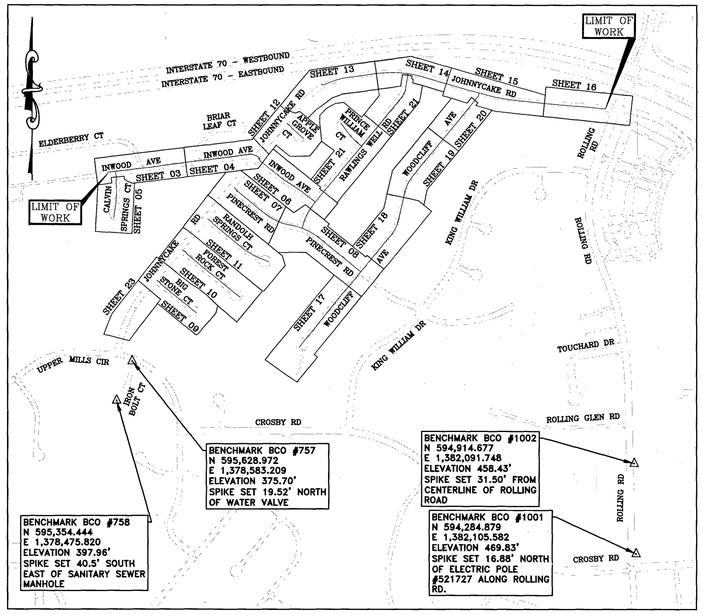
BALTIMORE COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING AND CONSTRUCTION

JOHNNYCAKE ROAD
8–INCH WATERMAIN REPLACEMENT
J.O. 231–203–0035–0622
CONTRACT NO. 20070–WX0

DISTURBED AREA = 43,418 SF (0.997 Acres)

GENERAL NOTES:

1. ALL 4–INCH TO 12–INCH WATER MAINS SHALL BE CLASS 54 DUCTILE IRON PIPE, ZINC COATED WITH A BITUMINOUS TOPCOAT IN ACCORDANCE WITH ANSI/AWWA C150/A21.51–09 OR LATEST. POLYETHYLENE ENCASEMENT SHALL BE PROVIDED.
2. DUCTILE IRON FITTINGS SHALL MEET 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 BASE COAT AND A BITUMINOUS TOPCOAT OR HAVE 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 HEAD 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 "BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS AND DETAILS OF CONSTRUCTION," 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 BALTIMORE COUNTY GRID SYSTEM, NAD 83/91.
6. THE EXISTING UTILITIES AND OTHER EXISTING FEATURES THAT ARE SHOWN ON 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 (PH: 1–800–257–7777). ANY DAMAGE INCURRED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
7. CONTRACTOR SHALL TEST PIT, AT HIS EXPENSE, 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.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, TO ADJUST THE LOCATIONS OF FITTINGS AND THE ELEVATION OF THE PIPELINES AS NECESSARY DUE TO ACTUAL FIELD CONDITIONS. ALL 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 (BOP).
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. COLD PATCH IS NOT ALLOWED AND UNLESS OTHERWISE APPROVED, STEEL PLATING SHALL NOT EXCEED 100 FEET.
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 SERVICE 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. UNLESS OTHERWISE STATED, ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH BALTIMORE COUNTY SOIL CONSERVATION PERMIT 211–COUNTY–18.
16. 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.
17. 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.
18. 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 POLED AND UTILITY FACILITIES.
19. "FULL TRENCH COMPACTION" IS REQUIRED FOR ALL TRENCHES. MAINS SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER EXCEPT WHERE SPECIFIED.
20. 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 MATER VAULT OR REPLACEMENTS DEPENDING ON CONDITION OF THE EXISTING VAULTS. LOCATION OF SERVICE CONDITIONS ARE SHOWN FOR INFORMATION ONLY. LOCATIONS FOR NEW AND/OR REPLACEMENT SERVICES WILL BE DETERMINED IN THE FIELD.
21. 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.
22. 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 @ 410–396–7670". CYCLE OF TEXT TO BE REPEATED EVERY 20 TO 24 INCHES.
23. 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.
24. 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) HOURS BEFORE TAKING FIRE HYDRANT OUT OUR SERVICE.
25. 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.
26. 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.
27. 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.
28. ALL BUSINESSES AND RESIDENTS SHALL BE INFORMED AT LEAST SEVEN (7) DAYS PRIOR TO SHUTDOWN OF THEIR SERVICES.
29. ALL SHUTDOWNS FOR THE TIE–INS OF THE WATER MAIN SHALL BE BRIEF, AFFECTING THE LEAST POSSIBLE SERVICES AND OCCUR BETWEEN 9:00PM AND 6:00AM ON WEEKENDS OR AS DIRECTED BY THE ENGINEER.
30. 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



PROJECT LOCATION MAP

GRAPHIC SCALE

500 0 250 500 1,000

SCALE: 1" = 500'

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.

ABANDONMENT NOTES:

1. THE CONTRACTOR SHALL REMOVE FIRE HYDRANTS AND VALVE FRAMES AND COVERS WHICH ARE TO BE ABANDONED.
2. THE CONTRACTOR SHALL REMOVE WATER METERS WHICH ARE TO BE ABANDONED AND RETURN THEM TO BALTIMORE CITY AS DIRECTED.
3. THE CONTRACTOR SHALL REMOVE VALVE NUTS AND THE TOP PORTIONS OF VALVE VAULTS, METER VAULTS AND ROADWAY BOXES TO BE ABANDONED AND BACKFILL THE AREA.
4. THE CONTRACTOR SHALL RESTORE THE SURFACE WITH MATERIALS APPROPRIATE TO THE SITE AS DIRECTED BY THE ENGINEER.

EMERGENCY MANAGEMENT NOTES:

1. DPW INSPECTORS WILL NOTIFY THE FIRE DEPARTMENT ADMINISTRATIVE DUTY OFFICER (ADO) OF ANY PLANNED WATER OUTAGE. (CONTACT: FIRE_ADO@BALTIMORECOUNTYMD.GOV, 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, DPW INSPECTORS SHALL 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).

BGE UTILITY NOTES:

1. BALTIMORE GAS AND ELECTRIC COMPANY'S (BGE) ELECTRIC AND/OR GAS UTILITIES LOCATED WITHIN THE PROJECT AREA (BGE UTILITY INFORMATION) ARE DEPICTED ON THE PLANS. LOCATIONS, DIMENSIONS, DEPTHS, AND OTHER DETAILS OF ANY SUCH UTILITIES MAY NOT BE AS–BUILT, AND THE INFORMATION SHALL NOT BE RELIED UPON WITHOUT FIELD VERIFICATION. EXCAVATORS MUST EMPLOY 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 REPRESENTATIONS, 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 THIS DOCUMENT, THE RECIPIENT EXPRESSLY ACKNOWLEDGES AND AGREES THAT IT IS NOT RELYING ON THE ACCURACY OF THE SAME.

MAINTENANCE OF TRAFFIC NOTES:

1. PAVEMENT MARKINGS:
   UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER, ALL EXISTING PAVEMENT MARKINGS SHALL REMAIN IN PLACE DURING AND AFTER CONSTRUCTION OR IT SHALL BE REPLACED IMMEDIATELY IN KIND. THIS WILL INCLUDE BOTH TEMPORARY AND PERMANENT PAVEMENT MARKINGS REQUIRED. THE COST TO BE INCLUDED IN THE BID ITEM FOR MAINTENANCE OF TRAFFIC.
2. THE CONTRACTOR MUST HAVE A "CERTIFIED" TRAFFIC CONTROL MANAGER ON SITE DURING ALL PHASES OF CONSTRUCTION AT ALL TIMES. THESE PLANS INCLUDE SUGGESTED CONTROL MEASURES, AND ANY UNSAFE CONDITIONS AND/OR RECOMMENDED MODIFICATIONS TO THE TRAFFIC CONTROL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE BALTIMORE COUNTY INSPECTOR BY THE TRAFFIC CONTROL MANAGER AND ACTION TAKEN IMMEDIATELY.
3. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL ACCIDENTS AND/OR DAMAGE TO PERSONS AND/OR PROPERTY DAMAGE RESULTING FROM HIS OPERATIONS.
4. TRAFFIC SIGNALS, LOOP DETECTORS AND TRAFFIC CAMERAS:
   TRAFFIC SIGNAL SYSTEM SHALL REMAIN IN PLACE AND OPERATIONAL DURING AND AFTER CONSTRUCTION. BALTIMORE COUNTY SHALL OPERATE AND MAINTAIN THE TRAFFIC SIGNALS, LOOP DETECTORS AND TRAFFIC CAMERAS AS REQUIRED.

LIST OF DRAWINGS

SHEET NO.	DRAWING NO.	DESCRIPTION
01	2020–1076	TITLE SHEET
02	2020–1077	KEY SHEET, SEQUENCE OF CONSTRUCTION., VALVE LOCATION MAP & F.H. LAYOUT
03	2020–1078	PLAN & PROFILE – PROP. 8"W (INWOOD AVE.)
04	2020–1079	PLAN & PROFILE – PROP. 8"W (INWOOD AVE.)
05	2020–1080	PLAN & PROFILE – PROP. 4"/8"W (CALVIN SPRINGS CT.)
06	2020–1081	PLAN & PROFILE – PROP. 8"W (INWOOD AVE.)
07	2020–1082	PLAN & PROFILE – PROP. 8"W (PINECREST RD.)
08	2020–1083	PLAN & PROFILE – PROP. 8"W (PINECREST RD.)
09	2020–1084	PLAN & PROFILE – PROP. 4"/8"W (BIG STONE CT.)
10	2020–1085	PLAN & PROFILE – PROP. 4"/8"W (FOREST ROCK CT.)
11	2020–1086	PLAN & PROFILE – PROP. 4"/8"W (RANDOLPH SPRINGS CT.)
12	2020–1087	PLAN & PROFILE – PROP. 8"W (JOHNNYCAKE RD.) & PROP. 4"W (APPLE GROVE CT.)
13	2020–1088	PLAN & PROFILE – PROP. 8"W (JOHNNYCAKE RD.)
14	2020–1089	PLAN & PROFILE – PROP. 8"W (JOHNNYCAKE RD.)
15	2020–1090	PLAN & PROFILE – PROP. 8"W (JOHNNYCAKE RD.)
16	2020–1091	PLAN & PROFILE – PROP. 8"W (JOHNNYCAKE RD.)
17	2020–1092	PLAN & PROFILE – PROP. 8"W (WOODCLIFF AVE.)
18	2020–1093	PLAN & PROFILE – PROP. 8"W (WOODCLIFF AVE.)
19	2020–1094	PLAN & PROFILE – PROP. 8"W (WOODCLIFF AVE.)
20	2020–1095	PLAN & PROFILE – PROP. 8"W (WOODCLIFF AVE.)
21	2020–1096	PLAN – PROP. 8"W (RAWLINS WELL RD.) & PROP. 4"W (PRINCE WILLIAM CT.)
22	2020–1097	PROFILE – PROP. 8"W (RAWLINS WELL RD.)
23	2020–1098	PLAN – PROP. SERVICE TRANSFERS (JOHNNYCAKE RD.), PROFILE – PRINCE WILLIAM CT & F.H. PROFILES
24	2020–1099	WATER SERVICE CONNECTIONS
25	2020–1100	WATER SERVICE CONNECTIONS & FITTING SCHEDULE
26	2020–1101	TRAFFIC AND PAVING DETAILS

LIST OF DRAWINGS

SHEET NO.	DRAWING NO.	DESCRIPTION
27	2020–1102	GRAD., EROS./SED. CONT. – TITLE – SC–01 OF 14
28	2020–1103	GRAD., EROS./SED. CONT. – PLAN – SC–02 OF 14
29	2020–1104	GRAD., EROS./SED. CONT. – PLAN – SC–03 OF 14
30	2020–1105	GRAD., EROS./SED. CONT. – PLAN – SC–04 OF 14
31	2020–1106	GRAD., EROS./SED. CONT. – PLAN – SC–05 OF 14
32	2020–1107	GRAD., EROS./SED. CONT. – PLAN – SC–06 OF 14
33	2020–1108	GRAD., EROS./SED. CONT. – PLAN – SC–07 OF 14
34	2020–1109	GRAD., EROS./SED. CONT. – PLAN – SC–08 OF 14
35	2020–1110	GRAD., EROS./SED. CONT. – PLAN – SC–09 OF 14
36	2020–1111	GRAD., EROS./SED. CONT. – PLAN – SC–10 OF 14
37	2020–1112	GRAD., EROS./SED. CONT. – PLAN – SC–11 OF 14
38	2020–1113	GRAD., EROS./SED. CONT. – DETAILS – SC–12 OF 14
39	2020–1114	GRAD., EROS./SED. CONT. – DETAILS – SC–13 OF 14
40	2020–1115	GRAD., EROS./SED. CONT. – NOTES – SC–14 OF 14

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

- REFERENCE SURVEY BENCHMARK MONUMENTS ON THE SITE:

	STATION#	EAST	NORTH	ELEVATION
•••	BCO#757	1378583.209	595628.972	375.70
•••	BCO#758	1378475.820	595354.444	397.96
•••	BCO#1001	1382105.582	594284.879	469.83
•••	BCO#1002	1382091.748	594914.677	458.43

CONTRACT COMPLETION BOX

Contractor: _____
Date Completed: _____
Inspector: _____
Pipe Material (Pressure Only) _____

DWG. FILENAME:

LOWEST ELEV. TOP OF MAIN = 377.1 FT.
NORMAL OPERATING PRESSURE = 109.5 PSI
TEST PRESSURE = 164.5 PSI
ADC MAP NUMBER = 4700 (C5)
CITY PLAT NUMBER = Z–37
WATER ZONE = CATONSVILLE FOURTH ZONE (630 FT)

CITY OF BALTIMORE			REVISION – CITY OF BALTIMORE
CHIEF, UTILITIES ENGINEERING SECTION DATE	CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	DIRECTOR, DEPT. OF PUBLIC WORKS DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

SEAL: STATE OF MARYLAND – ERIN MCKENNA–STREYLE – REGISTERED PROFESSIONAL ENGINEER – No. 36630

DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022

ENGINEER: ERIN MCKENNA–STREYLE, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
AS–BUILT PER RECORD PRINT
BY: DATE:
DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.	L–SE	03NW28 03NW29 04NW28 04NW29 03NW29 04NW29 04NW27
CONTRACT COMPLETION BOX			AS SHOWN		

DRAWING SCALE: PLAN SCALE: AS SHOWN; PROFILE SCALE: N/A / N/A

DEPARTMENT OF PUBLIC WORKS: APPROVED BY: DIRECTOR, DATE: 9/28/20

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	RJF		SLE	JB	MJM	RZZ
DATE REVIEWED:	9/15/20		9/21/20	9/14/2020	9/17/2020	9/14/2020

BUR. OF ENGINEERING & CONSTRUCTION: APPROVED BY: CHIEF, DATE: 9/21/2020

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8–INCH WATERMAIN REPLACEMENT

