# BALTIMORE COUNTY MARYLAND DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING AND CONSTRUCTION

# FT HOWARD PARK 4", 2", & 3/4" WATER SUPPLY CONNECTIONS CONTRACT NO. 23137 GXO

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### BILL OF MATERIALS

COUNT	ITEM	SIZE
1 WATER VAULT		2'6"
3,500 LF	HDPE WATERLINE - C906/DR9	4"
3	HDPE 1/8 BEND - C906/DR9	4"
1	HDPE 1/16 BEND - C906/DR9	4"
1	HDPE CROSS - C906/DR9	4"
2	HDPE REDUCER - C906-20/DR9	4" x 2"
2	HDPE REDUCER - C906-20/DR11	2" x 3/4"
1	VALVE* & VAULT	4"
240 LF	HDPE WATERLINE - C901-20/DR9	2"
2	HDPE 1/8 BEND - C901-20/DR9	2"
2	VALVE & VAULT	2"
1	HDPE TEE - C901-20/DR9	2"
1	HDPE TEE - C901-20/DR9	2"
560LF	HDPE WATERLINE - C901-20/DR9	3⁄4"
1	HDPE 1/4 BEND - C901-20/DR9	3⁄4"
1	HDPE 1/16 BEND - C901-20/DR9	3⁄4"
1	HDPE 1/32 BEND - C901-20/DR9	3⁄4"
2	VALVE* & VAULT	3/4"
1	HDPE CAP	4"

\*: ALL VALVES TO BE KEROTEST POLYBALL OR APPROVED EQUAL

BRUDIS & ASSOCIATES, INC. 1000 Broken Land Pkwy, Suite 450 Columbia, Maryland 21045 Phone 410-884-3607

### GENERAL NOTES

1, ALL HDPE WATER LINE AND FITTINGS SHALL BE HIGH DENSITY POLYETHYLENE DR9 IN ACCORDANCE WITH AWWA C906/C901-20. PE 4710, CELL CLASS PER ASTM D3350. ALL PIPE DIAMETERS SHOWN ON PLANS ARE IPS. HDPE TRANSITION FITTINGS SHALL MEET ASSE 1061. CONSULT AWWA M55, AND PLASTICS PIPE INSTITUTE FOR REFERENCE, HDPE PIPE SHALL BE HANDLED WITH FABRIC SLINGS, DO NOT USE CHAINS OR WIRE ROPES FOR HDPE PIPE, ROLL OR DROP HDPE PIPE OFF OF TRUCK OR INTO TRENCH. DO NOT DRAG HDPE PIPE OVER SHARP ROCKS OR

2. UNI ESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS, ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE DONE IN ACCORDANCE WITH THE SEPTEMBER 2023 EDITION "BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS", THE SEPTEMBER 2023 EDITION OF THE "BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS FOR CONSTRUCTION" INCLUDING ALL ADDENDA. RESTORATION OF ROAD GEOTEXTILE SHALL BE PER MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS SECTION 919.02 3. ALL ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE BALTIMORE COUNTY DATUM (NAVD 88), ALL COORDINATES SHOWN ON THE PLANS ARE BASED ON THE MARYLAND COORDINATE SYSTEM, NAD 83/11

4. THE EXISTING UTILITIES AND OTHER EXISTING FEATURES THAT ARE SHOWN ON THE PLANS ARE APPROXIMATE, FROM THE BEST AVAILABLE PRECAUTIONS TO AVOID DAMAGE TO AND DISTURBANCE OF EXISTING UTILITIES, CONTRACTOR TO COORDINATE WITH BALTIMORE COUNTY RECREATION AND PARKS TO LOCATE ANY PRIVATE UTILITIES ON SITE. TEST PITTING OF UTILITIES BY THE CONTRACTOR PRIOR TO EXCAVATION MAY BE NECESSARY TO ADEQUATELY VERIFY THE ACTUAL LOCATION AND DEPTH OF EXISTING UTILITIES. ALL TEST PITTING MUST BE APPROVED BY THE ENGINEER. TEST PITTING FOR ALL EXISTING WATER SERVICES SHALL NOT BE PAID SEPARATELY AND SHALL BE INCIDENTAL TO AND INCLUDED IN THE LINEAR PRICE BID FOR VARIOUS SIZED WATER MAINS. THE CONTRACTOR SHALL CONTACT MISS UTILITY AT LEAST FOUR (4) DAYS IN ADVANCE OF ANY CONSTRUCTION (PHONE: 1-800-257-7777), ANY DAMAGE INCURRED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE

5. CONTRACTOR SHALL TEST PIT TO DETERMINE THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES TO BE CROSSED OR CONNECTED.

6, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, TO ADJUST THE LOCATIONS OF FITTINGS AND THE ELEVATION OF THE PIPELINES AS NECESSARY DUE TO ACTUAL FIELD CONDITIONS, ALL SUCH ADJUSTMENTS SHALL COMPLY WITH THE ALL ELEVATIONS OF PROPOSED PIPING REFER TO BOTTOM OF PIPE

7. THE CONTRACTOR SHALL MAINTAIN TRAFFIC MOVEMENT, TRAFFIC CONTROL AND EMERGENCY VEHICLE ACCESS ALONG ALL ROADS DURING ALL

PHASES OF CONSTRUCTION IN CONFORMANCE WITH THE REQUIREMENTS OF BALTIMORE COUNTY 8. THE CONTRACTOR SHALL OPEN ONLY THE SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED IN ONE DAY, THE END OF THE

INCLUDED IN THE PRICE BID FOR THE WATER SERVICE LINES.

10. AS PER STANDARD SPECIFICATION 1011-ABANDONMENT OF WATER APPURTENANCES OR WATER MAINS/LINES SHALL HAVE ALL OPENINGS CAPPED OR PLUGGED, ABANDONED WATER VALVES SHALL HAVE THE FRAME AND COVER REMOVED AND THE VAULT SHALL BE BACKFILLED WITH SAND OR APPROVED EQUAL. ALL COSTS ASSOCIATED WITH THE ABANDONMENT OF APPURTENANCES, VALVES, FIRE HYDRANTS, WATER MAINS, AND ASSOCIATED SERVICES SHALL BE CONSIDERED INCIDENTAL AND SHALL BE OF NO COST TO THE COUNTY, ALL PRICES ARE TO BE

11. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO COMPLETE SUCH WORK.

12. ALL STORM DRAIN APPURTENANCES, DITCHES, ETC., SHALL REMAIN FUNCTIONAL DURING CONSTRUCTION AND SHALL BE PROTECTED BY THE CONTRACTOR FROM SEDIMENT RUNOFF, EXCAVATED MATERIAL SHALL NOT BE PLACED IN OR OBSTRUCT DRAINAGE DITCHES. DITCHES AND OTHER STORM DRAIN FACILITIES SHALL BE RETURNED TO ORIGINAL CONDITION FOLLOWING CONSTRUCTION. DURING TRENCH DEWATERING OPERATIONS NO WATER SHALL BE DISCHARGED DIRECTLY ACROSS THE GROUND OR INTO AN EXISTING BODY OF WATER OR STREAM WITHOUT FLOWING THROUGH AN APPROVED PORTABLE SEDIMENT TANK.

13, UNLESS OTHERWISE STATED ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH BALTIMORE COUNTY SOIL CONSERVATION DISTRICT SEDIMENT AND EROSION CONTROL STANDARD PLAN, PLAN NUMBER: 164-COUNTY-23.

14. ONLY BALTIMORE CITY PERSONNEL OR THEIR DESIGNEE, SHALL OPERATE EXISTING VALVES FOR WATER DISTRIBUTION SYSTEM OUTSIDE OF THE PARK. CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY INSPECTOR TO ARRANGE A SHUTDOWN WITH THE CITY AT LEAST 10 WORKING DAYS PRIOR TO PROPOSED SHUTDOWN. IF THEINSPECTOR IN THE FIELD IS UNAVAILABLE, CALL THE BALTIMORE COUNTY AREA ENGINEER AT 410-887-3531.

15. ALL CONNECTIONS AND SHUTDOWNS SHALL BE COORDINATED WITH BALTIMORE COUNTY CODE ENFORCEMENT, INSTALLATION OF FIXTURES IN COMFORT STATION WILL REQUIRE APPROVAL OF BALTIMORE COUNTY PLUMBING INSPECTOR. NO WORK SHALL BEGIN UNLESS ALL TOOLS, EQUIPMENT, AND MATERIALS NECESSARY FOR THE WORK ARE ON-SITE AND APPROVED BY THE ENGINEER. NO ADDITIONAL COMPENSATION FOR NIGHT OR WEEKEND SHUTDOWNS WILL BE MADE.

16. THE COST FOR CONSTRUCTING UNDER AND/OVER ANY EXISTING UTILITIES AND UTILITY HOUSE SERVICE CONNECTIONS INCLUDING GAS, ELECTRIC, CABLE, STORM DRAINS, WATER. AND SEWER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE SIZED WATER MAIN. THE CONTRACTOR IS TO SUPPORT BRACE AND PROTECT SUCH UTILITIES. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS WHILE EXCAVATING NEAR POWER, TELEPHONE POLES AND UTILITY FACILITIES.

17. FULL TRENCH COMPACTION" IS REQUIRED FOR ALL TRENCHES. MAINS AND SERVICE CONNECTIONS SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER EXCEPT WHERE SPECIFIED.

18, A CONSTRUCTION SCHEDULE SHALL BE SUBMITTED TO BALTIMORE COUNTY PROPERTY MANAGEMENT AND THE DESIGN ENGINEER AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE. SCHEDULE SHALL BE UPDATED AND SUBMITTED MONTHLY AND UPON REQUEST 19. THE CONTRACTOR SHALL INSTALL DETECTABLE WARNING TAPE ON TOP OF ALL PROPOSED PIPE. TAPE SHALL BE BLUE DETECTABLE TAPE INSTALLED 12-INCHES BELOW GROUND SURFACE ABOVE PROPOSED PIPELINES. "CALL DPW \* 410-396-7870". CYCLE OF TEXT TO BE REPEATED EVERY 20 TO 24 INCHES, ALL PROPOSED PIPELINES SHALL BE INSTALLED WITH 30-MM INSULATED COPPER WIRE TAPED TO PIPE EXTERIOR. 20. THE CONTRACTOR SHALL DOCUMENT PRE-CONSTRUCTION CONDITIONS OF THE ENTIRE PROJECT THROUGH PHOTOGRAPHICAL/VIDEO MEANS. THE LEVEL OF DOCUMENTATION IS TO SATISFY CLAIMS AGAINST THE CONTRACTOR THAT THE PROPERTY OWNER (BALTIMORE COUNTY RECREATION AND PARKS DEPARTMENT) MAY CLAIM. AS THIS WORK IS ONLY TO PROTECT THE CONTRACTOR. THERE SHALL BE NO PAYMENT FOR THIS WORK.

21. NOTIFY BALTIMORE COUNTY FIRE MARSHAL AT (410)887-4880 (72) BEFORE TAKING ANY FIRE HYDRANT OUT OF SERVICE. AN ABANDONED 4-INCH FIRE HYDRANT IS PRESENT NEAR THE COMFORT STATION. THIS HYDRANT IS NOT TO BE DISTURBED UNLESS OTHERWISE DIRECTED. 22. A MINIMUM SINGLE LANE OF TRAFFIC IS REQUIRED TO BE MAINTAINED AT ALL TIMES ALONG FT. HOWARD PARK ROAD. ROAD PLATES SHALL OVERLAP TRENCH EDGES BY A MINIMUM OF 1-FT ON BOTH SIDES AND BE ANCHORED PER MDOT STANDARD MD 104.01-86. 23. EXISTING PIPING SHALL BE CUT AND REMOVED AS NEEDED TO INSTALL PROPOSED PIPING. ALL SECTIONS TO BE LEFT IN PLACE WILL BE PLUGGED AT THE POINT OF ABANDONMENT. ALL PIPES ABANDONED IN SITU SHALL BE SEALED WITH MECHANICAL JOINT PLUGS.

## SEQUENCE OF CONSTRUCTION:

1: CONSTRUCT WATER VAULT AT STATION A 34+73.4 WITHIN PARK.

BENCHMARK 13

BENCHMARK 14

2: INSTALL 4" WATERLINE FROM A POINT NEAR EXISTING WATER VALVE ON FT. HOWARD PARK ROAD TO PROPOSED WATER VAULT IN PARK. EXISTING LINE SHALL BE ABANDONED IN PLACE WHERE POSSIBLE AND REMOVED WHERE NECESSARY TO INSTALL PROPOSED

OAK AVE

FREDERICKSBURG

, BLANK AVE

3: INSTALL 2" WATERLINE FROM WATER VAULT AT STATION A 34+73.4 TO CONNECTION POINT AT COMFORT STATION, STATION B 2+32.7. 4: INSTALL 3/4" WATERLINE FOR YARD HYDRANT NEAR COMFORT STATION FROM TEE AT STATION B 1+43.9 TO EXISTING YARD HYDRANT 5: INSTALL 3/4" WATERLINE FROM PROPOSED WATER VAULT AT STATION A 34+73.4 TO YARD HYDRANT AT STATION C 5+47.6. 6: CONDUCT BACTERIOLOGICAL AND PRESSURE TESTS OF INSTALLED LINE.

7: CONNECT 4" HDPE WATER LINE TO EXISTING WATER METER.

DEPT. OF PUBLIC WORKS & TRANSPORTATION

DIRECTO

1: ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL ELEVATION, STABILIZED, AND RE-SEEDED. ALL PAVEMENT MARKINGS WILL BE RESTORED TO INITIAL CONDITIONS.

2: AN ALTERNATIVES ANALYSIS WAS APPROVED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY ON MAY 25, 2023. CONDITIONS WERE PLACED ON THIS APPROVAL TO REDUCE WATER QUALITY IMPACTS INCLUDING RESTORATION OF TEMPORARILY DISTURBED CRITICAL AREA BUFFER.

3: PAVED AREAS IN THE PROJECT AREA HAVE A SUBGRADE FILTER CLOTH LAYER INSTALLED. DISTURBED PAVED AREAS SHALL HAVE NEW GEOTEXTILE SEWN INTO THE EXISTING FILTER CLOTH PER MDOT SPECIFICATION 919.02. GEOTEXTILE SHALL BE CLASS ST PER MDOT SPECIFICATION 919.01: WOVEN, GRAB STRENGTH 300-LB, PUNCTURE STRENGTH 600-LB, PERMITTIVITY 0.05/SEC, MINIMUM APPARENT OPENING SIZE 0.15-MM, TRAPEZOID TEAR STRENGTH 110-LB. REFER TO MDOT SPECIFICATION 919.02 FOR ADDITIONAL REQUIREMENTS. 4. DESIGN IS BASED ON DEMAND FLOW OF 59 GPM, 91.77 PSI. A 4-IN LINE IS BEING PROVIDED TO PROVIDE FOR POTENTIAL FUTURE FACILITIES IN THE PARK.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STAKEOUT, MATERIALS TESTING, AND HYDROSTATIC/BACTERIOLOGICAL TESTING. BACTERIOLOGICAL TESTS SHALL BE CONDUCTED PER AWWA C601-68 AND TEST RESULTS WILL BE PROVIDED TO THE COUNTY FOR APPROVAL.

6. HDPE PRESSURE TESTING WILL BE CONDUCTED IN 2 SECTIONS FOR THE 4" LINE AT 1.5X THE OPERATING PRESSURE (137.7 PSI) IN 2 ROUGHLY-EQUIVALENT SECTIONS NOT TO EXCEED 3,000-LF. ALL OTHER PIPELINES WILL BE TESTED AS INDIVIDUAL SEGMENTS. PRESSURE READINGS WILL BE TAKEN FROM THE LOWEST PIPELINE ELEVATION IN THE SEGMENTS. TESTING WILL BE CONDUCTED IN ACCORDANCE WITH ASTM F2164 AS DESCRIBED IN PPITN-46. MAXIMUM EXPANSION IS 0.13 GAL/100-FT OF PIPE FOR 4", 0.08 GAL/100-FT FOR THE 2", AND 0.04 GAL/100-FT FOR THE 3/4". CONTRACTOR WILL BE REQUIRED TO DOCUMENT ALL TESTING AND PROVIDE RESULTS TO THE COUNTY. 7. PRESSURE TEST ON EXISTING LINE TO BE PERFORMED BY CONTRACTOR.

### BENCHMARK 18: TRAV PT 100 - MAGNETIC NAIL: N 557584.27 E 1470345.35 ELEV: 17.94 SANITARY NOTES

- BENCHMARK 6

BENCHMARK

BENCHMARK

BENCHMARK 10

SHALLOW

CREEK

1. CHLORINATED WATER WILL BE DISCHARGED TO 10-INCH SEWER MANHOLE 31873, DISCHARGES WILL BE LIMITED TO A RATE NOT TO EXCEED 50 GALLONS PER MINUTE (GPM).

BENCHMARK 12; TRAV PT 111 - MAGNETIC NAIL; N 558539,06 E 1470198,36 ELEV; 5,21

BENCHMARK 14: TRAV PT 113 - MAGNETIC NAIL: N 558080.97 E 1470291.00 ELEV: 6.54

BENCHMARK 15: TRAV PT 114 - MAGNETIC NAIL: N 558144.25 E 1470413.12 ELEV: 6.39

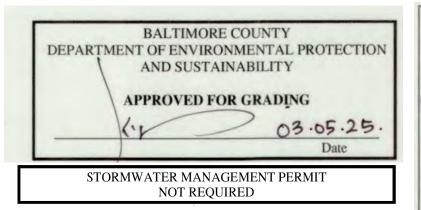
BENCHMARK 16: TRAV PT 115 - MAGNETIC NAIL: N 557959.25 E 1470324.19 ELEV: 7.71

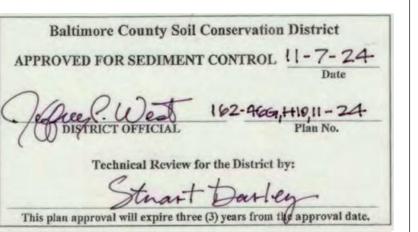
BENCHMARK 17: TRAV PT 101 - MAGNETIC NAIL: N 557774.38 E 1470572.86 ELEV: 15.09

2, FEDERAL REGULATION REQUIRES DOCUMENTATION OF ANY DISCHARGE FROM THE SANITARY SEWER COLLECTION SYSTEM AND THE CAUSE OF THE DISCHARGE. TO MEET THESE REQUIREMENTS. THE DATE, RATE AND DURATION OF CHLORINATED WATER DISCHARGE SHALL BE DOCUMENTED BY THE CONTRACTOR AND/OR INSPECTOR, DOCUMENTATION WILL BE SUBMITTED TO THE SEWER DESIGN SECTION FOLLOWING THE COMPLETION OF ALL CHLORINATED WATER DISCHARGES,

3 ALL DISCHARGES WILL BE RESTRICTED TO DRY WEATHER AND NOT LESS THAN 24 HOURS AFTER ANY RAIN EVENT. 4. ONE (1) BUSINESS DAY PRIOR TO DISCHARGE OF ANY CHLORINATED WATER TO THE SANITARY SEWER, THE CONTRACTOR SHALL NOTIFY THE SEWER DESIGN SECTION AT 410-887-3781 AND THE BUREAU OF UTILITIES AT 410-887-7415 OF THE EXACT LOCATION OF THE PLANNED DISCHARGE. THIS WILL ALLOW THE REMOVAL, AT THEIR DISCRETION, OF ANY FLOW MONITORING

EQUIPMENT LOCATED WITHIN THE SANITARY SYSTEM AND GIVE NOTICE IN THE EVENT OF ANY SEWER BACKUPS OR OVERFLOWS.





**BAY SHORE PARK** VISITOR CTR.

PROJECT SITE

PROPOSED WATERLINES

NORMAL OPERATING PRESSURE:

NOTE: SEE SHEET ES001 (ESC 2 OF 10), 22 OF 30 (2023-3259) FOR EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION.

TOTAL DISTURBED AREA: 14,375 SF/0.33 AC

ESC 1 OF 10

**ESC 1 OF 10** DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88 SHEET DESIGNATION CONTRACT NUMBER

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FORT HOWARD

- BENCHMARK 2

BENCHMARK 12

BENCHMARK 18

- BENCHMARK 15

**BENCHMARK 17** 

- BENCHMARK

· BENCHMARK/

— BENCHMARK

SCALE: 1" = 500'ADC MAP GRID #S 4941-K8, 4941-K9, 4941-J9

- BENCHMARK 5/

- BENCHMARK 1

FT. HOWARD WATERLINE REPLACEMENT

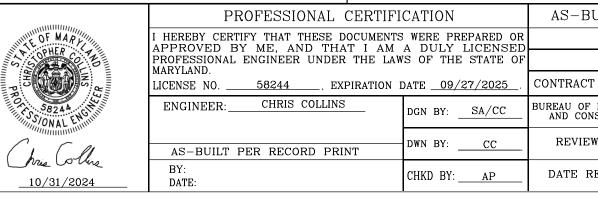
TITLE SHEET 4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

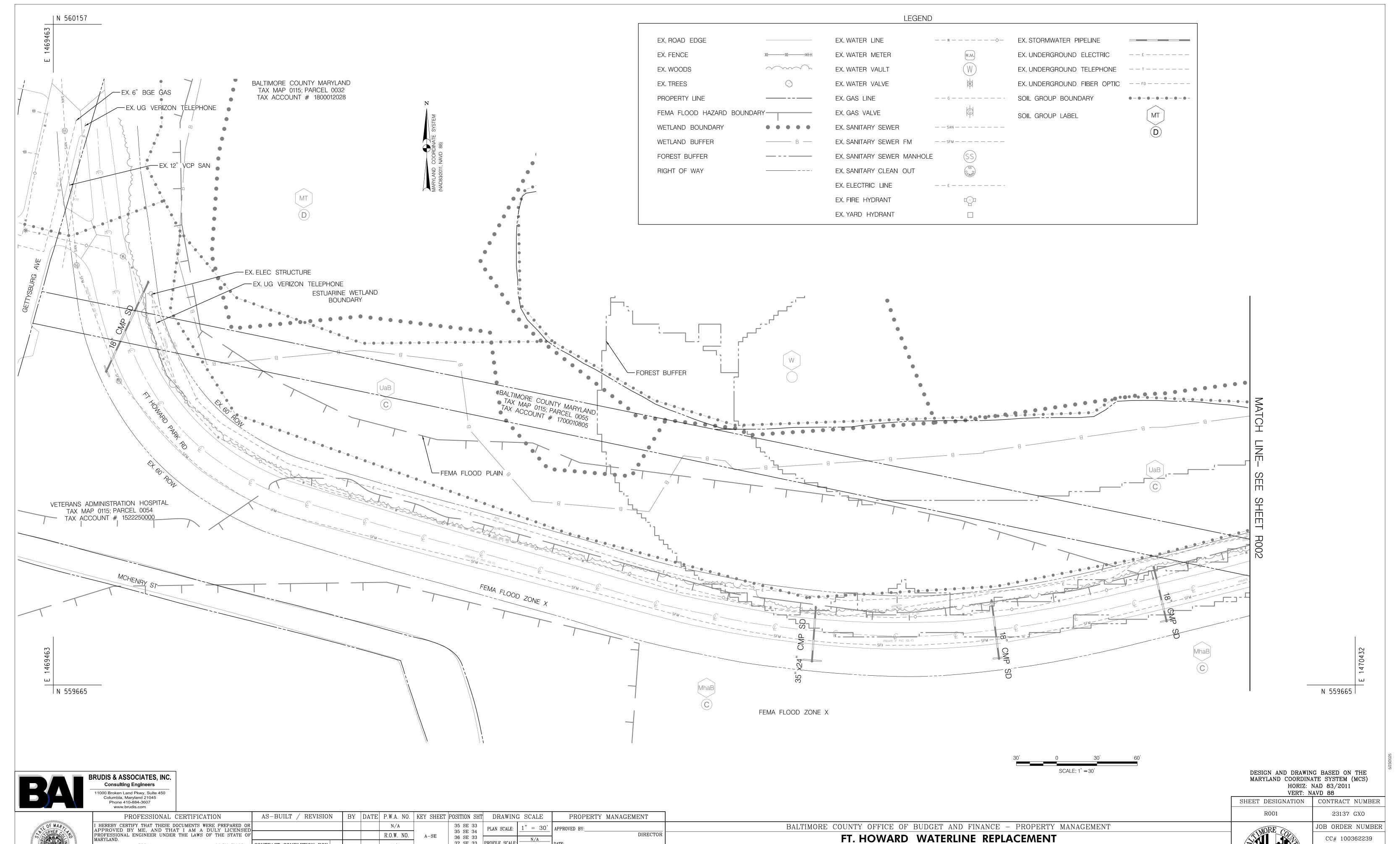


23137 GXO JOB ORDER NUMBER CC# 100362239 SHEET 1 OF 30 DRAWING NUMBER 2023-3238 FILE NO.: 3/9  $\frac{REV.}{03/22}$ 

PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED ( PPROVED BY ME, AND THAT I AM A DULY LICENSI PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE



BY |DATE | P.W.A. NO. | KEY SHEET |POSITION SHT | DRAWING SCALE PROPERTY MANAGEMENT 1" = 500'PLAN SCALE: 35 SE 34 DIRECTO R.O.W. NO. 36 SE 33 37 SE 33 | PROFILE SCALE: ONTRACT COMPLETION BOX HIGHWAYS STRUCTURES STORM DRAINS SEWER REVIEWED BY: APPROVED BY: JM Doran DATE REVIEWED:



