BALTIMORE COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3
BACK RIVER NECK ROAD
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD
BALTIMORE COUNTY CONTRACT NO. 23186-WXO
BALTIMORE COUNTY J.O. NO. 231-203-0067-0783
WORKDAY PROJ-10000520

GENERAL NOTES

1. ALL WATER MAINS SHALL BE DUCTILE IRON PIPE CLASS 54 WITH BONDED COATING, UNLESS OTHERWISE NOTED ON THE PLANS, IN ACCORDANCE WITH ANSI/AWWA C150/A21.51–08 WITH CATHODIC PROTECTION. (SEE CORROSION CONTROL SHEETS 1–9 FOR PLANS AND DETAILS FOR DETAILS.) REFER TO SPECIAL PROVISIONS. SEE CORROSION CONTROL SHEET 1 FOR GENERAL CORROSION NOTES.
2. DUCTILE IRON FITTINGS SHALL MEET THE LATEST AWWA C110/A21–10–12 AND AWWA C153/A21.53–11 (PRESSURE RATING SHALL BE AS SPECIFIED). FITTINGS SHALL BE PROVIDED WITH A ZINC COAT AND A BITUMINOUS TOPCOAT OR HAS FUSION BONDED COATING.
3. FOR NEW OR RELOCATED FIRE HYDRANT INSTALLATIONS, A NEW LOCK–ON TEE WILL BE INSTALLED AND THE 6–INCH VALVE WILL BE BOLTED TO THE LOCK–ON TEE UNLESS OTHERWISE INDICATED. THE 6–INCH HYDRANT LEAD, VALVE, AND HYDRANT LEAD WILL BE RESTRAINED TO EACH OTHER BY RESTRAINING GLANDS.
4. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS, ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE DONE IN ACCORDANCE WITH THE 2000 EDITION "BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS", AND THE 2007 EDITION OF THE "BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS FOR CONSTRUCTION" INCLUDING ALL ADDENDA.
5. 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 83/91.
6. THE EXISTING UTILITIES AND OTHER EXISTING FEATURES THAT ARE SHOWN THE PLANS ARE APPROXIMATE, FROM THE BEST AVAILABLE RECORDS AND THE ACCURACY AND THE COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED. THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR TO HIS/HER SATISFACTION PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO AND DISTURBANCE OF EXISTING UTILITIES. 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.
7. CONTRACTOR SHALL TEST PIT TO DETERMINE THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES TO BE CROSSED OR CONNECTED, INCLUDING ANY APPLICABLE SIDELINE UTILITY, 60–FEET IN ADVANCE OF LAYING PIPE. TEST PITS WILL BE PAID AT TIE–IN POINTS AND AT UTILITIES NOT SHOWN ON PLANS. THIS IS TO BE APPROVED BY INSPECTOR. THE COST FOR THIS PITTING WILL BE CONSIDERED INCIDENTAL TO THE WATER MAIN BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, TO ADJUST THE LOCATIONS OF FITTING AND THE ELEVATION OF THE PIPELINES AS NECESSARY DUE TO ACTUAL FIELD CONDITIONS. ALL DEFLECTED PIPES SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATION AND BALTIMORE COUNTY STANDARDS, WHICHEVER IS MORE CONSERVATIVE. UNLESS OTHERWISE INDICATED, ALL ELEVATIONS OF PROPOSED PIPING REFER TO BOTTOM OF PIPE.
9. 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 MARYLAND STATE HIGHWAY ADMINISTRATION AND BALTIMORE COUNTY.
10. THE CONTRACTOR SHALL OPEN ONLY THE SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED IN ONE DAY. THE END OF THE PIPE SHALL BE PLUGGED OR CAPPED AND PLATED OVER AT THE END OF EACH WORK DAY.
11. WHEN EXCAVATING FOR UTILITIES, ALL SPOIL MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
12. AS PER STANDARD SPECIFICATION 1011–ABANDONMENT OF WATER APPURTENANCES OR WATER MAINS 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 IF ANY, SHALL BE CONSIDERED INCIDENTAL AND SHALL BE OF NO COST TO THE COUNTY. ALL PRICES ARE TO BE INCLUDED IN THE PRICE BID FOR THE APPLICABLE INCH WATER MAIN.
13. 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.
14. 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.
15. ONLY BALTIMORE CITY PERSONNEL OR THEIR DESIGNEE, SHALL OPERATE EXISTING VALVES. CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY INSPECTOR TO ARRANGE A SHUTDOWN WITH THE CITY AT LEAST 10 WORKING DAYS PRIOR TO PROPOSED SHUTDOWN. IF THE INSPECTOR IN THE FIELD IS UNAVAILABLE, CALL THE BALTIMORE COUNTY AREA ENGINEER AT 410–887–3531.
16. ALL CONNECTIONS AND SHUTDOWNS SHALL BE COORDINATED WITH BALTIMORE COUNTY. NO WORK SHALL BEGIN UNLESS ALL TOOLS, EQUIPMENT, AND MATERIALS NECESSARY FOR THE TIE–IN CONNECTION WORK ARE ON–SITE AND APPROVED BY THE ENGINEER. NO ADDITIONAL COMPENSATION FOR NIGHT OR WEEKEND SHUTDOWNS WILL BE MADE.
17. THE COST FOR CONSTRUCTING UNDER AND/OR 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.
18. "FULL TRENCH COMPACTION" IS REQUIRED FOR ALL TRENCHES. MAINS SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER EXCEPT WHERE SPECIFIED.
19. CONTRACTOR TO REPLACE ALL GALVANIZED STEEL SERVICE LINES FROM THE NEW MAIN CORPORATION TO THE EXISTING OR NEW METER VAULT WITH COPPER PIPE OF LIKE SIZE (MINIMUM ¾ INCH) AS DIRECTED BY THE ENGINEER. THE ENGINEER OF RECORD SHALL DETERMINE THE USE OF EXISTING METER VAULT OR REPLACEMENTS DEPENDING ON CONDITION OF THE EXISTING VAULTS. LOCATION OF SERVICE CONNECTIONS ARE SHOWN FOR INFORMATION ONLY. LOCATIONS FOR NEW AND/OR REPLACEMENT SERVICES WILL BE DETERMINED IN THE FIELD.
20. A CONSTRUCTION SCHEDULE SHALL BE SUBMITTED TO THE BUREAU OF ENGINEERING AND CONSTRUCTION. CONSTRUCTION CONTRACTS ADMINISTRATION DIVISION AT THE TIME OF THE PRE–CONSTRUCTION CONFERENCE SCHEDULE SHALL BE UPDATED AND SUBMITTED MONTHLY AND UPON REQUEST.
21. THE CONTRACTOR SHALL INSTALL NON–DETECTABLE WARNING TAPE ON TOP OF ALL RESTRAINED PIPE. TAPE SHALL BE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) RED AND SHALL BE PROVIDED WITH TWO LINES OF 1–INCH MINIMUM HEIGHT BLACK COLORED LETTERS WITH "NO–DIG" SYMBOL FOLLOWING EACH CYCLE OF TEXT. FIRST LINE TO READ "CAUTION RESTRAINED JOINT PIPE" AND SECOND LINE TO READ "CALL DPW @ 410–396–7870". CYCLE OF TEXT TO BE REPEATED EVERY 20 TO 24 INCHES.
22. 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 HOMEOWNER MAY CLAIM. AS THIS WORK IS ONLY TO PROTECT THE CONTRACTOR, THERE SHALL BE NO PAYMENT FOR THIS WORK.

BENCHMARKS

BM 'M'
BOX CUT TC IN FRONT OF F.H.
ELEV. = 28.27

BM 'N'
BOX CUT TC @ CORNER OF TRANSFORMER PAD
ELEV. = 24.39

BM 'O'
BOX CUT TC @ CORNER OF ROYAL FARMS DUMPSTER
ELEV. = 31.22

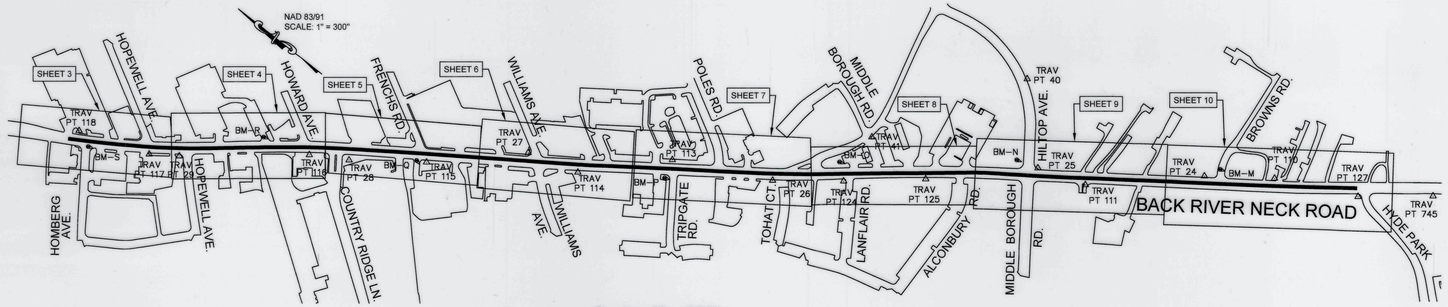
BM 'P'
BOX CUT TC @ END OF SIDEWALK
ELEV. = 36.24

BENCHMARKS

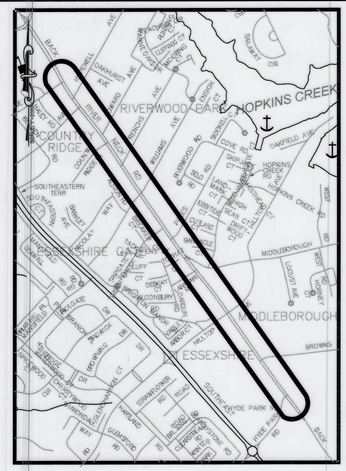
BM 'Q'
BOX CUT TC @ END OF SIDEWALK
ELEV. = 38.78

BM 'R'
BOX CUT TC
ELEV. = 30.69

BM 'S'
BOX CUT TC
ELEV. = 31.32



Scale: 1" = 300'



VICINITY MAP

1000' 0 1000' 2000'
SCALE: 1" = 1000'

23. THE CONTRACTOR SHALL CONTACT BALTIMORE CITY BUREAU OF WATER & WASTEWATER AT 410–396–3671 (72) HOURS PRIOR TO STARTING THE PROJECT. NOTIFY BALTIMORE COUNTY FIRE MARSHALL AT (410) 887–4880 (72) BEFORE TAKING FIRE HYDRANT OUT OF SERVICE.
24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MINIMIZING THE TRACKING OF DIRT AND MUD ONTO ROADS AND PUBLIC RIGHT–OF–WAY. CONSTRUCTION ACCESS TO EASEMENTS MAY BE INSTALLED IF APPROVED BY THE ENGINEER, AND SHALL BE PROVIDED AT NO ADDITIONAL COST. THE CONTRACTOR SHALL CLEAN UP DIRT AND/OR MUD TRACKED ONTO ROADS IMMEDIATELY, BY VACUUMING, SCRAPING, AND/OR SWEEPING.
25. LOCATION OF SERVICE CONNECTIONS IS SHOWN FOR INFORMATION ONLY. FINAL LOCATIONS FOR NEW AND/OR REPLACEMENT SERVICES WILL BE DETERMINED IN THE FIELD. ALL SERVICE CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH BALTIMORE COUNTY'S STANDARD SPECIFICATION AND DETAILS. CONTRACTOR SHALL VERIFY THE SIZE OF ALL SERVICE CONNECTIONS PRIOR TO ORDERING AND INSTALLING COPPER PIPE.
26. ALL WORK SHALL COMPLY WITH THE APPROVED SEDIMENT AND EROSION CONTROL PLANS INCLUDED HEREIN AND ALL APPLICABLE PROVISIONS OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ISSUED JOINTLY BY THE MARYLAND DEPARTMENT OF ENVIRONMENT AND THE NATURAL RESOURCES CONSERVATION SERVICE AS WELL AS BALTIMORE COUNTY SOIL CONSERVATION DISTRICT REQUIREMENTS.
27. ALL BUSINESSES AND RESIDENTS SHALL BE INFORMED AT LEAST SEVEN (7) DAYS PRIOR TO SHUTDOWN OF THEIR SERVICES.
28. ALL SHUTDOWNS FOR THE TIE–INS OF THE WATER MAIN SHALL BE BRIEF, AFFECTING THE LEAST POSSIBLE SERVICES AND OCCUR BETWEEN 9:00 PM AND 6:00 AM ON WEEKENDS OR AS DIRECTED BY THE ENGINEER. CONTRACTOR TO PROVIDE SCHEDULE AND COORDINATE WITH INSPECTOR FOR EACH TIE–IN. TIME LIMITS FOR WORKING TO START AND STOP ON BACK RIVER NECK ROAD.
29. IN COMPLIANCE WITH COMAR 09.20.01.03 AND THE SAFE DRINKING WATER ACT (SECTION 1417(a)(4)(B)) MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT. WHICH WENT INTO EFFECT IN MARYLAND IN JANUARY 2012.
30. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED GRAVITY SANITARY OR STORM SEWER, SEPTIC TANK, OR SUBSOIL TREATMENT SYSTEM. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE MINIMUM VERTICAL DISTANCE OF 18" BETWEEN OUTSIDE OF WATER MAIN AND OUTSIDE OF SEWER. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED, SO BOTH JOINTS ARE AS FAR FROM SEWER CROSSING AS POSSIBLE.
31. THE PROPOSED GRADING SHOWN ON THIS PLAN MEETS THE REQUIREMENTS SET FORTH BY BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENT PROTECTION AND SUSTAINABILITY AND COMPLIES WITH ARTICLE 33, TITLE 5 OF BALTIMORE COUNTY CODE. HOWEVER, DUE TO BUILDING TYPES AND LAYOUT, SOME FIELD ADJUSTMENTS MAY BE REQUIRED. ALL CHANGES MUST COMPLY WITH THE ABOVE MENTIONED REQUIREMENTS.
32. ALL SWALES HAVE BEEN DESIGNED BY THE ENGINEER TO CONVEY RUNOFF ACCORDING TO BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS.
33. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISCHARGE OF VEGETATION IN THE FOREST BUFFER EASEMENT OR OTHER FOREST RETENTION AREAS, EXCEPT AS PERMITTED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY.
34. STORMWATER MANAGEMENT HAS BEEN ADDRESSED/APPROVED BY/THROUGH (PAYMENT OF A FEE IN LIEU TO THE BALTIMORE COUNTY STORMWATER MANAGEMENT FUND/STORMWATER MANAGEMENT VARIANCE/STORMWATER MANAGEMENT EXEMPTION/ENVIRONMENTAL SITE DESIGN).

LIST OF DRAWINGS

SHEET NO.	SHEET DESIGNATION	DRAWING NO.	DESCRIPTION
1	WATER - 1	2023-2704	TITLE SHEET
2	WATER - 2	2023-2705	BILL OF MATERIAL, HORIZONTAL/VERTICAL CONTROL, ADDITIONAL NOTES
3	WATER - 3	2023-2706	PROP. 24" WATER MAIN PLAN (STA. 0+00 TO STA. 3+00)
4	WATER - 4	2023-2707	PROP. 24" WATER MAIN PLAN (STA. 3+00 TO STA. 9+50)
5	WATER - 5	2023-2708	PROP. 24" WATER MAIN PLAN (STA. 9+50 TO STA. 16+00)
6	WATER - 6	2023-2709	PROP. 24" WATER MAIN PLAN (STA. 16+00 TO STA. 22+50)
7	WATER - 7	2023-2710	PROP. 24"/16" WATER MAIN PLAN (STA. 22+50 TO STA. 30+00)
8	WATER - 8	2023-2711	PROP. 16" WATER MAIN PLAN (STA. 30+00 TO STA. 37+00)
9	WATER - 9	2023-2712	PROP. 16" WATER MAIN PLAN (STA. 37+00 TO STA. 45+00)
10	WATER - 10	2023-2713	PROP. 16" WATER MAIN PLAN (STA. 45+00 TO STA. 52+19)
11	WATER - 11	2023-2714	PROP. WATER MAIN BRANCH CONNECTIONS AND FIRE HYDRANT PROFILES
12	WATER - 12	2023-2715	PROP. WATER MAIN BRANCH CONNECTIONS AND FIRE HYDRANT PROFILES
13	WATER - 13	2023-2716	PROP. WATER MAIN BRANCH CONNECTIONS AND FIRE HYDRANT PROFILES
14	WATER - 14	2023-2717	PROP. WATER MAIN BRANCH CONNECTIONS AND FIRE HYDRANT PROFILES
15	WATER - 15	2023-2718	WATER HOUSE CONNECTIONS CHART AND MISCELLANEOUS TABLES
16	WATER - 16	2023-2719	SPECIAL DETAILS
17	WATER - 17	2023-2720	SUGGESTED SEQUENCE OF CONSTRUCTION
18	WATER - 18	2023-2721	VALVE SHUTDOWN MAP
19	CORRO - 1	2023-2722	CORROSION CONTROL PLAN (STA. 0+00 TO STA. 6+50)
20	CORRO - 2	2023-2723	CORROSION CONTROL PLAN (STA. 6+50 TO STA. 16+00)
21	CORRO - 3	2023-2724	CORROSION CONTROL PLAN (STA. 16+00 TO STA. 25+50)
22	CORRO - 4	2023-2725	CORROSION CONTROL PLAN (STA. 25+50 TO STA. 35+50)
23	CORRO - 5	2023-2726	CORROSION CONTROL PLAN (STA. 35+50 TO STA. 45+00)
24	CORRO - 6	2023-2727	CORROSION CONTROL PLAN (STA. 45+00 TO STA. 52+19)
25	CORRO - 7	2023-2728	CORROSION CONTROL DETAILS
26	CORRO - 8	2023-2729	CORROSION CONTROL DETAILS
27	CORRO - 9	2023-2730	CORROSION CONTROL DETAILS

LIST OF DRAWINGS CONTINUED

SHEET NO.	SHEET DESIGNATION	DRAWING NO.	DESCRIPTION
28	TRAFF - 1	2023-2731	TRAFFIC CONTROL PLAN (STA. 0+00 TO STA. 12+00)
29	TRAFF - 2	2023-2732	TRAFFIC CONTROL PLAN (STA. 12+00 TO STA. 28+50)
30	TRAFF - 3	2023-2733	TRAFFIC CONTROL PLAN (STA. 28+50 TO STA. 46+00)
31	TRAFF - 4	2023-2734	TRAFFIC CONTROL PLAN (STA. 46+00 TO STA. 52+19)
32	TRAFF - 5	2023-2735	TRAFFIC CONTROL SPECIAL DETAIL 'A'
33	TRAFF - 6	2023-2736	TRAFFIC CONTROL SPECIAL DETAIL 'B'
34	TRAFF - 7	2023-2737	TRAFFIC CONTROL SPECIAL DETAIL 'C'
35	TRAFF - 8	2023-2738	TRAFFIC CONTROL SPECIAL DETAIL 'D'
36	SC-1	2023-2739	EROSION AND SEDIMENT AND GRADING PLAN TITLE SHEET
37	SC-2	2023-2740	HORIZONTAL/VERTICAL CONTROL, CONSTRUCTION SIGN
38	SC-3	2023-2741	EROSION AND SEDIMENT AND GRADING PLAN
39	SC-4	2023-2742	EROSION AND SEDIMENT AND GRADING PLAN
40	SC-5	2023-2743	EROSION AND SEDIMENT AND GRADING PLAN
41	SC-6	2023-2744	EROSION AND SEDIMENT AND GRADING PLAN
42	SC-7	2023-2745	EROSION AND SEDIMENT CONTROL DETAILS
43	SC-8	2023-2746	EROSION AND SEDIMENT CONTROL NOTES
44	SC-9	2023-2747	EROSION AND SEDIMENT CONTROL NOTES

CITY PLATS
AA-42
BB-42, 43
CC-43, 44
DD-43, 44, 45
EE-44, 45, 46

ADC MAP (29TH EDITION)
PAGE: 4821, GRID: J-10
PAGE: 4821, GRID: J-01, K-01, K-02

LOWEST ELEVATION TOP OF MAIN: 11.8'
NORMAL OPERATING PRESSURE: 90 PSI
TEST PRESSURE: 135 PSI
WATER ZONE: 1st

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL – NAD 83/91
VERTICAL – NAVD 88

TOTAL AREA TO BE DISTURBED:
0.94 ACRES
40,887 SQ. FT.

CONTRACT COMPLETION BOX
CONTRACTOR: _____
DATE COMPLETED: _____
INSPECTOR: _____
PIPE MATERIAL: _____
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S): _____
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S): _____
☐ OTHER (SPECIFY): — PIPE DIAMETER(S): _____

CITY OF BALTIMORE

Opinder Singh — 9/11/25
CHIEF, UTILITIES ENGINEERING SECTION — DATE

Elston Large for Tim Wolfe — 9/11/25
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

For — 9/12/2025
DIRECTOR, DEPT. OF PUBLIC WORKS — DATE

REVISION – CITY OF BALTIMORE
CHIEF, UTILITIES ENGINEERING SECTION — DATE

OWNER/DEVELOPER:
NAME: BALTIMORE COUNTY DPW&T BUREAU OF ENGINEERING & CONSTRUCTION
ADDRESS: 111 W. CHESAPEAKE AVENUE, TOWSON, MD. 21204
PHONE: 410–887–3300

DESIGN PROFESSIONAL:
NAME: THE WILSON T. BALLARD COMPANY
ATTN.: SHAWN BURNETT
ADDRESS: 17 GWYNNS MILL COURT, OWINGS MILLS, MD. 21117
PHONE: 410–363–0150
EMAIL: SBURNETT@WTBCO.COM

SEAL — STATE OF MARYLAND — SHAWN T. BURNETT — 20615 — PROFESSIONAL ENGINEER
DATE : 7-9-25

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT — THE WILSON T. BALLARD CO — DESIGN BY: DS
AS–BUILT PER RECORD PRINT — DRAWN BY: TL
BY: — DATE: — CHKD BY: SB

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.	I–SE	2NE34, 3NE33, 3NE34, 5NE32, 5NE33, 6NE32
Contract Completion Box					

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	VRC	X	RLC	AED	CAM	ZRR
DATE REVIEWED:	8/14/25	X	8/14/25	8/19/25	8/13/25	8/19/25

DPW & TRANSPORTATION
PLAN SCALE: 1"=300'
PROFILE SCALE: —
APPROVED BY: Joak Gerber for DIRECTOR
DATE: 8-21-2025

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: — CHIEF
DATE: 8/21/25

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION
24–INCH AND 16–INCH WATER MAIN REPLACEMENT – PHASE 3
BACK RIVER NECK ROAD
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD
SUBDIVISION: BACK RIVER NECK — TITLE SHEET — ELECTION DIST. NO.:15C7

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 1 OF 18	23186–WXO
JOB ORDER NUMBER	231–203–0067–0783
SHEET 1 OF 44	
DRAWING NUMBER	2023–2704
FILE NO.:	REV. 0/0/0

DWG. FILENAME: T:\Baltimore County Utilities\600-128.00 Back River Neck Road Phase 3\DWGs\pSH-7000-BRNR.dwg

TOTAL BILL OF MATERIALS		
NO.	DESCRIPTION	SIZE
2913 L.F.	DUCTILE IRON PIPE	24"
2325 L.F.	DUCTILE IRON PIPE	16"
169 L.F.	DUCTILE IRON PIPE	12"
512 L.F.	DUCTILE IRON PIPE	8"
342 L.F.	DUCTILE IRON PIPE	6"
22 L.F.	DUCTILE IRON PIPE	4"
149 L.F.	COPPER	2"
81 L.F.	COPPER	1 1/2"
125 L.F.	COPPER	1"
1036 L.F.	COPPER	3/4"
38 EA.	TAP AND CORP STOP	3/4"
5 EA.	TAP AND CORP STOP	1"
3 EA.	TAP AND CORP STOP	1 1/2"
4 EA.	TAP AND CORP STOP	2"
9 EA.	1/8 BEND	24"
2 EA.	1/32 BEND	24"
9 EA.	1/8 BEND	16"
4 EA.	1/32 BEND	16"
4 EA.	1/8 BEND	12"
5 EA.	1/16 BEND	12"
27 EA.	1/8 BEND	8"
9 EA.	1/16 BEND	8"
4 EA.	1/32 BEND	8"
7 EA.	1/8 BEND	6"
1 EA.	1/8 BEND	4"
2 EA.	1/16 BEND	4"
1 EA.	CROSS	24"X8"
6 EA.	TEE	24"X8"
8 EA.	TEE	24"X6"
1 EA.	TEE	24"X4"
3 EA.	TEE	16"X12"
2 EA.	TEE	16"X8"
4 EA.	TEE	16"X6"
1 EA.	REDUCER	24"X16"
2 EA.	VALVE AND VAULT	24"
1 EA.	VALVE AND VAULT	16"
3 EA.	VALVE AND VAULT	12"
10 EA.	VALVE AND VAULT	8"
12 EA.	VALVE AND VAULT	6"
1 EA.	VALVE AND VAULT	4"
9 EA.	FIRE HYDRANT	-
1 EA.	WYE	24"X24"
1 EA.	WYE	24"X16"
3 EA.	WYE	12"X12"
10 EA.	WYE	8"X8"
3 EA.	WYE	6"X6"
1 EA.	WYE	4"X4"
1 EA.	CAP	24"
3 EA.	CAP	16"
3 EA.	CAP	12"
10 EA.	CAP	8"
3 EA.	CAP	6"
1 EA.	CAP	4"
1 EA.	PLUG	24"
1 EA.	PLUG	16"
3 EA.	PLUG	12"
10 EA.	PLUG	8"
3 EA.	PLUG	6"
1 EA.	PLUG	4"
2 EA.	SLEEVE	24"
2 EA.	SLEEVE	16"
3 EA.	SLEEVE	12"
10 EA.	SLEEVE	8"
3 EA.	SLEEVE	6"
1 EA.	SLEEVE	4"
2 EA.	SPACER	24"
2 EA.	SPACER	16"
3 EA.	SPACER	12"
10 EA.	SPACER	8"
3 EA.	SPACER	6"
1 EA.	SPACER	4"
1 EA.	DIP TO HDPE ADAPTER	12"
1 EA.	DIP TO PCCP ADAPTER	24"
15050 L.F.	TEMPORARY BY-PASS PIPE	4"

HORIZONTAL CONTROL		
TRAVERSE POINT	NORTHING	EASTING
24	596254.52	1471056.41
25	596826.06	1470655.65
26	597673.17	1469934.56
27	598553.06	1469397.57
28	599127.32	1468913.97
29	599698.81	1468492.25
30	600306.56	1468125.45
40	597090.33	1470922.88
41	597455.04	1470331.97
110	596016.49	1471229.18
111	596625.65	1470721.84
113	598057.99	1469744.78
114	598338.86	1469460.88
115	598865.53	1469105.95
116	599272.01	1468829.28
117	599803.18	1468421.37
118	600094.62	1468318.91
124	597435.37	1470113.95
125	597169.37	1470331.31
127	595694.19	1471383.42
743	597567.22	1470987.01
744	597738.85	1471919.80
745	595447.22	1471577.81

MDE NOTES:

1. DISINFECTION OF MAINS AND BACTERIOLOGICAL SAMPLING REQUIREMENTS.
   A. FOR ALL BALTIMORE COUNTY CAPITAL PROJECTS, WATER TESTING SHALL BE PERFORMED BY BALTIMORE CITY PERSONNEL.
   B. THE COMPLETED WATER MAINS MUST BE DISINFECTED AND TESTED IN ACCORDANCE WITH THE LATEST VERSION OF AWWA STANDARD C651.
   C. AFTER DISINFECTION, A SAMPLE SHALL BE COLLECTED AFTER THE REQUIRED MINIMUM TIME PERIOD. SAMPLES MUST BE COLLECTED BY A STATE-CERTIFIED SAMPLER AND ANALYZED AT A STATE-CERTIFIED LABORATORY. THE SAMPLE RESULTS MUST BE REVIEWED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER SUPPLY PROGRAM, WHICH WILL GIVE AUTHORIZATION TO PLACE THE MAINS INTO SERVICE.
   D. A COPY OF THE SAMPLE RESULTS SHALL BE SENT VIA EMAIL TO: GAVIN.COURTRIGHT@MARYLAND.GOV AND WATERSUPPLY.SAMPLERESULTS@MARYLAND.GOV
2. NSF NOTE:
   A. IN ACCORDANCE WITH CODE OF MARYLAND REGULATIONS (COMAR) 26.04.01.33, DIRECT AND INDIRECT ADDITIVES, SUPPLIERS OF WATER SHALL ONLY USE PRODUCTS (ANY MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY) THAT MEET THE APPLICABLE AMERICAN NATIONAL STANDARDS INSTITUTE/NSF INTERNATIONAL (ANSI/NSF) STANDARDS FOR DIRECT OR INDIRECT DRINKING WATER ADDITIVES. THE PRODUCTS CAN ALSO BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY THE ANSI FOR SUCH TESTING (I.E., INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS RESEARCH AND TESTING, ONTARIO CA, UNDERWRITERS LABORATORY, NORTHBOOK IL, AND WATER QUALITY ASSOCIATION, LISLE IL).
3. LEAD-FREE MATERIAL NOTE:
   A. IN COMPLIANCE WITH COMAR 09.20.01.03 AND THE SAFE DRINKING WATER ACT (SECTION 1417(A)(4)(B), MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT, WHICH WENT INTO EFFECT IN MARYLAND IN JANUARY 2021.

BGE UTILITY NOTES

1. DEPICTIONS OF BALTIMORE GAS AND ELECTRIC COMPANY'S (BGE) ELECTRIC AND/OR GAS UTILITIES LOCATED WITHIN THE PROJECT AREA (BGE UTILITY INFORMATION). LOCATIONS, DIMENSIONS, DEPTHS, AND OTHER DETAILS OF ANY SUCH UTILITIES MAY NOT BE AS-BUILT, AND THE INFORMATION SHALL BE RELIED UPON WITHOUT FIELD VERIFICATION. EXCAVATORS MUST DEPLOY SAFE DIGGING BEST PRACTICES WHEN APPROACHING BGE ELECTRIC AND GAS UTILITIES AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, INCLUDING BUT NOT LIMITED TO THE "MISS UTILITY LAW".
2. NO REPRESENTATIVES, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED ARE MADE BY BGE AS TO THE QUALITY, COMPLETENESS, OR ACCURACY OF THE BGE UTILITY INFORMATION, AND IN ACCEPTING THE DOCUMENT, THE RECIPIENT EXPRESSLY ACKNOWLEDGES AND AGREES THAT IT IS NOT RELYING ON THE ACCURACY OF THE SAME.

SANITARY NOTES

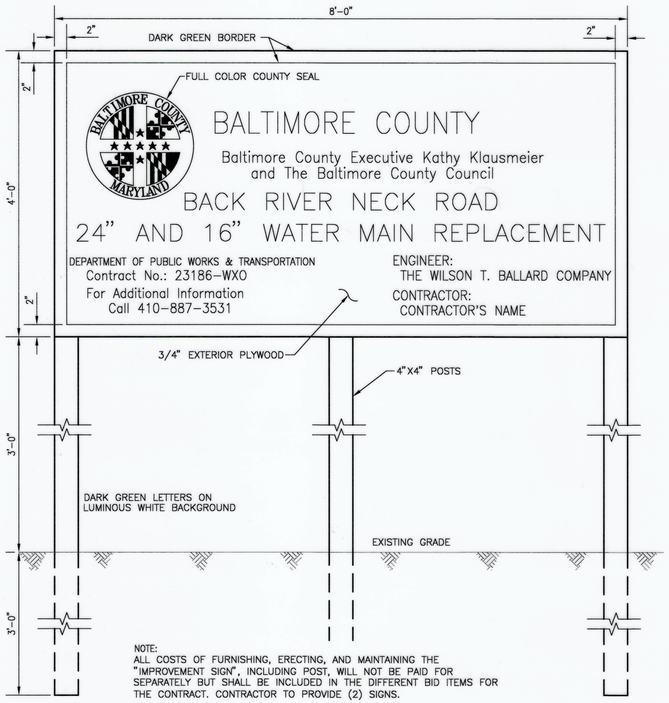
1. CHLORINATED WATER DISCHARGES TO THE 8-INCH SEWERS LOCATED IN THE AREA WILL BE LIMITED TO A RATE NOT TO EXCEED 50 GALLONS PER MINUTE (GPM).
2. FEDERAL REGULATION REQUIRES DOCUMENTATION OF ANY DISCHARGE FROM THE SANITARY SEWER COLLECTION SYSTEM AND THE CAUSE OF THE DISCHARGE. TO MEET THESE REQUIREMENTS, 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 CAUSED BY SUCH DISCHARGES.

EMERGENCY MANAGEMENT NOTES

1. DPW INSPECTORS WILL NOTIFY THE FIRE DEPARTMENT ADMINISTRATIVE DUTY OFFICER (ADO) OF ANY PLANNED WATER OUTAGE. (CONTACT: FIRE_ADO OR 410-307-2052.)
2. DPW INSPECTORS WILL NOTIFY BALTIMORE CITY'S 311 OF ANY PLANNED WATER OUTAGE.
3. FOR OUTAGES AFFECTING MORE THAN 200 SERVICES AND/OR THAT ARE MORE THAN EIGHT (8) HOURS IN DURATION, CONTRACTORS WILL NOTE IN THEIR PLANS TO NOTIFY THE FIRE DEPARTMENT ADMINISTRATIVE DUTY OFFICER (ADO) AND THE OFFICE OF EMERGENCY MANAGEMENT BY EMAIL AND BY PHONE. (emergencymanagement@baltimorecountymd.gov and 410-887-5996.)

BENCHMARK (VERTICAL CONTROL)

BENCHMARK	NORTHING	EASTING	ELEVATION	PHYSICAL DESCRIPTION
BM 'M'	596197.55	1471126.06	28.27	BOX CUT TC IN FRONT OF F.H.
BM 'N'	596896.70	1470634.83	24.39	BOX CUT TC @ CORNER OF TRANSFORMER PAD
BM 'O'	597477.57	1470173.62	31.22	BOX CUT TC @ CORNER OF ROYAL FARMS DUMPSTER
BM 'P'	598015.99	1469672.21	36.24	BOX CUT TC @ END OF SIDEWALK
BM 'Q'	598881.94	1469081.34	38.78	BOX CUT TC @ END OF SIDEWALK
BM 'R'	598863.85	1469086.21	30.69	BOX CUT TC
BM 'S'	600003.33	1468296.84	31.32	BOX CUT TC



CONSTRUCTION SITE SIGN
NOT TO SCALE

LEGEND

- TP — TEST PIT
- PC — PAVEMENT CORE
- SB — SOIL BORING
- EX. 12" W C.I.P. (DRWG# 4007-31) — EXISTING WATER MAIN
- PROP. 20" W D.I.P. — PROPOSED WATER MAIN
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE & TEE
- PIPE TO BE ABANDONED
- EXISTING ABANDONED MAIN
- EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- EXISTING STORM DRAIN
- EXISTING STORM DRAIN MANHOLE
- EXISTING ELECTRIC SERVICE
- EXISTING GAS
- EXISTING FIBER OPTIC
- EXISTING TELEPHONE
- EXISTING CABLE TELEVISION
- EXISTING STORM DRAIN INLET
- EXISTING FIRE HYDRANT
- EXISTING GAS VALVE

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL:
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S):
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S):
☐ OTHER (SPECIFY): — PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

DATE: 1-9-2025

REVISION	BY	DATE
Contract Completion Box		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

BACK RIVER NECK ROAD

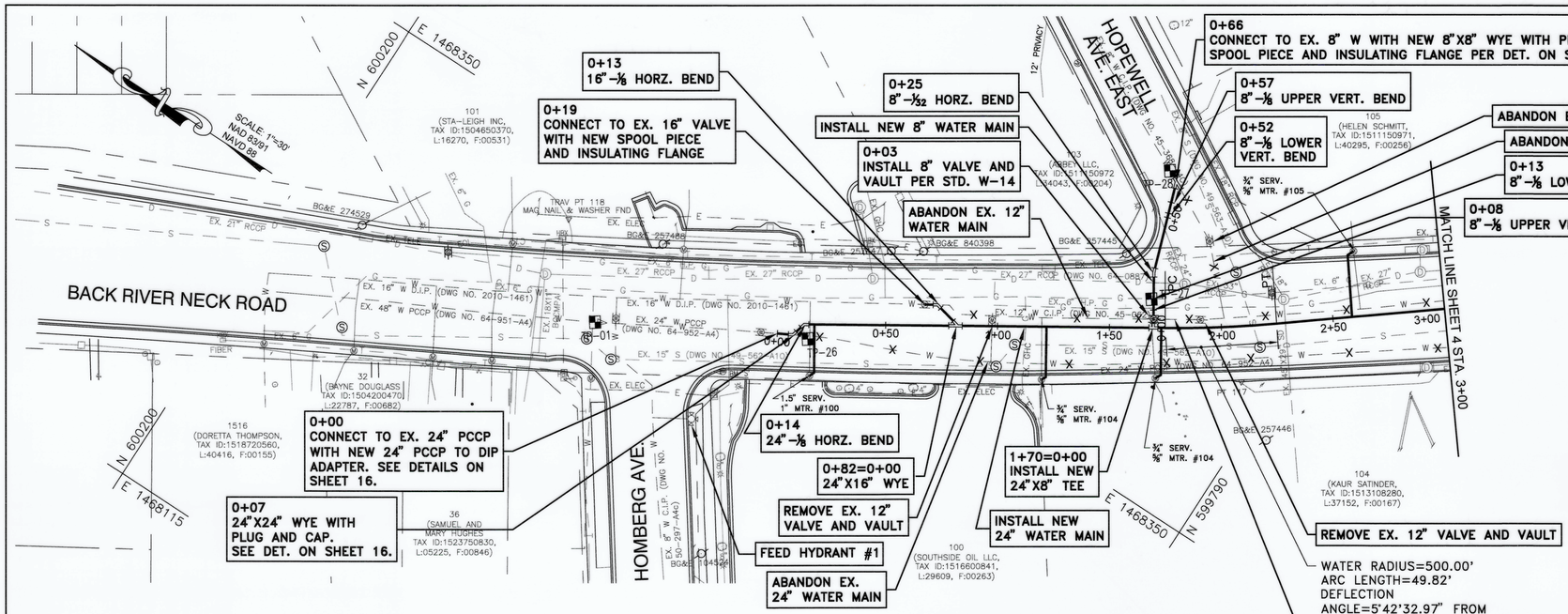
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

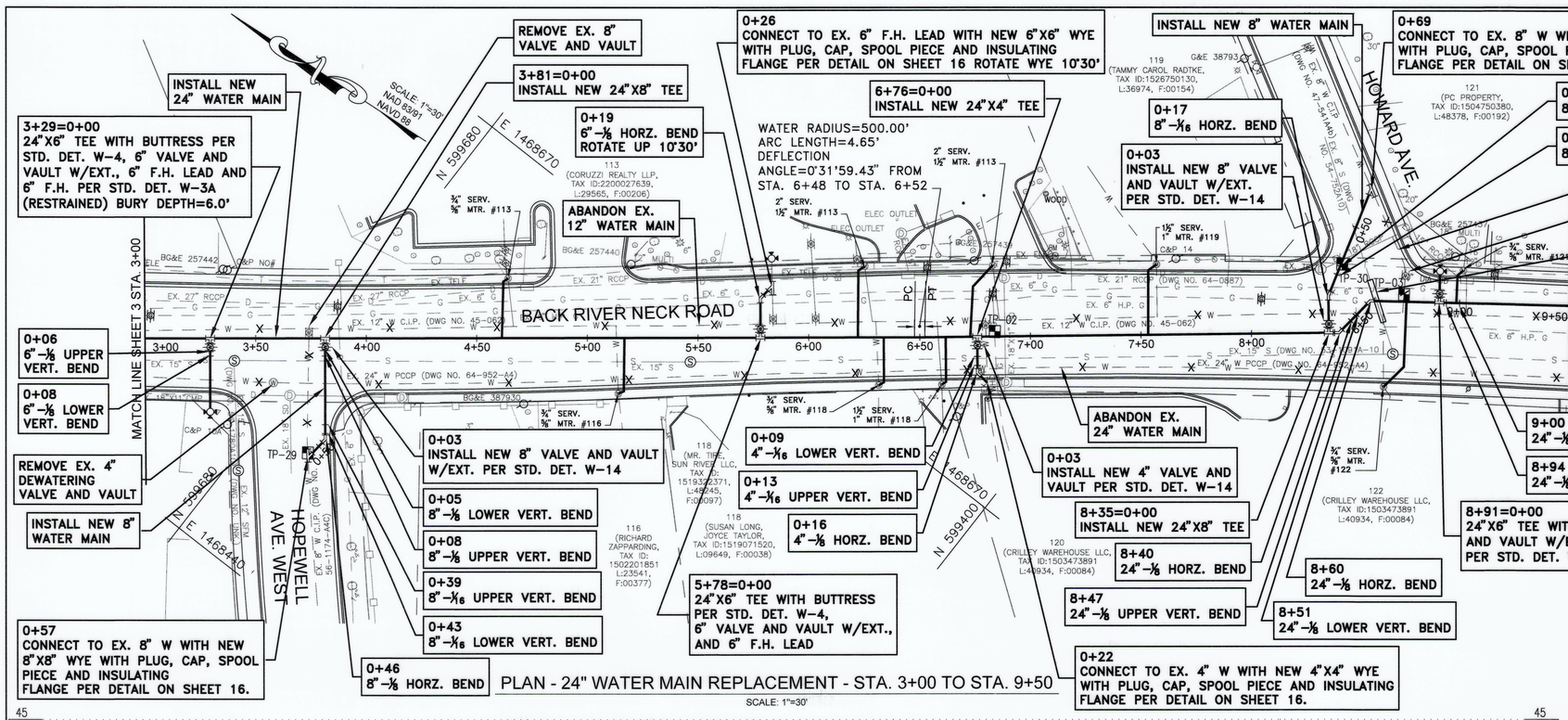
SUBDIVISION: BACK RIVER NECK — BILL OF MATERIALS, HORZ./VERT. CONTROL, ADDITIONAL NOTES — ELECTION DIST. NO.: 15C7

