA	566,030.6258	1,357,989.5444	386.983
36BC	563,264.1261	1,359,585.7197	409.981

**LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		CONTOUR
		CURB
		SIGN
		TREELINE
		TREE
		SANITARY SEWER & MH
		REDUCER, TEE, VALVE & FIRE HYDRANT
		WATER MAIN
		WATER METER
		STORM DRAIN
		FENCE WIRE
		FENCE WOOD
		LIMITS OF DISTURBANCE
		LIMITS OF DISTURBANCE WITH SILT FENCE
		SILT FENCE
		SUPER SILT FENCE
		100 YEAR FLOOD PLAIN
		CENTER OF STREAM
		EDGE OF STREAM
		WETLAND BOUNDARY
		WETLAND BUFFER
		TEST PIT/HOLE
		BENCHMARK
		PROPERTY LINE
		PERMANENT EASEMENT
		TEMPORARY CONSTRUCTION EASEMENT
		MAILBOX
		POWER/UTILITY POLE
		GUARDRAIL

**ABBREVIATIONS**

C.E.	CELLAR ELEVATION	PVI	POINT OF VERTICAL INTERSECTION
C.N.S.	CELLAR NOT SERVED	R/W	RIGHT OF WAY
DES	DESIGN	S	GRAVITY SANITARY SEWER
DIA.	DIAMETER	SAN	SANITARY
DIP	DUCTILE IRON PIPE	SF	SILT FENCE
ELEV.	ELEVATION	SHC	SEWER HOUSE CONNECTION
ESMT.	EASEMENT	SSF	SUPER SILT FENCE
EX.	EXISTING	TYP.	TYPICAL
FPS	FEET PER SECOND	VB	VERTICAL POINT OF CURVATURE
HB	HORIZONTAL BEND	VPC	VERTICAL BEND
HDC	HIGH DEFLECTION COUPLING	VPT	VERTICAL POINT OF TANGENCY
HORIZ.	HORIZONTAL	WT	WATER TIGHT
INV.	INVERT	WHC	WATER HOUSE CONNECTION
LF	LINEAR FOOT		
LOD	LIMIT OF DISTURBANCE		
MGD	MILLION GALLONS PER DAY		
MIN.	MINIMUM		
N/A	NOT APPLICABLE		
NIC	NOT IN CONTRACT		
PC	POINT OF CURVATURE		
PI	POINT OF INTERSECTION		
PRC	POINT OF REVERSE CURVE		
PROP	PROPOSED		
PT	POINT OF TANGENCY		
PVC	POLYVINYL CHLORIDE PIPE		

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 2/21/14  
DIRECTOR, PUBLIC WORKS DATE

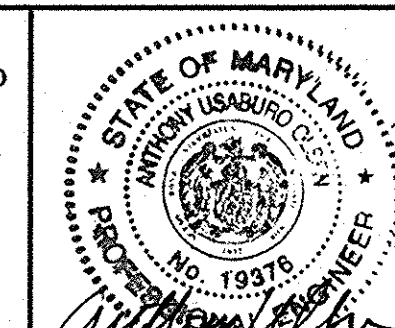
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*[Signature]* 2/21/14  
CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 2/21/14  
CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:  
WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, MD 21231

**WR&A**



DES:	RBC				
DRN:	CYH				
CHK:	AUO				
DATE:	11/21/2013				
BY:	NO.				
		REVISION		DATE	

GENERAL NOTES, TABLE OF COORDINATES, AND LEGEND

60' SCALE MAP NO. 36 BLOCK NO. 5

ELECTION DISTRICT 3/7

BLANDAIR REGIONAL PARK - PHASE J  
WATER AND SEWER EXTENSION  
CONTRACT NO. 24-4779

HOWARD COUNTY, MARYLAND

DWG. <b>WS0.1</b>
SCALE AS SHOWN
SHEET <b>2 OF 10</b>

TM. 36 P. 3  
HOWARD COUNTY MARYLAND  
DEPARTMENT OF PARKS AND RECREATION  
DB 5203 F 439  
NORTH OF MARYLAND ROUTE 175

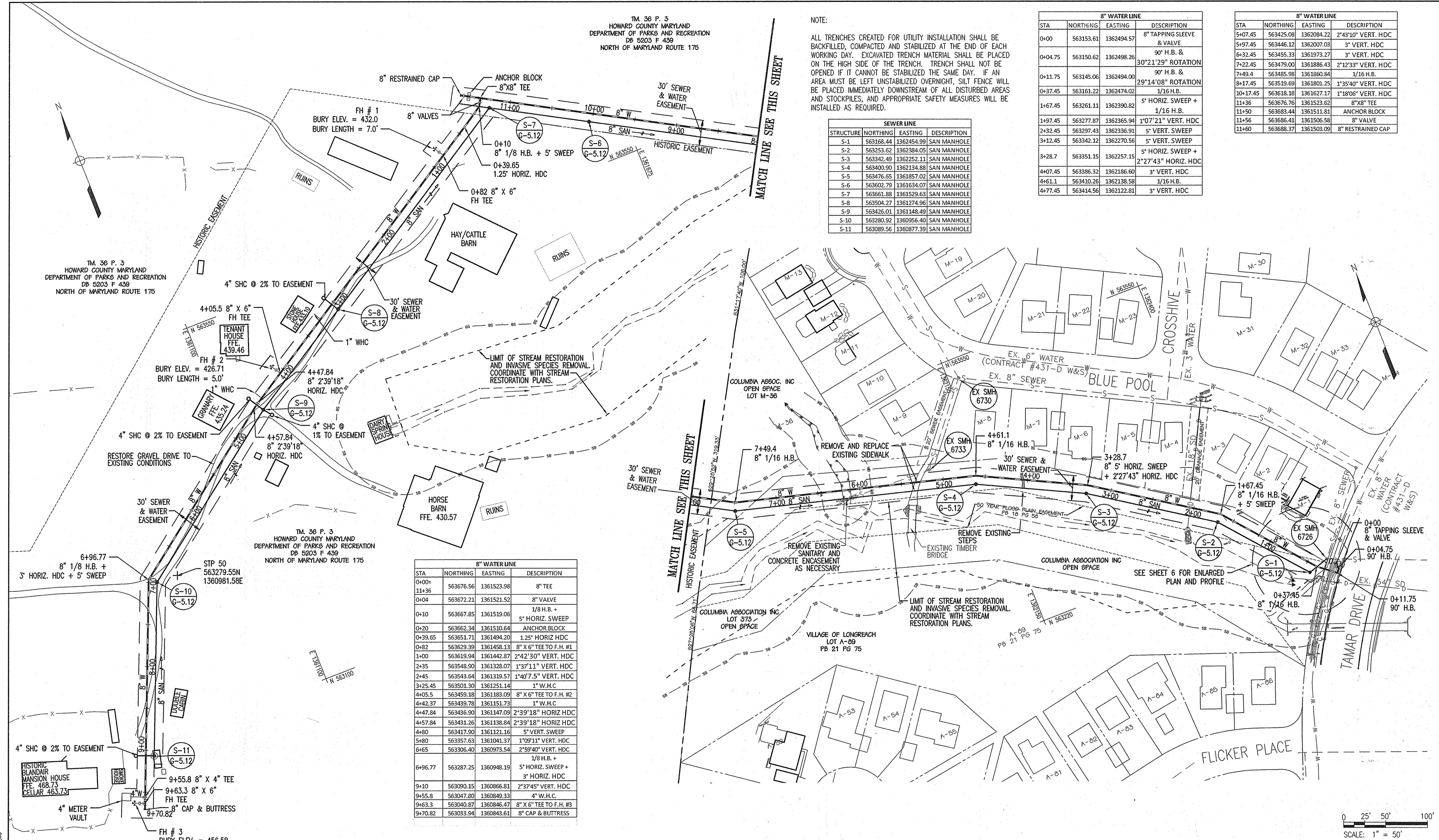
NOTE:

ALL TRENCHES CREATED FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH. TRENCH SHALL NOT BE OPENED IF IT CANNOT BE STABILIZED THE SAME DAY. IF AN AREA MUST BE LEFT UNSTABILIZED OVERNIGHT, SILT FENCE WILL BE PLACED IMMEDIATELY DOWNSTREAM OF ALL DISTURBED AREAS AND STOCKPILES, AND APPROPRIATE SAFETY MEASURES WILL BE INSTALLED AS REQUIRED.

STRUCTURE	NORTHING	EASTING	DESCRIPTION
S-1	563168.44	1362454.99	SAN MANHOLE
S-2	563253.62	1362384.05	SAN MANHOLE
S-3	563342.49	1362252.11	SAN MANHOLE
S-4	563400.90	1362134.88	SAN MANHOLE
S-5	563476.65	1361857.02	SAN MANHOLE
S-6	563602.79	1361634.07	SAN MANHOLE
S-7	563661.88	1361529.63	SAN MANHOLE
S-8	563504.27	1361274.96	SAN MANHOLE
S-9	563426.01	1361148.49	SAN MANHOLE
S-10	563280.92	1360956.40	SAN MANHOLE
S-11	563089.56	1360877.39	SAN MANHOLE

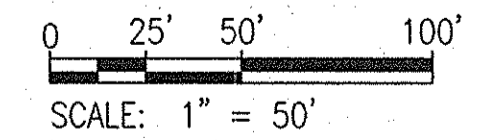
STA	NORTHING	EASTING	DESCRIPTION
0+00	563153.61	1362494.57	8" TAPPING SLEEVE & VALVE
0+04.75	563150.62	1362498.26	90° H.B. & 30°21'29" ROTATION
0+11.75	563145.06	1362494.00	90° H.B. & 29°14'08" ROTATION
0+37.45	563161.22	1362474.02	1/16 H.B.
1+67.45	563261.11	1362390.82	5" HORIZ. SWEEP + 1/16 H.B.
1+97.45	563277.87	1362365.94	1°07'21" VERT. HDC
2+32.45	563297.43	1362336.91	5" VERT. SWEEP
3+12.45	563342.12	1362270.56	5" VERT. SWEEP
3+28.7	563351.15	1362257.15	5" HORIZ. SWEEP + 2°27'43" HORIZ. HDC
4+07.45	563386.32	1362186.60	3" VERT. HDC
4+61.1	563410.26	1362138.58	1/16 H.B.
4+77.45	563414.56	1362122.81	3" VERT. HDC

STA	NORTHING	EASTING	DESCRIPTION
5+07.45	563425.08	1362084.22	2°43'10" VERT. HDC
5+97.45	563446.12	1362007.03	3" VERT. HDC
6+32.45	563455.33	1361973.27	3" VERT. HDC
7+22.45	563479.00	1361886.43	2°12'33" VERT. HDC
7+49.4	563485.98	1361860.84	1/16 H.B.
8+17.45	563519.69	1361801.25	1°35'40" VERT. HDC
10+17.45	563618.18	1361627.17	1°18'06" VERT. HDC
11+36	563676.76	1361523.62	8"X8" TEE
11+50	563683.44	1361511.81	ANCHOR BLOCK
11+56	563686.41	1361506.58	8" VALVE
11+60	563688.37	1361503.09	8" RESTRAINED CAP



STA	NORTHING	EASTING	DESCRIPTION
0+00	563676.56	1361523.98	8" TEE
0+04	563672.21	1361521.52	8" VALVE
0+10	563667.85	1361519.06	1/8 H.B. + 5" HORIZ. SWEEP
0+20	563662.34	1361510.64	ANCHOR BLOCK
0+39.65	563651.71	1361494.20	1.25" HORIZ. HDC
0+82	563629.39	1361458.13	8" X 6" TEE TO F.H. #1
1+00	563619.94	1361442.87	2°42'30" VERT. HDC
2+35	563548.90	1361328.07	1°37'11" VERT. HDC
2+45	563543.64	1361319.57	1°40'7.5" VERT. HDC
3+25.45	563501.30	1361251.14	1" W.H.C.
4+05.5	563459.18	1361183.09	8" X 6" TEE TO F.H. #2
4+42.37	563439.78	1361151.73	1" W.H.C.
4+47.84	563436.90	1361147.09	2°39'18" HORIZ. HDC
4+57.84	563431.26	1361138.84	2°39'18" HORIZ. HDC
4+80	563417.90	1361121.16	5" VERT. SWEEP
5+80	563357.63	1361041.37	1°09'11" VERT. HDC
6+65	563306.40	1360973.54	2°59'40" VERT. HDC
6+96.77	563287.25	1360948.19	1/8 H.B. + 5" HORIZ. SWEEP + 3" HORIZ. HDC
9+10	563090.15	1360866.81	2°37'45" VERT. HDC
9+55.8	563047.80	1360849.33	4" W.H.C.
9+63.3	563040.87	1360846.47	8" X 6" TEE TO F.H. #3
9+70.82	563033.94	1360843.61	8" CAP & BUTTRESS

PLAN VIEW  
1"=50'



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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James A. ...* 2/26/14  
DIRECTOR, PUBLIC WORKS DATE

*Thomas J. ...* 2/26/14  
CHIEF, BUREAU OF ENGINEERING DATE

*...* 2/25/14  
CHIEF, BUREAU OF UTILITIES DATE

*...* 2/21/14  
CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:  
WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, MD 21231