JOHNNYCAKE ROAD

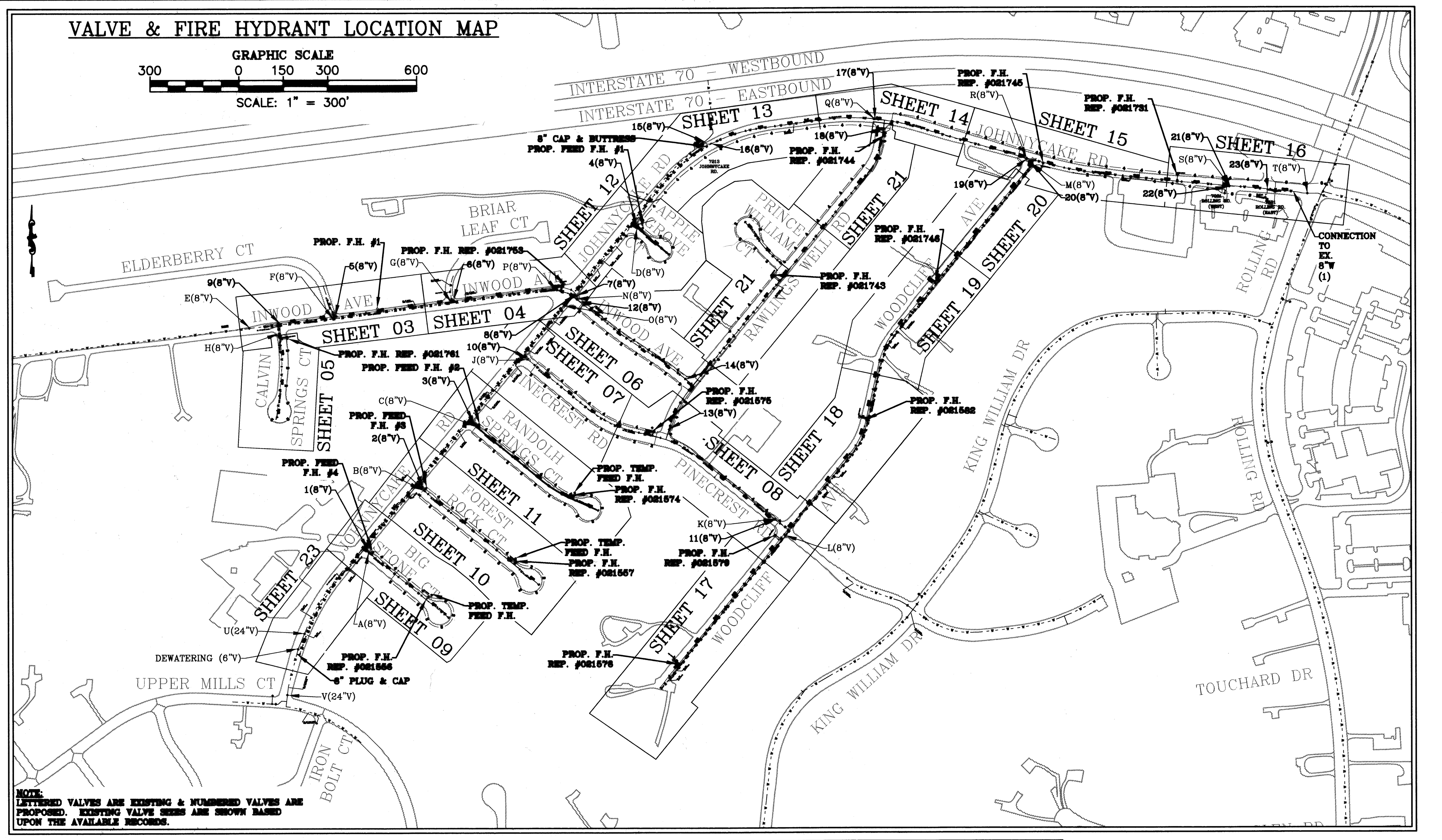
SUBDIVISION: CATONSVILLE/WINDSOR MILL

TITLE SHEET

ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070–WX0
JOB ORDER NUMBER	231–203–0035–0622
SHEET 1 OF 40	
DRAWING NUMBER	2020–1076
FILE NO.: 3	REV. 10/08

VALVE & FIRE HYDRANT LOCATION MAP



LEGEND:

Symbol	Symbol	Line type
TRAVERSE STATION	TELEPHONE UTILITY MANHOLE	EXIST. CHAIN LINK/WIRE FENCE
UNKNOWN MANHOLE	TELEPHONE UTILITY BOX	EXIST. WOOD FENCE
MAILBOX	CIRCULAR GAS CAP	EXIST. PVC FENCE
TEST HOLE	SQUARE GAS CAP	EXIST. WOODS LINE
SOIL BORING	SANITARY MANHOLE	EXIST. GUARDRAIL
WOOD POST	SANITARY CLEANOUT	EXIST. STREAM
SIGN POST	GRINDER PUMP	EXIST. WATER MAIN / VALVE VAULT
FLAGPOLE	SEWER CAP	EXIST. WATER MAIN – TO BE ABANDONED
STORM DRAIN MANHOLE	ELECTRIC UTILITY MANHOLE	EXIST. WATER MAIN – ABANDONED
METAL POST	FLOOD LIGHT	EXIST. WATER HOUSE CONNECTION
BOLLARD	SIGNAL POLE	EXIST. SANITARY SEWER
JIMMY STICK MARKER	SIGNAL POLE WITH CONCRETE BASE	EXIST. STORM DRAIN / MANHOLE
BOUNDARY MARKER	ELECTRICAL OUTLET	EXIST. STORM DRAIN INLET
STONE MARKER PIPE	ELECTRIC METER	EXIST. GAS MAIN
WATER METER	LIGHT POLE	EXIST. GAS HOUSE CONNECTION
EX. FIRE HYDRANT	FOOT PATH LIGHT	EXIST. FIBER OPTIC
EX. WATER VALVE	LAMP HOLE	EXIST. TELEPHONE
EX. WATER CAP – CIRCULAR	ELECTRIC BOX	EXIST. ELECTRIC – BURIED
EX. WATER CAP – SQUARE	CABLE TELEVISION BOX	EXIST. CONDUIT
WATER SPIGOT	SMALL BUSH	EXIST. RIGHT OF WAY
WELL	LARGE BUSH	EXIST. CONTOUR – MAJOR (230)
UTILITY POLE	DECIDUOUS TREE	EXIST. CONTOUR – MINOR (229)
GUY POLE	CONIFEROUS TREE	EXIST. FLOODPLAIN
		PROP. WATER MAIN (PROP. 12"W (DIP))
		PROP. WATER MAIN & WATER SERVICE CONNECTION
		PROP. WATER VALVE
		PROP. WATER REDUCER
		PROP. FIRE HYDRANTS
		PROP. WYE WITH CAP AND PLUG
		PROP. TEMP. BY-PASS PIPING
		PROP. WATER MAIN
		PROP. SUPER SILT FENCE
		PROP. SILT FENCE
		PROP. LIMITS OF DISTURBANCE
		GUY WIRES

SUGGESTED SEQUENCE OF CONSTRUCTION

THIS SUGGESTED SEQUENCE OF CONSTRUCTION IS WRITTEN IN THE ORDER OF WHICH THE ACTIVITIES SHALL BE PERFORMED BY THE CONTRACTOR. THIS SEQUENCE DOES NOT INCLUDE CONCURRENT SEDIMENT AND EROSION CONTROL MEASURES, AND MAINTENANCE OF TRAFFIC ACTIVITIES WHICH SHOULD ALSO BE FOLLOWED AS DESCRIBED IN THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL VERIFY THAT EXISTING WATER MAINS AND VALVES ARE RESTRAINED PRIOR TO THE REMOVAL OF EXISTING WATER MAIN AT CONNECTION LOCATIONS. THE CONTRACTOR SHALL PROVIDE THRUST BLOCKING AND/OR DEADMAN ANCHORS ON THE EXISTING WATER SYSTEM WHERE THERE IS NO EXISTING THRUST PROTECTION AT NO ADDITIONAL COST TO THE COUNTY.

PART I:

BIG STONE CT.

1. INSTALL THE PROPOSED 8–INCH WATER MAIN FROM STA. 0+00 TO STA. 0+35, INCLUDING THE FIRE HYDRANT. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 0+35.
2. INSTALL THE 2–INCH AND 4–INCH TEMPORARY BYPASS PIPING AND TEMPORARY FIRE HYDRANT ALONG BIG STONE CT. DISINFECT AND CHARGE THE BYPASS PIPE AND TEMPORARILY TRANSFER THE SERVICES.
3. CLOSE VALVE 'A'. REMOVE THE EXISTING 4–INCH AND 8–INCH WATER MAINS, AND BLOW–OFF. INSTALL THE NEW 4–INCH AND 8–INCH WATER MAIN FROM STA. 0+38.5 TO STA. 3+64 AND BLOW–OFF IN THE SAME TRENCH.
4. PRESSURE TEST AND DISINFECT THE NEW WATER MAIN.
5. CLOSE VALVE '1' AND REMOVE THE TEMPORARY CAP & BUTTRESS AT STA. 0+35. INSTALL THE 8–INCH WATER MAIN FROM STA. 0+35 TO STA. 0+38.5 TO COMPLETE THE CONNECTION.
6. OPEN VALVE '1' & CHARGE THE MAIN FOR SERVICE. TRANSFER SERVICE CONNECTIONS.
7. REMOVE THE TEMPORARY WATER PIPE AND RESTORE THE AREA.

FOREST ROCK CT.

8. INSTALL THE PROPOSED 8–INCH WATER MAIN FROM STA. 0+00 TO STA. 0+36, INCLUDING THE FIRE HYDRANT. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 0+36.
9. INSTALL THE 2–INCH AND 4–INCH TEMPORARY BYPASS PIPING AND TEMPORARY FIRE HYDRANT ALONG FOREST ROCK CT. DISINFECT AND CHARGE THE BYPASS PIPE AND TEMPORARILY TRANSFER THE SERVICES.
10. CLOSE VALVE 'B'. REMOVE THE EXISTING 4–INCH AND 8–INCH WATER MAINS, AND BLOW–OFF. INSTALL THE NEW 4–INCH AND 8–INCH WATER MAIN FROM STA. 0+40 TO STA. 5+30 AND BLOW–OFF IN THE SAME TRENCH.
11. PRESSURE TEST AND DISINFECT THE NEW WATER MAIN.
12. CLOSE VALVE '2' AND REMOVE THE TEMPORARY CAP & BUTTRESS AT STA. 0+36. INSTALL THE 8–INCH WATER MAIN FROM STA. 0+36 TO STA. 0+40 TO COMPLETE THE CONNECTION.
13. OPEN VALVE '2' & CHARGE THE MAIN FOR SERVICE. TRANSFER SERVICE CONNECTIONS.
14. REMOVE THE TEMPORARY WATER PIPE AND RESTORE THE AREA.

RANDOLPH SPRINGS CT.

15. INSTALL THE PROPOSED 8–INCH WATER MAIN FROM STA. 0+00 TO STA. 0+39, INCLUDING THE FIRE HYDRANT. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 0+39.
16. INSTALL THE 2–INCH AND 4–INCH TEMPORARY BYPASS PIPING AND TEMPORARY FIRE HYDRANT ALONG RANDOLPH SPRINGS CT. DISINFECT AND CHARGE THE BYPASS PIPE AND TEMPORARILY TRANSFER THE SERVICES.
17. CLOSE VALVE 'C'. REMOVE THE EXISTING 4–INCH AND 8–INCH WATER MAINS, AND BLOW–OFF. INSTALL THE NEW 4–INCH AND 8–INCH WATER MAIN FROM STA. 0+43 TO STA. 5+30 AND BLOW–OFF IN THE SAME TRENCH.
18. PRESSURE TEST AND DISINFECT THE NEW WATER MAIN.
19. CLOSE VALVE '3' AND REMOVE THE TEMPORARY CAP & BUTTRESS AT STA. 0+39. INSTALL THE 8–INCH WATER MAIN FROM STA. 0+39 TO STA. 0+43 TO COMPLETE THE CONNECTION.
20. OPEN VALVE '3' & CHARGE THE MAIN FOR SERVICE. TRANSFER SERVICE CONNECTIONS.
21. REMOVE THE TEMPORARY WATER PIPE AND RESTORE THE AREA.

APPLE GROVE CT.

22. INSTALL THE PROPOSED 8–INCH WATER MAIN FROM STA. 0+00 TO STA. 0+42, INCLUDING THE FIRE HYDRANT. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 0+42.
23. INSTALL THE 2–INCH TEMPORARY BYPASS PIPING ALONG APPLE GROVE CT. DISINFECT AND CHARGE THE BYPASS PIPE AND TEMPORARILY TRANSFER THE SERVICES.
24. CLOSE VALVE 'D. REMOVE THE EXISTING 4–INCH WATER MAINS AND BLOW–OFF. INSTALL THE NEW 4–INCH AND 8–INCH WATER MAIN FROM STA. 0+46 TO STA. 1+60 AND BLOW–OFF IN THE SAME TRENCH.
25. PRESSURE TEST AND DISINFECT THE NEW WATER MAIN.
26. CLOSE VALVE '4' AND REMOVE THE TEMPORARY CAP & BUTTRESS AT STA. 0+42. INSTALL THE 8–INCH WATER MAIN FROM STA. 0+42 TO STA. 0+46 TO COMPLETE THE CONNECTION.
27. OPEN VALVE '4' & CHARGE THE MAIN FOR SERVICE. TRANSFER SERVICE CONNECTIONS.
28. REMOVE THE TEMPORARY WATER PIPE AND RESTORE THE AREA.