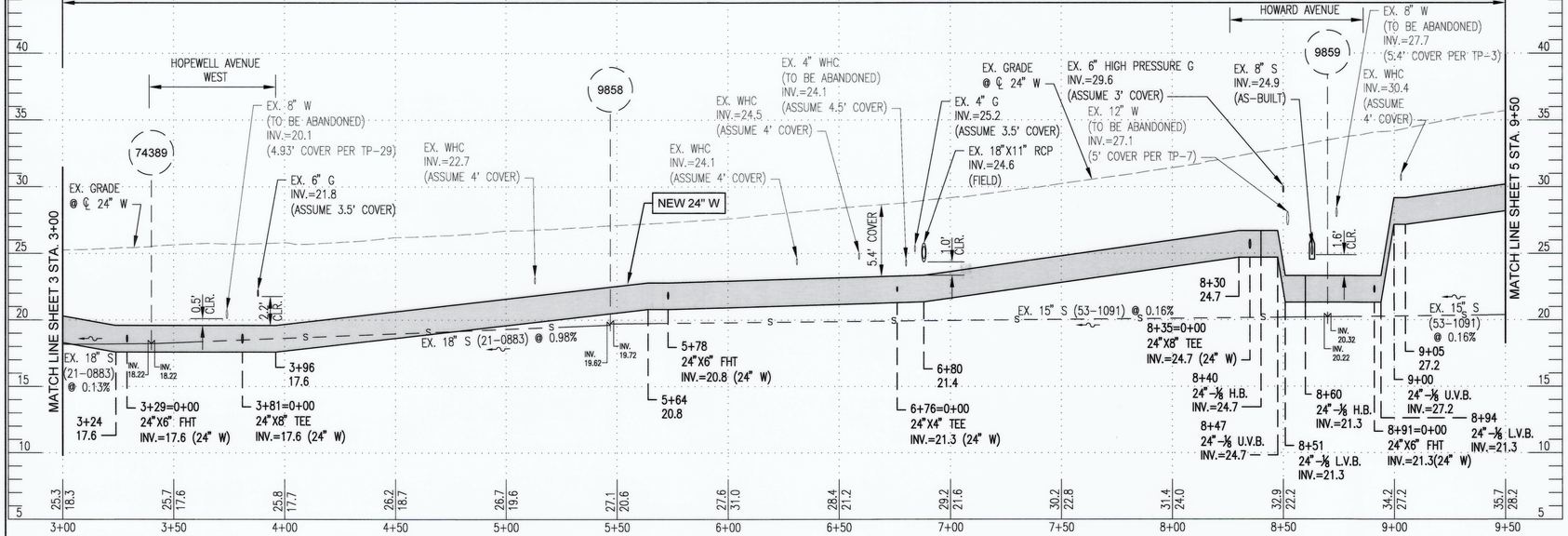
SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 2 OF 18	23186-WXO

JOB ORDER NUMBER
231-203-0067-0783
SHEET 2 OF 44
DRAWING NUMBER
2023-2705
FILE NO.: 800-122.02

DWG. FILENAME: T:\Baltimore County Utilities\800-122.02 Back River Neck Road Phase 3\DWGs\pCH-W000-BRNR.dwg


N 600200
E 1468350
SCALE: 1"=30'
NAD 83/91
NAVD 88
101
(STA-LEIGH INC,
TAX ID:1504650370,
L:16270, F:00531)
BACK RIVER NECK ROAD
HOMBERG AVE.
HOPEWELL AVE. EAST
MATCH LINE SHEET 4 STA. 3+00
0+13
16"-⅛ HORZ. BEND
0+19
CONNECT TO EX. 16" VALVE
WITH NEW SPOOL PIECE
AND INSULATING FLANGE
0+25
8"-1/32 HORZ. BEND
INSTALL NEW 8" WATER MAIN
0+03
INSTALL 8" VALVE AND
VAULT PER STD. W-14
ABANDON EX. 12"
WATER MAIN
0+66
CONNECT TO EX. 8" W WITH NEW 8"X8" WYE WITH PLUG, CAP,
SPOOL PIECE AND INSULATING FLANGE PER DET. ON SHEET 16.
0+57
8"-⅛ UPPER VERT. BEND
0+52
8"-⅛ LOWER
VERT. BEND
ABANDON EX. 8" VALVE AND VAULT
ABANDON EX. 8" WATER MAIN
0+13
8"-⅛ LOWER VERT. BEND
0+08
8"-⅛ UPPER VERT. BEND
0+00
CONNECT TO EX. 24" PCCP
WITH NEW 24" PCCP TO DIP
ADAPTER. SEE DETAILS ON
SHEET 16.
0+07
24"X24" WYE WITH
PLUG AND CAP.
SEE DET. ON SHEET 16.
0+14
24"-⅛ HORZ. BEND
0+82=0+00
24"X16" WYE
REMOVE EX. 12"
VALVE AND VAULT
FEED HYDRANT #1
ABANDON EX.
24" WATER MAIN
1+70=0+00
INSTALL NEW
24"X8" TEE
INSTALL NEW
24" WATER MAIN
REMOVE EX. 12" VALVE AND VAULT
WATER RADIUS=500.00'
ARC LENGTH=49.82'
DEFLECTION
ANGLE=5°42'32.97" FROM
STA. 1+75 TO STA. 2+25
ABANDON EX. 12" WATER MAIN
1.5" SERV.
1" MTR. #100
¾" SERV.
⅝" MTR. #104
¾" SERV.
⅝" MTR. #105
¾" SERV.
⅝" MTR. #104
32
(BAYNE DOUGLASS
TAX ID:1504200470)
L:22787, F:00682)
1516
(DORETTA THOMPSON,
TAX ID:1518720560,
L:40416, F:00155)
36
(SAMUEL AND
MARY HUGHES
TAX ID:1523750830,
L:05225, F:00846)
100
(SOUTHSIDE OIL, LLC,
TAX ID:1516600841,
L:29609, F:00263)
103
(ABBEY, LLC,
TAX ID:1511150972
L:14043, F:00204)
105
(HELEN SCHMITT,
TAX ID:1511150971,
L:40295, F:00256)
104
(KAUR SATINDER,
TAX ID:1513108280,
L:37152, F:00167)
BG&E 274529
BG&E 257445
BG&E 840398
BG&E 257446
TRAV PT 118
MAG NAIL & WASHER FND
EX. ELEC
EX. 21" RCCP
EX. 27" RCCP
EX. 16" W D.I.P. (DWG NO. 2010-1461)
EX. 48" W PCCP (DWG NO. 64-951-A4)
EX. 24" W PCCP (DWG NO. 64-952-A4)
EX. 15" S (DWG NO. 45-1061-A10)
EX. 12" W C.I.P. (DWG NO. 45-06)
EX. 6" C.I.P.
EX. 8" W C.I.P. (DWG NO. 297-44)
EX. 45"X29" RCP
EX. 27" RCP (DWG NO. 64-088-A4)
EX. 6" W
EX. 8" W
EX. 12" W
EX. 24" W
EX. 6" G
EX. GHC
EX. ELEC
EX. FIBER
EX. TELE
EX. WHC
EX. GAS
EX. WATER MAIN
EX. SAN MAN
EX. STORM MAIN
EX. 12" PRIVACY
EX. 6" PRIVACY
EX. 24" PRIVACY
EX. 48" PRIVACY
EX. 24" SAN
EX. 8" SAN
EX. 6" SAN
EX. 12" SAN
EX. 8" S
EX. 15" S
EX. 18" S
EX. 24" S
EX. 27" S
EX. 45"X29" S
EX. 48" S
EX. 6" S
EX. 8" S
EX. 12" S
EX. 24" S
EX. 27" S
EX. 45"X29" S
EX. 48" S





PROFILE OF 24" W - STA. 3+00 TO STA. 9+50

SCALE: 1"=30' HORZ.
1"=5' VERT.

SCALE: 1"=5' (VERT)

SCALE: 1"=30' (HORZ)

EXISTING TEST PITS

TEST PIT NO.	NORTHING	EASTING	GROUND ELEV.	UTILITY	COVER	TOP ELEV.
2	599443.90	1468737.06	29.54	8" G	3.57	25.97
3	599308.85	1468864.07	33.59	8" W	5.39	28.20
29	599654.66	1468503.12	25.63	8" W	4.93	20.70
30	599338.81	1468856.93	32.77	TELE.	6.67	26.10

WATER STAKEOUT TABLE
BACK RIVER NECK ROAD 24"W/16"W

STATION	NORTHING	EASTING
3+29 (24"X6" F.H.T.)	599721.78	1468516.28
3+81 (24"X8" TEE)	599680.86	1468546.36
5+78 (24"X6" F.H.T.)	599525.98	1468669.77
6+48 (PC)	599471.32	1468712.62
6+52 (PT)	599467.67	1468715.51
6+76 (24"X4" TEE)	599449.18	1468730.29
8+35 (24"X8" TEE)	599324.98	1468829.53
8+40 (24"-1/8 HORZ. BEND)	599321.36	1468832.42
8+47 (24"-1/8 UPPER VERT. BEND)	599320.53	1468839.84
8+51 (24"-1/8 LOWER VERT. BEND)	599320.53	1468839.84
8+60 (24"-1/8 HORZ. BEND)	599319.13	1468852.38
8+91 (24"X6" F.H.T.)	599294.06	1468871.02
8+94 (24"-1/8 LOWER VERT. BEND)	599291.54	1468872.93
9+00 (24"-1/8 UPPER VERT. BEND)	599286.70	1468876.49

HORIZONTAL CONTROL

TRAVERSE POINT	NORTHING	EASTING
29	599698.81	1468492.25
116	599272.01	1468829.28

VERTICAL CONTROL

BM 'R'
BOX CUT TC
ELEV.=30.69

WATER STAKEOUT TABLE
HOWARD AVENUE 8" W

STATION	NORTHING	EASTING
0+00 (24"X8" TEE)	599324.98	1468829.53
0+03 (8" VALVE AND VAULT)	599326.85	1468831.87
0+17 (8"-1/16 HORZ. BEND)	599335.43	1468842.61
0+27 (8"-1/8 LOWER VERT. BEND)	599338.30	1468852.46
0+31 (8"-1/8 UPPER VERT. BEND)	599339.39	1468856.33
0+69 (WYE)	599349.88	1468892.59

BILL OF MATERIALS

QUANTITY	DESCRIPTION	SIZE
650 L.F.	DUCTILE IRON PIPE	24"
126 L.F.	DUCTILE IRON PIPE	8"
81 L.F.	DUCTILE IRON PIPE	6"
22 L.F.	DUCTILE IRON PIPE	4"
67 L.F.	COPPER	2"
57 L.F.	COPPER	1 1/2"
136 L.F.	COPPER	3/4"
5 EA.	TAP AND CORP STOP	3/4"
2 EA.	TAP AND CORP STOP	1 1/2"
2 EA.	TAP AND CORP STOP	2"
6 EA.	1/8 BEND	24"
5 EA.	1/8 BEND	8"
3 EA.	1/16 BEND	8"
3 EA.	1/8 BEND	6"
1 EA.	1/8 BEND	4"
2 EA.	1/16 BEND	4"
2 EA.	TEE	24"X8"
3 EA.	TEE	24"X6"
1 EA.	TEE	24"X4"
2 EA.	VALVE AND VAULT	8"
3 EA.	VALVE AND VAULT	6"
1 EA.	VALVE AND VAULT	4"
2 EA.	FIRE HYDRANT	–
2 EA.	WYE	8"X8"
1 EA.	WYE	6"X6"
1 EA.	WYE	4"X4"
2 EA.	CAP	8"
1 EA.	CAP	6"
1 EA.	CAP	4"
2 EA.	PLUG	8"
1 EA.	PLUG	6"
1 EA.	PLUG	4"
2 EA.	SLEEVE	8"
1 EA.	SLEEVE	6"
1 EA.	SLEEVE	4"
2 EA.	SPACER	8"
1 EA.	SPACER	6"
1 EA.	SPACER	4"

- SEE SHEET 3 FOR WATER STAKEOUT TABLE AT HOPEWELL AVENUE WEST 8" W.
- SEE SHEET 3 FOR WATER STAKEOUT TABLE AT 4" WATER SERVICE AT BACK RIVER NECK ROAD 24" W STA. 6+76

- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 24" W FROM STA. 3+00 TO STA. 9+50
- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 8" W FROM STA. 0+00 TO STA. 0+57
- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 8" W FROM STA. 0+00 TO STA. 0+69

- SEE SHEET 11 FOR PROFILE OF 8" WATER FOR HOPEWELL AVENUE (WEST), FOR PROFILE OF 4" WATER SERVICE CONNECTION AT BACK RIVER NECK ROAD 24" W STA. 6+76 AND FOR PROFILE OF 8" WATER FOR HOWARD AVENUE.
- SEE SHEET 11 FOR PROFILE OF 6" WATER FOR PROFILE FOR FIRE HYDRANT AT BACK RIVER NECK ROAD 24" W STA. 3+29, STA. 5+78 AND STA. 8+91.

ABANDONING NOTES

- ABANDON APPROX. 650 L.F. OF EX. 24" W IN PLACE ALONG BACK RIVER NECK ROAD RIGHT OF 24" W STA. 3+00 TO STA. 9+50 (AS NOTED X).
- ABANDON APPROX. 650 L.F. OF EX. 12" W IN PLACE ALONG BACK RIVER NECK ROAD LEFT/RIGHT OF 24" W STA. 3+00 TO STA. 9+50 (AS NOTED X).
- ABANDON APPROX. 58 L.F. OF EX. 8" W IN PLACE ALONG HOPEWELL AVENUE WEST RIGHT OF 8" W STA. 0+00 TO STA. 0+57 (AS NOTED X).
- ABANDON APPROX. 60 L.F. OF EX. 8" W IN PLACE ALONG HOWARD AVENUE RIGHT OF 8" W STA. 0+00 TO STA. 0+69 (AS NOTED X).

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

DATE: 7-9-2025

ENGINEER: SHAWN BURNETT THE WILSON T. BALLARD CO.	DESIGN BY: DS
AS-BUILT PER RECORD PRINT	DRAWN BY: TL
BY: DATE:	CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	I-SE	6NE32 5NE32

DRAWING SCALE: PLAN SCALE: 1"=30' PROFILE SCALE: VERT. 1"=5' HORZ. 1"=30'

DPW & TRANSPORTATION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

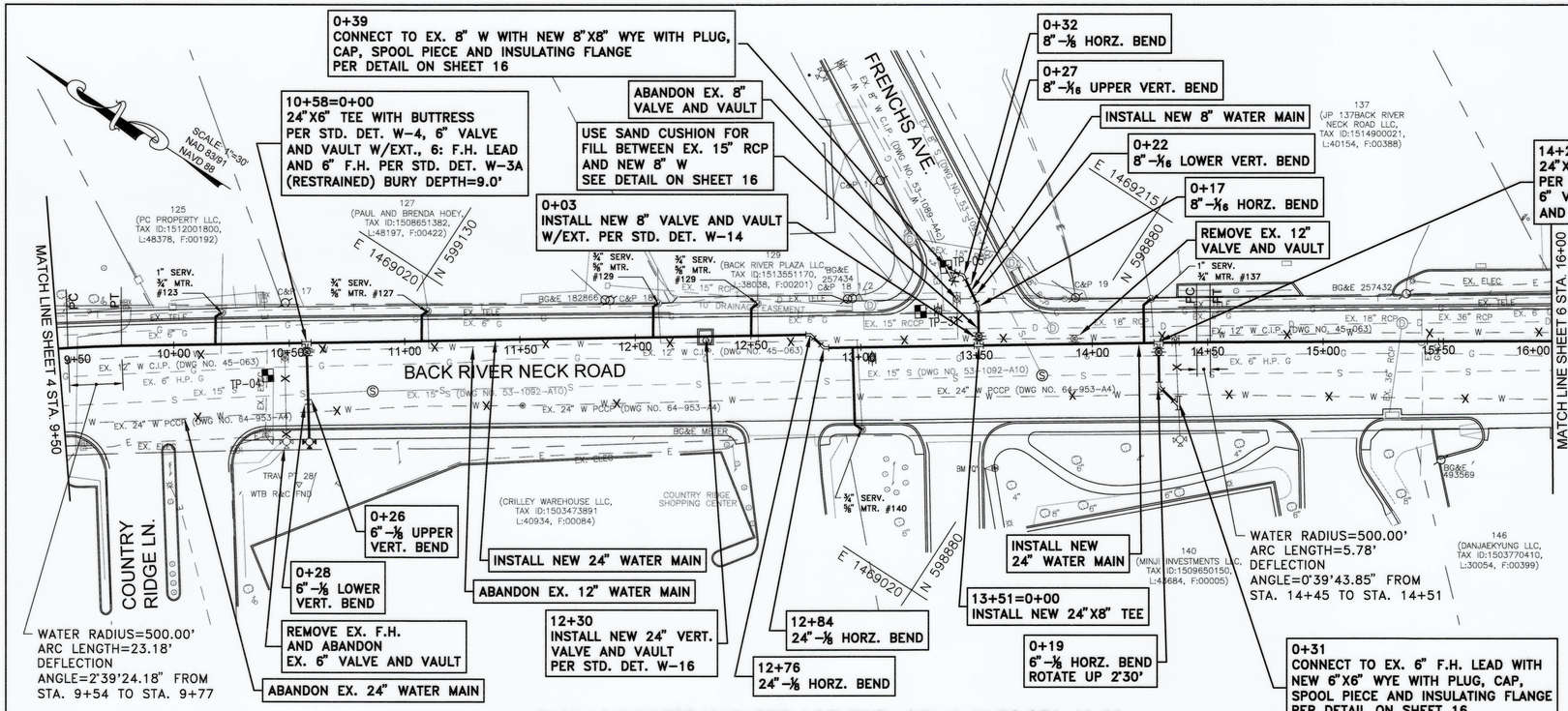
BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — PROP. 24" WATER MAIN PLAN (STA. 3+00 TO STA. 9+50) — ELECTION DIST. NO.:15C7

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 4 OF 18	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 4 OF 44	
DRAWING NUMBER	2023-2707
FILE NO.:	

DWG. FILENAME: T:\Baltimore County Utilities\600-1200 Back River Neck Road Phase 3\DWGs\pPS-0002-BRNR.dwg



PLAN - 24" WATER MAIN REPLACEMENT - STA. 9+50 TO STA. 16+00

SCALE: 1"=30'

EXISTING TEST PITS						
TEST PIT NO.	NORTHING	EASTING	GROUND ELEV.	UTILITY	COVER	TOP ELEV.
4	599164.21	1468946.05	38.05	ELEC	2.76	35.29
5	598942.42	1469146.79	37.14	8" W	N/A	N/A
31	598942.37	1469122.07	37.31	6" G	3.09	34.22

WATER STAKEOUT TABLE BACK RIVER NECK ROAD 24"W/16"W		
STATION	NORTHING	EASTING
9+54 (PC)	599243.25	1468908.79
9+77 (PT)	599224.33	1468922.19
10+58 (24"X6" F.H.T.)	599157.85	1468966.98
12+30 (24" VALVE AND VAULT)	599014.46	1469063.59
12+76 (24"-1/8 HORZ. BEND)	598976.78	1469088.98
12+84 (24"-1/8 HORZ. BEND)	598968.71	1469087.39
13+51 (24"X8" TEE)	598913.25	1469124.59
14+29 (24"X6" F.H.T.)	598848.60	1469167.96
14+45 (PC)	598834.81	1469177.21
14+51 (PT)	598829.99	1469180.40

ABANDONING NOTES
– ABANDON APPROX. 650 L.F. OF EX. 24" W IN PLACE ALONG BACK RIVER NECK ROAD RIGHT OF 24" W STA. 9+50 TO STA. 16+00 (AS NOTED X).
– ABANDON APPROX. 650 L.F. OF EX. 12" W IN PLACE ALONG BACK RIVER NECK ROAD RIGHT OF 24" W STA. 9+50 TO STA. 16+00 (AS NOTED X).
– ABANDON APPROX. 32 L.F. OF EX. 8" W IN PLACE ALONG FRENCHS AVENUE LEFT/RIGHT OF 8" W STA. 0+00 TO STA. 0+36 (AS NOTED X).

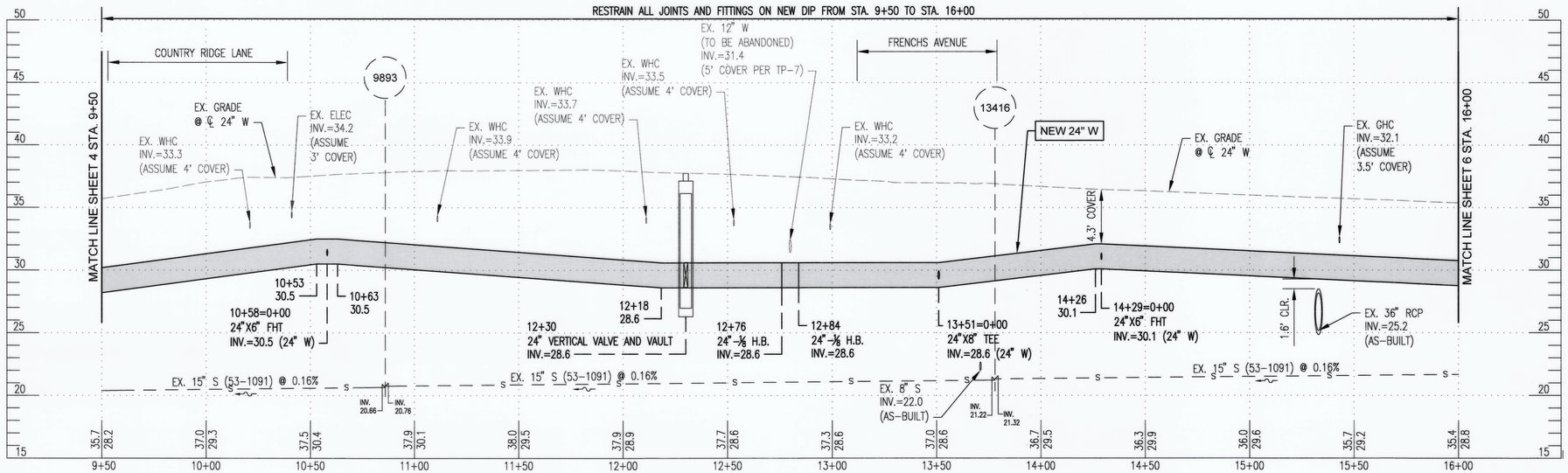
VERTICAL CONTROL
BM 'Q'
BOX CUT TC @ END OF SIDEWALK
ELEV.=38.78

HORIZONTAL CONTROL		
TRAVERSE POINT	NORTHING	EASTING
28	599127.32	1468913.97
115	598865.53	1469105.95

WATER STAKEOUT TABLE FRENCHS AVENUE 8"W		
STATION	NORTHING	EASTING
0+00 (24"X8" TEE)	598913.25	1469124.59
0+03 (8" VALVE AND VAULT)	598914.85	1469126.93
0+17 (8"-1/16 HORZ. BEND)	598922.70	1469138.68
0+22 (8"-1/16 LOWER VERT. BEND)	598926.95	1469141.30
0+27 (8"-1/16 UPPER VERT. BEND)	598931.21	1469143.92
0+32 (8"-1/8 HORZ. BEND)	598935.37	1469146.48
0+39 (WYE)	598942.39	1469144.64

– RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 24" W FROM STA. 9+50 TO STA. 16+00
– RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 8" W FROM STA. 0+00 TO STA. 0+39

– SEE SHEET 12 FOR PROFILE OF 8" WATER FOR FRENCHES AVENUE.
– SEE SHEET 12 FOR PROFILE OF 6" WATER FOR PROFILE FOR FIRE HYDRANT AT BACK RIVER NECK ROAD 24" W STA. 10+58 AND STA. 14+29



PROFILE OF 24" W - STA. 9+50 TO STA. 16+00

SCALE: 1"=30' HORZ.
1"=5' VERT.

SCALE: 1"=5' (VERT)

SCALE: 1"=30' (HORZ)

BILL OF MATERIALS		
QUANTITY	DESCRIPTION	SIZE
650 L.F.	DUCTILE IRON PIPE	24"
39 L.F.	DUCTILE IRON PIPE	8"
75 L.F.	DUCTILE IRON PIPE	6"
36 L.F.	COPPER	1"
82 L.F.	COPPER	3/4"
4 EA.	TAP AND CORP STOP	3/4"
2 EA.	TAP AND CORP STOP	1"
2 EA.	1/8 BEND	24"
1 EA.	1/8 BEND	8"
3 EA.	1/16 BEND	8"
1 EA.	1/8 BEND	6"
1 EA.	TEE	24"X8"
2 EA.	TEE	24"X6"
1 EA.	VALVE AND VAULT	24"
1 EA.	VALVE AND VAULT	8"
2 EA.	VALVE AND VAULT	6"
1 EA.	FIRE HYDRANT	–
1 EA.	WYE	8"X8"
1 EA.	WYE	6"X6"
1 EA.	CAP	8"
1 EA.	CAP	6"
1 EA.	PLUG	8"
1 EA.	PLUG	6"
1 EA.	SLEEVE	8"
1 EA.	SLEEVE	6"
1 EA.	SPACER	8"
1 EA.	SPACER	6"

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL:
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT PIPE DIAMETER(S):
☐ OTHER (SPECIFY): PIPE DIAMETER(S):

DWG. FILENAME: T:\Baltimore County Utilities\800-122.00 Back River Neck Road Phase 3\DWGs\PS-0003-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

DATE: 7-9-2025

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	I-SE	5NE32 5NE33

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

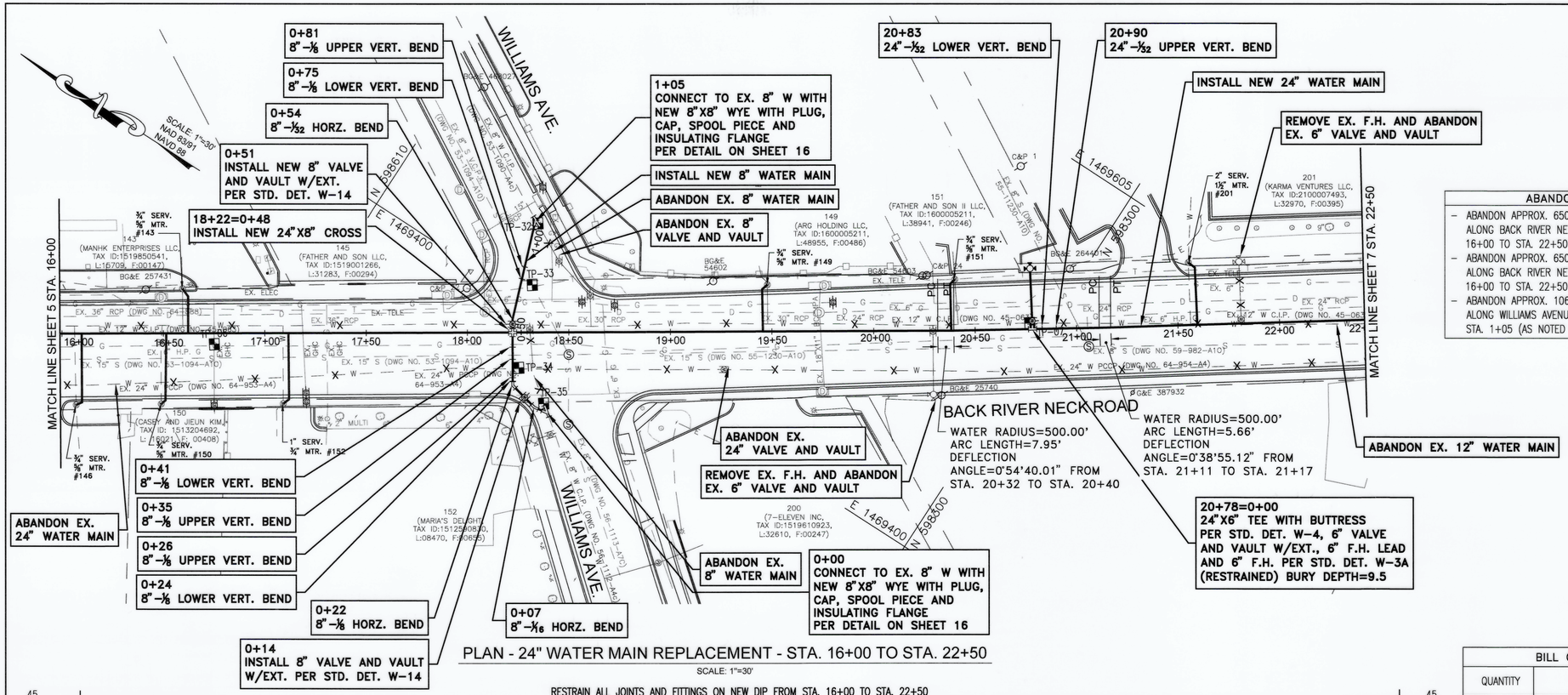
PROP. 24" WATER MAIN PLAN (STA. 9+50 TO STA. 16+00)

SUBDIVISION: BACK RIVER NECK

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 5 OF 18	23186-WXO

JOB ORDER NUMBER
231-203-0067-0783
SHEET 5 OF 44
DRAWING NUMBER
2023-2708
FILE NO.:



EXISTING TEST PITS						
TEST PIT NO.	NORTHING	EASTING	GROUND ELEV.	UTILITY	COVER	TOP ELEV.
6	598639.57	1469298.54	35.48	6" G	3.30	32.18
7	598308.29	1469526.02	34.24	12" W	5.00	29.24
32	598538.08	1469434.93	34.37	8" W	4.43	29.94
33	598524.40	1469408.08	34.35	TELE	5.05	29.30
34	598507.32	1469370.71	34.33	24" W	6.50	27.83
35	598487.84	1469362.58	33.65	8" W	5.69	27.96

ABANDONING NOTES

- ABANDON APPROX. 650 L.F. OF EX. 24" W IN PLACE ALONG BACK RIVER NECK ROAD RIGHT OF 24" W STA. 16+00 TO STA. 22+50 (AS NOTED X).
- ABANDON APPROX. 650 L.F. OF EX. 12" W IN PLACE ALONG BACK RIVER NECK ROAD LEFT OF 24" W STA. 16+00 TO STA. 22+50 (AS NOTED X).
- ABANDON APPROX. 106 L.F. OF EX. 8" W IN PLACE ALONG WILLIAMS AVENUE RIGHT OF 8" W STA. 0+00 TO STA. 1+05 (AS NOTED X).

WATER STAKEOUT TABLE BACKRIVER NECK ROAD 24"W/16"W		
STATION	NORTHING	EASTING
18+22 (24"X8" CROSS)	598519.38	1469383.60
20+32 (PC)	598344.24	1469498.17
20+40 (PT)	598337.62	1469502.58
20+78 (24"X6" F.H.T.)	598305.52	1469524.31
20+83 (24"–1/32 LOWER VERT. BEND)	598301.60	1469526.97
20+90 (24"–1/32 UPPER VERT. BEND)	598295.80	1469530.89
21+11 (PC)	598278.27	1469542.76
21+17 (PT)	598273.60	1469545.96

WATER STAKEOUT TABLE WILLIAMS AVENUE 8"W		
STATION	NORTHING	EASTING
0+00 (WYE)	598483.43	1469359.70
0+07 (8"–1/16 HORZ. BEND)	598490.33	1469358.52
0+14 (8" VALVE AND VAULT)	598496.82	1469360.09
0+22 (8"–1/8 HORZ. BEND)	598505.18	1469361.90
0+24 (8"–1/8 LOWER VERT. BEND)	598506.13	1469363.35
0+26 (8"–1/8 UPPER VERT. BEND)	598507.25	1469365.05
0+35 (8"–1/8 UPPER VERT. BEND)	598512.13	1469372.56
0+41 (8"–1/8 LOWER VERT. BEND)	598515.40	1469377.51
0+48 (24"X8" CROSS)	598519.38	1469383.60
0+51 (8" VALVE AND VAULT)	598521.02	1469386.11
0+54 (8"–1/32 HORZ. BEND)	598522.87	1469388.94
0+75 (8"–1/8 LOWER VERT. BEND)	598529.85	1469408.12
0+81 (8"–1/8 UPPER VERT. BEND)	598531.90	1469413.81
1+05 (WYE)	598540.01	1469436.18

BILL OF MATERIALS		
QUANTITY	DESCRIPTION	SIZE
650 L.F.	DUCTILE IRON PIPE	24"
105 L.F.	DUCTILE IRON PIPE	8"
30 L.F.	DUCTILE IRON PIPE	6"
32 L.F.	COPPER	2"
36 L.F.	COPPER	1"
146 L.F.	COPPER	3/4"
5 EA.	TAP AND CORP STOP	3/4"
1 EA.	TAP AND CORP STOP	1"
1 EA.	TAP AND CORP STOP	2"
2 EA.	1/32 BEND	24"
7 EA.	1/8 BEND	8"
1 EA.	1/16 BEND	8"
1 EA.	1/32 BEND	8"
1 EA.	CROSS	24"X8"
1 EA.	TEE	24"X6"
2 EA.	VALVE AND VAULT	8"
1 EA.	VALVE AND VAULT	6"
1 EA.	FIRE HYDRANT	–
2 EA.	WYE	8"X8"
2 EA.	CAP	8"
2 EA.	PLUG	8"
2 EA.	SLEEVE	8"
2 EA.	SPACER	8"

- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 24" W FROM STA. 16+00 TO STA. 22+50
- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 8" W FROM STA. 0+00 TO STA. 1+05

- SEE SHEET 12 FOR PROFILE OF 8" WATER FOR WILLIAMS AVENUE.
- SEE SHEET 12 FOR PROFILE OF 6" WATER FOR PROFILE FOR FIRE HYDRANT AT BACK RIVER NECK ROAD 24" W STA. 20+78

HORIZONTAL CONTROL		
TRAVERSE POINT	NORTHING	EASTING
27	598553.06	1469397.57
114	598338.86	1469460.88

CONTRACT COMPLETION BOX

CONTRACTOR: _____
DATE COMPLETED: _____
INSPECTOR: _____
PIPE MATERIAL: _____
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S): _____
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S): _____
☐ OTHER (SPECIFY): — PIPE DIAMETER(S): _____

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.
DESIGN BY: DS
DRAWN BY: TL
AS-BUILT PER RECORD PRINT
BY: DATE:
CHKD BY: SB

DATE: 7-9-2025

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	I-SE	4NE33 5NE33

DRAWING SCALE: PLAN SCALE: 1"=30' ; PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

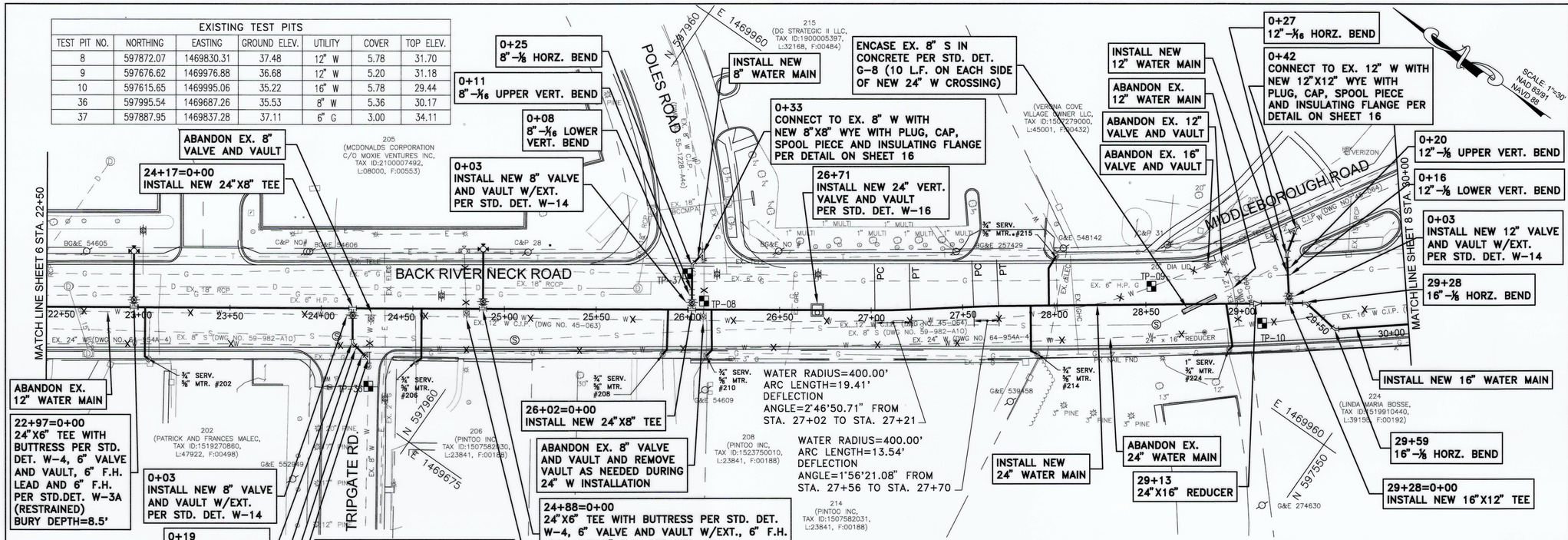
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — PROP. 24" WATER MAIN PLAN (STA. 16+00 TO STA. 22+50) — ELECTION DIST. NO.:15C7

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 6 OF 18	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 6 OF 44	
DRAWING NUMBER	2023-2709
FILE NO.:	REV. 0/0

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\pPS-0004-HRNR.dwg

EXISTING TEST PITS						
TEST PIT NO.	NORTHING	EASTING	GROUND ELEV.	UTILITY	COVER	TOP ELEV.
8	597872.07	1469830.31	37.48	12" W	5.78	31.70
9	597676.62	1469976.88	36.68	12" W	5.20	31.18
10	597615.65	1469995.06	35.22	16" W	5.78	29.44
36	597995.54	1469687.26	35.53	8" W	5.36	30.17
37	597887.95	1469837.28	37.11	6" G	3.00	34.11



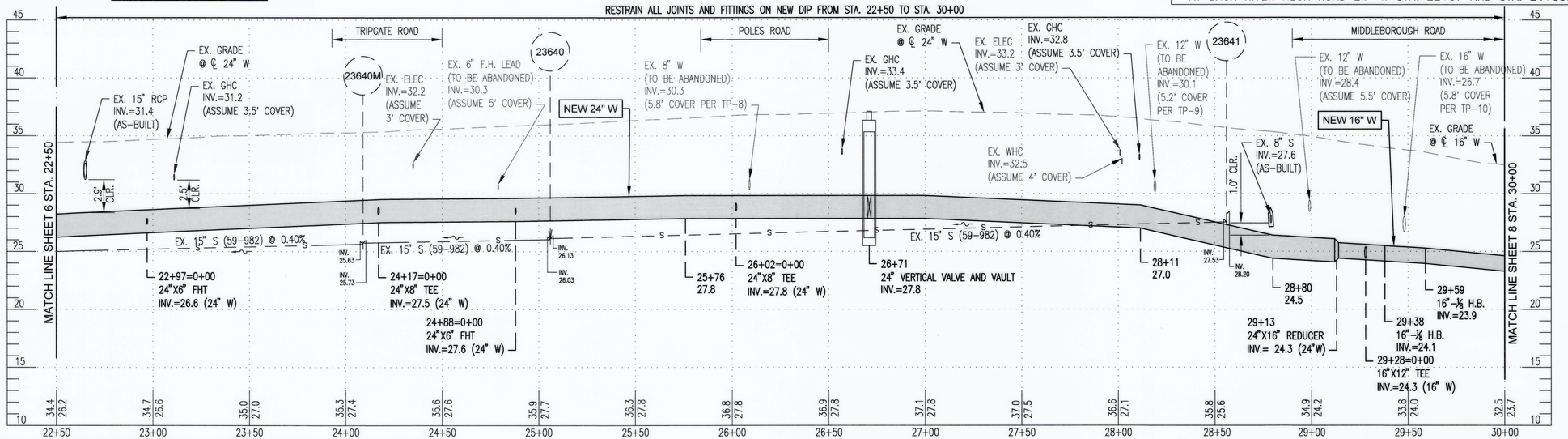
- SEE SHEET 15 FOR BILL OF MATERIALS FOR STA. 22+50 TO STA. 30+00.

- SEE SHEET 12 FOR PROFILE OF 8" WATER FOR TRIPGATE ROAD, FOR PROFILE OF 8" WATER FOR POLES ROAD, SEE SHEET 13 FOR PROFILE OF 12" WATER FOR MIDDLEBOROUGH ROAD 16" W STA. 29+28.
- SEE SHEET 12 FOR PROFILE OF 6" WATER FOR PROFILE FOR FIRE HYDRANT AT BACK RIVER NECK ROAD 24" W STA. 22+97 AND STA. 24+88.

PLAN - 24"/16" WATER MAIN REPLACEMENT - STA. 22+50 TO STA. 30+00

SCALE: 1"=30'

RESTRAIN ALL JOINTS AND FITTINGS ON NEW DIP FROM STA. 22+50 TO STA. 30+00



PROFILE OF 24"/16" W - STA. 22+50 TO STA. 30+00

SCALE: 1"=30' HORZ.
1"=5' VERT.

SCALE: 1" =5' (VERT)

SCALE: 1"=30' (HORZ)

WATER STAKEOUT TABLE BACK RIVER NECK ROAD 24"W/16"W		
STATION	NORTHING	EASTING
22+97 (24"X6" F.H.T.)	598125.17	1469648.94
24+17 (24"X8" TEE)	598026.89	1469717.12
24+88 (24"X6" F.H.T.)	597968.41	1469757.69
26+02 (24"X8" TEE)	597874.73	1469822.68
26+71 (24" VALVE AND VAULT)	597818.61	1469861.62
27+02 (PC)	597792.77	1469879.54
27+21(PT)	597776.73	1469891.27
27+56 (PC)	597749.63	1469912.09
27+70 (PT)	597738.76	1469920.15
29+13 (24"X16" REDUCER)	597622.18	1470003.60
29+28 (16"X12" TEE)	597609.79	1470012.46
29+38 (16"-1/8 HORZ. BEND)	597602.20	1470017.90
29+59 (16"-1/8 HORZ. BEND)	597581.16	1470015.16

WATER STAKEOUT TABLE POLES ROAD 8"W		
STATION	NORTHING	EASTING
0+00 (24"X8" TEE)	597874.73	1469822.68
0+03 (8" VALVE AND VAULT)	597876.44	1469825.33
0+08 (8"-1/16 LOWER VERT. BEND)	597879.33	1469829.23
0+011 (8"-1/16 UPPER VERT. BEND)	597881.12	1469831.89
0+25 (8"-1/8 HORZ. BEND)	597888.79	1469842.93
0+33 (WYE)	597887.53	1469851.59

WATER STAKEOUT TABLE TRIPGATE ROAD 8"W		
STATION	NORTHING	EASTING
0+00 (24"X8" TEE)	598026.89	1469717.12
0+03 (8" VALVE AND VAULT)	598025.19	1469714.67
0+19 (8"-1/8 HORZ. BEND)	598016.13	1469701.60
0+24 (8"-1/32 LOWER VERT. BEND)	598011.21	1469700.71
0+29 (8"-1/32 UPPER VERT. BEND)	598006.29	1469699.82
0+32 (WYE)	598003.72	1469699.36

WATER STAKEOUT TABLE MIDDLEBOROUGH ROAD 12"W (16"W STA. 29+28)		
STATION	NORTHING	EASTING
0+00 (16"X12" TEE)	597609.79	1470012.46
0+03 (12" VALVE AND VAULT)	597611.61	1470014.86
0+16 (12"-1/8 LOWER VERT. BEND)	597619.55	1470025.15
0+20 (12"-1/8 UPPER VERT. BEND)	597621.63	1470027.85
0+27 (12"-1/16 HORZ. BEND)	597626.27	1470033.88
0+42 (WYE)	597630.10	1470048.05

ABANDONING NOTES

- ABANDON APPROX. 750 L.F. OF EX. 24" W/16" W IN PLACE ALONG BACK RIVER NECK ROAD RIGHT OF 24" W/16" W STA. 22+50 TO STA. 30+00 (AS NOTED X).
- ABANDON APPROX. 700 L.F. OF EX. 12" W IN PLACE ALONG BACK RIVER NECK ROAD LEFT/RIGHT OF 24" W STA. 22+50 TO STA. 30+00 (AS NOTED X).
- ABANDON APPROX. 37 L.F. OF EX. 8" W IN PLACE ALONG TRIPGATE ROAD LEFT OF 8" W STA. 0+00 TO STA. 0+64 (AS NOTED X).
- ABANDON APPROX. 37 L.F. OF EX. 8" W IN PLACE ALONG POLES ROAD RIGHT OF 8" W STA. 0+00 TO STA. 0+33 (AS NOTED X). ABANDON APPROX. 38 L.F. OF EX. 12" W IN PLACE ALONG MIDDLEBOROUGH ROAD LEFT OF 12" W STA. 0+00 TO STA. 0+57 (AS NOTED X).

- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 24" W/16" W FROM STA. 22+50 TO STA. 30+00
- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 8" W FROM STA. 0+00 TO STA. 0+33
- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 8" W FROM STA. 0+00 TO STA. 0+32
- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 12" W FROM STA. 0+00 TO STA. 0+42

VERTICAL CONTROL	
BM 'P'	
BOX CUT TC @ END OF SIDEWALK	
ELEV.=36.24	

HORIZONTAL CONTROL		
TRAVERSE POINT	NORTHING	EASTING
113	598057.99	1469744.78

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	I-SE	4NE33

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT. 1"=5' HORZ. 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK PROP. 24"/16" WATER MAIN PLAN (STA. 22+50 TO STA. 30+00) ELECTION DIST. NO.:15C7

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 7 OF 18	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 7 OF 44	
DRAWING NUMBER	2023-2710
FILE NO.:	

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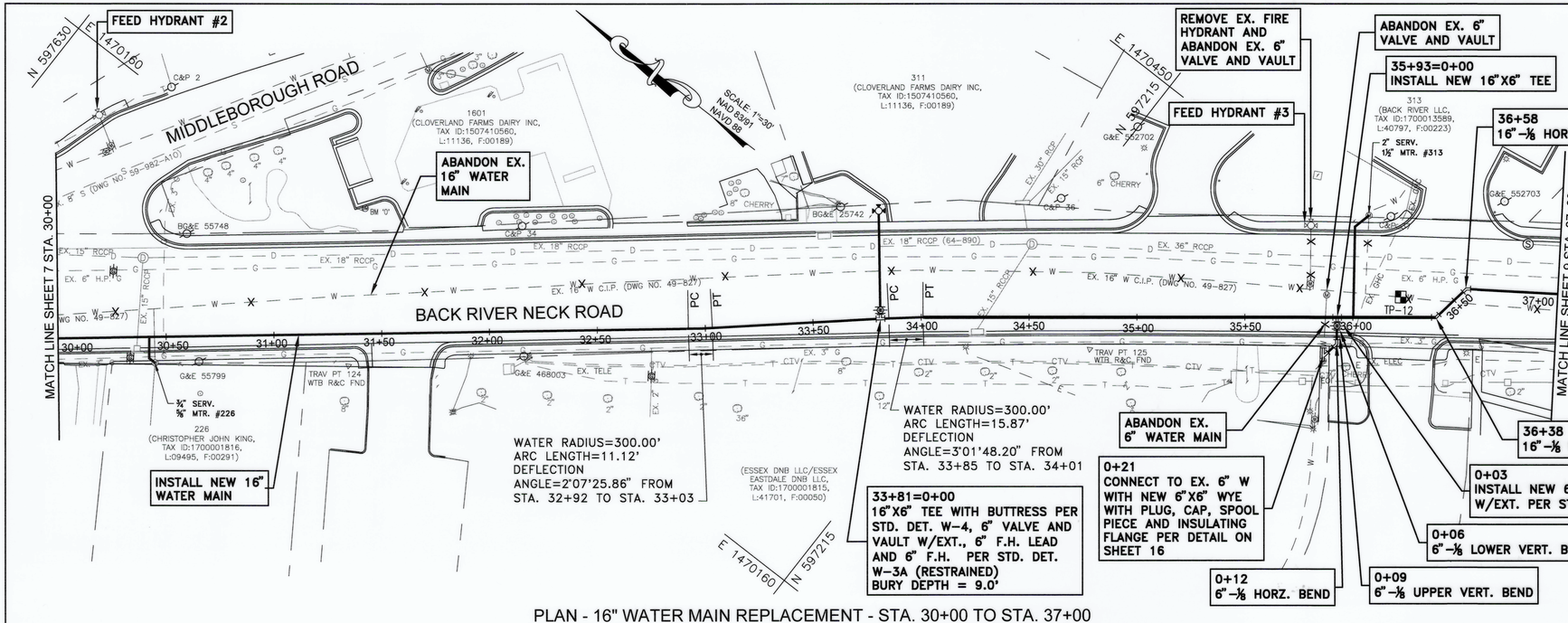


PLAN - 16" WATER MAIN REPLACEMENT - STA. 30+00 TO STA. 37+00

SCALE: 1"=30'

EXISTING TEST PITS						
TEST PIT NO.	NORTHING	EASTING	GROUND ELEV.	UTILITY	COVER	TOP ELEV.
12	597070.70	1470439.03	24.93	16" W	5.61	19.32

WATER STAKEOUT TABLE BACK RIVER NECK ROAD 16" W		
STATION	NORTHING	EASTING
32+92 (PC)	597321.74	1470224.51
33+03 (PT)	597313.22	1470231.65
33+81 (16"X6" F.H.T.)	597254.51	1470282.73
33+85 (PC)	597251.58	1470285.28
34+01 (PT)	597239.34	1470295.37
35+93 (16"X6" TEE)	597088.10	1470413.52
36+38 (16-1/8 HORZ. BEND)	597052.06	1470441.67
36+58 (16-1/8 HORZ. BEND)	597049.06	1470460.63

HORIZONTAL CONTROL		
TRAVERSE POINT	NORTHING	EASTING
124	597435.37	1470113.95
125	597169.37	1470331.31

WATER STAKEOUT TABLE 6" WHC STA. 35+93		
STATION	NORTHING	EASTING
0+00 (16"X6" TEE)	597088.10	1470413.52
0+03 (6" VALVE AND VAULT)	597086.29	1470411.13
0+06 (6"-1/16 LOWER VERT. BEND)	597084.50	1470408.72
0+09 (6"-1/16 UPPER VERT. BEND)	597083.00	1470406.72
0+12 (6"-1/8 HORZ. BEND)	597080.70	1470403.66
0+21 (WYE)	597082.06	1470395.23

- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 16" W FROM STA. 30+00 TO STA. 37+00
- RESTRAIN ALL PIPE JOINTS AND FITTINGS ON NEW 6" W FROM STA. 0+00 TO STA. 0+25

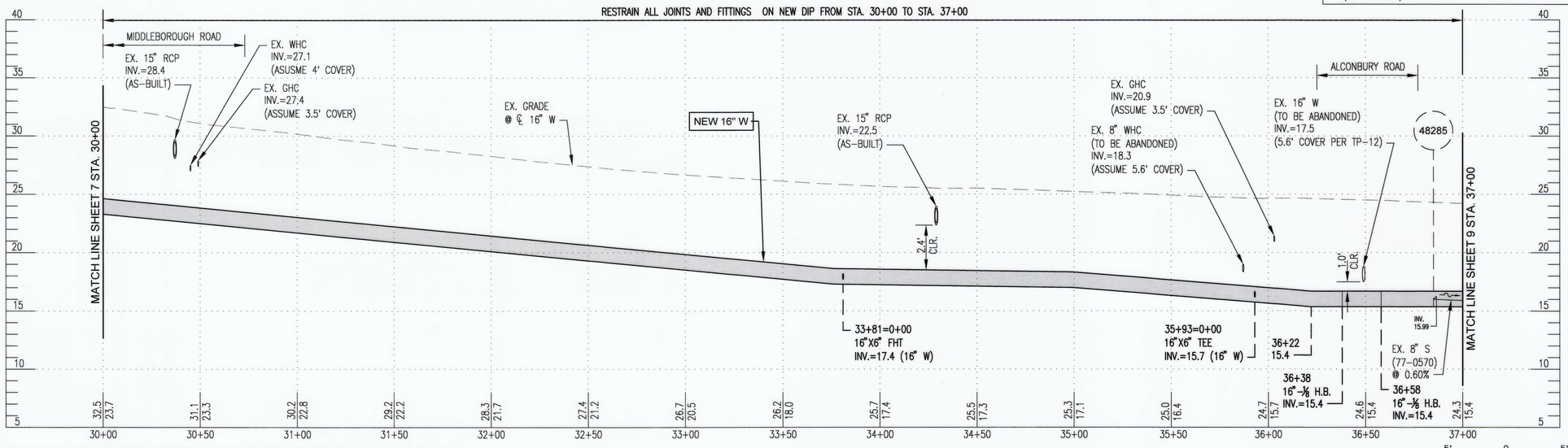
- SEE SHEET 13 FOR PROFILE OF 6" WATER SERVICE CONNECTION AT BACK RIVER NECK ROAD 16" W STA. 35+93.
- SEE SHEET 13 FOR PROFILE OF 6" WATER FOR PROFILE FOR FIRE HYDRANT AT BACK RIVER NECK ROAD 16" W STA. 33+81.

VERTICAL CONTROL
BM '0'
BOX CUT TC @ CORNER OF ROYAL FARMS DUMPSTER
ELEV.=31.22

ABANDONING NOTES

- ABANDON APPROX. 700 L.F. OF EX. 16" W IN PLACE ALONG BACK RIVER NECK ROAD RIGHT OF 16" W STA. 30+00 TO STA. 37+00 (AS NOTED X).
- ABANDON APPROX. 30 L.F. OF EX. 6" WHC IN PLACE ALONG BACK RIVER NECK ROAD 24" W STA. 36+03 RIGHT OF 6" WHC STA. 0+00 TO STA. 0+26 (AS NOTED X).

BILL OF MATERIALS		
QUANTITY	DESCRIPTION	SIZE
700 L.F.	DUCTILE IRON PIPE	16"
68 L.F.	DUCTILE IRON PIPE	6"
50 L.F.	COPPER	2"
13 L.F.	COPPER	3/4"
1 EA.	TAP AND CORP STOP	3/4"
1 EA.	TAP AND CORP STOP	2"
2 EA.	1/8 BEND	16"
3 EA.	1/8 BEND	6"
2 EA.	TEE	16"X6"
2 EA.	VALVE AND VAULT	6"
1 EA.	FIRE HYDRANT	-
1 EA.	WYE	6"X6"
1 EA.	CAP	6"
1 EA.	PLUG	6"
1 EA.	SLEEVE	6"
1 EA.	SPACER	6"



PROFILE OF 16" W - STA. 30+00 TO STA. 37+00

SCALE: 1"=30' HORZ.
1"=5' VERT.

SCALE: 1"=5' (VERT)

SCALE: 1"=30' (HORZ)

CONTRACT COMPLETION BOX

CONTRACTOR: _____
DATE COMPLETED: _____
INSPECTOR: _____
PIPE MATERIAL: _____
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S): _____
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S): _____
☐ OTHER (SPECIFY): — PIPE DIAMETER(S): _____

DWG. FILENAME: T:\Baltimore County Utilities\800-122.05 Back River Neck Road Phase 3\DWGs\pPS-0006-BRNR.dwg

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL — STATE OF MARYLAND — SHAWN T. BURNETT — NO. 30615 — REGISTERED PROFESSIONAL ENGINEER
DATE: 1-9-2025

PROFESSIONAL CERTIFICATION									
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 30615, EXPIRATION DATE 10/21/26									
ENGINEER: SHAWN BURNETT THE WILSON T. BALLARD CO.	DESIGN BY: DS								
AS-BUILT PER RECORD PRINT BY: DATE:	DRAWN BY: TL								
	CHKD BY: SB								

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	I-SE	3NE33 4NE33

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	VERT. 1"=5' HORZ. 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

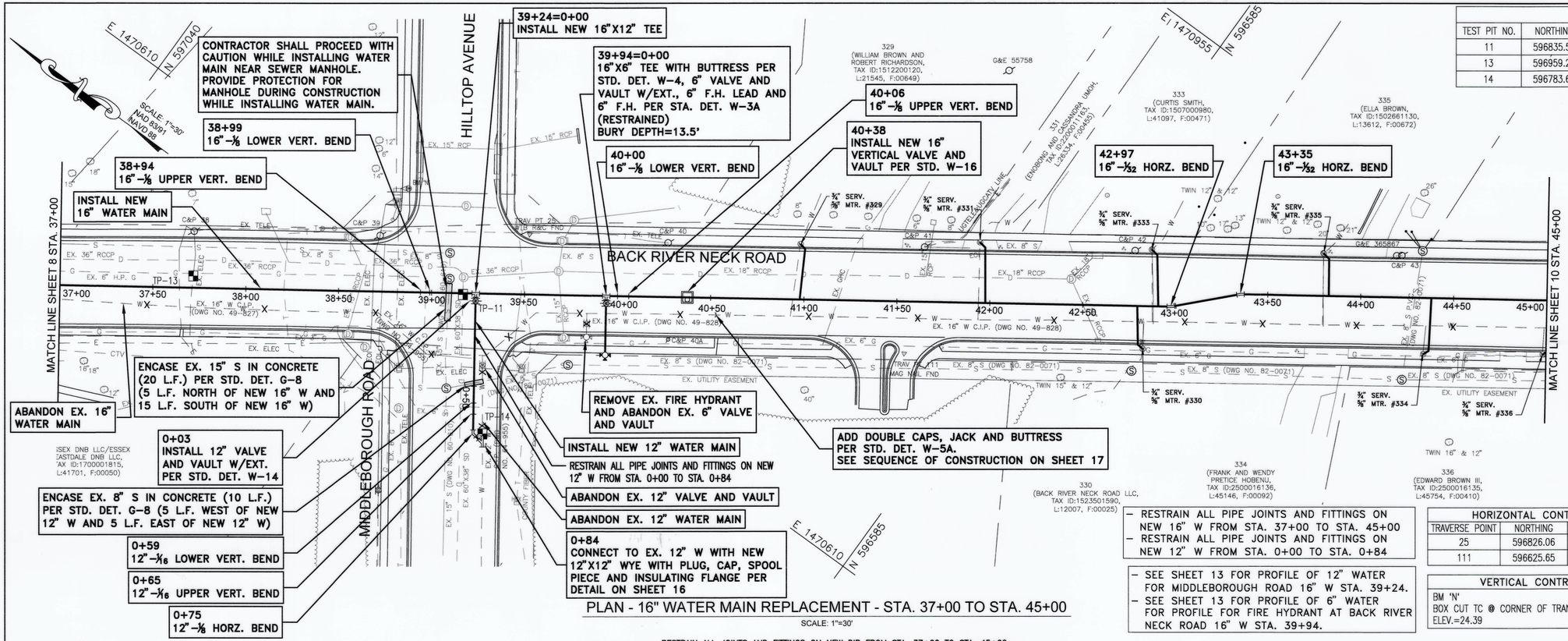
BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — PROP. 16" WATER MAIN PLAN (STA. 30+00 TO STA. 37+00) — ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 8 OF 18	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 8 OF 44	
DRAWING NUMBER	2023-2711
FILE NO.:	



PLAN - 16" WATER MAIN REPLACEMENT - STA. 37+00 TO STA. 45+00

SCALE: 1"=30'

EXISTING TEST PITS						
TEST PIT NO.	NORTHING	EASTING	GROUND ELEV.	UTILITY	COVER	TOP ELEV.
11	596835.59	1470608.83	23.87	60"X38" SD	3.82	20.05
13	596959.25	1470531.04	24.32	ELEC	3.35	20.97
14	596783.63	1470553.80	23.33	12" W	8.07	15.26

WATER STAKEOUT TABLE BACK RIVER NECK ROAD 16"W		
STATION	NORTHING	EASTING
38+94 (16"–1/8 UPPER VERT. BEND)	596855.71	1470595.53
38+99 (16"–1/8 LOWER VERT. BEND)	596851.61	1470598.40
39+24 (16"X12" TEE)	596830.85	1470612.88
39+94 (16"X6" F.H.T.)	596773.33	1470653.01
40+00 (16"–1/8 LOWER VERT. BEND)	596768.78	1470656.18
40+06 (16"–1/8 UPPER VERT. BEND)	596763.88	1470659.64
40+38 (16" VALVE AND VAULT)	596737.55	1470677.97
42+97 (16"–1/32 HORZ. BEND)	596524.48	1470826.63
43+35 (16"–1/32 HORZ. BEND)	596498.11	1470854.09

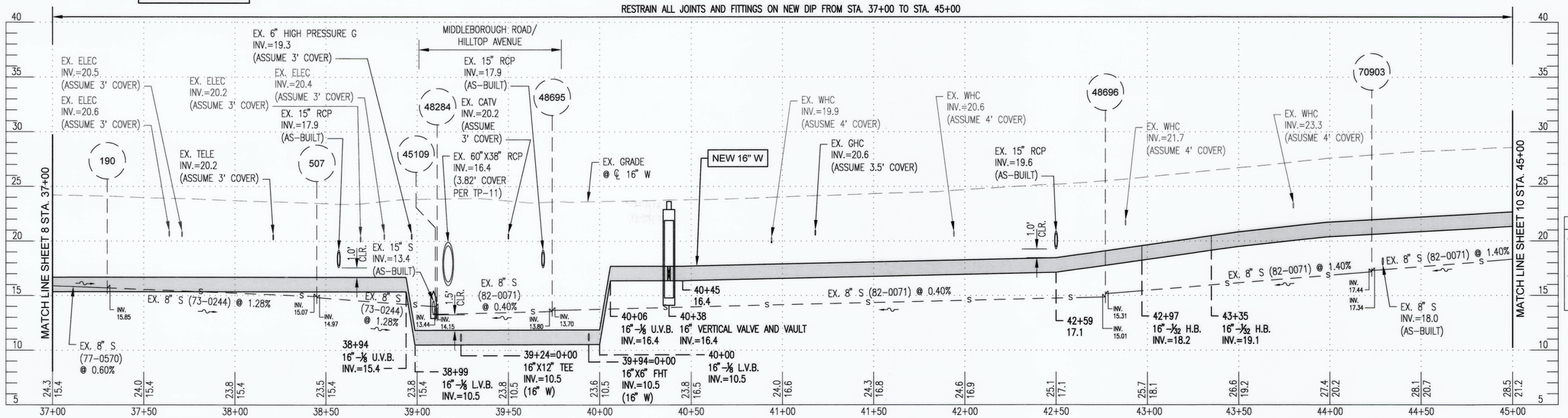
WATER STAKEOUT TABLE MIDDLEBOROUGH ROAD 12"W (16"W STA. 39+24)		
STATION	NORTHING	EASTING
0+00 (16"X12" TEE)	596830.85	1470612.88
0+03 (12" VALVE AND VAULT)	596829.13	1470610.42
0+59 (12"–1/16 UPPER VERT. BEND)	596797.09	1470564.49
0+65 (12"–1/16 LOWER VERT. BEND)	596793.66	1470559.57
0+75 (12"–1/8 HORZ. BEND)	596787.25	1470550.92
0+84 (WYE)	596779.12	1470549.50

HORIZONTAL CONTROL		
TRAVERSE POINT	NORTHING	EASTING
25	596826.06	1470655.65
111	596625.65	1470721.84

VERTICAL CONTROL
BM 'N' BOX CUT TC @ CORNER OF TRANSFORMER PAD ELEV.=24.39

BILL OF MATERIALS		
QUANTITY	DESCRIPTION	SIZE
800 L.F.	DUCTILE IRON PIPE	16"
84 L.F.	DUCTILE IRON PIPE	8"
32 L.F.	DUCTILE IRON PIPE	6"
177 L.F.	COPPER	3/4"
6 EA.	TAP AND CORP STOP	3/4"
4 EA.	1/8 BEND	16"
2 EA.	1/32 BEND	16"
1 EA.	1/8 BEND	12"
2 EA.	1/16 BEND	12"
1 EA.	TEE	16"X12"
1 EA.	TEE	16"X6"
1 EA.	VALVE AND VAULT	16"
1 EA.	VALVE AND VAULT	12"
1 EA.	VALVE AND VAULT	6"
1 EA.	FIRE HYDRANT	–
1 EA.	WYE	12"X12"
1 EA.	CAP	12"
2 EA.	CAP	16"
1 EA.	PLUG	12"
1 EA.	SLEEVE	12"
1 EA.	SPACER	12"

RESTRAIN ALL JOINTS AND FITTINGS ON NEW DIP FROM STA. 37+00 TO STA. 45+00



PROFILE OF 16" W - STA. 37+00 TO STA.45+00

SCALE: 1"=30' HORZ. 1"=5' VERT.

SCALE: 1"=5' (VERT)

SCALE: 1"=30' (HORZ)

ABANDONING NOTES
– ABANDON APPROX. 800 L.F. OF EX. 16" W IN PLACE ALONG BACK RIVER NECK ROAD LEFT OF 24" W STA. 37+00 TO STA. 45+00 (AS NOTED X).
– ABANDON APPROX. 71 L.F. OF EX. 12" W IN PLACE ALONG MIDDLEBOROUGH ROAD LEFT OF 12" W STA. 0+00 TO STA. 0+84 (AS NOTED X).

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
BONDED COATED PIPE	PIPE DIAMETER(S):
N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND SHAWN T. BURNETT No. 20615 REGISTERED PROFESSIONAL ENGINEER

DATE: 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT THE WILSON T. BALLARD CO. — DESIGN BY: DS

AS-BUILT PER RECORD PRINT — DRAWN BY: TL

BY: DATE: — CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	I-SE	3NE33 3NE34

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	VERT: 1"=5' HORZ: 1"=30'

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						

DPW & TRANSPORTATION

SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24–INCH AND 16–INCH WATER MAIN REPLACEMENT – PHASE 3

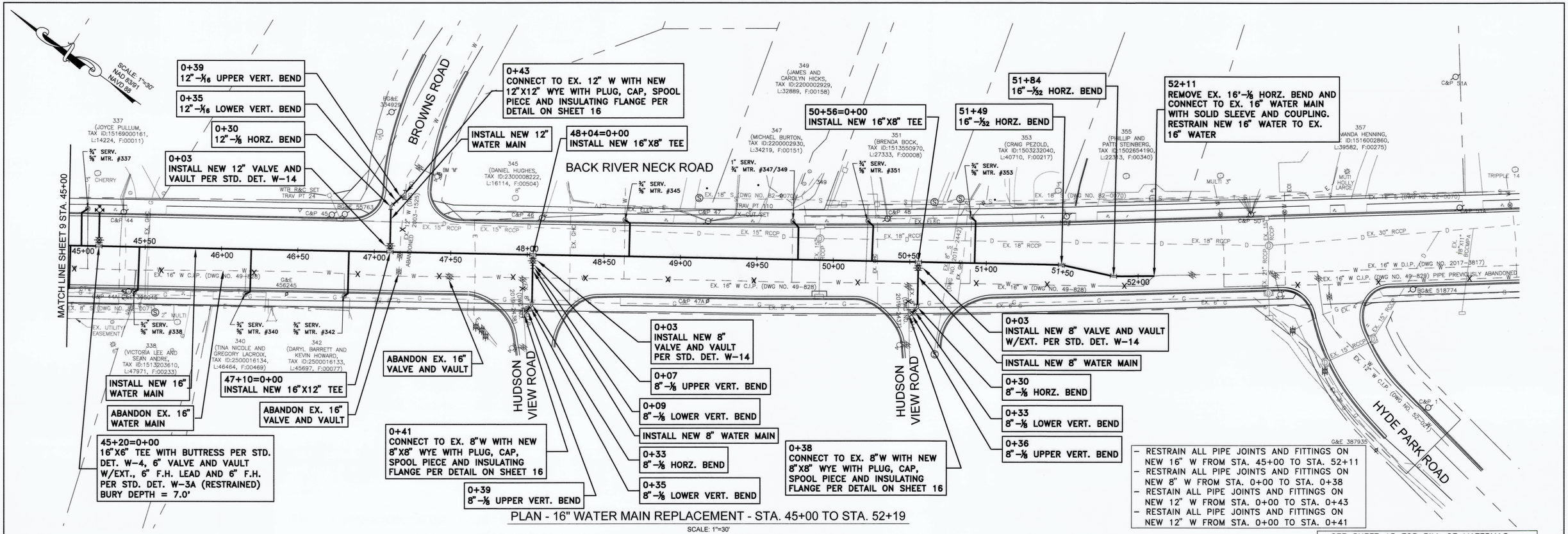
BACK RIVER NECK ROAD

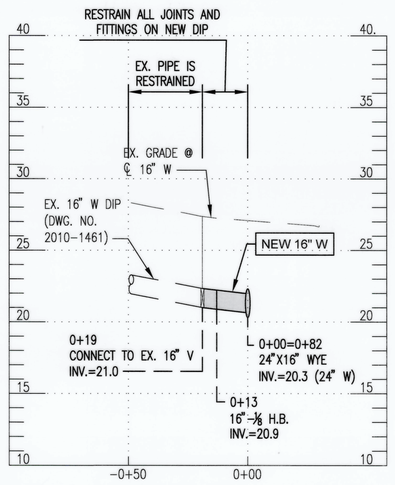
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — PROP. 16" WATER MAIN PLAN (STA. 37+00 TO STA. 45+00) — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 9 OF 18	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 9 OF 44	
DRAWING NUMBER	2023-2712
FILE NO.:	WP

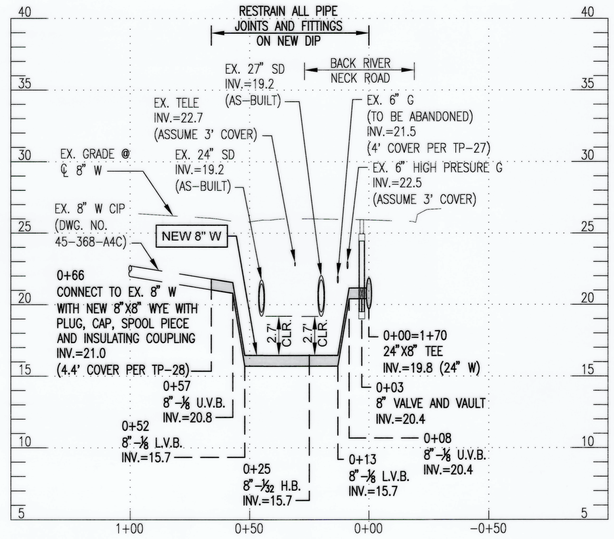
DWG. FILENAME: F:\Baltimore County Utilities\800-1202.03 Back River Neck Road Phase 3\DWGs\DPS-0067-BRNR.dwg


SCALE: 1"=30'
NAD 83/91
NAVD 88
0+39
12"–⅛ UPPER VERT. BEND
0+35
12"–⅛ LOWER VERT. BEND
0+30
12"–⅛ HORZ. BEND
0+03
INSTALL NEW 12" VALVE AND VAULT PER STD. DET. W–14
0+43
CONNECT TO EX. 12" W WITH NEW 12"X12" WYE WITH PLUG, CAP, SPOOL PIECE AND INSULATING FLANGE PER DETAIL ON SHEET 16
INSTALL NEW 12" WATER MAIN
48+04=0+00
INSTALL NEW 16"X8" TEE
50+56=0+00
INSTALL NEW 16"X8" TEE
51+84
16"–⅛2 HORZ. BEND
51+49
16"–⅛2 HORZ. BEND
52+11
REMOVE EX. 16'–⅛ HORZ. BEND AND CONNECT TO EX. 16" WATER MAIN WITH SOLID SLEEVE AND COUPLING. RESTRAIN NEW 16" WATER TO EX. 16" WATER
BROWNS ROAD
BACK RIVER NECK ROAD
HUDSON VIEW ROAD
HUDSON VIEW ROAD
HYDE PARK ROAD
MATCH LINE SHEET 9 STA. 45+00
337 (JOYCE PULLUM, TAX ID:1516900161, L:14224, F:00011)
345 (DANIEL HUGHES, TAX ID:2300008222, L:16114, F:00504)
347 (MICHAEL BURTON, TAX ID:2200002930, L:34219, F:00151)
349 (JAMES AND CAROLYN HICKS, TAX ID:2200002929, L:32889, F:00158)
351 (BRENDA BOCK, TAX ID:1513550970, L:27333, F:00008)
353 (CRAIG PEZOLD, TAX ID:1503232040, L:40710, F:00217)
355 (PHILLIP AND PATTI STEINBERG, TAX ID:1502654190, L:22313, F:00340)
357 (AMANDA HENNING, TAX ID:1516002860, L:39582, F:00275)
338 (VICTORIA LEE AND SEAN ANDRE, TAX ID:1513203610, L:47971, F:00233)
340 (TINA NICOLE AND GREGORY LACROIX, TAX ID:2500016134, L:46464, F:00469)
342 (DARYL BARRETT AND KEVIN HOWARD, TAX ID:2500016133, L:45697, F:00077)
INSTALL NEW 16" WATER MAIN
ABANDON EX. 16" WATER MAIN
45+20=0+00
16"X6" TEE WITH BUTTRESS PER STD. DET. W–4, 6" VALVE AND VAULT W/EXT., 6" F.H. LEAD AND 6" F.H. PER STD. DET. W–3A (RESTRAINED) BURY DEPTH = 7.0'
47+10=0+00
INSTALL NEW 16"X12" TEE
ABANDON EX. 16" VALVE AND VAULT
ABANDON EX. 16" VALVE AND VAULT
0+41
CONNECT TO EX. 8"W WITH NEW 8"X8" WYE WITH PLUG, CAP, SPOOL PIECE AND INSULATING FLANGE PER DETAIL ON SHEET 16
0+39
8"–⅛ UPPER VERT. BEND
0+03
INSTALL NEW 8" VALVE AND VAULT PER STD. DET. W–14
0+07
8"–⅛ UPPER VERT. BEND
0+09
8"–⅛ LOWER VERT. BEND
INSTALL NEW 8" WATER MAIN
0+33
8"–⅛ HORZ. BEND
0+35
8"–⅛ LOWER VERT. BEND
0+38
CONNECT TO EX. 8"W WITH NEW 8"X8" WYE WITH PLUG, CAP, SPOOL PIECE AND INSULATING FLANGE PER DETAIL ON SHEET 16
0+03
INSTALL NEW 8" VALVE AND VAULT W/EXT. PER STD. DET. W–14
INSTALL NEW 8" WATER MAIN
0+30
8"–⅛ HORZ. BEND
0+33
8"–⅛ LOWER VERT. BEND
0+36
8"–⅛ UPPER VERT. BEND
EX. 16" W C.I.P. (DWG NO. 49–828)
EX. 16" W C.I.P. (DWG NO. 49–829) PIPE PREVIOUSLY ABANDONED
EX. 16" W D.I.P. (DWG NO. 2017–3817)
EX. 12" W C.I.P. (DWG NO. 52–04)
EX. 8" S (DWG NO. 82–0071)
EX. 15" RCP (DWG NO. 82–0070)
EX. 18" RCP (DWG NO. 82–0070)
EX. 30" RCCP
EX. 21" RCCP
EX. 15" RCCP
EX. 18" RCCP
EX. 6" G
EX. 4" G
EX. 8" G
EX. 16" W
EX. 12" W (DWG NO. 2017–2442)
EX. 8" W (DWG NO. 2017–2442)
EX. 15" RCP
EX. 18" RCP
EX. 15" RCP
EX. 18" RCP
EX. 15" RCP
EX. 18" RCP



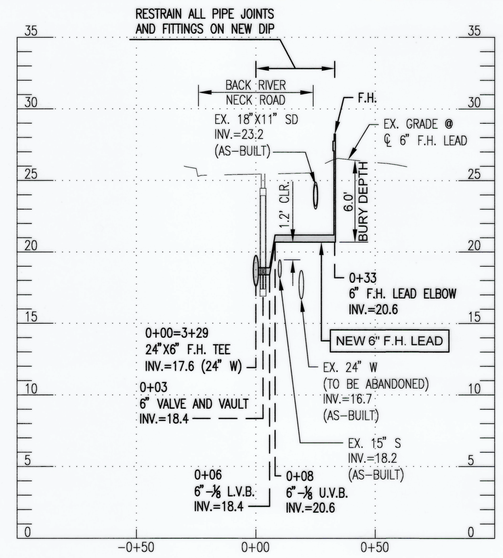
PROP. 24"X16 INTERCONNECT
(SEE SHEET 3)

SCALE: 1"=30' HORZ.
1"=5' VERT.



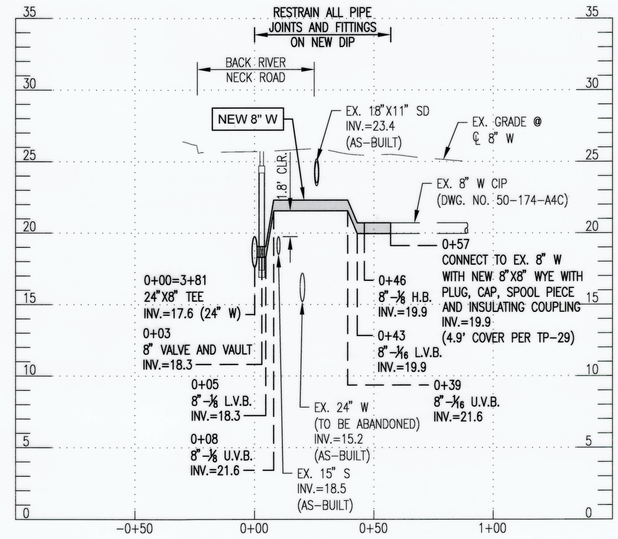
PROP. 8" WATER - HOPEWELL AVENUE EAST
(SEE SHEET 3)

SCALE: 1"=30' HORZ.
1"=5' VERT.



PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 24" W STA. 3+29
(SEE SHEET 4)

SCALE: 1"=30' HORZ.
1"=5' VERT.



PROP. 8" WATER - HOPEWELL AVENUE WEST
(SEE SHEET 4)

SCALE: 1"=30' HORZ.
1"=5' VERT.

PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 24" W STA. 5+78
(SEE SHEET 4)

SCALE: 1"=30' HORZ.
1"=5' VERT.

PROP. 4" WHC
BACK RIVER NECK ROAD 24" W STA. 6+76
(SEE SHEET 4)

SCALE: 1"=30' HORZ.
1"=5' VERT.

PROP. 8" WATER - HOWARD AVENUE
(SEE SHEET 4)

SCALE: 1"=30' HORZ.
1"=5' VERT.

PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 24" W STA. 8+91
(SEE SHEET 4)

SCALE: 1"=30' HORZ.
1"=5' VERT.

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

DATE: 7-9-2025

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET	POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

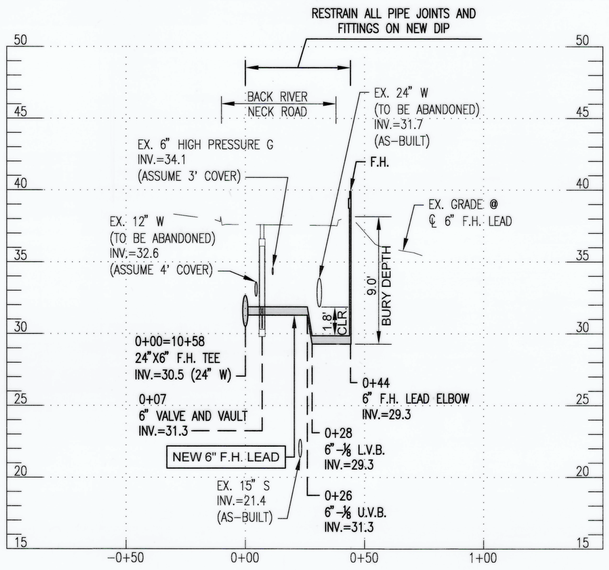
BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK PROP. WATER MAIN BRANCH CONNECTIONS AND FIRE HYDRANT PROFILES ELECTION DIST. NO.: 15C7

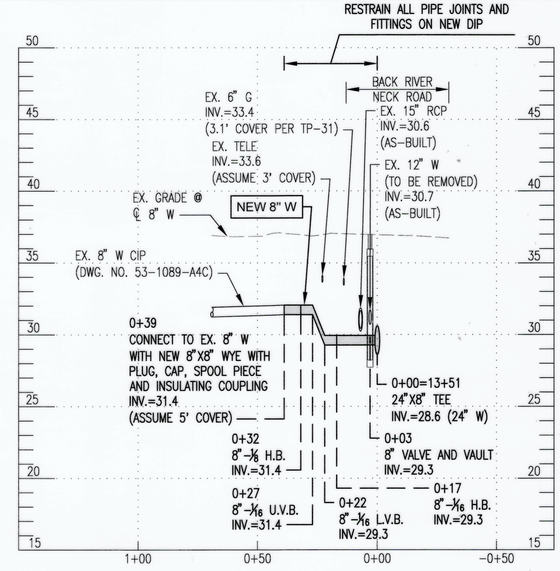
SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 11 OF 18	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 11 OF 44	
DRAWING NUMBER	2023-2714
FILE NO.:	SEW WATER

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\WATER\plP-0001_BRNR.dwg



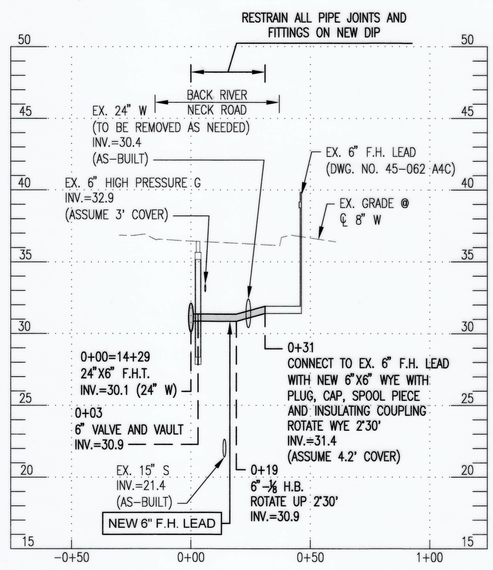
PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 24" W STA. 10+58
(SEE SHEET 5)

SCALE: 1"=30' HORZ.
1"=5' VERT.



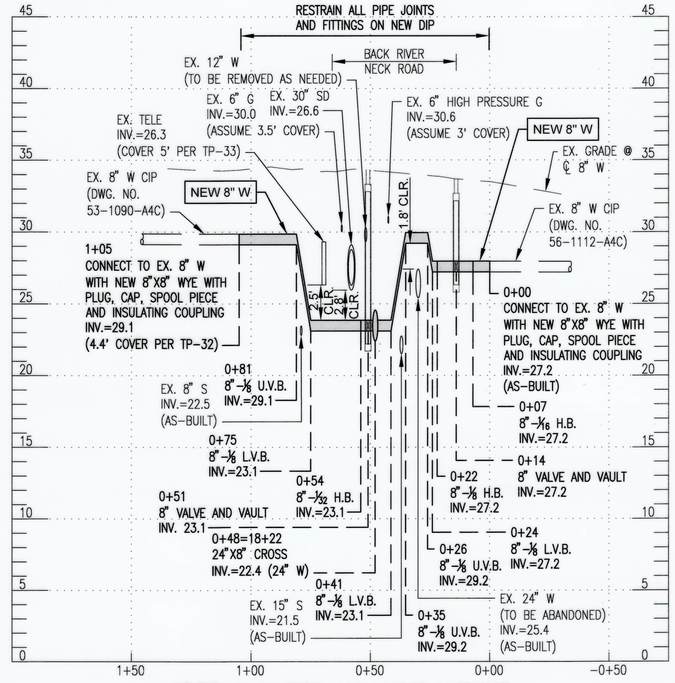
PROP. 8" WATER - FRENCHS AVENUE
(SEE SHEET 5)

SCALE: 1"=30' HORZ.
1"=5' VERT.



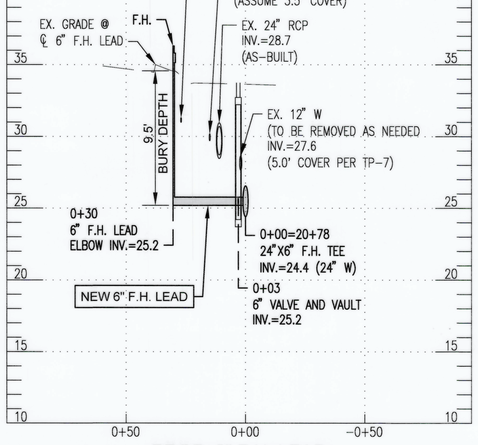
PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 24" W STA. 14+29
(SEE SHEET 5)

SCALE: 1"=30' HORZ.
1"=5' VERT.



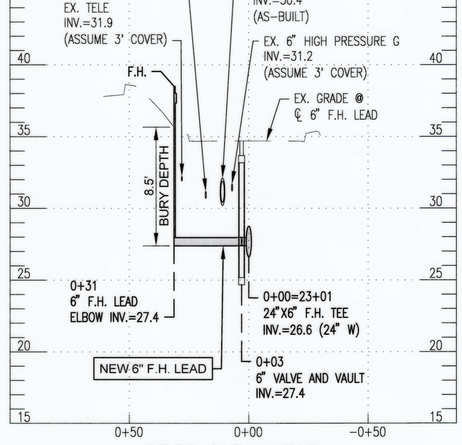
PROP. 8" WATER - WILLIAMS AVENUE
(SEE SHEET 6)

SCALE: 1"=30' HORZ.
1"=5' VERT.



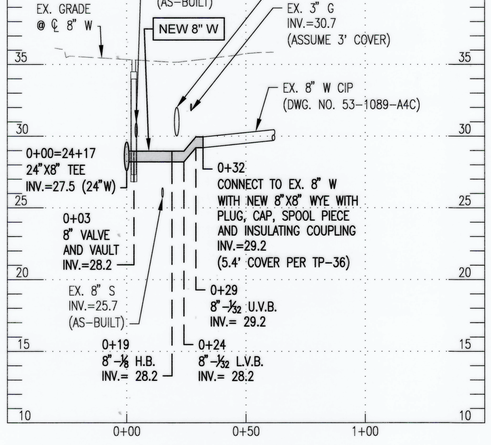
PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 24" W STA. 20+78
(SEE SHEET 6)

SCALE: 1"=30' HORZ.
1"=5' VERT.



