SWAN POINT WATER MAIN LOOP HOWARD COUNTY, MD CAPITAL PROJECT NO. W8324 CONTRACT NO. 44-4932

DESCRIPTION OF PROJECT:

THE OVERALL PURPOSE OF THIS PROJECT IS TO PROVIDE 200 LINEAR FEET OF 8-INCH WATER MAIN LOOP TO CONNECT THE TWO EXISTING SUBDIVISIONS OF SWAN POINT AND ELKHORN LANDING LOCATED NEAR THE OWEN BROWN SHOPPING CENTER.

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 MAY 2015 BY MERCADO CONSULTANTS, INC. HORIZONTAL AND VERTICAL SURVEY CONTROLS:
- THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE COORDINATE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATION: NO. 0016, N 550279.375, E 1357329.021, ELEV. 358.894, USING SHA RTK GUIDELINES FOR GPS CONTROL SURVEYS ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE ALUMINUM STAMPED DISCS.
- 4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS
- 5. CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES 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 TO THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF
- 5. FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- 8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

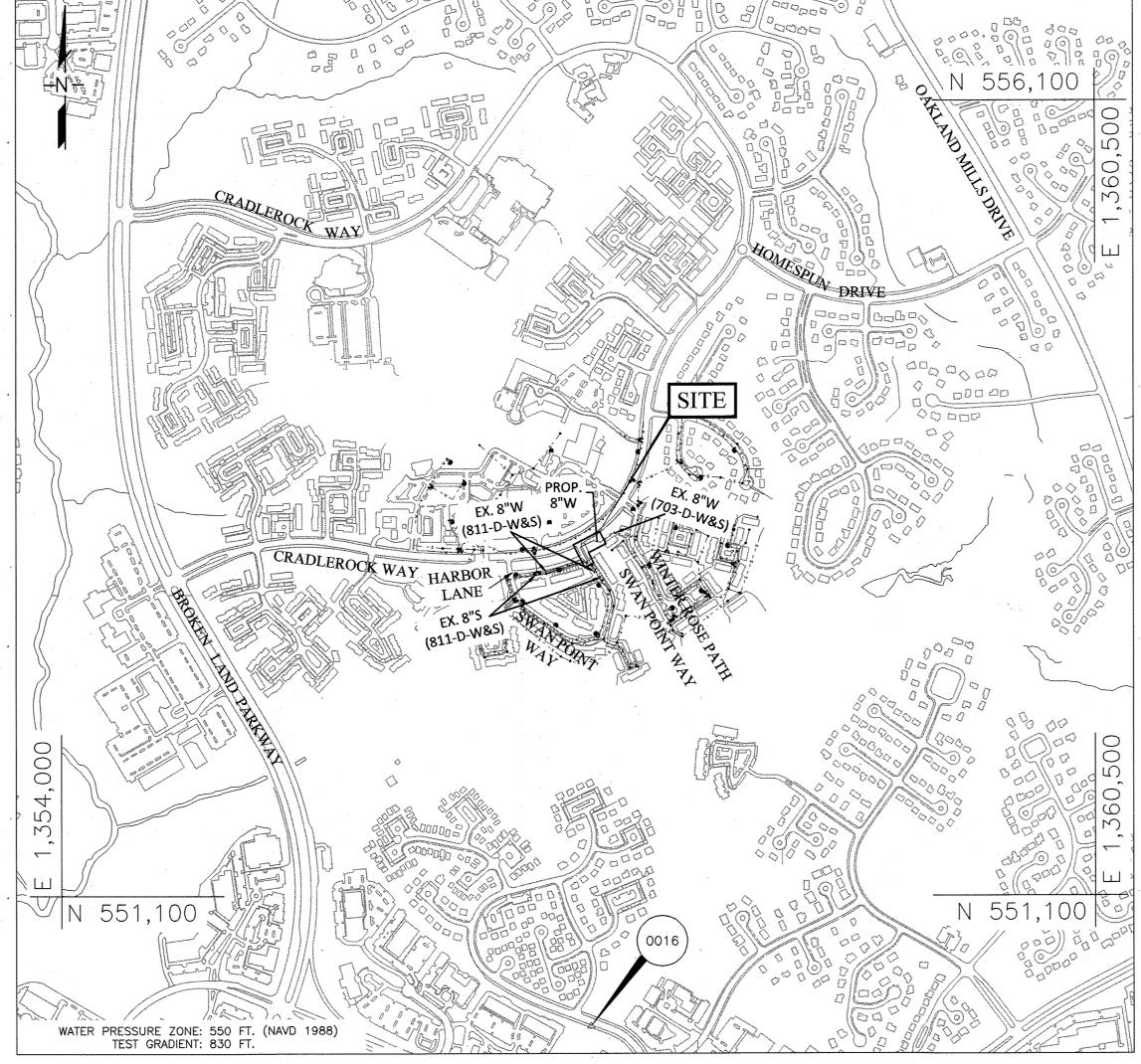
AT&T	1.800.252.1133
BGE (CONSTRUCTION SERVICES)	410.637.8713
BGE (EMERGENCY)	410.685.0123
BUREAU OF UTILITIES	410.313.4900
COLONIAL PIPELINE COMPANY	410.795.1390
MISS UTILITY	1.800.257.7777
STATE HIGHWAY ADMINISTRATION	410.531.5533
VERIZON	1.800.743.0033
MCI WORLDCOM	1.800.624.9675