SUBDIVISION: SPARROWS POINT

**EXISTING CONDITIONS – 1** 

4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

37 SE 33 | PROFILE SCALE: | -

APPROVED BY:\_

HIGHWAYS STRUCTURES STORM DRAINS SEWER

CONTRACT COMPLETION BOX

REVIEWED BY:

DATE REVIEWED:

CHKD BY: AP

ENGINEER: CHRIS COLLINS

BY: DATE:

10/31/2024

AS-BUILT PER RECORD PRINT

CC# 100362239

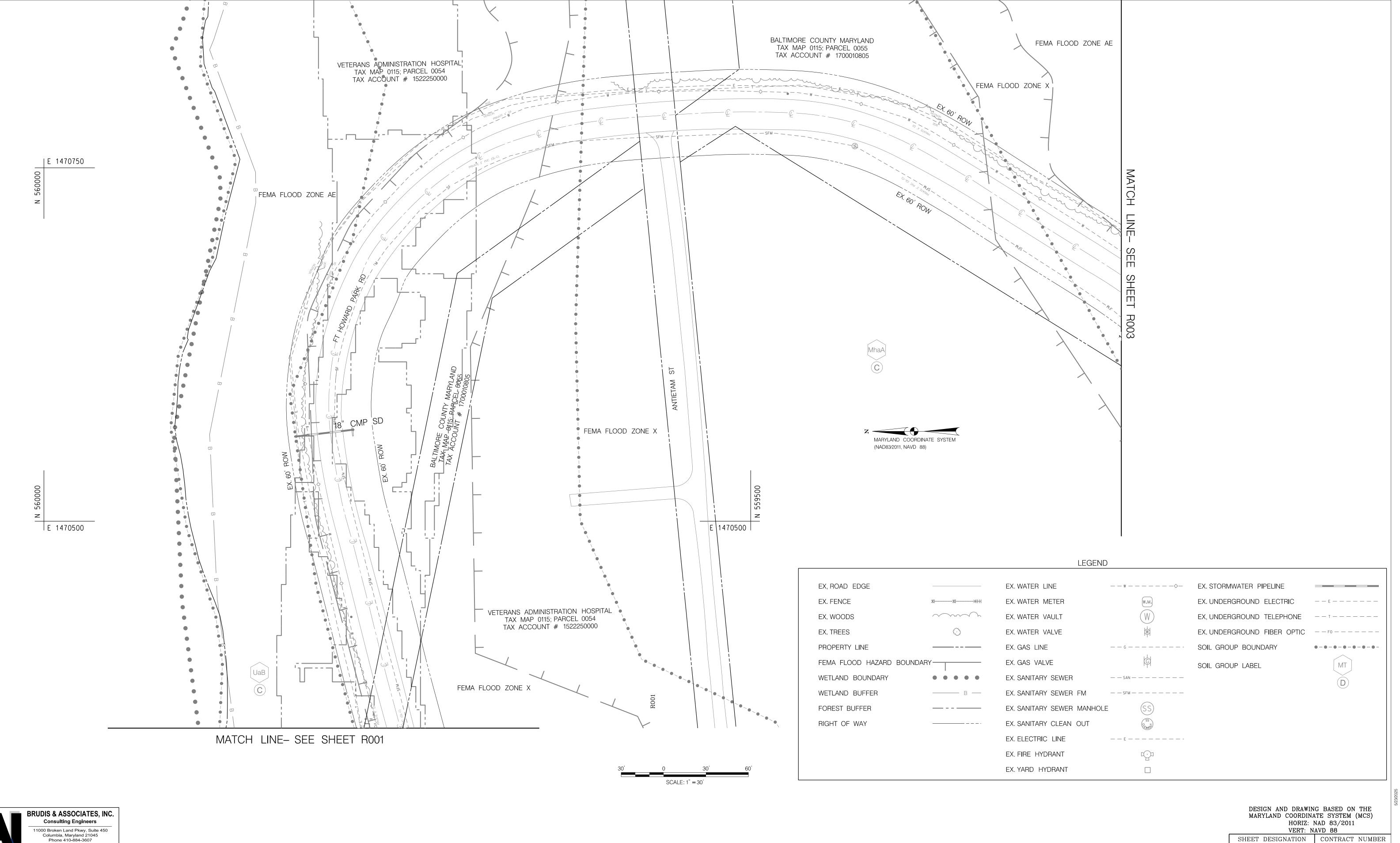
SHEET 2 OF 30

DRAWING NUMBER

2023-3239

FILE NO.: 3/9 03/22

ELECTION DIST. NO.: 15C7



SUBDIVISION: SPARROWS POINT



BY DATE P.W.A. NO. KEY SHEET POSITION SHT DRAWING SCALE PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED O APPROVED BY ME, AND THAT I AM A DULY LICENSE PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE O 35 SE 33 35 SE 34 36 SE 33 PLAN SCALE: 1" = 30' APPROVED BY:\_ DIRECTOR R.O.W. NO. 36 SE 33 37 SE 33 PROFILE SCALE: N/A N/A ONTRACT COMPLETION BOX LICENSE NO. <u>58244</u>, EXPIRATION DATE <u>09/27/2025</u> ENGINEER: CHRIS COLLINS HIGHWAYS STRUCTURES STORM DRAINS SEWER REVIEWED BY: APPROVED BY:\_\_ AS-BUILT PER RECORD PRINT CHKD BY: AP DATE REVIEWED:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT FT. HOWARD WATERLINE REPLACEMENT EXISTING CONDITIONS - 2

4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

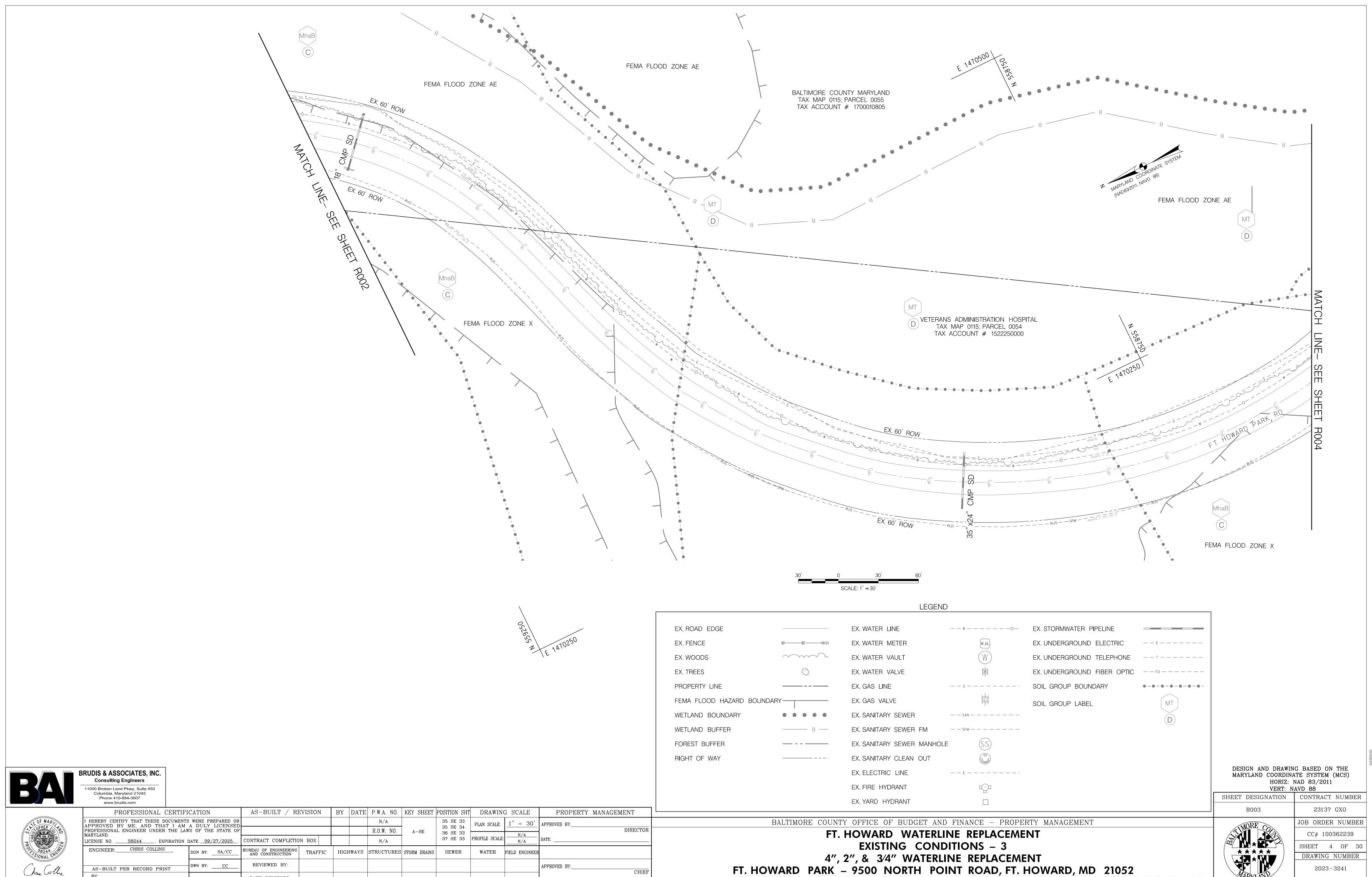
R002
MORE COMMANDA A A A A A A A A A A A A A A A A A A

ELECTION DIST. NO.: 15C7

ET DESIGNATION	CONTRACT NUMB
R002	23137 GXO
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ELECTION DIST. NO.: 15C7

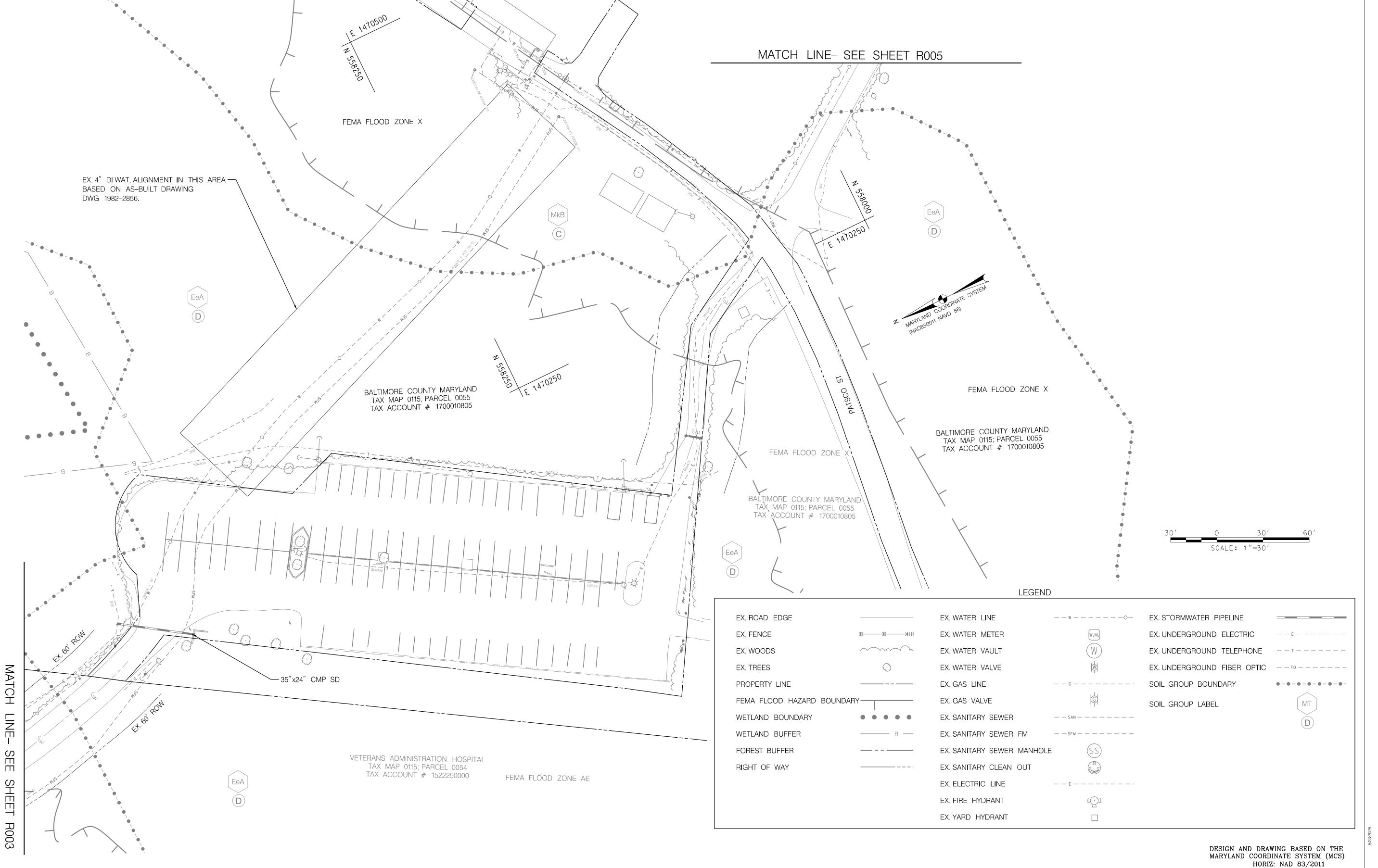


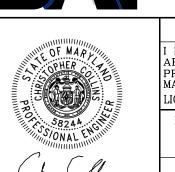
SUBDIVISION: SPARROWS POINT

CHKD BY: AP

10/31/2024

DATE REVIEWED:





10/31/2024

**BRUDIS & ASSOCIATES, INC.** 

1000 Broken Land Pkwy, Suite 450

Columbia, Maryland 21045 Phone 410-884-3607 www.brudis.com AS-BUILT / REVISION BY DATE P.W.A. NO. KEY SHEET POSITION SHT DRAWING SCALE PROPERTY MANAGEMENT PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OF APPROVED BY ME, AND THAT I AM A DULY LICENSEI PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF 35 SE 33 35 SE 34 36 SE 33 PLAN SCALE: 1" = 30' APPROVED BY:\_ DIRECTOR R.O.W. NO. 36 SE 33 37 SE 33 PROFILE SCALE: N/A N/A ONTRACT COMPLETION BOX LICENSE NO. 58244, EXPIRATION DATE 09/27/2025 ENGINEER: CHRIS COLLINS HIGHWAYS STRUCTURES STORM DRAINS SEWER REVIEWED BY: APPROVED BY:\_\_ AS-BUILT PER RECORD PRINT BY: DATE: DATE REVIEWED: CHKD BY: AP

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

### FT. HOWARD WATERLINE REPLACEMENT EXISTING CONDITIONS – 4 4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

R004
A A A A A A A A A A A A A A A A A A A

R004	23137 GXO
MORE CO	JOB ORDER NUMBE
	CC# 100362239
	SHEET 5 OF 3
	DRAWING NUMBER
ARYLAND	2023-3242
ALI LITE	FILE NO.: 3/9 0

VERT: NAVD 88

SHEET DESIGNATION | CONTRACT NUMBER



BALTIMORE COUNTY MARYLAND TAX MAP 0115; PARCEL 0055 TAX ACCOUNT # 1700010805 EX. YARD HYDRANT

FEMA FLOOD ZONE X

BALTIMORE COUNTY MARYLAND

TAX MAP 0115; PARCEL 0055
TAX ACCOUNT # 1700010805

MATCH LINE- SEE SHEET R004

		LEGEND			
EX, ROAD EDGE		EX. WATER LINE	w	EX. STORMWATER PIPELINE	
EX. FENCE	XIXIXI-III	EX. WATER METER	W.M.	EX. UNDERGROUND ELECTRIC	Е
EX. WOODS		EX. WATER VAULT	W	EX, UNDERGROUND TELEPHONE	т
EX. TREES	$\odot$	EX. WATER VALVE		EX. UNDERGROUND FIBER OPTIC	— FO — — — — —
PROPERTY LINE		EX. GAS LINE	G	SOIL GROUP BOUNDARY	•-•-•-
FEMA FLOOD HAZARD BOUN	NDARY——	EX. GAS VALVE		SOIL GROUP LABEL	MT
WETLAND BOUNDARY	• • • •	EX. SANITARY SEWER	— — SAN — — — — — — —		(D)
WETLAND BUFFER	——— в —	EX. SANITARY SEWER FM	— — SFM — — — — — —		
FOREST BUFFER		EX. SANITARY SEWER MANHOLE	E (SS)		
RIGHT OF WAY		EX. SANITARY CLEAN OUT	(SS) (PEANOS)		
		EX. ELECTRIC LINE	—— E ——————		
		EX. FIRE HYDRANT			

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www.brudis.com												
PROFESSIONAL CERTIFICATION		AS-BUILT / RE	EVISION	BY DA	ATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING	G SCALE	PROPERTY	MANAGEMENT
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OF APPROVED BY ME, AND THAT I AM A DULY LICENSEI		)				N/A		35 SE 33 35 SE 34	PLAN SCALE:	1" = 30'	APPROVED BY:	DIDEGE
PROFESSIONAL ENGINEER UNDER MARYLAND.	THE LAWS OF THE STATE O	7				R.O.W. NO.	A-SE	36 SE 33		N/A	1	DIRECTO
LICENSE NO58244, EXP	IRATION DATE <u>09/27/2025</u>	CONTRACT COMPLETIO	N BOX			N/A		37 SE 33	PROFILE SCALE:	N/A	DATE:	
ENGINEER: CHRIS COLLINS	DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWA	YS S	TRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		
AS-BUILT PER RECORD PRIN	DWN BY: CC	REVIEWED BY:									APPROVED BY:	CHI
BY:	CHKD BY: AP	DATE REVIEWED:									DATE:	CIII

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

EX. YARD HYDRANT

### FT. HOWARD WATERLINE REPLACEMENT EXISTING CONDITIONS – 5 4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

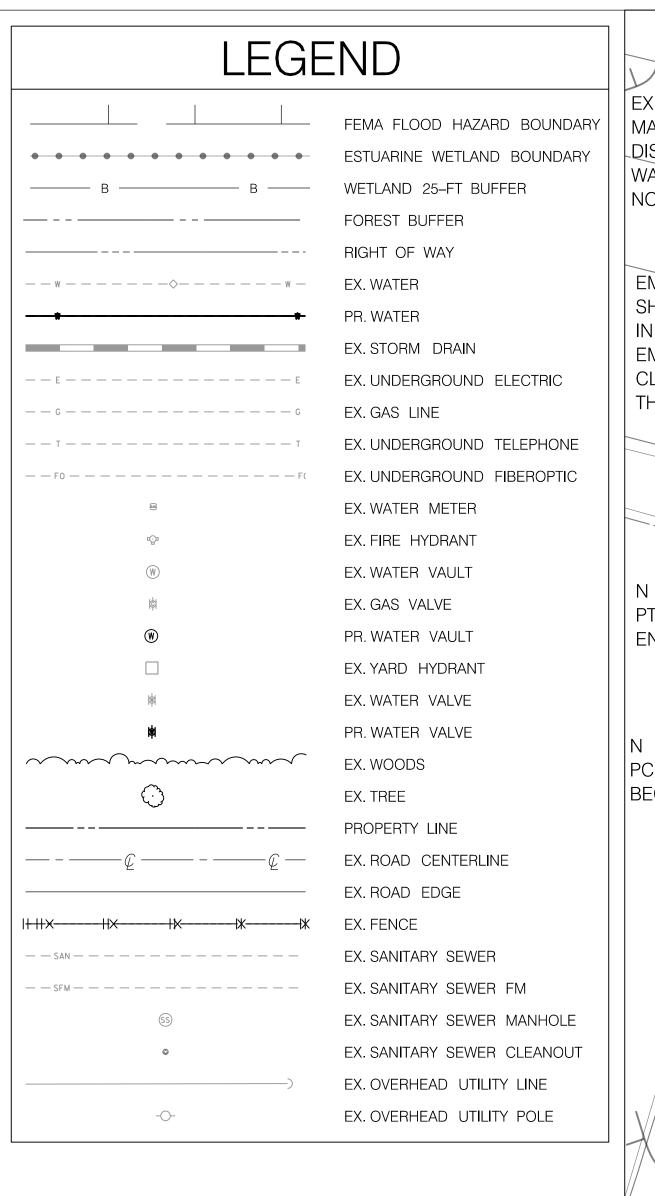
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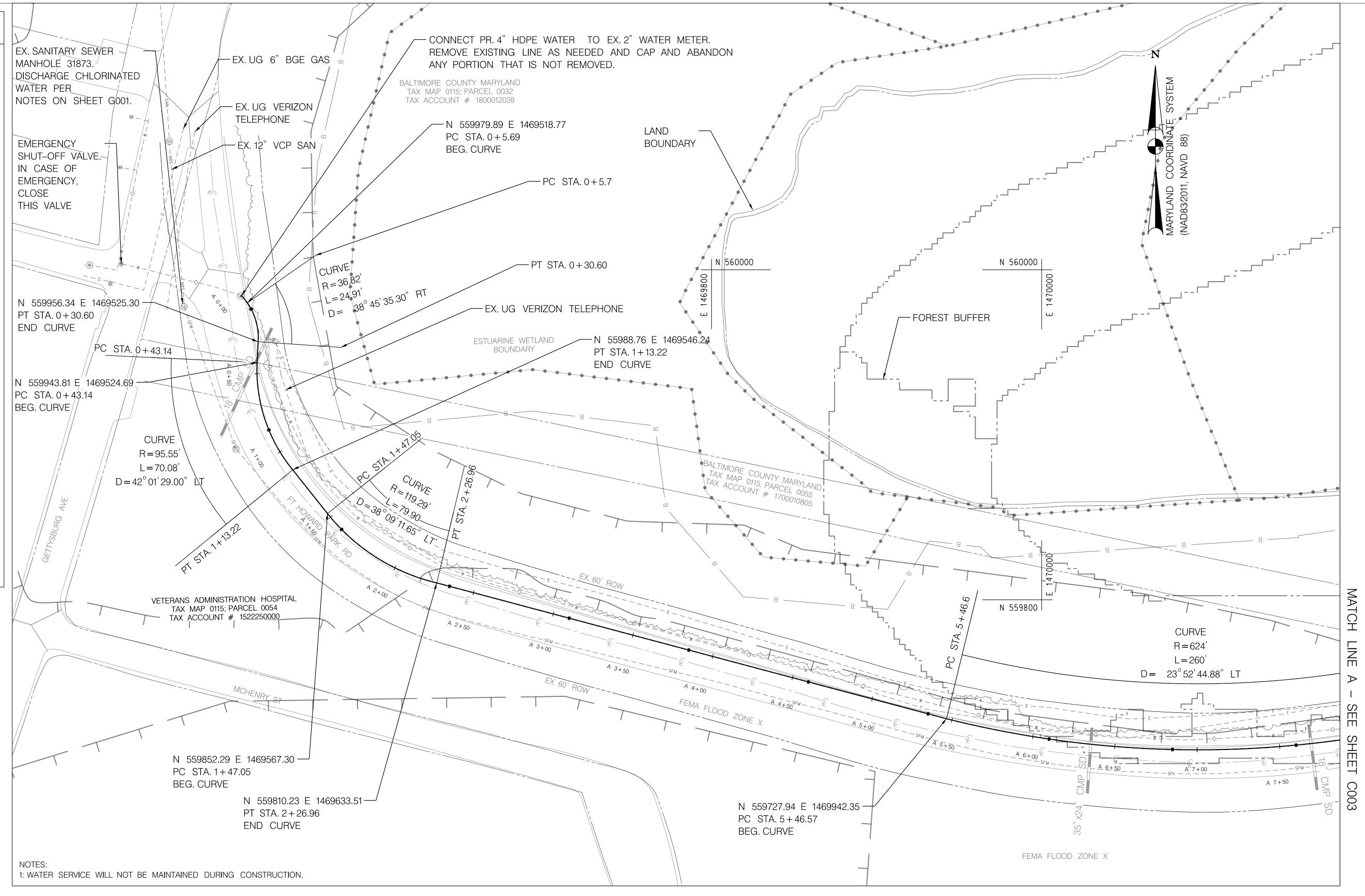
R005	23137 GX0
MORE CO.	JOB ORDER NUMBER
	CC# 100362239
	SHEET 6 OF 30
	DRAWING NUMBER
MARVIND	2023-3243
MITLAL	FILE NO.: 3/9 03/22

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88

SHEET DESIGNATION CONTRACT NUMBER







DIRECTOR

DIRECTOR

SUBDIVISION: SPARROWS POINT

APPROVED BY:\_

COMPONENT COORDINATES					
STATION	NORTH	EAST			
A 0+00 (WATER METER)	559984.15	1469514.78			

AS-BUILT PER RECORD PRINT

BY: DATE:

09/06/2024

BRUDIS & ASSOCIATES, INC. DEPT. OF PUBLIC WORKS & TRANSPORTATION Consulting Engineers APPROVED BY: 1000 Broken Land Pkwy, Suite 450 Columbia, Maryland 21045 Phone 410-884-3607 AS-BUILT / REVISION BY DATE P.W.A. NO. KEY SHEET POSITION SHT DRAWING SCALE PROPERTY MANAGEMENT PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED O APPROVED BY ME, AND THAT I AM A DULY LICENSE PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE O 35 SE 33 35 SE 34 R.O.W. NO. 36 SE 33 37 SE 33 PROFILE SCALE: ONTRACT COMPLETION BOX LICENSE NO. \_\_\_\_\_58244 \_\_\_\_, EXPIRATION DATE \_\_09/27/2025 ENGINEER: CHRIS COLLINS HIGHWAYS STRUCTURES STORM DRAINS SEWER