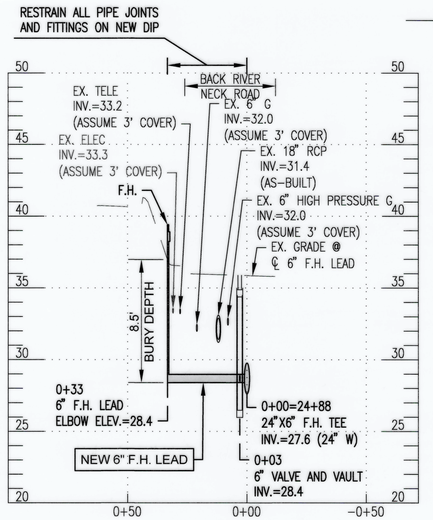
PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 24" W STA. 22+97
(SEE SHEET 7)

SCALE: 1"=30' HORZ.
1"=5' VERT.



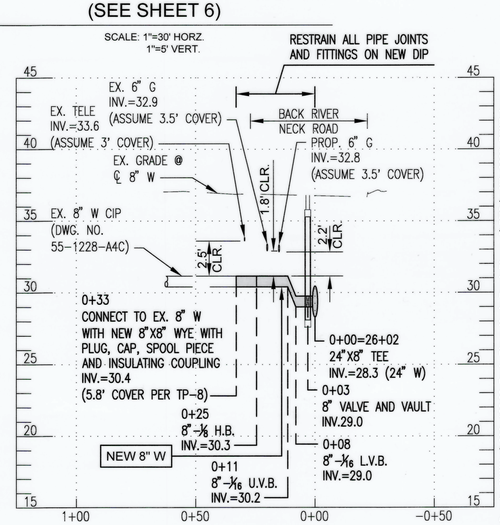
PROFILE OF 8" W - TRIPGATE ROAD
(SEE SHEET 7)

SCALE: 1"=30' HORZ.
1"=5' VERT.



PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 24" W STA. 24+88
(SEE SHEET 7)

SCALE: 1"=30' HORZ.
1"=5' VERT.



PROP. 8" WATER - POLES ROAD
(SEE SHEET 7)

SCALE: 1"=30' HORZ.
1"=5' VERT.

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND — SHAWN T. BURNETT — NO. 20615 — REGISTERED PROFESSIONAL ENGINEER

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET | POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

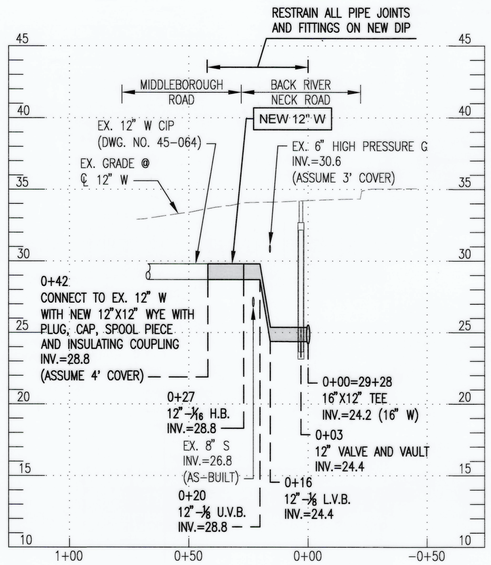
BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK PROP. WATER MAIN BRANCH CONNECTIONS AND FIRE HYDRANT PROFILES ELECTION DIST. NO.: 15C7

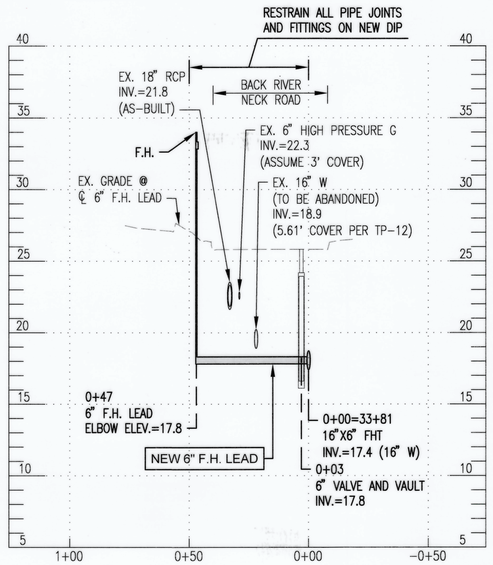
SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 12 OF 18	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 12 OF 44	
DRAWING NUMBER	2023-2715
FILE NO.:	

DWG. FILENAME: T:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\pDP-0002_BRNR.dwg



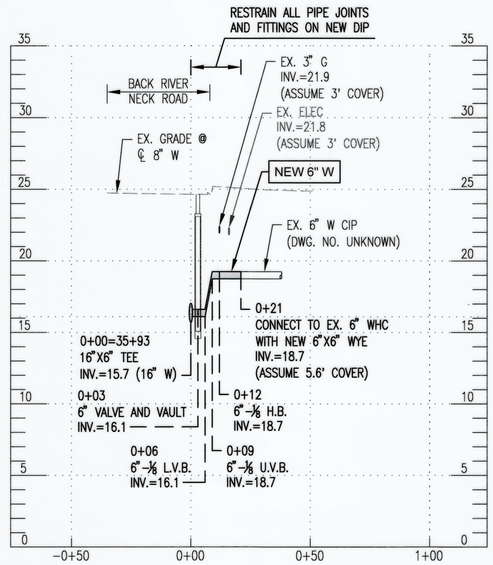
PROP. 12" WATER - MIDDLEBOROUGH ROAD
(SEE SHEET 7)

SCALE: 1"=30' HORZ.
1"=5' VERT.



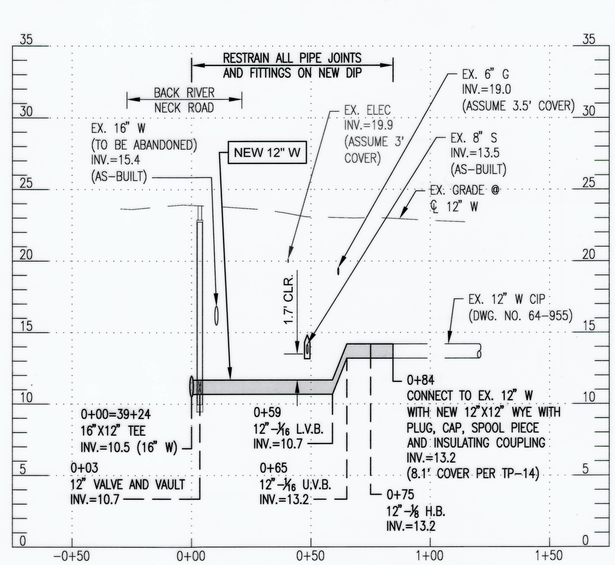
PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 16" W STA. 33+81
(SEE SHEET 8)

SCALE: 1"=30' HORZ.
1"=5' VERT.



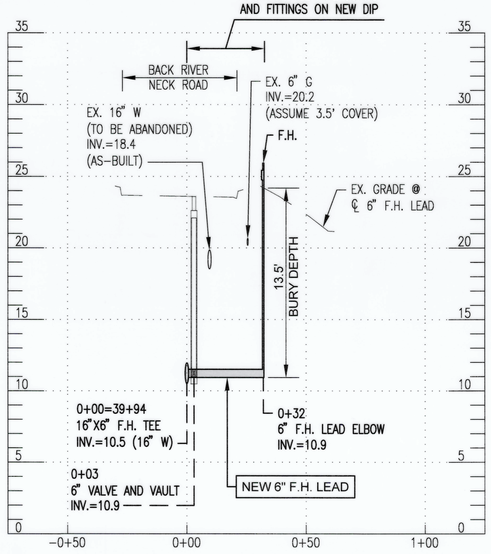
PROP. 6" WHC
BACK RIVER NECK ROAD 16" W STA. 35+93
(SEE SHEET 8)

SCALE: 1"=30' HORZ.
1"=5' VERT.



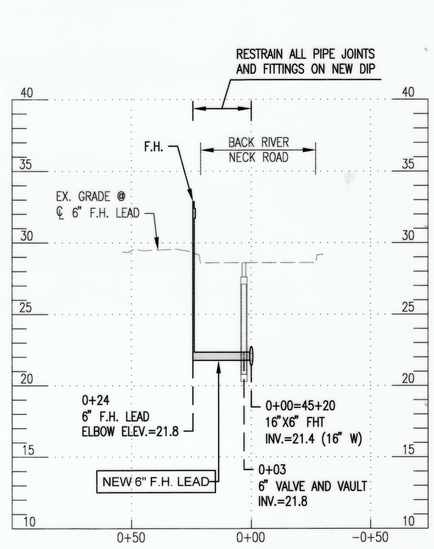
PROP. 12" WATER
MIDDLEBOROUGH ROAD/BACK RIVER NECK ROAD 16" W STA. 39+24
(SEE SHEET 9)

SCALE: 1"=30' HORZ.
1"=5' VERT.



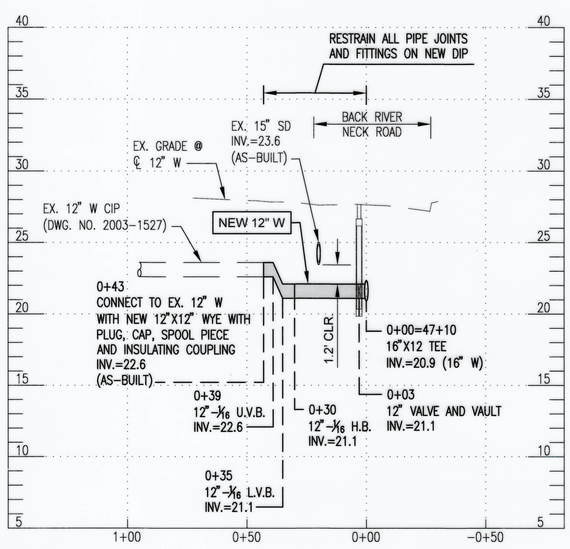
PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 16" W STA. 39+94
(SEE SHEET 9)

SCALE: 1"=30' HORZ.
1"=5' VERT.



PROP. 6" F.H. LEAD
BACK RIVER NECK ROAD 16" W STA. 45+20
(SEE SHEET 10)

SCALE: 1"=30' HORZ.
1"=5' VERT.



PROP. 12" WATER - BROWNS ROAD
(SEE SHEET 10)

SCALE: 1"=30' HORZ.
1"=5' VERT.

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615 EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

KEY SHEET
POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

CONTRACT COMPLETION BOX

CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL:
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S):
☐ OTHER (SPECIFY): — PIPE DIAMETER(S):

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\pUP-0003_BRNR.dwg

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 13 OF 16	23186-WXO

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

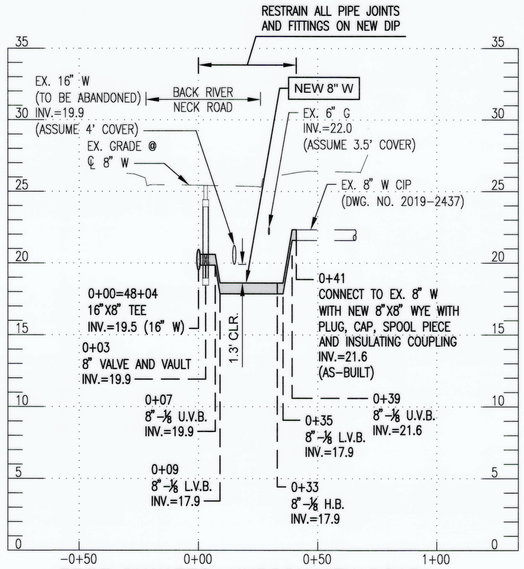
24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

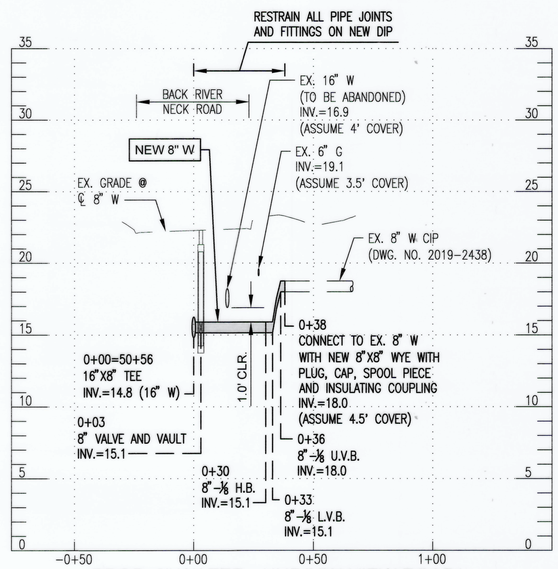
SUBDIVISION: BACK RIVER NECK PROP. WATER MAIN BRANCH CONNECTIONS ARE FIRE HYDRANT PROFILES ELECTION DIST. NO.: 15C7

JOB ORDER NUMBER	
231-203-0067-0783	
SHEET 13 OF 44	
DRAWING NUMBER	
2023-2716	
FILE NO.:	



PROP. 8" WATER - HUDSON VIEW ROAD/
BACK RIVER NECK ROAD 16" W STA. 48+04
(SEE SHEET 10)

SCALE: 1"=30' HORZ.
1"=5' VERT.



PROP. 8" WATER - HUDSON VIEW ROAD/
BACK RIVER NECK ROAD 16" W STA. 50+56
(SEE SHEET 10)

SCALE: 1"=30' HORZ.
1"=5' VERT.

DWG. FILENAME: F:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\pIP-0004_BRNR.dwg

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
BONDED COATED PIPE	PIPE DIAMETER(S):
N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND · SHAWN T. BURNETT · No. 20615 · REGISTERED PROFESSIONAL ENGINEER

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

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LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET | POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK PROP. WATER MAIN BRANCH CONNECTIONS ARE FIRE HYDRANT PROFILES ELECTION DIST. NO.:15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 14 OF 18	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 14 OF 44	
DRAWING NUMBER	2023-2717
FILE NO.:	

WATER HOUSE CONNECTIONS

STATION	SERVICE ADDRESS	EX. PROPERTY ID	EX. METER TYPE	EX. METER ID	EX. SIZE OF SERVICE	TYPE OF SERVICE	APPROX. PROP. LENGTH OF SERVICE (LF)	REMARKS/NOTES	EX. MATERIAL OF SERVICE LINE (TO BE VERIFIED BY CONTRACTOR)
0+18	100 BACK RIVER NECK ROAD	1516600841	DOMESTIC	54353649	1.5"	COMMERCIAL	24		
	103 BACK RIVER NECK ROAD	1511150972	DOMESTIC	76345798	3/4"	COMMERCIAL		FED FROM HOPEWELL AVENUE	
1+22	104 BACK RIVER NECK ROAD	1513108280	DOMESTIC	77886545	3/4"	COMMERCIAL	25		
1+73	104 BACK RIVER NECK ROAD	1513108280	DOMESTIC	77886545	3/4"	COMMERCIAL	24		
2+59	105 BACK RIVER NECK ROAD	1511150971	DOMESTIC	79854462	3/4"	COMMERCIAL	31		
4+61	113 BACK RIVER NECK ROAD	2200027639	DOMESTIC	79854287	3/4"	COMMERCIAL	28		
6+22	113 BACK RIVER NECK ROAD	2200027639	DETECTOR CHECK	60950276	2"	COMMERCIAL	34		
6+73	113 BACK RIVER NECK ROAD	2200027639	DETECTOR CHECK	60950276	2"	COMMERCIAL	36		
5+17	116 BACK RIVER NECK ROAD	1502201851	DOMESTIC	77886572	3/4"	RESIDENTIAL	27		
6+34	118 BACK RIVER NECK ROAD	1519322371	DOMESTIC		3/4"	COMMERCIAL	23		
6+62	118 BACK RIVER NECK ROAD	1519071520	DOMESTIC		1.5"	COMMERCIAL	23		
7+53	119 BACK RIVER NECK ROAD	1526750130	DOMESTIC	79657028	1.5"	COMMERCIAL	34		
8+99	121 BACK RIVER NECK ROAD	1504750380	DOMESTIC	79854459	3/4"	RESIDENTIAL	16		
8+76	122 BACK RIVER NECK ROAD	1503473891			3/4"	COMMERCIAL	42		
10+18	123 BACK RIVER NECK ROAD	1503473890	DOMESTIC	77893598	1"	COMMERCIAL	15		
	125 BACK RIVER NECK ROAD	1512001800	DOMESTIC	999999999	3/4"	ABANDONED	N/A		
11+08	127 BACK RIVER NECK ROAD	1508651382	DOMESTIC	79854463	3/4"	COMMERCIAL	14		
12+08	129 BACK RIVER NECK ROAD	1513551170	DOMESTIC	81542423	3/4"	COMMERCIAL	16		
12+50	129 BACK RIVER NECK ROAD	1513551170	DOMESTIC	79856837	3/4"	COMMERCIAL	15		
14+22	137 BACK RIVER NECK ROAD	1514900021	DOMESTIC	79400634	1"	COMMERCIAL	21		
12+96	140 BACK RIVER NECK ROAD	1516601360	DOMESTIC	77886499	3/4"	COMMERCIAL	37		
16+62	143 BACK RIVER NECK ROAD	1519850541	DETECTOR CHECK	79854458	3/4"	COMMERCIAL	23		
	145 BACK RIVER NECK ROAD	1519001266	DETECTOR CHECK	60950166	2"	COMMERCIAL		FED FROM WILLIAMS AVENUE	
16+10	146 BACK RIVER NECK ROAD	1503770410	DOMESTIC	77893550	3/4"	COMMERCIAL	37		
19+46	149 BACK RIVER NECK ROAD	1600005211	DOMESTIC	79854460	3/4"	COMMERCIAL	24		
16+51	150 BACK RIVER NECK ROAD	1513204692	DOMESTIC	78007513	3/4"	COMMERCIAL	36		
20+38	151 BACK RIVER NECK ROAD	1519001261	DOMESTIC	79856205	3/4"	COMMERCIAL	26		
17+12	152 BACK RIVER NECK ROAD	1512590830	DOMESTIC	77893600	1"	COMMERCIAL	36		
	200 BACK RIVER NECK ROAD	1519610923	DOMESTIC	79856839	3/4"	COMMERCIAL		FED FROM WILLIAMS AVENUE	
21+60	201 BACK RIVER NECK ROAD	2100007493	DOMESTIC	60908604	2"	COMMERCIAL	32		
23+04	202 BACK RIVER NECK ROAD	1519270860	DOMESTIC	78007946	3/4"	COMMERCIAL	29		
	205 BACK RIVER NECK ROAD	2100007492	DOMESTIC	01104985	2"	COMMERCIAL		FED FROM POLES ROAD	
24+55	206 BACK RIVER NECK ROAD	1507582030	DOMESTIC	77886543	3/4"	RESIDENTIAL	31		
25+89	208 BACK RIVER NECK ROAD	1523750010	DOMESTIC	77877755	3/4"	RESIDENTIAL	25		
26+13	214 BACK RIVER NECK ROAD	1507582031	DOMESTIC	77886501	3/4"	COMMERCIAL	26		
27+93	214 BACK RIVER NECK ROAD	1507582031	DOMESTIC	77886642	3/4"	COMMERCIAL	27		
28+04	215 BACK RIVER NECK ROAD	1900005397	DOMESTIC	26074207	3/4"	COMMERCIAL	28		
29+00	224 BACK RIVER NECK ROAD	1519910440	DOMESTIC	77893584	1"	RESIDENTIAL	26		
30+43	226 BACK RIVER NECK ROAD	1700001816	DOMESTIC	77886538	3/4"	RESIDENTIAL	13		
36+10	313 BACK RIVER NECK ROAD	1700013589	DETECTOR CHECK	60876085	2"	COMMERCIAL	50		
41+07	329 BACK RIVER NECK ROAD	1512200120	DOMESTIC	77886508	3/4"	RESIDENTIAL	31		
42+88	330 BACK RIVER NECK ROAD	1523501590	DOMESTIC	77886565	3/4"	RESIDENTIAL	24		
42+07	331 BACK RIVER NECK ROAD	2200011163	DOMESTIC		3/4"	RESIDENTIAL	34		
43+00	333 BACK RIVER NECK ROAD	1507000980	DOMESTIC	77886537	3/4"	RESIDENTIAL	32		
44+47	334 BACK RIVER NECK ROAD	2500016136	DOMESTIC	24766844	3/4"	RESIDENTIAL	32		
43+92	335 BACK RIVER NECK ROAD	1502651130	DOMESTIC	77886513	3/4"	RESIDENTIAL	24		
45+10	336 BACK RIVER NECK ROAD	2500016135	DOMESTIC		3/4"	RESIDENTIAL	31		
45+17	337 BACK RIVER NECK ROAD	1516900161	DOMESTIC	77886510	3/4"	RESIDENTIAL	27		
45+55	338 BACK RIVER NECK ROAD	1513203610	DOMESTIC	77886535	3/4"	RESIDENTIAL	31		
46+29	340 BACK RIVER NECK ROAD	2500016134	DOMESTIC		3/4"	RESIDENTIAL	31		
46+93	342 BACK RIVER NECK ROAD	2500016133	DOMESTIC		3/4"	RESIDENTIAL	31		
48+75	345 BACK RIVER NECK ROAD	2300008222	DOMESTIC	77886528	3/4"	RESIDENTIAL	26		
49+86	347/349 BACK RIVER NECK ROAD	2200002930	DOMESTIC	77886516	1"	RESIDENTIAL	27		
50+34	351 BACK RIVER NECK ROAD	1513550970	DOMESTIC	77886573	3/4"	RESIDENTIAL	28		
51+01	353 BACK RIVER NECK ROAD	1503232040	DOMESTIC	77886550	3/4"	RESIDENTIAL	31		

BILL OF MATERIALS (SEE SHEET 7)

QUANTITY	DESCRIPTION	SIZE
663 L.F.	DUCTILE IRON PIPE	24"
87 L.F.	DUCTILE IRON PIPE	16"
42 L.F.	DUCTILE IRON PIPE	12"
65 L.F.	DUCTILE IRON PIPE	8"
64 L.F.	DUCTILE IRON PIPE	6"
26 L.F.	COPPER	1"
166 L.F.	COPPER	3/4"
6 EA.	TAP AND CORP STOP	3/4"
1 EA.	TAP AND CORP STOP	1"
2 EA.	1/8 BEND	16"
2 EA.	1/8 BEND	12"
1 EA.	1/16 BEND	12"
2 EA.	1/8 BEND	8"
2 EA.	1/16 BEND	8"
2 EA.	1/32 BEND	8"
2 EA.	TEE	24"X8"
2 EA.	TEE	24"X6"
1 EA.	TEE	16"X12"
1 EA.	REDUCER	24"X16"
1 EA.	VALVE AND VAULT	24"
1 EA.	VALVE AND VAULT	12"
2 EA.	VALVE AND VAULT	8"
2 EA.	VALVE AND VAULT	6"
2 EA.	FIRE HYDRANT	–
1 EA.	WYE	12"X12"
2 EA.	WYE	8"X8"
1 EA.	CAP	12"
2 EA.	CAP	8"
1 EA.	PLUG	12"
2 EA.	PLUG	8"
1 EA.	SLEEVE	12"
2 EA.	SLEEVE	8"
1 EA.	SPACER	12"
2 EA.	SPACER	8"

BILL OF MATERIALS (SEE SHEET 10)

QUANTITY	DESCRIPTION	SIZE
719 L.F.	DUCTILE IRON PIPE	16"
43 L.F.	DUCTILE IRON PIPE	12"
79 L.F.	DUCTILE IRON PIPE	8"
24 L.F.	DUCTILE IRON PIPE	6"
27 L.F.	COPPER	1"
236 L.F.	COPPER	3/4"
8 EA.	TAP AND CORP STOP	3/4"
1 EA.	TAP AND CORP STOP	1"
2 EA.	1/32 BEND	16"
1 EA.	1/8 BEND	12"
2 EA.	1/16 BEND	12"
8 EA.	1/8 BEND	8"
1 EA.	TEE	16"X12"
2 EA.	TEE	16"X8"
1 EA.	TEE	16"X6"
1 EA.	VALVE AND VAULT	12"
2 EA.	VALVE AND VAULT	8"
1 EA.	VALVE AND VAULT	6"
1 EA.	FIRE HYDRANT	–
1 EA.	WYE	12"X12"
2 EA.	WYE	8"X8"
1 EA.	CAP	12"
2 EA.	CAP	8"
1 EA.	PLUG	12"
2 EA.	PLUG	8"
1 EA.	SLEEVE	16"
1 EA.	SLEEVE	12"
2 EA.	SLEEVE	8"
1 EA.	SPACER	16"
1 EA.	SPACER	12"
2 EA.	SPACER	8"
1 EA.	12" DIP TO HDPE ADAPTER	12"

WATER STAKEOUT TABLE
BACK RIVER NECK ROAD 16"W (SHEET 10)

STATION	NORTHING	EASTING
45+20 (16"X6" F.H.T.)	596346.83	1470959.63
47+10 (16"X12" TEE)	596187.81	1471062.88
48+04 (16"X8" TEE)	596114.03	1471122.06
50+56 (16"X8" TEE)	595907.44	1471266.19
51+49 (16"–1/32 HORZ. BEND)	595830.69	1471319.74
51+84 (16"–1/32 HORZ. BEND)	595798.97	1471333.63
52+11 (CONNECT TO EX. 16" W)	595777.77	1471349.89

WATER STAKEOUT TABLE
BROWNS ROAD 12"W (SHEET 10)

STATION	NORTHING	EASTING
0+00 (16"X12" TEE)	596187.81	1471062.88
0+03 (12" VALVE AND VAULT)	596190.63	1471068.61
0+30 (12"–1/8 HORZ. BEND)	596207.75	1471093.15
0+35 (12"–1/16 LOWER VERT. BEND)	596206.70	1471098.04
0+39 (12"–1/16 UPPER VERT. BEND)	596205.86	1471101.95
0+43 (WYE)	596205.10	1471105.51

WATER STAKEOUT TABLE
HUDSON VIEW ROAD STA. 48+04 8"W (SHEET 10)

STATION	NORTHING	EASTING
0+00 (16"X8" TEE)	596114.03	1471122.06
0+03 (8" VALVE AND VAULT)	595905.72	1471263.73
0+07 (8"–1/8 UPPER VERT. BEND)	595903.21	1471260.50
0+09 (8"–1/8 LOWER VERT. BEND)	595901.95	1471258.69
0+33 (8"–1/8 HORZ. BEND)	595890.33	1471241.68
0+35 (8"1–/8 LOWER VERT. BEND)	595890.69	1471239.71
0+39 (8"–1/8 UPPER VERT. BEND)	595891.39	1471235.77
0+41 (WYE)	595891.68	1471234.12

WATER STAKEOUT TABLE
HUDSON VIEW ROAD STA. 50+56 8"W (SHEET 10)

STATION	NORTHING	EASTING
0+00 (16"X8" TEE)	595907.44	1471266.19
0+03 (8" VALVE AND VAULT)	595905.72	1471263.55
0+30 (8"–1/8 HORZ. BEND)	595890.33	1471241.68
0+33 (8"–1/8 LOWER VERT. BEND)	595890.86	1471238.73
0+36 (8"–1/8 UPPER VERT. BEND)	595891.39	1471235.77
0+38 (WYE)	595891.68	1471234.12

DWG. FILENAME: T:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\ps2-0010-BRNR.dwg

CONTRACT COMPLETION BOX

CONTRACTOR: _____

DATE COMPLETED: _____

INSPECTOR: _____

PIPE MATERIAL: _____

CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):

☐ BONDED COATED PIPE — PIPE DIAMETER(S): _____

☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S): _____

☐ OTHER (SPECIFY): — PIPE DIAMETER(S): _____

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND — SHAWN T. BURNETT — No. 20615 — PROFESSIONAL ENGINEER

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

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

LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.

R.O.W NO.

KEY SHEET | POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

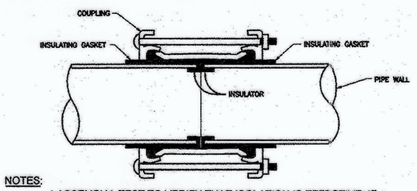
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK WATER HOUSE CONNECTIONS CHART AND MISCELLANEOUS TABLES ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 15 OF 18	23186-WXO

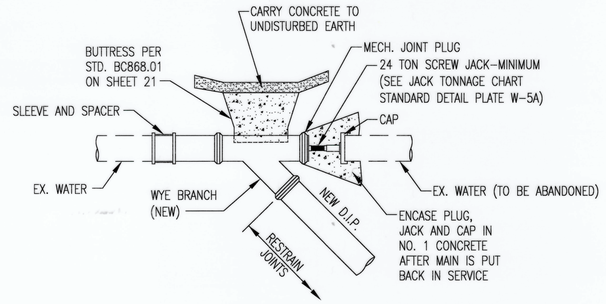
JOB ORDER NUMBER
231-203-0067-0783
SHEET 15 OF 44
DRAWING NUMBER
2023-2718
FILE NO.:



NOTES:
ASSEMBLY. TEST TO VERIFY THAT ISOLATION IS EFFECTIVE IF

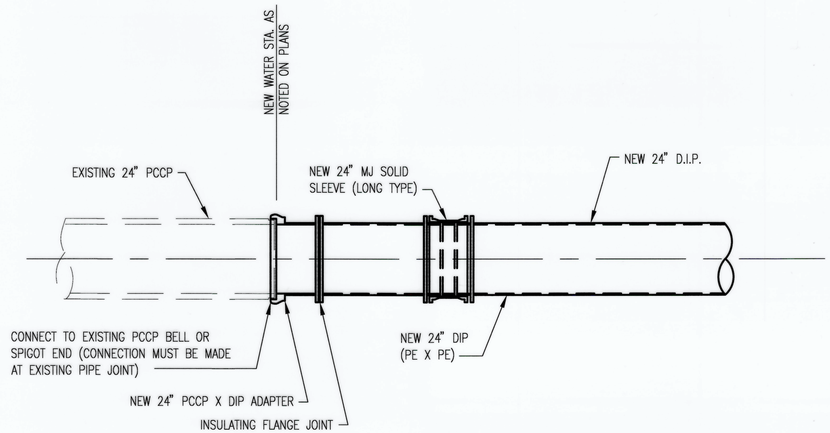
NOTES:
1. REFER TO DSI STD. DETAIL CC/3.0B FOR CORROSION DETAIL – INSULATING COUPLING.

INSULATING COUPLING DETAIL
NOT TO SCALE



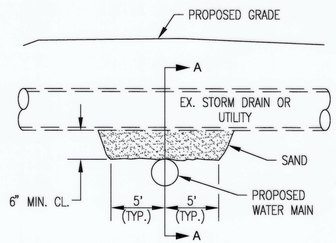
NOTES:
1. REFER TO DSI STD. DETAIL CC/3.0F FOR CORROSION DETAIL – WYE BUTTRESS AND CAP.

DETAIL FOR WYE CONNECTION WITH BUTTRESS, CAP AND PLUG
SCALE: NOT TO SCALE

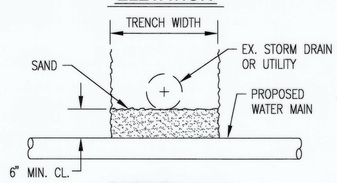


NOTES:
1. FIELD VERIFY EXISTING END CONDITIONS AT CONNECTING POINT AND PROVIDE APPROPRIATE PCCP TO DIP ADAPTER.
2. JOINT BETWEEN PCCP AND DIP X PCCP SHALL BE MORTAR–COATED AFTER ASSEMBLY (FOR NEW DIP BOND PIPE).
3. REFER TO DSI STD. DETAIL CC/5.0 FOR CORROSION DETAIL – PCCP TO DIP CONNECTION.

PCCP TO DIP CONNECTION DETAIL
N.T.S.



ELEVATION



SECTION "A-A"

SAND CUSHION DETAIL - WATER MAIN UNDER UTILITY
NOT TO SCALE

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL:
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
BONDED COATED PIPE — PIPE DIAMETER(S):
N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S):
OTHER (SPECIFY): — PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND · SHAWN T. BURNETT · 20615 · REGISTERED PROFESSIONAL ENGINEER

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
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PLAN SCALE: 1"=30'
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DPW & TRANSPORTATION
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES						

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24–INCH AND 16–INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — SPECIAL DETAILS — ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 16 OF 18	23186–WXO
JOB ORDER NUMBER	231–203–0067–0783
SHEET 16 OF 44	
DRAWING NUMBER	2023–2719
FILE NO.:	WPW

DWG. FILENAME: T:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\pPS-D001-BRNR.dwg

SUGGESTED SEQUENCE OF CONSTRUCTION

24" AND 16" WATER MAIN INSTALLATION

1. WITHOUT DISTURBING EXISTING WATER MAINS OR REQUIRING SHUTDOWNS, INSTALL AND TEST NEW 24" AND 16" WATER MAINS FROM STA. 27+00 TO STA. 52+10 ± INCLUDING ALL APPURTENANCES, 16" VALVE AND VAULT, WATER MAINS ALONG BACK RIVER NECK ROAD AND BRANCH MAINS. DO NOT CONNECT THE BRANCH MAINS TO THE EXISTING WATER MAINS. ALL TESTING SHOULD PASS AND BE DONE BEFORE RECONNECTING.

2. INSTALL TEMPORARY WATER SERVICE ALONG THE FOLLOWING STREETS (USE EX. FH-1 ON HOMBERG AVENUE, EX. FH-2 ON MIDDLEBOROUGH ROAD, AND EX. FH-3 ON BACK RIVER NECK ROAD AS FEED SOURCES) INCLUDING LAYING THE PIPE, DISINFECTION, CHARGING THE TEMPORARY PIPE AND CONNECTING THE SERVICES IN THE SEQUENCE:
   - A. HOMBERG AVENUE HOUSE NO. 1500
   - B. HOPEWELL AVENUE EAST HOUSE NOS. 1609 - 1660
   - C. OAKHURST AVENUE HOUSE NOS. 103 AND 105
   - D. HOWARD AVENUE HOUSE NOS. 1600 - 1637
   - E. REACHING CIRCLE HOUSE NOS. 1 - 45
   - F. MARINE OAKS DRIVE HOUSE NOS. 37 - 41, 101 - 183
   - G. RUNNING COURT HOUSE NOS. 1 - 37
   - H. LUFFING COURT HOUSE NOS. 2 - 43
   - I. MOORING COURT HOUSE NOS. 1 - 23
   - J. HELMSMAN COURT HOUSE NOS. 1 - 72
   - K. EBBING COURT HOUSE NOS. 2 - 35
   - L. ENSIGN COURT HOUSE NOS. 2 - 20
   - M. FRENCHS AVENUE HOUSE NOS. 1608 - 1655
   - N. WILLIAMS AVENUE HOUSE NOS. 1610 - 1709
   - O. TRIPGATE ROAD HOUSE NOS. 1550 - 1560
   - P. BREAKER COURT HOUSE NOS. 1 - 31
   - Q. FORE COURT HOUSE NOS. 1 - 29
   - R. TACK COURT HOUSE NOS. 1 - 16
   - S. FENS COURT HOUSE NOS. 1 - 17
   - T. LUFF COURT HOUSE NOS. 1 - 31
   - U. POLES ROAD HOUSE NOS. 1633 - 1699
   - V. RIVERWOOD ROAD HOUSE NOS. 1600 - 1656
   - W. COVE ROAD HOUSE NOS. 200 - 216
   - X. SIDEWELL COURT HOUSE NOS. 1 - 23
   - Y. BACK RIVER NECK ROAD HOUSE NOS. 104 - 215

3. CLOSE THE FOLLOWING VALVES TO ISOLATE THE WATER MAIN:
   - A. VALVE EV-6 ON EX. 16" W - 125' EAST OF HOMBERG AVENUE
   - B. VALVE EV-7 ON 24"X12" INTERCONNECT - 140' EAST OF HOMBERG AVENUE
   - C. VALVE EV-8 - BACK RIVER NECK ROAD AT HOPEWELL AVENUE EAST
   - D. VALVE EV-9 - BACK RIVER NECK ROAD AT HOPEWELL AVENUE WEST
   - E. VALVE EV-10 - BACK RIVER NECK ROAD AT HOWARD AVENUE
   - F. VALVE EV-11 - BACK RIVER NECK ROAD AT FRENCHS ROAD
   - G. VALVE EV-12 AND EV-13 - BACK RIVER NECK ROAD AT WILLIAMS AVENUE
   - H. VALVE EV-15 - BACK RIVER NECK ROAD AT POLES ROAD
   - I. VALVE EV-16 AND EV-17 ON EX. 12" W - BACK RIVER NECK ROAD AT MIDDLEBOROUGH ROAD

4. INSTALL AND TEST NEW WATER MAINS ALONG BACK RIVER NECK ROAD STA. 0+14 TO STA. 0+90 AND STA. 1+10 TO STA. 27+00, HOPEWELL AVENUE EAST, HOPEWELL AVENUE WEST, HOWARD AVENUE, FRENCHS AVENUE, WILLIAMS AVENUE, TRIPGATE ROAD, AND POLES ROAD. ALL TESTING SHOULD PASS AND BE DONE BEFORE RECONNECTING.

5. CONNECT BRANCH CONNECTIONS AT THE FOLLOWING TIE-INS:
   - A. HOPEWELL AVENUE EAST
   - B. HOPEWELL AVENUE WEST
   - C. HOWARD AVENUE
   - D. FRENCHS AVENUE
   - E. WILLIAMS AVENUE
   - F. TRIPGATE ROAD
   - G. POLES ROAD

6. CLOSE THE FOLLOWING VALVES:
   - A. VALVE EV-3 ON EX. 48" W - SOUTHEAST OF EVERGREEN WAY
   - B. EX. 16" V AT THE INTERSECTION OF BACK RIVER NECK ROAD AND RENAISSANCE ROAD
   - C. PROPOSED VALVE PV-1 AT STA. 12+30

7. USING MULTIPLE CREWS INSTALL NEW WATER MAINS ALONG BACK RIVER NECK ROAD STA. 0+00 TO STA. 0+14 AND STA. 0+90 TO STA. 1+10 AND 24"X16" INTERCONNECT. CONNECT TO EX. 24" W AT STA. 0+00.

8. OPEN THE FOLLOWING VALVES CLOSED IN STEPS 3 AND 6, KEEP PROPOSED VALVE PV-1 AT STA. 12+30 CLOSED:
   - A. VALVE EV-3 ON EX. 48" W - SOUTHEAST OF EVERGREEN WAY
   - B. EX. 16" V AT THE INTERSECTION OF BACK RIVER NECK ROAD AND RENAISSANCE ROAD
   - C. VALVE EV-6 ON EX. 16" W - 125' EAST OF HOMBERG AVENUE
   - D. VALVE EV-7 ON 24"X12" INTERCONNECT - 140' EAST OF HOMBERG AVENUE
   - E. VALVE EV-8 - BACK RIVER NECK ROAD AT HOPEWELL AVENUE EAST
   - F. VALVE EV-9 - BACK RIVER NECK ROAD AT HOPEWELL AVENUE WEST
   - G. VALVE EV-10 - BACK RIVER NECK ROAD AT HOWARD AVENUE

9. REPLACE WATER HOUSE CONNECTIONS ALONG THE FOLLOWING ROADS:
   - A. BACK RIVER NECK ROAD HOUSE NOS. 100 - 129

10. REMOVE ALL TEMPORARY WATER SERVICE ALONG THE FOLLOWING ROADS:
    - A. HOMBERG AVENUE
    - B. HOPEWELL AVENUE EAST
    - C. HOWARD AVENUE
    - D. REACHING CIRCLE
    - E. RUNNING COURT
    - F. LUFFING COURT
    - G. MOORING COURT

11. CLOSE PROPOSED VALVE PV-2 AT STA. 26+71.

12. OPEN THE FOLLOWING VALVES CLOSED IN STEP 6:
    - A. PROPOSED VALVE PV-1 AT STA. 12+30
    - B. VALVE EV-11 - BACK RIVER NECK ROAD AT FRENCHS ROAD
    - C. VALVE EV-12 AND EV-13 - BACK RIVER NECK ROAD AT WILLIAMS AVENUE
    - D. VALVE EV-14 - BACK RIVER NECK ROAD AT TRIPGATE ROAD
    - E. VALVE EV-15 - BACK RIVER NECK ROAD AT POLES ROAD

13. REPLACE WATER HOUSE CONNECTIONS ALONG THE FOLLOWING ROADS:
    - A. BACK RIVER NECK ROAD HOUSE NOS. 129 - 210

14. REMOVE ALL TEMPORARY WATER SERVICE ALONG THE FOLLOWING ROADS:
    - A. FRENCHS AVENUE
    - B. MARINE OAKS DRIVE
    - C. HELMSMAN COURT
    - D. EBBING COURT
    - E. ENSIGN COURT
    - F. WILLIAMS AVENUE
    - G. TRIPGATE ROAD
    - H. BREAKER COURT
    - I. FORE COURT
    - J. TACK COURT
    - K. FENS COURT
    - L. LUFF COURT
    - M. POLES ROAD
    - N. RIVERWOOD ROAD
    - O. COVE ROAD
    - P. SIDEWELL COURT

15. CLOSE THE FOLLOWING VALVES TO ISOLATE THE WATER MAIN:
    - A. VALVE EV-16 AND EV-17 ON EX. 12" W - BACK RIVER NECK ROAD AT MIDDLEBOROUGH ROAD
    - B. VALVE EV-18 ON EX. 16" W - BACK RIVER NECK ROAD AT MIDDLEBOROUGH ROAD
    - C. VALVE EV-19 - BACK RIVER NECK ROAD AT HILLTOP AVENUE
    - D. VALVE EV-20 - BACK RIVER NECK ROAD AT BROWNS ROAD
    - E. VALVE EV-21 - BACK RIVER NECK ROAD, 35' SOUTHEAST OF BROWNS ROAD

16. AS SHOWN ON SHEET 9, REMOVE 2' - 3' OF EXISTING 16" WATER MAIN PIPE SECTION ALONG BACK RIVER NECK ROAD AND INSTALL NEW DOUBLE CAPS, JACK AND BUTTRESS PER STD DET W-5A.