INWOOD AVE. (WEST SECTION) & CALVIN SPRINGS CT.:

29. INSTALL THE PROPOSED 8–INCH WATER MAIN ALONG INWOOD AVE. FROM STA. 0+07 TO STA. 10+28 INCLUDING ALL PROPOSED VALVES, FITTINGS, TEES, FIRE HYDRANT TEES, FIRE HYDRANT VALVES AND FIRE HYDRANTS. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 0+05.
30. INSTALL THE 8–INCH WATER MAIN FROM STA. 0+00 TO 0+16 ALONG INWOOD AVE. ON THE PORTION SOUTH EAST OF JOHNNYCAKE RD. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 0+16.
31. IN CONJUNCTION WITH THE INSTALLATION OF THE 8–INCH WATER MAIN IN STEP (1), INSTALL THE FOLLOWING BRANCH CONNECTIONS. THE CONTRACTOR SHALL INSTALL THE BRANCH CONNECTIONS AS FAR ACROSS THE ROADWAY AS POSSIBLE TO MINIMIZE THE AMOUNT OF TIME TO TIE–IN TO THE NEW 8–INCH WATER MAIN. KEEP ALL PROPOSED/NEW VALVES CLOSED AND TEMPORARILY RESTRAINED UNTIL THE CONNECTION TO THE EXISTING MAIN IS MADE. INSTALL A TEMPORARY CAP AND BUTTRESS ON ALL BRANCH CONNECTIONS TO BE REMOVED DURING TIE–IN FOR SERVICE.
   - (A) PROPOSED 8–INCH WATER SERVICE CONNECTION AT STA. 0+56 (CALVIN SPRINGS CT.) INCLUDING THE 8–INCH VALVE. INSTALL THIS PORTION FROM THE TEE TO STA. 0+64.
   - (B) PROPOSED 8–INCH WATER MAIN AT STA. 2+45 (ELDERBERRY CT.) INCLUDING THE 8–INCH VALVE.
   - (C) PROPOSED 8–INCH WATER MAIN AT STA. 6+48 (BRIARLEAF CT.) INCLUDING THE 8–INCH VALVE.
32. PRESSURE TEST AND DISINFECT THE NEW 8–INCH WATER MAIN.
33. CHARGE THE MAIN FOR SERVICE BY OPENING TAPPING VALVE '8' AT STA. 0+00.
34. EACH BRANCH CONNECTION TIE–IN SHALL BE INSTALLED DURING A TEMPORARY SHUT–DOWN LASTING A MAXIMUM OF EIGHT (8) HOURS. THE AREA SHALL BE RESTORED AFTER THE WORK IS COMPLETE FOR THE TIE–IN.
   - (A) CLOSE VALVES 'F' & '5' TO ISOLATE THE WATER MAIN. COMPLETE THE TIE–IN FROM STEP 31(B). OPEN VALVES 'F' & '5' AND CHARGE THE MAIN.
   - (B) CLOSE VALVES 'G', & '6' TO ISOLATE THE WATER MAIN. COMPLETE THE TIE–IN FROM STEP 31(C). OPEN VALVES 'G' & '6' AND CHARGE THE MAIN.
35. TRANSFER THE SERVICE CONNECTIONS ALONG INWOOD AVE.
36. INSTALL THE 2–INCH TEMPORARY BYPASS PIPING ALONG CALVIN SPRINGS CT. DISINFECT AND CHARGE THE BYPASS PIPE. OPEN VALVE '9' AND TEMPORARILY TRANSFER THE SERVICES.
37. CLOSE VALVE 'H'. REMOVE THE EXISTING 4–INCH AND 8–INCH WATER MAINS, AND BLOW–OFF. INSTALL THE NEW 4–INCH AND 8–INCH WATER MAIN FROM STA. 0+67 TO STA. 3+28 AND BLOW–OFF IN THE SAME TRENCH.
38. PRESSURE TEST AND DISINFECT THE NEW WATER MAIN.
39. CLOSE VALVE '9' AND REMOVE THE TEMPORARY CAP & BUTTRESS AT STA. 0+64. INSTALL THE 8–INCH WATER MAIN FROM STA. 0+64 TO STA. 0+67 TO COMPLETE THE CONNECTION.
40. OPEN VALVE '9' & CHARGE THE MAIN FOR SERVICE. TRANSFER SERVICE CONNECTIONS.
41. REMOVE THE TEMPORARY WATER PIPE AND RESTORE THE AREA.
42. COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN LASTING A MAXIMUM OF EIGHT (8) HOURS: CLOSE VALVES '7' AND 'E'. REMOVE THE TEMPORARY CAPS & BUTTRESS AT STA. 0+07. COMPLETE THE TIE–IN TO THE NEW 8–INCH WATER MAIN BETWEEN STA. 0+00 AND STA. 0+07. OPEN VALVES '7' & 'E'.
43. RESTORE THE AREA AND CHARGE THE MAIN FOR SERVICE.

PART II:

44. INSTALL THE 6–INCH, 4–INCH, AND 2–INCH AND TEMPORARY BYPASS PIPING FOR INWOOD AVE., PINECREST RD., JOHNNYCAKE RD., RAWLINGS WELL RD., AND PRINCE WILLIAM CT.
45. PRESSURE TEST AND DISINFECT THE TEMPORARY PIPE. TRANSFER SERVICES.

WOODCLIFFE AVE & PINECREST ROAD:

46. CLOSE VALVE 'K'.
47. DURING A TEMPORARY SHUTDOWN LASTING NO MORE THAN 8 HOURS PERFORM THE FOLLOWING:
   - (A) CLOSE VALVES 'L' & 'M'.
   - (B) INSTALL A TEMPORARY BUTTRESS ON THE EXISTING TEE AT THE INTERSECTION OF PINECREST ROAD AND WOODCLIFF AVE. (NOTE: SOME PIPING ALONG PINECREST ROAD MAY NEED TO REMOVED TO INSTALL THE BUTTRESS).
   - (C) OPEN VALVES 'L & 'M'.
48. INSTALL THE PROPOSED 4–INCH & 8–INCH WATER MAIN ALONG WOODCLIFF AVE. FROM STA. 0+00 TO STA. 22+07 INCLUDING ALL PROPOSED VALVES, FITTINGS, TEES, FIRE HYDRANT TEES, FIRE HYDRANT VALVES AND FIRE HYDRANTS. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 22+07 AND AT THE TEE AT STA. 6+85.
49. PRESSURE TEST AND DISINFECT THE PIPING.
50. INSTALL THE 8–INCH WATER MAIN ALONG PINECREST ROAD FROM STA. 0+00 TO 0+29 AND FROM STA. 0+33 TO STA. 10+84. INSTALL THE 8–INCH WATER MAIN ALONG RAWLINGS WELL ROAD FROM STA. 0+00 TO STA. 0+45. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 0+45 ALONG RAWLINGS WELL ROAD. PRESSURE TEST AND DISINFECT THE PIPING.
51. CLOSE VALVES '10', '11' AND 'J', AND INSTALL THE PIPING BETWEEN STA. 0+29 TO 0+33 ALONG PINECREST ROAD.
52. OPEN VALVES '10' AND 'J' AND CHARGE THE 8–INCH WATER MAINS ALONG WOODCLIFF AVE. AND PINECREST ROAD FOR SERVICE.
53. TRANSFER SERVICES ALONG WOODCLIFF AVE. AND PINECREST ROAD.
54. REMOVE TEMPORARY PIPING AND SERVICES ALONG PINECREST ROAD. CONNECT TEMPORARY PIPING TO NEW REPLACEMENT F.H. 021575 FOR TEMPORARY WATER SERVICE ALONG RAWLINGS WELL ROAD.

SUGGESTED SEQUENCE OF CONSTRUCTION (CONTINUED):

INWOOD AVE. (EAST SECTION), RAWLINGS WELL ROAD & PRINCE WILLIAM COURT:

55. CLOSE VALVE 'N'.
56. INSTALL THE PROPOSED 8–INCH WATER MAIN FROM STA. 0+24.5 TO STA. 5+07 ALONG INWOOD AVE. (EAST SECTION) INCLUDING ALL PROPOSED VALVES, FITTINGS, TEES, FIRE HYDRANT TEES, FIRE HYDRANT VALVES AND FIRE HYDRANTS. PRESSURE TEST AND DISINFECT THE NEW MAIN.
57. INSTALL THE PROPOSED 8–INCH WATER MAIN FROM STA. 0+50 TO STA. 6+70 ALONG RAWLINGS WELL ROAD INCLUDING ALL PROPOSED VALVES, FITTINGS, TEES, FIRE HYDRANT TEES, FIRE HYDRANT VALVES AND FIRE HYDRANTS. INSTALL A TEMPORARY CAP AND BUTTRESS AT STA. 6+70. PRESSURE TEST AND DISINFECT THE NEW MAIN.
58. CLOSE VALVES '13' & '14'.
59. REMOVE THE TEMPORARY CAP & BUTTRESS AT STA. 0+45 ALONG RAWLINGS WELL ROAD.
60. INSTALL THE PIPING BETWEEN STA. 0+45 AMD 0+50 ALONG RAWLINGS WELL ROAD.
61. DURING DURING A TEMPORARY SHUTDOWN LASTING NO MORE THAN 8 HOURS PERFORM THE FOLLOWING:
   - (A) CLOSE VALVES '7', '8' & '12'.
   - (B) REMOVE THE TEMPORARY BUTTRESS AT STA. 0+18 ALONG INWOOD AVE.
   - (C) INSTALL THE PIPING BETWEEN STA. 0+18 TO STA. 0+24.5 ALONG INWOOD AVE.
   - (D) OPEN VALVES '7', '8' & '12' TO CHARGE THE MAIN FOR SERVICE ALONG INWOOD AVE.
62. INSTALL THE PROPOSED 8–INCH WATER MAIN FROM STA. 6+75 TO STA. 13+10 ALONG RAWLINGS WELL ROAD AND FROM STA. 0+00 TO STA. 2+20 ALONG PRINCE WILLIAM COURT INCLUDING ALL PROPOSED VALVES, FITTINGS, TEES, FIRE HYDRANT TEES, FIRE HYDRANT VALVES AND FIRE HYDRANTS. PRESSURE TEST AND DISINFECT THE NEW MAIN.
63. INSTALL THE PROPOSED 8–INCH WATER MAIN BETWEEN STA. 6+70 TO STA. 6+75 ALONG RAWLINGS WELL ROAD.
64. OPEN VALVES '13' & '14' TO CHARGE THE MAINS ALONG RAWLINGS WELL ROAD AND PRINCE WILLIAM COURT FOR SERVICE.
65. TRANSFER TEMPORARY WATER SERVICES AND REMOVE THE TEMPORARY BYPASS PIPING ALONG INWOOD AVE., RAWLINGS WELL ROAD AND PRINCE WILLIAM COURT.

JOHNNYCAKE ROAD:

66. TRANSFER WATER SERVICES FROM THE EXISTING 8–INCH MAIN TO THE EXISTING 24–INCH WATER MAIN ALONG JOHNNYCAKE ROAD FROM UPPER MILLS CIRCLE TO 7213 JOHNNYCAKE ROAD.
67. CLOSE VALVES 'N', 'O', 'P', 'Q', 'U' & 'V' (NOTE: VALVE 'N' SHOULD STILL BE CLOSED FROM STEP 55).
68. INSTALL 8–INCH CAP AND BUTTRESS AS SHOWN NEAR 7213 JOHNNYCAKE ROAD. INSTALL 8–INCH PLUG & BUTTRESS AS SHOWN ALONG JOHNNYCAKE ROAD NEAR UPPER MILLS CIRCLE.
69. CLOSE VALVE 'T' AND INSTALL A TEMPORARY 8–INCH CAP AND BUTTRESS EAST OF VALVE 'T' ALONG JOHNNYCAKE ROAD.
70. INSTALL THE 8–INCH WATER MAIN ALONG JOHNNYCAKE ROAD FROM STA. 0+00 TO STA. 0+11 AND FROM STA. 0+17 TO STA. 20+29 INCLUDING ALL PROPOSED VALVES, FITTINGS, TEES, FIRE HYDRANT TEES, FIRE HYDRANT VALVES AND FIRE HYDRANTS. INSTALL TEMPORARY CAPS AND BUTTRESSES AT STA. 0+17, STA. 20+29, AND THE TEES FOR RAWLINGS WELL ROAD (STA. 0+22) AND WOODCLIFF AVENUE (STA. 11+37).
71. IN CONJUNCTION WITH THE INSTALLATION OF THE 8–INCH WATER MAIN IN STEP 70, INSTALL THE FOLLOWING BRANCH CONNECTIONS. THE CONTRACTOR SHALL INSTALL THE BRANCH CONNECTIONS AS FAR ACROSS THE ROADWAY AS POSSIBLE TO MINIMIZE THE AMOUNT OF TIME TO TIE–IN TO THE NEW 8–INCH WATER MAIN. KEEP ALL PROPOSED/NEW VALVES CLOSED AND TEMPORARILY RESTRAINED UNTIL THE CONNECTION TO THE EXISTING MAIN IS MADE. INSTALL A TEMPORARY CAP AND BUTTRESS ON ALL BRANCH CONNECTIONS TO BE REMOVED DURING TIE–IN FOR SERVICE.
   - (A) PROPOSED 8–INCH WATER SERVICE CONNECTION AT STA. 18+03 (7001 ROLLING RD. – WEST) INCLUDING THE 8–INCH VALVE.
   - (B) PROPOSED 8–INCH WATER SERVICE CONNECTION AT STA. 19+41 (7001 ROLLING RD. – EAST) INCLUDING THE 8–INCH VALVE.
72. PRESSURE TEST AND DISINFECT THE MAIN.
73. CLOSE VALVES '15 ', '16' & '17'. REMOVE THE TEMPORARY CAP & BUTTRESS AT STA. 0+17. INSTALL THE WATER MAIN FROM STA. 0+11 TO STA. 0+17 TO COMPLETE THE CONNECTION.
74. CLOSE VALVES '18' & '19'. REMOVE THE TEMPORARY CAP AND BUTTRESS AT STA. 6+22 JOHNNYCAKE ROAD. INSTALL THE WATER MAIN FROM STA. 13+10 TO STA. 13+29 ALONG RAWLINGS WELL ROAD TO COMPLETE THE CONNECTION. OPEN VALVES '15', 16', '17' & '18' TO CHARGE THE MAIN FOR SERVICE. TRANSFER SERVICE CONNECTIONS.
75. CLOSE VALVES '21' & 'T' (NOTE: VALVE 'T' SHOULD STILL BE CLOSED FROM STEP 69). COMPLETE THE CONNECTION FOR STEP 71(B) TO SERVE 7001 ROLLING RD. – EAST.
76. REMOVE THE TEMPORARY CAPS AND BUTTRESSES AT STA. 20+29 AND EAST OF VALVE 'T'. INSTALL THE 8–INCH COUPLING AT STA. 20+29 AND NECESSARY PIPING TO COMPLETE THE CONNECTION FROM THE NEW 8–INCH MAIN TO THE EXISTING MAIN.
77. OPEN VALVES 'T' & '23' TO CHARGE THE MAIN FOR SERVICE. REMOVE THE TEMPORARY SERVICE CONNECTION FOR 7001 ROLLING RD. – EAST.
78. CLOSE VALVES '19', '20' & '21' (NOTE: VALVES '19' & '21' SHOULD STILL CLOSED FROM STEPS 74 & 75). REMOVE THE TEMPORARY CAP AND BUTTRESS AT STA. 11+37 JOHNNYCAKE ROAD. INSTALL THE WATER MAIN FROM STA. 22+07 TO STA. 22+10 TO COMPLETE THE CONNECTION FOR WOODCLIFFE AVE.
79. OPEN VALVES ''19', '20' & '21' TO CHARGE THE MAIN FOR SERVICE.
80. COMPLETE THE CONNECTION FOR STEP 71(A) TO SERVE 7001 ROLLING RD. – WEST. OPEN VALVE '22'.
81. TRANSFER REMAINING SERVICE CONNECTIONS & REMOVE TEMPORARY PIPING.
82. RESTORE THE AREA.

**NOTES:

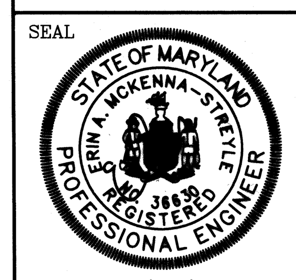
1. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651–14, AND PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARD C600–10. ALL BACTERIOLOGICAL TEST RESULTS SHALL BE SUBMITTED TO MDE WSP FOR APPROVAL BEFORE THE MAIN IS PUT INTO SERVICE.
2. LARGE WATER MAIN SERVICE CONNECTIONS (4–INCHES AND LARGER) MAY NOT BE SHUT–DOWN DURING OPERATIONAL HOURS OF THE BUSINESS, COMPANY, SCHOOL, ETC... THESE SERVICES MUST BE RECONNECTED DURING EVENING HOURS AT NO ADDITIONAL COST TO THE COUNTY.
3. NO BYPASS PIPE OR SERVICE CONNECTION SHALL BE INSTALLED DURING FREEZING WEATHER, AND SUCH PIPES ALREADY IN USE SHALL BE REMOVED OR DRAINED. FREEZING WEATHER SHOULD BE EXPECTED AFTER NOVEMBER 15. IF THE CONTRACTOR CANNOT FINISH BY THAT TIME, THE CONTRACTOR SHOULD FINISH IN THE SPRING UNLESS AN EXTENSION OF CONTRACT TIME IS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL BE ALLOWED TO PROCEED WITH MOBILIZATION BETWEEN MARCH 15 AND APRIL 1 WITHOUT ANY WORKING DAYS ASSESSED AGAINST HIM. HOWEVER, NO WATER MAINS SHOULD BE BROKEN INTO OR TEMPORARY SERVICES BE ACTIVATED UNTIL APRIL 1.