REVIEWED BY:

DATE REVIEWED:

CHKD BY: AP

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT WATER LINE AND PROFILE - 1 4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

SHEET DESIGNATION	CONTRACT NUMBER
C001	23137 GX0
NORE COL	JOB ORDER NUMBER
	CC# 100362239
******	SHEET 7 OF 30
	DRAWING NUMBER
APVIND	2023-3244

ELECTION DIST. NO.: 15C7

DESIGN AND DRAWING BASED ON THE

MARYLAND COORDINATE SYSTEM (MCS)

VERT: NAVD 88

HORIZ: NAD 83/2011

FILE NO.: 3/9  $\frac{\text{REV.}}{03/22}$ 

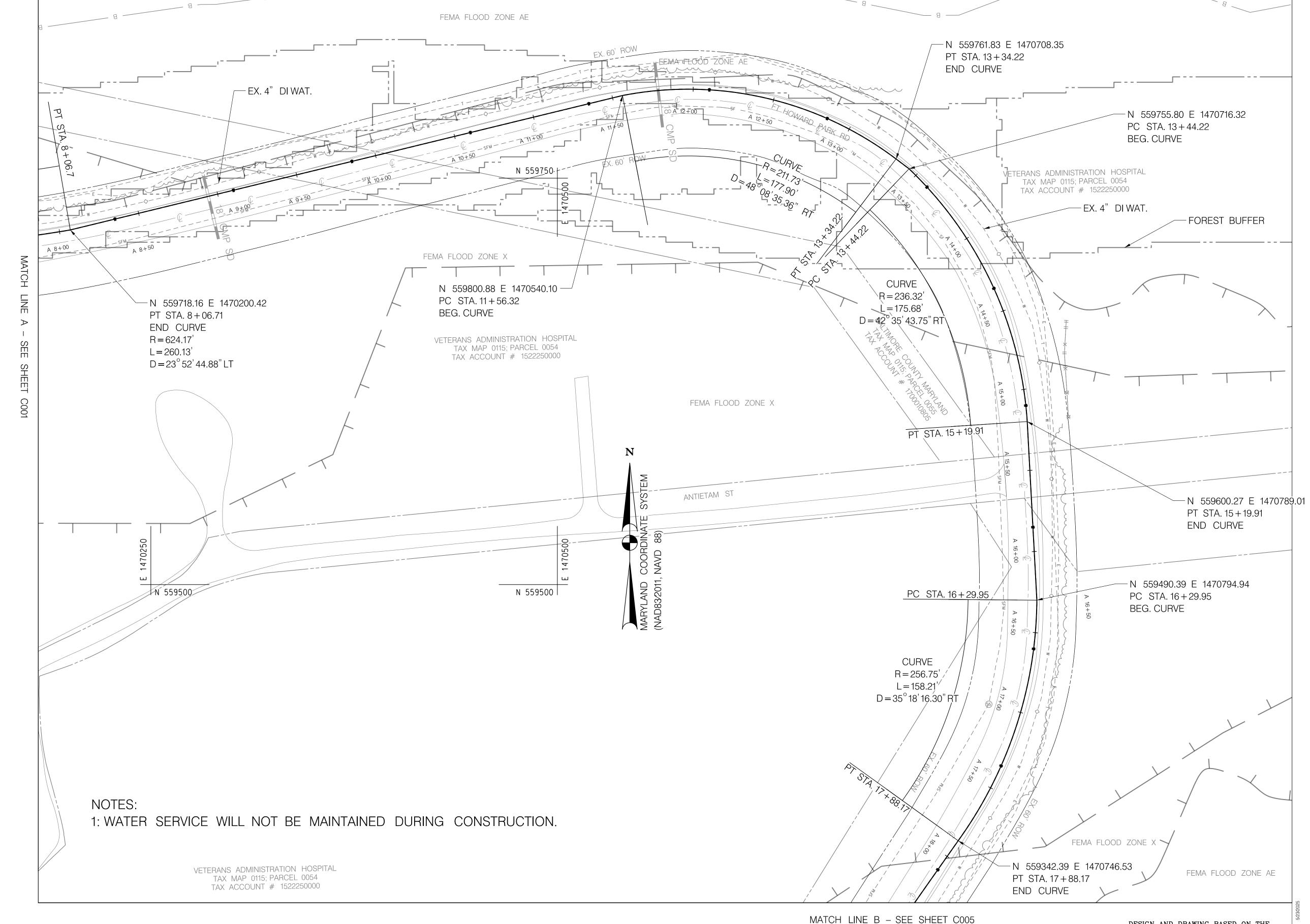
EX. 18" CMP SD CROSSING

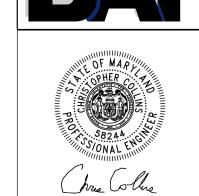
CONNECT TO EX. WATER METER —

STA: 0+00; ELE: 0.3

STA: 0 + 43.1; INV: 0.5; CLEAR: 1.7

4" HDPE WAT: 1" = 30' H; 1" = 3' V





09/06/2024

BRUDIS & ASSOCIATES, INC.

Consulting Engineers

APPROVED BY: 1000 Broken Land Pkwy, Suite 450 DIRECTOR Columbia, Maryland 21045 Phone 410-884-3607 AS-BUILT / REVISION BY DATE P.W.A. NO. KEY SHEET POSITION SHT DRAWING SCALE PROPERTY MANAGEMENT PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED O APPROVED BY ME, AND THAT I AM A DULY LICENSE PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE O 35 SE 33 35 SE 34 N/A DIRECTOR R.O.W. NO. 36 SE 33 37 SE 33 PROFILE SCALE: — CONTRACT COMPLETION BOX LICENSE NO. \_\_\_\_\_58244 \_\_\_\_, EXPIRATION DATE \_\_09/27/2025 N/A ENGINEER: CHRIS COLLINS HIGHWAYS STRUCTURES STORM DRAINS SEWER REVIEWED BY: APPROVED BY:\_\_ AS-BUILT PER RECORD PRINT BY: DATE: DATE REVIEWED: CHKD BY: AP

DEPT. OF PUBLIC WORKS & TRANSPORTATION

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88 SHEET DESIGNATION CONTRACT NUMBER

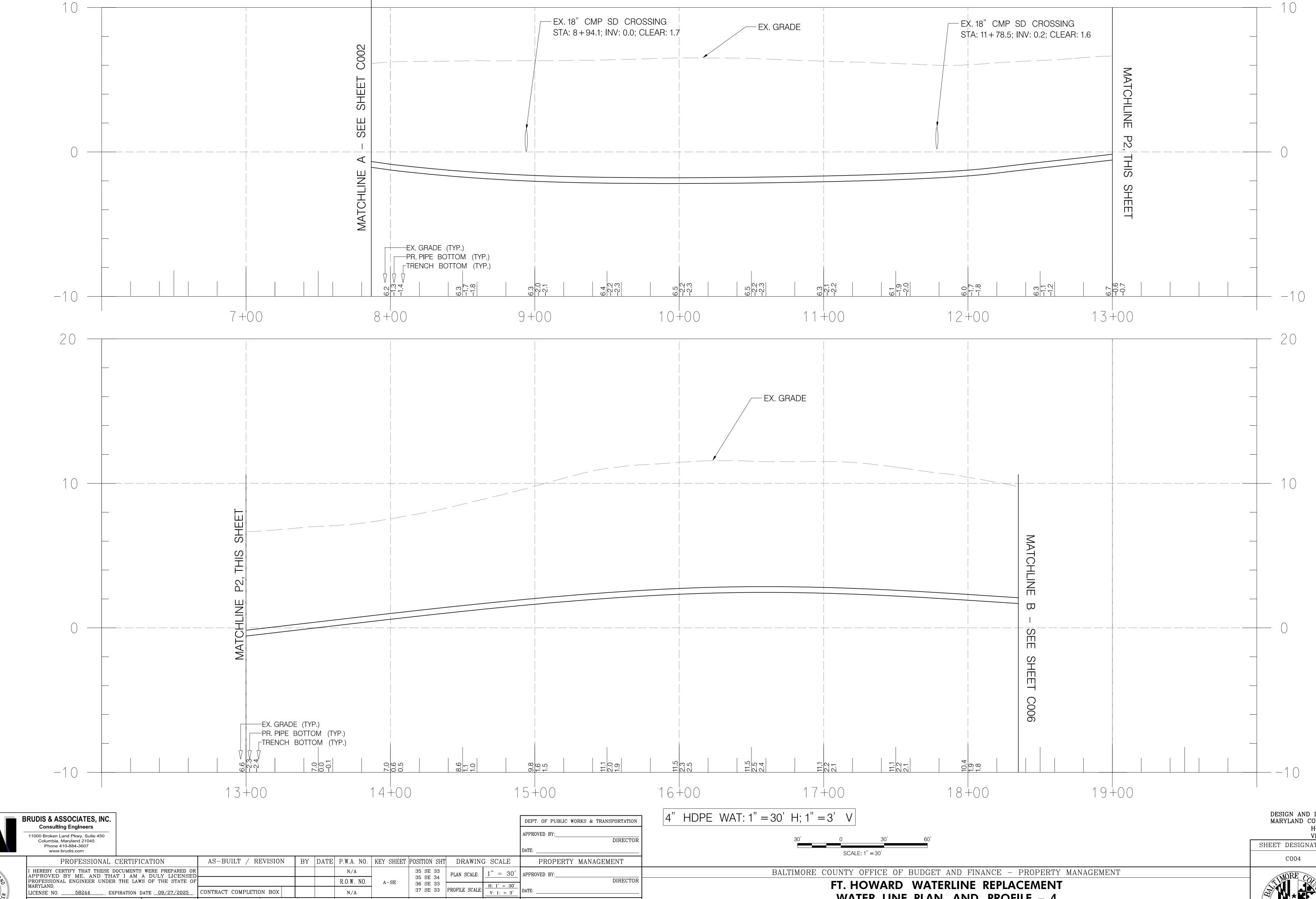
BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE - 3 4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7



23137 GXO JOB ORDER NUMBER CC# 100362239 SHEET 9 OF 30 DRAWING NUMBER 2023-3246

FILE NO.: 3/9 03/22



DIRECTOR

SUBDIVISION: SPARROWS POINT

APPROVED BY:\_\_\_

FT. HOWARD WATERLINE REPLACEMENT

WATER LINE PLAN AND PROFILE - 4

4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

R.O.W. NO.

HIGHWAYS STRUCTURES STORM DRAINS SEWER

CONTRACT COMPLETION BOX

REVIEWED BY:

DATE REVIEWED:

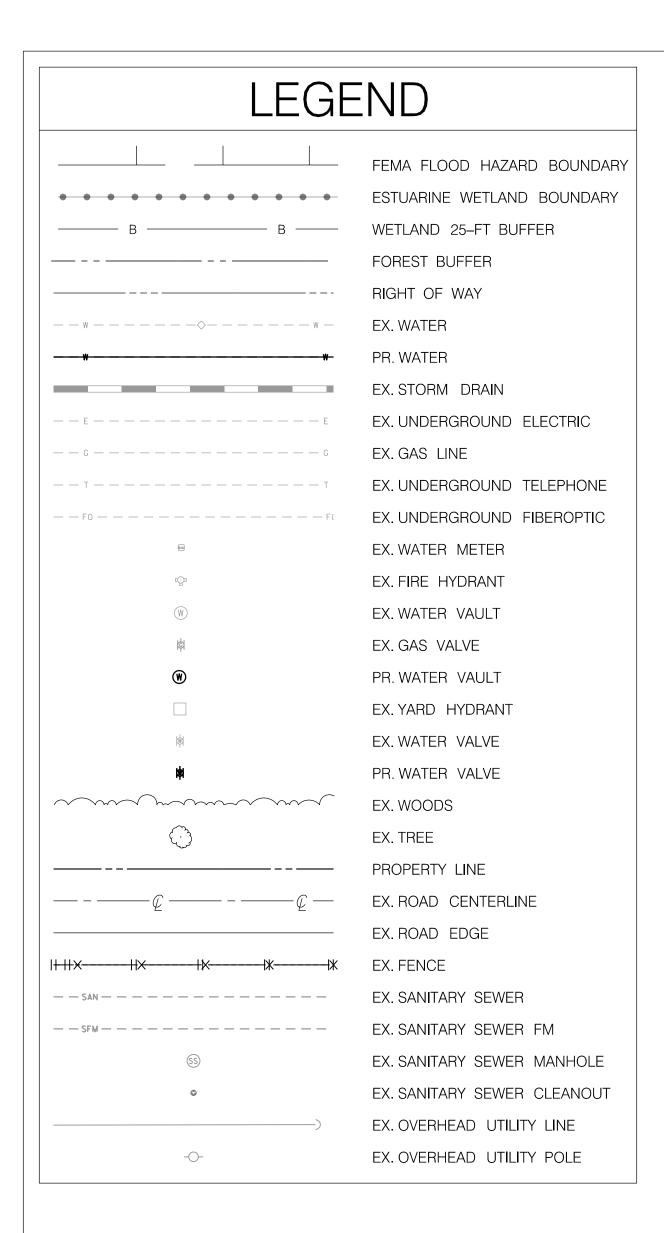
CHKD BY: AP

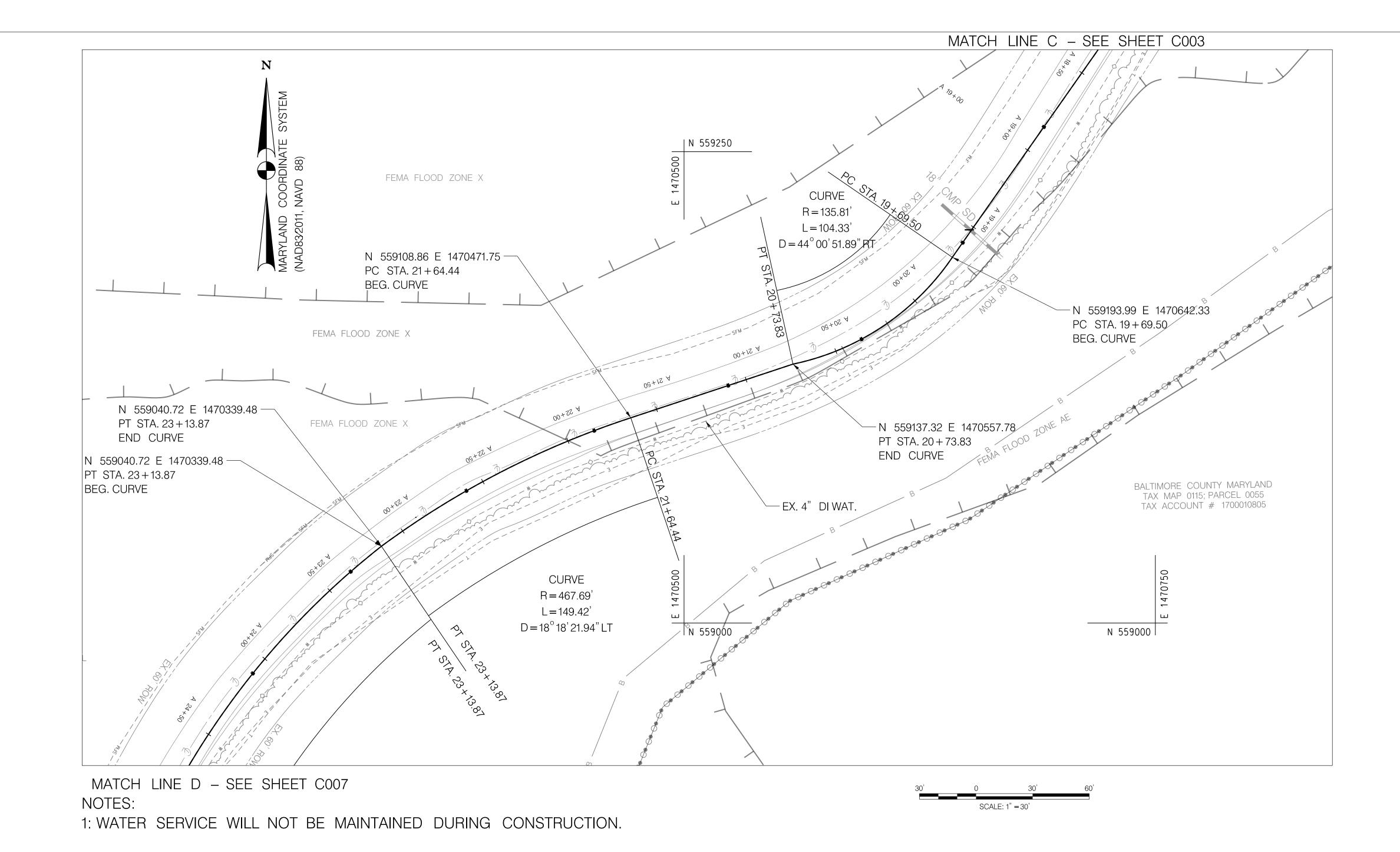
ENGINEER: CHRIS COLLINS

BY: DATE:

09/06/2024

AS-BUILT PER RECORD PRINT







09/06/2024

DIRECTOR BY DATE P.W.A. NO. KEY SHEET POSITION SHT DRAWING SCALE AS-BUILT / REVISION PROPERTY MANAGEMENT PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED CAPPROVED BY ME, AND THAT I AM A DULY LICENSE 35 SE 33 35 SE 34 DIRECTOR R.O.W. NO. 36 SE 33 37 SE 33 PROFILE SCALE: N/A CONTRACT COMPLETION BOX LICENSE NO. 58244 EXPIRATION DATE 09/27/2025 N/A ENGINEER: CHRIS COLLINS HIGHWAYS STRUCTURES STORM DRAINS SEWER REVIEWED BY: APPROVED BY:\_\_ AS-BUILT PER RECORD PRINT BY: DATE: CHKD BY: AP DATE REVIEWED:

DEPT. OF PUBLIC WORKS & TRANSPORTATION

SUBDIVISION: SPARROWS POINT

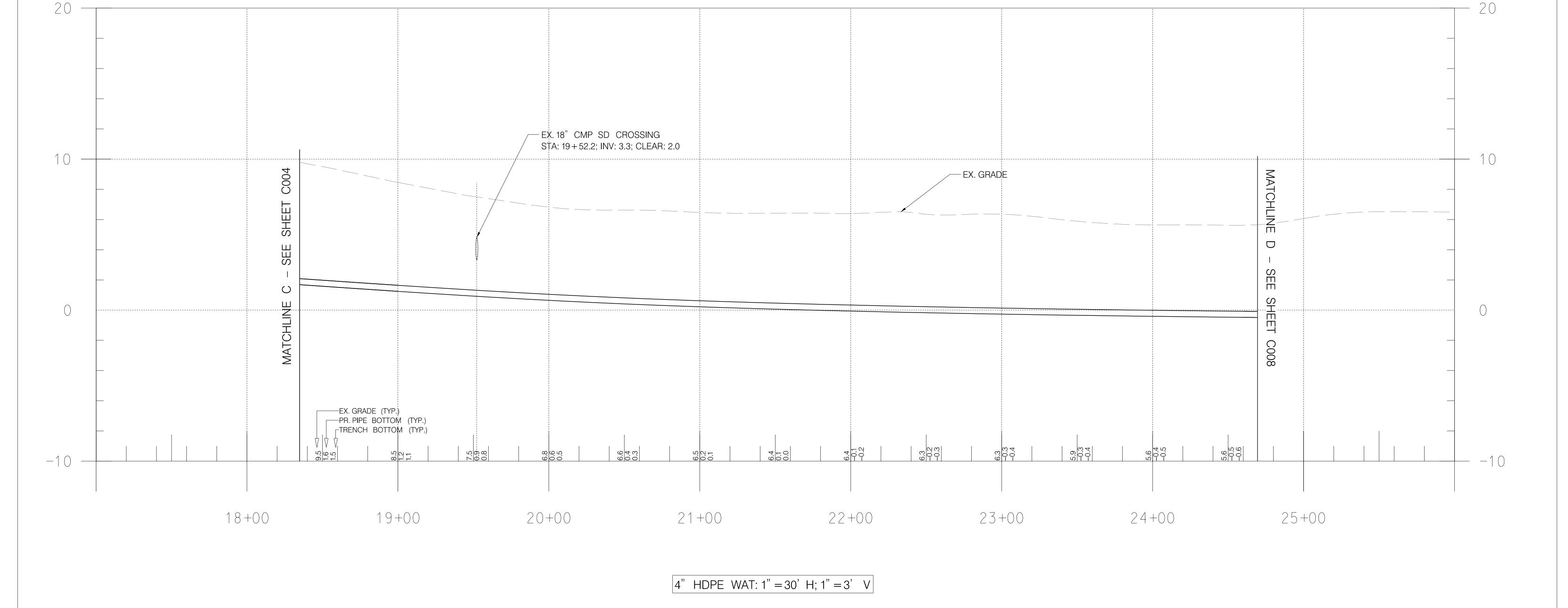
BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE - 5 4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

ELECTION DIST. NO.: 15C7

C005	23137 GXO
MORE CO	JOB ORDER NUM
	CC# 10036223
	SHEET 11 OF
	DRAWING NUME
ARVI AND	2023-3248
WITTEN	FILE NO · 3/0

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88 SHEET DESIGNATION | CONTRACT NUMBER



BRUDIS & ASSOCIATES, INC.
Consulting Engineers DEPT. OF PUBLIC WORKS & TRANSPORTATION 11000 Broken Land Pkwy, Suite 450 Columbia, Maryland 21045 Phone 410-884-3607 APPROVED BY:\_ DIRECTOR AS-BUILT / REVISION BY DATE P.W.A. NO. KEY SHEET POSITION SHT DRAWING SCALE PROPERTY MANAGEMENT PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OF APPROVED BY ME, AND THAT I AM A DULY LICENSEI PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF N/A DIRECTOR R.O.W. NO. CONTRACT COMPLETION BOX LICENSE NO. 58244, EXPIRATION DATE 09/27/2025 N/A ENGINEER: CHRIS COLLINS HIGHWAYS STRUCTURES STORM DRAINS SEWER REVIEWED BY: APPROVED BY:\_\_\_ AS-BUILT PER RECORD PRINT BY: DATE: DATE REVIEWED: CHKD BY: AP 09/06/2024

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE - 6 4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