17. OPEN ALL VALVES CLOSED IN STEP 13 EXCEPT:
    - A. VALVE EV-16 AND EV-17 ON EX. 12" W - BACK RIVER NECK ROAD AT MIDDLEBOROUGH ROAD
    - B. VALVE EV-18 ON EX. 16" W - BACK RIVER NECK ROAD AT MIDDLEBOROUGH ROAD

18. CLOSE THE FOLLOWING VALVES TO ISOLATE THE WATER MAIN:
    - A. VALVE EV-25 - MIDDLEBOROUGH ROAD, SOUTHWEST OF SOUTHEASTERN BOULEVARD
    - B. VALVE EV-26 - MIDDLEBOROUGH ROAD AT HILLTOP AVENUE
    - C. VALVE EV-27 AND EV-28 - MIDDLEBOROUGH ROAD AT LOCUST AVENUE
    - D. VALVE EV-20 - BACK RIVER NECK ROAD AT BROWNS ROAD
    - E. VALVE EV-21 - BACK RIVER NECK ROAD, 35' SOUTHEAST OF BROWNS ROAD

19. USING MULTIPLE CREWS CONNECT BRANCH CONNECTIONS AT THE FOLLOWING TIE-INS:
    - A. MIDDLEBOROUGH ROAD 12" W, 16" W STA. 29+36
    - B. 8" WHC, 16" W STA. 36+03
    - C. MIDDLEBOROUGH ROAD 12" W, 16" W STA. 39+33

20. CLOSE PROPOSED VALVE PV-3 AT STA. 40+47.

21. OPEN ALL VALVES CLOSED IN STEP 16.

22. REPLACE WATER HOUSE CONNECTIONS ALONG THE FOLLOWING ROADS:
    - A. BACK RIVER NECK ROAD HOUSE NOS. 214 - 313

23. REMOVE ALL TEMPORARY WATER SERVICE.

24. CLOSE THE FOLLOWING VALVES TO ISOLATE THE WATER MAIN:
    - A. VALVE EV-24 - BACK RIVER NECK ROAD, 85' NORTHWEST OF HYDE PARK ROAD
    - B. VALVE EV-29 - BROWNS ROAD AT ANNETTA ROAD
    - C. PROPOSED VALVE PV-3 AT STA. 40+47

25. USING MULTIPLE CREWS CONNECT BRANCH CONNECTIONS AT THE FOLLOWING TIE-INS:
    - A. BROWNS ROAD
    - B. HUDSON VIEW ROAD 16" W STA. 48+12
    - C. HUDSON VIEW ROAD 16" W STA. 50+64
    - D. 16" W TIE-IN AT STA. 52+19

26. OPEN ALL VALVES CLOSED IN STEP 23.

27. REPLACE WATER HOUSE CONNECTIONS ALONG THE FOLLOWING ROADS:
    - A. BACK RIVER NECK ROAD HOUSE NOS. 329 - 353

28. RESTORE THE AREA.

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

DWG. FILENAME: T:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\pGN-N001-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT

BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

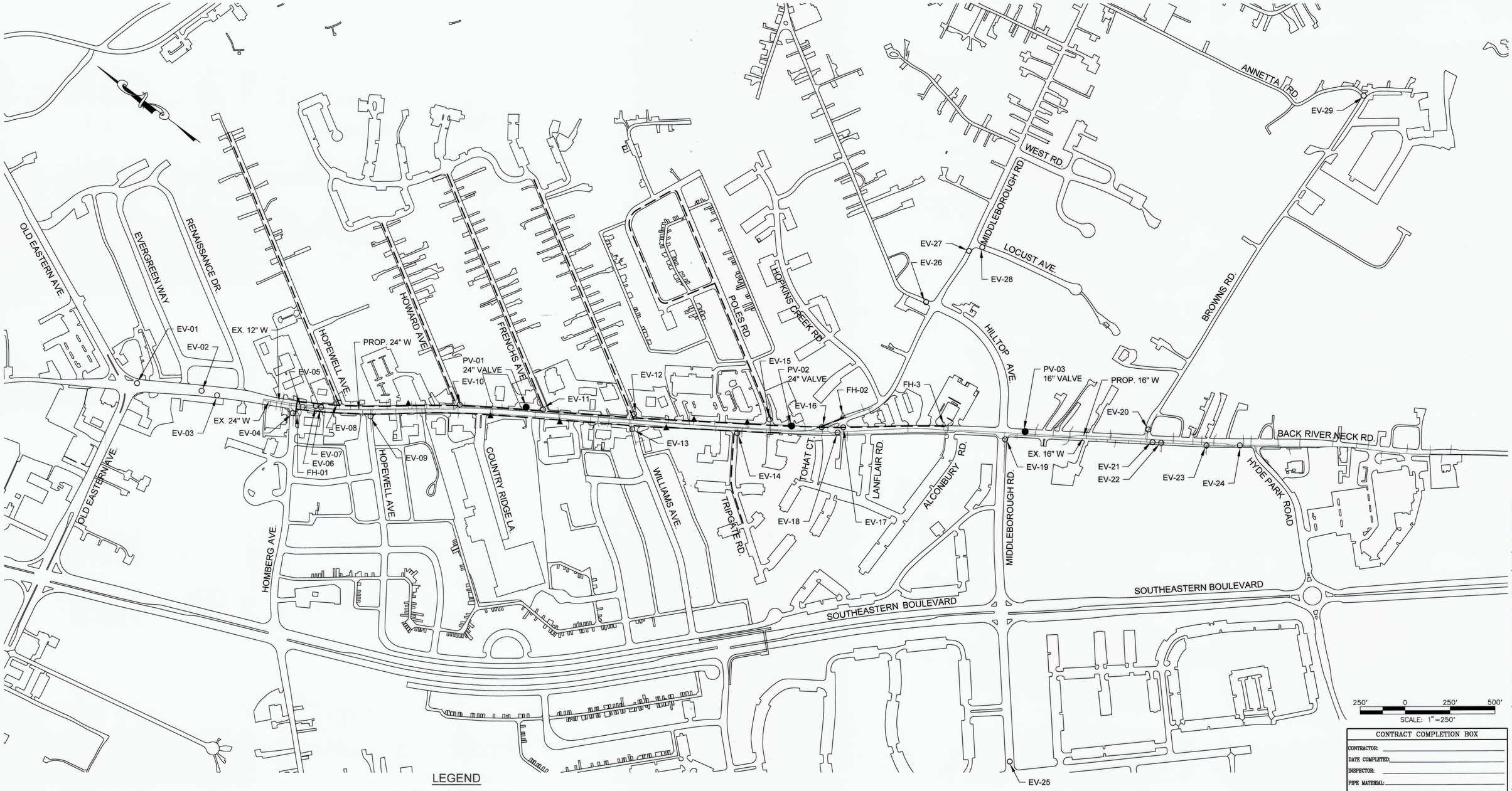
BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — SUGGESTED SEQUENCE OF CONSTRUCTION — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 17 OF 18	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 17 OF 44
	DRAWING NUMBER
	2023-2720
	FILE NO.:

WATERMAIN SHUTDOWN AND TEMPORARY BY-PASS MAP



LEGEND

- EV-X EXISTING VALVE
- PV-X PROPOSED VALVE
- FH-X EXISTING FH
- TEMPORARY FH
- TEMPORARY WATER BY-PASS
- EXISTING WATER
- PROPOSED WATER

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND · SHAWN T. BURNETT · NO. 20615 · REGISTERED · PROFESSIONAL ENGINEER

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

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ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET | POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=20'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=20'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

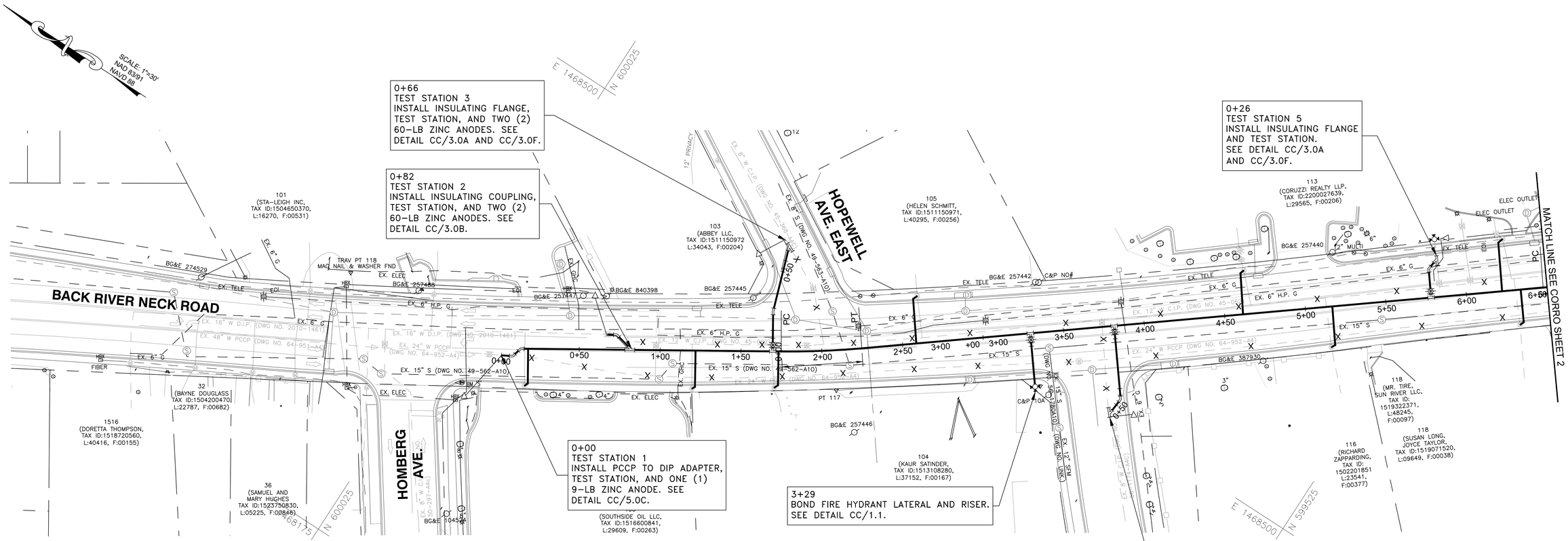
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — VALVE SHUTDOWN MAP — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
WATER SH 18 OF 18	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 18 OF 44
	DRAWING NUMBER
	2023-2721
	FILE NO.:

BALTIMORE COUNTY MARYLAND

DWG. FILENAME: F:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\pGN_N002-BRNR.dwg



CORROSION CONTROL PLAN - STA. 0+00 TO STA. 6+50

SCALE: 1"=30'

SHEET NO.	TEST STATION DATA NO.	LOCATION	TYPE	PIPE DIA. (IN.)	ANODES QTY	SIZE (LB)	MATERIAL	STATION NO.
19	1	BACK RIVER NECK RD	PCCP x DIP	24	1	9	ZINC	0+00
19	2	BACK RIVER NECK RD	IJ w/ A	16	2	60	ZINC	0+82
19	3	HOPEWELL AVE EAST	IJ w/ A	8	2	60	ZINC	0+66
19	4	HOPEWELL AVE WEST	IJ	8				0+57
19	5	BACK RIVER NECK RD	IJ	6				0+26
20	6	BACK RIVER NECK RD	IJ w/ A	4	2	60	ZINC	0+22
20	7	HOWARD AVE	IJ w/ A	8	2	60	ZINC	0+69
20	8	FRENCHS AVE	IJ w/ A	8	2	60	ZINC	0+39
20	9	BACK RIVER NECK RD	IJ	6				0+31
21	10	WILLIAMS AVE	IJ w/ A	8	2	60	ZINC	0+00
21	11	WILLIAMS AVE	IJ w/ A	8	2	60	ZINC	1+05
21	12	TRIPGATE RD	IJ w/ A	8	2	60	ZINC	0+32
22	13	POLES RD	IJ w/ A	8	2	60	ZINC	0+33
22	14	MIDDLEBOROUGH RD	IJ w/ A	12	2	60	ZINC	0+42
23	15	BACK RIVER NECK RD	IJ w/ A	8	2	60	ZINC	0+21
23	16	MIDDLEBOROUGH RD	IJ w/ A	12	2	60	ZINC	0+84
24	17	BROWNS RD	IJ	12				0+43
24	18	HUDSON VIEW RD	IJ w/ A	8	2	60	ZINC	0+41
24	19	HUDSON VIEW RD	IJ	8				0+38
24	20	BACK RIVER NECK RD	IJ w/ A	16	2	60	ZINC	52+11

GENERAL CORROSION NOTES:

1. BOND ALL JOINTS ON DUCTILE IRON PIPE UP TO BUT NOT ACROSS INSULATING JOINTS INCLUDING ANY TIE-INS UP TO THE INSULATING JOINTS. BOND OTHER PIPING AS INDICATED, AS SHOWN IN DET. CC/1.0 AND CC/1.1. SEE DET. CC/2.0 FOR THERMITE WELD WIRE CONNECTIONS.
2. INSTALL INSULATING FLANGE JOINT AT CONNECTIONS TO EXISTING OR NEW PIPE SEE DET. CC/3.0A. FOR INSULATING COUPLINGS SEE DET. CC/3.0B.
3. TAPE COAT AND BOND ALL AIR/VACUUM AND BLOW-OFF ASSEMBLES..
4. BOND ALL FIRE HYDRANTS PER DET. CC/1.1.
5. INSTALL SEPARATOR MESH ON WATER MAIN AT EXISTING UTILITY CROSSING IF THERE IS LESS THAN 12 INCHES OF CLEARANCE BETWEEN THE TWO UTILITIES. SEE SPECIAL DET. CC/3.2.
6. ALL ANODES TO BE INSTALLED TWO (2) FEET APART END-TO-END AND PLACED HORIZONTALLY AS SHOWN IN DET. CC/4.3B.
7. BURY ALL TEST LEAD WIRES TO TOP OF PIPE DEPTH AND ROUTED THROUGH PVC CONDUIT TO FINAL TEST BOX LOCATION, AS SHOWN IN DET.CC/4.1A.
8. INSTALL INSULATING CORPORATION STOPS FOR ALL ARV AND WHC LESS THAN FOUR (4) INCHES IN DIAMETER, SEE SPECIAL DET. CC/3.0E.
9. ALL TEST STATION SHALL BE LOCATED TWO (2) FEET OUTSIDE OF THE CURB AND GUTTER OR FUTURE CURB AND GUTTER IN THE GRASSED AREA AND FLUSH MOUNTED.
10. NO ANODES SHALL BE LOCATED SO THAT THEY LIE DIRECTLY OVER OR OBSTRUCT ACCESS TO OTHER UTILITIES.
11. AVOID WIRES CROSSING WATER MAIN. AVOID PLACING WIRES CLOSE TO THRUST BLOCKS AND VALVES.

30' 0 30' 60'
SCALE: 1"=30' (HORZ)

CONTRACT COMPLETION BOX

CONTRACTOR: _____
DATE COMPLETED: _____
INSPECTOR: _____
PIPE MATERIAL: _____
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE PIPE DIAMETER(S): _____
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT PIPE DIAMETER(S): _____
☐ OTHER (SPECIFY): PIPE DIAMETER(S): _____

DWG. FILENAME: C:\Users\RC\OneDrive - DACCO SCI. INC\DSI Online Files\Baltimore County\2023\2019-01\WFBCO\Task03 Back River Neck Rd\06-CAD\Working\pCC-0001-BRNR.dwg

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12679, EXPIRATION DATE 10/27/25

ENGINEER: JOHN W. MARSHALL
DACCO SCI, INC.
AS-BUILT PER RECORD PRINT
BY:
DATE:
DESIGN BY: RC
DRAWN BY: TL
CHKD BY: JWM

DATE : 9/16/25

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						

BUR. OF ENGINEERING & CONSTRUCTION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

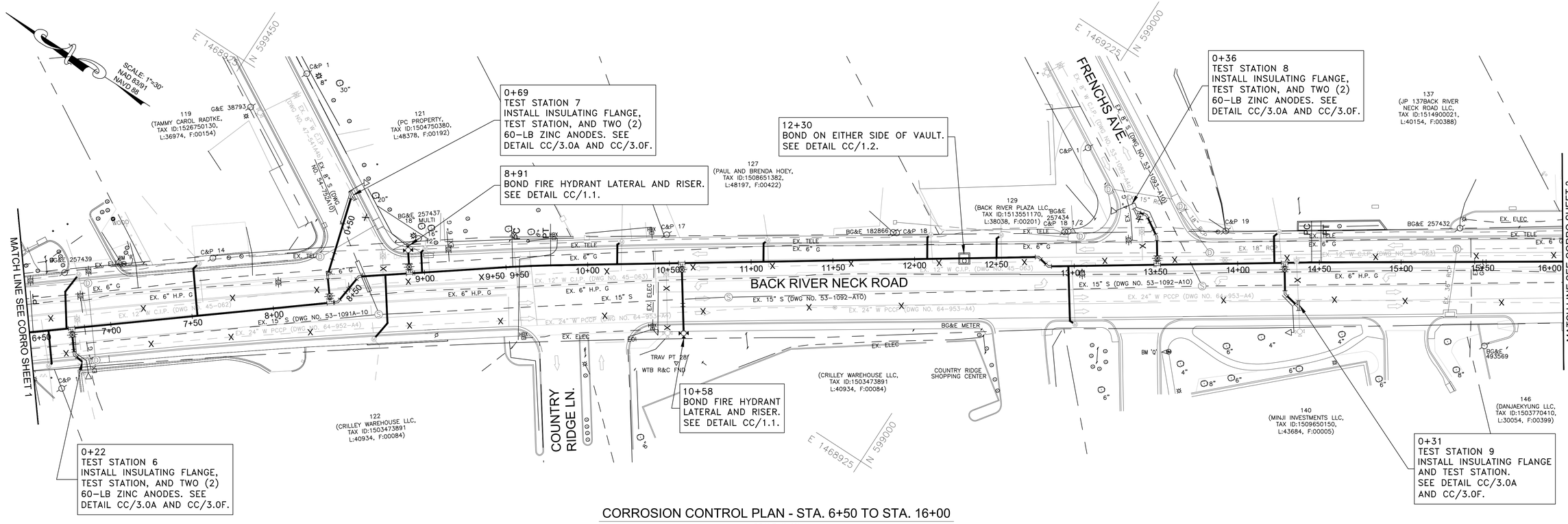
24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — CORROSION CONTROL PLAN - STA. 0+00 TO STA. 6+50 — ELECTION DIST. NO.:15C7

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 1 OF 9	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 19 OF 44	
DRAWING NUMBER	2023-2722
FILE NO.:	WFBCO



CORROSION CONTROL PLAN - STA. 6+50 TO STA. 16+00

SCALE: 1"=30'

30' 0 30' 60'

SCALE: 1" =30' (HORZ)

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND · JOHN W. MARSHALL · 12679 · PROFESSIONAL ENGINEER

DATE : 9/16/25

PROFESSIONAL CERTIFICATION

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ENGINEER: JOHN W. MARSHALL
DACCO SCI, INC.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: RC
DRAWN BY: TL
CHKD BY: JWM

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET
POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

CORROSION CONTROL PLAN - STA. 6+50 TO STA. 16+00

SUBDIVISION: BACK RIVER NECK

ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 2 OF 9	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 20 OF 44
	DRAWING NUMBER
	2023-2723
	FILE NO.: BDC 16.750

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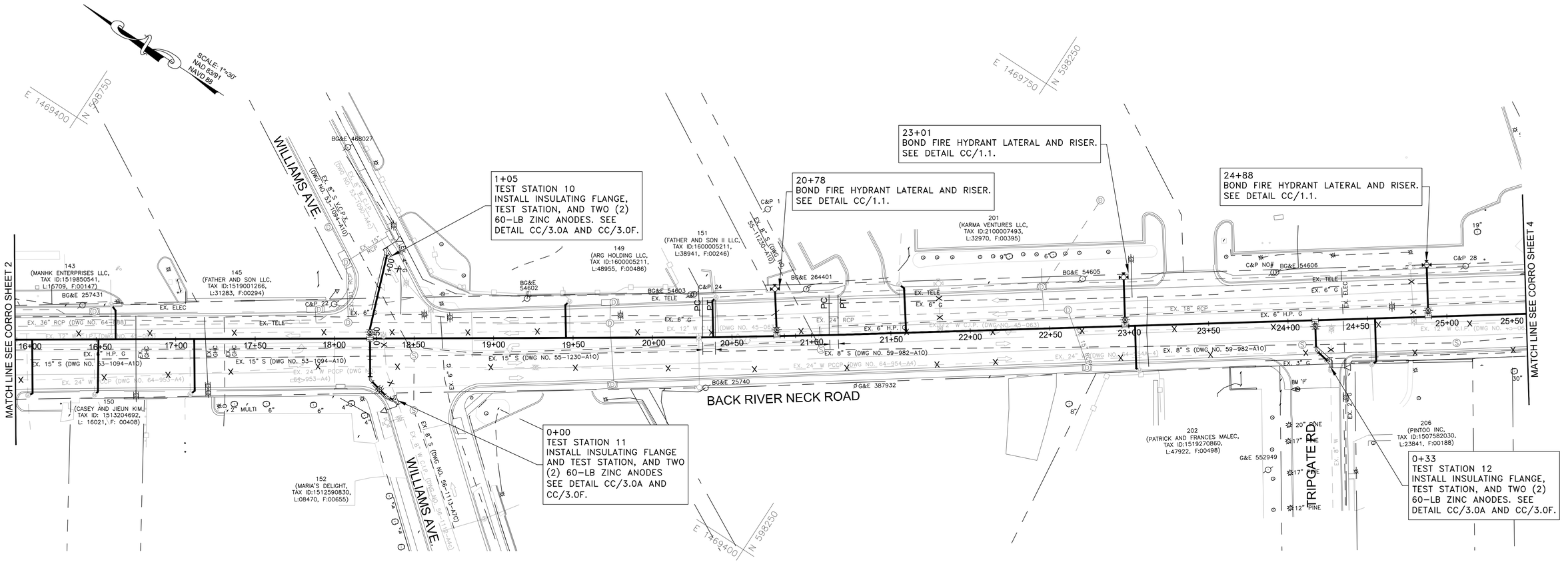

CORROSION CONTROL PLAN - STA. 16+00 TO STA. 25+50

SCALE: 1"=30'

30' 0 30' 60'

SCALE: 1"=30' (HORZ)

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND · JOHN W. MARSHALL · 12679 · PROFESSIONAL ENGINEER

DATE : 9/16/25

PROFESSIONAL CERTIFICATION

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LICENSE NO. 12679, EXPIRATION DATE 10/27/25

ENGINEER: JOHN W. MARSHALL
DACCO SCI, INC.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: RC
DRAWN BY: TL
CHKD BY: JWM

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

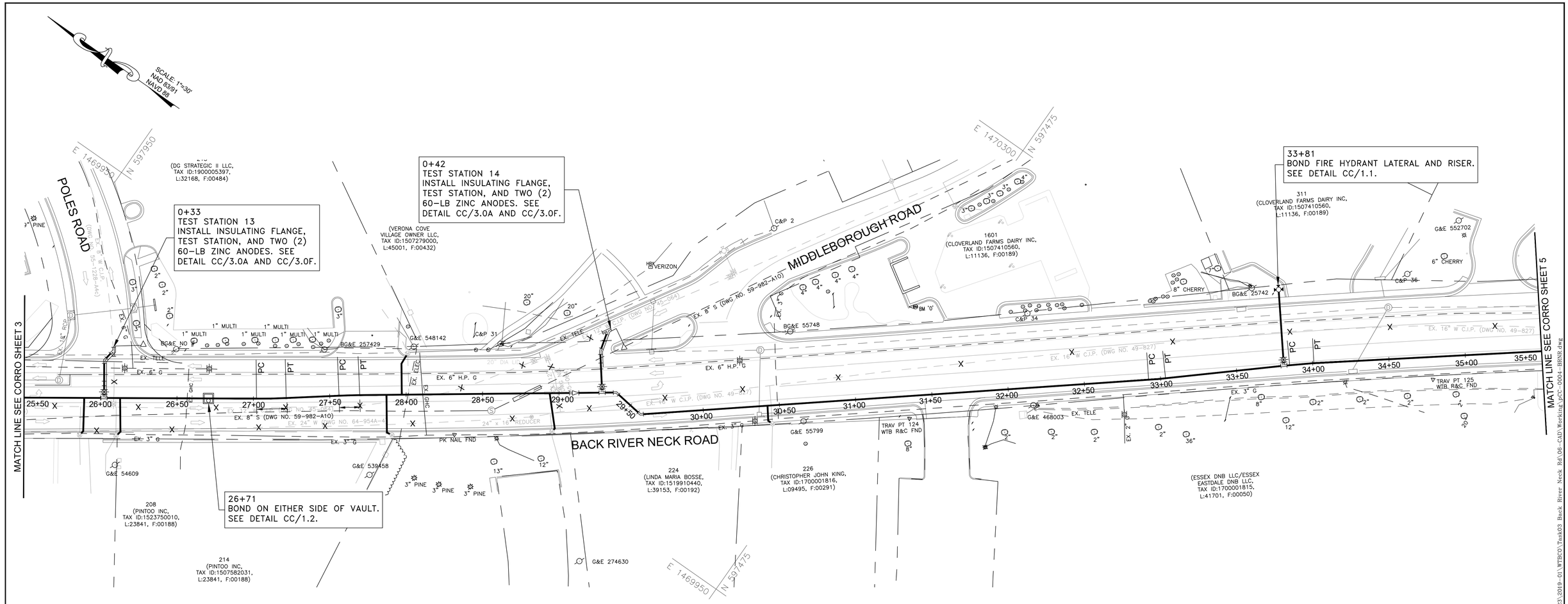
SUBDIVISION: BACK RIVER NECK

CORROSION CONTROL PLAN – STA. 16+00 TO STA. 25+50

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 3 OF 9	23186-WXO
	JOB ORDER NUMBER: 231-203-0067-0783
	SHEET 21 OF 44
	DRAWING NUMBER: 2023-2724
	FILE NO.:

DWG. FILENAME: C:\Users\RC\OneDrive - DACCO SCI, INC\DSI Online Files\Baltimore County\2023\2018-01\WFBCO\Task03 Back River Neck Rd\06-CAD\Working\pCC-0003-BRNR.dwg



CORROSION CONTROL PLAN - STA. 25+50 TO STA. 35+50

SCALE: 1"=30'

30' 0 30' 60'

SCALE: 1"=30' (HORZ)

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

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ENGINEER: JOHN W. MARSHALL
DACCO SCI, INC.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: RC
DRAWN BY: TL
CHKD BY: JWM

DATE : 9/16/25

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

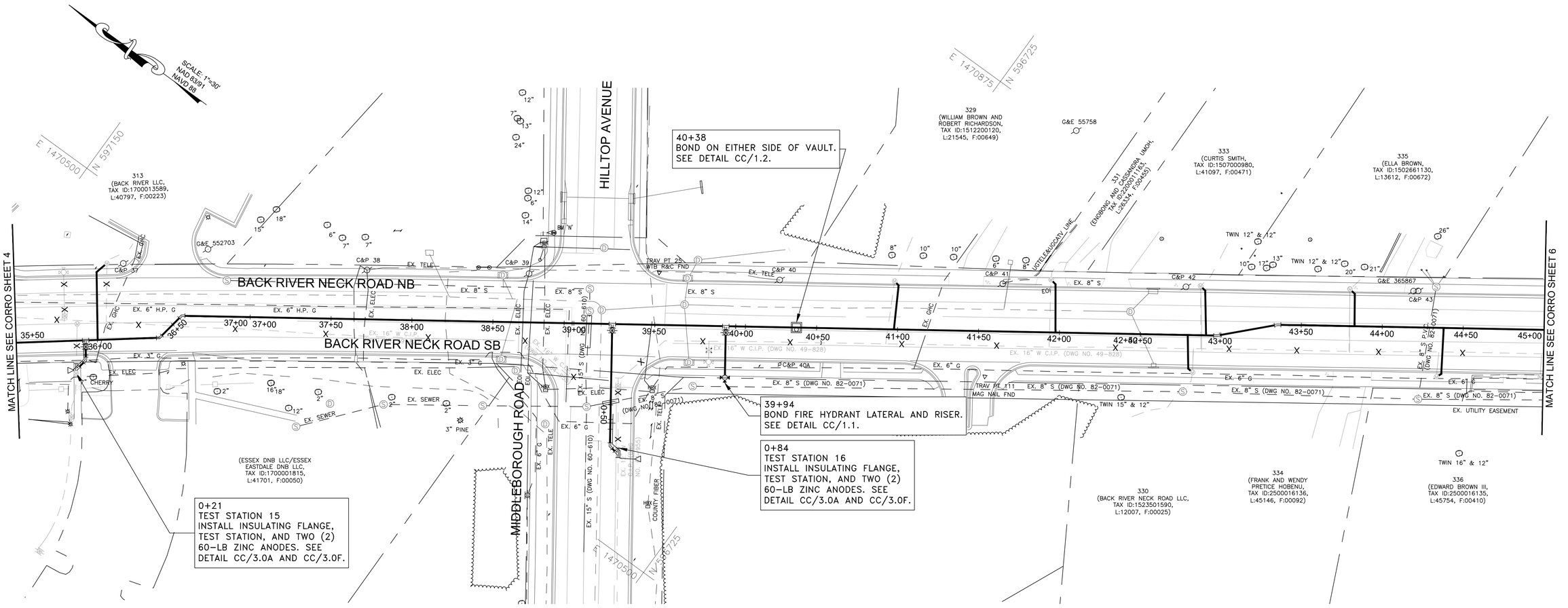
CORROSION CONTROL PLAN – STA. 25+50 TO STA. 35+50

SUBDIVISION: BACK RIVER NECK

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 4 OF 9	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 22 OF 44	
DRAWING NUMBER	2023-2725
FILE NO.:	REV 10/97

DWG. FILENAME: C:\Users\RC\OneDrive - DACCO SCI, INC\DSI Online Files\Baltimore County\2023\2019-01\WTRCO\Task03 Back River Neck Rd\06-CAD\Working\pcc-0004-BRNR.dwg



CORROSION CONTROL PLAN - STA. 35+50 TO STA. 45+00

SCALE: 1"=30'

30' 0 30' 60'

SCALE: 1"=30' (HORZ)

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL:
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S):
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S):
☐ OTHER (SPECIFY): — PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND — JOHN W. MARSHALL — PROFESSIONAL ENGINEER

DATE : 9/16/25

PROFESSIONAL CERTIFICATION

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LICENSE NO. 12679, EXPIRATION DATE 10/27/25

ENGINEER: JOHN W. MARSHALL
DACCO SCI, INC.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: RC
DRAWN BY: TL
CHKD BY: JWM

REVISION	BY	DATE

P.W.A. NO. | KEY SHEET | POSITION SHT
R.O.W NO.

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

CORROSION CONTROL PLAN - STA. 35+50 TO STA. 45+00

SUBDIVISION: BACK RIVER NECK

ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 5 OF 9	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 23 OF 44	
DRAWING NUMBER	2023-2726
FILE NO.:	REV. 16/09

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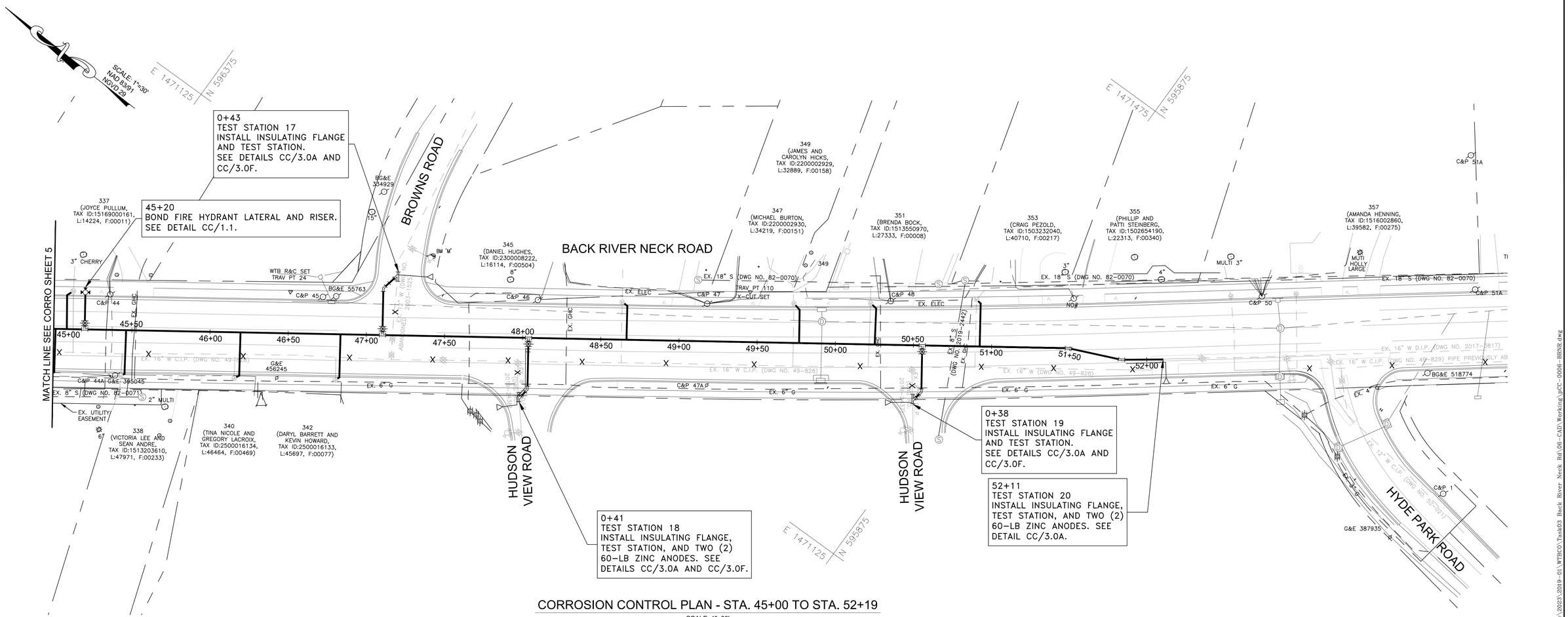

CORROSION CONTROL PLAN - STA. 45+00 TO STA. 52+19

SCALE: 1"=30'

30' 0 30' 60'
SCALE: 1" = 30' (HORZ)

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL:
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S):
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S):
☐ OTHER (SPECIFY): — PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 12679, EXPIRATION DATE 10/27/25

ENGINEER: JOHN W. MARSHALL
DACCO SCI, INC.
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: RC
DRAWN BY: TL
CHKD BY: JWM

DATE : 9/16/25

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET | POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

CORROSION CONTROL PLAN - STA. 45+00 TO STA. 52+19

SUBDIVISION: BACK RIVER NECK

ELECTION DIST. NO.:15C7

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 6 OF 9	23186-WXO

JOB ORDER NUMBER: 231-203-0067-0783
SHEET 24 OF 44
DRAWING NUMBER: 2023-2727
FILE NO.:

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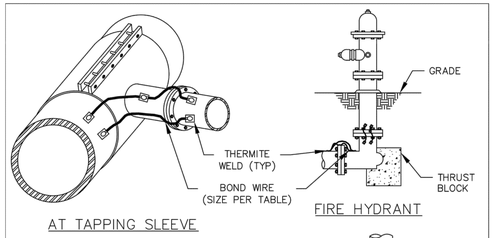
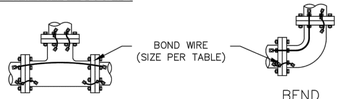
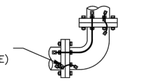


AT TAPPING SLEEVE

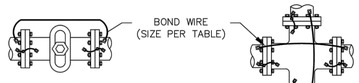
FIRE HYDRANT



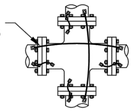
TEE



BEND
(90° SHOWN AS TYPICAL)



VALVE



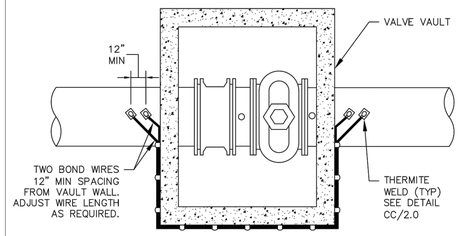
CROSS

BOND WIRE SIZE	
PIPE DIAMETER	WIRE SIZE
SMALLER THAN 16"	#6 AWG
16" THROUGH 36"	#4 AWG
LARGER THAN 36"	#2 AWG

NOTES:
1. BOND WIRE SHALL BE STRANDED COPPER WIRE WITH HMWPE INSULATION.
2. SEE DETAIL CC/2.0 FOR THERMITE WELD.

N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL: BOND PIPE FITTINGS	REVISIONS:	CC 1.1



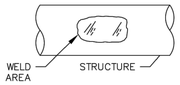
BOND WIRE SIZE	
PIPE DIAMETER	WIRE SIZE
SMALLER THAN 16"	#6 AWG
16" THROUGH 36"	#4 AWG
LARGER THAN 36"	#2 AWG

NOTES:
1. BOND WIRE SHALL BE STRANDED COPPER WIRE WITH HMWPE INSULATION.
2. PROVIDE SLACK IN WIRES AND FASTEN TO VAULT TO PROTECT WIRES FROM DAMAGE.

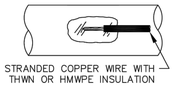
N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL: BOND VAULT	REVISIONS:	CC 1.2

STEP 1
EXPOSE BRIGHT METAL AND CLEAN.

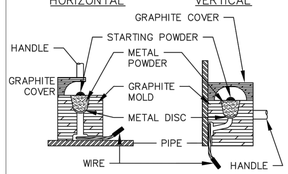


STEP 2
STRIP INSULATION FROM WIRE.

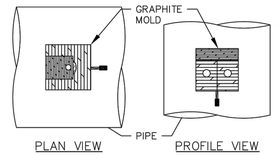


STEP 3
HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR – IGNITE STARTING POWDER. USE HORIZONTAL OR VERTICAL WELD WHEN APPROPRIATE.

HORIZONTAL VERTICAL

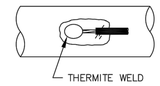


CROSS SECTION VIEW

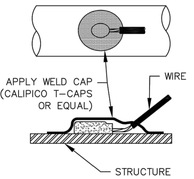


PLAN VIEW PROFILE VIEW

STEP 4
REMOVE SLAG FROM CONNECTION.



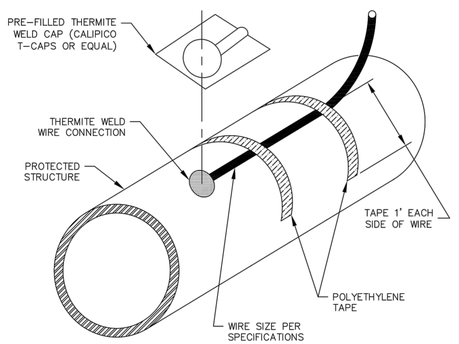
STEP 5
COAT ALL EXPOSED METAL AND WELD AREA WITH COLD APPLIED COAL TAR EPOXY (KOPPERS NO. 50 OR EQUAL).



NOTES:
SEE DETAIL CC/2.0N FOR ADDITIONAL NOTES.

N.T.S.

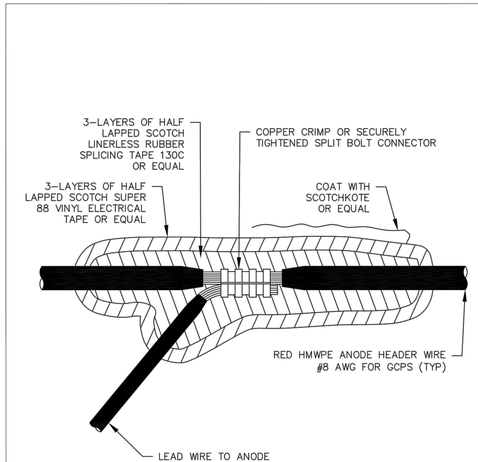
DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL: THERMITE WELD	REVISIONS:	CC 2.0



NOTES:
1. FOLLOW MFG RECOMMENDATIONS FOR PREPARING WELD AREA.
2. USE CHARGE AND SIZE AS REQUIRED IN SPECIFICATIONS FOR DUCTILE IRON, CAST IRON, OR STEEL PIPE.
3. USE A COPPER SLEEVE FOR THERMITE WELD WIRE CONNECTIONS WITH #12 AWG OR SMALLER WIRE.
4. SECURE WIRE TO PIPE WITH TAPE OR OTHER APPROVED METHOD WITHOUT DAMAGING PIPE COATING.
5. APPLY WELD CAP TO COAT BARE WELD AREA AND FILL RECESS IN THERMITE WELD CAP AS REQUIRED IN SPECIFICATIONS.
6. COAT THERMITE WELDS MADE TO STEEL STRUCTURES WITH BRUSH APPLIED MASTIC (10 MILS MIN THICKNESS). FOR STEEL PLATES, DRY THE MASTIC BEFORE THERMITE WELDS ARE COVERED OVER WITH GROUT.

N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL: THERMITE WELD NOTES	REVISIONS:	CC 2.0N



NOTE:
ALL WIRES TO BE STRANDED COPPER WIRE.

N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL: SPLICE CABLE	REVISIONS:	CC 2.2

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND — JOHN W. MARSHALL — 12679 — PROFESSIONAL ENGINEER

DATE : 9/16/25

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 12679, EXPIRATION DATE 10/27/25

AS-BUILT PER RECORD PRINT
BY:
DATE:

ENGINEER: JOHN W. MARSHALL
DACCO SCI, INC.

DESIGN BY: RC
DRAWN BY: TL
CHKD BY: JWM

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.
KEY SHEET
POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

CORROSION CONTROL DETAILS

SUBDIVISION: BACK RIVER NECK

ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 7 OF 9	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 25 OF 44	
DRAWING NUMBER	2023-2728
FILE NO.:	REV. 10/97

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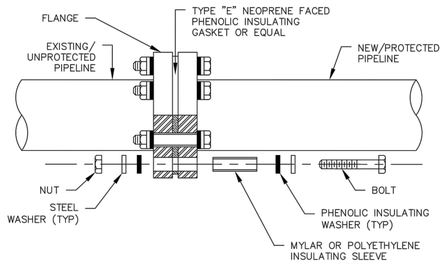
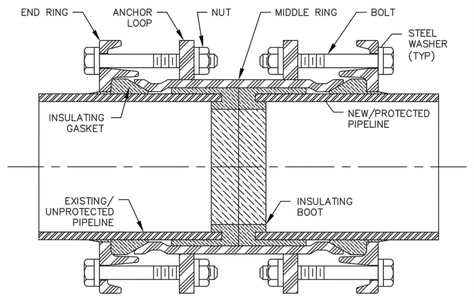


NOTES:
1. VERIFY ELECTRICAL ISOLATION IS EFFECTIVE. IF ISOLATION IS NOT EFFECTIVE, REPAIR AS NECESSARY AND RETEST. REPEAT THIS PROCESS UNTIL ISOLATION IS VERIFIED AS EFFECTIVE.
2. FIELD COAT THE ENTIRE FLANGE AND ALL EXPOSED METAL INCLUDING BOLTS, NUTS, AND WASHERS. SEE DETAIL CC/3.1A.
3. IF PROVIDING INSULATING FLANGE WITH:
   3.1. NO ANODES, THEN SEE DETAIL CC/4.3A.
   3.2. HORIZONTAL ANODES, THEN SEE DETAIL CC/4.3B.
   3.3. VERTICAL ANODES, THEN SEE DETAIL CC/4.3C.
4. ADVANCED PRODUCTS AND SYSTEMS, LLC (APS) FLANGE INSULATING GASKET KIT TYPE E OR EQUAL.

N.T.S.