- 9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- 10. THE CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS ALONG 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.

*		
	INDEX OF SHEETS	
SHEET NO.	DESCRIPTION	
1	TITLE SHEET	
2	PROP. 8" WATER MAIN PLAN & PROFILE	
3	DETAILS	

	Q	UANTITIES		· · · · · · · · · · · · · · · · · · ·
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:				
		OLIANITITY		AS-BUILT
ITEM	UNITS	QUANTITY ESTIMATED	QUANTITY	MANUFACTURER / SUPPLIER
8" DR14 PVC WATER MAIN (RESTRAINED JOINT)	L.F.	248	248	National Pipe & Plastics
8" VALVE	EA.	1	4	MUELLER COMPANY
8"x8" TAPPING SLEEVE	EA.	1	4	SMITH BLAIR

. QUANTITIES IN THIS TABLE ARE SOLELY FOR RECORD PURPOSES. CONTRACTOR SHALL NOT RELY ON THE QUANTITIES IN THE TABLE AND SHALL USE HIS/HER OWN TAKEOFF TO ESTABLISH MATERIALS AND QUANTITIES NEED FOR THIS PROJECT.

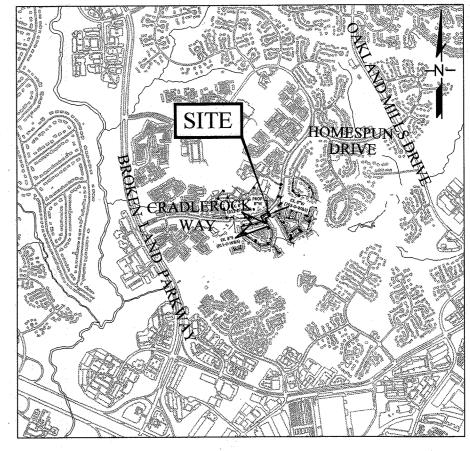


VICINITY MAP SCALE: 1"=600'

RECORP PRAWINGS CERTIFICATION TO THE SEST OF OUR KNOWLEDGE, Theormation and Belief, Based ON INFORMATION PROVICED BY CTHERS, THESE RELORD DRAWINGS SUBSTANTIALLY REPESSENT THE PROJECT AS CONSTRUCTED MICHAEL BAKER INTERNATIONAL