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

CITY OF BALTIMORE		REVISION – CITY OF BALTIMORE	
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION	DATE	CHIEF, UTILITIES ENGINEERING SECTION	DATE

SEAL



DATE : 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022.

ENGINEER: ERIN MCKENNA-STREYLE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST, WATER DES. SECT.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		DEPARTMENT OF PUBLIC WORKS
				NNW & NNE	[illegible]-10 / [illegible] / [illegible]-12 / [illegible]-15 / [illegible]-14 / [illegible]	PLAN SCALE:	AS SHOWN	SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES
			R.O.W NO.					
CONTRACT COMPLETION BOX			AS SHOWN			PROFILE SCALE:		

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020–1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

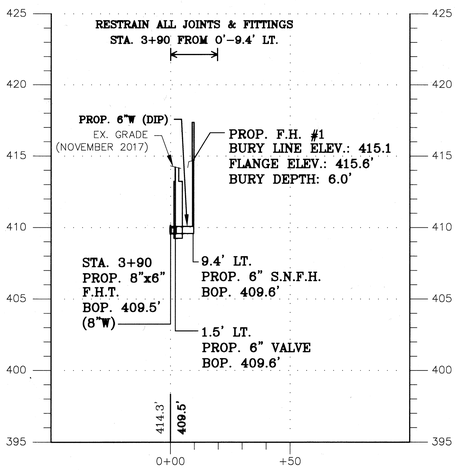
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD

SUBDIVISION: **CATONSVILLE/WINDSOR MILL**

KEY SHEET, SEQUENCE OF CONSTRUCTION, VALVE LOCATION MAP & F.H. LAYOUT,

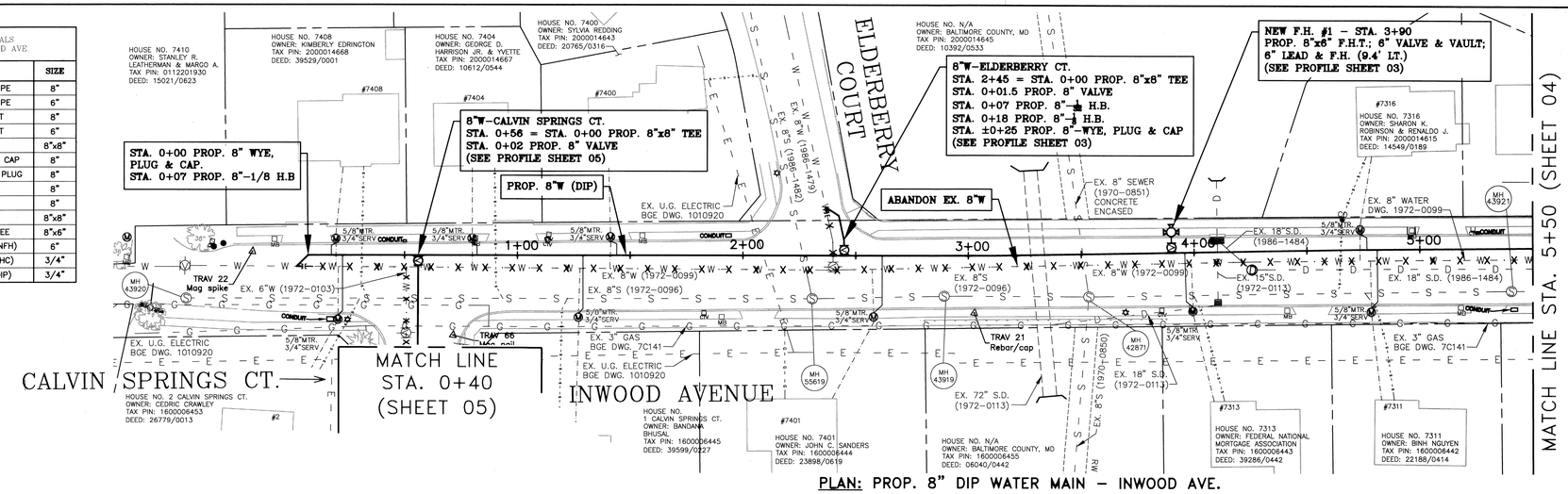
ELECTION DIST. NO.: **1C1**

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070–WX0
	JOB ORDER NUMBER
	203–0035–0622
	SHEET 02 OF 40
	DRAWING NUMBER
	2020–1077
	FILE NO.: 3 REV. 01/17

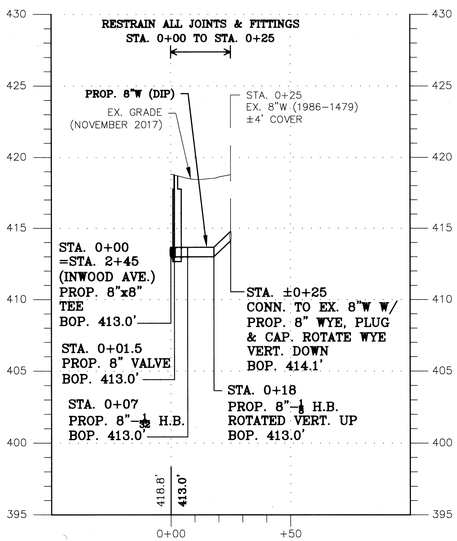


PROFILE: PROP. F.H. #1 – INWOOD AVE.
(STA. 3+90 FROM 0'-9.4' LT.)

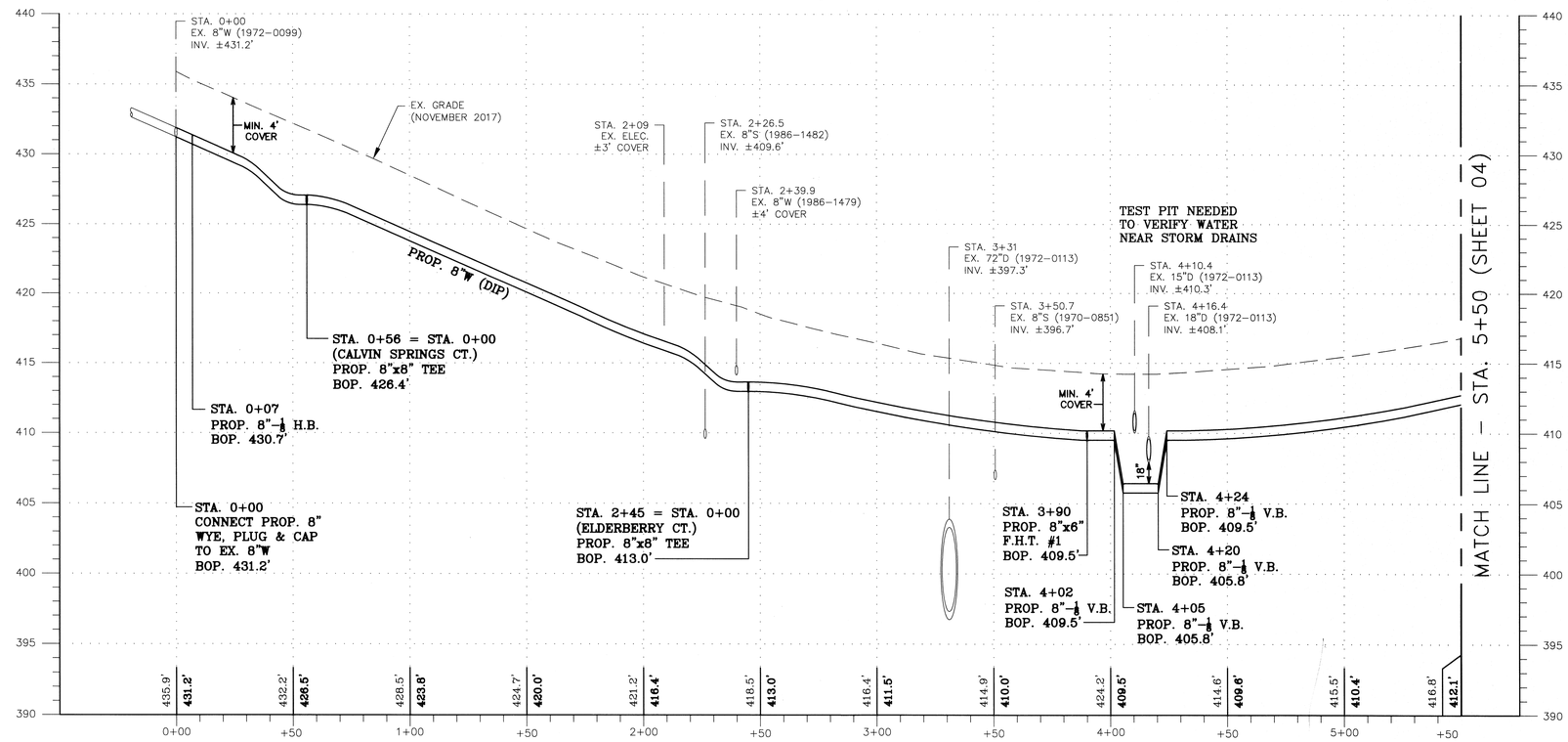
BILL OF MATERIALS SHEET 03 – INWOOD AVE		
NO.	DESCRIPTION	SIZE
615'	DUCTILE IRON PIPE	8"
10'	DUCTILE IRON PIPE	6"
2	VALVE & VAULT	8"
1	VALVE & VAULT	6"
2	WYE	8"x8"
2	MECHANICAL JOINT CAP	8"
2	MECHANICAL JOINT PLUG	8"
6	1/8 BEND	8"
1	1/32 BEND	8"
2	TEE	8"x8"
1	FIRE HYDRANT TEE	8"x6"
1	FIRE HYDRANT (SNFH)	6"
166'	COPPER PIPE (WHC)	3/4"
9	CORPORATION (DIP)	3/4"



PLAN: PROP. 8" DIP WATER MAIN – INWOOD AVE.
(STA. 0+00 TO STA. 5+50)



PROFILE: PROP. 8" DIP WATER MAIN – ELDERBERRY CT.
(STA. 0+00 TO STA. ±0+25)



PROFILE: PROP. 8" DIP WATER MAIN – INWOOD AVE.
(STA. 0+00 TO STA. 5+50)

GRAPHIC SCALE — HORIZONTAL: 30 0 15 30 60 — SCALE: 1" = 30'
GRAPHIC SCALE — VERTICAL: 5 0 2.5 5 10 — SCALE: 1" = 5'

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

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

SEAL: STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — REM K. MCKENNA-STRETTLE — No. 36630
DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022

ENGINEER: REM MCKENNA-STRETTLE, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT — BY: DATE:
DESIGN BY: EAM — DRAWN BY: EAM — CHKD BY: MJM

REVISION	BY	DATE

CONTRACT COMPLETION BOX

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS: SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

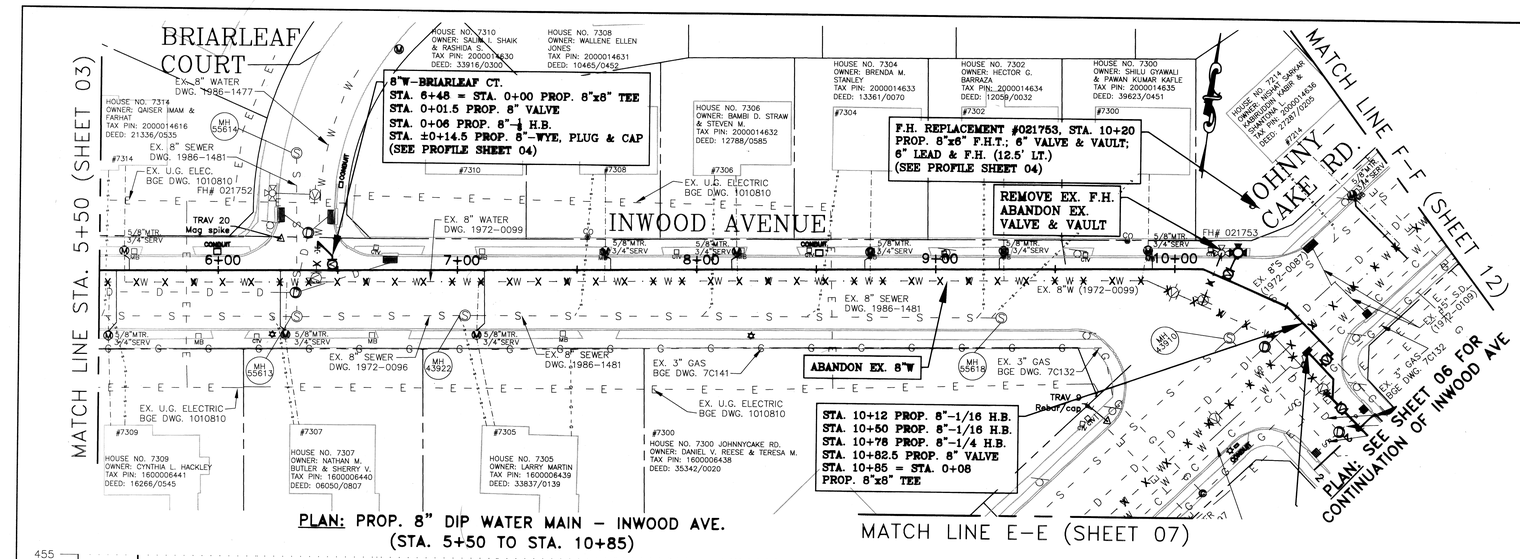
8" WATERMAIN REPLACEMENT

JOHNNYCAKE ROAD

INWOOD AVE.