**WR&A**



DES:	RBC		
DRN:	CYH		
CHK:	AUO		
DATE:	11/21/2013		
BY:	NO.	REVISION	DATE

600' SCALE MAP NO. 36 BLOCK NO. 5

**WATER AND SEWER PLAN**

ELECTION DISTRICT 3/7

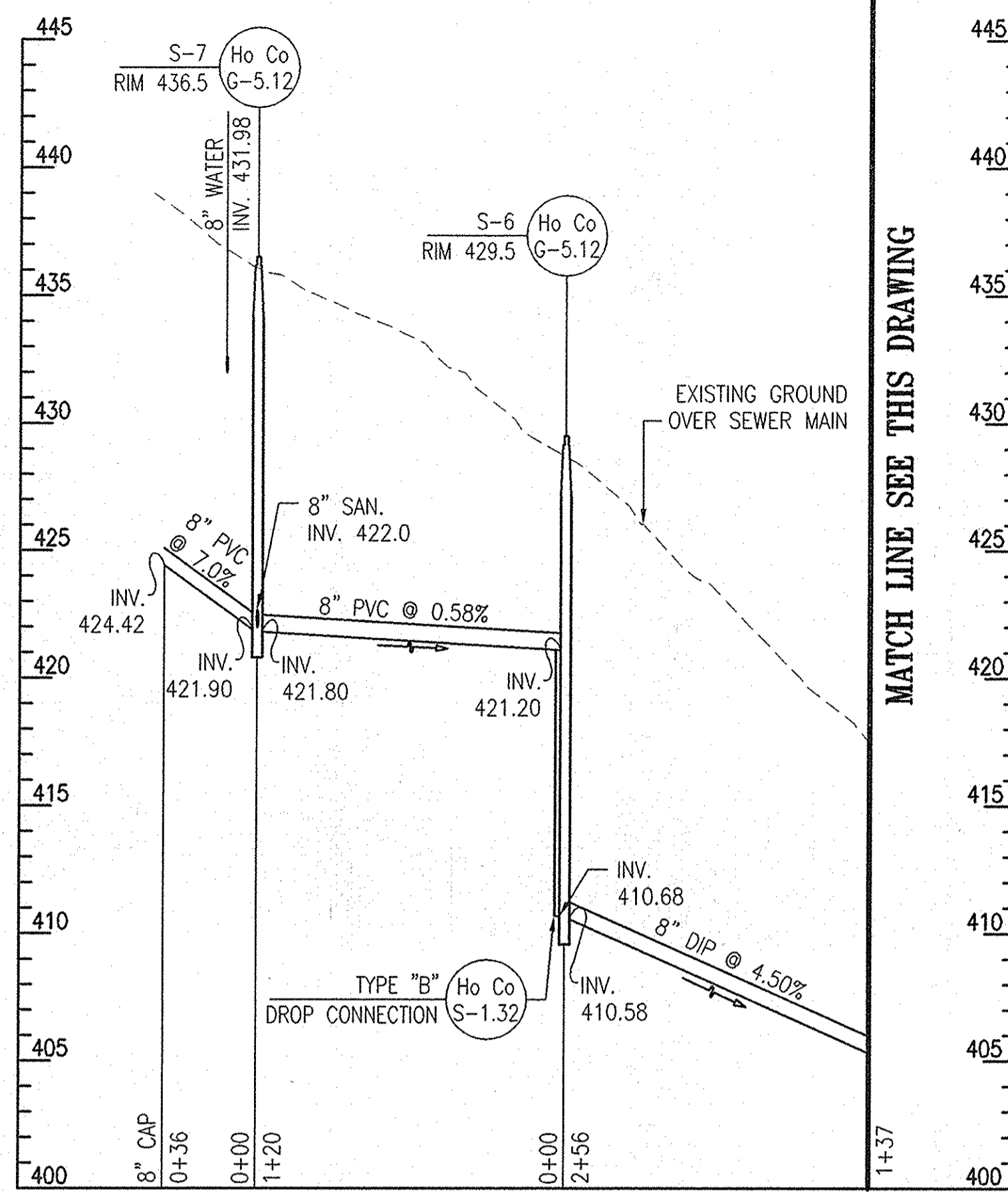
HOWARD COUNTY, MARYLAND

DWG. **WS0.2**

SCALE AS SHOWN

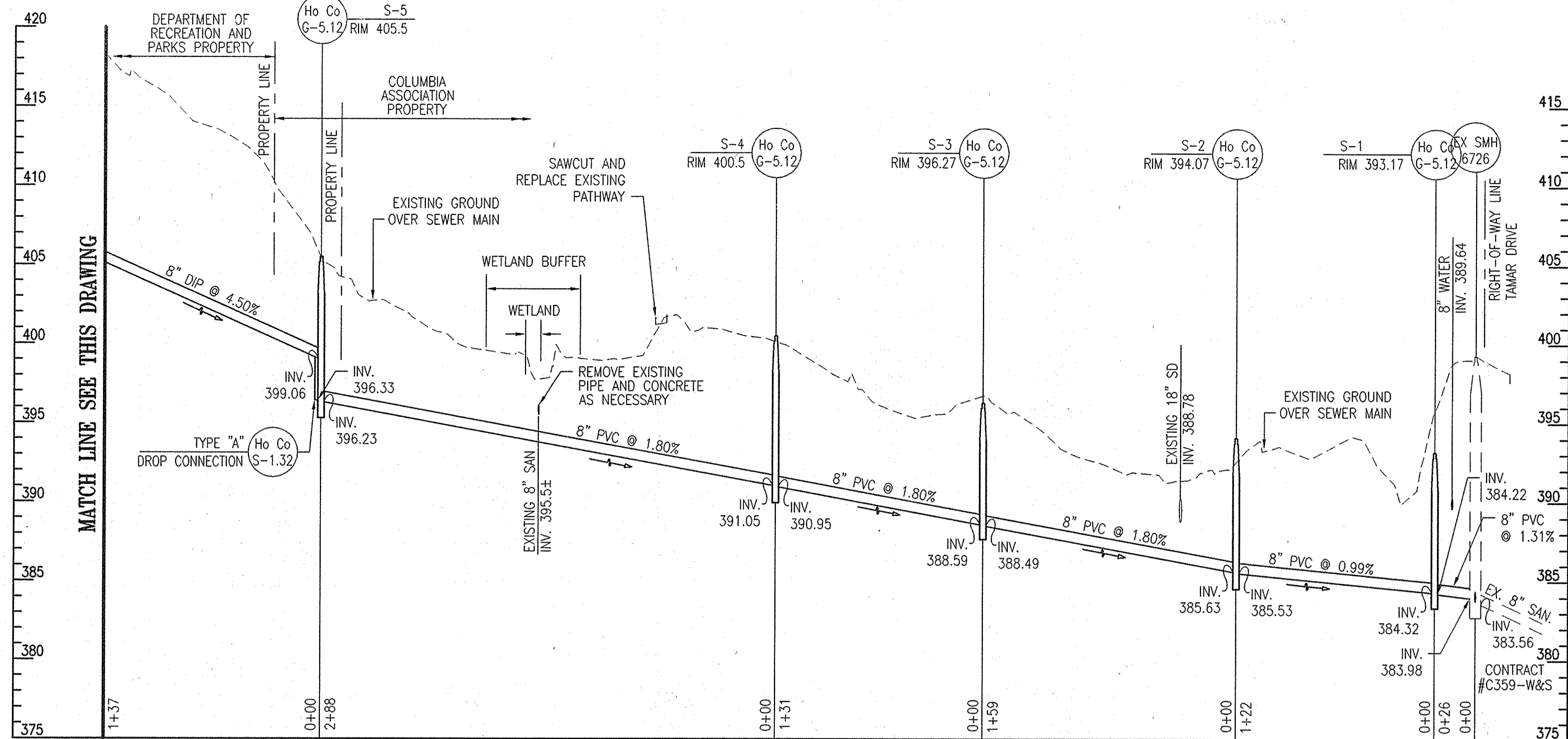
SHEET **3 OF 10**

FILENAME: N:\2013-002\G020\MANSON\42020001\WS02.DWG



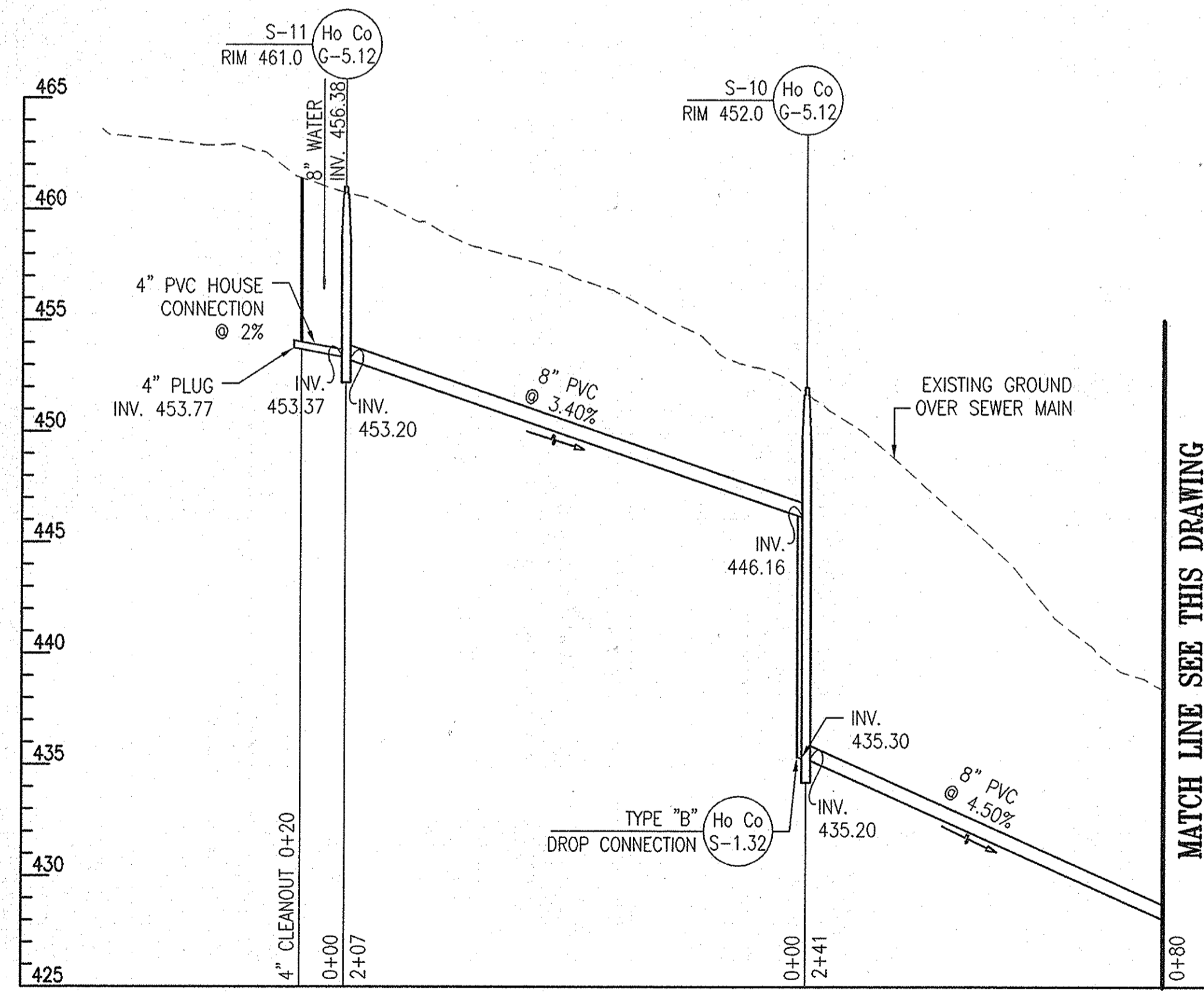
PROFILE 8" SANITARY SEWER

SCALE: 1" = 50' HORIZ  
1" = 5' VERT



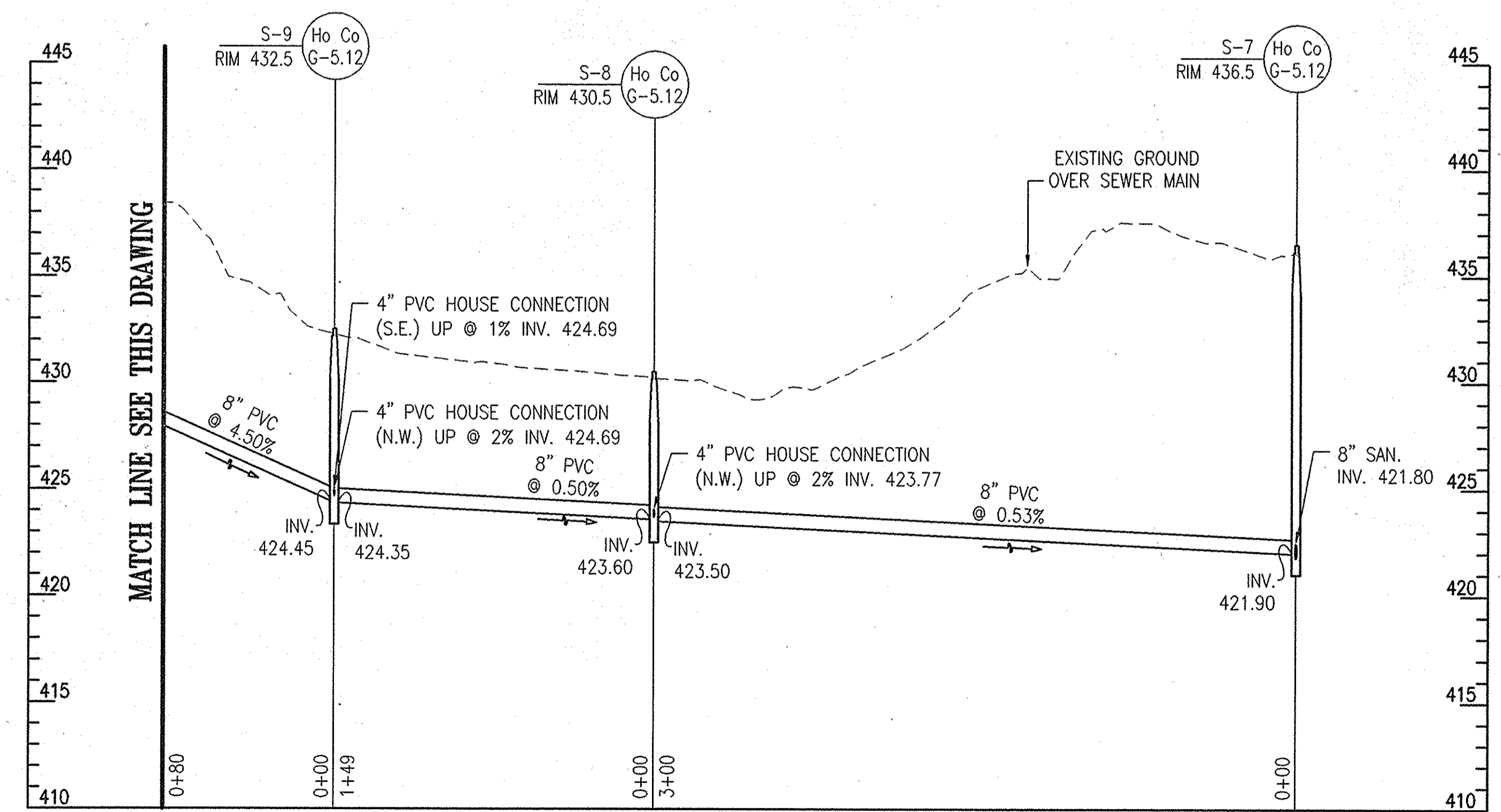
PROFILE 8" SANITARY SEWER

SCALE: 1" = 50' HORIZ  
1" = 5' VERT



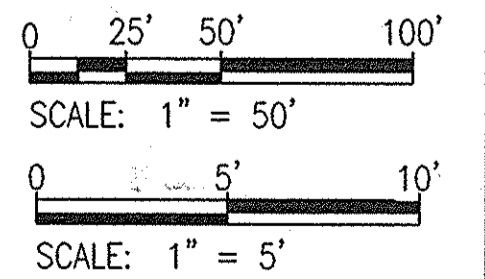
PROFILE 8" SANITARY SEWER

SCALE: 1" = 50' HORIZ  
1" = 5' VERT



PROFILE 8" SANITARY SEWER

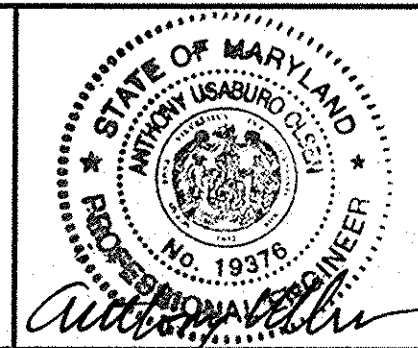
SCALE: 1" = 50' HORIZ  
1" = 5' VERT



"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. 19376, EXPIRATION DATE: 9/22/2015."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
Director, Public Works: *[Signature]* 2/26/14  
Chief, Bureau of Engineering: *[Signature]* 2/26/14  
Chief, Bureau of Utilities: *[Signature]* 2/26/14  
Chief, Utility Design Division: *[Signature]* 2/26/14