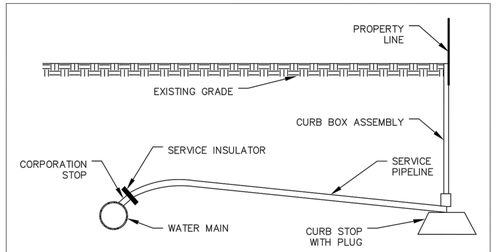
DSI DACCO SCI, INC.	APPROVED: _____	STANDARD DETAIL: INSULATING JOINT FLANGE	REVISIONS:	CC 3.0A



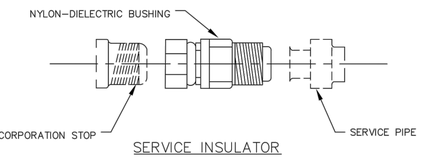
NOTES:
1. VERIFY ELECTRICAL ISOLATION IS EFFECTIVE. IF ISOLATION IS NOT EFFECTIVE, REPAIR AS NECESSARY AND RETEST. REPEAT THIS PROCESS UNTIL ISOLATION IS VERIFIED AS EFFECTIVE.
2. FIELD COAT THE ENTIRE COUPLING AND ALL EXPOSED METAL INCLUDING BOLTS, NUTS, AND WASHERS. SEE DETAIL CC/3.1A.
3. IF PROVIDING INSULATING COUPLING WITH:
   3.1. NO ANODES, THEN SEE DETAIL CC/4.3A.
   3.2. HORIZONTAL ANODES, THEN SEE DETAIL CC/4.3B.
   3.3. VERTICAL ANODES, THEN SEE DETAIL CC/4.3C.
4. ROMAC INDUSTRIES INC. STYLE OR EQUAL:
   4.1. IC501 FOR PIPES 4" THROUGH 12".
   4.2. IC400 FOR PIPES 12" OR LARGER.

N.T.S.

DSI DACCO SCI, INC.	APPROVED: _____	STANDARD DETAIL: INSULATING JOINT COUPLING	REVISIONS:	CC 3.0B



PROFILE VIEW

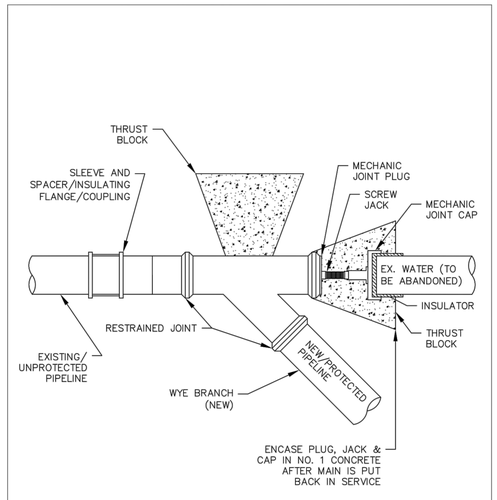


SERVICE INSULATOR

NOTES:
1. USE INSULATORS ON COPPER PIPE HOUSE CONNECTIONS PER SPECIFICATIONS.
2. USE INSULATORS ON COPPER PIPE TAPPED ON CAST IRON OR DUCTILE IRON PIPES.

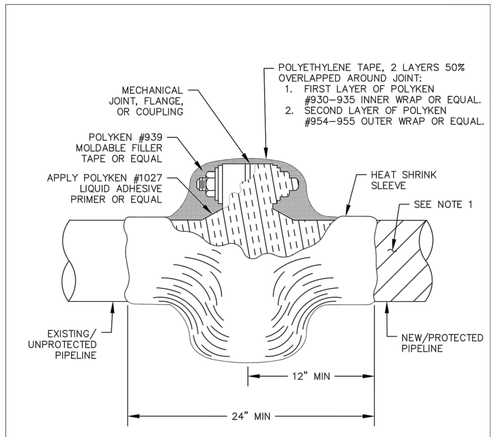
N.T.S.

DSI DACCO SCI, INC.	APPROVED: _____	STANDARD DETAIL: INSULATING JOINT SERVICE CONNECTIONS (CORPORATION STOP)	REVISIONS:	CC 3.0E



N.T.S.

DSI DACCO SCI, INC.	APPROVED: _____	STANDARD DETAIL: INSULATING JOINT DOUBLE END CAP	REVISIONS:	CC 3.0F



NOTE:
ROUGHEN FACTORY APPLIED COATING WITH COARSE SANDPAPER OVER THE AREA COVERED BY THE SLEEVE.

N.T.S.

DSI DACCO SCI, INC.	APPROVED: _____	STANDARD DETAIL: FIELD COATING JOINT	REVISIONS:	CC 3.1A

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
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ENGINEER: JOHN W. MARSHALL
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BY:
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DRAWN BY: TL
CHKD BY: JWM

DATE : 9/16/25

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET | POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=50'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=50'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24–INCH AND 16–INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

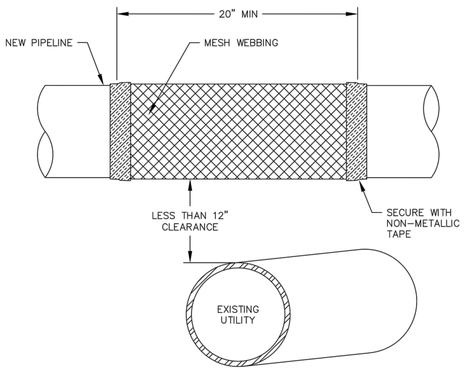
SUBDIVISION: BACK RIVER NECK

CORROSION CONTROL DETAILS

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 8 OF 9	23186–WXO
	JOB ORDER NUMBER: 231–203–0067–0783
	SHEET 26 OF 44
	DRAWING NUMBER: 2023–2729
	FILE NO.: WRC–16787

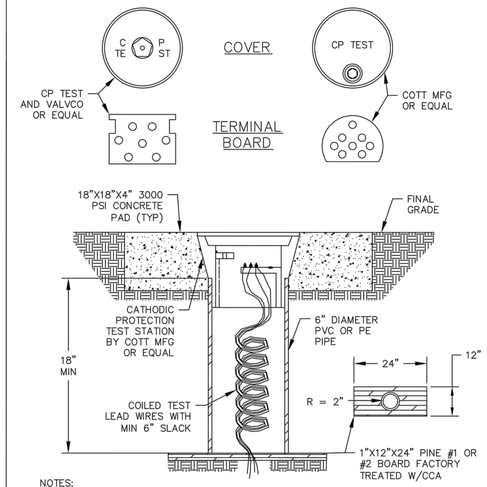
DWG. FILENAME: C:\Users\RCI.OneDrive - DACCO SCI, INC\DSI Online Files\Baltimore County\2023\2019-01\WTRCO\Task02 Back River Neck Rd\06-CAD\Working\pCC-0008-BRNR.dwg



NOTE:
INSTALL STUART DIAMOND ROCKSTOP SEPARATOR MESH OR EQUAL WHEN PIPES ARE LESS THAN 12" APART.

N.T.S.

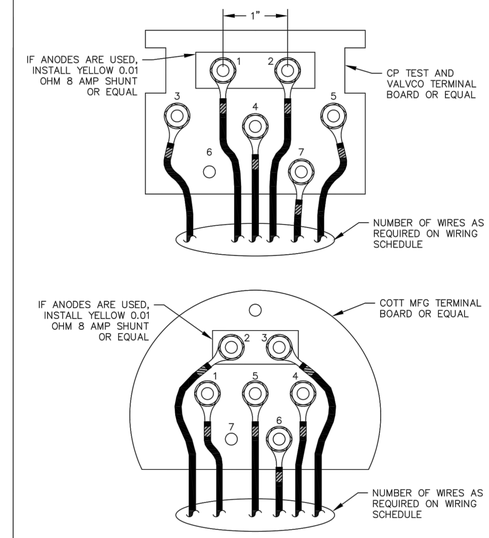
DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL	REVISIONS:	CC 3.2
		SEPARATOR MESH		



NOTES:
1. USE DETECTABLE WARNING TAPE ON LEAD WIRES WHEN TEST STATION IS NOT DIRECTLY OVER THE PIPELINE.
2. SEE DETAIL CC/4.2 FOR TYPICAL TERMINAL BOARD WIRING.
3. DO NOT PLACE IN ROADWAY.

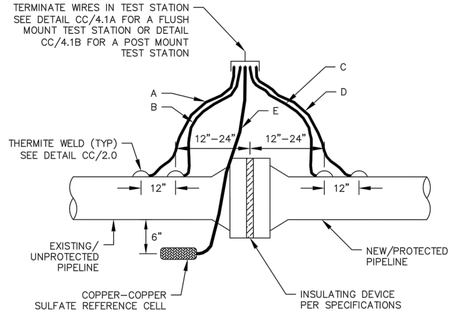
N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL	REVISIONS:	CC 4.1A
		TEST STATION FLUSH MOUNT		



N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL	REVISIONS:	CC 4.2
		TEST STATION TERMINAL WIRING BOARD		



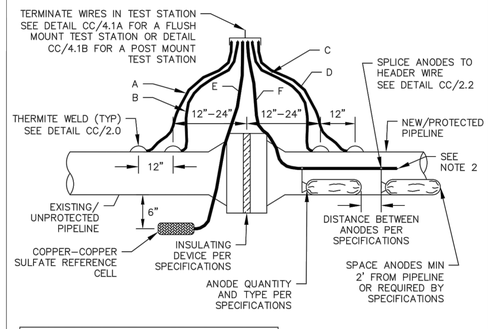
WIRING SCHEDULE

DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	INSULATION TYPE	INSULATION COLOR
UNPROTECTED PIPELINE	A	5 (4)	#10	THWN	WHITE
UNPROTECTED PIPELINE	B	7 (6)	#8	THWN	WHITE
PROTECTED PIPELINE	C	1 (2)	#10	THWN	BLACK
PROTECTED PIPELINE	D	3 (1)	#8	THWN	BLACK
PERMANENT REFERENCE ELECTRODE	E	4 (5)	#14	THWN	PER MFG

NOTE:
TERMINAL NUMBERING FOR CP TEST AND VALVCO TEST STATIONS ARE SHOWN IN THE WIRING SCHEDULE (COTT MFG ARE SHOWN IN PARENTHESES).

N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL	REVISIONS:	CC 4.3A
		TEST STATION INSULATING JOINT		



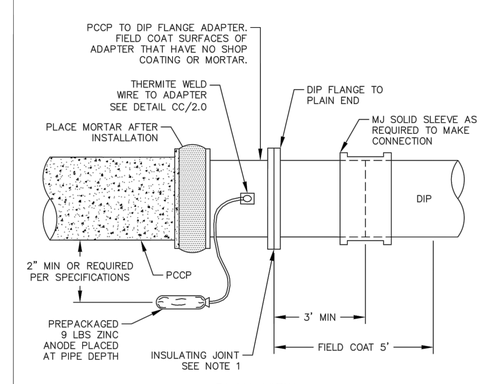
WIRING SCHEDULE

DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	INSULATION TYPE	INSULATION COLOR
UNPROTECTED PIPELINE	A	5 (4)	#10	THWN	WHITE
UNPROTECTED PIPELINE	B	7 (6)	#8	THWN	WHITE
PROTECTED PIPELINE	C	1 (2)	#10	THWN	BLACK
PROTECTED PIPELINE	D	3 (1)	#8	THWN	BLACK
PERMANENT REFERENCE ELECTRODE	E	4 (5)	#14	THWN	PER MFG
ANODE HEADER WIRE	F	2 (3)	#8	HMWPE	RED

NOTES:
1. TERMINAL NUMBERING FOR CP AND VALVCO TEST STATIONS ARE SHOWN IN THE WIRING SCHEDULE (COTT MFG TYPE SHOWN IN PARENTHESES).
2. SPLICE ALL ANODES TO HEADER WIRE. TERMINATE BOTH ENDS OF THE HEADER WIRE IN THE TEST STATION.

N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL	REVISIONS:	CC 4.3B
		TEST STATION INSULATING JOINT w/HORIZONTAL ANODES		



PLAN VIEW

NOTES:
1. INSTALL INSULATING JOINT TYPE AS REQUIRED:
   1.1. IF FLANGE, THEN SEE DETAIL CC/3.0A.
   1.2. IF COUPLING, THEN SEE DETAIL CC/3.0B.
   1.3. IF TRANSITION COUPLING, THEN SEE DETAIL CC/3.0C.
2. OVERLAP DIP POLYETHYLENE ENCASEMENT MINIMUM OF 2' ONTO FIELD COATING.

N.T.S.

DSI DACCO SCI, INC.	APPROVED:	STANDARD DETAIL	REVISIONS:	CC 5.0C
		PCCP DIP ADAPTER		

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND — JOHN W. MARSHALL — PROFESSIONAL ENGINEER

DATE : 9/16/25

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 12679, EXPIRATION DATE 10/27/25

ENGINEER: JOHN W. MARSHALL
DACCO SCI, INC.

AS–BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: RC
DRAWN BY: TL
CHKD BY: JWM

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES						

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24–INCH AND 16–INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

CORROSION CONTROL DETAILS

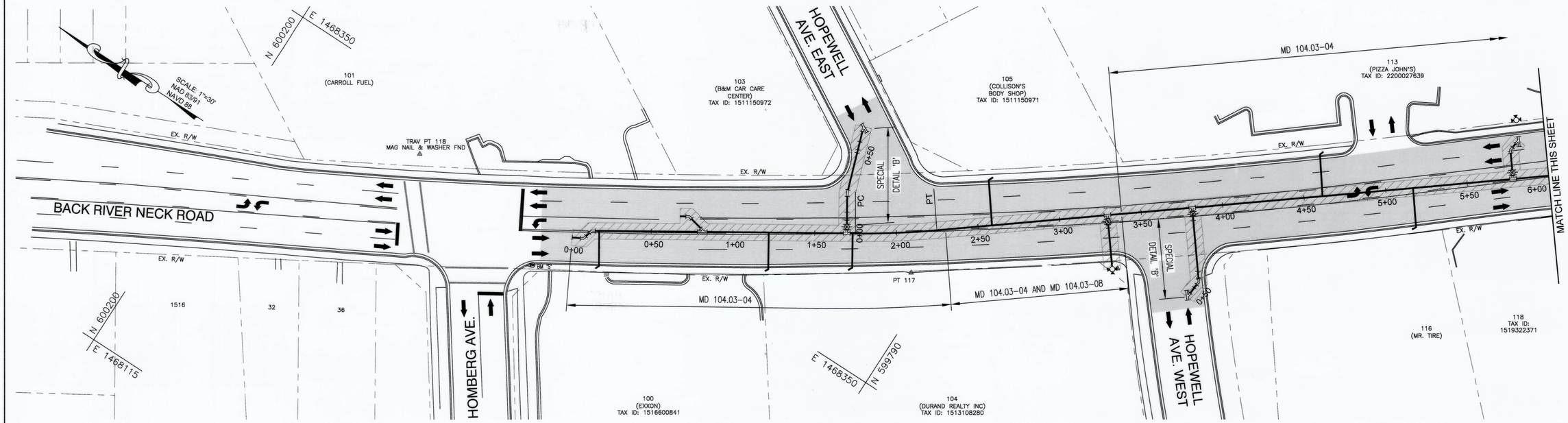
SUBDIVISION: BACK RIVER NECK

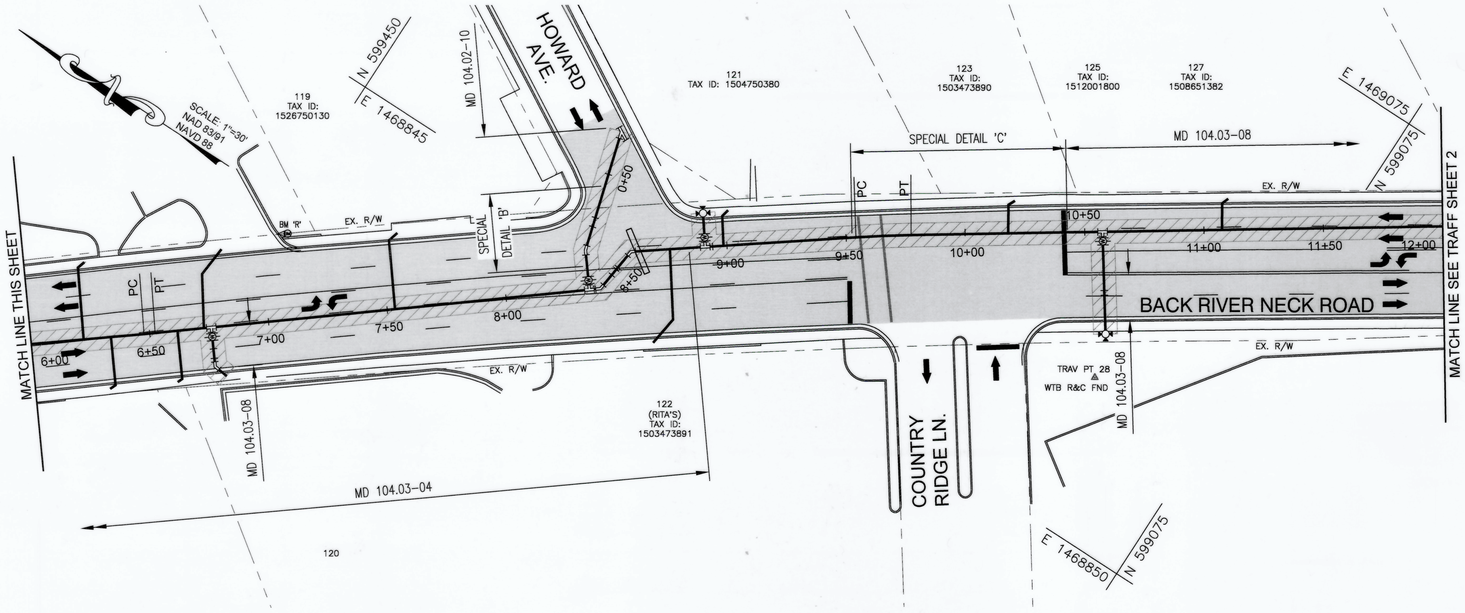
ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
CORRO SH 9 OF 9	23186–WXO
JOB ORDER NUMBER	231–203–0067–0783
SHEET 27 OF 44	
DRAWING NUMBER	2023–2730
FILE NO.:	REV. NONE

DWG. FILENAME: C:\Users\RC\OneDrive – DACCO SCI, INC\DSI Online Files\Baltimore County\2023\2019–01\WTBCO\Task03 Back River Neck Rd\06–CAD\Working\pCC–0009–BRNR.dwg





TRAFFIC CONTROL/PAVING NOTES:

1. CONTRACTOR IS NOT PERMITTED TO PLACE TRAFFIC SIGNALS ON FLASH. NOTIFY BALTIMORE COUNTY DPW WITH AT LEAST 72 HOURS NOTICE TO PLACE THE SIGNAL ON FLASHING.
2. MILL AND OVERLAY REQUIRED PER BALTIMORE COUNTY DPW STANDARDS; WHICH INCLUDES A 6-INCH CUTBACK, AND 20-FEET ON EACH SIDE OF LATERAL TRENCH. LATERAL TRENCHES LESS THAN 50-FEET APART SHALL BE COMBINED AS ONE PATCH.
3. TEMPORARY STRIPING OF TRAFFIC MARKINGS IS REQUIRED. ALL TRAFFIC MARKINGS MUST BE SELECTED FROM THE SHA MATERIAL LIST AND APPROVED SOURCE OF SUPPLY.
4. ANY ROADWAY EXCAVATION THAT IS WITHIN 50-FEET OF ANOTHER PATCH SHALL BE MILLED AND PAVED AS ONE CONTINUOUS PATCH.
5. ALL SIDEWALK AND CURB REPAIRS MUST GO FROM JOINT TO JOINT.
6. AFTER ROADWAY IS PAVED A FULL COMPLIMENT OF ROADWAY STRIPING, CROSSWALKS, ETC. MUST BE RESTORED TO ORIGINAL CONDITION WITH THERMAPLASTIC MARKINGS.

ROADWAY RESTORATION LEGEND

HCR	SIDEWALK RAMP
	MILL AND OVERLAY LIMITS
	WORK ZONE
	TRAFFIC FLOW

CONTRACTOR MAY USE MD SHA 104.06-9A-D FOR SIDEWALK AND CROSSWALK IMPACTS

TEMPORARY TRAFFIC CONTROL PLAN - BACK RIVER NECK ROAD

SCALE: 1"=30'

30' 0 30' 60'
SCALE: 1"=30' (HORZ)

DWG. FILENAME: F:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\PTC-P001-HRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND — SHAWN T. BURNETT — No. 20615 — REGISTERED PROFESSIONAL ENGINEER

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

DESIGN BY: DS
AS-BUILT PER RECORD PRINT
DRAWN BY: TL
BY:
DATE:
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	VERT: 1"=5' HORZ: 1"=50'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR original SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

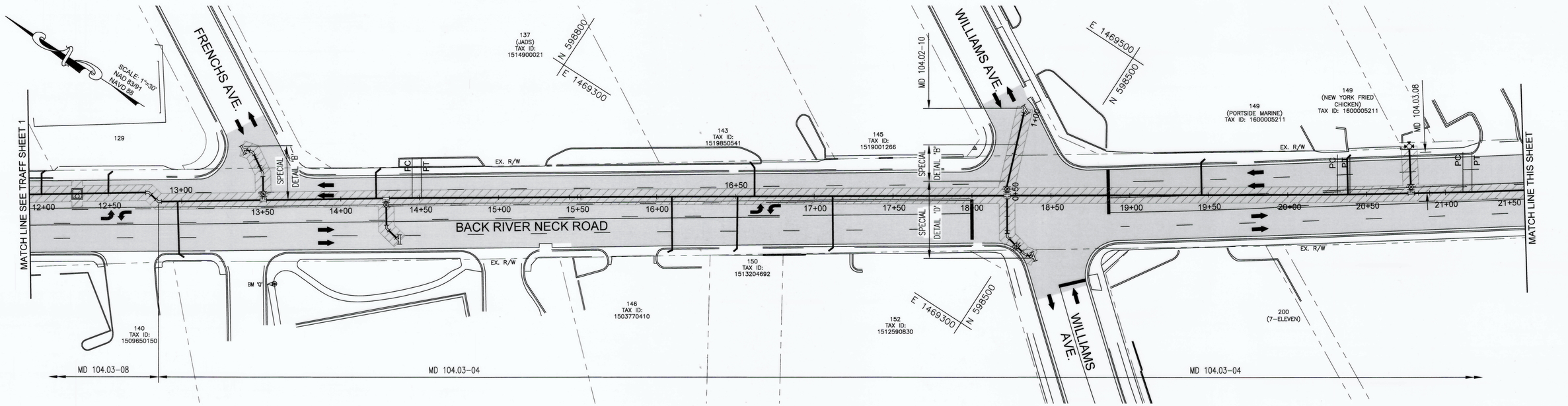
BACK RIVER NECK ROAD

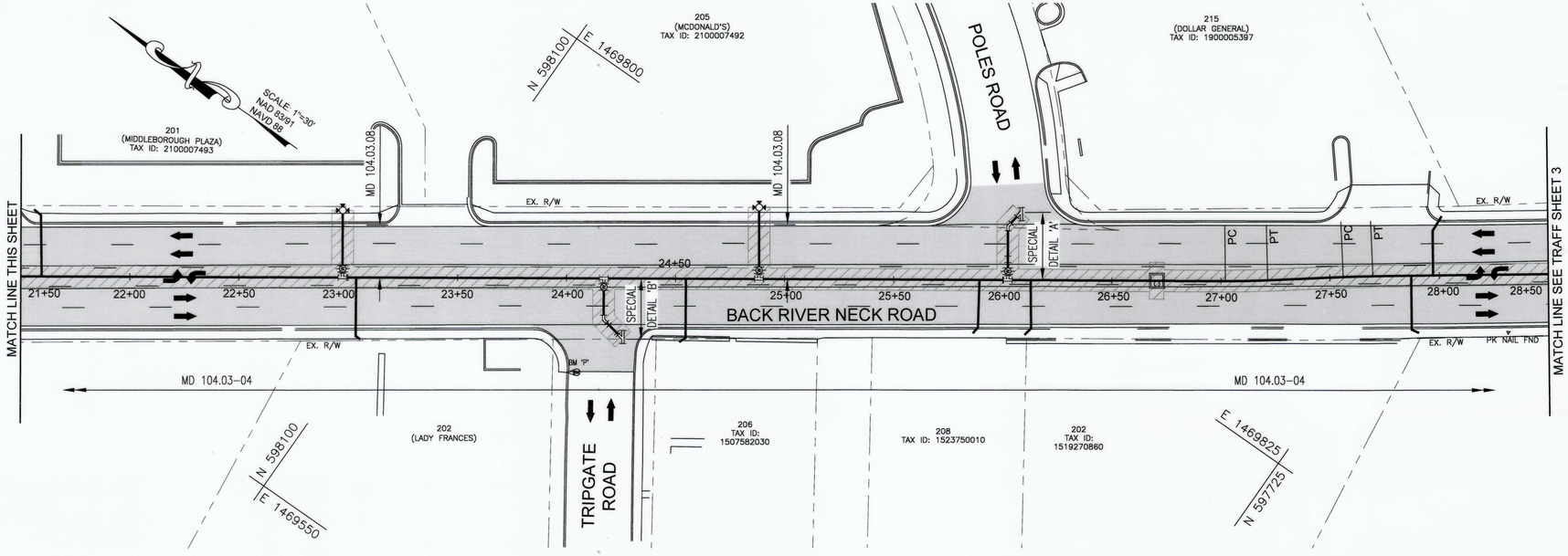
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — TRAFFIC CONTROL PLAN — ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
TRAFF SH 1 OF 8	23186-WXO
JOB ORDER NUMBER	
231-203-0067-0783	
SHEET 28 OF 44	
DRAWING NUMBER	
2023-2731	
FILE NO.:	





ROADWAY RESTORATION LEGEND

HCR	SIDEWALK RAMP
	MILL AND OVERLAY LIMITS
	WORK ZONE
	TRAFFIC FLOW

CONTRACTOR MAY USE MD SHA 104.06-9A-D FOR SIDEWALK AND CROSSWALK IMPACTS

TEMPORARY TRAFFIC CONTROL PLAN - BACK RIVER NECK ROAD

SCALE: 1"=30'

30' 0 30' 60'
SCALE: 1" =30' (HORZ)

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\pTC-P002-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND · SHAWN T. BURNETT · 20615 · REG. NURSE · PROFESSIONAL ENGINEER

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615 EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET | POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

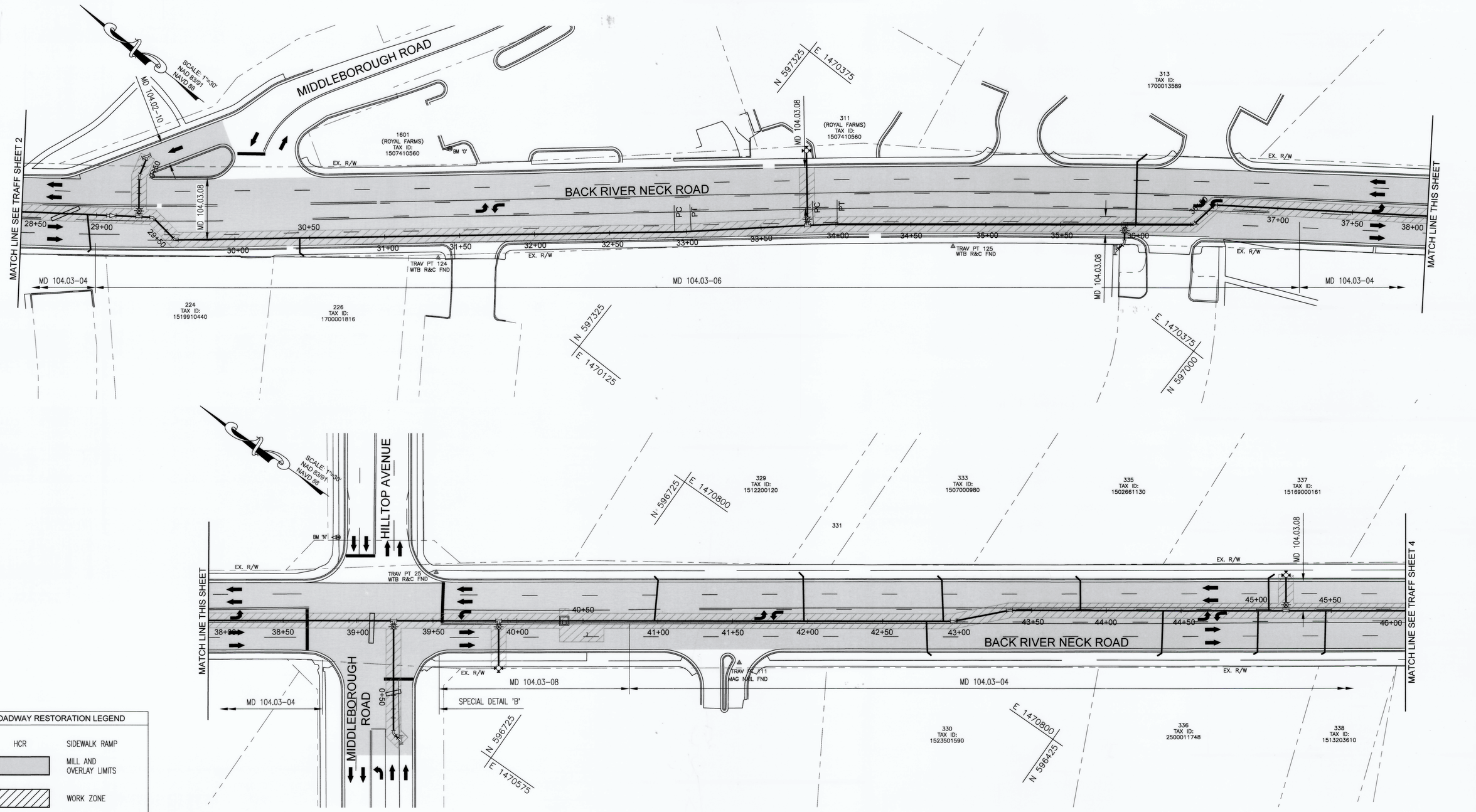
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK

TRAFFIC CONTROL PLAN

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
TRAFF SH 2 OF 8	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 29 OF 44	
DRAWING NUMBER	2023-2732
FILE NO.:	



ROADWAY RESTORATION LEGEND	
HCR	SIDEWALK RAMP
	MILL AND OVERLAY LIMITS
	WORK ZONE
	TRAFFIC FLOW

CONTRACTOR MAY USE MD SHA 104.06-9A-D FOR SIDEWALK AND CROSSWALK IMPACTS

TEMPORARY TRAFFIC CONTROL PLAN - BACK RIVER NECK ROAD

SCALE: 1"=30'

30' 0 30' 60'
SCALE: 1"=30' (HORZ)

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\pTC-P003-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615 EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

DATE : 7-9-2025

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.
KEY SHEET
POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORIZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

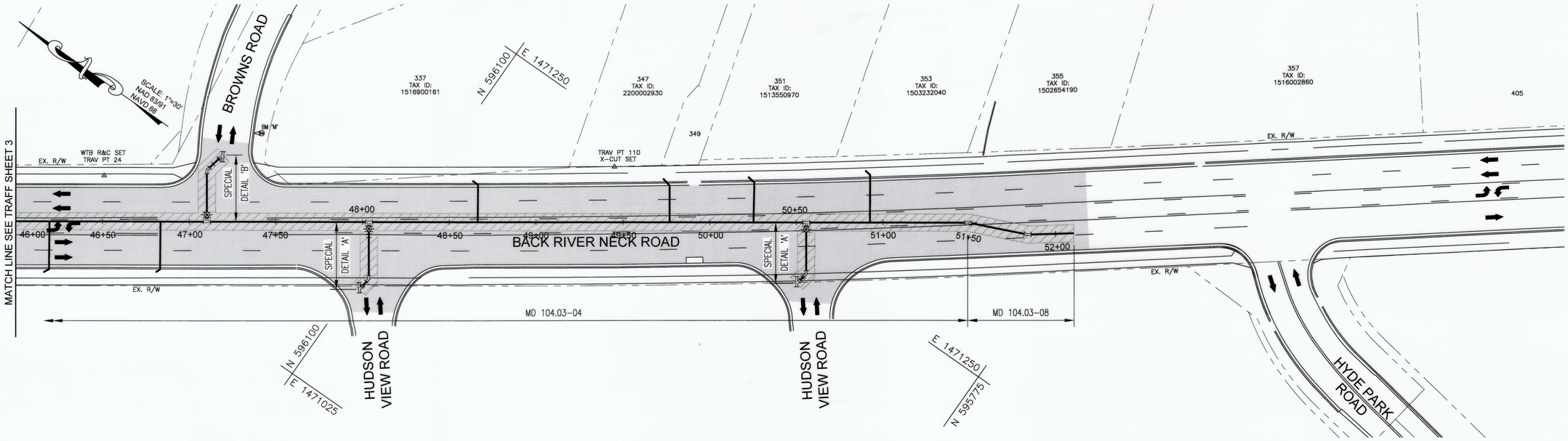
24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — TRAFFIC CONTROL PLAN — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
TRAFF SH 3 OF 8	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 30 OF 44
	DRAWING NUMBER
	2023-2733
	FILE NO.:



CONTRACTOR MAY USE MD SHA 104.06-9A-D FOR SIDEWALK AND CROSSWALK IMPACTS

TEMPORARY TRAFFIC CONTROL PLAN - BACK RIVER NECK ROAD

SCALE: 1"=30'

ROADWAY RESTORATION LEGEND

- HCR — SIDEWALK RAMP
- MILL AND OVERLAY LIMITS
- WORK ZONE
- TRAFFIC FLOW

30' 0 30' 60'

SCALE: 1"=30' (HORZ)

DWG. FILENAME: F:\Baltimore County Utilities\860-122.03 Back River Neck Road Phase 3\DWGs\pTC-P004-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND · SHAWN T. BURNETT · No. 20615 · REGISTERED PROFESSIONAL ENGINEER

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE

PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=30'

DPW & TRANSPORTATION

SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

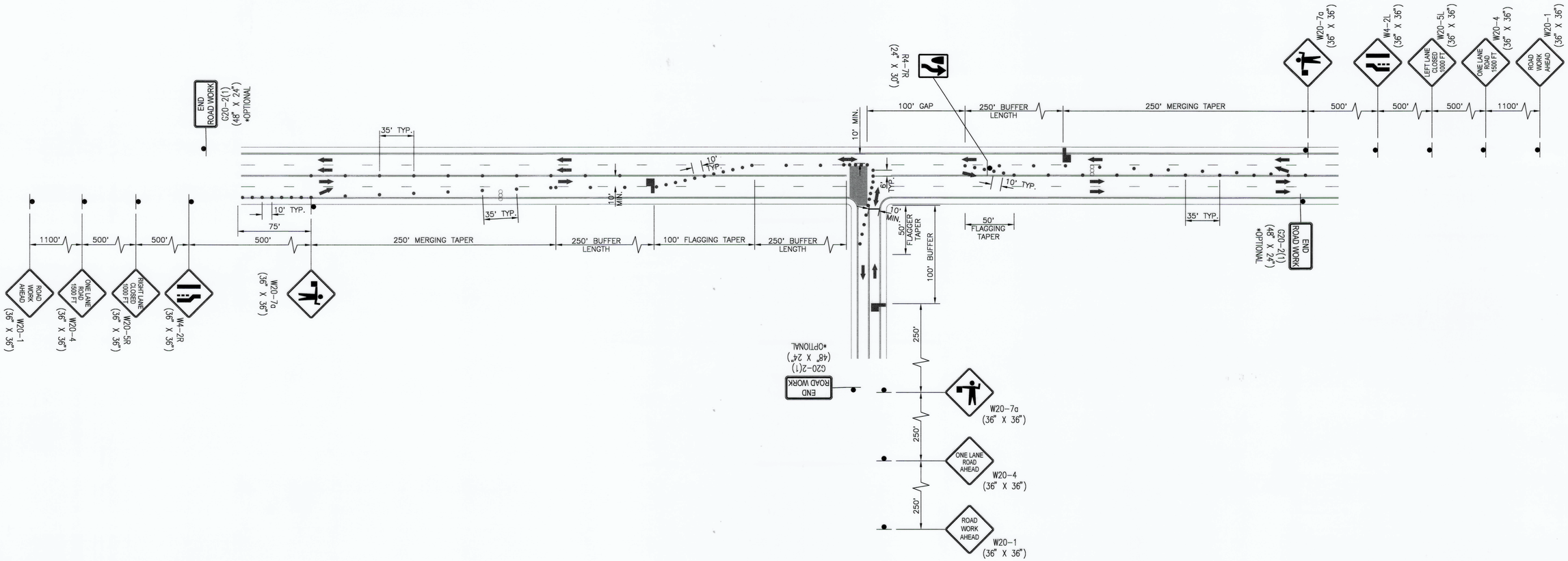
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — TRAFFIC CONTROL PLAN — ELECTION DIST. NO.:15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
TRAFF SH 4 OF 8	23186-WXO

JOB ORDER NUMBER
231-203-0067-0783
SHEET 31 OF 44
DRAWING NUMBER
2023-2734
FILE NO.:



TEMPORARY TRAFFIC CONTROL PLAN
DETAIL 'A' - 3-WAY INTERSECTION FLAGGER CONTROL (LEFT LANE)

SCALE: 1"=50'

ROADWAY MUST BE RESTORED AT END OF EACH WORK PERIOD

NOTE: TEMPORARY BARRIERS TO BE USED IN ACCORDANCE TO GENERAL NOTE 12 IF 10' BUFFER SPACE CANNOT BE MAINTAINED BETWEEN THE TRAVEL LANE AND TRENCH

TEMPORARY TRAFFIC CONTROL LEGEND	
→	TRAFFIC FLOW
—●—	TEMPORARY SIGNING
•	CHANNELIZING DEVICE
	FLAGGER
∞	ARROW PANEL
—X—	COVER EXISTING MARKING
	TEMPORARY STRIPING
	WORK AREA – SITE SPECIFIC TCP

50' 0 50' 100'
SCALE: 1"=50' (HORZ)

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\pTC-0001-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615 EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

AS-BUILT PER RECORD PRINT
BY:
DATE:

DATE : 7-9-2025

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	VERT: 1"=5' HORIZ: 1"=30'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

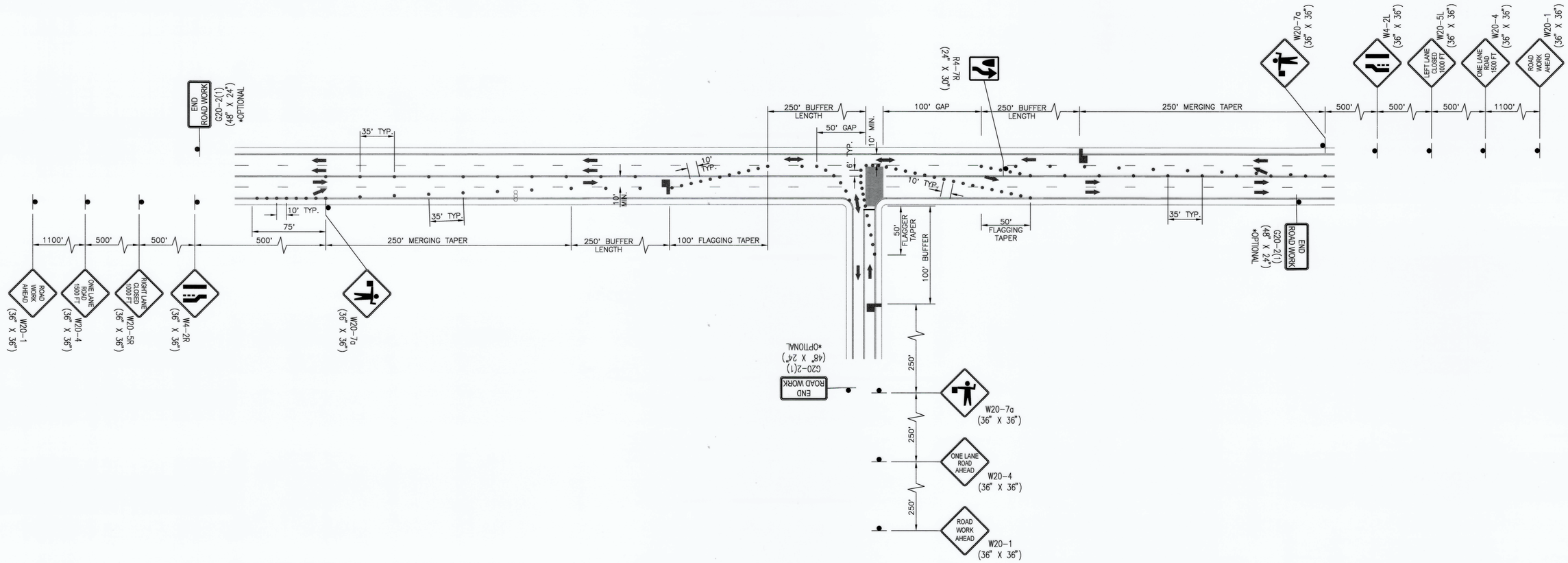
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK

TRAFFIC CONTROL SPECIAL DETAIL 'A'

ELECTION DIST. NO.:15C7

SHEET DESIGNATION	CONTRACT NUMBER
TRAFF SH 5 OF 8	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 32 OF 44
	DRAWING NUMBER
	2023-2735
	FILE NO.:



TEMPORARY TRAFFIC CONTROL LEGEND

- TRAFFIC FLOW
- TEMPORARY SIGNING
- CHANNELIZING DEVICE
- FLAGGER
- ARROW PANEL
- COVER EXISTING MARKING
- TEMPORARY STRIPING
- WORK AREA – SITE SPECIFIC TCP

TEMPORARY TRAFFIC CONTROL PLAN
DETAIL 'B' - 3-WAY INTERSECTION FLAGGER CONTROL (RIGHT LANE)

SCALE: 1"=50'

ROADWAY MUST BE RESTORED AT END OF EACH WORK PERIOD

NOTE: TEMPORARY BARRIERS TO BE USED IN ACCORDANCE TO GENERAL NOTE 12 IF 10' BUFFER SPACE CANNOT BE MAINTAINED BETWEEN THE TRAVEL LANE AND TRENCH

50' 0 50' 100'
SCALE: 1"=50' (HORZ)

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\pTC-0002-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

AS-BUILT PER RECORD PRINT
BY:
DATE:

DATE : 7-9-2025

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE
PLAN SCALE: 1"=50'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=50'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