SUBDIVISION: CATONSVILLE/WINDSOR MILL — WATER PLAN & PROFILE – PROP. 8"W — ELECTION DIST. NO.: 1C1

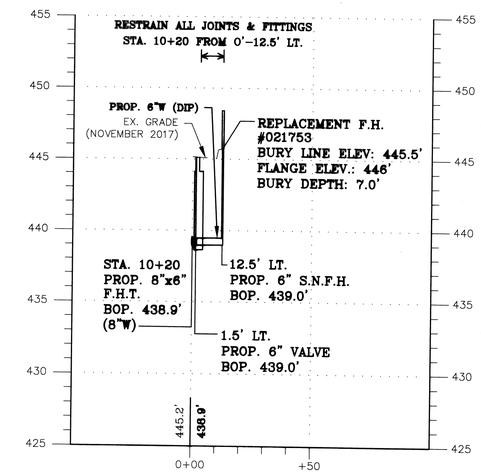
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WXO
JOB ORDER NUMBER	203-0035-0622
SHEET 03 OF 40	
DRAWING NUMBER	2020-1078
FILE NO.: 3	REV. 4/07



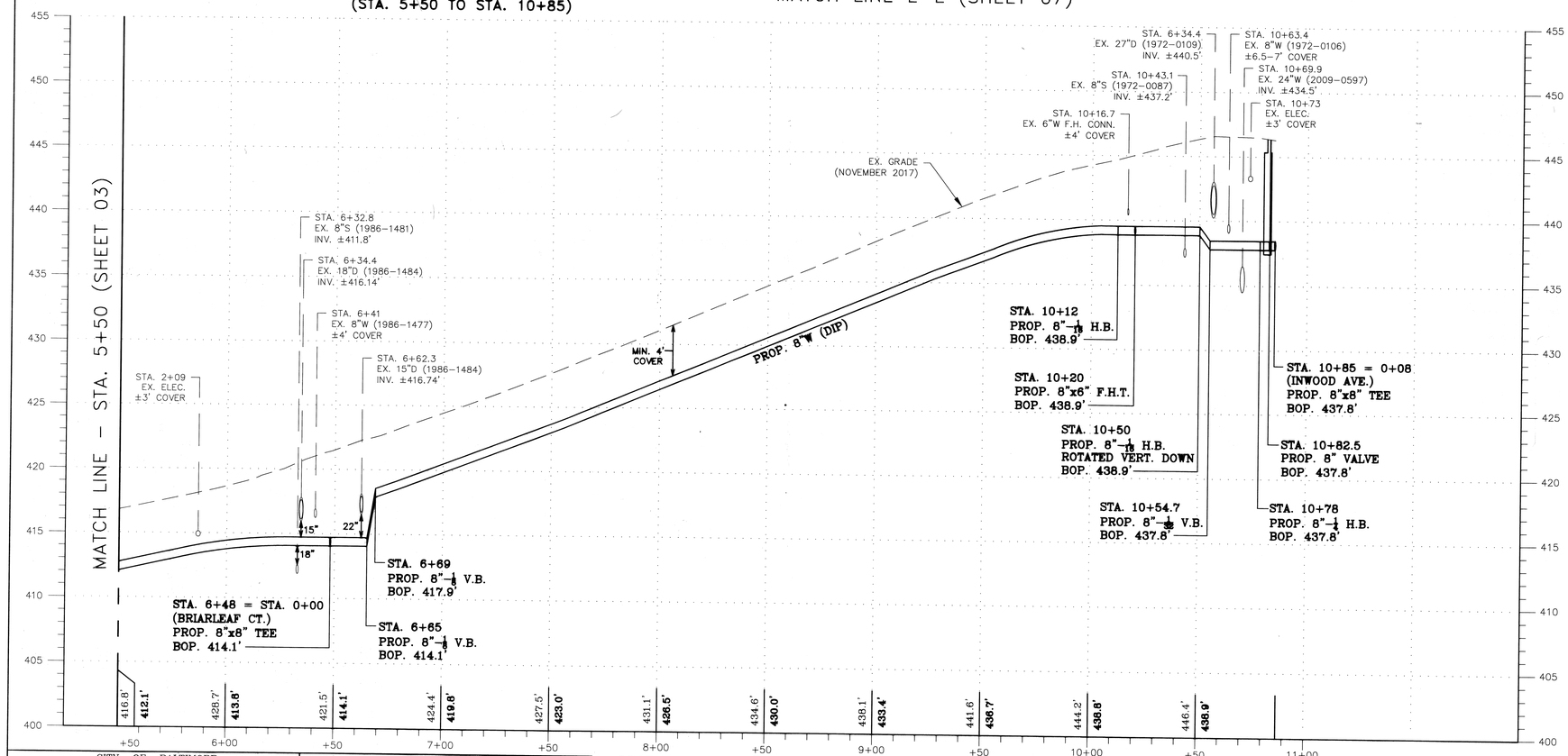
PLAN: PROP. 8" DIP WATER MAIN – INWOOD AVE.
(STA. 5+50 TO STA. 10+85)

BILL OF MATERIALS SHEET 04 – INWOOD AVE.*		
NO.	DESCRIPTION	SIZE
535'	DUCTILE IRON PIPE	8"
13'	DUCTILE IRON PIPE	6"
2	VALVE & VAULT	8"
1	VALVE & VAULT	6"
1	TEE	8"x8"
1	FIRE HYDRANT TEE	8"x6"
1	FIRE HYDRANT (SNFH)	6"
1	WYE	8"x8"
1	1/4 BEND	8"
3	1/8 BEND	8"
1	1/16 BEND	8"
1	1/32 BEND	8"
1	MECHANICAL JOINT CAP	8"
1	MECHANICAL JOINT PLUG	8"
156'	COPPER PIPE (WHC)	3/4"
10	CORPORATION (DIP)	3/4"

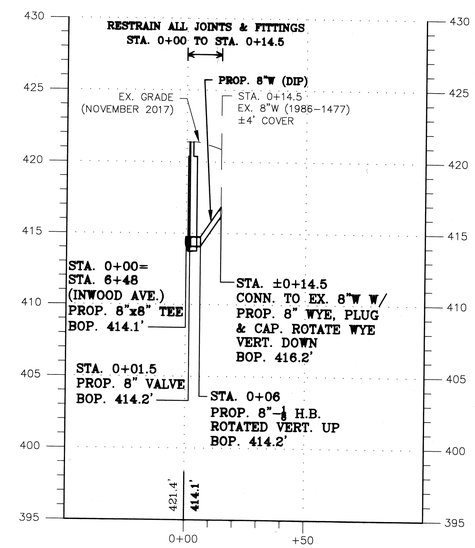
*DOES NOT INCLUDE MATERIALS FOR SAME TRENCH REPLACEMENT ALONG INWOOD AVENUE SOUTH OF JOHNNYCAKE RD.



PROFILE: PROP. F.H. REPLACEMENT #021753 – INWOOD AVE.
(STA. 10+20 FROM 0'-12.5' LT.)



PROFILE: PROP. 8" DIP WATER MAIN – INWOOD AVE.
(STA. 5+50 TO STA. 10+85)



PROFILE: PROP. 8" DIP WATER MAIN – BRIARLEAF CT.
(STA. 0+00 TO STA. 0+14.5)

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

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND — JOHN A. MCKENNA-STREETER — REGISTERED PROFESSIONAL ENGINEER 36630
DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022

ENGINEER: JOHN MCKENNA-STREETER, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY: DATE:
DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
R.O.W NO.	RSW	42NE1 41NE2	PLAN SCALE:	1"=30'
AS SHOWN			PROFILE SCALE:	H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

HORIZONTAL GRAPHIC SCALE 30 0 15 30 60 — SCALE: 1" = 30'
VERTICAL GRAPHIC SCALE 5 0 2.5 5 10 — SCALE: 1" = 5'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

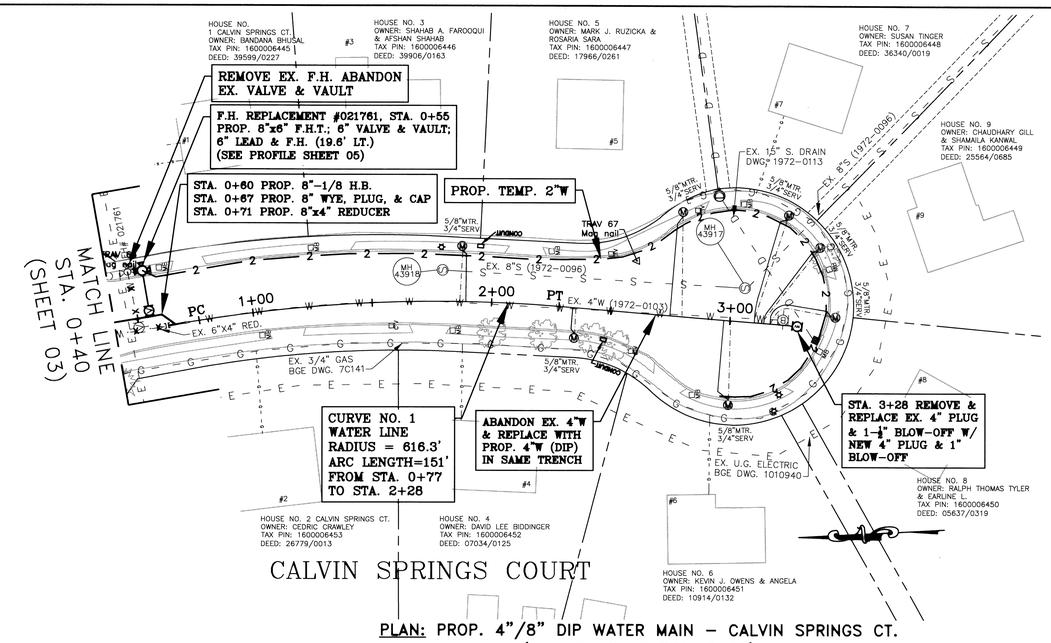
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
INWOOD AVE.

SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILE – PROP. 8"W
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 04 OF 40	
DRAWING NUMBER	2020-1079
FILE NO.: 3	REV. NO.

BALTIMORE COUNTY MARYLAND



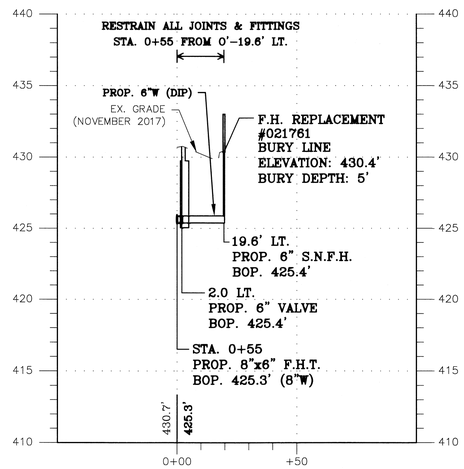
PLAN: PROP. 4"/8" DIP WATER MAIN – CALVIN SPRINGS CT. (STA. 0+40 TO STA. 3+28)

BILL OF MATERIALS
SHEET 05 – CALVIN SPRINGS CT.

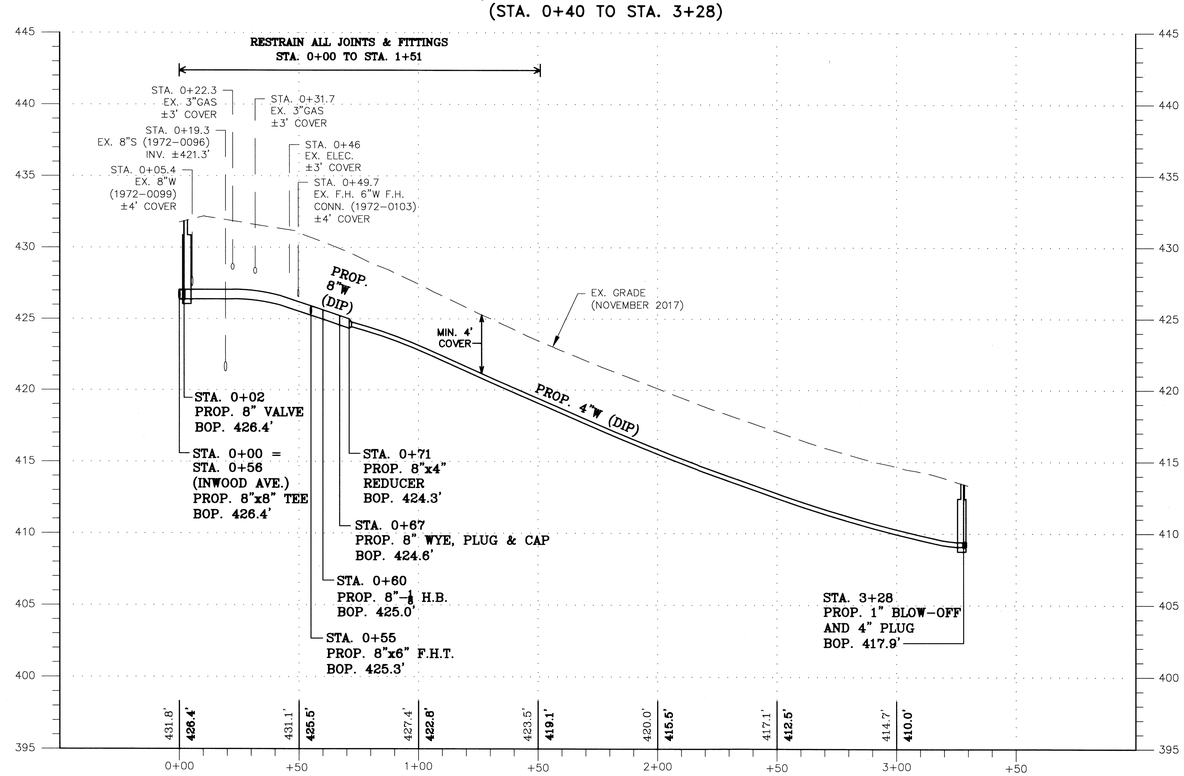
NO.	DESCRIPTION	SIZE
31'	DUCTILE IRON PIPE	8"
20'	DUCTILE IRON PIPE	6"
257'	DUCTILE IRON PIPE	4"
283'	TEMPORARY WATER PIPE	2"
1	VALVE & VAULT	6"
1	FIRE HYDRANT TEE	8"x6"
1	FIRE HYDRANT (SNFH)	6"
1	MECHANICAL JOINT PLUG	8"
1	MECHANICAL JOINT PLUG	4"
1	MECHANICAL JOINT CAP	8"
1	BLOW-OFF	1"
1	WYE	8"x8"
1	1/8 BEND	8"
241'	COPPER PIPE (WHC)	3/4"
7	CORPORATION (DIP)	3/4"

CURVE DATA

CURVE NO.	RADIUS	ARC LENGTH	PC	PT
1	616.3'	151'	STA. 0+77	STA. 2+28



PROFILE: F.H. REPLACEMENT #021761



PROFILE: PROP. 4"/8" DIP WATER MAIN – CALVIN SPRINGS CT. (STA. 0+40 TO STA. 3+28)

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

GRAPHIC SCALE — VERTICAL 5 0 2.5 5 10 — SCALE: 1" = 5'
GRAPHIC SCALE — HORIZONTAL 30 0 15 30 60 — SCALE: 1" = 30'

CITY OF BALTIMORE — CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

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

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)
DWG. FILENAME:

SEAL — STATE OF MARYLAND — ERIN A. MCKENNA-STREETER — REG. No. 36630 — PROFESSIONAL ENGINEER
DATE : 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022.
ENGINEER: ERIN MCKENNA-STREETER, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST, WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY: DATE:
DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	RSW	42NE1 41NE2
AS SHOWN		

DRAWING SCALE: PLAN SCALE: 1"=30'; PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS — SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