C006 23137 GXO JOB ORDER NUMBER CC# 100362239 SHEET 12 OF 30 DRAWING NUMBER 2023-3249 FILE NO.: 3/9 REV. 03/22

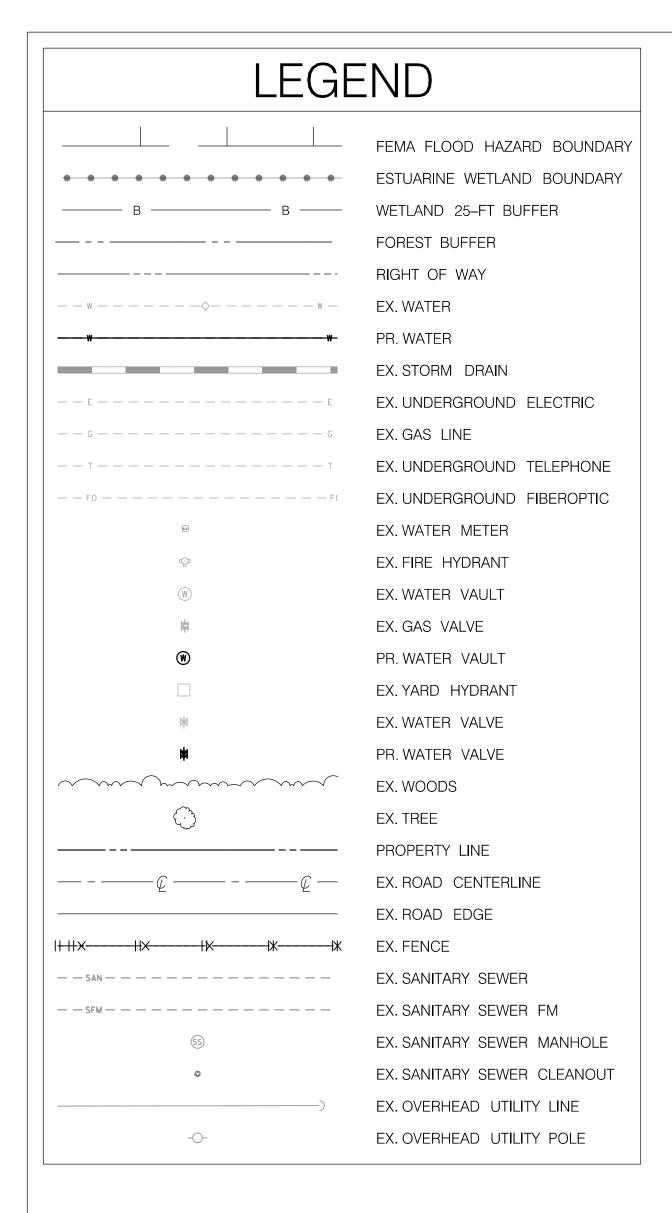
DESIGN AND DRAWING BASED ON THE

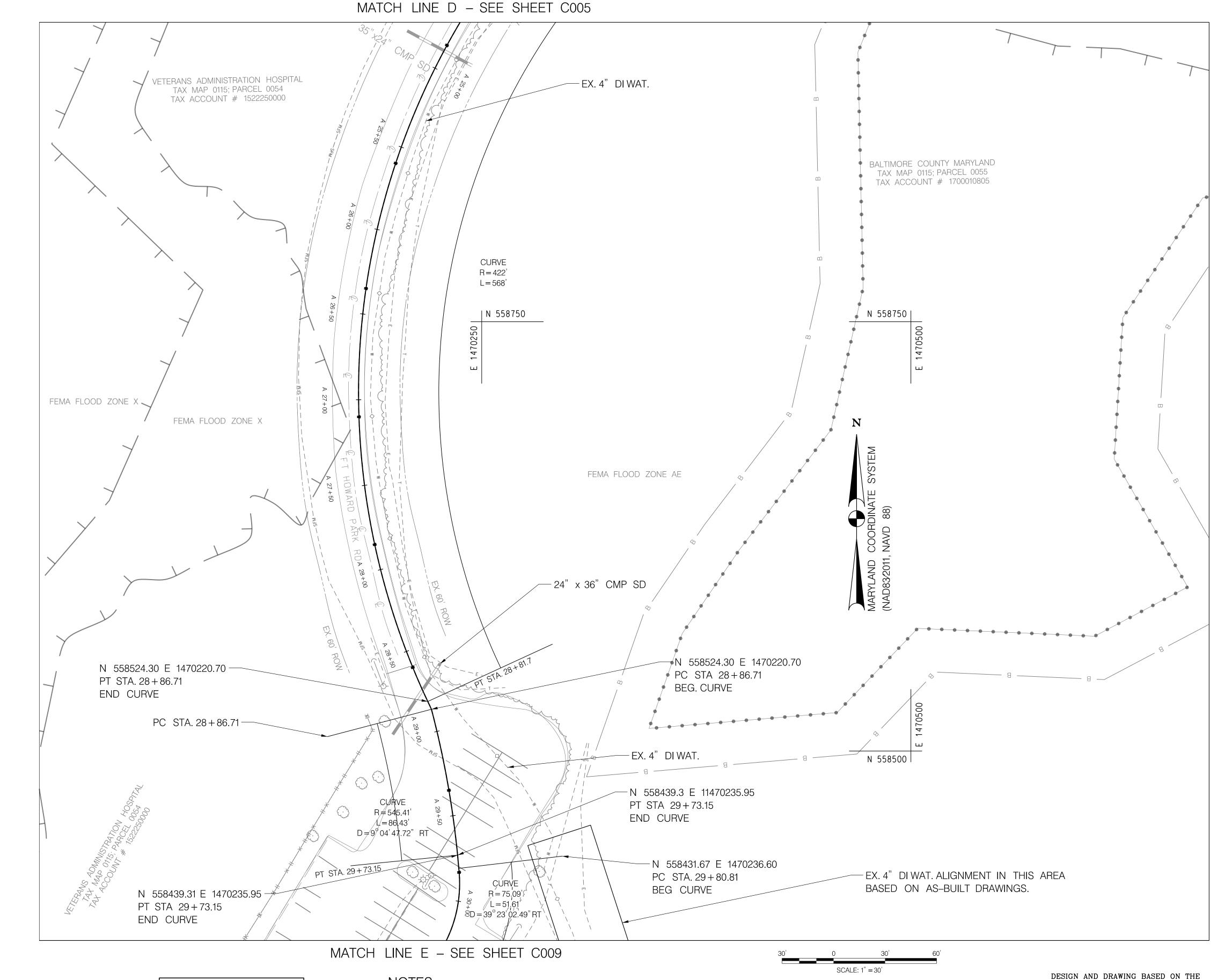
MARYLAND COORDINATE SYSTEM (MCS)

VERT: NAVD 88

SHEET DESIGNATION | CONTRACT NUMBER

HORIZ: NAD 83/2011







09/06/2024

www.brudis.com											DATE:			
PROFESSIONAL (	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION		BY DATE	P.W.A. NO.	W.A. NO. KEY SHEET		KEY SHEET POSITION SHT		T DRAWING SCALE		PROPERTY MANAGEMENT	
	Y CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR YED BY ME. AND THAT I AM A DULY LICENSED					N/A		35 SE 33 35 SE 34	PLAN SCALE: $1" = 3$	1" = 30'	APPROVED BY:			
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.					R.O.W. NO.	A-SE		36 SE 33		N/A	DIRE	CTOR		
	PIRATION DATE _	09/27/2025 .	CONTRACT COMPLETION	N BOX		N/A		37 SE 33	PROFILE SCALE:		DATE:			
ENGINEER: CHRIS COLLINS	— DGN I	BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER				
AS-BUILT PER RECORD PRIN	NT DWN 1	BY: <u>CC</u>	REVIEWED BY:								APPROVED BY:	CHIEF		
BY: DATE:	CHKD	BY:AP	DATE REVIEWED:								DATE:			

DEPT. OF PUBLIC WORKS & TRANSPORTATION

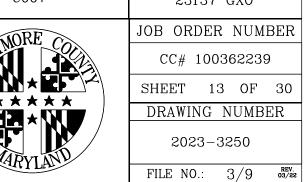
APPROVED BY:\_

NOTES: 1: WATER SERVICE WILL NOT BE MAINTAINED DURING CONSTRUCTION.

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE - 7 4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 ELECTION DIST. NO.: 15C7 SUBDIVISION: SPARROWS POINT

HORIZ: NAD 83/2011 VERT: NAVD 88 SHEET DESIGNATION | CONTRACT NUMBER 23137 GXO



MARYLAND COORDINATE SYSTEM (MCS)



JOB ORDER NUMBER CC# 100362239 SHEET 13 OF 30 DRAWING NUMBER 2023-3250

BRUDIS & ASSOCIATES, INC.

Consulting Engineers

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 ELECTION DIST. NO.: 15C7 SUBDIVISION: SPARROWS POINT

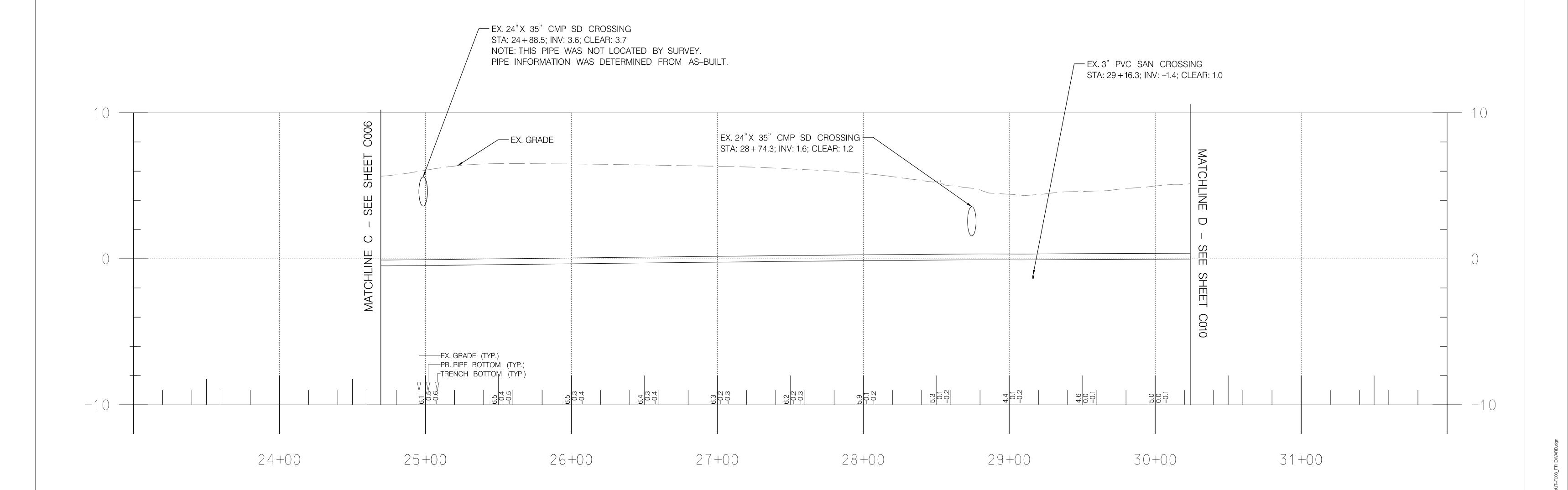
BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE - 8 4", 2", & 3/4" WATERLINE REPLACEMENT

23137 GXO JOB ORDER NUMBER CC# 100362239 SHEET 14 OF 30 DRAWING NUMBER 2023-3251 FILE NO.: 3/9 REV. 03/22

HORIZ: NAD 83/2011 VERT: NAVD 88 SHEET DESIGNATION | CONTRACT NUMBER C008

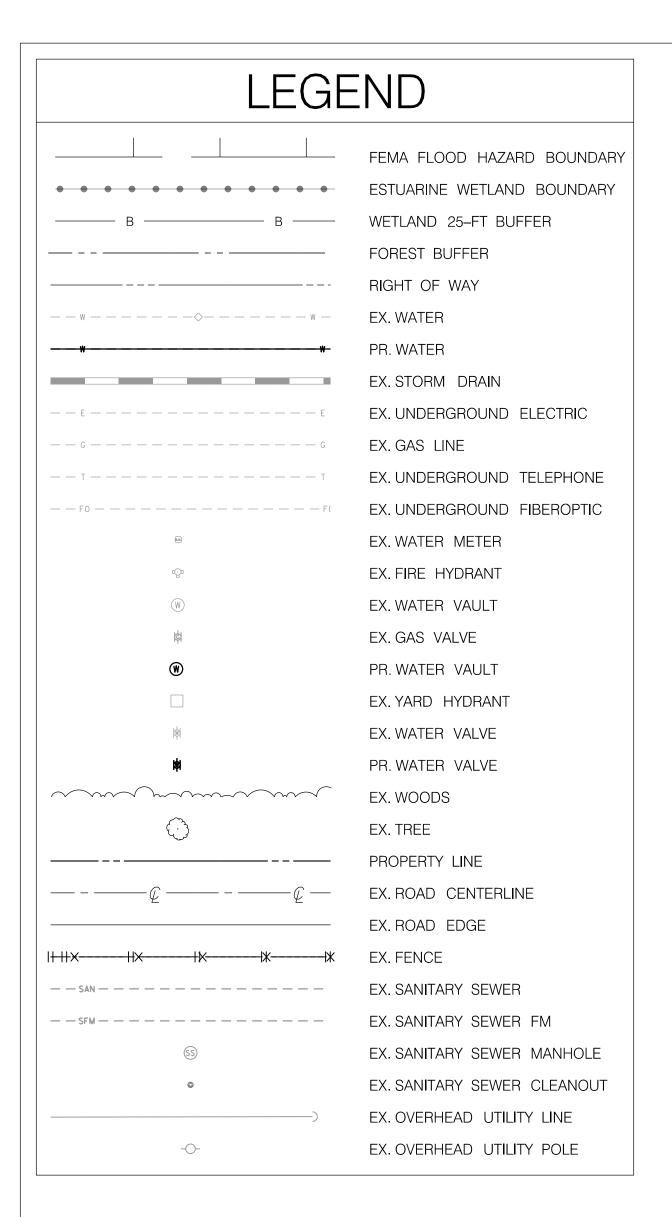
DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)

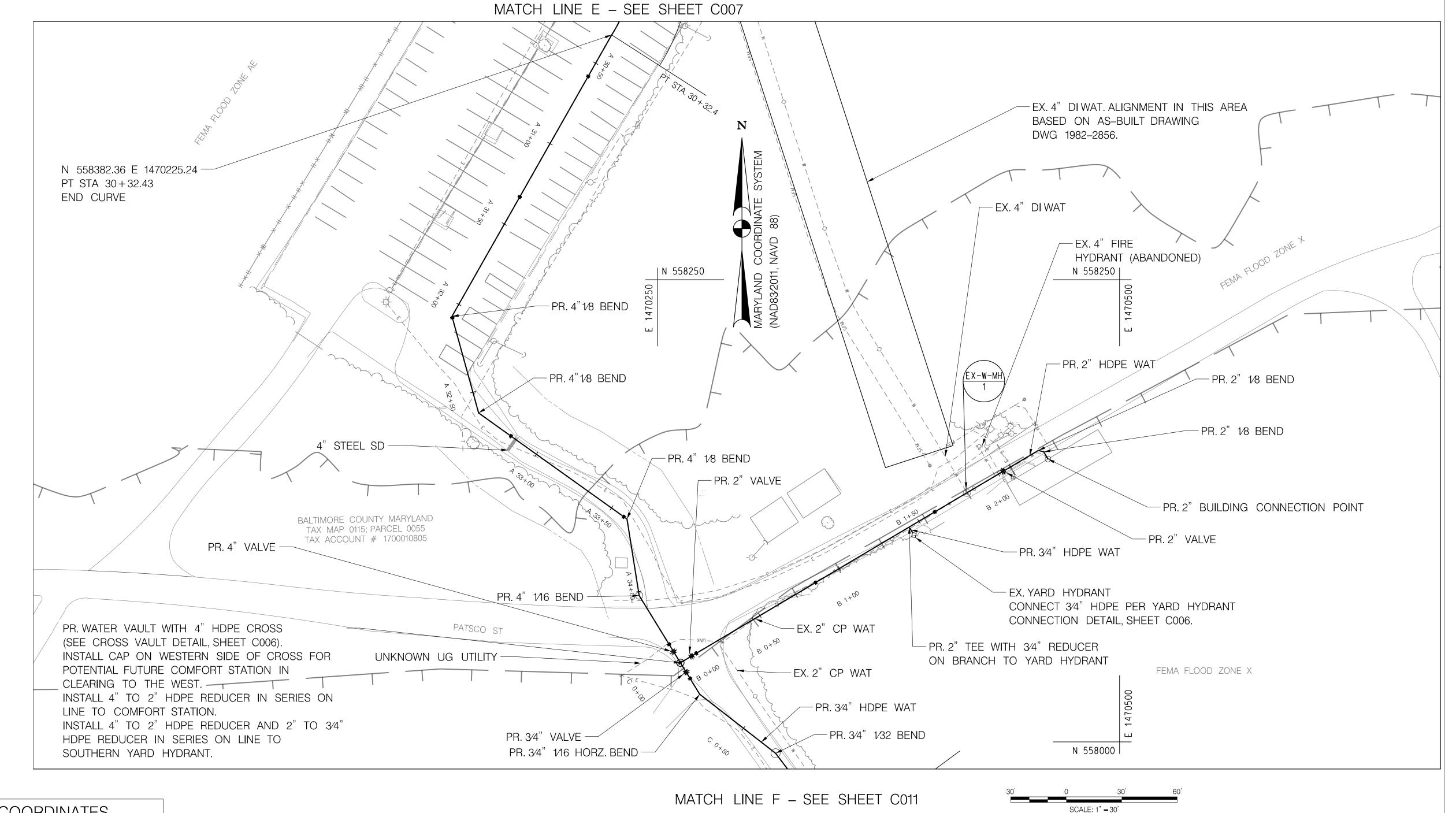
4" HDPE WAT: 1" = 30' H; 1" = 3' V SCALE: 1" = 30'



DEPT. OF PUBLIC WORKS & TRANSPORTATION

APPROVED BY:\_







NOTES: 1: WATER SERVICE WILL NOT BE MAINTAINED DURING CONSTRUCTION.

Consulting Engineers

09/06/2024

BRUDIS & ASSOCIATES, INC.

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	11000 Broken Land Pkwy, Suite 450 Columbia, Maryland 21045 Phone 410-884-3607 www.brudis.com												APPROVED BY: DATE:	DIRECTO
	PROFESSIONAL C	ERTIFICATI	ON	AS-BUILT / RE	EVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWIN	G SCALE	PROPERTY	MANAGEMENT
	I HEREBY CERTIFY THAT THESE DO APPROVED BY ME, AND THAT	I AM A DU	JLY LICENSED					N/A		35 SE 33 35 SE 34	PLAN SCALE:	1" = 30'	APPROVED BY:	
	PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.					R.O.W. NO.	A-SE	36 SE 33	3	N/A	1	DIRECTO		
	LICENSE NO. 58244, EXPI	IRATION DATE _	09/27/2025 .	CONTRACT COMPLETIO	N BOX			N/A		37 SE 33	PROFILE SCALE:		DATE:	
	ENGINEER: CHRIS COLLINS	— DGN	BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGH	HWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		
	AS-BUILT PER RECORD PRIN'	DWN	BY: CC	REVIEWED BY:									APPROVED BY:	CHI
	BY: DATE:	CHKD	BY:AP	DATE REVIEWED:									DATE:	

DEPT. OF PUBLIC WORKS & TRANSPORTATION

SUBDIVISION: SPARROWS POINT

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE – 9 4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 ELECTION DIST. NO.: 15C7

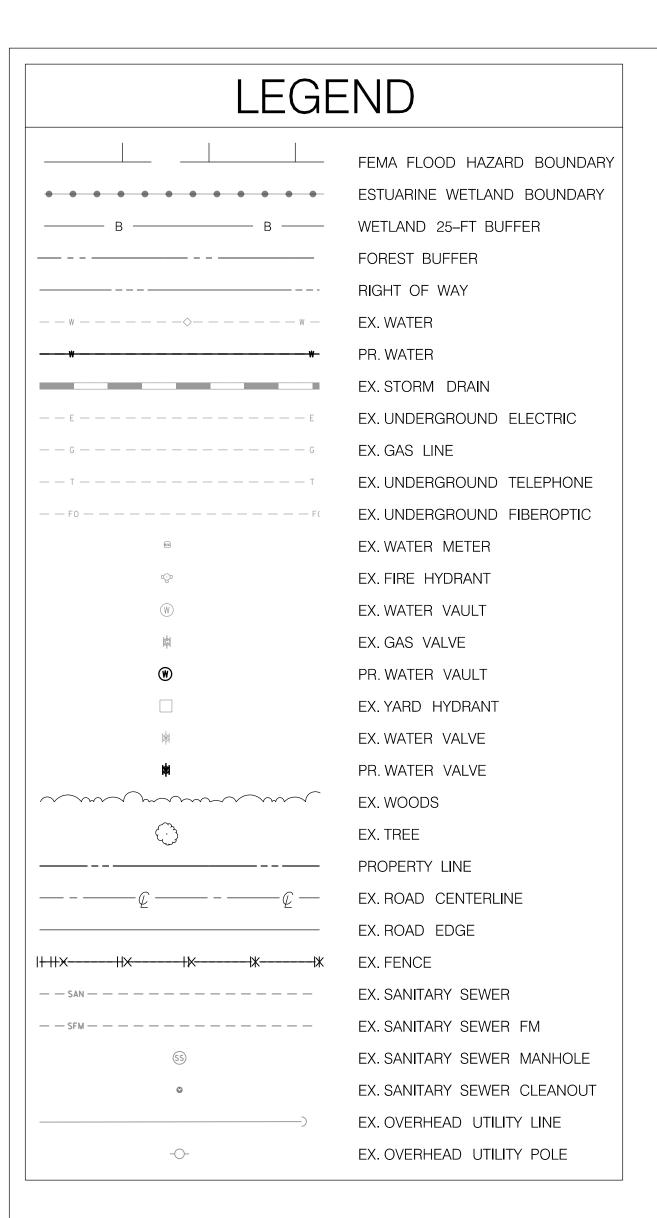
C009 23137 GXO JOB ORDER NUMBER CC# 100362239 SHEET 15 OF 30 DRAWING NUMBER 2023-3252 FILE NO.: 3/9 REV.

DESIGN AND DRAWING BASED ON THE

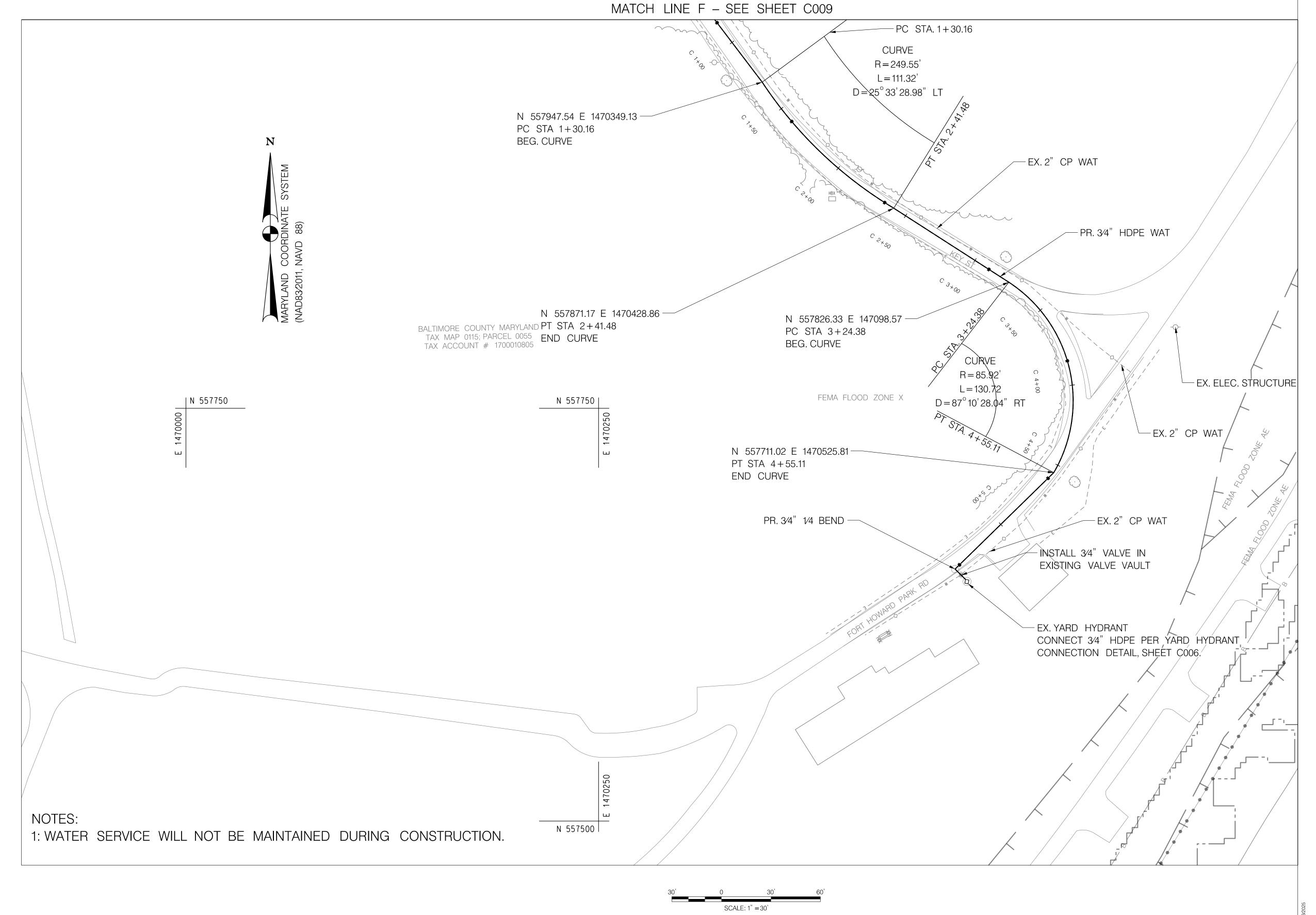
MARYLAND COORDINATE SYSTEM (MCS)

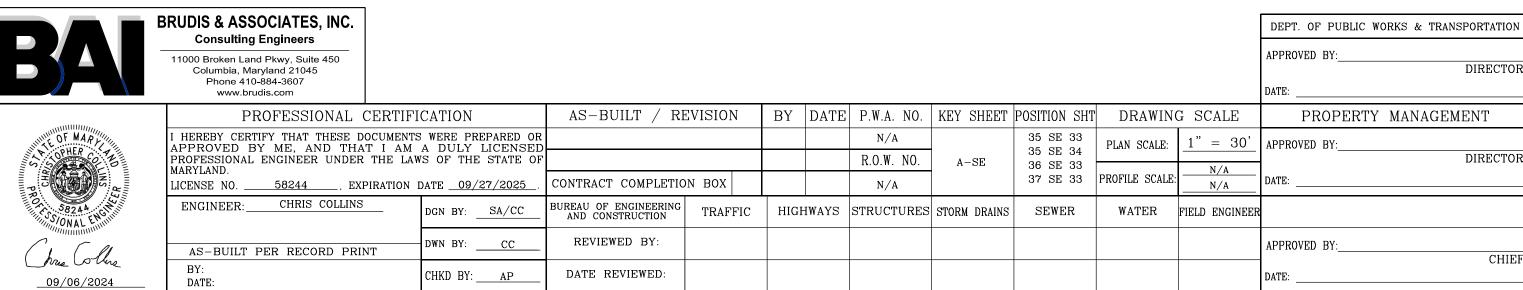
VERT: NAVD 88 SHEET DESIGNATION CONTRACT NUMBER