PREPARED BY:  
WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, MD 21231  
**WR&A**

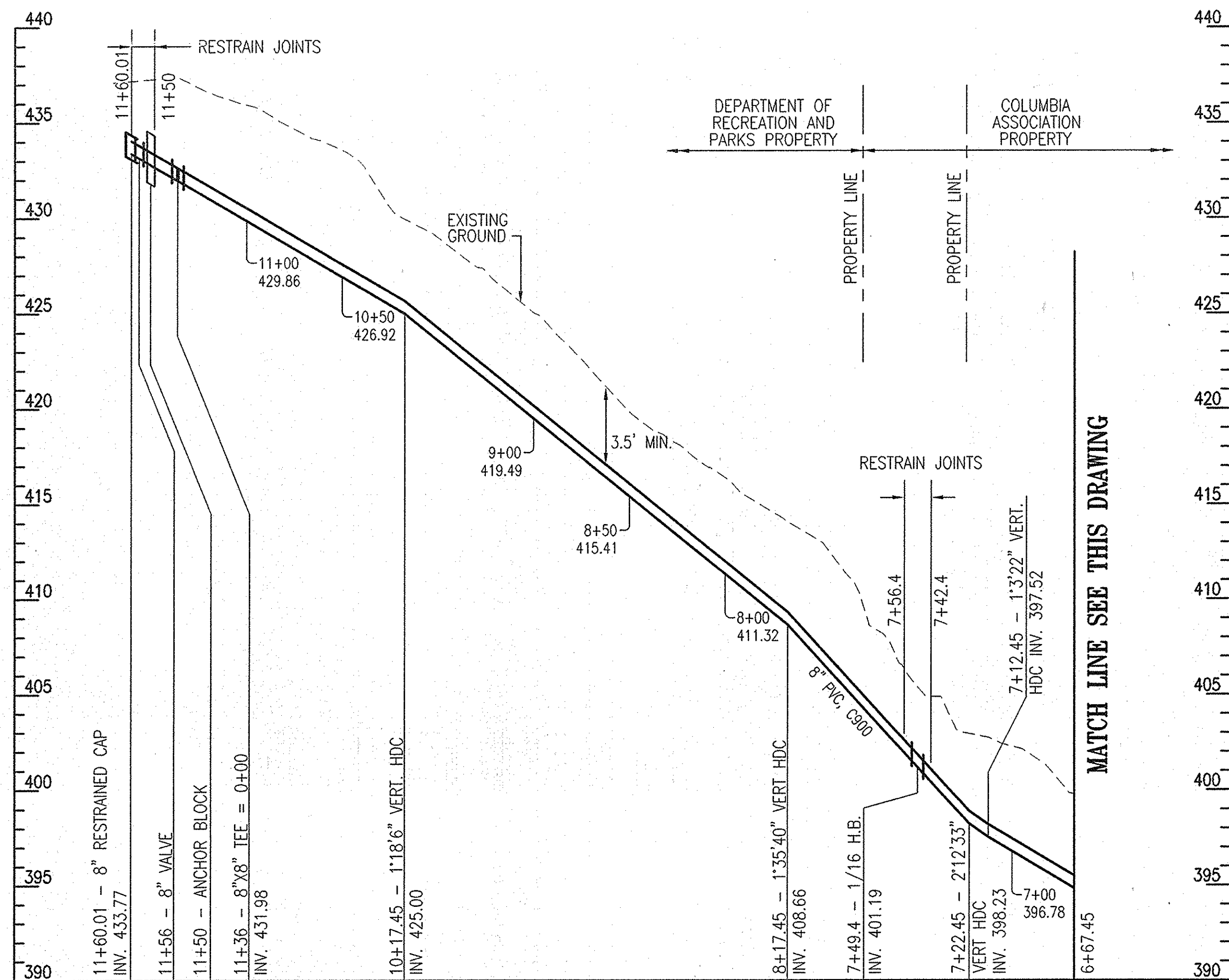


DES:	RBC			
DRN:	CYH			
CHK:	AUO			
DATE:	11/21/2013	BY:	NO.	REVISION

SEWER PROFILE  
600' SCALE MAP NO. 36 BLOCK NO. 5

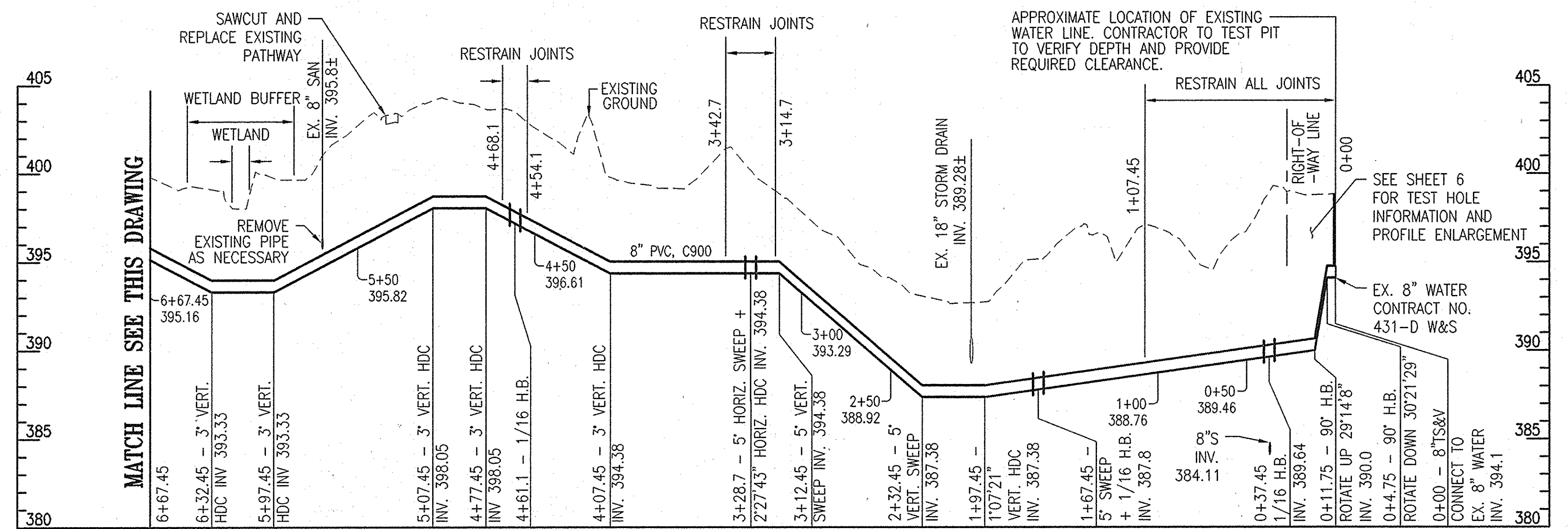
ELECTION DISTRICT 3/7  
HOWARD COUNTY, MARYLAND