FITTING SCHEDULE - 8"W (STA. 0+00 TO STA. 2+48)			
STATION	FITTING	EASTING	NORTHING
0+00	8"x8" TS&V	553194.6241	1357306.424
0+06.1, 4.5' RT.	CONTINUITY TEST STATION	553200.4041	1357308.3425
0+12.2	8"-45" HORIZ. BEND	553206.1841	1357310.2608
1+08.5	8"-45" HORIZ. BEND	553292.0637	1357266.6116
1+12.5	8"-45" HORIZ. BEND	553295.8643	1357267.8524
2+01.8	8"-45" HORIZ. BEND	553336.4032	1357347.3615
2+26.5	8"-11.25" HORIZ. BEND	553328.7590	1357370.916
2+48	8"-45" HORIZ. BEND	553326.0594	1357392.2475

				2+26.5	8"-11.25" HORIZ. BEND	553328.7590	1357370.916	<u> </u>
				2+48	8"-45" HORIZ. BEND	553326.0594	1357392.247	′5
CATION	DESIGN: EAM							
iese Ed or								
AT I AM SIONAL	DRAWN: EAM							
S OF						·		
<u>21</u>	CHECKED: ERA				,		4. 1.	
5/11/2		4	AS-BUILT			12/22/2025	SVL	!
	DATE: 5/11/2021	NO.		REVISION	and the state of the	DATÉ	BY	600



LOCATION MAP

SCALE: 1"=2000'

WATER NOTES:

- PART II WATER 1. UNLESS OTHERWISE NOTED, ALL PROPOSED WATER MAINS (INCLUDING HYDRANT AND BLOW-OFF LEADS) SHALL BE C900 PVC DR18 RESTRAINED PIPE MEETING THE REQUIREMENTS OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND ALL SUBSEQUENT AMENDMENTS THERETO. 2. ALL PROPOSED WATER MAINS TO HAVE RESTRAINED JOINTS AND FITTINGS.
- 3. TOP OF ALL WATER MAINS TO HAVE A MINIMUM OF 4'-0" OF COVER UNLESS OTHERWISE NOTED. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- 4. ALL FITTINGS SHALL BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE 5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE
- INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM 7. TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD COOD 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
- VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- 10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC 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
- 11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMIT WHERE HIGH DEFLECTING COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900. SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL. FIVE DEGREES SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR 18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE
- 12. 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.

LEGEND:

W	— w — — w —	EXIST. WATER MAIN / VALVE VAULT		STREAM / WATERWAY EDGE
	THE THE	EXIST. WATER HOUSE CONNECTION PROP. WATER MAIN	630E 550	WATER PRESSURE ZONE BOUNDARY
	TW TW	EXIST. WATER MAIN TO BE ABANDONED	₩	SHRUB
		EXIST. SEWER MAIN / MANHOLE EXIST. SEWER HOUSE CONNECTION	þ	PROP. VALVE
—G	G — G —		- №	PROP. FIRE HYDRANT
—E	—— E —— E —	EXIST. GAS SERVICE CONNECTION EXIST. ELECTRIC — UNDERGROUND EXIST. ELECTRIC — OVERHEAD	——————————————————————————————————————	BGE POLE
		EXIST. FIBER OPTIC	0	STREET SIGN
1		EXIST. TELEPHONE - UNDERGROUND EXIST. TELEPHONE - OVERHEAD	⊕ SB−##	BORING LOCATION
· 1		RIGHT OF WAY GUARDRAIL	□ TP-##	TEST PIT LOCATION
. -	X — X — X —	PROPERTY LINE	(13)	CONTINUITY TEST STATION
	— SF. —— SF —— LOD ——	LIMITS OF DISTURBANCE	(S) #	SANITARY MANHOLE ID
-	$ \Delta$ $ \frac{1}{2}$	EXIST. E.O.P. TRAVERSE	CIP	CURB INLET PROTECT
-		TEMPORARY CONST. AREA		PROP. UTILITY R/W
		EXISTING UTILITY R/W		

A5-BUILTS 12/22/2021

TITLE SHEET

SWAN POINT WATER MAIN LOOP SWAN POINT WAY TO WINTER ROSE PATH CAPITAL PROJECT NO.: W8324 CONTRACT NO.: 44-4932 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SHEET 1 OF 3