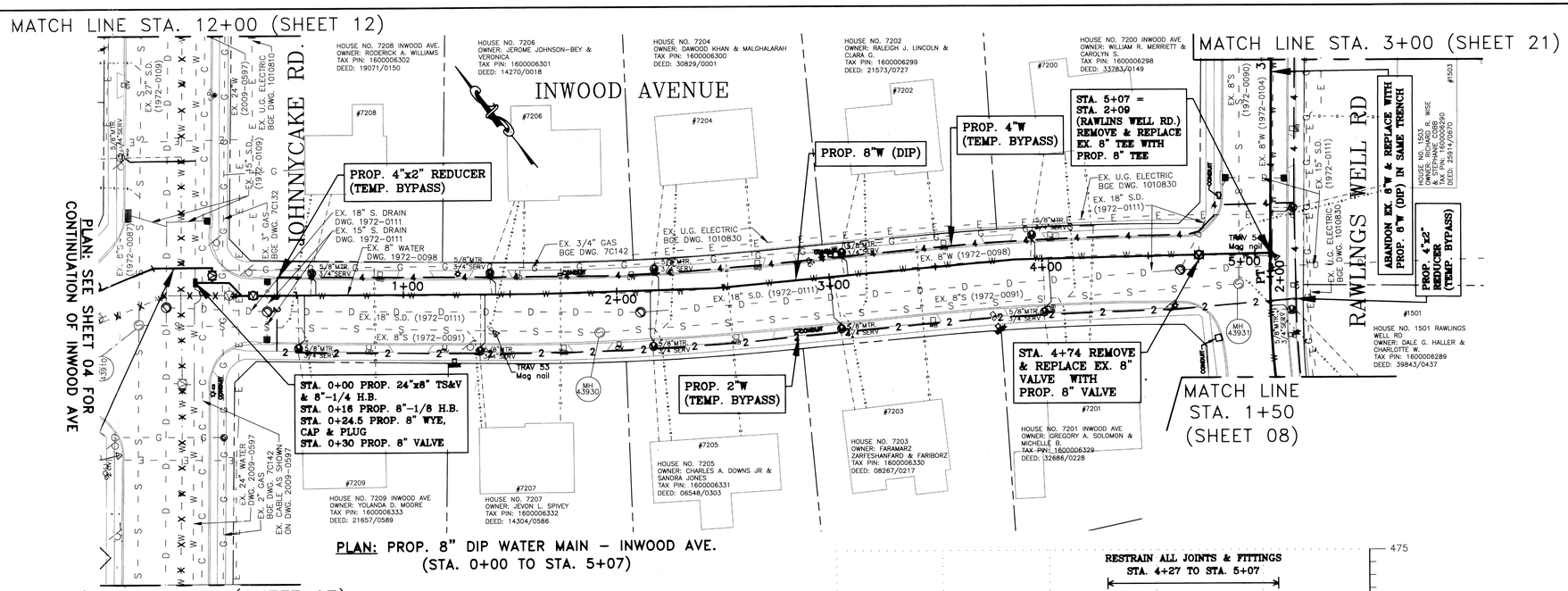
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

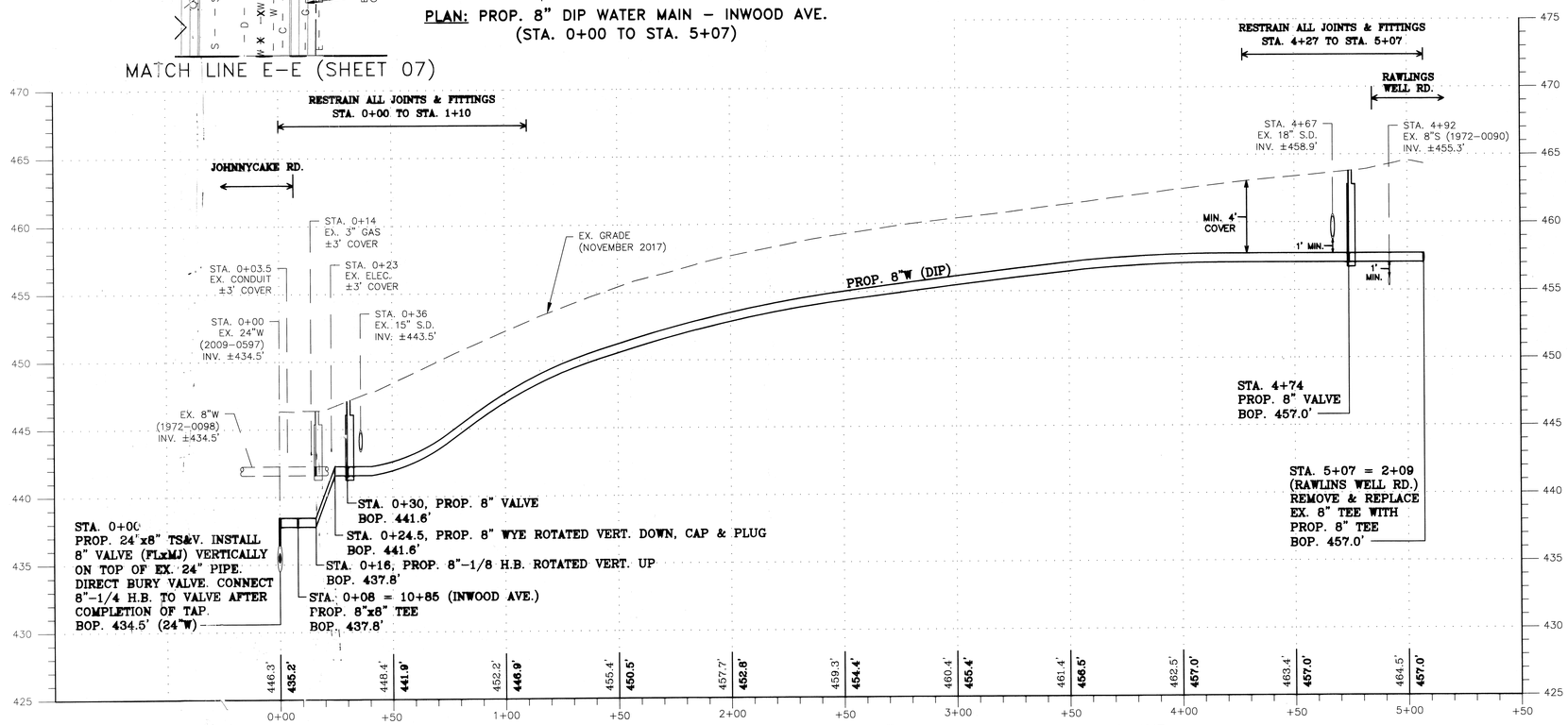
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
CALVIN SPRINGS CT.

SUBDIVISION: CATONSVILLE/WINDSOR MILL — WATER PLAN & PROFILE — ELECTION DIST. NO.:1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 05 OF 40	
DRAWING NUMBER	2020-1080
FILE NO.: 3	REV. 4/07



PLAN: PROP. 8" DIP WATER MAIN – INWOOD AVE.
(STA. 0+00 TO STA. 5+07)



PROFILE: PROP. 8" DIP WATER MAIN – INWOOD AVE.
(STA. 0+00 TO STA. 5+07)

BILL OF MATERIALS
SHEET 06 – INWOOD AVE.*

NO.	DESCRIPTION	SIZE
657'	DUCTILE IRON PIPE	8"
632'	TEMPORARY WATER PIPE	4"
512'	TEMPORARY WATER PIPE	2"
3	TEMPORARY WATER PIPE REDUCER	4"x2"
1	TAPPING SLEEVE & 8" VALVE	24"x8"
1	VALVE & VAULT	8"
1	MECHANICAL JOINT PLUG	8"
1	MECHANICAL JOINT CAP	8"
2	TEE	8"x8"
1	WYE	8"x8"
1	1/8 BEND	8"
1	1/4 BEND	8"
189'	COPPER PIPE (WHC)	3/4"
10	CORPORATION (DIP)	3/4"

*DOES NOT INCLUDE MATERIALS FOR REPLACEMENT ALONG INWOOD AVENUE NORTH OF JOHNNYCAKE RD.

HORIZONTAL
GRAPHIC SCALE
30 0 15 30 60
SCALE: 1" = 30'

VERTICAL
GRAPHIC SCALE
5 0 2.5 5 10
SCALE: 1" = 5'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)
DWG. FILENAME:

CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

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

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND — BRIAN J. MCKENNA-STREETER — REG. No. 36630 — PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022
ENGINEER: BRIAN MCKENNA-STREETER, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY:
DATE:
DESIGN BY: RAM
DRAWN BY: RAM
CHKD BY: LJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	RSW	42NE1 41NE2
AS SHOWN		

DRAWING SCALE: PLAN SCALE: 1"=30'; PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS: SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

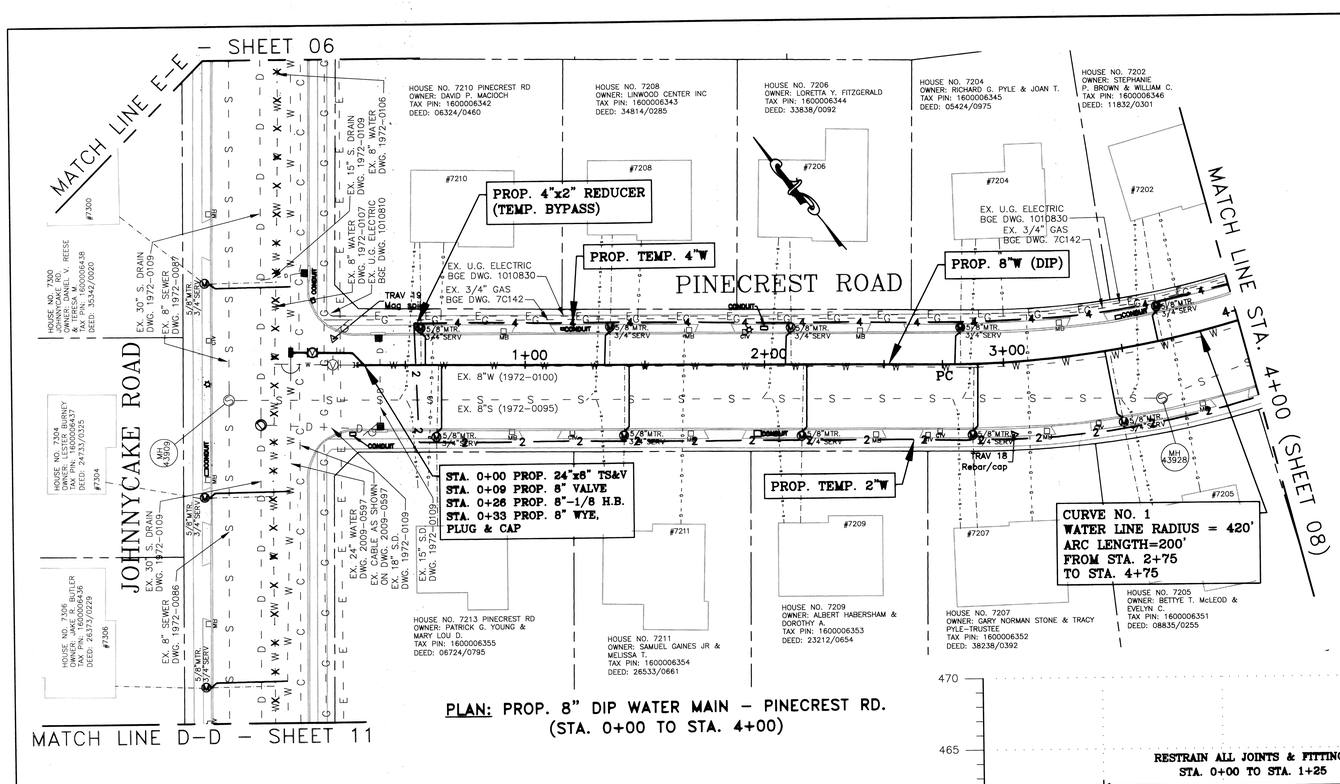
BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

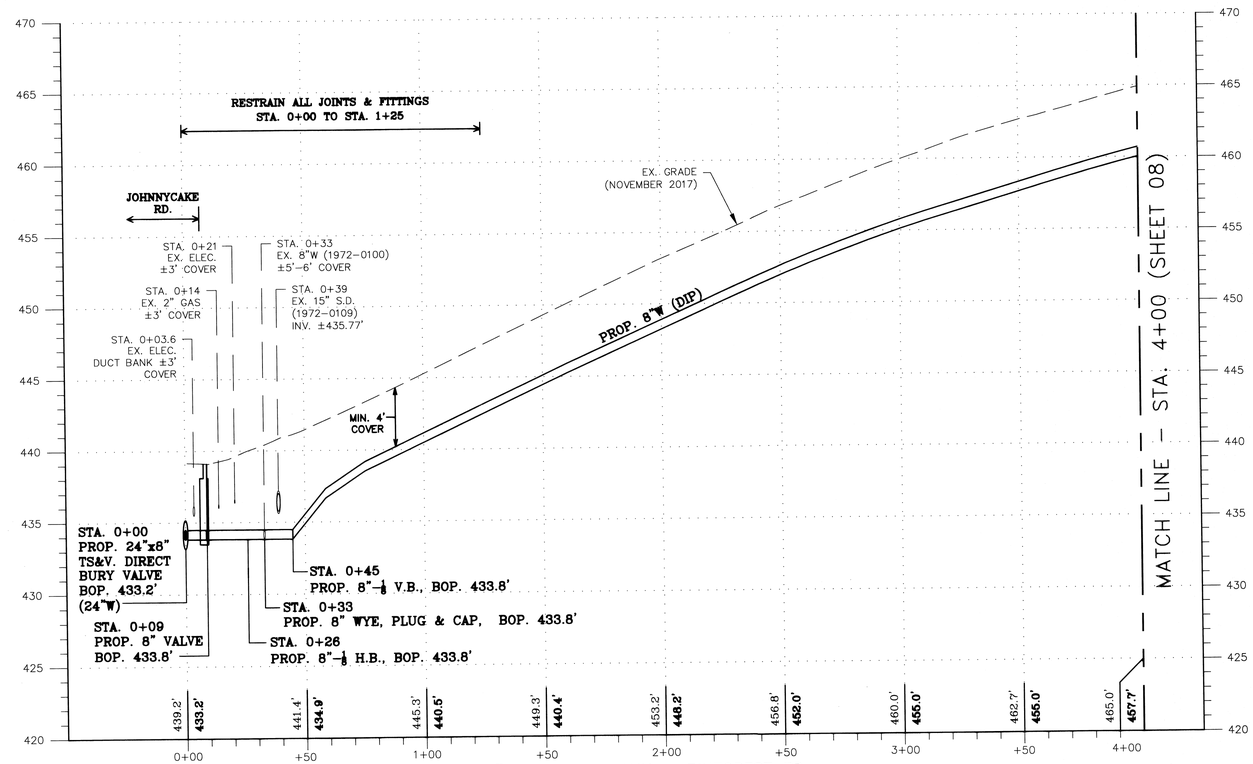
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
INWOOD AVE.
WATER PLAN & PROFILE – 8"W

SUBDIVISION: CATONSVILLE/WINDSOR MILL
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 06 OF 40	
DRAWING NUMBER	2020-1081
FILE NO.: 3	REV. 4/17



PLAN: PROP. 8" DIP WATER MAIN – PINECREST RD.
(STA. 0+00 TO STA. 4+00)



PROFILE: PROP. 8" DIP WATER MAIN – PINECREST RD.
(STA. 0+00 TO STA. 4+00)

CURVE DATA				
CURVE	RADIUS	ARC LENGTH	PC	PT
1	420'	200'	STA. 2+75	STA. 4+75

BILL OF MATERIALS
SHEET 07 – PINECREST ROAD

NO.	DESCRIPTION	SIZE
400'	DUCTILE IRON PIPE	8"
340'	TEMPORARY WATER PIPE	4"
404'	TEMPORARY WATER PIPE	2"
1	TEMPORARY WATER PIPE REDUCER	4"x2"
1	TAPPING SLEEVE & 8" VALVE	24"x8"
1	VALVE & VAULT	8"
1	WYE	8"x8"
1	MECHANICAL JOINT PLUG	8"
1	MECHANICAL JOINT CAP	8"
2	1/8 BEND	8"
323'	COPPER PIPE (WHC)	3/4"
13	CORPORATION (DIP)	3/4"