DWG. **WS0.3**  
SCALE AS SHOWN  
SHEET **4** OF **10**



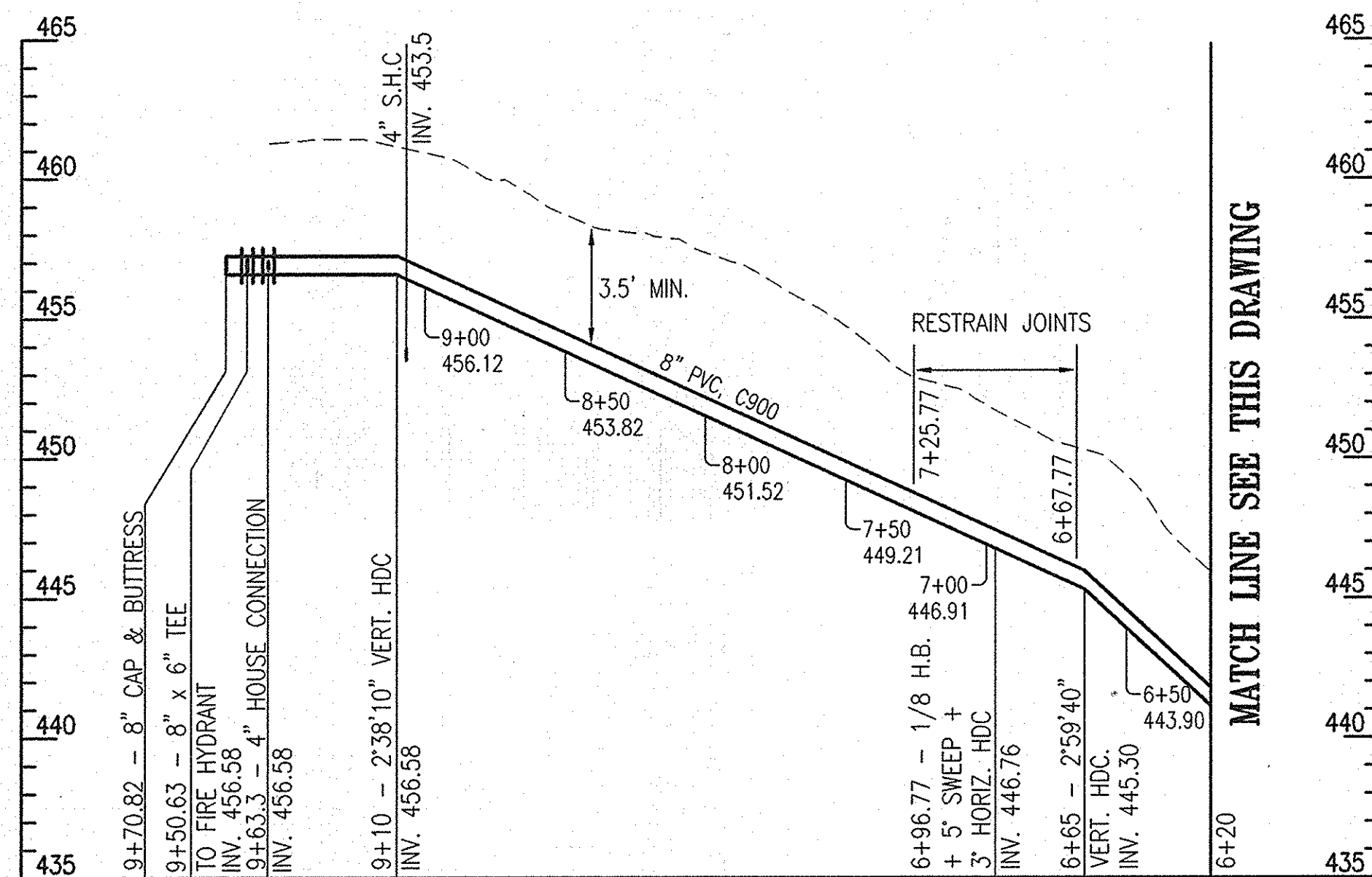
PROFILE 8" WATER

SCALE: 1" = 50' HORIZ  
1" = 5' VERT



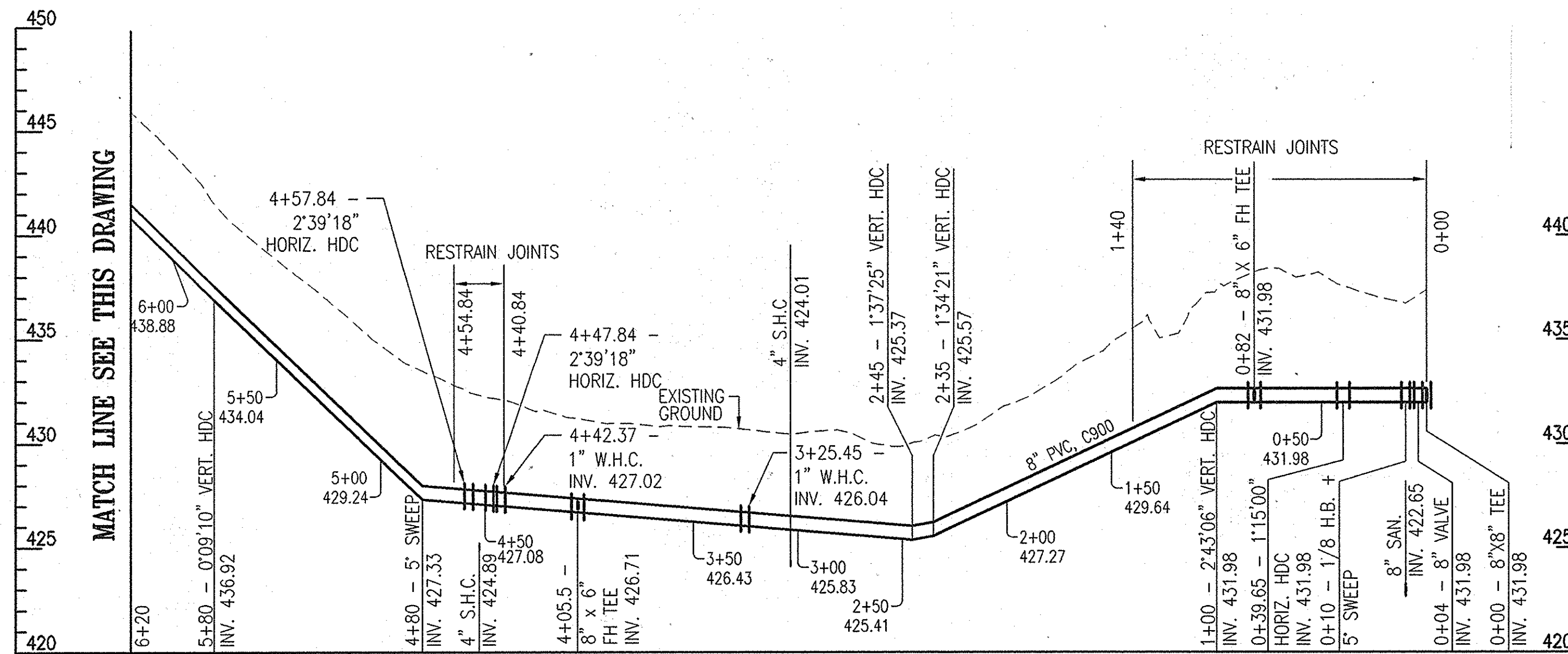
PROFILE 8" WATER

SCALE: 1" = 50' HORIZ  
1" = 5' VERT



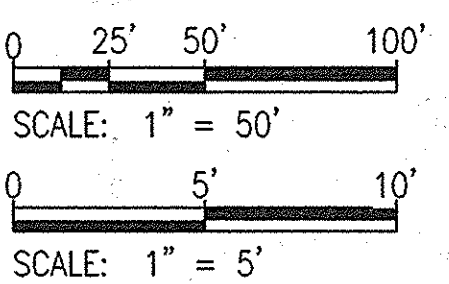
PROFILE 8" WATER

SCALE: 1" = 50' HORIZ  
1" = 5' VERT



PROFILE 8" WATER

SCALE: 1" = 50' HORIZ  
1" = 5' VERT



FILENAME: N:\V2025-002\CAD\WANSOON\42038000\WS04.DWG

"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. 19376, EXPIRATION DATE: 9/22/2015."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Joseph A. ...* 2/21/14  
DIRECTOR, PUBLIC WORKS DATE

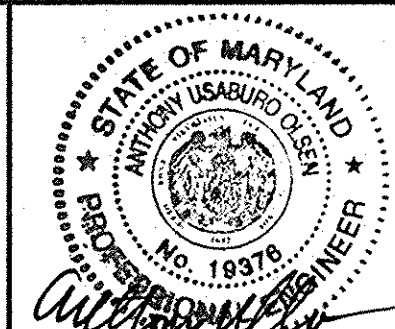
*Thomas E. Ruttle, PE* 2/21/14  
CHIEF, BUREAU OF ENGINEERING DATE

*Scott A. ...* 2/25/14  
CHIEF, BUREAU OF UTILITIES DATE

*Dr. Da ...* 2/21/14  
CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:  
WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, MD 21231

**WR&A**



DES:	RBC
DRN:	CYH
CHK:	AUO
DATE:	11/21/2013
BY:	NO.
REVISION:	
DATE:	

WATER PROFILE

600' SCALE MAP NO. 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK - PHASE J  
WATER AND SEWER EXTENSION  
CONTRACT NO. 24-4779

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

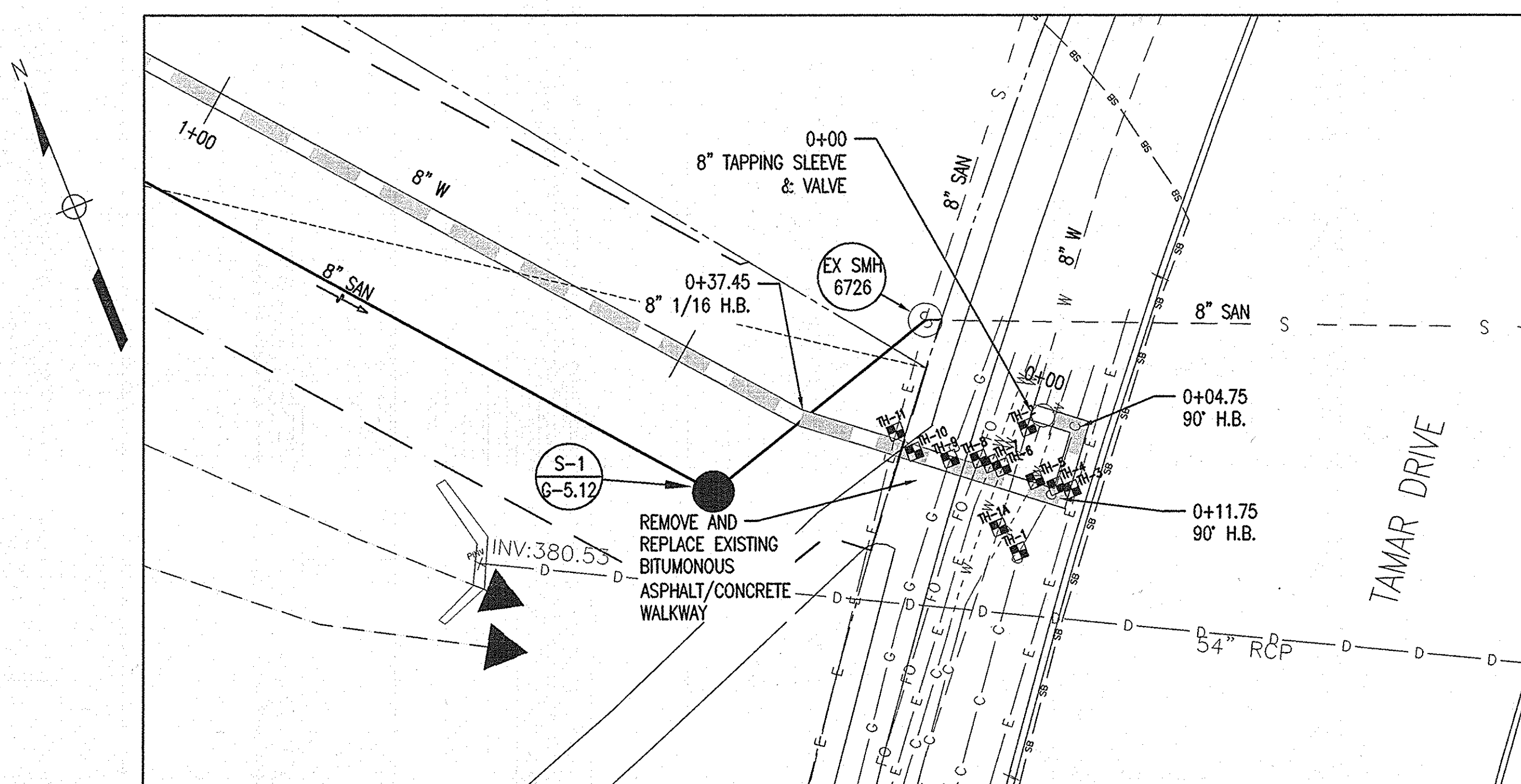
DWG.  
**WS0.4**

SCALE AS SHOWN

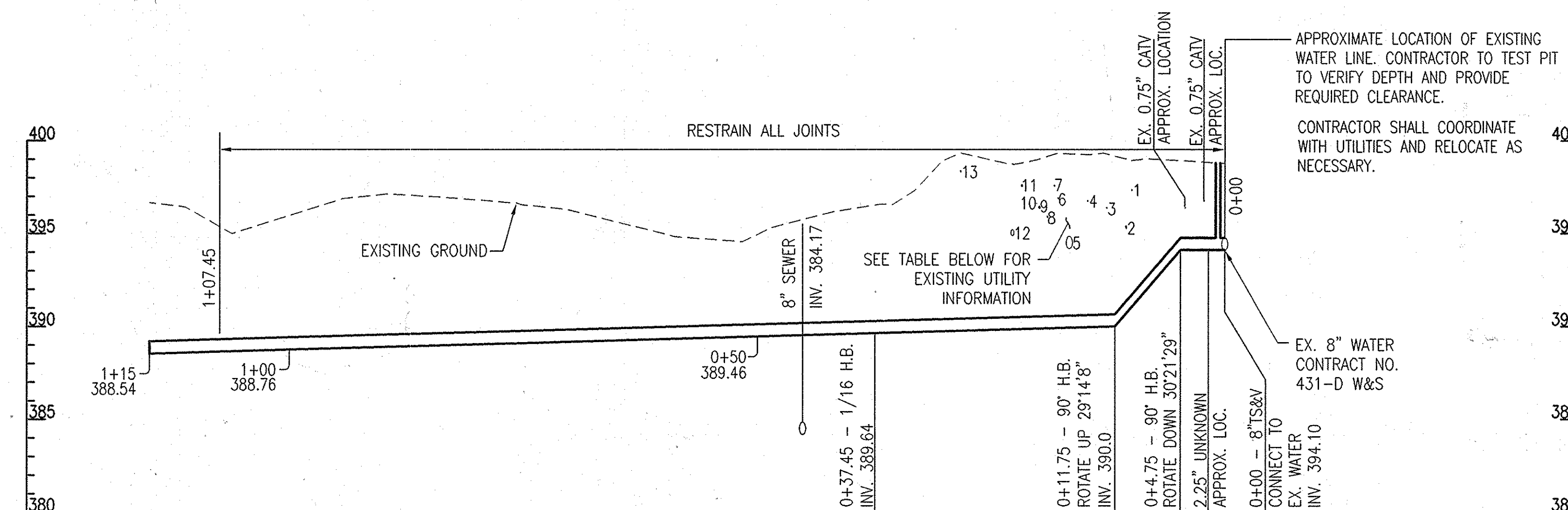
SHEET  
**5 OF 10**

NOTE:

ALL TRENCHES CREATED FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH. TRENCH SHALL NOT BE OPENED IF IT CANNOT BE STABILIZED THE SAME DAY. IF AN AREA MUST BE LEFT UNSTABILIZED OVERNIGHT, SILT FENCE WILL BE PLACED IMMEDIATELY DOWNSTREAM OF ALL DISTURBED AREAS AND STOCKPILES, AND APPROPRIATE SAFETY MEASURES WILL BE INSTALLED AS REQUIRED.



PLAN VIEW  
1"=10'

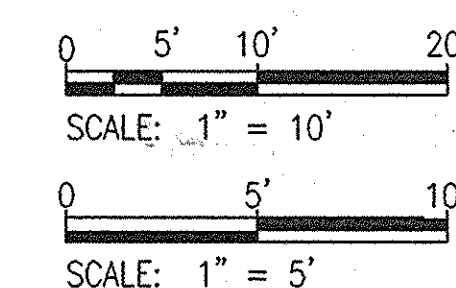


PROFILE 8" WATER  
SCALE: 1" = 10' HORIZ  
1" = 5' VERT

TEST HOLE SCHEDULE

NO.	COORDINATES		COVER (FT)	SURFACE ELEV. (FT)	REMARKS
	NORTHING	EASTING			
1	563,141.77	1,362,488.62	2.14/6.14	398.96	0.75" CABLE TV DBC & 2.25" PLASTIC UNKNOWN CONDUIT
1A	563,144.61	1,362,487.68	3.99	398.96	8" CAST IRON WATER
2	563,152.45	1,362,493.66	3.9	398.77	8" CAST IRON WATER
3	563,145.45	1,362,495.40	3.31/1.36	398.73	(3) 1" ELECTRIC DBC'S & 0.75" UNKNOWN DBC
4	563,146.30	1,362,494.14	3.98/85	2.44	0.75" CATV DBC
5	563,147.54	1,362,492.53	2.11/6.14	398.89	0.75" CATV DBC & 2.25" PLASTIC UNKNOWN CONDUIT
6	563,149.80	1,362,490.04	1.97/4.06	398.9	0.75" CATV DBC & 8" CAST IRON WATER
7	563,150.52	1,362,489.22	3.05/1.39	398.99	1" ELECTRIC DBC & 0.75" CATV DBC
8	563,151.34	1,362,488.35	2.40/2.55	399.03	0.25" FIBER OPTIC DBC & 1.75" PLASTIC FIBER OPTIC CONDUIT
9	563,152.34	1,362,485.78	3.86/1.46	399.06	4" WRAPPED STEEL GAS & 1.5" PLASTIC ELECTRIC CONDUIT
10	563,154.22	1,362,482.89	-	-	NO UTILITY FOUND
11	563,156.63	1,362,481.96	0.94	399.33	(3) 0.5" ELECTRIC DBC'S

NUMBER	TEST HOLE	UTILITY DESCRIPTION	INVERT (FT)
1	TH#3	0.75" CATV	397.31
2	TH#3	3-1" ELECTRIC	395.25
3	TH#4	0.75" CATV	396.35
4	TH#5	0.75" CATV	396.72
5	TH#6	8" WATER	394.17
6	TH#6	0.75" CATV	396.86
7	TH#7	0.75" CATV	397.52
8	TH#7	1" ELECTRIC	395.86
9	TH#8	1.75" FIBER OPTIC CONDUIT	396.30
10	TH#8	0.25" FIBER OPTIC	396.61
11	TH#9	1.5" ELECTRIC CONDUIT	397.52
12	TH#9	4" GAS	394.87
13	TH#11	3-0.5" ELECTRIC	398.31



FILENAME: H:\2013\02-CADD\MANSON\42013001\WS005.DWG

"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. 19376, EXPIRATION DATE: 9/22/2015."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John J. ...* 2/26/14  
DIRECTOR, PUBLIC WORKS DATE

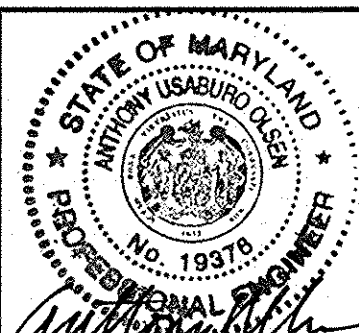
*Mona P. ...* 2/24/14  
CHIEF, BUREAU OF ENGINEERING DATE

*Steve ...* 2/25/14  
CHIEF, BUREAU OF UTILITIES DATE

*...* 2/21/14  
CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:  
WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, MD 21231

**WR&A**



DES:	RBC		
DRN:	CYH		
CHK:	AUO		
DATE:	11/21/2013		
BY:	NO.	REVISION	DATE

WATER CONNECTION ENLARGEMENT

600' SCALE MAP NO. 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK - PHASE J  
WATER AND SEWER EXTENSION  
CONTRACT NO. 24-4779

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG.  
**WS0.5**

SCALE AS SHOWN

SHEET  
**6 OF 10**



- NOTES:
1. ALL TRENCHING OPERATIONS ARE TO BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY. ALL TRENCHES CREATED FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH. TRENCH SHALL NOT BE OPENED IF IT CANNOT BE STABILIZED THE SAME DAY. IF AN AREA MUST BE LEFT UNSTABILIZED OVERNIGHT, SILT FENCE WILL BE PLACED IMMEDIATELY DOWNSTREAM OF ALL DISTURBED AREAS AND STOCKPILES, AND APPROPRIATE SAFETY MEASURES WILL BE INSTALLED AS REQUIRED.
  2. SILT FENCE SHALL BE CONSTRUCTED IN "J" FORMATIONS AND CURLED INTO THE LOD ALONG SLOPES AND WHERE INDICATED AT A MAXIMUM INTERVAL OF 50'.
  3. IF STOCKPILE AREA EXCEEDS A HEIGHT OF 15 FEET, BENCHING MUST BE USED.
  4. SILT FENCE AND SUPER SILT FENCE ARE OFFSET 3 FEET FROM LOD FOR PRESENTATION PURPOSES ONLY. CONTRACTOR SHALL INSTALL SILT FENCE AND SUPER SILT FENCE ALONG THE LOD.