CHIEF, BUREAU OF UTILITIES CHIEF, UTILITY DESIGN DIVISION

DEPARTMENT OF PUBLIC WORKS

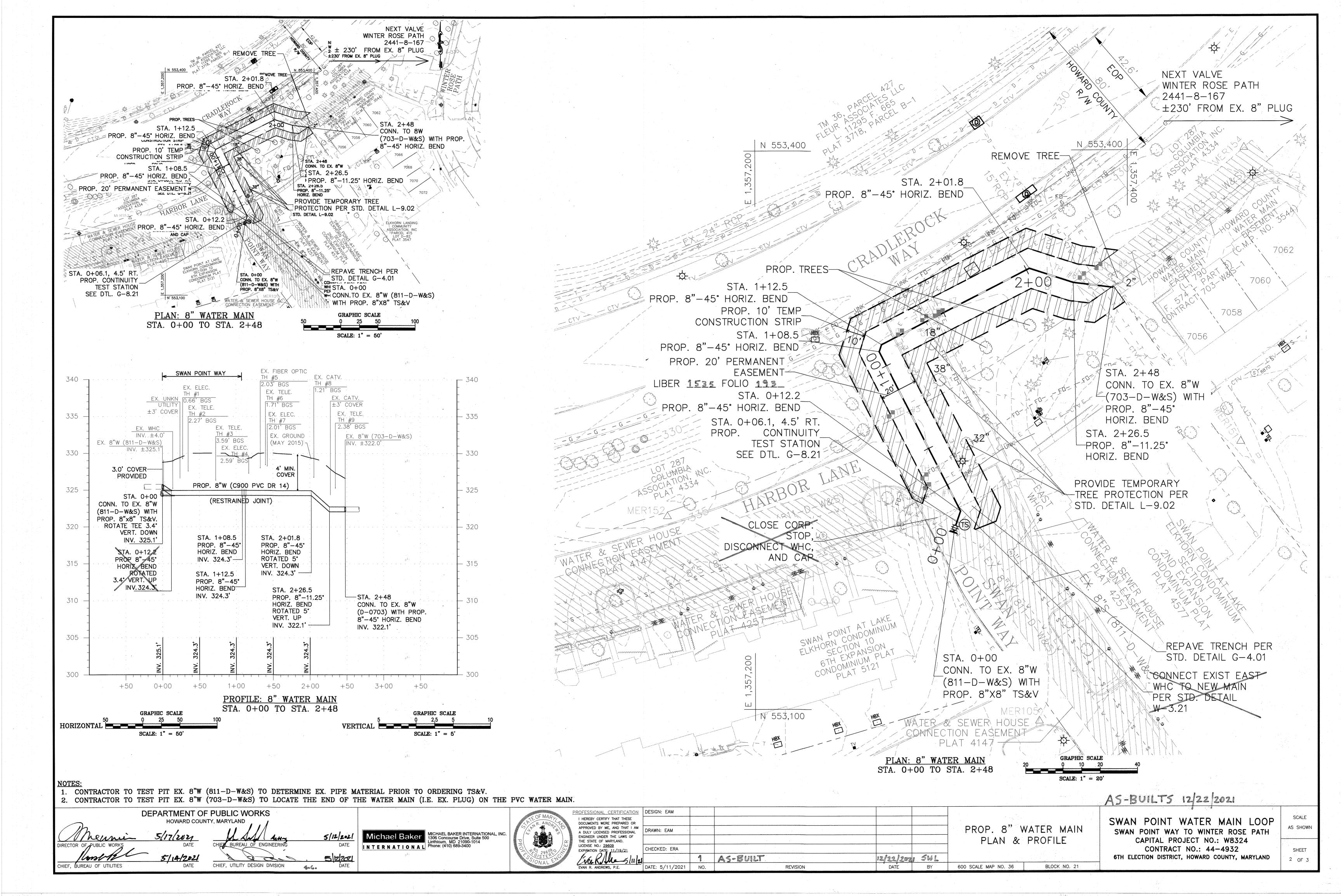
HOWARD COUNTY, MARYLAND

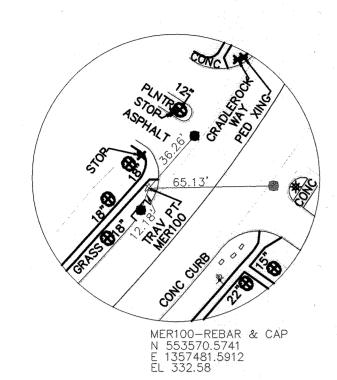
MICHAEL BAKER INTERNATIONAL, INC 1306 Concourse Drive, Suite 500 INTERNATIONAL
Linthicum, MD 21090-1014
Phone: (410) 689-3400

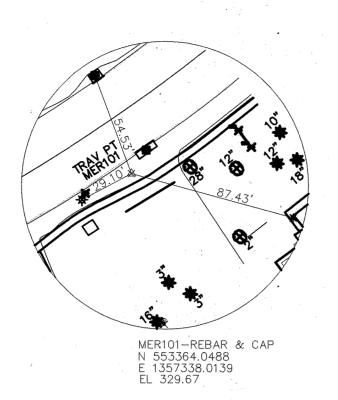


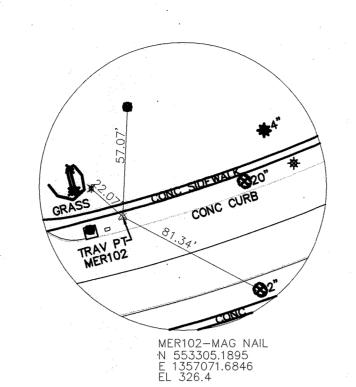
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED APPROVED BY ME, AND THAT A DULY LICENSED PROFESSIO ENGINEER UNDER THE LAWS THE STATE OF MARYLAND. LICENSE NO .: 29609