GRAPHIC SCALE
VERTICAL 5 0 2.5 5 10
SCALE: 1" = 5'
GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60
SCALE: 1" = 30'

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

CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

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

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

SEAL — STATE OF MARYLAND — ERIN A. McKENNA-STRAYLE — No. 36630 — PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022

ENGINEER: ERIN McKENNA-STRAYLE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONSTR. WATER DES. SECT.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

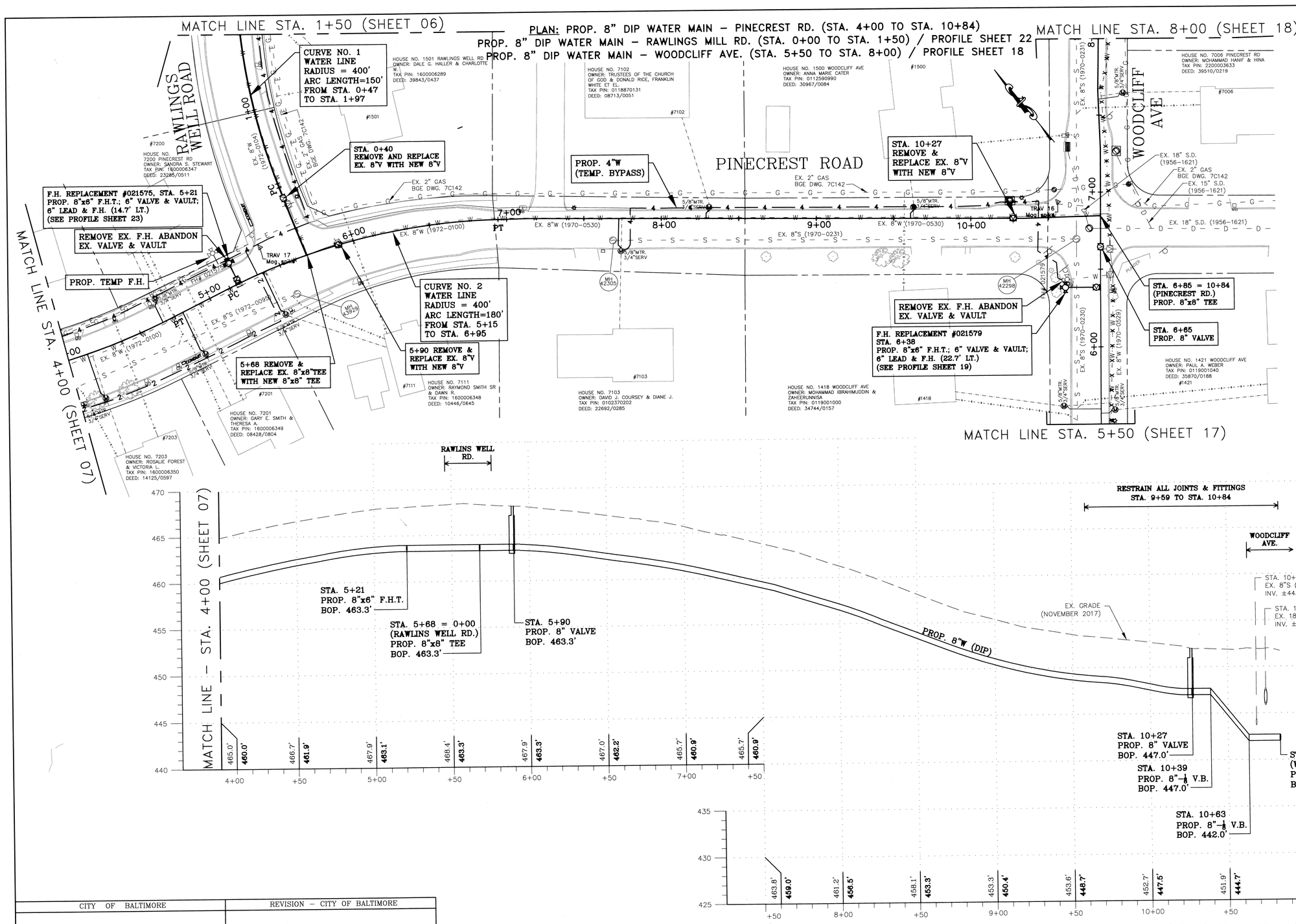
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
PINECREST RD.
WATER PLAN & PROFILE – PROP. 8"W

SUBDIVISION: CATONSVILLE/WINDSOR MILL
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 07 OF 40	
DRAWING NUMBER	2020-1082
FILE NO.: 3	REV.

DWG. FILENAME:



BILL OF MATERIALS SHEET 08 – PINECREST ROAD		
NO.	DESCRIPTION	SIZE
1084'	DUCTILE IRON PIPE	8"
38'	DUCTILE IRON PIPE	6"
866'	TEMPORARY WATER PIPE	4"
192'	TEMPORARY WATER PIPE	2"
4	VALVE & VAULT	8"
2	VALVE & VAULT	6"
2	TEE	8"x8"
2	FIRE HYDRANT TEE	8"x6"
2	FIRE HYDRANT (SNFH)	6"
2	1/8 BEND	8"
184'	COPPER PIPE (WHC)	3/4"
10	CORPORATION (DIP)	3/4"

CURVE DATA				
CURVE	RADIUS	ARC LENGTH	PC	PT
1	400'	150'	STA. 0+47	STA. 1+97
2	400'	180'	STA. 5+15	STA. 6+95

VERTICAL
GRAPHIC SCALE
5 0 2.5 5 10
SCALE: 1" = 5'

HORIZONTAL
GRAPHIC SCALE
30 0 15 30 60
SCALE: 1" = 30'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

PROFILE: PROP. 8" DIP WATER MAIN – PINECREST RD. (STA. 8+50 TO STA. 10+84)

SEAL: STATE OF MARYLAND – EMMA J. MCKENNA-STREYLE – REG. NO. 36630 – PROFESSIONAL ENGINEER

DATE: 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022
ENGINEER: EMMA MCKENNA-STREYLE, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST, WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE: PLAN SCALE: 1"=30'; PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS: SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT

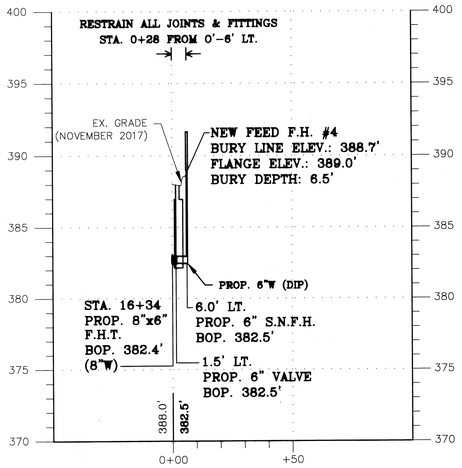
JOHNNYCAKE ROAD

SUBDIVISION: CATONSVILLE/WINDSOR MILL

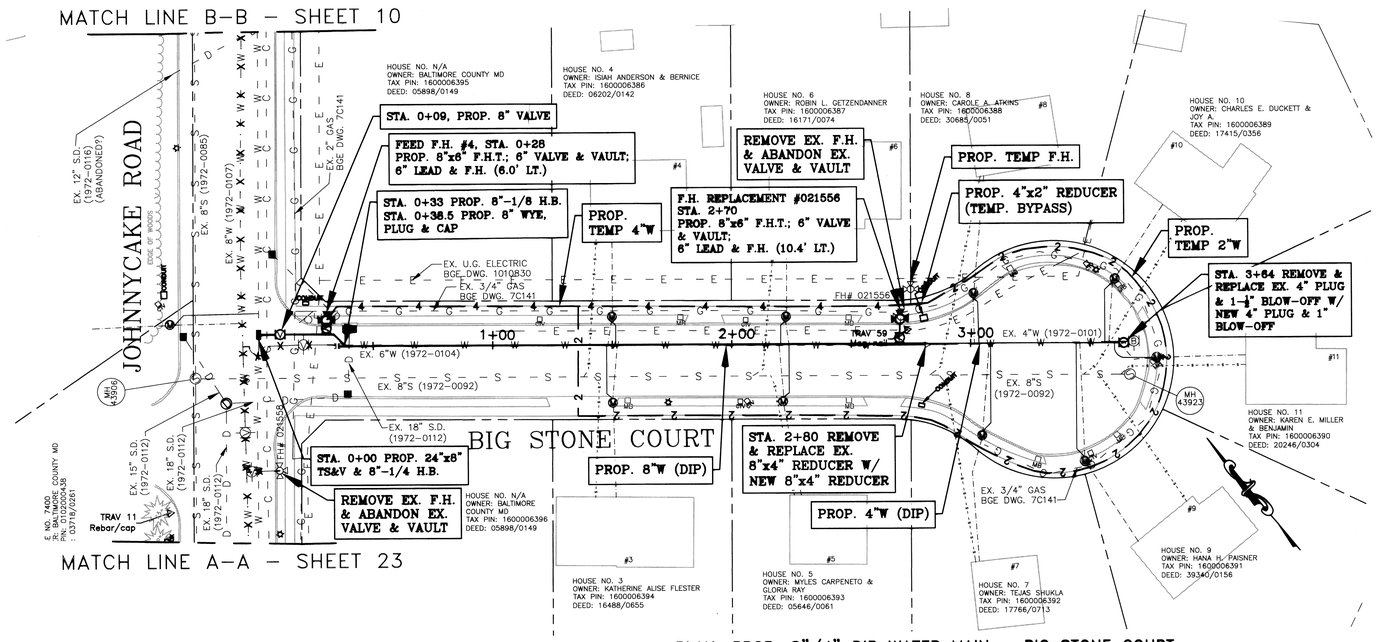
PINECREST RD. – 8" WATER MAIN REPLACEMENT

ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 08 OF 40	DRAWING NUMBER 2020-1083
FILE NO.: 3	REV. 4/07



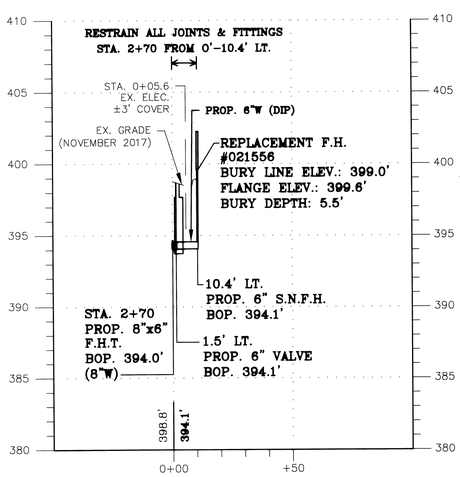
PROFILE: PROP. NEW F.H. #4 – BIG STONE CT.
(STA. 0+28 FROM 0'-6' LT.)



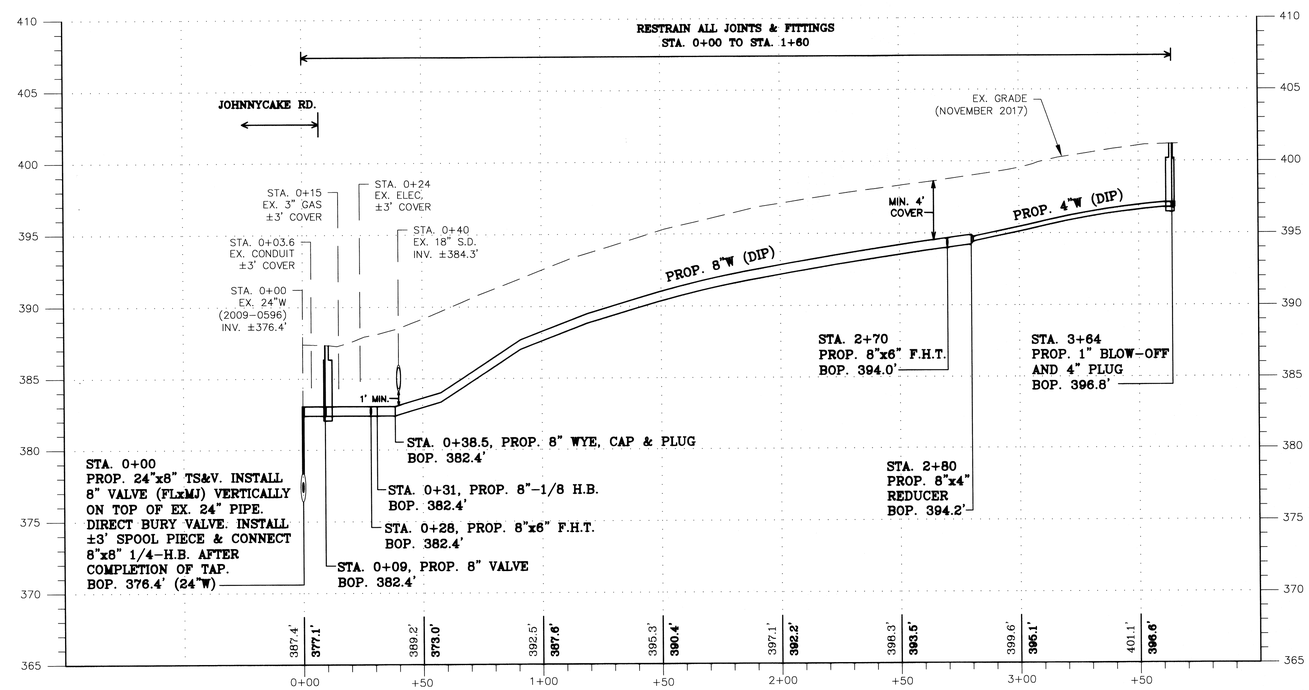
PLAN: PROP. 8"/4" DIP WATER MAIN – BIG STONE COURT
(STA. 0+00 TO STA. 3+64)

BILL OF MATERIALS
SHEET 09 – BIG STONE COURT

NO.	DESCRIPTION	SIZE
280'	DUCTILE IRON PIPE	8"
17'	DUCTILE IRON PIPE	6"
84'	DUCTILE IRON PIPE	4"
250'	TEMPORARY WATER PIPE	4"
465'	TEMPORARY WATER PIPE	2"
1	TEMPORARY WATER PIPE REDUCER	4"x2"
1	TAPPING SLEEVE & 8" VALVE	24"x8"
1	VALVE & VAULT	8"
2	VALVE & VAULT	6"
2	FIRE HYDRANT TEE	8"x6"
2	FIRE HYDRANT (SNFH)	6"
1	WYE	8"
1	BLOW-OFF	1"
1	MECHANICAL JOINT PLUG	8"
1	MECHANICAL JOINT PLUG	4"
1	MECHANICAL JOINT CAP	8"
1	REDUCER	8"x4"
2	1/8 BEND	8"
1	1/4 BEND	8"
280'	COPPER PIPE (WHC)	3/4"
10	CORPORATION (DIP)	3/4"



PROFILE: PROP. F.H. #021556 – BIG STONE CT.
(STA. 2+70 FROM 0'-10.4' LT.)