**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

*Anthony Wilson* 6/9/14  
 SIGNATURE OF ENGINEER DATE  
 ANTHONY WILSON  
 (PRINT NAME BELOW SIGNATURE)

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

*John R. Roberts* 1/16/14  
 SIGNATURE OF DISTRICT CHIEF DATE  
 JOHN R. ROBERTS  
 (PRINT NAME BELOW SIGNATURE)  
 HOWARD SOIL CONSERVATION DISTRICT

"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. 19376, EXPIRATION DATE: 9/22/2015."

PLAN VIEW  
 1"=50'

0 25' 50' 100'  
 SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*John A. ...* 2/26/14  
 DIRECTOR, PUBLIC WORKS DATE

*Thomas E. ...* 2/26/14  
 CHIEF, BUREAU OF ENGINEERING DATE

*John A. ...* 2/25/14  
 CHIEF, BUREAU OF UTILITIES DATE

*John A. ...* 2/21/14  
 CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:  
 WHITMAN, REQUARDT & ASSOCIATES, LLP  
 801 South Caroline Street, Baltimore, MD 21231

**WR&A**

STATE OF MARYLAND  
 PROFESSIONAL ENGINEERING  
 LICENSE NO. 19376  
 ANTHONY WILSON

DES:	RBC				
DRN:	CYH				
CHK:	AUO				
DATE:	11/21/2013				
BY:	NO.				
REVISION:					
DATE:					

**EROSION AND SEDIMENT CONTROL PLAN**

600' SCALE MAP NO. 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK - PHASE J  
 WATER AND SEWER EXTENSION  
 CONTRACT NO. 24-4779

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. SC0.1  
 SCALE AS SHOWN  
 SHEET 7 OF 10

**EROSION AND SEDIMENT CONTROL - GENERAL NOTES**

**1. HOWARD COUNTY NOTIFICATION**

THE CONTRACTOR MUST NOTIFY THE HOWARD COUNTY ENVIRONMENTAL COMPLIANCE SECTION IN WRITING AND/OR BY TELEPHONE (410) 313-1880 AT THE FOLLOWING POINTS:  
 - PRE-CONSTRUCTION MEETING (MINIMUM 5 DAYS PRIOR TO START OF CONSTRUCTION)  
 - FOLLOWING INSTALLATION OF INITIAL SEDIMENT CONTROL MEASURES  
 - PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL DEVICE  
 - PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES  
 - PRIOR TO FINAL ACCEPTANCE BY COUNTY.

**2. STANDARDS AND SPECIFICATIONS**

THIS PLAN IS DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND ALL REVISIONS THEREOF AND ADDITIONS THERETO INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL HAVE A COPY OF THE 2011 "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ON THE SITE.

**3. INGRESS/EGRESS CONTROLS**

THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ON PUBLIC ROADS. ALL MATERIALS DEPOSITED ON PUBLIC ROADS SHALL BE MECHANICALLY REMOVED IMMEDIATELY. THE FLUSHING OF ROAD SURFACES IS PROHIBITED.

TYPICALLY, ALL INGRESS AND EGRESS POINTS SHALL BE CONTROLLED THROUGH THE USE OF A "STABILIZED CONSTRUCTION ENTRANCE."

**4. INSPECTION**

THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES.

**5. SHUTDOWNS AND OR PENALTIES**

TOTAL COMPLIANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS EXPECTED AT ALL TIMES. IN CASES WHERE THE CONTRACTOR IS FOUND TO BE IN NON-COMPLIANCE THE COUNTY MAY TAKE STEPS TO IMPOSE SELECTED OR TOTAL SHUTDOWNS AND IMPOSE PER DAY PENALTIES FOR NON-COMPLIANCE.

THE COUNTY ENGINEER CAN IMPOSE A TOTAL OR PARTIAL SHUTDOWN IF THE PROJECT MAY ADVERSELY IMPACT THE WATERS OF THE STATE.

**6. RECORD KEEPING**

THE PROJECT'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, APPROVED CHANGE REQUESTS, DAILY LOG BOOKS AND TEST REPORTS WILL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MDE.

**EROSION AND SEDIMENT CONTROL EXCAVATION**

SILT REMOVED FROM CONTROL DEVICES SHALL BE PLACED IN AN APPROVED WASTE SITE EITHER ON OR OFF THE PROJECT. MATERIAL STORED ON SITE MAY BE REUSED ONCE IT IS DRIED AND IF IT MEETS COUNTY REQUIREMENTS FOR EMBANKMENT OR ANY UNSPECIFIED NEED.

**2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL STANDARD REFERENCE DETAILS**

DETAIL NO.	TITLE	PAGE
E-1	SILT FENCE	E.2 - E.3
B-1	STABILIZED CONSTRUCTION ENTRANCE	B.2

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

*John P. Redburn* 1/12/14  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**9. OFF-SITE UTILITY WORK**

SEDIMENT CONTROL FOR UTILITY CONSTRUCTION IN AREAS OUTSIDE OF DESIGNED CONTROLS SHALL FOLLOW THESE ADDITIONAL BEST MANAGEMENT PRACTICES:

- (a) CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK
- (b) EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
- (c) TRENCHING TO BE LIMITED TO THAT DEPTH WHICH CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY, I.E., TRENCHES SHALL NOT BE LEFT OPEN.

**10. SENSITIVE AREAS**

NO CONSTRUCTION ACTIVITIES SHALL BE UNDERTAKEN WITHIN SPECIFIED SENSITIVE AREAS OF THE PROJECT WITHOUT PRIOR NOTIFICATION OF THE ENGINEER. ALL WORK IN THESE AREAS SHALL BE MONITORED BY A RESPONSIBLE PARTY DESIGNATED BY THE CONTRACTOR TO ASSURE THAT REASONABLE CARE IS TAKEN IN OR ADJACENT TO THESE AREAS. AREAS CONSIDERED SENSITIVE ARE DEFINED AS: FLOODPLAINS, WETLANDS (TIDAL, NONTIDAL AND ASSOCIATED BUFFERS) CRITICAL AREAS, FORESTED AREAS, ARCHEOLOGICAL SITES, HISTORIC SITES, PARKLAND AND OPEN WATER.

**11. SITE INFORMATION** \* (NOT FOR BIDDING PURPOSES)

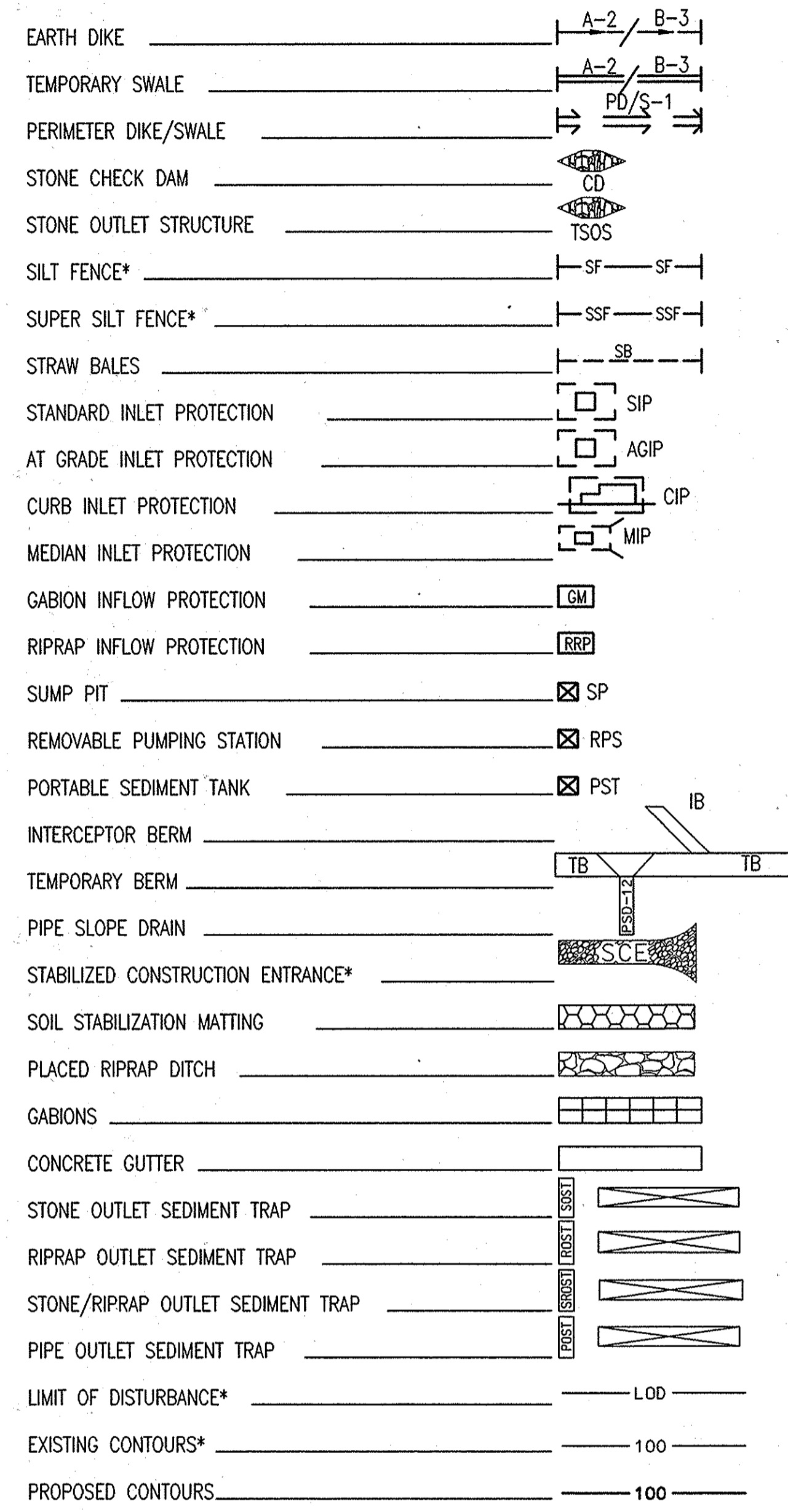
TOTAL AREA OF SITE 298.8 ACRES  
 AREA DISTURBED (TRENCH) 1.48 ACRES  
 AREA TO BE PAVED N/A ACRES  
 TOTAL CUT N/A CU. YDS.  
 TOTAL FILL N/A CU. YDS.  
 OFFSITE WASTE/BORROW AREA LOCATION (IF KNOWN) NOT KNOWN ACRES

**12. CHECKLIST FOR REQUIRED INSPECTIONS**

**\*\* NOTICE \*\***  
 THIS LIST IS FOR THE SEQUENCE OF CONSTRUCTION ONLY. HOWARD COUNTY ASSUMES NO RESPONSIBILITY FOR IMPROPER INSTALLATION OF ANY ITEM ON THIS CHECKLIST. A PROFESSIONAL ENGINEER OR THEIR DESIGNEE MUST CERTIFY ALL ASPECTS OF CONSTRUCTION AND CONFORMANCE TO DESIGN REQUIREMENTS.

TYPE OF INSPECTION	
1. PRE-CONSTRUCTION MEETING	<input type="checkbox"/>
2. COMPLETION OF SEDIMENT CONTROL MEASURES (IF CONSTRUCTING A BASIN, SEE #6)	<input type="checkbox"/>
3. PRIOR TO MODIFICATION OR REMOVAL OF SEDIMENT CONTROL	<input type="checkbox"/>
4. INFILTRATION SYSTEMS (NOT APPLICABLE ON THIS CONTRACT)	<input type="checkbox"/>
A. SITE READINESS PER SEQUENCE OF CONSTRUCTION	<input type="checkbox"/>
B. INFILTRATION AREA PROTECTED FROM SEDIMENTATION	<input type="checkbox"/>
C. DIMENSIONS	<input type="checkbox"/>
D. FILTERING MATERIAL (TYPE/DEPTH)	<input type="checkbox"/>
E. FILL MATERIAL	<input type="checkbox"/>
F. SIZE, PLACEMENT, TYPE OF PIPING (IF APPLICABLE)	<input type="checkbox"/>
G. OBSERVANT WELL	<input type="checkbox"/>
H. COVER/STABILIZATION	<input type="checkbox"/>
5. OPEN CHANNEL FLOW ATTENUATION (NOT APPLICABLE ON THIS CONTRACT)	<input type="checkbox"/>
A. SITE READINESS PER SEQUENCE OF CONSTRUCTION	<input type="checkbox"/>
B. CROSS-SECTION CONFORMATION	<input type="checkbox"/>
C. MATERIAL (TYPE/SIZE)	<input type="checkbox"/>
D. STABILIZATION	<input type="checkbox"/>
6. RETENTION/DETENTION STRUCTURES, BASINS/PONDS (NOT APPLICABLE ON THIS CONTRACT)	<input type="checkbox"/>

**STANDARD SYMBOLS**



\* = PERTINENT TO THIS PROJECT.