HORIZ: NAD 83/2011

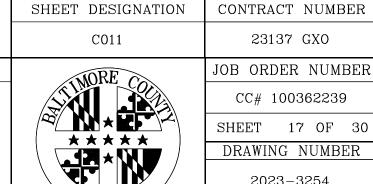


COMPONENT COORDINATES									
STATION	NORTH	EAST							
C 5+38.7 (3/4" 1/4 BEND)	557652.58	1470466.01							
C 5+43.8 (3/4" VALVE)	557649.13	1470469.62							
C 5+47.6 (EX. YARD HYDRANT)	557645.10	1470473.24							





BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE - 11 4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7



DESIGN AND DRAWING BASED ON THE

MARYLAND COORDINATE SYSTEM (MCS)

HORIZ: NAD 83/2011 VERT: NAVD 88

CC# 100362239 SHEET 17 OF 30 DRAWING NUMBER 2023-3254 FILE NO.: 3/9 03/22

BRUDIS & ASSOCIATES, INC.
Consulting Engineers

FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE - 12 4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

PR. 3/4" HDPE 1/4 HORZ. BEND —

17.3 12.8 12.7

STA: 5+38.7; INV: 13.0

16.9 12.3 12.2

- INSTALL 3/4" VALVE IN EXISTING VAULT

- CONNECT TO EXISTING YARD HYDRANT

STA: 5 + 47.6; INV: 13.0

STA: 5 + 43.7; INV: 13.0

COIZ
* * * * *
 MARVIND

23137 GXO JOB ORDER NUMBER CC# 100362239 SHEET 18 OF 30 DRAWING NUMBER 2023-3255

FILE NO.: 3/9 REV. 03/22

DESIGN AND DRAWING BASED ON THE

MARYLAND COORDINATE SYSTEM (MCS)

VERT: NAVD 88

HORIZ: NAD 83/2011

SHEET DESIGNATION | CONTRACT NUMBER

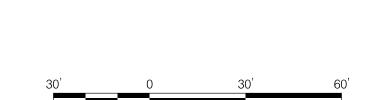
DEPT. OF PUBLIC WORKS & TRANSPORTATION

PROPERTY MANAGEMENT

APPROVED BY:\_\_\_

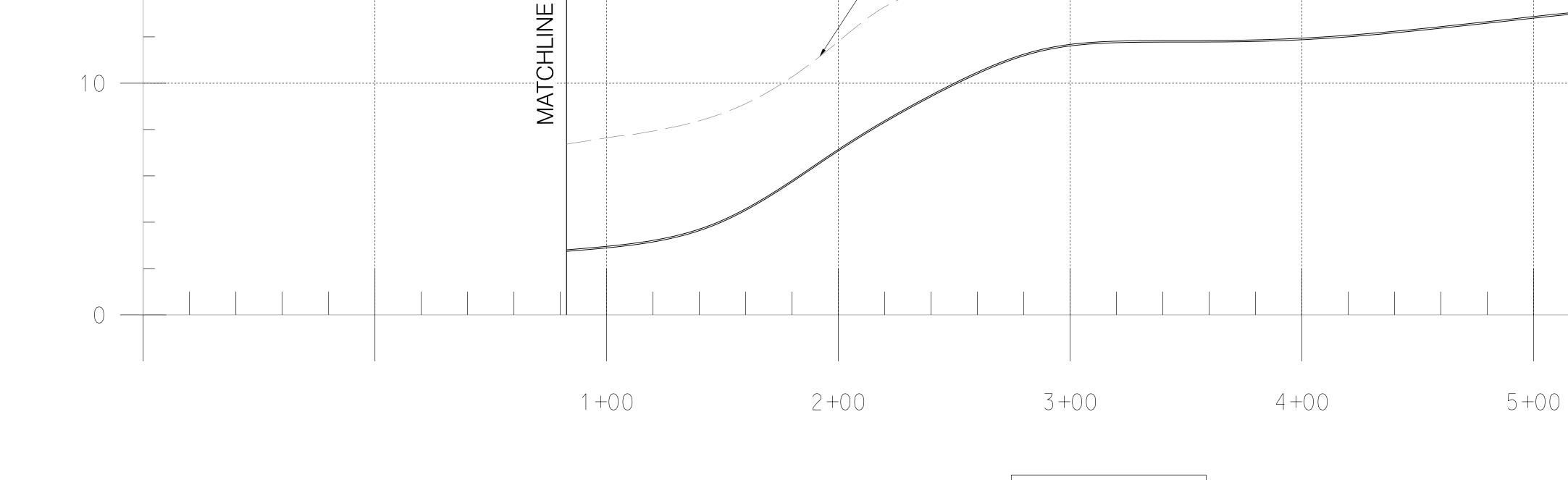
DIRECTOR

DIRECTOR



3/4" HDPE WAT: 1" = 30' H; 1" = 3' V

EX. GROUND



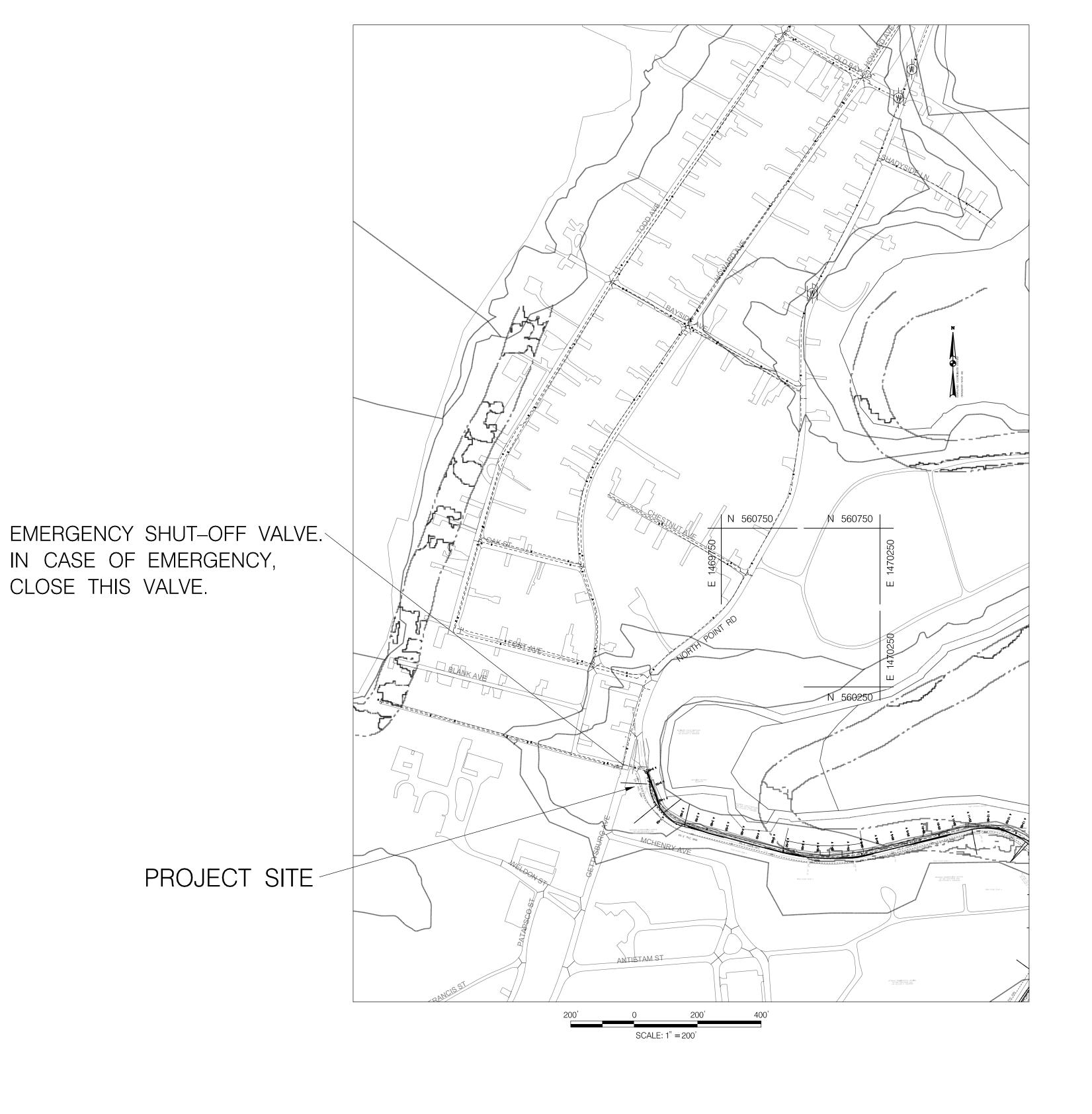
EX. GRADE (TYP.)
PR. PIPE BOTTOM (TYP.)

SHEET

SEE

2 2 2 8 2 8

TRENCH BOTTOM (TYP.)



BRUDIS & ASSOCIATES, INC.
Consulting Engineers

11000 Broken Land Pkwy, Suite 450
Columbia, Maryland 21045
Phone 410-884-3607

10/31/2024

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT SHUT-OFF DIAGRAM 4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 1507

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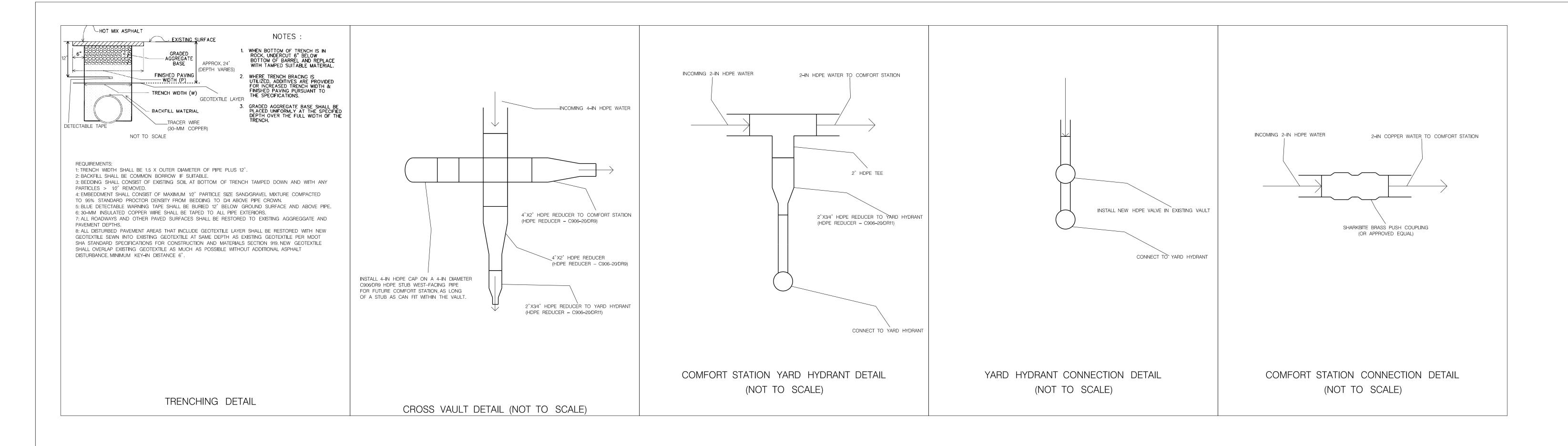
23137 GXO JOB ORDER NUMBER CC# 100362239 SHEET 19 OF 30 DRAWING NUMBER 2023-3256

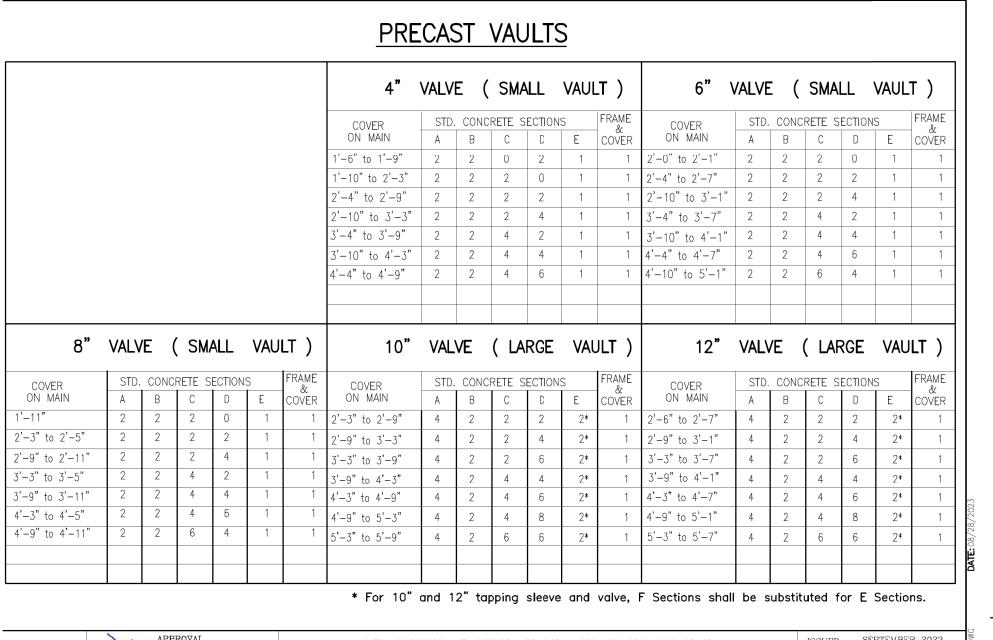
FILE NO.: 3/9 REV. 03/22

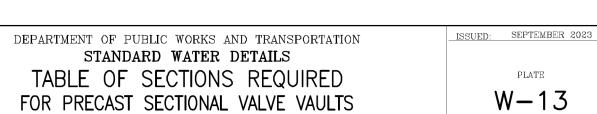
DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88

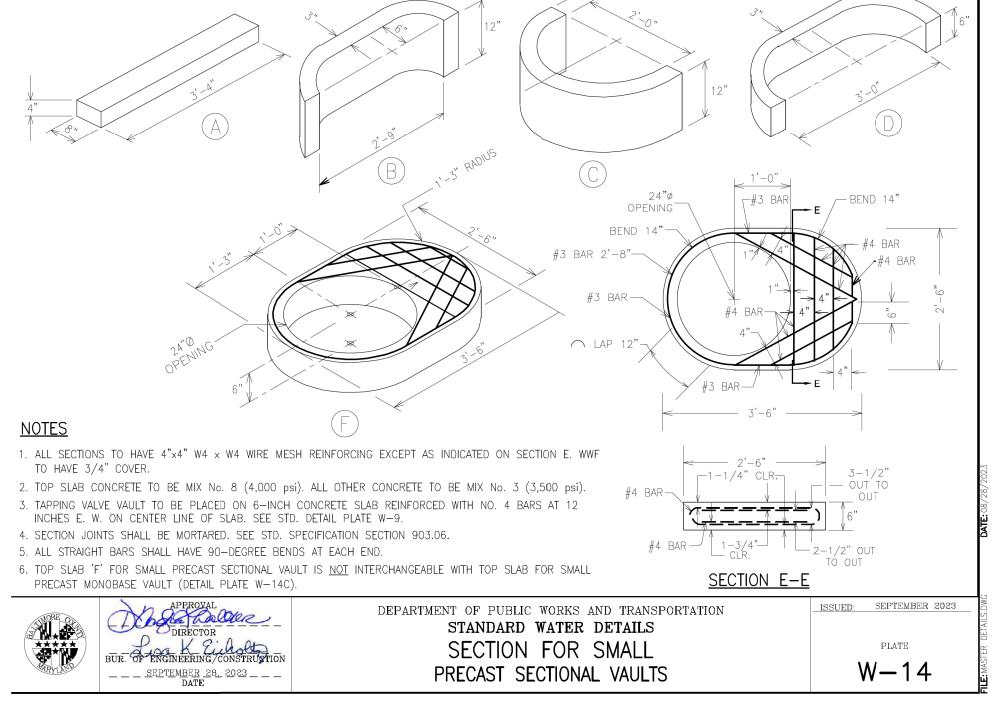
SHEET DESIGNATION CONTRACT NUMBER

	www.brudis.com												
	PROFESSIONAL C	PROFESSIONAL CERTIFICATION			BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING	G SCALE	PROPERTY MANAGEMENT	
OF MAR	I HEREBY CERTIFY THAT THESE DO APPROVED BY ME, AND THAT				N/A		35 SE 33 35 SE 34	PLAN SCALE:	1" = 200'	APPROVED BY:			
COLUMN	PROFESSIONAL ENGINEER UNDER MARYLAND.					R.O.W. NO.	A-SE	36 SE 33		N/A	DIRECTO	R	
S SN	LICENSE NO. <u>58244</u> , EXP	PIRATION DATE <u>09/27/2025</u> .	CONTRACT COMPLETIC	N BOX			N/A		37 SE 33	PROFILE SCALE:	N/A	DATE:	_
BOOK SELAN COMMENTAL SELECTION OF THE PROPERTY	ENGINEER: CHRIS COLLINS	DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGH	HWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		
	AS-BUILT PER RECORD PRIN	DWN BY:CC	REVIEWED BY:									APPROVED BY:CHIE	
This to vine	BY:	avvin nu	DAME DEVIEWED									CITIE	r





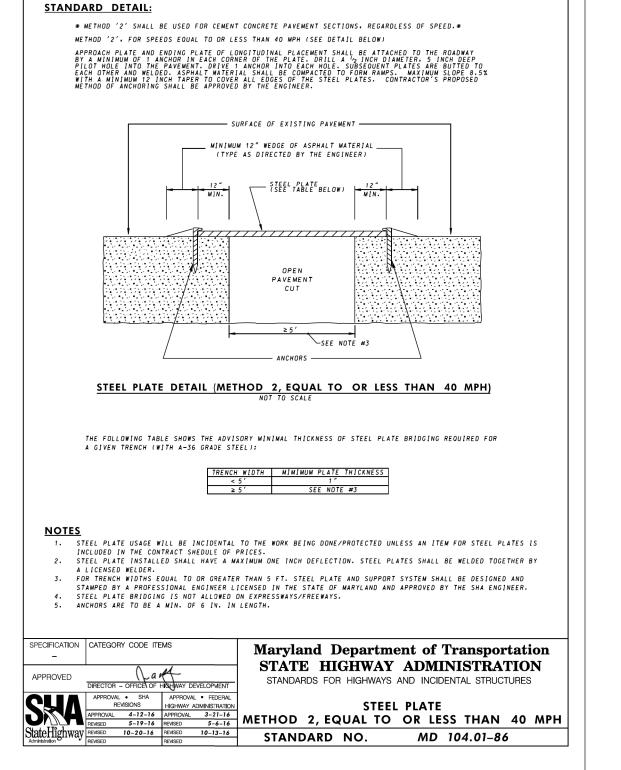


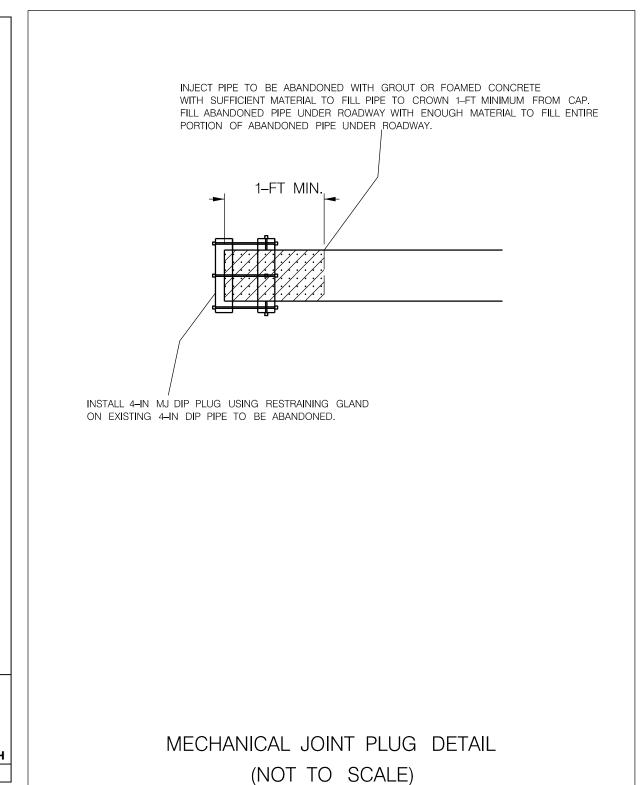


SUBDIVISION: SPARROWS POINT

DEPT. OF PUBLIC WORKS & TRANSPORTATION

APPROVED BY:







09/06/2024

\_\_ \_ <u>SEPTEMBER 28, 2023 \_ \_ \_</u> DATE

Columbia, Maryland 21045 Phone 410-884-3607 www.brudis.com											DATE:	DIRECTO
PROFESSIONAL CERT	TIFICATION	AS-BUILT / RE	VISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING	G SCALE	PROPERTY	MANAGEMENT
I HEREBY CERTIFY THAT THESE DOCUME APPROVED BY ME, AND THAT I A PROFESSIONAL ENGINEER UNDER THE	AM A DULY LICENSED					N/A R.O.W. NO.	A-SE	35 SE 33 35 SE 34	PLAN SCALE:	N/A	APPROVED BY:	DIRECTO
MARYLAND.	-	CONTRACT COMPLETION	N BOX			N/A	A-SE	36 SE 33 37 SE 33	PROFILE SCALE:	N/A	DATE:	
ENGINEER: CHRIS COLLINS	DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGI	HWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		
AS-BUILT PER RECORD PRINT	DWN BY:CC	REVIEWED BY:									APPROVED BY:	CHIE
 BY: DATE:	CHKD BY:AP	DATE REVIEWED:									DATE:	

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

# FT. HOWARD WATERLINE REPLACEMENT DETAILS

4", 2", & 3/4" WATERLINE REPLACEMENT
FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

C014
A A A A A A A A A A A A A A A A A A A

ELECTION DIST. NO.: 15C7

	23137 GXO
	JOB ORDER NUMBER
	CC# 100362239
	SHEET <b>20</b> OF 30
·	DRAWING NUMBER
	2023-3257
	FILE NO.: 3/9 REV. 03/22

DESIGN AND DRAWING BASED ON THE

MARYLAND COORDINATE SYSTEM (MCS)

VERT: NAVD 88

SHEET DESIGNATION CONTRACT NUMBER

HORIZ: NAD 83/2011

PROJECT SCOPE OF WORK IS TO REPLACE THE DOMESTIC WATER PIPING SYSTEM. THIS WILL REQUIRE PARTIAL REMOVAL OF THE CINDER BLOCK WET WALL AND SELECTED DEMOLITION OF CEILINGS TO ACCESS THE PIPING. THIS WET WALL DEMOLITION WILL ALSO REQUIRE THE REMOVAL OF MIRRORS, GRAB BARS, SOAP DISPENSERS AND PLUMBING FIXTURES.

ONCE THE EXISTING DOMESTIC WATER PIPING IS REMOVED AND REPLACED, THE WET WALL SHALL TO BE RECONSTRUCTED AND ALL TOILET ROOM ACCESSORIES AND PLUMBING FIXTURES BE REINSTALLED. FURTHERMORE, THE CEILING SHALL TO BE PATCHED AND THE POPCORN FINISH RESTORED. THE PATCHED WALLS AND CEILING WILL THEN NEED TO BE REPAINTED.

WHEN REPAINTING CUT AND PATCHED SURFACES THE ENTIRE PLANE OF THE REPAIRED SURFACE SHALL BE REPAINTED FROM EDGE TO EDGE IN ALL DIRECTIONS INCLUDING BOTH THE REPAIRED AND ADJACENT EXISTING SURFACE (I.E., THE ENTIRE WALL OR CEILING).

GIVEN THE EXTENT OF REQUIRED PATCHING AND PAINTING WORK THE GOVERNMENT MAY WANT TO CONSIDER REPAIRING OTHER DAMAGED SURFACES (SUCH AS THE SPALLING CEILING AREAS) AND REPAINTING THE ENTIRE INTERIOR OF TOILET ROOMS.