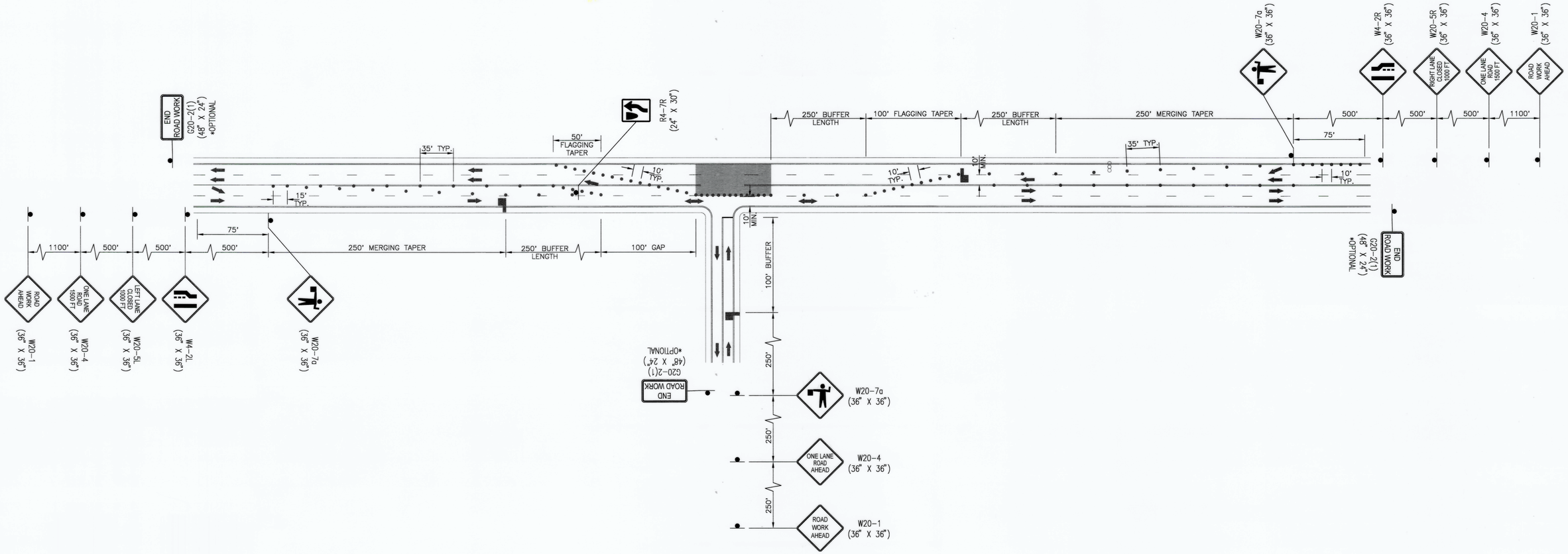
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK

TRAFFIC CONTROL SPECIAL DETAIL 'B'

ELECTION DIST. NO.:15C7

SHEET DESIGNATION	CONTRACT NUMBER
TRAFF SH 6 OF 8	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 33 OF 44	
DRAWING NUMBER	2023-2736
FILE NO.:	REV. 0/0



TEMPORARY TRAFFIC CONTROL LEGEND

- TRAFFIC FLOW
- TEMPORARY SIGNING
- CHANNELIZING DEVICE
- FLAGGER
- ARROW PANEL
- COVER EXISTING MARKING
- TEMPORARY STRIPING
- WORK AREA – SITE SPECIFIC TCP

TEMPORARY TRAFFIC CONTROL PLAN
DETAIL 'C' - 3-WAY INTERSECTION FLAGGER CONTROL

SCALE: 1"=50'

ROADWAY MUST BE RESTORED AT END OF EACH WORK PERIOD

NOTE: TEMPORARY BARRIERS TO BE USED IN ACCORDANCE TO GENERAL NOTE 12 IF 10' BUFFER SPACE CANNOT BE MAINTAINED BETWEEN THE TRAVEL LANE AND TRENCH

50' 0 50' 100'
SCALE: 1"=50' (HORZ)

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\pTC-0003-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

DATE : 7-9-2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615 EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE	
PLAN SCALE:	1"=50'
PROFILE SCALE:	VERT: 1"=5' HORZ: 1"=50'

DPW & TRANSPORTATION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

DESIGN BY: DS	DRAWN BY: TL	CHKD BY: SB

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

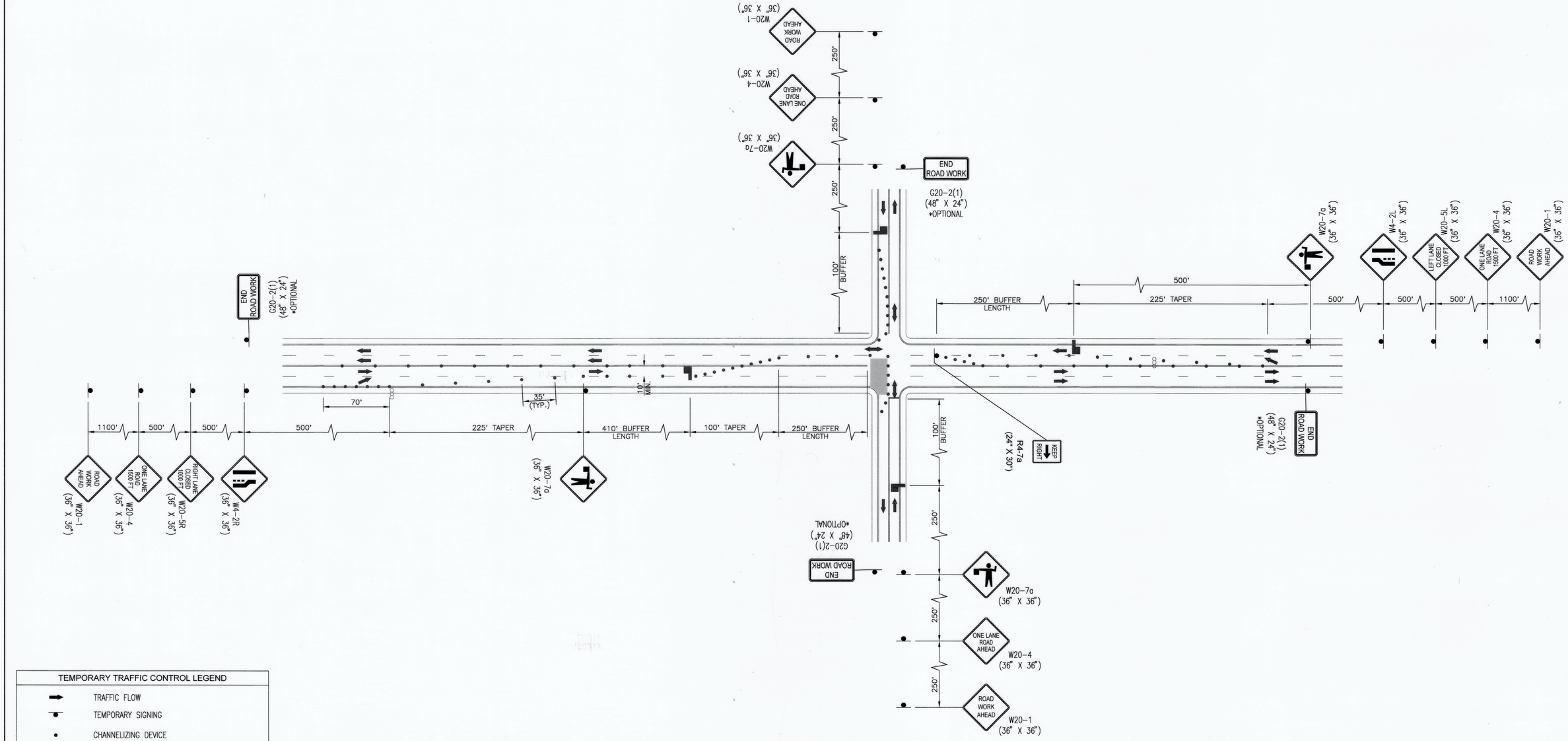
24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — TRAFFIC CONTROL SPECIAL DETAIL 'C' — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
TRAFF SH 7 OF 8	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 34 OF 44	
DRAWING NUMBER	2023-2737
FILE NO.:	



TEMPORARY TRAFFIC CONTROL PLAN
DETAIL 'D' - INTERSECTION FLAGGER CONTROL

SCALE: 1"=50'

ROADWAY MUST BE RESTORED AT END OF EACH WORK PERIOD

NOTE: TEMPORARY BARRIERS TO BE USED IN ACCORDANCE TO GENERAL NOTE 12 IF 10' BUFFER SPACE CANNOT BE MAINTAINED BETWEEN THE TRAVEL LANE AND TRENCH

TEMPORARY TRAFFIC CONTROL LEGEND

- TRAFFIC FLOW
- TEMPORARY SIGNING
- CHANNELIZING DEVICE
- FLAGGER
- ARROW PANEL
- COVER EXISTING MARKING
- TEMPORARY STRIPING
- WORK AREA – SITE SPECIFIC TCP

50' 0 50' 100'
SCALE: 1"=50' (HORZ)

DWG. FILENAME: T:\Baltimore County Utilities\800-122.00 Back River Neck Road Phase 3\DWGs\gTC-D004-BRNR.dwg

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

DATE: 7-9-2025

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

KEY SHEET	POSITION SHT

DRAWING SCALE
PLAN SCALE: 1"=50'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=50'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK

TRAFFIC CONTROL SPECIAL DETAIL 'D'

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
TRAFF SH 8 OF 8	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 35 OF 44	
DRAWING NUMBER	2023-2738
FILE NO.:	WO

BALTIMORE COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3
BACK RIVER NECK ROAD
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD
BALTIMORE COUNTY CONTRACT NO. 23186-WXO
BALTIMORE COUNTY J.O. NO. 231-203-0067-0783
WORKDAY PROJ-10000520

MDE NOTES:

1. DISINFECTION OF MAINS AND BACTERIOLOGICAL SAMPLING REQUIREMENTS.
   A. FOR ALL BALTIMORE COUNTY CAPITAL PROJECTS, WATER TESTING SHALL BE PERFORMED BY BALTIMORE CITY PERSONNEL.
   B. THE COMPLETED WATER MAINS MUST BE DISINFECTED AND TESTED IN ACCORDANCE WITH THE LATEST VERSION OF AWWA STANDARD C651.
   C. AFTER DISINFECTION, A SAMPLE SHALL BE COLLECTED AFTER THE REQUIRED MINIMUM TIME PERIOD. SAMPLES MUST BE COLLECTED BY A STATE-CERTIFIED SAMPLER AND ANALYZED AT A STATE-CERTIFIED LABORATORY. THE SAMPLE RESULTS MUST BE REVIEWED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER SUPPLY PROGRAM, WHICH WILL GIVE AUTHORIZATION TO PLACE THE MAINS INTO SERVICE.
   D. A COPY OF THE SAMPLE RESULTS SHALL BE SENT VIA EMAIL TO: GAVIN.COURTRIGHT@MARYLAND.GOV AND WATERSUPPLY.SAMPLERESULTS@MARYLAND.GOV
2. NSF NOTE:
   A. IN ACCORDANCE WITH CODE OF MARYLAND REGULATIONS (COMAR) 26.04.01.33, DIRECT AND INDIRECT ADDITIVES, SUPPLIERS OF WATER SHALL ONLY USE PRODUCTS (ANY MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY) THAT MEET THE APPLICABLE AMERICAN NATIONAL STANDARDS INSTITUTE/NSF INTERNATIONAL (ANSI/NSF) STANDARDS FOR DIRECT OR INDIRECT DRINKING WATER ADDITIVES. THE PRODUCTS CAN ALSO BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY THE ANSI FOR SUCH TESTING (I.E., INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS RESEARCH AND TESTING, ONTARIO CA, UNDERWRITERS LABORATORY, NORTHBOOK IL, AND WATER QUALITY ASSOCIATION, LISLE IL).
3. LEAD-FREE MATERIAL NOTE:
   A. IN COMPLIANCE WITH COMAR 09.20.01.03 AND THE SAFE DRINKING WATER ACT (SECTION 1417(A)(4)(8), MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT, WHCIH WENT INTO EFFECT IN MARYLAND IN JANUARY 2021.

EMERGENCY MANAGEMENT NOTES

1. DPW INSPECTORS WILL NOTIFY THE FIRE DEPARTMENT ADMINISTRATIVE DUTY OFFICER (ADO) OF ANY PLANNED WATER OUTAGE. (CONTACT: FIRE_ADO OR 410-307-2052.)
2. DPW INSPECTORS WILL NOTIFY BALTIMORE CITY'S 311 OF ANY PLANNED WATER OUTAGE.
3. FOR OUTAGES AFFECTING MORE THAN 200 SERVICES AND/OR THAT ARE MORE THAN EIGHT (8) HOURS IN DURATION, CONTRACTORS WILL NOTE IN THEIR PLANS TO NOTIFY THE FIRE DEPARTMENT ADMINISTRATIVE DUTY OFFICER (ADO) AND THE OFFICE OF EMERGENCY MANAGEMENT BY EMAIL AND BY PHONE. (emergencymanagement@baltimorecountymd.gov and 410-887-5996.)

BENCHMARKS

BM 'M'
BOX CUT TC IN FRONT OF F.H.
ELEV. = 28.27

BM 'N'
BOX CUT TC @ CORNER OF TRANSFORMER PAD
ELEV. = 24.39

BM 'O'
BOX CUT TC @ CORNER OF ROYAL FARMS DUMPSTER
ELEV. = 31.22

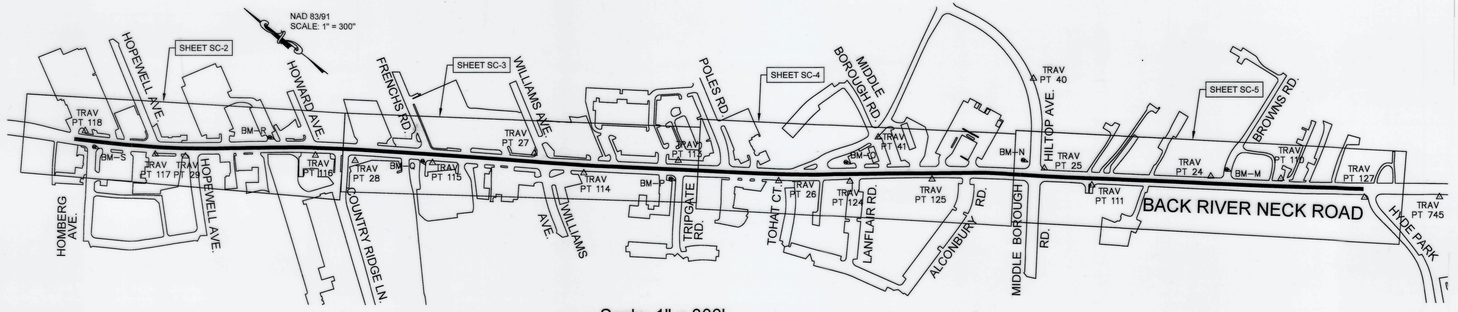
BM 'P'
BOX CUT TC @ END OF SIDEWALK
ELEV. = 36.24

BENCHMARKS

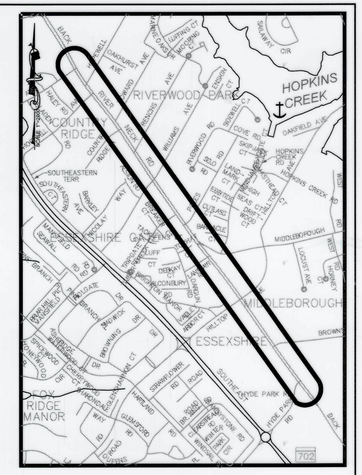
BM 'Q'
BOX CUT TC @ END OF SIDEWALK
ELEV. = 38.78

BM 'R'
BOX CUT TC
ELEV. = 30.69

BM 'S'
BOX CUT TC
ELEV. = 31.32



Scale: 1" = 300'



VICINITY MAP

1000' 0 1000' 2000'

SCALE: 1"=1000'

GRADING

OWNER'S / DEVELOPER'S CERTIFICATION - GRADING:

I/WE CERTIFY THAT ALL GRADING ON THIS SITE WILL BE DONE IN ACCORDANCE WITH THE CURRENT GRADING REQUIREMENTS AS SET FORTH BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY AND WITH THE REQUIREMENTS SPECIFIED IN ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE.

Lisa K Eichholtz — 7-27-2025
SIGNATURE OWNER/DEVELOPER — DATE

Lisa K. Eichholtz — Deputy Director
PRINT NAME — TITLE

SEDIMENT CONTROL

OWNER'S / DEVELOPER'S CERTIFICATION:

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ALSO CERTIFY THAT THE SITE WILL BE INSPECTED AT THE END OF EACH WORKING DAY, AND THAT ANY NEEDED MAINTENANCE WILL BE COMPLETED SO AS TO INSURE THAT ALL SEDIMENT CONTROL PRACTICES ARE LEFT IN OPERATIONAL CONDITION. I/WE AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.

Lisa K Eichholtz — 7-27-2025
SIGNATURE OWNER/DEVELOPER — DATE

Lisa K. Eichholtz — Deputy Director
PRINT NAME — TITLE

CONSULTANT'S CERTIFICATION

I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT AND THE CURRENT STATE OF MARYLAND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

Shawn Burnett — 7-9-25
SIGNATURE — DATE

SHAWN BURNETT — 20615
PRINT NAME — MD LICENSE NUMBER

UTILITY NOTES

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 TRENCH.
2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

INLET PROTECTION NOTES

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

*1. ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE.
2. INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC.

ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, PAGE E.23 (OR AS MAY BE AMENDED). THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

*STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL.

TEMPORARY STOCKPILE NOTES

TEMPORARY STOCKPILES SHALL BE:

1. LOCATED WITHIN THE LIMIT OF DISTURBANCE (LOD).
2. DRAIN TO A FUNCTIONING SEDIMENT CONTROL DEVICE.
3. POSITIONED TO NOT IMPEDE UPON, OR IMPAIR THE FUNCTION OF SAID DEVICE.
4. POSITIONED TO NOT ALTER DRAINAGE DIVIDES.

THESE ITEMS SHOULD BE INCORPORATED INTO ANY NOTE REFERENCING TEMPORARY STOCKPILES, AND WHEN ACTUALLY DELINEATING THEM ON PLAN VIEWS.

NOTE:
ALL REQUIRED FEDERAL, STATE AND LOCAL PERMITS MUST BE OBTAINED PRIOR TO THE PRE-CONSTRUCTION MEETING.

SEQUENCE OF OPERATIONS

1. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, (410) 887-3226, AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
2. IF APPLICABLE, ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE LIMIT OF DISTURBANCE, WHERE THE LIMIT IS WITHIN 50 FEET OF THE FOREST BUFFER/CONSERVATION EASEMENT. THIS SHALL BE COMPLETED BY AND INSPECTED AT THE PRE-CONSTRUCTION MEETING.
3. CLEAR AND GRUB FOR SEDIMENT & EROSION CONTROL MEASURES OR DEVICES ONLY.
4. INSTALL ALL SEDIMENT & EROSION CONTROL MEASURES AND DEVICES. USAGE OF INLET PROTECTION TO BE AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR.
5. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
6. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, PROCEED TO STEP 7.
7. INSTALL WATER LINE PER THE UTILITY AND DAILY STABILIZATION NOTES ON THIS SHEET.
8. UPON COMPLETION AND STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

LIST OF DRAWINGS CONTINUED

SHEET NO.	SHEET DESIGNATION	DRAWING NO.	DESCRIPTION
36	SC-1	2023-2739	EROSION AND SEDIMENT AND GRADING PLAN TITLE SHEET
37	SC-2	2023-2740	EROSION AND SEDIMENT AND GRADING PLAN
38	SC-3	2023-2741	EROSION AND SEDIMENT AND GRADING PLAN
39	SC-4	2023-2742	EROSION AND SEDIMENT AND GRADING PLAN
40	SC-5	2023-2743	EROSION AND SEDIMENT AND GRADING PLAN
41	SC-6	2023-2744	EROSION AND SEDIMENT CONTROL DETAILS
42	SC-7	2023-2745	EROSION AND SEDIMENT CONTROL NOTES
43	SC-8	2023-2746	EROSION AND SEDIMENT CONTROL NOTES
44	SC-9	2023-2747	EROSION AND SEDIMENT CONTROL NOTES

CITY PLATS
AA-42
BB-42, 43
CC-43, 44
DD-43, 44, 45
EE-44, 45, 46

ADC MAP (29TH EDITION)
PAGE: 4821, GRID: J-10
PAGE: 4821, GRID: J-01, K-01, K-02

LOWEST ELEVATION TOP OF MAIN: 11.8'
NORMAL OPERATING PRESSURE: 90 PSI
TEST PRESSURE: 135 PSI
WATER ZONE: 1st

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM
HORIZONTAL - NAD 83/91
VERTICAL - NAVD 88

TOTAL AREA TO BE DISTURBED:
0.94 ACRES
40,887 SQ. FT.

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL 8-6-25 (DATE)
Jeffrey P. West — 099-3769-25
DISTRICT OFFICIAL — PLAN NO.
Technical Review for the District by:
Sara C. Dulina
THIS PLAN APPROVAL WILL EXPIRE THREE (3) YEARS FROM THE APPROVAL DATE.

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
APPROVED FOR GRADING
09.03.25.
DATE

STORMWATER MANAGEMENT PERMIT NOT REQUIRED

STORMWATER MANAGEMENT HAS BEEN ADDRESSED THROUGH STORMWATER MANAGEMENT VARIANCE

CONTRACT COMPLETION BOX

CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL:
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S):
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S):
☐ OTHER (SPECIFY): — PIPE DIAMETER(S):

CITY OF BALTIMORE			REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES CHIEF, UTILITIES ENGINEERING SECTION DATE	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES DIRECTOR, DEPT. OF PUBLIC WORKS DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

OWNER/DEVELOPER:	DESIGN PROFESSIONAL:
NAME: BALTIMORE COUNTY DPW&T BUREAU OF ENGINEERING AND CONSTRUCTION ADDRESS: 111 W. CHESAPEAKE AVENUE, TOWSON, MD. 21204 PHONE: 410-887-3300	NAME: THE WILSON T. BALLARD COMPANY ATTN.: SHAWN BURNETT ADDRESS: 17 GWYNNS MILL COURT, OWINGS MILLS, MD. 21117 PHONE: 410-363-0150 EMAIL: SBURNETT@WTBCO.COM

SEAL

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26
ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO
DESIGN BY: DS
AS-BUILT PER RECORD PRINT
DRAWN BY: TL
BY: DATE:
CHKD BY: SB
DATE : 7-9-25

REVISION

BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
		R.O.W NO.	I-SE	2NE34, 3NE33, 3NE34, 5NE32, 5NE33, 6NE32

Contract Completion Box

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES					
DATE REVIEWED:						

DRAWING SCALE
PLAN SCALE: 1"=300'
PROFILE SCALE:

DPW & TRANSPORTATION
APPROVED BY: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES DIRECTOR
DATE:

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES CHIEF
DATE:

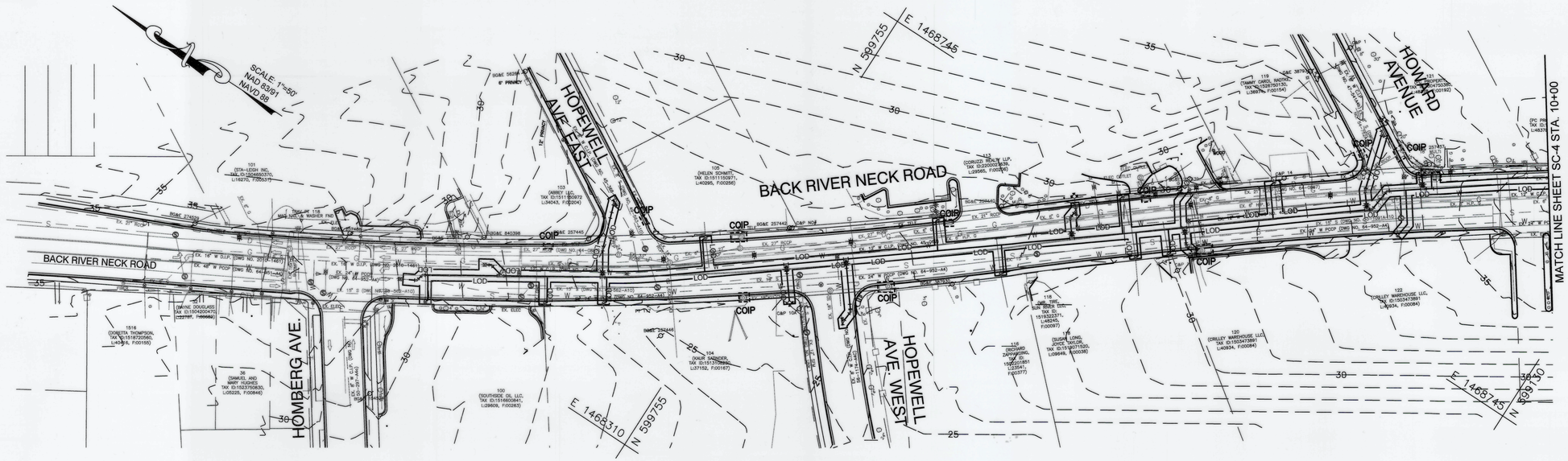
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3
BACK RIVER NECK ROAD
FROM HOMBERG AVENUE TO NORTH OF HYDE PARK ROAD
EROSION AND SEDIMENT AND GRADING PLAN TITLE SHEET

SUBDIVISION: BACK RIVER NECK — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
SC-1 OF 9	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET NO.	36 OF 44
DRAWING NUMBER	2023-2739
FILE NO.:	

DWG. FILENAME: F:\Baltimore County Utilities\900-122.03 Back River Neck Road Phase 3\DWGs\pES-TOOO-BRNR.dwg



LEGEND

TP	TEST PIT
PC	PAVEMENT CORE
SB	SOIL BORING
EX. 12" W C.I.P. (DRWG# 400731)	EXISTING WATER MAIN
PROP. 20" W D.I.P.	PROPOSED WATER MAIN
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE & TEE
	WATER MAIN TO BE ABANDONED
	PREVIOUSLY ABANDONED WATER MAIN
	EXISTING SANITARY SEWER
	EXISTING SANITARY MANHOLE
	EXISTING STORM DRAIN
	EXISTING STORM DRAIN MANHOLE
	EXISTING ELECTRIC SERVICE
	EXISTING GAS
	EXISTING FIBER OPTIC
	EXISTING TELEPHONE
	EXISTING CABLE TELEVISION
	EXISTING STORM DRAIN INLET
	EXISTING FIRE HYDRANT
	EXISTING GAS VALVE
	EX. CURB AND GUTTER
LOD	LIMIT OF DISTURBANCE
	EXISTING CONTOUR
	EXISTING RIGHT OF WAY LINE
	EXISTING PROPERTY LINE
CIP	CURB INLET PROTECTION
COIP	COMBINATION INLET PROTECTION

NOTES:

1. THE PROPOSED GRADING SHOWN ON THIS PLAN MEETS THE REQUIREMENTS SET FORTH BY BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENT PROTECTION AND SUSTAINABILITY AND COMPLIES WITH ARTICLE 33, TITLE 5 OF BALTIMORE COUNTY CODE. HOWEVER, DUE TO BUILDING TYPES AND LAYOUT, SOME FIELD ADJUSTMENTS MAY BE REQUIRED. ALL CHANGES MUST COMPLY WITH THE ABOVE MENTIONED REQUIREMENTS.
2. ALL SWALES HAVE BEEN DESIGNED BY THE ENGINEER TO CONVEY RUNOFF ACCORDING TO BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS.
3. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISCHARGE OF VEGETATION IN THE FOREST BUFFER EASEMENT OR OTHER FOREST RETENTION AREAS, EXCEPT AS PERMITTED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY.
4. STORMWATER MANAGEMENT HAS BEEN ADDRESSED/APPROVED BY/THROUGH (PAYMENT OF A FEE IN LIEU TO THE BALTIMORE COUNTY STORMWATER MANAGEMENT FUND/STORMWATER MANAGEMENT VARIANCE/STORMWATER MANAGEMENT EXEMPTION/ENVIRONMENTAL SITE DESIGN).

BENCHMARK (VERTICAL CONTROL)

BENCHMARK	NORTHING	EASTING	ELEVATION	PHYSICAL DESCRIPTION
BM 'M'	596197.55	1471126.06	28.27	BOX CUT TC IN FRONT OF F.H.
BM 'N'	596896.70	1470634.83	24.39	BOX CUT TC @ CORNER OF TRANSFORMER PAD
BM 'O'	597477.57	1470173.62	31.22	BOX CUT TC @ CORNER OF ROYAL FARMS DUMPSTER
BM 'P'	598015.99	1469672.21	36.24	BOX CUT TC @ END OF SIDEWALK
BM 'Q'	598881.94	1469081.34	38.78	BOX CUT TC @ END OF SIDEWALK
BM 'R'	598863.85	1469086.21	30.69	BOX CUT TC
BM 'S'	600003.33	1468296.84	31.32	BOX CUT TC

VERTICAL CONTROL

BM 'R'
BOX CUT TC
ELEV. = 30.69

BM 'S'
BOX CUT TC
ELEV. = 31.32

50' 0 50' 100'
SCALE: 1"=50' (HORZ)

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. Wirt 8-6-25
DATE

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

DESIGN BY: DS
AS-BUILT PER RECORD PRINT
DRAWN BY: TL
BY:
DATE:
CHKD BY: SB

DATE: 7-27-25

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

DRAWING SCALE
PLAN SCALE: 1"=50'
PROFILE SCALE: HORIZ: 1"=50' VERT: 1"=5'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

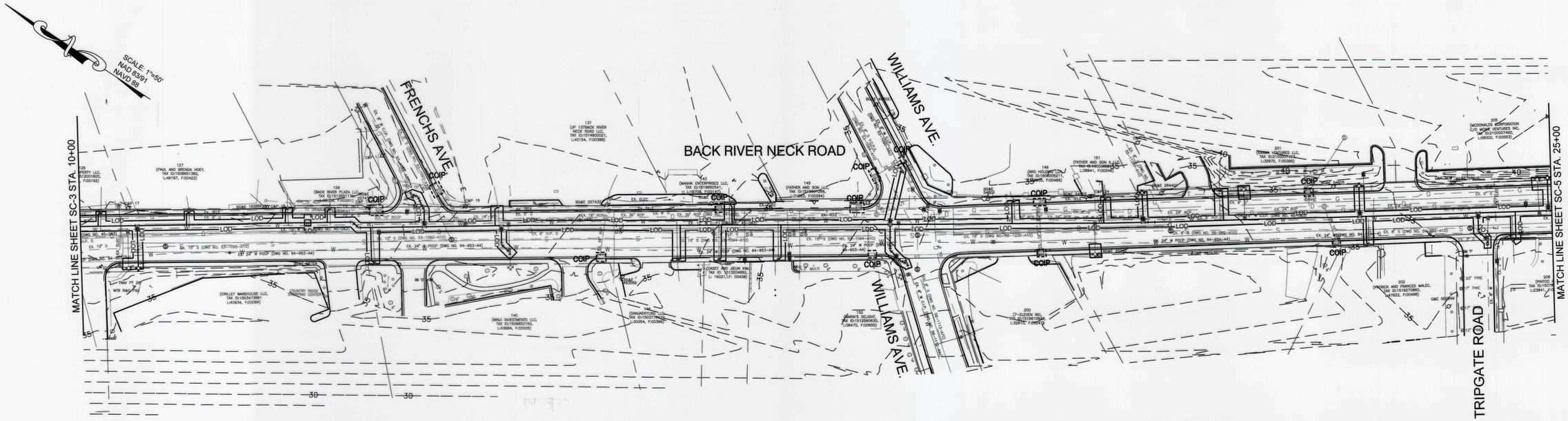
BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OR HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — EROSION AND SEDIMENT AND GRADING PLAN — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
SC-2 OF 9	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 37 OF 44
	DRAWING NUMBER
	2023-2740
	FILE NO.: REV. 4/2/24

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\pES-0001-BRNR.dwg



LEGEND

TP	TEST PIT	FO	EXISTING FIBER OPTIC
PC	PAVEMENT CORE	T	EXISTING TELEPHONE
SB	SOIL BORING	CTV	EXISTING CABLE TELEVISION
EX. 12" W C.I.P. (DRWG# 400731) W	EXISTING WATER MAIN		EXISTING STORM DRAIN INLET
PROP. 20" W D.I.P.	PROPOSED WATER MAIN		EXISTING FIRE HYDRANT
	PROPOSED FIRE HYDRANT	G	EXISTING GAS VALVE
	PROPOSED WATER VALVE & TEE		EX. CURB AND GUTTER
W	WATER MAIN TO BE ABANDONED	LOD	LIMIT OF DISTURBANCE
W /	PREVIOUSLY ABANDONED WATER MAIN		EXISTING CONTOUR
S	EXISTING SANITARY SEWER		EXISTING RIGHT OF WAY LINE
S	EXISTING SANITARY MANHOLE		EXISTING PROPERTY LINE
D	EXISTING STORM DRAIN	CIP	CURB INLET PROTECTION
D	EXISTING STORM DRAIN MANHOLE	COIP	COMBINATION INLET PROTECTION
E	EXISTING ELECTRIC SERVICE		
G	EXISTING GAS		

VERTICAL CONTROL

BM 'P'
BOX CUT TC @ END OF SIDEWALK
ELEV. = 36.24

BM 'Q'
BOX CUT TC @ END OF SIDEWALK
ELEV. = 36.78

50' 0 50' 100'
SCALE: 1"=50' (HORZ)

CONTRACT COMPLETION BOX

CONTRACTOR: _____
DATE COMPLETED: _____
INSPECTOR: _____
PIPE MATERIAL: _____
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S): _____
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S): _____
☐ OTHER (SPECIFY): — PIPE DIAMETER(S): _____

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 8-6-25
DATE

SEAL

STATE OF MARYLAND — SHAWN T. BURNETT — REGISTERED PROFESSIONAL ENGINEER — NO. 20615

DATE : 7-27-25

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		DPW & TRANSPORTATION
			R.O.W NO.			PLAN SCALE:	1"=50'	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
						PROFILE SCALE:	VERT: 1"=5' HORZ: 1"=50'	

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OR HYDE PARK ROAD

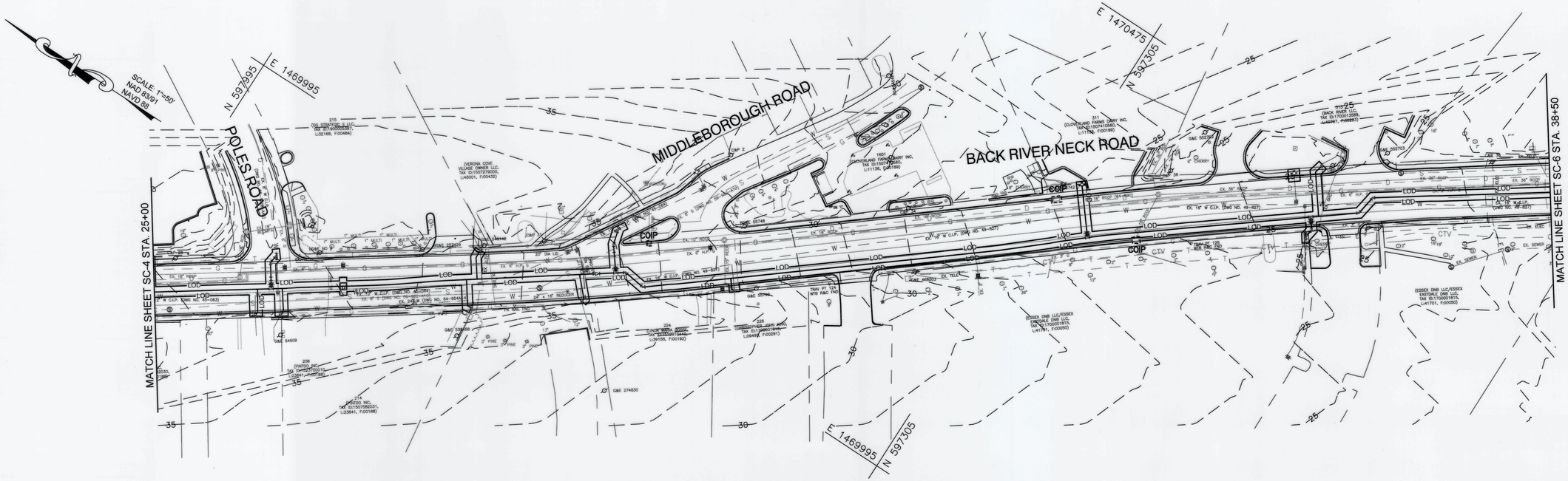
EROSION AND SEDIMENT AND GRADING PLAN

SUBDIVISION: BACK RIVER NECK

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
SC-3 OF 9	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 38 OF 44
	DRAWING NUMBER
	2023-2741
	FILE NO.:

DWG. FILENAME: T:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\pES-0002-BRNR.dwg



LEGEND

TP	TEST PIT
PC	PAVEMENT CORE
SB	SOIL BORING
EX. 12" W C.I.P. (DRWG# 400731)	EXISTING WATER MAIN
PROP. 20" W D.I.P.	PROPOSED WATER MAIN
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE & TEE
	WATER MAIN TO BE ABANDONED
	PREVIOUSLY ABANDONED WATER MAIN
	EXISTING SANITARY SEWER
	EXISTING SANITARY MANHOLE
	EXISTING STORM DRAIN
	EXISTING STORM DRAIN MANHOLE
	EXISTING ELECTRIC SERVICE
	EXISTING GAS
	EXISTING FIBER OPTIC
	EXISTING TELEPHONE
	EXISTING CABLE TELEVISION
	EXISTING STORM DRAIN INLET
	EXISTING FIRE HYDRANT
	EXISTING GAS VALVE
	EX. CURB AND GUTTER
LOD	LIMIT OF DISTURBANCE
	EXISTING CONTOUR
	EXISTING RIGHT OF WAY LINE
	EXISTING PROPERTY LINE
CIP	CURB INLET PROTECTION
COIP	COMBINATION INLET PROTECTION

50' 0 50' 100'
SCALE: 1"=50' (HORZ)

VERTICAL CONTROL

BM 'O'
BOX CUT TC @ CORNER OF ROYAL FARMS DUMPSTER
ELEV. = 31.22

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
N/A – ZINC COATED PIPE	
☐ WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 8-6-25
DATE

SEAL

PROFESSIONAL CERTIFICATION

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LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB

DATE: 7-27-25

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

DRAWING SCALE	
PLAN SCALE:	1"=50'
PROFILE SCALE:	VERT: 1"=5' HORZ: 1"=50'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES
BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

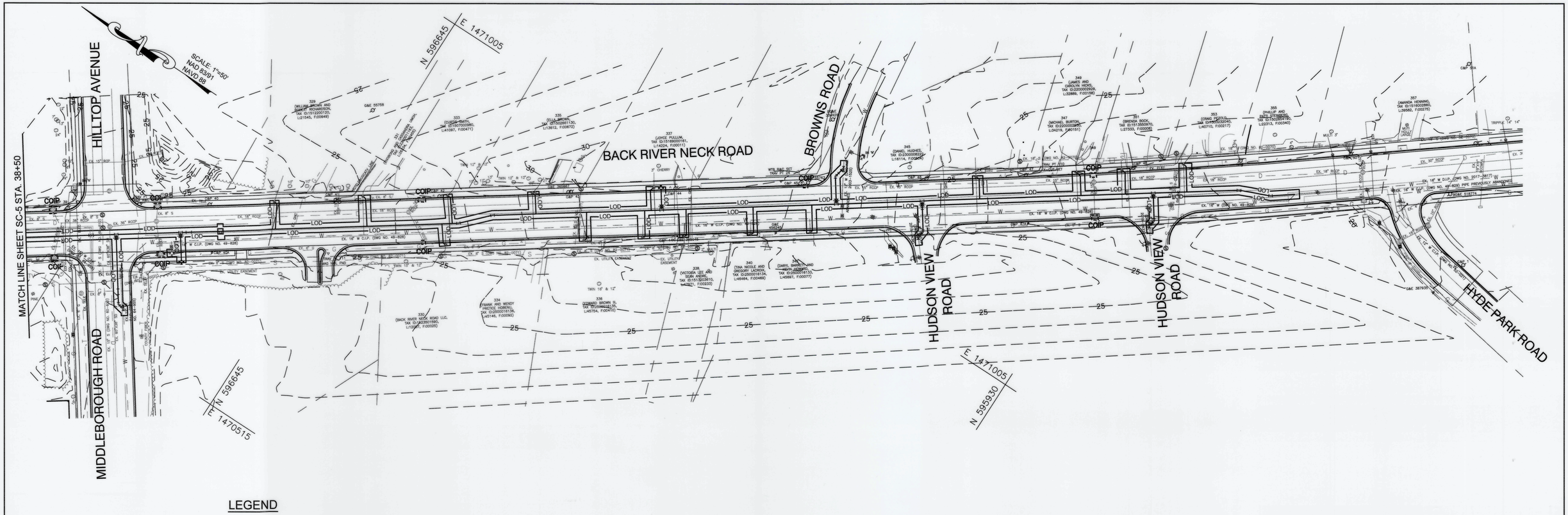
BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OR HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — EROSION AND SEDIMENT AND GRADING PLAN — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
SC-4 OF 9	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 39 OF 44
	DRAWING NUMBER
	2023-2742
	FILE NO.:

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\DWGs\PS-0003-BRNR.dwg



LEGEND

TP	TEST PIT
PC	PAVEMENT CORE
SB	SOIL BORING
EX. 12" W C.I.P. (DRWG# 400731)	EXISTING WATER MAIN
PROP. 20" W D.I.P.	PROPOSED WATER MAIN
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE & TEE
	WATER MAIN TO BE ABANDONED
	PREVIOUSLY ABANDONED WATER MAIN
	EXISTING SANITARY SEWER
	EXISTING SANITARY MANHOLE
	EXISTING STORM DRAIN
	EXISTING STORM DRAIN MANHOLE
	EXISTING ELECTRIC SERVICE
	EXISTING GAS
	EXISTING FIBER OPTIC
	EXISTING TELEPHONE
	EXISTING CABLE TELEVISION
	EXISTING STORM DRAIN INLET
	EXISTING FIRE HYDRANT
	EXISTING GAS VALVE
	EX. CURB AND GUTTER
LOD	LIMIT OF DISTURBANCE
	EXISTING CONTOUR
	EXISTING RIGHT OF WAY LINE
	EXISTING PROPERTY LINE
CIP	CURB INLET PROTECTION
COIP	COMBINATION INLET PROTECTION

VERTICAL CONTROL

BM 'N'
BOX CUT TC @ CORNER OF TRANSFORMER PAD
ELEV. = 24.39

BM 'M'
BOX CUT TC IN FRONT OF F.H.
ELEV. = 28.27

50' 0 50' 100'
SCALE: 1"=50' (HORZ)

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. Wentz 8-6-25
DATE

SEAL

PROFESSIONAL CERTIFICATION

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ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: DS
DRAWN BY: YL
CHKD BY: SB

DATE: 7-27-25

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.		