**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

*Anthony U. O'Brien* 1/9/14  
 SIGNATURE OF ENGINEER Anthony U. O'Brien DATE  
 (PRINT NAME BELOW SIGNATURE)

**BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS**

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS IS TO BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL MATERIAL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, OR WATERWAYS OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE.
6. RECTIFY ANY NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL RYE GRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.) AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:  
  
 CLASS 1 WATERS - IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD OF MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERT(S) SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

**OVERALL PROJECT SEQUENCE OF CONSTRUCTION**

1. A GRADING PERMIT WILL BE ACQUIRED FROM THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS PRIOR TO THE CONTRACTOR INITIATING WORK. (1 DAY)
2. THE CONTRACTOR SHALL CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS BEFORE ANY CONSTRUCTION IS TO BEGIN. (1 DAY)
3. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY ENVIRONMENTAL COMPLIANCE SECTION AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE A PRE CONSTRUCTION MEETING. (5 DAYS)
4. PLACE STABILIZED CONSTRUCTION ENTRANCE AT ACCESS FROM TAMAR DRIVE. (1 DAY)
5. INSTALL AND STABILIZE SEDIMENT CONTROL MEASURES, CONSISTING PRIMARILY OF SILT FENCE AND SUPER SILT FENCE AT THE LOW SIDE OF THE LIMIT OF DISTURBANCE. SEE PLAN AND PROFILE SHEETS FOR ALL SEDIMENT AND EROSION CONTROL MEASURES. (1 WEEK)
6. INSTALL SANDBAG DIVERSIONS, TEMPORARY CULVERT PIPES, OR PUMP-AROUND PRACTICES AND DEWATERING BASINS AT ALL STREAM CROSSINGS. ALL STREAM CROSSINGS SHALL BE PERFORMED IN AN EXPEDIENT MANNER. DEWATERING BASINS ON EACH BANK WILL RECEIVE WATER PUMPED FROM THE STREAM CROSSING SITE. PORTABLE SEDIMENT TANKS MAY BE USED IN PLACE OF DEWATERING BASINS SO AS TO MINIMIZE DISTURBANCE OF EXISTING TREES AND VEGETATION. (1 WEEK)
7. STOCKPILE TOPSOIL. ALL TOPSOIL FROM THE WETLAND AREAS SHALL BE MAINTAINED SEPARATE FROM UPLAND MATERIALS AND REUSED WITHIN THE LIMITS OF THE ORIGINAL WETLAND AREA AFTER UTILITY INSTALLATION IS COMPLETED. (2 WEEKS)
8. EXCAVATION FROM TRENCHING OPERATIONS SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH. (EACH DAY)
9. EXCAVATE FOR AND INSTALL WATER MAINS, SEWER AND ASSOCIATED STRUCTURES. (EACH DAY)
10. VEGETATIVELY STABILIZE BACKFILLED TRENCH AND STRUCTURE SITES AS WORK PROGRESSES. (EACH DAY)
11. NOTIFY ENVIRONMENTAL COMPLIANCE SECTION (ECS, 410-313-1880) AND OBTAIN APPROVAL TO REMOVE EROSION AND SEDIMENT CONTROL MEASURES. (1 DAY)
12. PERMANENTLY STABILIZE ANY AREAS DISTURBED DURING CLEANUP ACTIVITIES. (2 WEEKS)

"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. 19376, EXPIRATION DATE: 9/22/2015."

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James R. ...* 1/22/14  
 DIRECTOR, PUBLIC WORKS DATE

*Thomas J. ...* 1/21/14  
 CHIEF, BUREAU OF ENGINEERING DATE

*...* 1/21/14  
 CHIEF, BUREAU OF UTILITIES DATE

*...* 1/21/14  
 CHIEF, UTILITY DESIGN DIVISION DATE

PREPARED BY:  
 WHITMAN, REQUARDT & ASSOCIATES, LLP  
 801 South Caroline Street, Baltimore, MD 21231

DES:	RBC
DRN:	CYH
CHK:	AUO
DATE:	11/21/2013
BY:	NO.
REVISION:	
DATE:	