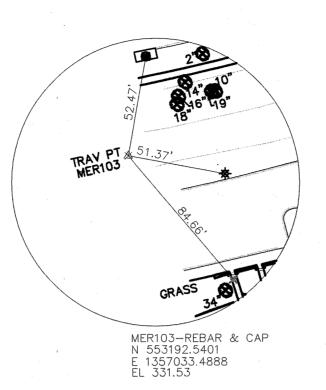
BLOCK NO. 21 O SCALE MAP NO. 36

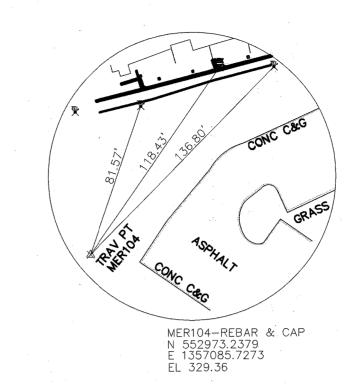


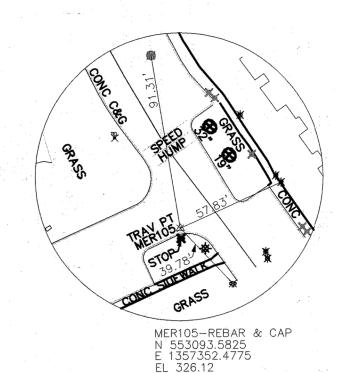


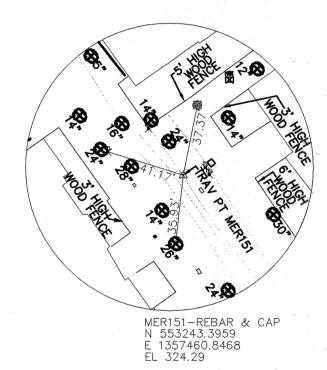


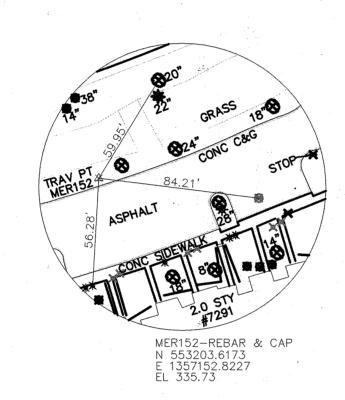


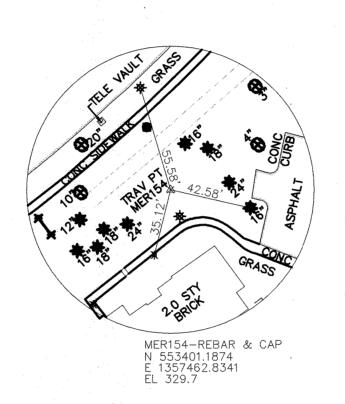


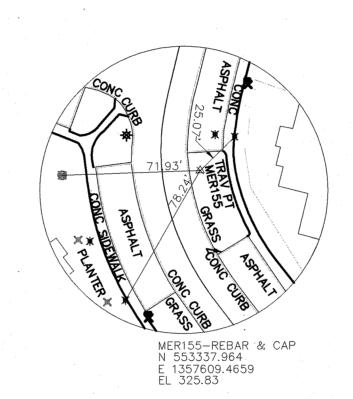






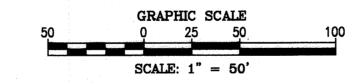






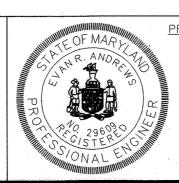
TRAVERSE	COORDINATE	SCHEDULE	
DESCRIPTION	NORTHING	EASTING	ELEVATION
REBAR & CAP	553570.5741	1357481.5912	332.58
REBAR & CAP	553364.0488	1357338.0139	329.67
MAG NAIL	553305.1895	1357071.6846	326.40
REBAR & CAP	553192.5401	1357033.4888	331.53
REBAR & CAP	552973.2379	1357085.7273	329.36
REBAR & CAP	553093.5825	1357352.4775	326.12
REBAR & CAP	553243.3959	1357460.8468	324.29
REBAR & CAP	553203.6173	1357152.8227	335.73
REBAR & CAP	553401.1874	1357462.8341	329.70
REBAR & CAP	553337.9640	1357609.4659	325.83
	DESCRIPTION REBAR & CAP REBAR & CAP MAG NAIL REBAR & CAP REBAR & CAP	DESCRIPTIONNORTHINGREBAR & CAP553570.5741REBAR & CAP553364.0488MAG NAIL553305.1895REBAR & CAP553192.5401REBAR & CAP552973.2379REBAR & CAP553093.5825REBAR & CAP553243.3959REBAR & CAP553203.6173REBAR & CAP553401.1874	REBAR & CAP 553570.5741 1357481.5912 REBAR & CAP 553364.0488 1357338.0139 MAG NAIL 553305.1895 1357071.6846 REBAR & CAP 553192.5401 1357033.4888 REBAR & CAP 552973.2379 1357085.7273 REBAR & CAP 553093.5825 1357352.4775 REBAR & CAP 553243.3959 1357460.8468 REBAR & CAP 553203.6173 1357152.8227 REBAR & CAP 553401.1874 1357462.8341

SURVEY CONTROL INDEX



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND 5/12/2021 5 IZ ZOZI Soco DATE CHIEF, UTILITY DESIGN DIVISION

MICHAEL BAKER INTERNATIONAL, INC. 1306 Concourse Drive, Suite 500 Linthicum, MD 21090-1014 Phone: (410) 689-3400



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.: 29609
EXPIRATION DATE: 11/19/21

EVAN R. ANDREWS, P.E.

DESIGN: EAM

DRAWN: EAM

CHECKED: ERA

DATE: 5/11/2021 NO. REVISION

SURVEY CONTROL INDEX

600 SCALE MAP NO. 36

DATE

BLOCK NO. 21

AS-BUILTS 12 22 2021 SWAN POINT WATER MAIN LOOP SWAN POINT WAY TO WINTER ROSE PATH CAPITAL PROJECT NO.: W8324 CONTRACT NO.: 44-4932
6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

AS SHOWN SHEET