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: VERT: 1"=5' HORZ: 1"=50'

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT - PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OR HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK

EROSION AND SEDIMENT AND GRADING PLAN

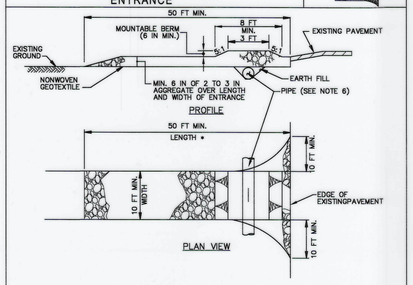
ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
SC-5 OF 9	23186-WXO
	JOB ORDER NUMBER
	231-203-0067-0783
	SHEET 40 OF 44
	DRAWING NUMBER
	2023-2743
	FILE NO.:

DWG. FILENAME: T:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\pSS-0004-BRNR.dwg

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

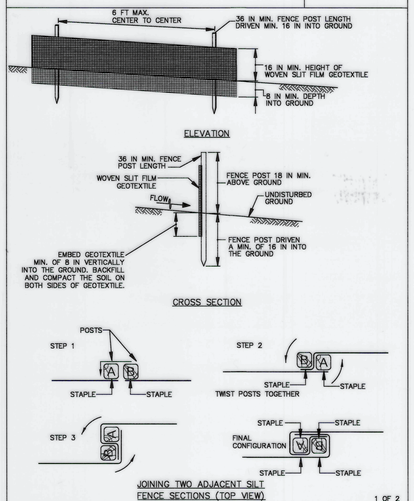
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*50 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ X ¼ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN 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 MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

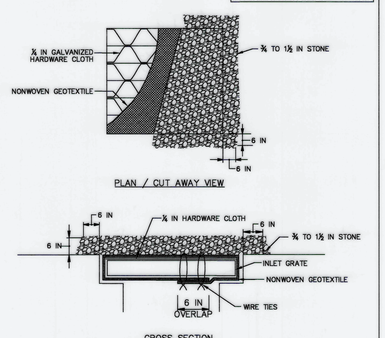
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP



CONSTRUCTION SPECIFICATIONS

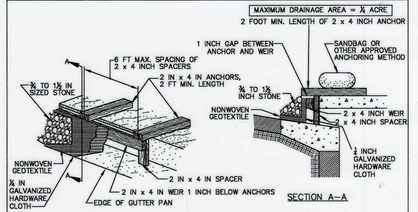
1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 x 4 INCH LUMBER
2. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 INCH WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
3. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 INCH WEIR.
4. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
5. NAIL THE 2x4 INCH WEIR (1 INCH BELOW THE ANCHORS) TO 9 INCH LONG VERTICAL SPACERS (MAX. 6 FEET APART).
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 INCH ANCHORS (MIN. 2 FEET LENGTH), EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

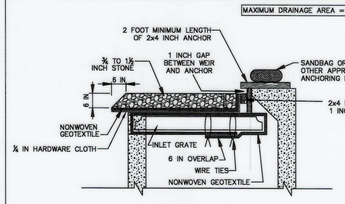
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
MODIFIED FOR USE IN BALTIMORE COUNTY

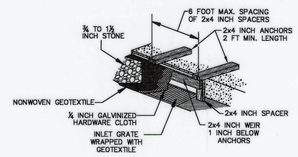
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	MODIFIED – 2012	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

MAXIMUM DRAINAGE AREA = ¼ ACRE





1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
MODIFIED FOR USE IN BALTIMORE COUNTY

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	MODIFIED – 2012	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2 INCH X 4 INCH WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH IT TO THE WEIR.
6. NAIL THE 2X4 INCH WEIR (1 INCH BELOW THE ANCHORS) TO THE 9 INCH LONG VERTICAL SPACERS, LOCATED BETWEEN THE WEIR AND INLET FACE (MAXIMUM 4 FEET APART).
7. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO THE 2X4 INCH ANCHORS (MINIMUM 2 FOOT LENGTHS) AT SPACER LOCATIONS. EXTEND 2X4 INCH ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
8. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
9. FORM THE ¼ INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
10. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
11. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE THE GEOTEXTILE AND STONE.

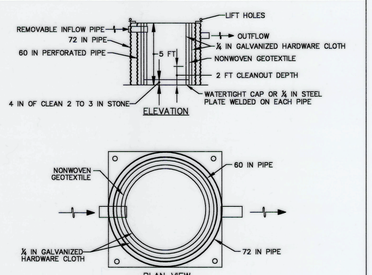
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
MODIFIED FOR USE IN BALTIMORE COUNTY

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	MODIFIED – 2012	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-3 PORTABLE SEDIMENT TANK

STANDARD SYMBOL: PST



CONSTRUCTION SPECIFICATIONS

1. PROVIDE 1 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP CAPACITY. REQUIRED STORAGE VOLUME MAY BE ATTAINED BY PLACEMENT OF TANKS IN PARALLEL WITH INFLOW EVENLY DISTRIBUTED AMONG TANKS. OVERTOPPING OF TANKS IS NOT PERMITTED.
2. USE 60 INCH CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER FOR THE INNER PIPE. LINE PIPE WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, SANDWICHED BETWEEN, AND ATTACHED TO, ¼ INCH HARDWARE CLOTH.
3. OVERLAP GEOTEXTILE 8 INCHES MINIMUM AT VERTICAL SEAM AND AT THE BOTTOM PLATE.
4. ANCHOR GEOTEXTILE AT BOTTOM OF TANK WITH 4 INCHES OF 2 TO 3 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE.
5. USE 72 INCH CORRUGATED METAL OR PLASTIC OUTER PIPE WITH PERMANENT OUTFLOW PIPE WITH INVERT LOWER THAN INFLOW PIPE
6. INFLOW PIPE MUST DISCHARGE INTO INNER PIPE AND BE REMOVABLE.
7. PLACE TANK ON LEVEL SURFACE AND DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A PORTABLE SEDIMENT TANK REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT FROM INNER PIPE WHEN IT REACHES TWO FEET IN DEPTH. IF SYSTEM CLOGS, PULL OUT INNER PIPE, REMOVE ACCUMULATED SEDIMENT, AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

H-1 STANDARDS AND SPECIFICATIONS FOR MATERIALS

Table H.1: Geotextile Fabrics

		WOVEN SLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM AVERAGE ROLL VALUE[1]					
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%
Trapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
Puncture Strength	ASTM D-6241	450 lb		900 lb		450 lb	
Apparent Opening Size[2]	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Sieve 70 (0.21 mm)		U.S. Sieve 70 (0.21 mm)	
Permittivity	ASTM D-4491	0.05 sec^{-1}		0.28 sec^{-1}		1.1 sec^{-1}	
Ultraviolet Resistance Retained at 500 hours	ASTM D-4355	70% strength		70% strength		70% strength	

[1] All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross direction.

[2] Values for AOS represent the average maximum opening.

Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network so the filaments or yarns retain their dimensional stability relative to each other, including selvages.

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

CONTRACT COMPLETION BOX

CONTRACTOR: _____
DATE COMPLETED: _____
INSPECTOR: _____
PIPE MATERIAL: _____
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE — PIPE DIAMETER(S): _____
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT — PIPE DIAMETER(S): _____
☐ OTHER (SPECIFY): — PIPE DIAMETER(S): _____

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 8-6-25
DATE

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20615, EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.
DESIGN BY: DS
AS-BUILT PER RECORD PRINT
DRAWN BY: TL
BY: DATE:
CHKD BY: SB

DATE: 7-27-25

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET | POSITION SHT

DRAWING SCALE: PLAN SCALE: 1" = 1' ; PROFILE SCALE:

DPW & TRANSPORTATION: SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY: / DATE REVIEWED:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OR HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK

EROSION AND SEDIMENT CONTROL DETAILS

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
SC-6 OF 9	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 41 OF 44	
DRAWING NUMBER	2023-2744
FILE NO.:	

DWG. FILENAME: T:\Baltimore County Utilities\800-1222.03 Back River Neck Road Phase 3\DWGs\pES-D001-BRNR.dwg

STANDARD NOTES

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 herein.
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 must be completed within: a.) Three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than three horizontal to one 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 entrance(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.

PART 1 – GENERAL

1.1 GENERAL. This item provides specifications for seeding of areas as designated on the Contract Drawings or as directed by the MAA Engineer. The species, mixtures, and methods of application provided in this item have been designed to reduce the attractiveness of airport grounds to wildlife. Only MAA-approved species, mixtures, and rates of application provided in this item may be used to establish vegetation. All activities associated with seeding including soil preparation, seed application, fertilization, and maintenance shall also conform to these approved standards.

PART 2 – PRODUCTS

2.1 SEED. All seed shall comply with the Maryland Seed Law (Agricultural Article of the Annotated Code of Maryland). Only MAA-approved species, mixtures, and rates of application provided in this item may be used to establish vegetation. Seed will be sampled and tested by an inspector from the Turf and Seed Section, Maryland Department of Agriculture (MDA), Annapolis, Maryland. All lawn and turf seed and mixtures shall be free from the following state-listed restricted noxious weeds:

Corn Cockle (Agrostemma githago),
Bentgrass (Agrostis spp.) ,
Redtop (Agrostis gigantea) 1
Wild Onion (Allium canadense),
Wild Garlic (Allium vineale),
Bindweed (Calstegia spp.),
Dodder (Cuscuta spp.),
Bermuda Grass (Cynodon dactylon),
Orchardgrass (Dactylis glomerata),
Tall Fescue (Festuca arundinacea) 1
Meadow Fescue (Festuca pratensis) 1,
Velvetgrass (Holcus lanatus),
Annual Bluegrass (Poa annua),
Rough Bluegrass (Poa trivialis)1,
Timothy (Phleum pratense), and
Johnson Grass (Sorgum halepense).

Restricted noxious-weed seed may not exceed 0.5 percent by weight of any seed mixture. In addition, all seeds shall be free from the following listed prohibited noxious weeds:
Balloonvine (Cardiospermum halicacabum), Quackgrass (Elytrigia repens), Sicklepod (Senna obtusifolia), Sorghum (Sorghum spp.), Canada Thistle (Cirsium arvense), Plumeless Thistle (Carduus spp.-includes musk thistle and curled thistle), and Serrated Tussock (Nassella trichotoma).

A. APPROVED SPECIES. The following table contains species that are approved by MAA for use in seed mixtures. Purity requirements and germination requirements are also provided.

APPROVED PLANT SPECIES
MAA SEED MIXTURES

	Purity[a] Not Less than %	Minimum % Germination[b]	Pure Live Seed Factor
Certified Turf – Type Tall Fescue (Festuca arundinacea)	98	90	1.13
Certified Kentucky Bluegrass (Poa Pratensis)	90	80	1.39
Fowl Bluegrass (Poa palustris)	90	80	1.39
Hard Fescue (Festuca longifolia)	98	90	1.13
Chewings Red Fescue (Festuca rubra commutata)	98	90	1.13
Annual Ryegrass (Lolium multiflorum)	95	85	1.24
Perennial Ryegrass (Lolium perenne)	90	80	1.39
Creeping Bentgrass (Agrostis stolonifera)	90	80	1.39
Switchgrass (Panicum virgatum)	90	80	1.39
Little Bluestem (Andropogon scoparius)	62	94	1.71

[a] The percentage weight of pure seed present shall be free of any agriculture seeds, inert matter, and other seeds distinguishable by their appearance.
[b] The percentage of germination shall be actual sprouts and shall not include hard seeds unless specifically permitted by the MAA Engineer.

B. PURITY. All seed shall be free of all state-designated noxious weeds listed in Paragraph 2.1.1 and conform to MAA specifications. To ensure compliance, MAA requires sampling and testing of seed by the Turf and Seed Section, Maryland Department of Agriculture (MDA). The Contractor shall furnish the MAA Engineer with duplicate signed copies of a statement by the Turf and Seed Section certifying that each lot of seed has been laboratory tested within six months of date of delivery. This statement shall include the following information:

- Name and address of laboratory,
- Date of test,
- Lot number,
- The results of tests as to name, percentages of purity and of germination,
- Percentage of weed content for the seed furnished,
- and, in the case of a mixture, the proportions of each kind of seed.

Seed shall be furnished in standard containers with the seed name, lot number, net weight, percentages of purity, germination rate and hard seed, and percentage of maximum weed seed content clearly marked. All seed containers shall be tagged with a MDA supervised mix program seed tag.

C. MIXTURES AND APPLICATION RATES. Only seed mixtures and application rates described in this item may be used unless otherwise approved by the MAA Engineer. Seed mixtures shall meet criteria detailed in Paragraph 903-2.1.2. Seed mixtures have been formulated to minimize the attractiveness of areas to wildlife of common landscape scenarios. The appropriate seed mixture for application will be designated based on environmental conditions and may vary from site to site. All planting rates listed are in pounds of Pure Live Seed (PLS) per acre.

Seed mixtures, application scenarios, and rates for permanent cool-season grasses are as follows:

a. Seed Mixture No. 1 – relatively flat areas (grade less than 4:1) subject to normal conditions and regular mowing (Application rate = 234 lbs PLS/acre);
b. Seed Mixture No. 2 – sloped areas (grade greater than 4:1) not subject to regular mowing (Application rate = 115 lbs PLS/acre); and
c. Seed Mixture No. 3 – wetlands and their associated buffer zones (Application rate = 131 lbs PLS/acre).

Seed Mixture No. 1: Relatively flat areas regularly mowed and exposed to normal conditions (Application rate = 234 lbs PLS/acre)

Seed	Rate of Application (lbs of PLS/acre)
85% Certified Turf-Type Tall Fescue	192
10% Certified Kentucky Bluegrass	28
5% Perennial Ryegrass	14
Supplemental Seed	
Annual Ryegrass	25

Seed Mixture No. 2: Sloped areas not subject to regular mowing (Application rate = 115 lbs PLS/acre)

Seed	Rate of Application (lbs of PLS/acre)
75% Hard Fescue	85
20% Chewings Fescue	23
5% Kentucky Bluegrass	7
Supplemental Seed	
Redtop	3

Seed Mixture No. 3 – Wetland areas and their associated buffer zones (Application rate = 131 lbs PLS/acre)

Seed	Rate of Application (lbs of PLS/acre)
60% Creeping Bent Grass	83
30% Fowl Bluegrass	34
10% Switchgrass	14
Supplemental Seed	
Redtop	3

D. SEEDING SEASONS. Application of seed and seed mixtures shall occur within a specified seeding season unless otherwise approved by the MAA Engineer. No seed or seed mixtures are to be applied on frozen ground or when the temperature is at or below 35 degrees Fahrenheit (7.2 degrees Centigrade). Under these conditions, a layer of mulch should be applied in accordance with Item 905, Mulching, to stabilize the site, and permanent seeding should occur in the subsequent seeding season. Seed application may occur during the seeding season dates listed below. Seeding performed after October 20 should be a temporary cover of annual ryegrass and followed by overseeding of the appropriate seed mixture during the spring seeding season.

SEEDING SEASONS
Permanent Cool-Season Grasses March 1 to April 20 and August 1 to October 20, inclusive
Temporary Cover of Annual Rye/Redtop March 1 to April 30 and August 1 to November 30, inclusive
Temporary Cover of Warm-Season Grasses (Little Bluestem only) May 1 to July 31, inclusive. Rate of application should be 13.6 lbs. PLS per acre.

Seeding seasons are based on typical years and can be subject to variation, which may be modified by the MAA Engineer based on seasonal trends.

If the time required to complete any of the operations necessary under this item, within the specified planting season or any authorized extensions thereof, extends beyond the Contract period, then such time will be charged against the Contract time, and liquidated damages will be enforced with respect to this portion of work.

2.2 LIME. Lime shall consist of ground limestone and contain at least 85 percent total carbonates. Lime shall be ground to a fineness so that at least 90 percent will pass through a No. 20 mesh sieve and 50 percent will pass through a No. 100 mesh sieve. Dolomitic lime or a high magnesium lime shall contain at least 10 percent magnesium oxide. Lime shall be applied by approved methods detailed in Section 903-3.3 of this item. The rate of application will be based on results of soil tests.

2.3 FERTILIZER.

Section 2.3 is reproduced verbatim from the Maryland Department of Agriculture's Fertilizer Law page.

Fertilizer shall be standard commercial fertilizer (supplied separately or in mixtures) and meet the requirements of applicable state and federal laws (O-F-241) as well as standards of the Association of Official Agricultural Chemists.
Nitrogen-Phosphorus-Potassium (N-P-K) concentrations shall be determined from analysis of soil samples. Methods of fertilizer application shall conform to standards described in Section 903-3.3 of this item. Fertilizer shall be furnished in standard containers that are clearly labeled with name, weight, and guaranteed analysis of the contents (percentage of total nitrogen, available phosphoric acid, and water-soluble potash). Mixed fertilizers shall not contain any hydrated lime or cyanamide compounds. Fertilizers failing to meet the specified analysis may be approved by the MAA Engineer, providing sufficient materials are applied to conform with the specified nutrients per unit of measure without additional cost to MAA.

The fertilizers may be supplied in the following forms:

a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
b. A finely ground fertilizer soluble in water, suitable for application by power sprayers; or
c. A granular or pellet form suitable for application by blower equipment.

The rate of application will be based on results of soil tests performed by the University of Maryland Soil Testing Laboratory. By law, persons applying fertilizer to State-owned land shall follow the recommendations of the University of Maryland as set forth in the "Plant Nutrient Recommendations Based on Soil Tests for Turf Maintenance" and the "Plant Nutrient Recommendations Based on Soil Tests for Sod Production" (see attached Reference, "Approved Installation Methods"). Application of the fertilizer shall be in a manner that is consistent with the recommendations of the University of Maryland Cooperative Extension.

Per Maryland's Lawn Fertilizer law, which took effect October 1, 2013, lawn care professionals hired to apply fertilizer to lawns must be certified by MDA or work under the direct supervision of an individual who is certified. The following fertilizer restrictions apply:

FERTILIZER RESTRICTIONS

- Everyone must follow University of Maryland fertilizer recommendations.
- A single fertilizer application may not exceed 0.9 pound total nitrogen per 1,000 sq ft which can include no more than 0.7 pound of soluble nitrogen per 1,000 sq ft.
- Visit extension.umd.edu/hgic for seasonal and yearly nitrogen recommendations.
- Lawn care pros should consult the Maryland Professional Lawn Care Manual.
- Phosphorus may only be applied when a soil test indicates that it is needed or when a lawn is being established, patched or renovated.
- Fertilizer may not be used to de-ice walkways and driveways.
- It is against the law to apply fertilizer to sidewalks or other impervious surfaces. Fertilizer that lands on these surfaces must be swept back onto the grass or cleaned up.
- No fertilizer applications within 10 to 15 feet of waterways.
- Do not fertilize lawns if heavy rain is predicted or the ground is frozen.
- Do not apply lawn fertilizer between November 15 and March 1.
- Enhanced efficiency controlled release products may be applied at no more than 2.5 pounds per year, with a maximum monthly release rate of 0.7 pound of N per 1,000 sq ft.

FOR LAWN CARE PROFESSIONALS ONLY
- From November 16 through December 1 only water soluble nitrogen may be applied to lawns at a maximum rate of 0.5 pound per 1,000 sq ft.
- Natural organic or organic products containing phosphorus may not exceed 0.25 pound of phosphorus per 1,000 sq ft with an annual maximum of 0.5 pound of phosphorus per 1,000 sq ft. These products may not be applied when soils test at "optimum to excessive" for phosphorus levels.

PART 3 – EXECUTION

3.1 GENERAL. This section provides approved methods for the application of and includes standards for seedbed preparation, methods of application, and equipment to be used during the process. Lime and fertilizer shall be applied to seeded areas before the seed is spread. The mixture of seed will be determined for sites based on environmental conditions as described in Paragraph 2.1.C.

3.2 ADVANCE PREPARATION. Areas designated for seeding shall be properly prepared in advance of seed application. The area shall be tilled and graded prior to application of lime and fertilizer, and the surface area shall be cleared of any stones larger than 1 inch in diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. Damage caused by erosion or other forces that occur after the completion of grading shall be repaired prior to the application of fertilizer and lime. The Contractor will repair such damage, which may include filling gullies, smoothing irregularities, and repairing other incidental damage before beginning the application of fertilizer and ground limestone.

If an area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, all grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches (125 mm). Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a satisfactory condition by discing or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

An area to be seeded shall be considered a satisfactory seedbed (without requiring additional treatment) if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches; the top 3 inches of soil is loose, friable, and is reasonably free from large clods, rocks, large roots, or other undesirable matter; appropriate amounts of fertilizer and lime have been added; and, if it has been shaped to the required grade immediately prior to seeding. For slope areas steeper than 3:1 (three horizontal to one vertical), the subsoil shall be loose to a depth of 1 inch.

After completion of tilling and grading, lime and fertilizer shall be applied within 48 hours according to the specified rate (Paragraphs 2.2 2.3) and methods (Paragraphs 3.3.A and 3.3.B) approved by MAA. The seeding mixture shall be applied within 48 hours after application of lime and fertilizer. To firm the seeded areas, cultipacking shall occur immediately after seeding.

3.3 METHODS OF APPLICATION. Lime, fertilizer, and seed mixes shall be applied by either the dry or wet application methods that have been approved by MAA and are detailed below.

A. DRY APPLICATION METHOD

a. Liming. If soil test results indicate that lime is needed, the following procedures will be used: following advance preparation of the seedbed, lime shall be applied prior to the application of any fertilizer or seed and only on seedbeds that have been prepared as described in paragraph 903-3.2. The lime shall be uniformly spread and worked into the top 2 inches of soil, after which the seedbed shall be properly graded again.

b. Fertilizing. Following advance preparations (and liming if necessary), fertilizer shall be spread uniformly at the specified rate to provide no less than the minimum quantity stated in Paragraph 903-2.3.

c. Seeding. Seed mixtures shall be sown immediately after fertilization of the seedbed. The fertilizer and seed shall be lightly raked to a depth of 1 inch for newly graded and disturbed areas.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted using a cultipacker or an approved lawnroller.

B. WET APPLICATION METHOD/HYDROSEEDING

a. General. The Contractor may elect to apply seed and fertilizer as per Paragraphs c and d of this section in the form of an aqueous mixture by spraying over the previously prepared seedbed using methods and equipment approved by MAA. The rates of application shall be as specified in Paragraphs 2.1 through 2.3.

b. Spraying Equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge capable of reading increments of 50 gallons or less over the entire range of the tank capacity. The liquid level gauge shall be mounted so as to be visible to the nozzle operator at all times. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A - ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. Wost 8-6-25
DATE

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES	

SEAL

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615 EXPIRATION DATE 10/21/26
ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.
AS-BUILT PER RECORD PRINT
BY:
DATE:
DESIGN BY: DS
DRAWN BY: TL
CHKD BY: SB
DATE : 7-27-25

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET	POSITION SHT

DRAWING SCALE
PLAN SCALE: 1" = 1'
PROFILE SCALE:

DPW & TRANSPORTATION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023-2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24-INCH AND 16-INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OR HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK

EROSION AND SEDIMENT CONTROL NOTES

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
SC-7 OF 9	23186-WXO
JOB ORDER NUMBER	231-203-0067-0783
SHEET 42 OF 44	
DRAWING NUMBER	2023-2745
FILE NO.:	

DWG. FILENAME: T:\Baltimore County Utilities\600-122.03 Back River Neck Road Phase 3\UW\ps\PS-D002-BRNK.dwg

STANDARD NOTES

The spraying equipment shall also include a pressure pump capable of delivering 100 gallons per minute at a pressure of 100 pounds per square inch. The pressure pump assemblage shall be configured to allow the mixture to flow through the tank when not being sprayed from the nozzle. All pump passages and pipelines shall be capable of providing clearance for 5/8–inch solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. A pressure gauge shall be connected to and mounted immediately behind the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick–acting, three–way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture to be supplied so that mixtures may be properly sprayed over a distance varying from 20 feet to 100 feet. One shall be a close–range ribbon nozzle, one a medium–range ribbon nozzle, and one a long–range jet nozzle. For ease of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick–release couplings. In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime shall be applied separately in the quantity specified, prior to the fertilizing and seeding operations. Lime should be added to and mixed with water at a concentration not to exceed 220 pounds of lime for every 100 gallons of water. After lime has been applied, the tank should be emptied and rinsed with fresh water. Seed and fertilizer shall be mixed together in the relative proportions specified, but the resulting concentration should not exceed 220 pounds of mixture per 100 gallons of water and should be applied within 30 minutes to prevent fertilizer burn of the seeds.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. Brackish water shall not be used at any time. The Contractor shall identify all sources of water to the MAA Engineer at least two weeks prior to use. The Engineer may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within 30 minutes from the time they were mixed or they shall be wasted and disposed of at a location acceptable to the Engineer.

d. Spraying. Lime shall be sprayed upon previously prepared seedbeds on which the lime, if required, shall have been worked in already. The mixtures shall be applied using a high–pressure spray which shall always be directed upward into the air so that the mixtures will fall to the ground in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner that might produce erosion or runoff. Particular care shall be exercised to ensure that the application is made uniformly, at the prescribed rate, and to guard against misses and overlapped areas. Predetermined quantities of the mixture shall be used in accordance with specifications to cover specified sections of known areas. To checks the rate and uniformity of application, the applicator will observe the degree of wetting of the ground or distribute test sheets of paper or pans over the area at intervals and observe the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the MAA Engineer, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

3.4 MAINTENANCE OF SEEDED AREAS. The contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the Engineer. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work performed out of season, the Contractor will be required to establish a good stand of grass of uniform color and density to the satisfaction of the Engineer. If at the time when the contract has been otherwise completed it is not possible to make an adequate determination of the color, density, and uniformity of such stand of grass, payment for the unaccepted portions of the areas seeded out of season will be withheld until such time as these requirements have been met.

PART 4 – METHOD OF MEASUREMENT

4.1 The quantity of seeding to be paid for shall be the numbers of acres (or square yard) or portions thereof, measured on the ground surface, completed, and accepted. Separate measurements will be made of the areas seeded with the several seed mixtures specified. No distinction will be made between "graded" areas and "undisturbed" areas in arriving at the total acreage (or square yard) for each area seeded with specified seed mixes. No separate measurements will be made of graded and undisturbed areas for purposes of separate payments.

PART 5 – BASIS OF PAYMENT

5.1 The quantity, determined as provided above, will be paid for at the contract unit price per acre (or square yard), or fraction thereof, for seeding, which price and payment shall be full compensation for furnishing and placing all material, including fertilizers, liming if needed, and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

329201X.1	Seeding Mixture No. 1 – per acre
329201X.2	Seeding Mixture No. 1 – per square yard
329201X.3	Seeding Mixture No. 2 – per acre
329201X.4	Seeding Mixture No. 2 – per square yard
329201X.5	Seeding Mixture No. 3 – per acre
329201X.6	Seeding Mixture No. 3 – per square yard
329201X.7	Amendments – per acre
329201X.8	Amendments – per square yard
329201X.9	Fertilizer – per acre
329201X.10	Fertilizer – per square yard

PART 1 – GENERAL

1.1 DESCRIPTION

This item provides standards for furnishing, hauling, and placing approved live sod on prepared areas as indicated on site plans. Sod will only be applied to landscape areas and shall be mowed frequently. All sodding activities shall conform to these specifications at the locations shown on site plans or as directed by the MAA Engineer.

PART 2 – PRODUCTS

2.1 SOD. Sod furnished by the Contractor shall have a good cover of living or growing grass. This includes grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas in which the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. Grass sod shall be Maryland–certified or approved and shall comply with the Maryland Sod Law of the Annotated Code of Maryland (Agricultural Article Sections 9–101 through 9–110). Each load of sod shall bear a Maryland State Approved or Certified label at the time of delivery on the job. Sod shall be either: (1) Bluegrass sod containing not less than 80 percent Kentucky bluegrass (Poa pratensis) and not more than 20 percent Red Fescue (Festuca rubra); or (2) certified turf type–tall fescue (Festuca arundinacea) sod containing not less than 80 percent certified turf type–tall fescue (Festuca arundinacea) grass and not more than 20 percent Kentucky Bluegrass (Poa pratensis) and Red Fescue (Festuca rubra). Any vegetation more than 6 inches in height shall be mowed to a height of 3 inches or less before sod is lifted. Sod, including the soil containing the roots and the emergent plant growth, shall be cut uniformly to a thickness not less than that specified in Section 904–3.4.

2.2 LIME. Lime shall conform to standards described in Section 903, "Seeding."

2.3 FERTILIZER. Fertilizers and application methods shall conform to the standards previously described in Section 903, "Seeding."

2.4 WATER. All water shall conform to the standards previously described in Paragraph 902–2.4, "Water."

2.5 SOILS FOR REPAIR. All soils for repairs shall conform to the standards previously described in Paragraph 901–2.3, "Soils for Repair."

PART 3 – EXECUTION

3.1 GENERAL. Areas to be sodded shall be clearly indicated by site plans. Areas requiring special ground surface preparation, such as tilling, and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the MAA Engineer before sodding operations begin. The Contractor shall demonstrate to the MAA Engineer, before starting the various operations, that the application of required materials, such as fertilizer and limestone, will be made at the specified rates.

3.2 ADVANCE PREPARATION. If the area to be sodded is sparsely vegetated, weedy, barren and unworked, or packed and hard, all existing herbaceous vegetation shall be removed. The soil shall then be scarified or otherwise loosened to a depth of at least 5 inches (125 mm). Clods shall be pulverized, and the top 3 inches (75 mm) of soil shall be worked into a satisfactory bed by discing or use of cultipackers, rollers, drags, harrows, or other equipment approved by the MAA Engineer. The area shall then be properly graded as indicated by site plans.

After grading of areas is complete and prior to the application of fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 1 inch in diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass–covered areas. If any damage by erosion or other causes has occurred after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be sodded will be considered a satisfactory seedbed without requiring additional treatment if it recently has been thoroughly loosened and worked to a depth of at least 5 inches as a result of grading operations and, if immediately prior to sodding, the top 3 inches of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and is shaped to the required grade. For slope areas steeper than 3:1 (three horizontal to one vertical) the subsoil shall be loosened to a depth of 1 inch. Lime and fertilizer shall be applied within 48 hours after tilling as described in 903–3.3 and 3.4. The sod shall be applied immediately after the lime and fertilizer have been worked into the soil.

3.3 APPLICATION OF FERTILIZER AND LIME. Following ground surface preparation, fertilizer shall be uniformly spread as described in Section 903–3.3 at a rate that will provide at least the minimum quantity of fertilizer required. If the use of ground limestone is specified, it shall be spread as described in Section 903–3.3, "Methods of Application"; at a rate that will provide at least the minimum quantity of lime required. These materials shall be incorporated into the soil to a depth of at least 2 inches by discing, raking, or other methods approved by the MAA Engineer. Any stones larger than 1 inch in diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

3.4 OBTAINING AND DELIVERING SOD. The sod shall be well rooted, grown in the State of Maryland, and field grown for a minimum of 12 months. After inspection and approval of the sod by the MAA Engineer, the sod shall be cut with approved sod cutters to such a thickness that after placement on the prepared bed, but before compaction, it shall have a uniform attached soil thickness of at least 0.75 inch. Sod sections or strips shall be cut in uniform widths of at least 14 inches and in lengths of at least 18 inches, but not to lengths that might inhibit placement without breaking, tearing, or loss of soil. Where strips are required, the sod shall be rolled or folded undamaged, with the grass facing inward. The Contractor may be required to mow high grass before cutting sod.

Sod shall be transplanted within 24 hours from the time of harvest unless circumstances beyond the Contractor's control make storage necessary. In such cases, sod shall be stacked, kept moist, protected from exposure to the air and sun, and shall be kept from freezing. Sod shall only be harvested and moved when soil moisture conditions are such that favorable results can be expected. Where soil is too dry, permission to cut sod may be granted only after it has been sufficiently watered to moisten the soil to the depth at which the sod will be cut.

3.5 PLACING SOD. Sodding shall only be performed during seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the MAA Engineer, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches immediately prior to laying the sod.

The sod shall be moist and shall be placed on a bed, prepared according to Paragraphs 904–3.2 "Advance Preparation", and 904–3.3, "Application of Fertilizer and Lime" by hand. Pitchforks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be placed carefully by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, starting at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and ensure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod has been displaced during sodding operations, the workmen replacing it shall work from ladders or treaded planks to prevent further displacement. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately 1.5 inches below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than 1:2.5 and in V–shaped or flat–bottom ditches or gutters, the sod shall be secured with wooden pegs at least 18 inches long and a cross–sectional area of at least 0.75–square inch, or by other methods of securing sod approved by the MAA Engineer. The pegs shall be driven flush with the surface of the sod. The pegs shall be of sufficient number and at adequate spacing to secure sod from displacement. The use of sod staples or other means of securing the sod from displacement may be approved by the MAA Engineer provided satisfactory results are expected.

3.6 WATERING. Adequate water and watering equipment shall be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

3.7 ESTABLISHING TURF.

3.7.1 GENERAL. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue to provide such care until final inspection and acceptance of the work.

3.7.2 PROTECTION. All sodded areas shall be protected against traffic or other use by warning signs and barricades approved by the MAA Engineer.

3.7.3 MOWING. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing of specific areas. In the event that weeds or other undesirable vegetation establishes to such an extent that, either cut or uncut, they threaten to smother the sodded species, the weeds shall be mowed and the clippings raked and removed from the area. Spot applications of an appropriate herbicide by a licensed applicator shall be approved by the MAA Engineer to remove invasive species. The appropriate herbicide shall be determined on a case–by–case basis, depending on the location and type of weed.

3.7.4 REPAIR. When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re–establish the grade and the condition of the soil and shall then be re–sodded as specified in Paragraph 904–3.5, "Placing Sod", at the Contractor's expense.

PART 4 – METHOD OF MEASUREMENT

4.4 This item will be measured on the basis of the area in square yards of the surface covered with sod and accepted.

PART 5 – BASIS OF PAYMENT

5.1 This item will be paid for on the basis of the contract unit price per square yard for sodding. The price will provide full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item 329202X.1	Sodding–per square yard.
Item 329202X.2	Amendments – per square yard
Item 329202X.3	Fertilizer – per square yard

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL:
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):
☐ BONDED COATED PIPE PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT PIPE DIAMETER(S):
☐ OTHER (SPECIFY): PIPE DIAMETER(S):

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. Wood 8-6-25
DATE

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND SHAWN T. BURNETT No. 20615 REGISTERED PROFESSIONAL ENGINEER

DATE : 7-27-25

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615 EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.
DESIGN BY: DS
AS–BUILT PER RECORD PRINT
DRAWN BY: TL
BY:
DATE:
CHKD BY: SB

REVISION	BY	DATE

P.W.A. NO.
R.O.W NO.

KEY SHEET	POSITION SHT

DRAWING SCALE
PLAN SCALE: 1" = 1'
PROFILE SCALE:

DPW & TRANSPORTATION
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:	SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES							SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES
DATE REVIEWED:								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24–INCH AND 16–INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OR HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK — EROSION AND SEDIMENT CONTROL NOTES — ELECTION DIST. NO.: 15C7

SHEET DESIGNATION	CONTRACT NUMBER
SC–8 OF 9	23186–WXO
	JOB ORDER NUMBER
	231–203–0067–0783
	SHEET 43 OF 44
	DRAWING NUMBER
	2023–2746
	FILE NO.:

BALTIMORE COUNTY MARYLAND

DWG. FILENAME: T:\Baltimore County Utilities\600–122.03 Back River Neck Road Phase 3\DWGs\pES–D003–BRNR.dwg

STANDARD NOTES

PART 1 – GENERAL

1.1 DESCRIPTION. This item provides the Contractor with MAA–approved specifications for mulch and the application of mulch including distribution of mulch and securing of mulched areas. Areas to be mulched will be clearly shown on site plans or otherwise designated by the MAA Engineer.

PART 2 – PRODUCTS

2.1 TYPES OF MULCH. Acceptable mulch shall be composed of the materials listed below or composed of any locally available materials that are similar to those specified and approved by the MAA Engineer. Low–grade, shalely, soiled, partially rotted hay, straw, or other materials unfit for animal consumption will not be acceptable for use as mulch. Straw or other material that is fresh, excessively brittle, or is in such an advanced stage of decomposition as to smother or retard the planted grass, is not acceptable. Clean, weed–free straw may be used. Mulch materials containing matured seed with the potential to establish and be detrimental to the project or the surrounding area is not acceptable.

a. Shredded Hardwood Bark. Shredded hardwood bark shall consist of hardwood tree bark that has been milled and screened to ensure a maximum 4–inch (100–mm) particle size, provide a uniform texture, and be free from sawdust, toxic substances, and other foreign materials.

b. Wood Chips. Wood chips shall be produced by a chipping machine to a size specified by the MAA Engineer. Chips may not have been subjected to any conditions that would shorten their useful life or cause them to lose any of their value as mulch. Wood chips shall be free from bark, leaves, twigs, wood shavings, sawdust, toxic substances, and other foreign material.

c. Wood Cellulose Fiber. Wood cellulose fiber shall consist of a processed wood product with uniform fiber characteristics. The fiber shall be capable of remaining in a uniform suspension under agitation in water and blending with seed, fertilizer, and other additives to form a homogeneous slurry. The fiber shall perform satisfactorily in hydraulic seeding equipment without clogging or damaging the system. The slurry shall contain a green dye to provide easy visual inspection for uniformity of application.

Certification showing that the fiber material conforms to the following specifications shall be provided by the manufacturer:

Wood Cellulose Fiber Requirements

Particle Length, in. (mm)	Approximately 1/2 (13)
Particle Thickness, in. (mm)	Approximately 1/16 (1.5)
Net dry Weight Content	Minimum as stated on bag
TAPPI* T 509, pH	4.0 to 8.5
Ash Content, TAPPI* Standard T 413, % max	7.0
Water Holding Capacity, % min	90

*Technical Association of Pulp and Paper Industry

The material shall be delivered in packages of uniform net weight of 75 lbs (34 kg) or less and shall be clearly labeled with the name of the manufacturer, net weight, and a supplemental statement of the net weight content.

2.2 INSPECTION. Within five days after acceptance of the bid, the Contractor shall provide representative samples of mulch material to be used to the MAA Engineer and identify the source of the material and quantities of mulch materials available. The samples provided may be used as standards with the approval of the MAA Engineer and any materials brought on the site that do not meet these standards may be rejected.

PART 3 – EXECUTION

3.1 ADVANCE PREPARATION. Before spreading mulch, all large clods, stumps, stones, brush, roots, and other foreign material shall be removed from the area to be mulched. Mulch shall be applied immediately after seeding unless otherwise specified. The application and spreading of mulch may be by hand methods, blower, or other mechanical methods, provided a uniform covering is obtained.

3.2 APPLICATION OF MULCH. The Contractor shall evenly apply mulch materials to areas indicated by site plans or otherwise designated by the MAA Engineer. Cellulose–fiber or wood–pulp mulch shall be applied at the rate of 1,500 pounds (dry weight) per acre. Mulch may be blown on the slopes and use of cutters in the equipment for this purpose will be permitted to the extent that at least 95 percent of the mulch in place on the slope is 6 inches or more in length. When mulch applied by the blowing methods is cut, the loose depth in place shall be 1 to 2 inches. Cellulose fiber or wood–pulp mulch shall be applied as an aqueous mixture by spraying at the rate of 1,500 pounds (dry weight) per acre using spraying equipment approved by the MAA Engineer.

3.3 SECURING MULCH. Mulch shall be held in place by light discing, a thin coating of topsoil, pins, stakes, wire mesh, or other methods approved by the MAA Engineer. If the "peg and string" method is used, the mulch shall be secured with stakes or wire pins driven into the ground on 5–foot centers or less. Binder twine shall be strung between adjacent stakes in straight lines and crossed diagonally over the mulch. The stakes shall be firmly driven nearly flush to the ground to draw the twine down tightly onto the mulch.

3.4 MAINTENANCE OF MULCHED AREAS. The Contractor shall care for mulched areas until final acceptance of the project. Care required may consist of providing protection against traffic or other disturbances by placement of warning signs and/or barricades before or immediately after mulching has been completed.

The Contractor may be required to repair or replace any mulching that is defective or becomes damaged before the project is finished and deemed satisfactory by the MAA Engineer. When, in the judgment of the MAA Engineer, defects or damage result from poor workmanship or failure to meet the requirements of the specifications, the cost of the necessary repairs or replacement will be borne by the Contractor. However, once the Contractor has completed the mulching of an area in accordance with the provisions of the specifications and to the satisfaction of the Engineer, no additional work at his expense will be required. Any subsequent repairs and/or replacements deemed necessary by the Engineer may be made by the Contractor and will be paid for as additional or extra work.

PART 4 – METHOD OF MEASUREMENT

4.1 Mulching will be measured in square yards on the basis of the actual surface area acceptably mulched to depths of 1–, 2–, or 4–inch depths.

PART 5 – BASIS OF PAYMENT

5.1 Payment will be made at the contract unit price per square yard for mulching. This price will provide full compensation for furnishing all materials, for placing and anchoring the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item 329203X.1	Mulching – per square yard at 1–inch depth
Item 329203X.2	Mulching – per square yard at 2–inch depth
Item 329203X.3	Mulching – per square yard at 3–inch depth

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL:	
CATHODIC PROTECTION SYSTEM METHOD (POTABLE WATER ONLY):	
☐ BONDED COATED PIPE	PIPE DIAMETER(S):
☐ N/A – ZINC COATED PIPE WITH POLYETHYLENE ENCASEMENT	PIPE DIAMETER(S):
☐ OTHER (SPECIFY):	PIPE DIAMETER(S):

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 8-6-25
DATE

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES	

SEAL

STATE OF MARYLAND · SHAWN A. BURNETT · NO. 20615 · REGISTERED PROFESSIONAL ENGINEER

DATE : 7-27-25

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20615 EXPIRATION DATE 10/21/26

ENGINEER: SHAWN BURNETT
THE WILSON T. BALLARD CO.
DESIGN BY: DS
AS–BUILT PER RECORD PRINT
DRAWN BY: TL
BY:
DATE:
CHKD BY: SB

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.		

DRAWING SCALE
PLAN SCALE: 1" = 1'
PROFILE SCALE:

DPW & TRANSPORTATION
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES						
DATE REVIEWED:							

BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2023–2704 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION BUREAU OF ENGINEERING & CONSTRUCTION

24–INCH AND 16–INCH WATER MAIN REPLACEMENT – PHASE 3

BACK RIVER NECK ROAD

FROM HOMBERG AVENUE TO NORTH OR HYDE PARK ROAD

SUBDIVISION: BACK RIVER NECK

EROSION AND SEDIMENT CONTROL NOTES

ELECTION DIST. NO.: 15C7

BALTIMORE COUNTY MARYLAND

SHEET DESIGNATION	CONTRACT NUMBER
SC–9 OF 9	23186–WXO
JOB ORDER NUMBER	231–203–0067–0783
SHEET 44 OF 44	
DRAWING NUMBER	2023–2747
FILE NO.:	REV. NO.

DWG. FILENAME: T:\Baltimore County Utilities\800-122.03 Back River Neck Road Phase 3\DWGs\pES-D004-BRNR.dwg