**EROSION AND SEDIMENT CONTROL GENERAL NOTES**

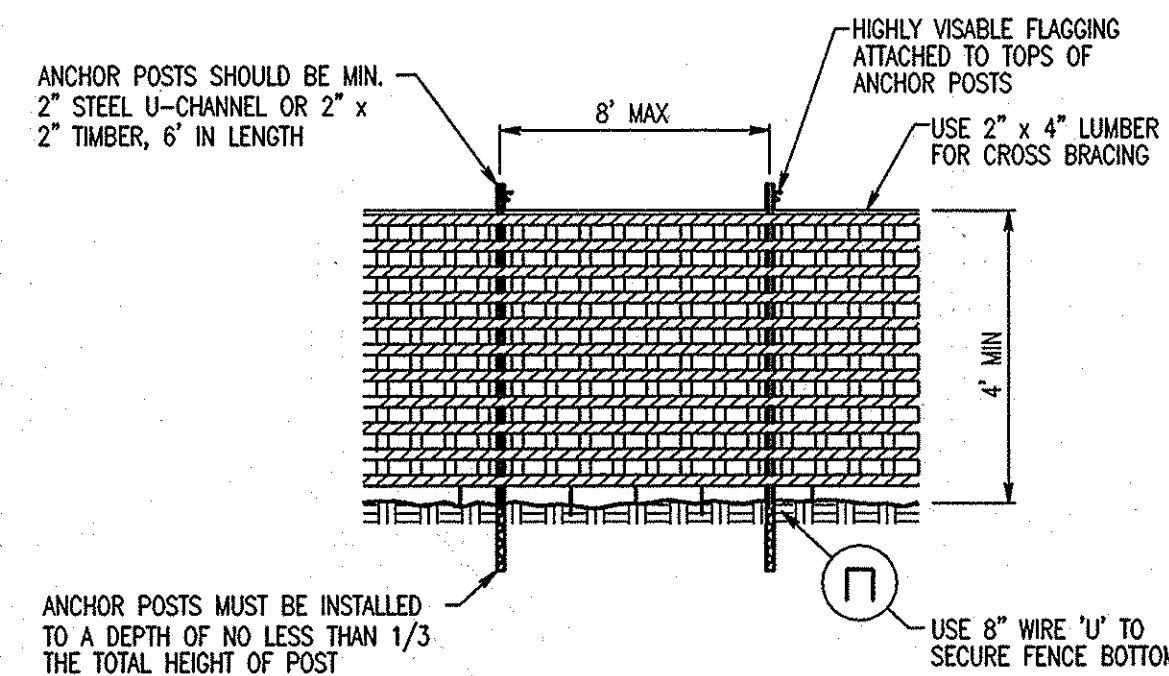
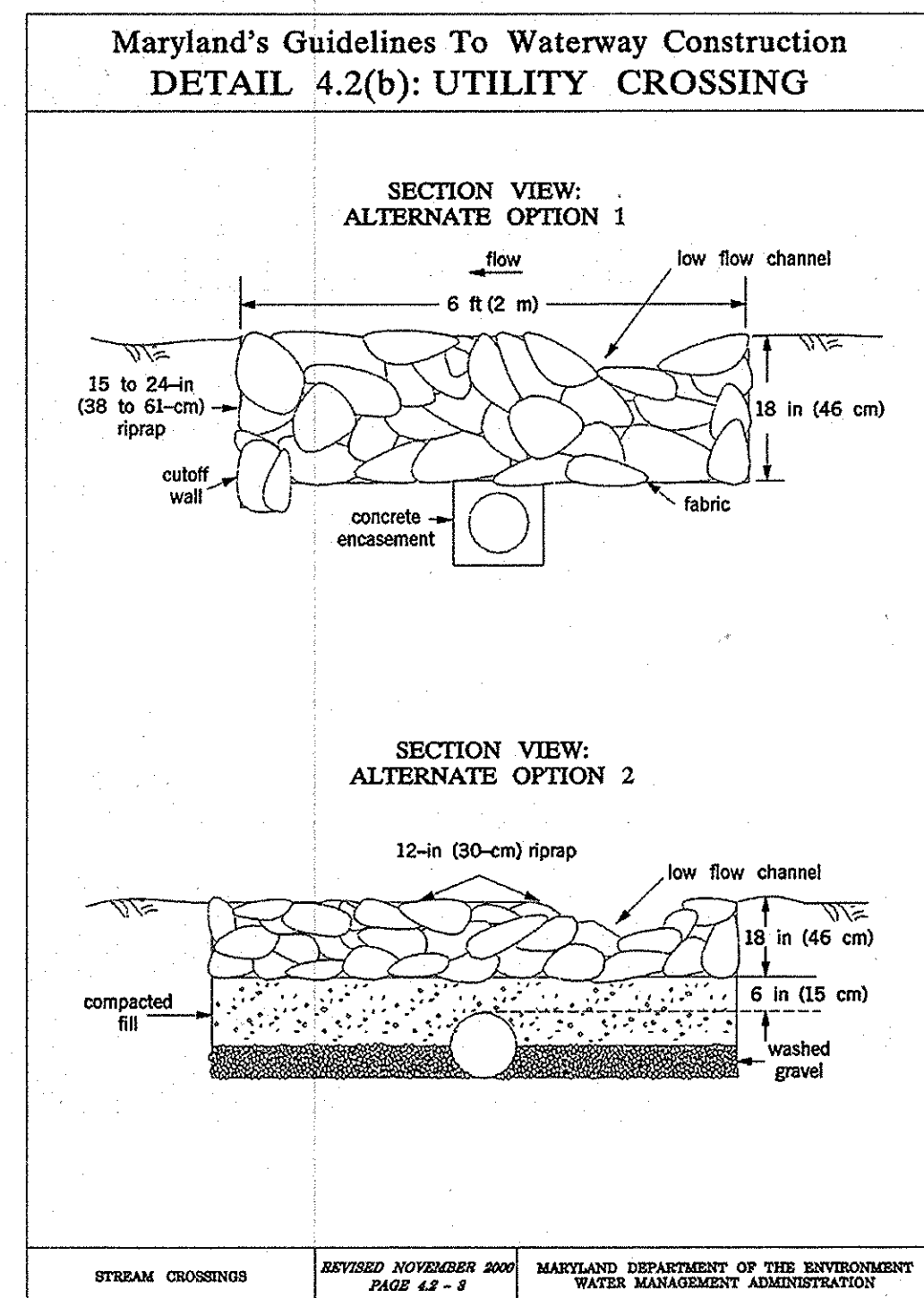
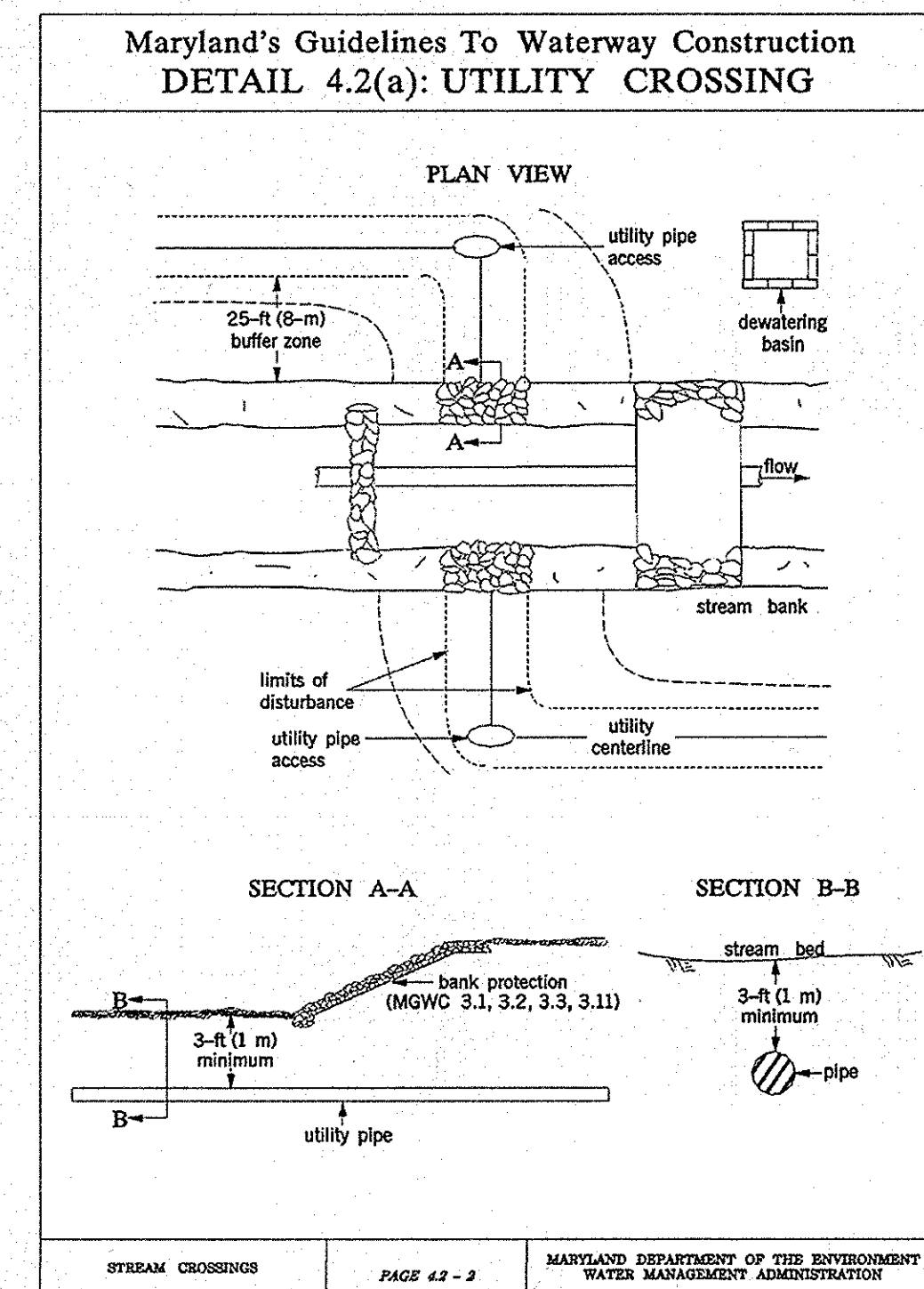
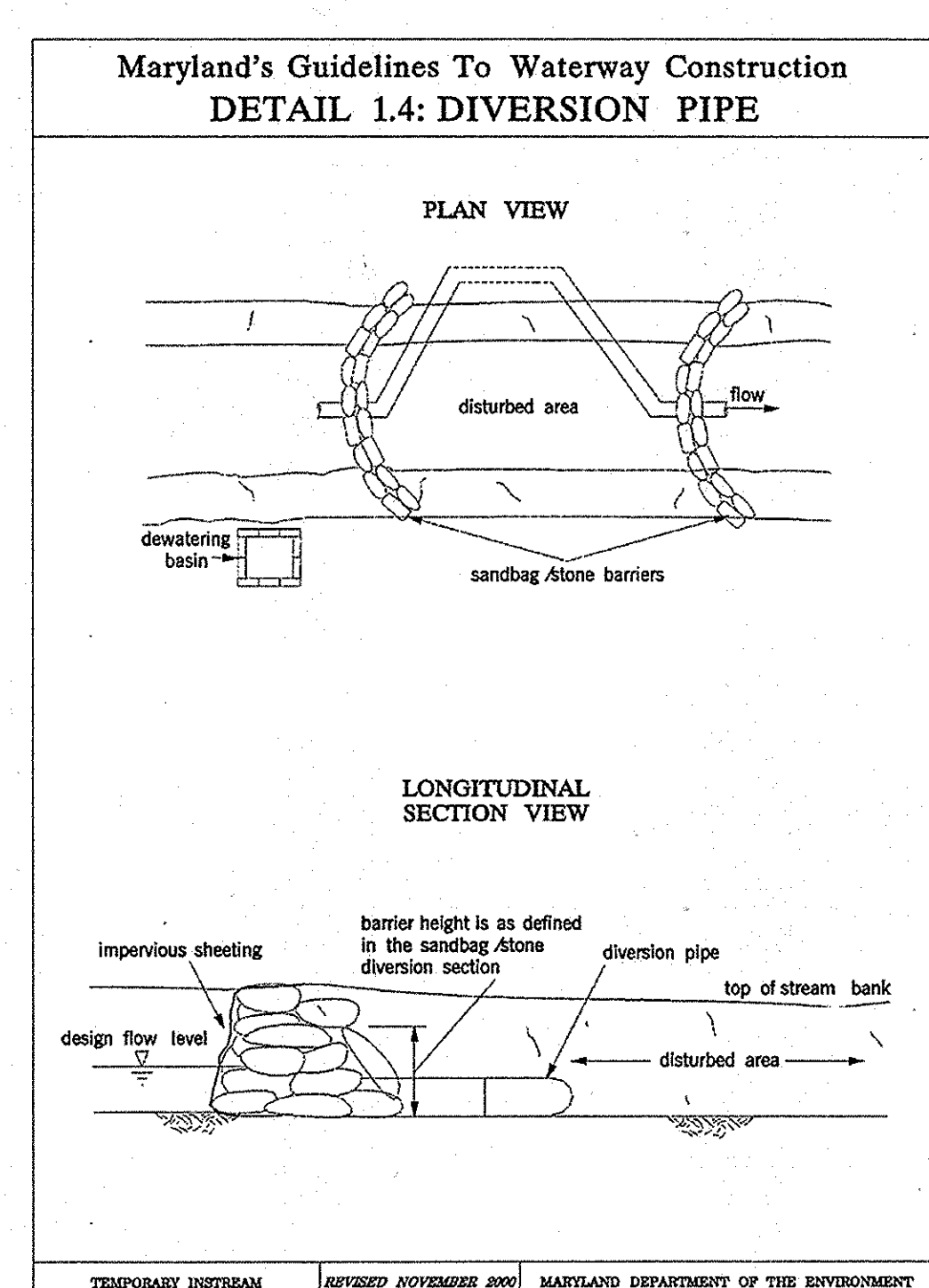
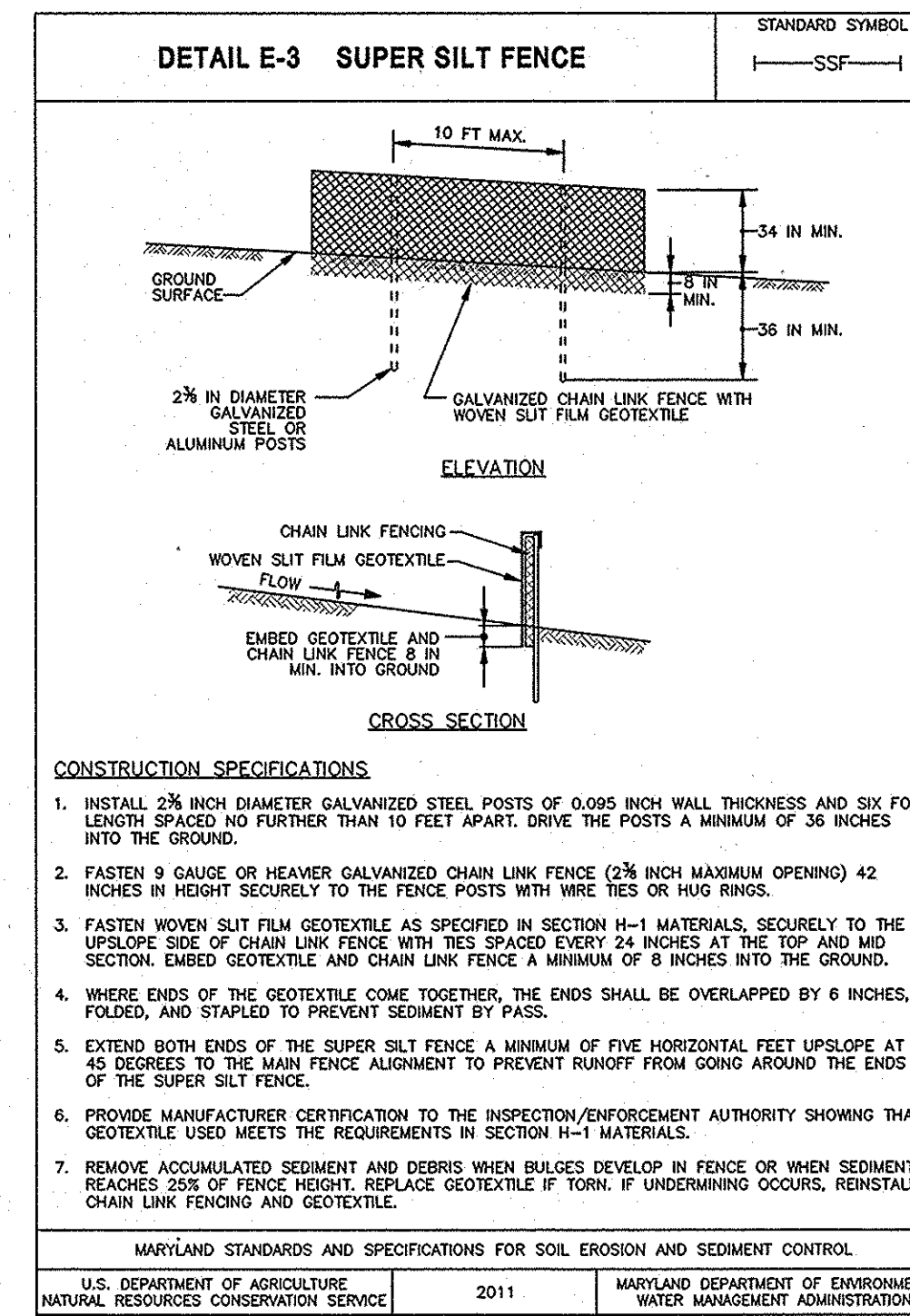
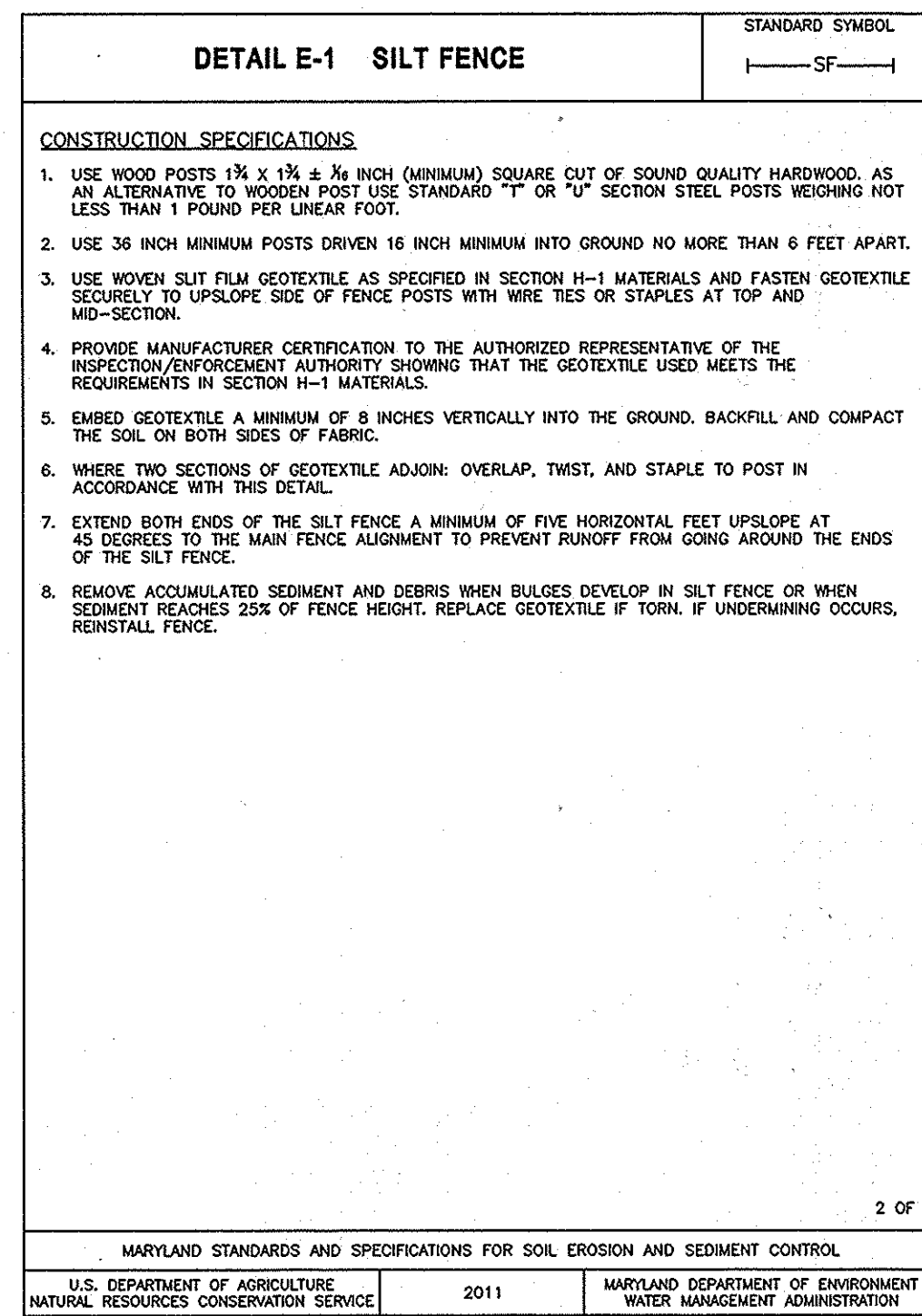
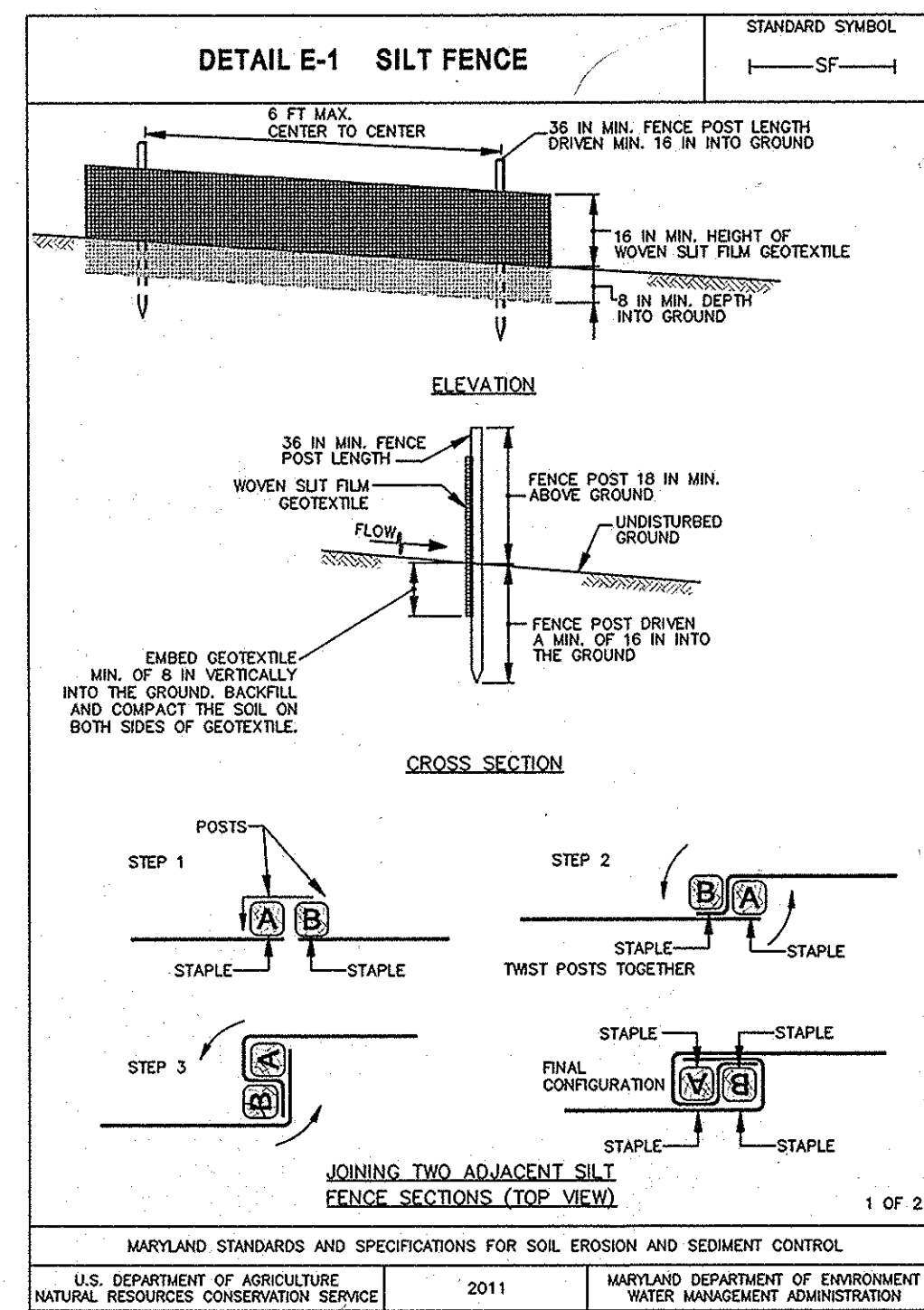
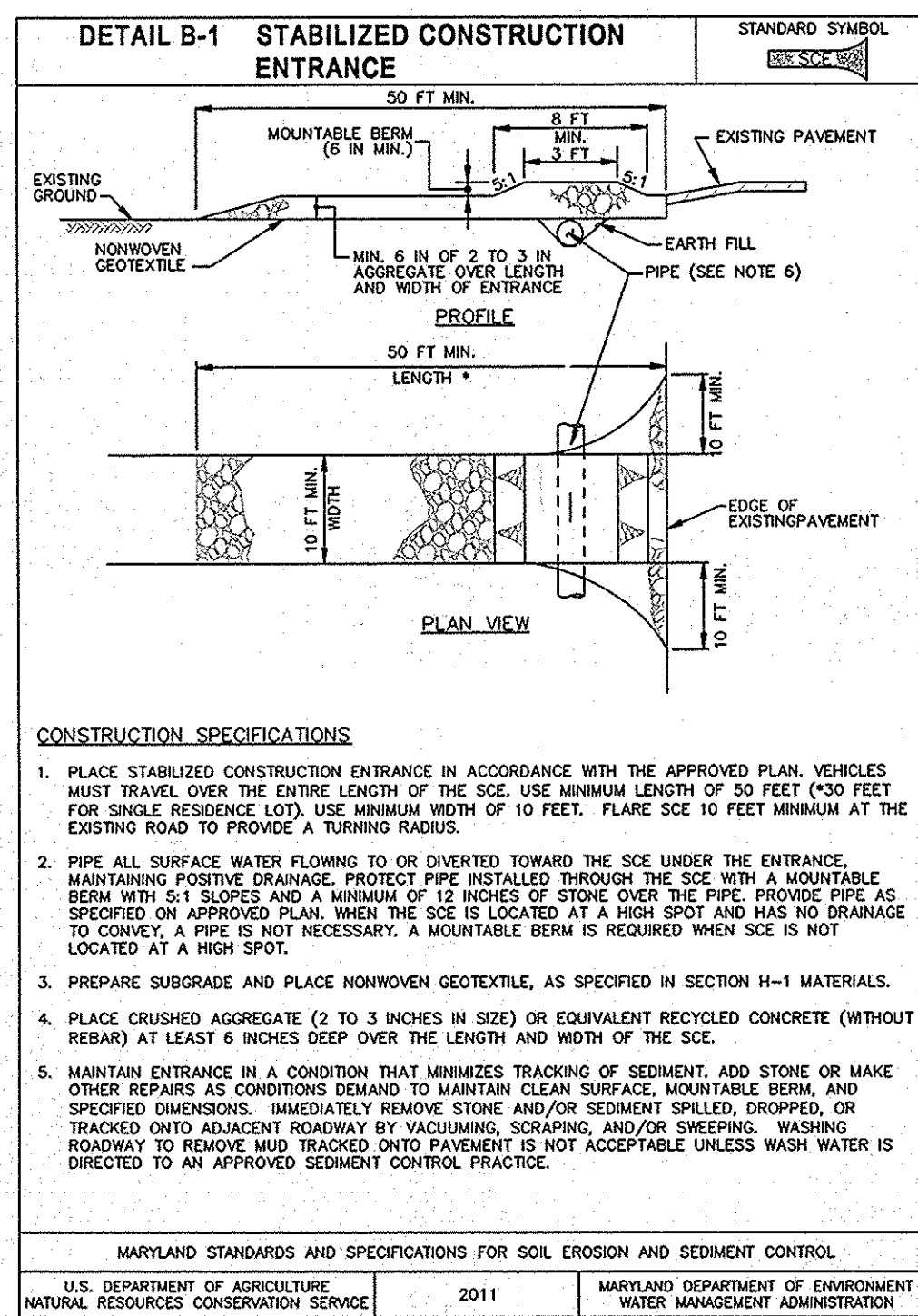
600' SCALE MAP NO. 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK - PHASE J  
 WATER AND SEWER EXTENSION  
 CONTRACT NO. 24-4779