### PLUMBING GENERAL NOTES

- 1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND ACCESSORIES REQUIRED FOR PROVIDING, INSTALLING, CONNECTING AND TESTING ALL PLUMBING SYSTEMS AND ASSOCIATED EQUIPMENT FOR A COMPLETED PROJECT READY FOR OCCUPANCY. WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL JURISDICTIONAL CODES, RULES, REGULATIONS AND ORDINANCES.
- 2. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES TO AVOID CONFLICTS PRIOR TO INSTALLATION OF ANY WORK. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT WHERE DISCREPANCIES OCCUR, SO ITEMS MAY BE RESOLVED.
- 3. IDENTIFICATION: CONTINUOUSLY IDENTIFY ALL PIPING EVERY 8' ON CENTER AND IN EACH SPACE.
- 4. ALL SLAB AND WALL PENETRATIONS SHALL BE SLEEVED WITH SCHEDULE 40 STEEL PIPE. SLEEVES SHALL BE PROVIDED AS SLABS AND WALLS ARE CONSTRUCTED. ANY OMITTED SLEEVES SHALL BE DRY CORED. HAMMER CUTTING SHALL BE PROHIBITED.
- 5. ALL PIPE PENETRATIONS OF EXTERIOR WALLS SHALL BE SLEEVED WITH SCHEDULE 40 PIPE. ALL OPENINGS SHALL BE CAULKED AND SEALED WATERTIGHT AND PROVIDED WITH LINK-SEALS.
- 6. PROVIDE ALL NECESSARY HANGERS FOR SUPPORT OF HORIZONTAL AND VERTICAL PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 7. PROVIDE NECESSARY UNIONS TO FACILITATE REPAIR OF EQUIPMENT AND FITTINGS.
- 8. THE CONTRACTOR SHALL INCLUDE PROVISIONS IN HIS BID TO MAKE FIELD ADJUSTMENTS IN UNDERGROUND AND ABOVE GROUND AND ABOVE CEILING PIPING TO OFFSET PIPING AS REQUIRED TO FIELD COORDINATE WITH ANY OBSTACLE; INCLUDING ALL RELATED COSTS.
- 9. ALL PLUMBING FIXTURES ARE TO BE SALVAGED, CLEANED AND REUSED IN THE SAME LOCATION.
- 10. SANITARY WASTE, AND VENT PIPING IS EXISTING TO REMAIN. ONLY REMOVE PIPING AS MAY BE REQUIRED FOR DOMESTIC WATER WORK.
- 11. CEILING ACCESS IS REQUIRED AT ALL VALVES AND EQUIPMENT REQUIRING SERVICING LOCATED ABOVE SUSPENDED CEILINGS. ALL VALVES AND WATER ARRESTERS CONCEALED IN WALL CHASES SHALL HAVE A MINIMUM 6" X 6" ACCESS PANEL. THE PLUMBING CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF ACCESS PANELS WITH ALL OTHER TRADES. ACCESS PANEL LOCATIONS AND SIZES SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PANEL PURCHASE OR INSTALLATION.
- 12. PROVIDE STOP VALVES AT ALL FIXTURE AND EQUIPMENT SUPPLIES, ALL EXPOSED FIXTURE CONNECTIONS SHALL BE CHROME PLATED. PROVIDE VACUUM BREAKERS WHERE REQUIRED BY CODE.
- 13. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF SYSTEMS AND COMPONENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH THE WORK OF ALL TRADES/ DIVISIONS PRIOR TO INSTALLATION.

### PLUMBING DEMOLITION GENERAL NOTES

MEP Consulting Engineers

WEIGAND ASSOCIATES, INC.

- 1. DEMOLITION SHALL GENERALLY BE ARRANGED TO AGREE WITH THE ACCOMPLISHMENT OF WORK UNDER THE VARIOUS PHASES AND IN COORDINATION WITH THE REQUIRED MODIFICATIONS.
- 2. UNLESS OTHERWISE NOTED, EXISTING PIPING TO REMAIN FOLLOWING REMOVAL OF ADJACENT PORTIONS OF PIPING SHALL BE CAPPED/PLUGGED OR MADE READY FOR EXTENSION UNDER NEW WORK. FOR AREAS WITHOUT AN EXISTING CEILING IN WHICH A NEW CEILING WILL NOT BE INSTALLED, THE PIPING SHALL BE CAPPED/PLUGGED IN A LOCATION TO PROVIDE THE MAXIMUM POSSIBLE HEADROOM. UNDER NO CIRCUMSTANCE MAY AN EXISTING PIPE BE LEFT OPEN.
- 3. COPPER AND STEEL PIPING SHALL BE CAPPED USING COMMERCIALLY MANUFACTURED "CAPS". CAST IRON SOIL PIPE SHALL BE PLUGGED USING COMMERCIALLY MANUFACTURED "BLIND PLUGS". CAP/PLUG INSTALLATION SHALL BE IN ACCORDANCE WITH NEW WORK INSTALLATION PROCEDURES. CRIMPING OF TUBING IS NOT ACCEPTABLE.
- 4. ALL THE DEMO PLUMBING FIXTURES SHALL BE REMOVED BY PLUMBING CONTRACTOR CLEANED AND REINSTALLED TO THE SAME LOCATION WITH NEW PIPING.

### PLUMBING SPECIFICATION:

- A. PROVIDE AND INSTALL A COMPLETE PLUMBING SYSTEM AS INDICATED IN THE CONSTRUCTION DOCUMENTS.
- APPLICABLE CODES AND REGULATIONS:
- A. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING LATEST CODES AND REGULATIONS. 1. INTERNATIONAL PLUMBING CODES, ALL OTHER LOCAL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION, AND LOCAL AMENDMENTS.
- A. REGARDLESS OF EXISTING CONDITIONS, CONTRACTOR IS RESPONSIBLE TO MEET OR EXCEED ALL CODES AS DELINEATED BY AUTHORITY HAVING
- B. SHOULD THE DRAWINGS DISAGREE IN THEMSELVES OR WITH THE GENERAL NOTES. OR SHOULD THE GENERAL NOTES DISAGREE IN THEMSELVES, THE BETTER QUALITY OR GREATER QUANTITY OF WORK OR MATERIAL SHALL BE ESTIMATED UPON, AND UNLESS OTHERWISE ORDERED IN WRITING, SHALL BE FURNISHED AND INSTALLED.
- C. IF ANY ERRORS OR OMISSIONS APPEAR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF SUCH ERRORS OR OMISSIONS IN WRITING PRIOR TO BEGINNING WORK. IF THE CONTRACTOR FAILS TO GIVE SUCH NOTICE, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE RESULTS OF SUCH ERRORS AND OMISSION AND FOR THE COST OF RECTIFYING THE SAME.
- A. THIS CONTRACTOR SHALL PAY ALL REQUIRED FEES AND SHALL OBTAIN ALL NECESSARY PERMITS AND LICENSES FOR INSTALLATION OF THE
- 5. VISIT TO SITE:
- A. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS, EQUIPMENT, FINISHES, ETC., PRIOR TO BIDDING. IF ANY DISCREPANCY IS DETECTED, IT SHOULD BE BROUGHT TO THE ARCHITECT'S ATTENTION WITH RECOMMENDATIONS FOR PROPER CORRECTIONS FOR THE ARCHITECT'S APPROVAL.
- A. INSTALL PIPE TUBE AND FITTINGS IN ACCORDANCE WITH INDUSTRY PRACTICE WHICH WILL ACHIEVE PERMANENTLY LEAKPROOF PIPING SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE WITHOUT PIPING FAILURE. TEST PIPING FOR LEAKAGE. REPAIR PIPING SYSTEMS SECTIONS WHICH FAIL TEST BY DISASSEMBLY AND RE-INSTALLATION, USING NEW MATERIALS TO THE EXTENT REQUIRED TO OVERCOME LEAKAGE. UNDER NO CIRCUMSTANCES USE CHEMICALS, STOP-LEAK COMPOUNDS, MASTICS, TAPES OR OTHER TEMPORARY REPAIR METHODS.
- B. ALL WATER PIPING SHALL BE SLOPED TO DRAIN TO HOSE BIBBS.

D. IF NEED DUE TO REMOVAL FOR DOMESTIC WATER PIPING WORK. SANITARY DRAINAGE AND VENT PIPING SHALL BE SERVICE WEIGHT NO-HUB CAST IRON PIPE AND FITTINGS CISPI 301, HUB & SPIGOT SOIL PIPE AND FITTINGS ASTM A-74, OR DWV COPPER WITH WROUGHT COPPER FITTINGS, ASTM B306. OR SCHEDULE 40 PVC, TO MATCH EXISTING.

E. DOMESTIC WATER PIPING ABOVE GRADE SHALL BE TYPE "L" HARD-DRAWN TEMPER, WROUGHT COPPER FITTINGS, NON-LEAD SOLDERED JOINTS WITH NON-CORROSIVE FLUX, ANSI B-88. DOMESTIC WATER PIPING BELOW GRADE SHALL BE TYPE "K" COPPER.

- A. PRIOR TO THE START OF WORK, CONTRACTOR SHALL LOCATE ALL EXISTING WATER SERVICES TO BUILDING AND RECORD INVERT ELEVATIONS, SIZES AND SLOPES OF EXISTING PIPING. VERIFY NEW WORK WILL MEET EXISTING INVERTS AND SIZES PRIOR TO BEGINNING WORK. IF THE INVERTS AND SIZES ARE NOT COMPATIBLE, NOTIFY THE ARCHITECT IMMEDIATELY.

A. BALL VALVES: 2-PIECE, LEAD FREE, BRONZE BODY, BLOW-OUT PROOF STEM, METAL BALL, TEFLON SEAL RING, SCREWED OR SOLDERED ENDS, 400 LB. WOG. NIBCO OR STOCKHAM.

MINIMUM

NUMBER

SANITARY

**TYPICAL** 

WALL HYDRANT

VENT

POUNDS PER SQUARE INCH

A. BARRIER FREE STANDARDS: COMPLY WITH APPLICABLE ANSI STANDARDS PERTAINING TO PLUMBING FIXTURES AND SYSTEMS INCLUDING ANSI A 117.1 STANDARD PERTAINING TO PLUMBING FIXTURES FOR THE HANDICAPPED. COMPLY WITH THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT". FIXTURES DESIGNATED BARRIER FREE ARE INTENDED TO BE "USABLE BY PHYSICALLY HANDICAPPED PEOPLE". FIXTURES FOR USE BY HANDICAPPED PEOPLE SHALL BE INSTALLED IN ACCORDANCE WITH ANSI A 117.1.

- B. EXPOSED METAL FITTINGS, TRIM, AND ACCESSORIES SHALL HAVE POLISHED CHROME PLATED FINISH.
- C. SUPPLIES: PROVIDE A STOP ON EACH WATER SUPPLY TO EACH FIXTURE. PROVIDE ACCESS PANELS FOR CONCEALED STOPS.

D. TRAPS: REINSTALL EXISTING TRAP ON EACH FIXTURE, EXCEPT WHERE FIXTURE SPILLS OVER A PROPERLY TRAPPED DRAIN OR OTHER RECEPTOR. ALL SINK AND LAVATORY TRAPS SHALL BE CHROME PLATED CAST BRASS SWIVEL PATTERN WITH CLEANOUT. ALL TUBING DRAINS SHALL BE MINIMUM 17 GAUGE THICKNESS CHROME PLATED METAL.

ESCUTCHEONS: PROVIDE DEEP PATTERN ESCUTCHEONS FOR SUPPLIES AND TRAPS WHERE ROUGH-IN PIPING WOULD BE VISIBLE USING STANDARD ESCUTCHEONS.

### **ABBREVIATIONS** PLUMBING LEGEND ABOVE FINISHED FLOOR ACCESS PANEL

BFP	BACKFLOW PREVENTER	<del>///////////////</del>	EXISTING PIPE TO REMOVE
CW	COLD WATER		
DN	DOWN		VENT PIPE (V)
DWG	DRAWING		SANITARY WASTE PIPE (SAN)
EX	EXISTING		o,
FC0	FLOOR CLEANOUT		PIPE DOWN
F.F.	FINISHED FLOOR		255
FL	FLOOR		PIPE UP
GAL	GALLON		
GCO	GRADE CLEANOUT	<u> </u>	HORIZONTAL CLEAN-OUT (C
GPM	GALLONS PER MINUTE	'	,
HB	HOSE BIBB	_	
HW	HOT WATER	<del></del>	BALL VALVE
INV.EL	INVERT ELEVATION		
MECH	MECHANICAL	Egi	FLOOR DRAIN (FD)

# DOMESTIC COLD WATER PIPE (CW) (CO)

HOSE BIBB (HB)

LAV-ADA

**EXISTING PLUMBING FIXTURE DESCRIPTION:** 

URI — URINAL WITH REGAL FLUSH VALVE

4" SAN

LAV-ADA

ONLY COLD WATER

DRINKING FOUNTAIN

HB - HOSE BIB

| WCO- 4" WALL CLENOUT

| WC- WALL MOUNTED WATER CLOSET WITH REGAL FLUSH VALVE

LAV- WALL MOUNTED LAVATORY WITH METERING SELF CLOSING FAUCET

1 1/2" CW ¬

TOILET ROOM - WOMEN

EX. 6" SANITARY DRAIN UNDER GROUND -

NEED TO BE VERIFIED -

SCALE: 1/4" = 1'-0"

TOILET ROOM - WOMEN

DEMO 2" CW UNDER SLAB —

DRINKING

└──EX. 6" SANITARY DRAIN UNDER GROUND -

NEED TO BE VERIFIED

2" VENT

/— EXISTING

WC-ADA

DRINKING

4 FOUNTAIN

✓ NEW 2" CW UNDER SLAB

SEE CIVIL DRAWING FOR CONTINUATION.

EXISTING

4" SAN

PLUMBING -DEMOLITION

— EXISTING

SCALE: 1/4" = 1'-0"

2" VENT

EX. 4"SAN

REDUCER 4X6 —

EX. 6"SAN —

THE EXISTING PIPING INDICATED ON THE PLANS IS BASED UPON EXISTING AS BUILT DRAWING ME-1 (FROM YEAR 1982) PROVIDED BY COUNTY AND FIELD SURVEY OF EXPOSED ITEMS AND PROFESSIONAL JUDGEMENT. FIELD COORDINATE WITH UNCOVERED EXISTING CONDITIONS

PLUMBING - NEW WORK

### DEMOLITION PLAN KEY NOTES

- DEMO ALL DOMESTIC WATER PIPING IN WET WALL.

- DEMO 2" WATER SUPPLY UNDER GROUND -

SEE CIVIL DRAWING FOR CONTINUATION

URI-ADA

──HOSE DRAIN ON FLOOR TO FD POSSIBLE CONDENSATE DRAIN

TOILET ROOM-MEN

-1 1/4" DRAIN SPILL ON GRADE

LAV-ADA (2) (3)

1 1/2" VENT

LAV-ADA (2)

URI-ADA

TOILET ROOM-MEN

— 1 1/4" DRAIN SPILL ON GRADE

— DRAIN PLUG ON BOTTOM

FOR WINTERIZING

4" SAN

- 1) REMOVE EXISTING PLUMBING FIXTURES. SALVAGE FIXTURES, FLUSH VALVES AND FAUCETS FOR REINSTALLATION. REMOVE ALL ASSOCIATED PIPING. KEEP EXISTING FIXTURE CARRIERS IN WET WALL. CLEAN REMOVED FIXTURES, PREPARE THEM FOR REUSE IN THE SAME
- $\overline{2}$  REMOVE EXISTING HOSE BIBB AND ASSOCIATED PIPING.
- (3) EXISTING WALL CLEANOUT REMAIN.
- (4) REMOVE AND SALVAGE DRINKING FOUNTAIN. DEMO ASSOCIATED PIPING.
- $\langle 5 \rangle$  EXISTING FLOOR DRAINS TO REMAIN.

DEMO ALL PLUMBING IN HATCHED AREA



- (1) INSTALL NEW DOMESTIC WATER PIPING FOR PLUMBING FIXTURES. PROVIDE PIPING INSULATION. PIPING MATERIAL: COPPER TYPE L FOR DOMESTIC WATER
- INSTALL NEW HOSE BIBB LOOSE KEY WITH VACUUM BREAKER. (2) HOSE BIBB IS THE LOWEST POINT OF DOMESTIC WATER SYSTEM AND IT WILL BE USED FOR DRAINING SYSTEM FOR WINTER SEASON.
- (3) EXISTING WALL CLEANOUT REMAIN.
- 4 REINSTALL SALVAGED DRINKING FOUNTAIN.
- (5) REINSTALL SALVAGED, CLEANED PLUMBING FIXTURES TO THE EXISTING CARRIERS IN THE SAME POSITION AS BEFORE DEMOLITION. PROVIDE NEW SHUT OFF VALVES, P- TRAPS, DRAINS, INSULATION OF PIPING UNDER LAVATORIES.





SHEET DESIGNATION	CONTRACT NUMBER					
P001	23137 GXO					
NORE CO	JOB ORDER NUMBER					
	CC# 100362239					

20270 GOLDENROD LANE, SUITE 100, GERMANTOWN, MARYLAND 20876 TELEPHONE 301-540-9060 FACSIMILE 301-540-9061 WWW.WAINET.NET /10/2024 | 2:01:20 PM EDT PROFESSIONAL CERTIFICATION AS-BUILT / REVISION BY DATE P.W.A. NO. KEY SHEET POSITION SHT DRAWING SCALE PROPERTY MANAGEMENT I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PLAN SCALE: 1/4" = 1'35 SE 34 DIRECTOR PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF R.O.W. NO. 36 SE 33 37 SE 33 | PROFILE SCALE: | N/A CONTRACT COMPLETION BOX LICENSE NO. \_\_\_\_\_17366 \_\_\_, EXPIRATION DATE \_05/29/2025 N/A ENGINEER: MICHAEL WEIGAND HIGHWAYS STRUCTURES STORM DRAINS SEWER TRAFFIC WATER FIELD ENGINEER REVIEWED BY: APPROVED BY: AS-BUILT PER RECORD PRINT DATE REVIEWED: CHKD BY:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT

4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

SHEET 21 OF 30 DRAWING NUMBER 2023-3258 FILE NO.: 3/9 03/22

SUBDIVISION: SPARROWS POINT

4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

CHRIS COLLINS

AS-BUILT PER RECORD PRINT

HIGHWAYS | STRUCTURES | STORM DRAINS |

APPROVED BY:\_

REVIEWED BY:

DATE REVIEWED:

CHKD BY: \_\_\_\_AP

ENGINEER:

BY: DATE:

10/31/2024

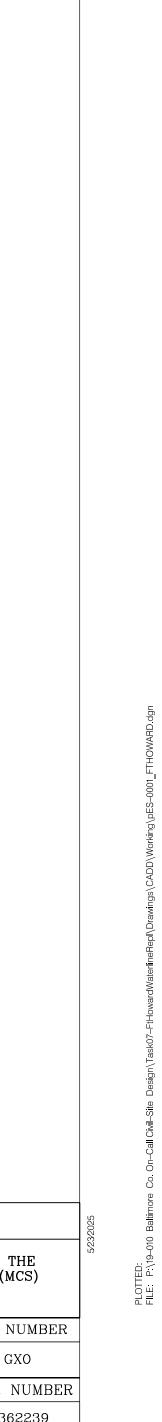
LEGEND

DRAWING NUMBER

2023-3259

FILE NO.: 3/9  $\frac{REV.}{03/22}$ 

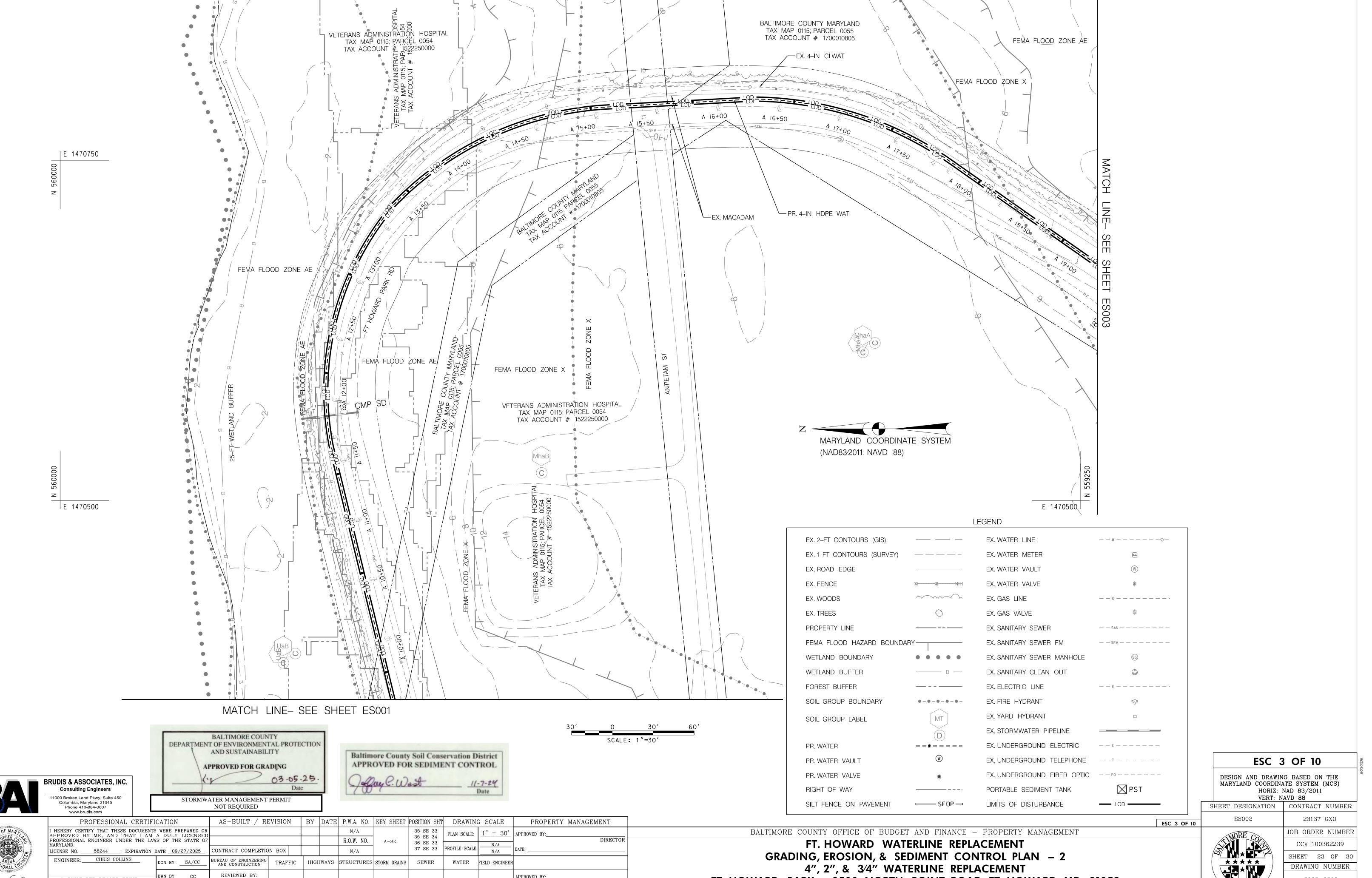
ELECTION DIST. NO.: 15C7



2023-3260

FILE NO.: 3/9 03/22

ELECTION DIST. NO.: 15C7



SUBDIVISION: SPARROWS POINT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

APPROVED BY:\_

AS-BUILT PER RECORD PRINT

CHKD BY: AP

DATE REVIEWED:

BY: DATE:

10/31/2024



JOB ORDER NUMBER

CCD 100362239

SHEET 24 OF 30

DRAWING NUMBER

2023-3261

FILE NO.: 3/9

ESC 4 OF 10

ELECTION DIST. NO.: 15C7

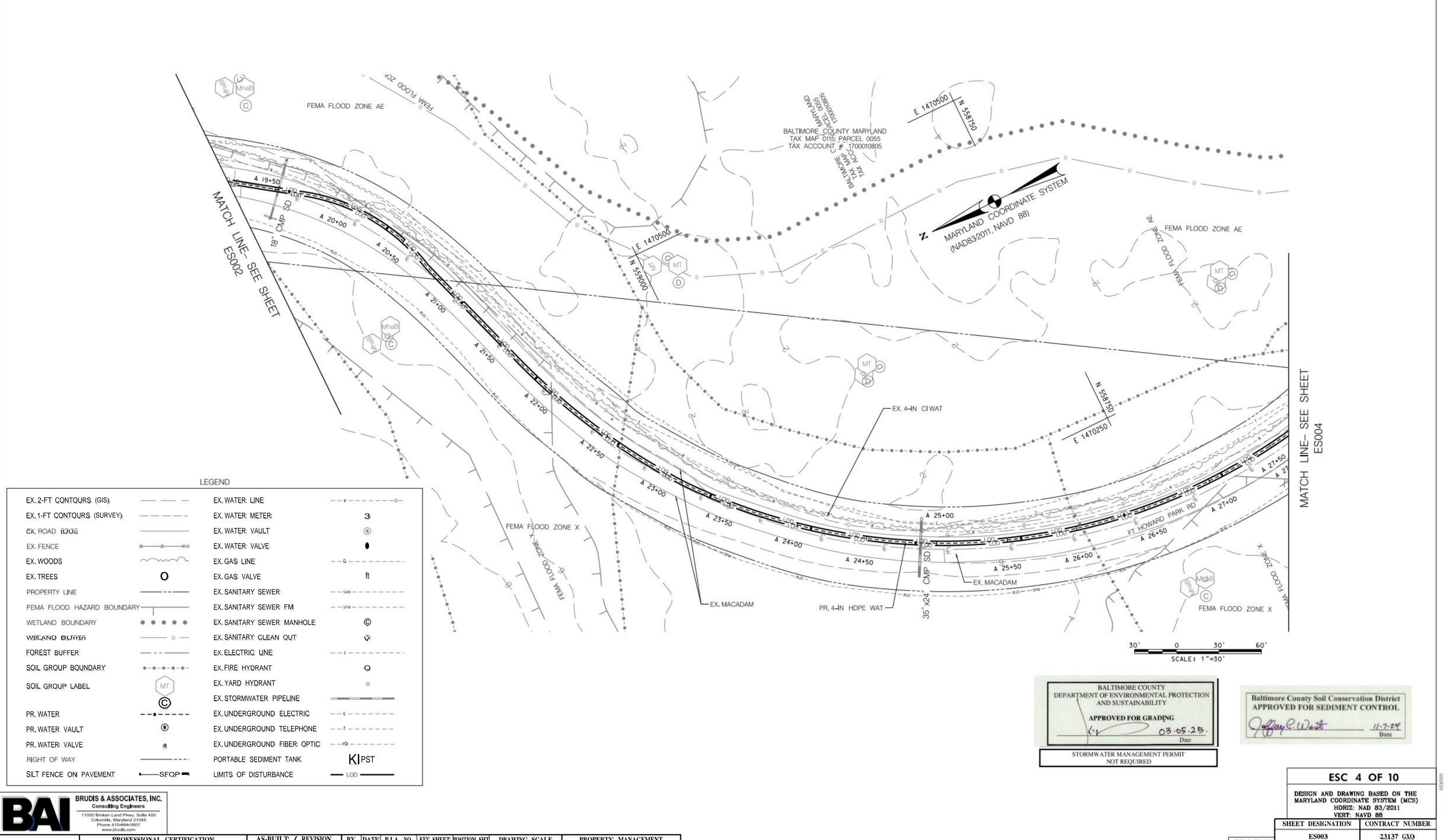
BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT

GRADING, EROSION, & SEDIMENT CONTROL PLAN - 3

4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052



SUBDIVISION: SPARROWS POINT

PROPERTY MANAGEMENT

APPROVED BY:\_

AS-BUILT / REVISION BY DATE P.I.A. NO. KEY SHEET POSITION SHT DRAWING SCALE

HIGHWAYS STRUCTURES STORM DRAINS SEWER:

R.O.W. NO.