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND







- NOTES:**
- BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE, ONLY.
  - BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
  - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
  - PROTECTION SIGNAGE IS REQUIRED.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

### PLASTIC MESH TREE PROTECTION FENCE

NO SCALE

**ENGINEER'S CERTIFICATION**

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

*Anthony Wilson*  
SIGNATURE OF ENGINEER *Anthony Wilson*  
(PRINT NAME BELOW SIGNATURE) DATE: 1/9/14

### TREE CONSERVATION NOTES

#### PRE-CONSTRUCTION ACTIVITIES

##### PRIOR TO THE START OF ANY CONSTRUCTION:

A. THE CONTRACTOR SHALL LOCATE THE LIMITS OF DISTURBANCE (LOD) IN THE FIELD PRIOR TO ANY CONSTRUCTION ACTIVITIES. THEN INSTALL ALONG THE LOD BLAZE ORANGE FENCING. LOD SHALL BE PLACED OUTSIDE OF CRITICAL ROOT ZONES OF TREES TO BE PRESERVED WHEREVER POSSIBLE.

##### B. BLAZE ORANGE FENCING:

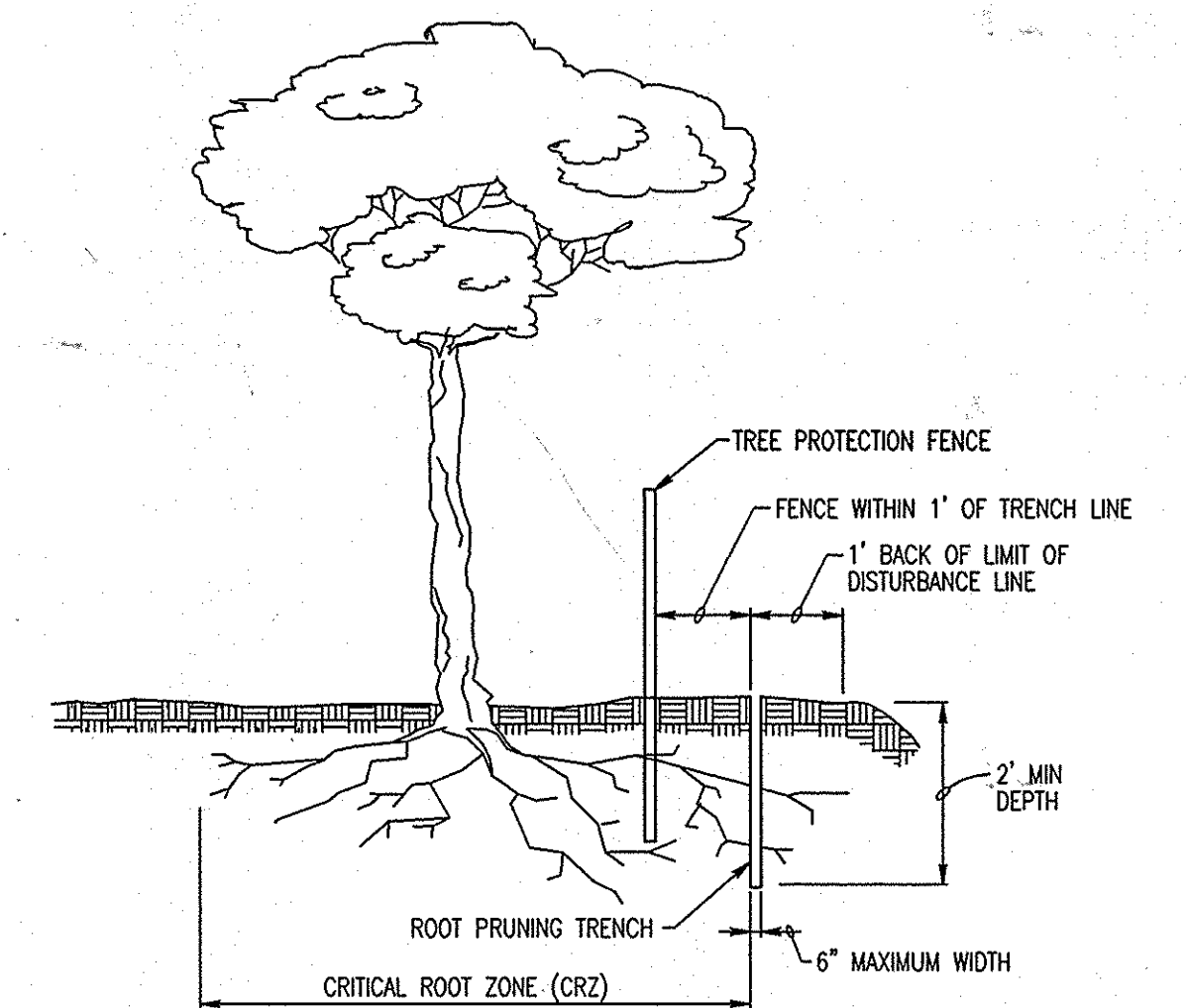
- BLAZE ORANGE FENCING SHALL BE PLACED ON ALL LIMITS OF DISTURBANCE, EXCEPT WHERE INGRESS/EGRESS IS REQUIRED.
- ALL FENCING SHALL BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITIES.
- FENCING SHALL BE FIRMLY ANCHORED AT SPACING NO GREATER THAN EIGHT FEET AND CONSTRUCTED IN A MANNER WHICH PRECLUDES SAGGING.
- ALL FENCING SHALL BE MAINTAINED IN A GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS THE SITUATION WARRANTS, FOR THE PROTECTION OF THE ADJACENT WOODLANDS.

##### C. SIMULTANEOUS WITH CLEARING, THE FOLLOWING STEPS SHOULD BE UNDERTAKEN TO REDUCE STRESS TO EXISTING TREES:

- FERTILIZE TREES WITHIN 20 FEET OF THE CONSTRUCTION AREA AT THE RATE OF 3 POUNDS OF NITROGEN PER 1000 SQUARE FEET OF ROOT ZONE DISTURBED. APPLY FERTILIZER TO ENTIRE CRITICAL ROOT ZONE OUT TO THE BLAZE ORANGE FENCING.
- FERTILIZER SHOULD BE AT LEAST 50 PERCENT SLOW RELEASE NITROGEN AND CONTAIN OTHER ESSENTIAL ELEMENTS AND MICRO-NUTRIENTS.
- WATER CRITICAL ROOT ZONE IMMEDIATELY AFTER APPLYING FERTILIZER TO SATURATE THE TOP 6 INCHES OF SOIL.
- MULCH. 1 TO 4 INCHES DEEP COMPRISED OF WOOD CHIPS OR SHREDDED BARK OR LEAVES. SHALL BE APPLIED IN THE CRITICAL ROOT ZONE ADJACENT TO THE BLAZE ORANGE FENCING (SEE EXISTING TREE MULCHING DETAIL).

#### CONSTRUCTION PHASE

- EXCAVATED AND BACK FILL MATERIAL SHALL NOT BE PLACED OR SIDE CAST WITHIN THE CRITICAL ROOT ZONES OF TREES TO BE PROTECTED.
- CONSTRUCTION EQUIPMENT SHALL NOT BE DRIVEN INTO OR THROUGH PROTECTED TREES. NOR SHALL SWING CRANES OR BACKHOES BE ALLOWED IN THEIR CANOPIES.
- THERE SHALL BE NO STACKING OR STORING SUPPLIES WITHIN THE CRITICAL ROOT ZONES OF TREES TO BE PROTECTED.
- TREES TO BE REMOVED SHALL BE TAKEN OUT WITHOUT DAMAGING PROTECTED TREES.
- ALL GRADING SHALL TAKE PLACE OUTSIDE OF THE CRITICAL ROOT ZONE OF THE TREES TO BE PROTECTED.
- ALL EQUIPMENT SHALL BE KEPT INSIDE THE BLAZE ORANGE FENCING AND WITHIN THE LIMITS OF DISTURBANCE.
- IN THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.



### ROOT PRUNING DETAIL

NO SCALE

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

*John R. Butler*  
HOWARD SOIL CONSERVATION DISTRICT DATE: 1/16/14

"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. 19376, EXPIRATION DATE: 9/22/2015."

**DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND**

*Jean J. D...* DIRECTOR, PUBLIC WORKS DATE: 2/24/14  
*Thomas E. Butler* CHIEF, BUREAU OF ENGINEERING DATE: 2/24/14  
*Steve Chan* CHIEF, BUREAU OF UTILITIES DATE: 2/25/14  
*Ray S. ...* CHIEF, UTILITY DESIGN DEVISION DATE: 2/21/14

PREPARED BY:  
**WHITMAN, REQUARDT & ASSOCIATES, LLP**  
801 South Caroline Street, Baltimore, MD 21201

DES: RBC  
DRN: CYH  
CHK: AUO  
DATE: 11/21/2013

BY	NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL DETAILS

BLANDAIR REGIONAL PARK - PHASE J  
WATER AND SEWER EXTENSION  
CONTRACT NO. 24-4779

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. SC0.4

SCALE AS SHOWN

SHEET 10 OF 10