N/A

CONTRACT COMPLETION BOX

REVIEWED BY:

DATE REVIEWED:

TRAFFIC

35 SE 33 35 SE 34 30 SE 33

37 SE 33 PROFILE SCAUL:

Ptaxi scale | 1" = 30"

WATER: HUD ENGINEER

PROFESSIONAL CERTIFICATION

1 HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OF APPROVED BY ME, AND THAT 1 AM A DULY LICENSEL PROFESSIONAL ENGINEER UNDER: THE LAWS OF THE STATE OF MARYLAND.

ENGINEER: CHRIS COLLINS

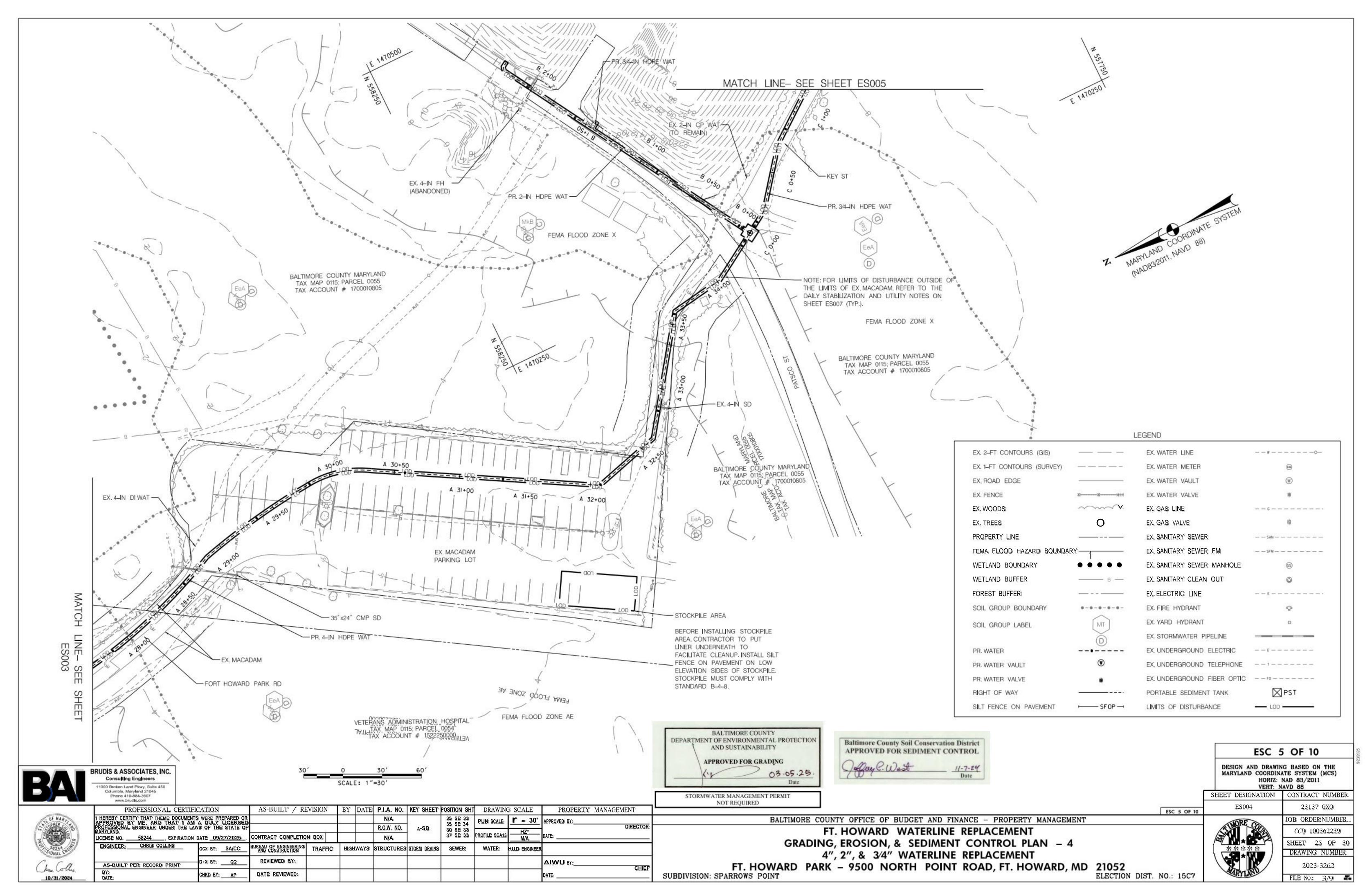
AS-BUILT PER RECORD PRINT

BY: DATE:

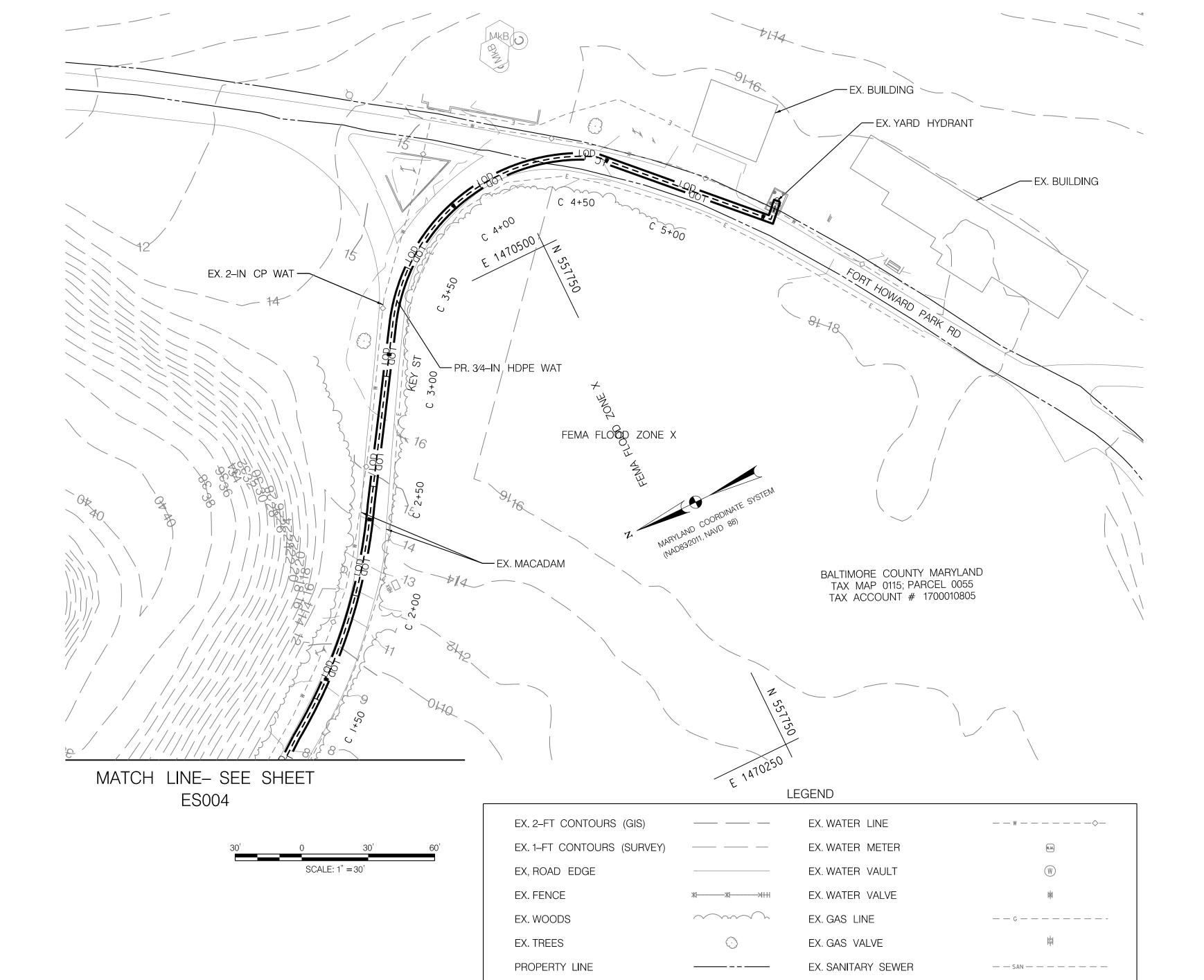
10/31/2024

58244 EXPIRATION DATE 09/27/2025

CHKD OY: AP



Ca Ca



FEMA FLOOD HAZARD BOUNDARY——

WETLAND BOUNDARY

SOIL GROUP BOUNDARY

SOIL GROUP LABEL

PR. WATER VAULT

PR. WATER VALVE

SILT FENCE ON PAVEMENT

RIGHT OF WAY

SUBDIVISION: SPARROWS POINT

PR. WATER

WETLAND BUFFER

FOREST BUFFER

**BRUDIS & ASSOCIATES, INC.** Consulting Engineers 11000 Broken Land Pkwy, Suite 450 Columbia, Maryland 21045 Phone 410-884-3607

	Phone 410-884-3607 www.brudis.com											
MINIMUM.	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION		BY DAT	E P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWIN	G SCALE	PROPERTY MANAGEMENT	
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NS NS				N BOX		N/A			PROFILE SCALE	N/A	DATE:	
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(11	AS-BUILT PER RECORD PRINT	DWN BY: CC	REVIEWED BY:								APPROVED BY:	HIEF
0/31/2024	BY: DATE:	CHKD BY: AP	DATE REVIEWED:								DATE:	

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

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W

FT. HOWARD WATERLINE REPLACEMENT GRADING, EROSION, & SEDIMENT CONTROL PLAN - 5 4", 2", & 3/4" WATERLINE REPLACEMENT

EX. SANITARY SEWER FM

EX. SANITARY CLEAN OUT

EX. STORMWATER PIPELINE

EX. UNDERGROUND ELECTRIC

PORTABLE SEDIMENT TANK

LIMITS OF DISTURBANCE

EX. ELECTRIC LINE

EX. FIRE HYDRANT

EX. YARD HYDRANT

EX. SANITARY SEWER MANHOLE

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 ELECTION DIST. NO.: 15C7

EX, UNDERGROUND TELEPHONE -- T -- -- --

EX. UNDERGROUND FIBER OPTIC --F0-----

— — SFM — — — — — —

--E-----

ESC 6 OF 10

SHEET DESIGNATION	CONTRACT NUMBER							
ES005	23137 GX0							
NORE C	JOB ORDER NUMBER							
	CC# 100362239							
	SHEET 26 OF 30							
	DRAWING NUMBER							
APVIND	2023-3263							
THE THE	FILE NO.: 3/9 03/22							
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ESC 6 OF 10

HORIZ: NAD 83/2011

DESIGN AND DRAWING BASED ON THE

MARYLAND COORDINATE SYSTEM (MCS)

VERT: NAVD 88

**Baltimore County Soil Conservation District** 

APPROVED FOR SEDIMENT CONTROL

BALTIMORE COUNTY

APPROVED FOR GRADING

STORMWATER MANAGEMENT PERMIT NOT REQUIRED

03.05.25.

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

To promote the establishment of vegetation on exposed soil.

### Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

### Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

### Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

### Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

- 1. Adequate vegetative stabilization requires 95 percent groundcover.
- 2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
- 3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
- 4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

### **B-4-1 STANDARDS AND SPECIFICATIONS**

### <u>FOR</u>

### **INCREMENTAL STABILIZATION**

### <u>Definition</u>

Establishment of vegetative cover on cut and fill slopes.

### <u>Purpose</u>

To provide timely vegetative cover on cut and fill slopes as work progresses.

### Conditions Where Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

- Incremental Stabilization Cut Slopes
- 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses. 2. Construction sequence example (Refer to Figure B.1):
- a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around
- b. Perform Phase 1 excavation, prepare seedbed, and stabilize.

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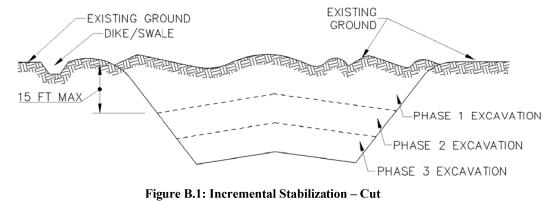
Consulting Engineers

1000 Broken Land Pkwy, Suite 450 Columbia, Maryland 21045

Phone 410-884-3607

- c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded
- areas as necessary. Note: Once excavation has begun the operation should be continuous from grubbing through the

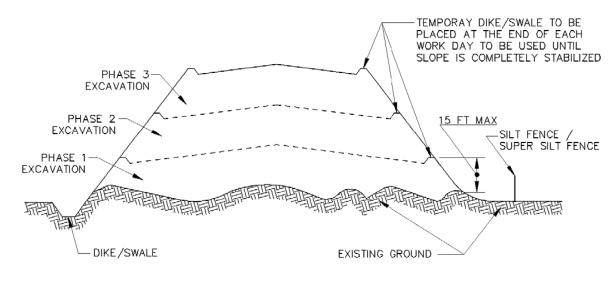
completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.



B. Incremental Stabilization - Fill Slopes

- 1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
- 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
- 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
- 4. Construction sequence example (Refer to Figure B.2):
- a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address
- b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
- c. Place Phase 1 fill, prepare seedbed, and stabilize.
- d. Place Phase 2 fill, prepare seedbed, and stabilize.
- e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.



### Figure B.2: Incremental Stabilization – Fill

### **B-4-2 STANDARDS AND SPECIFICATIONS**

### SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

**Definition** 

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

The process of preparing the soils to sustain adequate vegetative stabilization

Where vegetative stabilization is to be established.

1. Temporary Stabilization

### <u>Criteria</u>

### Soil Preparation

- a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
- b. Apply fertilizer and lime as prescribed on the plans.
- c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable

### 2. Permanent Stabilization

- a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
- i. Soil pH between 6.0 and 7.0.
- ii. Soluble salts less than 500 parts per million (ppm).
- iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay)
- iv. Soil contains 1.5 percent minimum organic matter by weight.
- v. Soil contains sufficient pore space to permit adequate root penetration.
- b. Application of amendments or topsoil is required if on-site soils do not meet the above
- c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

- d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil
- e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

- 1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- 2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
- 3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
- a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
- b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
- c. The original soil to be vegetated contains material toxic to plant growth. d. The soil is so acidic that treatment with limestone is not feasible.
- 4. Areas having slopes steeper than 2:1 require special consideration and design.
- 5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
- a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
- b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
- c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

### 6. Topsoil Application

- a. Erosion and sediment control practices must be maintained when applying topsoil.
- b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
- c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading

### C. Soil Amendments (Fertilizer and Lime Specifications)

and seedbed preparation.

- 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer. 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when
- hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve. 4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by
- disking or other suitable means. 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the
- rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

### **B-4-3 STANDARDS AND SPECIFICATIONS**

### **SEEDING AND MULCHING**

### <u>Definition</u>

The application of seed and mulch to establish vegetative cover.

To protect disturbed soils from erosion during and at the end of construction

### **Conditions Where Practice Applies**

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

### 1. Specifications

A. Seeding

- a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
- b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
- c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
- d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

### 2. Application

- a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1,
- Permanent Seeding Table B.3, or site-specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil

### b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

- i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
- ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
- c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
- i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P<sub>2</sub>O<sub>5</sub> (phosphorous), 200 pounds per acre; K<sub>2</sub>O (potassium), 200 pounds per acre.
- ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
- iii. Mix seed and fertilizer on site and seed immediately and without interruption iv. When hydroseeding do not incorporate seed into the soil.

### Mulching

- 1. Mulch Materials (in order of preference)
- a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
- b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

ii. WCFM, including dye, must contain no germination or growth inhibiting factors.

- i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
- iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
- v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

### 2. Application

- a. Apply mulch to all seeded areas immediately after seeding
- b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
- c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

- a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
  - i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
- ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000

### **B-4-4 STANDARDS AND SPECIFICATIONS**

**FOR** 

### **TEMPORARY STABILIZATION**

**Definition** 

To stabilize disturbed soils with vegetation for up to 6 months.

### <u>Purpose</u> To use fast growing vegetation that provides cover on disturbed soils.

**Conditions Where Practice Applies** 

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

- 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and
- completed, then Table B.1 plus fertilizer and lime rates must be put on the plan. 2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- 3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

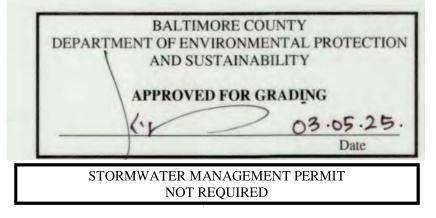
### **Temporary Seeding Summary**

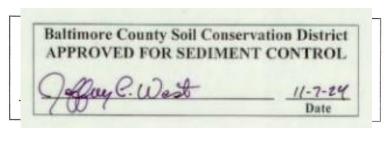
	Hardiness Zon Seed Mixture	Fertilizer Rate	Lime Rate				
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	(10-20-20)		
	FOXTAIL MILLET (SETARIA ITALICA)	30	MAY 1 - AUG 14	0.5"	436 lb/ac	2 tons/ac	
	PEARL MILLET (PENNISETUM GLAUCUM)	20	MAY 1 - AUG 14	0.5"			
	ANNUAL RYEGRASS (LOLIUM OERENNE SSP. MULTIFLORUM)	40	FEB 15 - APR 30 AUG 15 - NOV 30	0.5"	(10 lb/1000 sf)	(90 lb/1000 sf)	

### **Permanent Seeding Summary**

		<b>Cone</b> (from Figure (from Table B	· · · · · · · · · · · · · · · · · · ·	F	Lime Rate				
	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P <sub>2</sub> O <sub>5</sub>	$K_20$	- Enne Rate	
	CREEPING RED FESCUE (FESTUCA RUBRA VAR. RUBRA)	60	FEB 15 - APR 30 AUG 15 - DCT 31	½- ½ in	45 pounds	90 lb/ac	90 lb/ac	2 tons/ac	
г	KENTUCKY BLUEGRASS (PDA PRATENSIS)	15	FEB 15 - APR 30 AUG 15 - OCT 31	½- ½ in	per acre (1.0 lb/	(2 lb/	(2 lb/ 1000 sf)	(90 lb/ 1000 sf)	
				½- ½ in	1000 sf)	1000 sf)			

NOTE: FOR THE PERIOD MAY 1 - AUG 14, ADD 3.75 LB/AC OF FOXTAIL OR PEARL MILLET TO THE PERMANENT SEED MIX. SEE SHEET ESOO7 (ESC 8 OF 10) FOR ADDITIONAL VEGETATIVE STABILIZATION SPECIFICATIONS.





MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011

VERT: NAVD 88 SHEET DESIGNATION CONTRACT NUMBER ES006 23137 GXO ESC 7 OF 10

JOB ORDER NUMBER CC# 100362239 SHEET **27** OF 30 DRAWING NUMBER 2023-3264

FILE NO.: 3/9  $\frac{REV.}{03/22}$ 

**ESC 7 OF 10** 

DESIGN AND DRAWING BASED ON THE

**EROSION AND SEDIMENT CONTROL NOTES & DETAILS – 1** 4", 2", & 3/4" WATERLINE REPLACEMENT



PROFESSIONAL CERTIFICATION AS-BUILT / REVISION BY |DATE | P.W.A. NO. | KEY SHEET |POSITION SHT | DRAWING SCALE PROPERTY MANAGEMENT HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED ( N/A 35 SE 34 DIRECTO PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE R.O.W. NO. 36 SE 33 PROFILE SCALE: 37 SE 33 LICENSE NO. 58244 EXPIRATION DATE 09/27/2025 ONTRACT COMPLETION BOX N/A CHRIS COLLINS ENGINEER: DGN BY: SA/CC HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINER REVIEWED BY: APPROVED BY: AS-BUILT PER RECORD PRINT BY: DATE: DATE REVIEWED: CHKD BY: \_

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

### **B-4-5 STANDARDS AND SPECIFICATIONS**

### **FOR**

### **PERMANENT STABILIZATION**

### <u>Definition</u>

To stabilize disturbed soils with permanent vegetation.

### <u>Purpose</u>

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

### **Conditions Where Practice Applies**

<u>Criteria</u>

Exposed soils where ground cover is needed for 6 months or more

### Seed Mixtures

- General Use
- a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
- b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in
- USDA-NRCS Technical Field Office Guide, Section 342 Critical Area Planting. c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil
- d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

- a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
- b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
- i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where

rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

- iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
- iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures

WATER FIELD ENGINER

Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)

Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

- d. 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 stones and debris over 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ 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.

PROPERTY MANAGEMENT

APPROVED BY:

DIRECTO

### SOD SPECIFICATION

Sod: To provide quick cover on disturbed areas (2:1 grade or flatter)

- a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
- b. Sod must be machine cut at a uniform soil thickness of \(^{3}\)/4 inch, plus or minus \(^{1}\)/4 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
- c. Standard size sections of sod must 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
- d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its

### 2. Sod Installation

- a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
- b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints 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.
- c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
- d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

### 3. Sod Maintenance

- a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
- b. After the first week, sod watering is required as necessary to maintain adequate moisture
- c. Do not mow until the sod is firmly rooted. No more than ½ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

### GENERAL NOTES

- 1. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED
- 2. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT.
- 3. AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
- 4. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION

A. 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

B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

5. ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO BALTIMORE COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL

6. DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO "2011 MARYLAND STANDARDS"

- AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PG. H.22, FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
- 7. ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE.
- 8. EXCESS CUT OR BORROW MATERIAL SHALL GO TO, OR COME FROM, RESPECTIVELY, A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN.
- 9. THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO "MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION" BY THE WATER MANAGEMENT ADMINISTRATION OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, REVISED NOVEMBER 2000, FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION.
- 10. PUMPING SEDIMENT-LADEN WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED. ANY PORTABLE DEWATERING DEVICE MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE.
- 11. UPON INSTALLATION OF THE BASE PAVEMENT AND AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR, RELOCATE THE STABILIZED CONSTRUCTION ENTRANCES(S) AND INSTALL ADDITIONAL CONTROL MEASURES (STABILIZED CONSTRUCTION ENTRANCES, SILT FENCES, SUPER SILT FENCES.) AS NEEDED TO CONTROL SEDIMENT RUNOFF FROM DISTURBED AREAS. THE ADDITIONAL CONTROLS MUST NOT ALTER DRAINAGE PATTERNS.

TRAFFIC CONTROL NOTES:

- 1. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS (BCDPW) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED SEPTEMBER 2023 WITH ADDENDA 1 TO 3, MARYLAND DEPARTMENT OF TRANSPORTATION /STATE HIGHWAY ADMINISTRATION (MDOT/SHA) BOOK OF STANDARDS AND INCIDENTAL STRUCTURES, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE 2011 MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MDMUTCD).
- 2. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN TRAFFIC CONTROL SIGN AND DEVICES. THE CONTRACTOR SHALL MAINTAIN TRAFFIC DURING HOURS OF CONSTRUCTION IN ACCORDANCE WITH THE METHODS OF THE TRAFFIC CONTROL REFERENCED ON THIS SHEET, THE MDMUTCD AND REVISIONS THERETO.
- 3. ANY WORK WITHIN THE TRAVELED PORTION OF ROADWAYS SHALL BE RESTRICTED TO THE HOURS OF 9:00 AM TO 3:00 PM, MONDAY THROUGH FRIDAY. WORK DURING NIGHTTIME, WEEKENDS AND HOLIDAYS SHALL NOT OCCUR UNLESS AN EXCEPTION IS GRANTED IN WRITING BY THE BCDPW.
- 4. CONSTRUCTION ACTIVITY, INCLUDING LOADING OR UNLOADING OF EQUIPMENT, SHALL NOT BLOCK ANY TRAFFIC LANE OTHER THAN THOSE DELINEATED WITHIN THE WORK ZONE.
- 5. ACCESS TO ALL DRIVEWAYS IN THE WORK AREA SHALL BE MAINTAINED UNLESS PERMISSION FOR CLOSURE IS GRANTED BY THE PROPERTY OWNER/MANAGER. HOWEVER, ACCESSIBILITY FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.
- 6. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MUTCD/MDMUTCD. ALL SIGNS. TRAFFIC DRUMS AND CONES SHALL BE REFLECTORIZED WITH HIGH INTENSITY, REFLECTIVE SHEETING PER APPLICABLE BCDPW OR MDOT SHA STANDARDS.
- 7. PROVISION SHALL BE MADE FOR SAFE MAINTENANCE OF PEDESTRIAN AND BICYCLE TRAFFIC. INCLUDING APPROPRIATE AMERICANS WITH DISABILITIES ACT (ADA) ACCOMMODATIONS THROUGHOUT CONSTRUCTION DURATION.
- 8. SIGNS, DRUMS, TRAFFIC CONES, AND FLAGGING OPERATIONS SHALL BE PLACED IN ACCORDANCE WITH MDOT/SHA STANDARD MD 104.02-10 FLAGGING OPERATION / 2-LANE, 2-WAY LESS THAN OR EQUAL TO 40 MPH.
- 9. CONSTRUCTION VEHICLES SHALL HAVE APPROPRIATE AMBER FLASHING WARNING LIGHTS THAT PROVIDE 360-DEGREE VISIBILITY.
- 10. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED 30' FROM THE TRAVEL LANES AT ALL TIMES.
- 11. WHERE NO STABILIZED CONSTRUCTION ENTRANCE (SCE) IS APPROVED, THE CONTRACTOR SHALL DESIGNATE PIECES OF CONSTRUCTION EQUIPMENT THAT SHALL BE ALLOWED WITHIN THE LOD. THIS EQUIPMENT SHALL BE KEPT WITHIN THE LOD UNTIL THE PROPOSED WORK IS COMPLETE, AND SHALL HAVE TREADS/TIRES CLEANED PRIOR TO LEAVING THE LOD. ALL MATERIAL REMOVAL OR DELIVERY SHALL BE LIFTED EITHER FROM OR INTO THE LOD, AND ANY SEDIMENT TRACKED OR DROPPED OUTSIDE OF THE LOD SHALL BE CLEANED IMMEDIATELY BY VACUUMING, SCRAPING, AND/OR SWEEPING. FLUSHING WILL NOT BE PERMITTED.

MAINTENANCE NOTE: CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

DAILY STABILIZATION NOTE

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY.

STABILIZATION SHALL BE AS FOLLOWS: 1) FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE.

2) FOR AREAS TO BE VEGETATIVELY STABILIZED: a) PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS OR SWALES,

b) PERMANENT SEED AND MULCH FOR ALL OTHER AREAS. ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING

DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

UTILITY NOTE

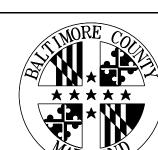
- 1) CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE
- 2) PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH. 3) ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

SEDIMENT CONTROL TRAFFIC NOTE: ANY TRAVEL LANE CLOSED BEFORE 9:00 A.M. OR AFTER 3:30 P.M. MUST BE APPROVED BY BALTIMORE COUNTY BUREAU OF TRAFFIC ENGINEERING AND TRANSPORTATION PLANNING AT (410) 887–3554

**ESC 8 OF 10** 

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88

SHEET DESIGNATION CONTRACT NUMBER ES007 23137 GXO ESC 8 OF 10



JOB ORDER NUMBER CC# 100362239 SHEET **28** OF 30 DRAWING NUMBER 2023-3265

FILE NO.: 3/9  $\frac{REV.}{03/22}$ 

Phone 410-884-3607 AS-BUILT / REVISION BY | DATE | P.W.A. NO. | KEY SHEET | POSITION SHT | DRAWING SCALE PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED ( N/A 35 SE 33 N/A APPROVED BY: PLAN SCALE: 35 SE 34 R.O.W. NO. PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE 36 SE 33 PROFILE SCALE: 37 SE 33 ONTRACT COMPLETION BOX N/A LICENSE NO. \_\_\_\_\_58244 \_\_\_\_, EXPIRATION DATE \_\_09/27/2025

HIGHWAYS STRUCTURES STORM DRAINS

Baltimore County Soil Conservation District

APPROVED FOR SEDIMENT CONTROL

REVIEWED BY:

DATE REVIEWED:

**BALTIMORE COUNTY** 

DEPARTMENT OF ENVIRONMENTAL PROTECTION

AND SUSTAINABILITY

APPROVED FOR GRADING

**BRUDIS & ASSOCIATES, INC.** 

Consulting Engineers

1000 Broken Land Pkwy, Suite 450

Columbia, Maryland 21045

STORMWATER MANAGEMENT PERMIT NOT REOUIRED

ENGINEER:

BY: DATE:

10/31/2024

03.05.25

CHRIS COLLINS

AS-BUILT PER RECORD PRINT

DGN BY: SA/CC

CHKD BY: \_\_\_\_AP

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT EROSION AND SEDIMENT CONTROL NOTES & DETAILS - 2 4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

# STANDARD EROSION AND SEDIMENT CONTROL NOTES

### A. Erosion and Sediment Control General Notes

MDE requires that these notes, in their entirety, be included on the erosion and sediment control plan. It is recognized that not every note may apply to all projects. The requirement of any individual note not applicable to the subject project is not binding upon the applicant or the applicant's contractor.

### EROSION AND SEDIMENT CONTROL GENERAL NOTES

- The contractor shall notify MDE at (410) 537-3510 seven (7) days before commencing any land disturbing activity and, unless waived by MDE, shall be required to hold a preconstruction meeting between project representatives and a representative of MDE.
- The contractor shall notify MDE in writing and by telephone at the following points: A. The required pre-construction meeting.
  - B. Following installation of sediment control measures.
  - C. During the installation of sediment basins (to be converted into permanent stormwater management structures) at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction of each step is mandatory.
  - D. Prior to removal or modification of any sediment control structure(s). E. Prior to removal of all sediment control devices.
  - F. Prior to final acceptance.
- The plan approval letter, approved erosion and sediment control plans, daily log books, and test reports shall be available at the site for inspection by duly authorized officials of MDE and the agency responsible for the project.
- The contractor shall construct all erosion and sediment control measures per the approved plan and construction sequence and shall have them inspected and approved by the MDE inspector prior to beginning any other land disturbances. Minor sediment control device location adjustments may be made in the field with the approval of the MDE inspector. The contractor shall ensure that all runoff from disturbed areas is directed to the sediment control devices and shall not remove any erosion or sediment control measure without prior permission from MDE inspector. The contractor shall obtain prior agency and MDE approval for modifications to the erosion and sediment control plan and/or sequence of construction.
- The MDE inspector has the option of requiring additional safety or sediment control measures, if deemed necessary.
- The contractor shall protect all points of construction ingress and egress to prevent the deposition of materials onto public roads. All materials deposited onto public roads shall be removed immediately.
- The contractor shall inspect daily and maintain continuously in an effective operating condition all erosion and sediment control measures until such time as they are removed with prior permission from the MDE inspector.
- Erosion and sediment control for utility construction shall be provided in accordance with approved plans. Utility construction shall only be for areas within the delineated limit of disturbance. Call "Miss Utility" at 1-800-257-7777 48 hours prior to the start of work. When same day stabilization is approved:
  - A. Excavated trench material shall be placed on the high side of the trench. B. Trenches for utility installation shall be backfilled, compacted, and stabilized at the end of each working day. No more trench shall be opened than can be completed the same
- All water removed from excavated areas shall be passed through an MDE approved dewatering practice or pumped to a sediment trap or basin prior to discharge to a functional storm drain system or to stable ground surface.
- 10. Concrete washout structures shall be used when concrete trucks, drums, pumps, chutes, or other equipment is rinsed or cleaned on-site.
- 11. Construction activities producing dust shall implement control measures to avoid the suspension of dust particles and/or prevent dust from blowing off-site or to areas without
- 12. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within:
  - A. 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 B. Seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading.
- 13. Vegetative stabilization shall be performed in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. Refer to appropriate specifications for temporary seeding, permanent seeding, mulching, sodding, and ground
- 14. When seeding, all disturbed areas with slopes flatter than 2:1 shall be stabilized with 4 inches of topsoil, seed, and mulch. All disturbed areas with slopes 2:1 or steeper shall be stabilized with matting over 2 inches of topsoil and seed.

- All sediment basins, trap embankments and slopes, perimeter dikes, swales and all disturbed slopes steeper or equal to 3:1 shall be stabilized with seed and anchored straw mulch, sod, or other approved stabilization measures, as soon as possible but no later than three (3) calendar days after establishment. All areas disturbed outside of the perimeter sediment control system shall be minimized. Maintenance shall be performed as necessary to ensure
- 16. Permanent swales or other points of concentrated water flow shall be stabilized with seed and an approved erosion control matting, sod, rip-rap, or other approved stabilization measures.
- 17. For stockpile slopes steeper than 3 horizontal to 1 vertical (3:1), the contractor shall apply seed and anchored straw mulch, sod, or other approved stabilization measures to the face of the stockpile within three (3) calendar days of activity having ceased on the respective face. For slopes 3:1 or flatter, the contractor shall apply stabilization measures to the face of the stockpile within seven (7) calendar days of activity having ceased on the respective face. Maintenance shall be performed as necessary to ensure continued stabilization.
- 18. For finished grading, the contractor shall provide adequate gradients to prevent water from ponding for more than twenty-four (24) hours after the end of a rainfall event. Drainage courses and swale flow areas may take as long as forty-eight (48) hours after the end of a rainfall event to drain. Areas designed to have standing water shall not be required to meet this requirement.
- Where deemed appropriate by the engineer or inspector, sediment basins and traps may need to be surrounded with an approved safety fence. The fence must conform to local ordinances and regulations. The developer or owner shall check with local building officials on applicable safety requirements. Where safety fence is deemed appropriate and local ordinances do not specify fencing sizes and types, the following shall be used as a minimum standard: The safety fence shall be made of welded wire and at least 42 inches high, have posts spaced no farther apart than 8 feet, have mesh openings no greater than 2 inches in width and 4 inches in height with a minimum of 14 gauge wire. Safety fence shall be maintained and in good condition at all times.
- 20. All sediment trap depth dimensions are relative to the outlet elevation. All traps shall have a stable outfall. All traps and basins shall have stable inflow points.
- Sediment shall be removed and the trap or basin restored to its original dimensions when the sediment has accumulated to one quarter of the total depth of the trap or basin. Total depth shall be measured from the trap or basin bottom to the crest of the outlet.
- Sediment removed from traps (and basins) shall be placed and stabilized in approved areas, but not within a floodplain, wetland or tree-save area. When pumping sediment laden water, the discharge shall be directed to an MDE approved sediment trapping device prior to release from the site. A sump pit may be used if sediment traps themselves are being pumped out.
- Prior to removal of sediment control measures, the contractor shall stabilize and have established permanent stabilization for all contributory disturbed areas using sod or an approved permanent seed mixture with required soil amendments and an approved anchored mulch. Wood fiber mulch may only be used in seeding season where the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized as soon as possible, but not later than three (3) calendar days after establishment for slopes steeper than 3 horizontal to 1 vertical (3:1) and seven (7) calendar days for flatter slopes. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, temporary seed and anchored straw mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be applied by March 15 or earlier if ground and weather conditions allow.
- Temporary sediment control devices shall be removed with permission of the MDE inspector within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Upon removal of sediment control devices, the area disturbed by removal shall be stabilized with topsoil, seed, and mulch, or as specified, within 24 hours of said removal. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.
- 25. Off-site spoil or borrow areas on State or federal property shall have prior approval by MDE and other applicable State, federal, and local agencies; otherwise approval shall be granted by the local authorities. All waste and borrow areas off-site shall be protected by sediment control measures and stabilized.

26.	Site Information:		
	A. Area Disturbed	0.33	Acres
	B. Total Cut	720	Cubic Yards
	C. Total Fill	720	Cubic Yards
	D. Off-Site Waste / Borro	w Area Location	_

### **B.** Standard Stabilization Note

### STANDARD STABILIZATION NOTE

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed 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) days as to all other disturbed or graded areas on the project site not under active grading.

SUBDIVISION: SPARROWS POINT

5.1 Engineer's Certification

I/We, CHRIS COLLINS, do hereby certify that the sediment control provisions shown on this plan are designed in accordance with the guidelines, standards and specifications for soil erosion and sediment control issued by the Maryland Department of the Environment, latest edition.

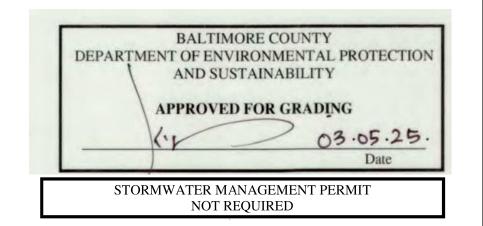
Signature: The College Title: <u>DESIGN ENGINEER</u> Date: 09/06/2024

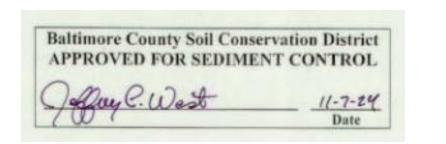
Printed Name: CHRIS COLLINS MD Registration No.: \_58244

(Circle One)

NOTE:

NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS, AND INSPECTIONS, SEDIMENT CONTROL, 410-887-3226 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT INSPECTION AND COMPLIANCE PROGRAM AT (410) 537-3510 AT LEAST 5 DAYS PRIOR TO STARTING WORK.





**ESC 9 OF 10** 

2023-3266

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88

SHEET DESIGNATION CONTRACT NUMBER ES008 23137 GXO



BRUDIS & ASSOCIATES, INC.

Consulting Engineers

1000 Broken Land Pkwy, Suite 450

Columbia, Maryland 21045 Phone 410-884-3607 www.brudis.com												
PROFESSIONAL CE	ERTIFICATION	AS-BUILT / RE	VISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING	G SCALE	PROPERTY	MANAGEMENT
HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED PPROVED BY ME, AND THAT I AM A DULY LICENS						N/A		35 SE 33 35 SE 34	PLAN SCALE:	N/A	APPROVED BY:	
PROFESSIONAL ENGINEER UNDER T IARYLAND.	THE LAWS OF THE STATE OF					R.O.W. NO.	A-SE	36 SE 33			DIRECT	
	RATION DATE <u>09/27/2025</u> .	CONTRACT COMPLETIO	N BOX			N/A		37 SE 33	PROFILE SCALE	N/A	DATE:	
ENGINEER: CHRIS COLLINS	DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGH	HWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		
AS-BUILT PER RECORD PRINT	DWN BY:CC	REVIEWED BY:									APPROVED BY:	CHII
BY:	CHKD BY: AP	DATE REVIEWED:									DATE:	CIIII

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT **EROSION AND SEDIMENT CONTROL NOTES & DETAILS – 3** 4", 2", & 3/4" WATERLINE REPLACEMENT FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

JOB ORDER NUMBER CC# 100362239 SHEET **29** OF 30 DRAWING NUMBER FILE NO.: 3/9 REV. 03/22

ELECTION DIST. NO.: 15C7

ESC 9 OF 10

### **B-4-8 STANDARDS AND SPECIFICATIONS**

### STOCKPILE AREA

<u>Definition</u>

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

### Conditions Where Practice Applies

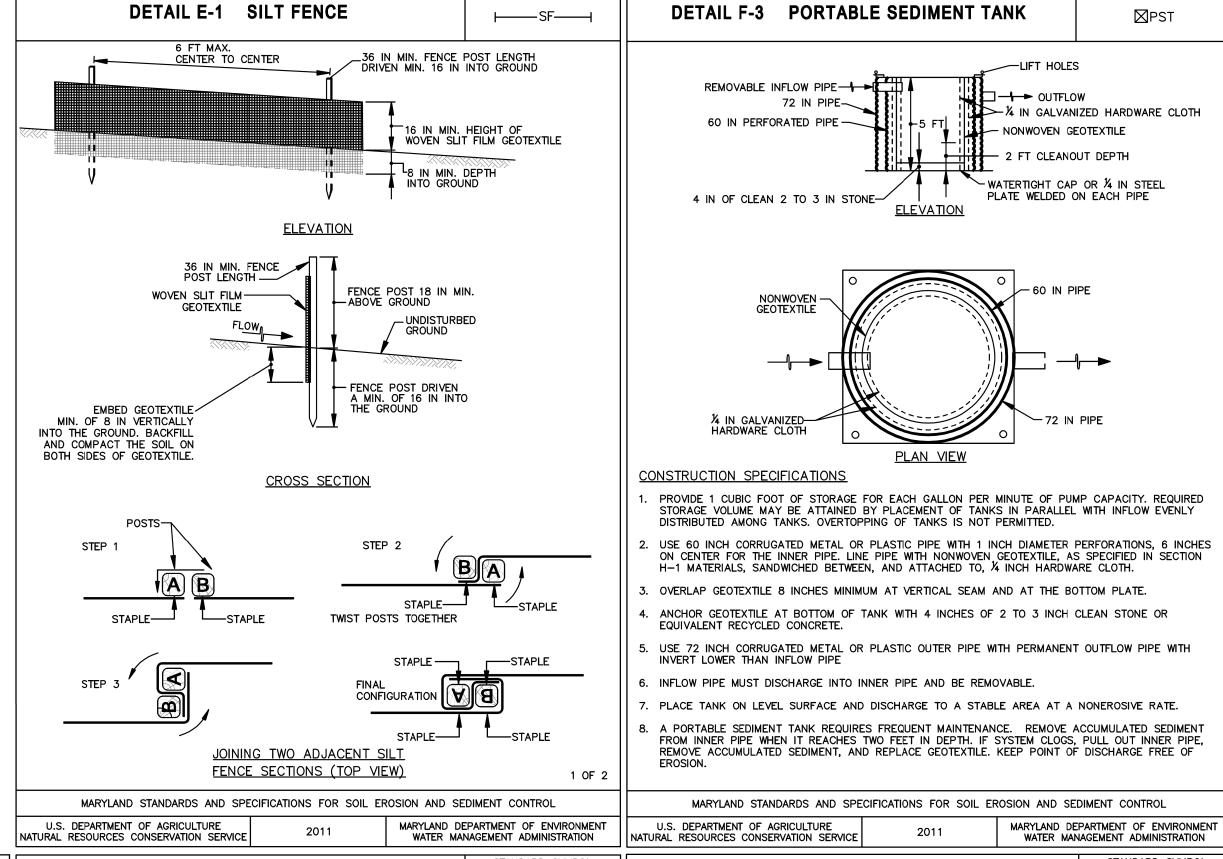
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

### <u>Criteria</u>

- 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
- 3. Runoff from the stockpile area must drain to a suitable sediment control practice.
- 4. Access the stockpile area from the upgrade side.
- 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
- 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
- 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable

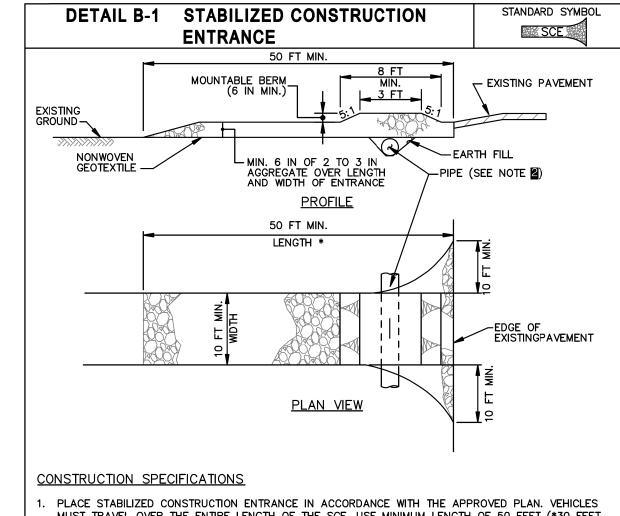
### **Maintenance**

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.



⊢——SF———

STANDARD SYMBOL



	PLAN VIEW	10 FT MIN	8. REMOVE ACCUMULATED SEDIMENT AND SEDIMENT REACHES 25% OF FENCE HEINSTALL FENCE.		DEVELOP IN SILT FENCE OR WHEN TILE IF TORN. IF UNDERMINING OCCURS,
CONSTRUCTION SPECIFICATIONS					
	GTH OF THE SCE. USE MINIMUM WIDTH OF 10 FEET	WITH THE APPROVED PLAN. VEHICLES INIMUM LENGTH OF 50 FEET (*30 FEET T. FLARE SCE 10 FEET MINIMUM AT THE			
	DTECT PIPE INSTALLED THUM OF 12 INCHES OF ST THE SCE IS LOCATED A	HROUGH THE SCE WITH A MOUNTABLE TONE OVER THE PIPE. PROVIDE PIPE AS AT A HIGH SPOT AND HAS NO DRAINAGE			
3. PREPARE SUBGRADE AND PLACE NON	IWOVEN GEOTEXTILE, AS	SPECIFIED IN SECTION H-1 MATERIALS.			
4. PLACE CRUSHED AGGREGATE (2 TO 3 REBAR) AT LEAST 6 INCHES DEEP ON		DUIVALENT RECYCLED CONCRETE (WITHOUT DTH OF THE SCE.			
5. MAINTAIN ENTRANCE IN A CONDITION OTHER REPAIRS AS CONDITIONS DEMA SPECIFIED DIMENSIONS. IMMEDIATELY TRACKED ONTO ADJACENT ROADWAY ROADWAY TO REMOVE MUD TRACKED DIRECTED TO AN APPROVED SEDIMENT	AND TO MAINTAIN CLEAN REMOVE STONE AND/OR BY VACUUMING, SCRAPIN ONTO PAVEMENT IS NOT	SURFACE, MOUNTABLE BERM, AND SEDIMENT SPILLED, DROPPED, OR			
					2 OF
MARYLAND STANDARDS AND SPE	CIFICATIONS FOR SOIL E	ROSION AND SEDIMENT CONTROL	MARYLAND STANDARDS AND SPE	CIFICATIONS FOR SOIL EF	ROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
	ı				

DETAIL E-1 SILT FENCE

USE WOOD POSTS  $1\frac{7}{4}$  X  $1\frac{7}{4}$   $\pm$   $\frac{7}{16}$  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.

USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.

USE WOVEN SLIT 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

5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.

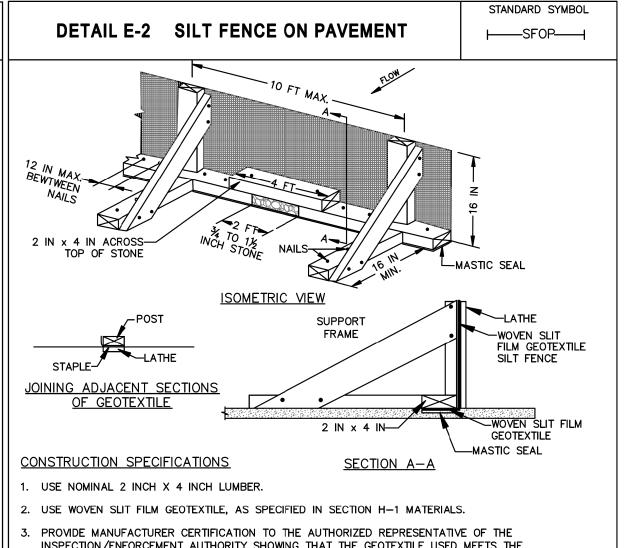
EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS

4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE

6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN

CONSTRUCTION SPECIFICATIONS

REQUIREMENTS IN SECTION H-1 MATERIALS.



STANDARD SYMBOL

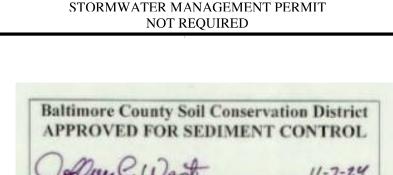
- INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- 4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.

NATURAL RESOURCES CONSERVATION SERVICE

- 5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE
- OPENING OVER GEOTEXTILE. 6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS.
- . WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
- 8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
- 9. SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
- 10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

WATER MANAGEMENT ADMINISTRATION

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE



**BALTIMORE COUNTY** 

DEPARTMENT OF ENVIRONMENTAL PROTECTION

AND SUSTAINABILITY

APPROVED FOR GRADING

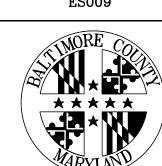
### **ESC 10 OF 10**

Date

03.05.25

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88

SHEET DESIGNATION | CONTRACT NUMBER ESC 10 OF 10



23137 GXO JOB ORDER NUMBER CC# 100362239 SHEET **30** OF 30 DRAWING NUMBER 2023-3267

FILE NO.: 3/9  $\frac{REV.}{03/22}$ 

BRUDIS & ASSOCIATES, INC. 11000 Broken Land Pkwy, Suite 450 Columbia, Maryland 21045

10/31/2024

	Phone 410-884-3607 www.brudis.com											
	PROFESSIONAL (	CERTIFICATION	AS-BUILT / REVISION	ON BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWIN	G SCALE	PROPERTY MANAG	EMENT
I HEREBY CERTIFY THAT THESE DOCUMENTS APPROVED BY ME. AND THAT I AM						N/A		35 SE 33 35 SE 34	PLAN SCALE:	N/A	APPROVED BY:	
	PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.					R.O.W. NO.	A-SE	36 SE 33	PROFILE SCALE:			DIRECTOR
			CONTRACT COMPLETION BOX	x		N/A	:			N/A	DATE:	
	ENGINEER: CHRIS COLLINS	DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION TRA	AFFIC HI	GHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		
	AS-BUILT PER RECORD PRIN	DWN BY:CC	REVIEWED BY:								APPROVED BY:	CHIEF
	BY: DATE:	CHKD BY: AP	DATE REVIEWED:								DATE:	

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT GRADING, EROSION, AND SEDIMENT CONTROL NOTES & DETAILS - 4 4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052 SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7