PROFILE: PROP. 8"/4" DIP WATER MAIN – BIG STONE COURT
(STA. 0+00 TO STA. 3+64)

GRAPHIC SCALE
VERTICAL 5 0 2.5 5 10
SCALE: 1" = 5'
GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60
SCALE: 1" = 30'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

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

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND – ERIN A. MCKENNA-SHUFFLE – No. 34430 – REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 34430 EXPIRATION DATE 6/7/2022
ENGINEER ERIN MCKENNA-SHUFFLE P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY: DATE:

DESIGN BY:	EAM
DRAWN BY:	EAM
CHKD BY:	MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	RSW	42NE1 41NE2
AS SHOWN		

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

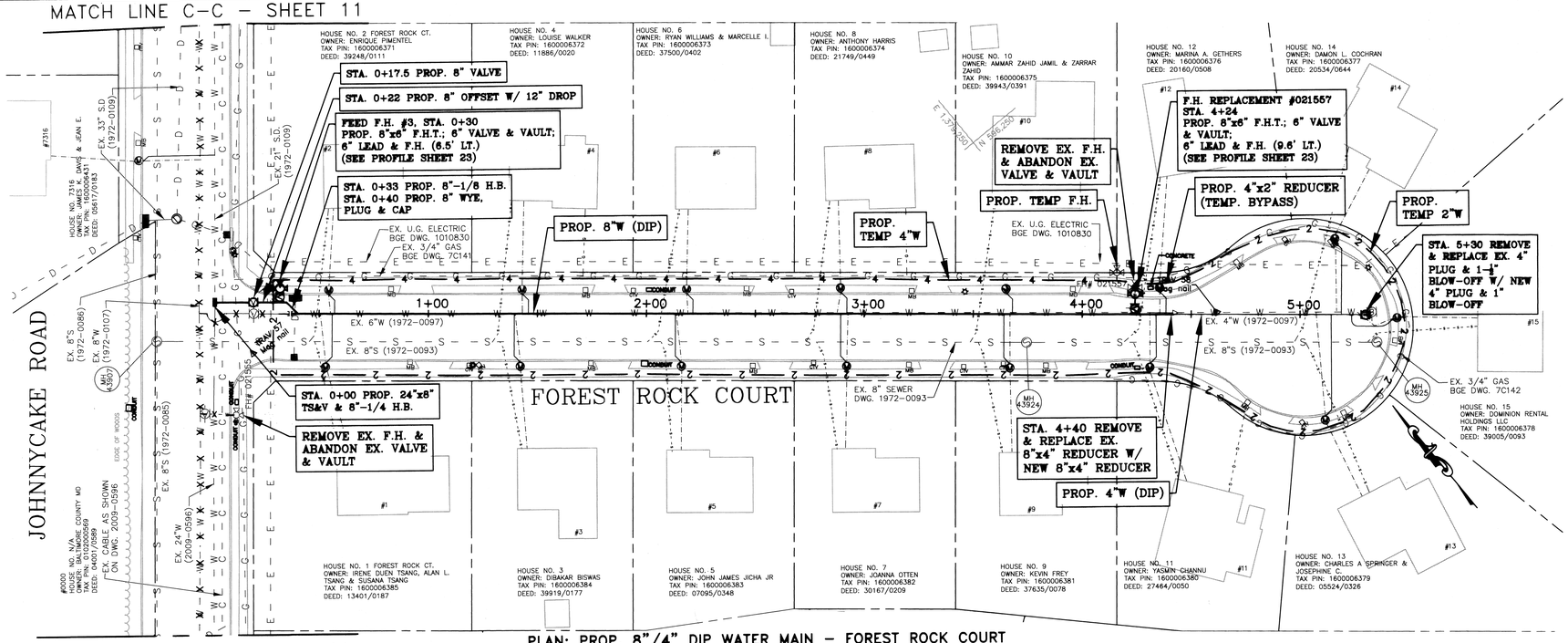
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
BIG STONE CT
WATER PLAN & PROFILE

SUBDIVISION: CATONSVILLE/WINDSOR MILL
ELECTION DIST. NO.: 1C1

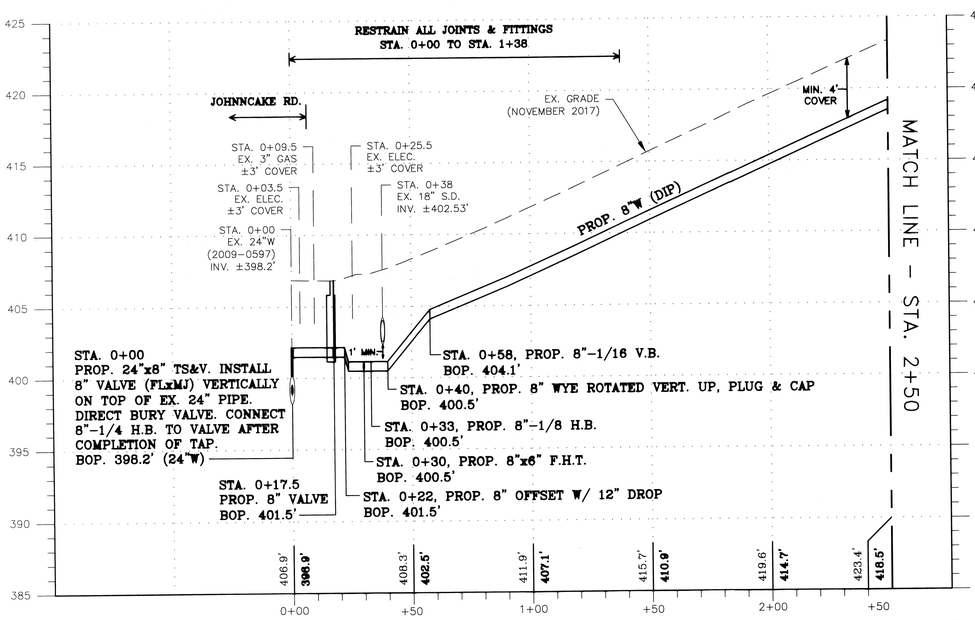
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	
203-0035-0622	
SHEET 09 OF 40	
DRAWING NUMBER	
2020-1084	
FILE NO.: 3	REV.

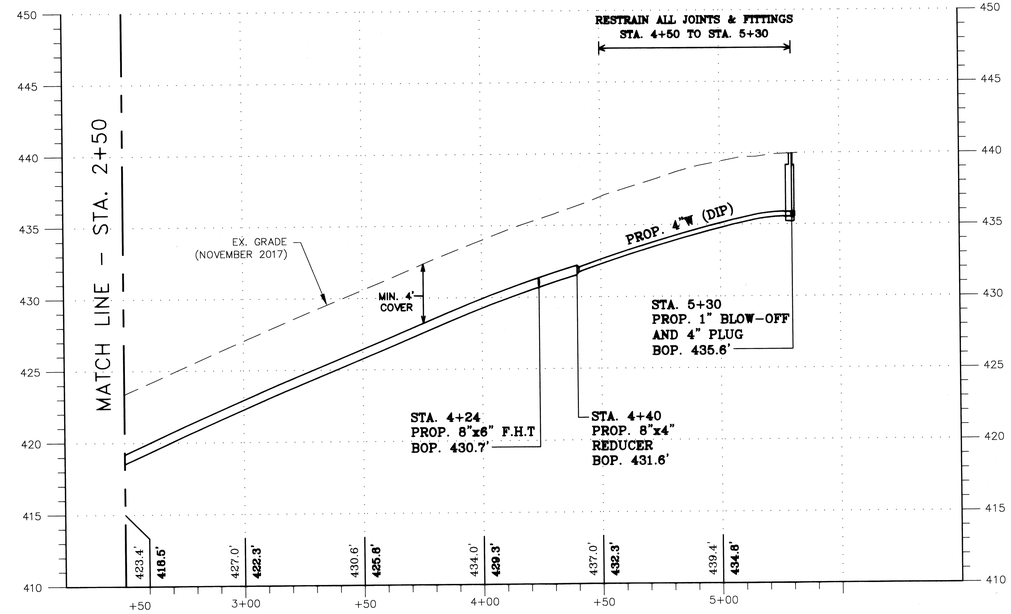
BALTIMORE COUNTY MARYLAND



PLAN: PROP. 8"/4" DIP WATER MAIN - FOREST ROCK COURT
(STA. 0+00 TO STA. 5+30)

BILL OF MATERIALS SHEET 10 - FOREST ROCK COURT		
NO.	DESCRIPTION	SIZE
440'	DUCTILE IRON PIPE	8"
17'	DUCTILE IRON PIPE	6"
90'	DUCTILE IRON PIPE	4"
410'	TEMPORARY WATER PIPE	4"
740'	TEMPORARY WATER PIPE	2"
1	TEMPORARY WATER PIPE REDUCER	4"x2"
1	TAPPING SLEEVE & 8" VALVE	24"x8"
1	VALVE & VAULT	8"
2	VALVE & VAULT	6"
1	BLOW-OFF	1"
1	MECHANICAL JOINT PLUG	8"
1	MECHANICAL JOINT PLUG	4"
1	MECHANICAL JOINT CAP	8"
1	WYE	8"x8"
2	FIRE HYDRANT TEE	8"x6"
2	FIRE HYDRANT (SNFH)	6"
1	REDUCER	8"x4"
1	1/4 BEND	8"
2	1/8 BEND	8"
1	1/16 BEND	8"
351'	COPPER PIPE (WHC)	3/4"
16	CORPORATION (DIP)	3/4"





PROFILE: PROP. 8"/4" DIP WATER MAIN - FOREST ROCK CT
(STA. 0+00 TO STA. 5+30)

VERTICAL GRAPHIC SCALE 5 0 2.5 5 10 — SCALE: 1" = 5'

HORIZONTAL GRAPHIC SCALE 30 0 15 30 60 — SCALE: 1" = 30'

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

CONTRACT COMPLETION BOX	
Contractor:	
Date Completed:	
Inspector:	
Pipe Material (Pressure Only)	

DWG. FILENAME:

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE	CHIEF, UTILITIES ENGINEERING SECTION — DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND — MICHAEL J. MCKENNA-STREPPLE — No. 38630 — REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 38630, EXPIRATION DATE 6/7/2022

ENGINEER: MICHAEL MCKENNA-STREPPLE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST. WATER DIST. SECT.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
R.O.W NO.	RSW	42NE1 41NE2	PLAN SCALE:	1"=30'
AS SHOWN			PROFILE SCALE:	H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

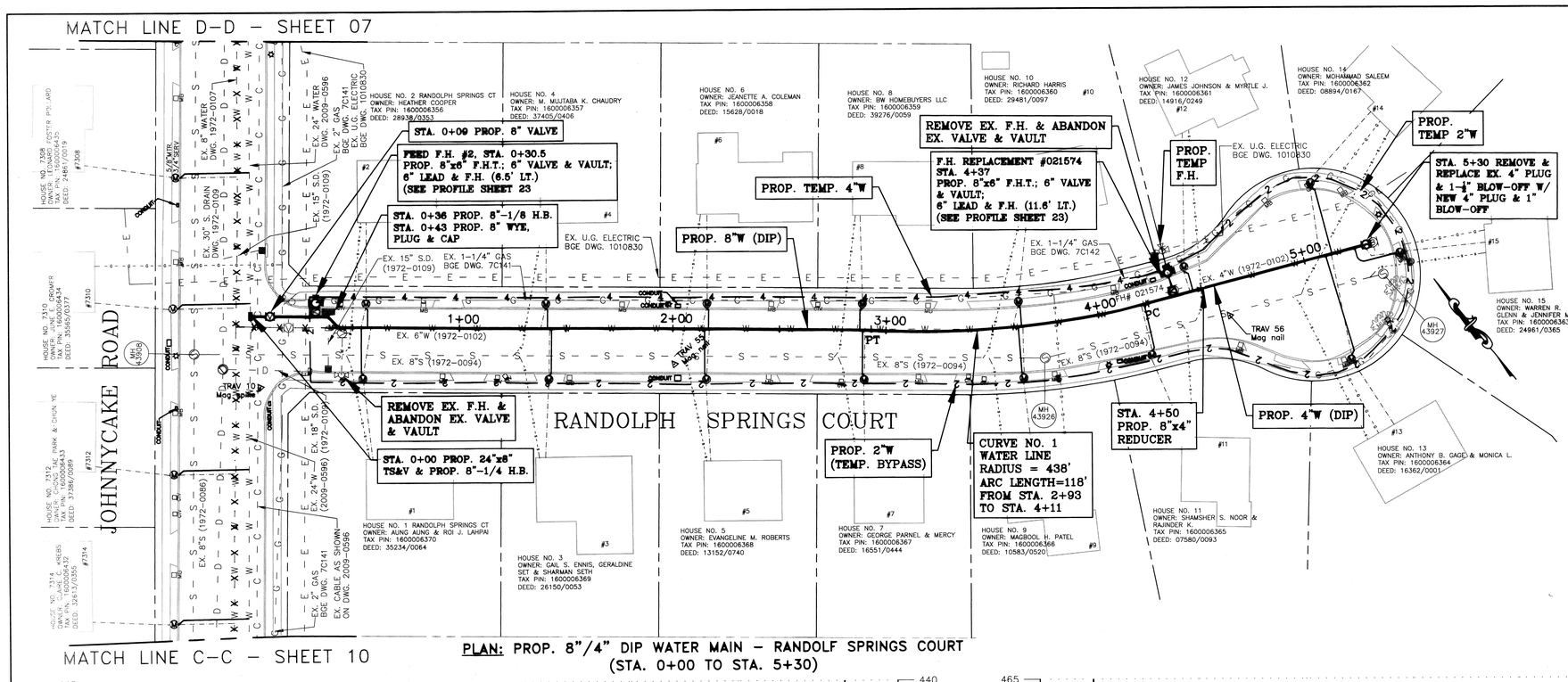
BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

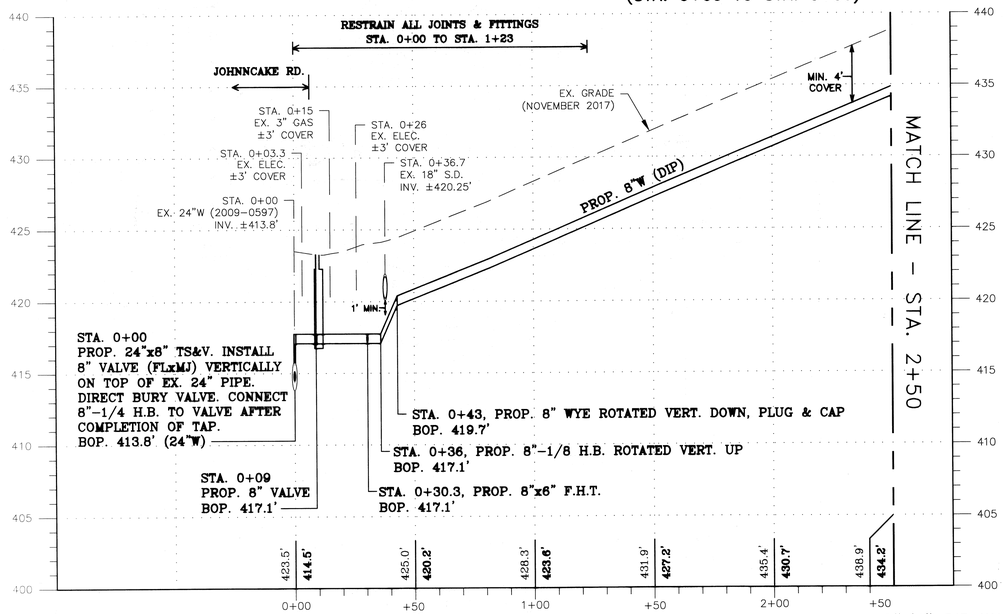
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
FOREST ROCK CT
WATER PLAN & PROFILE

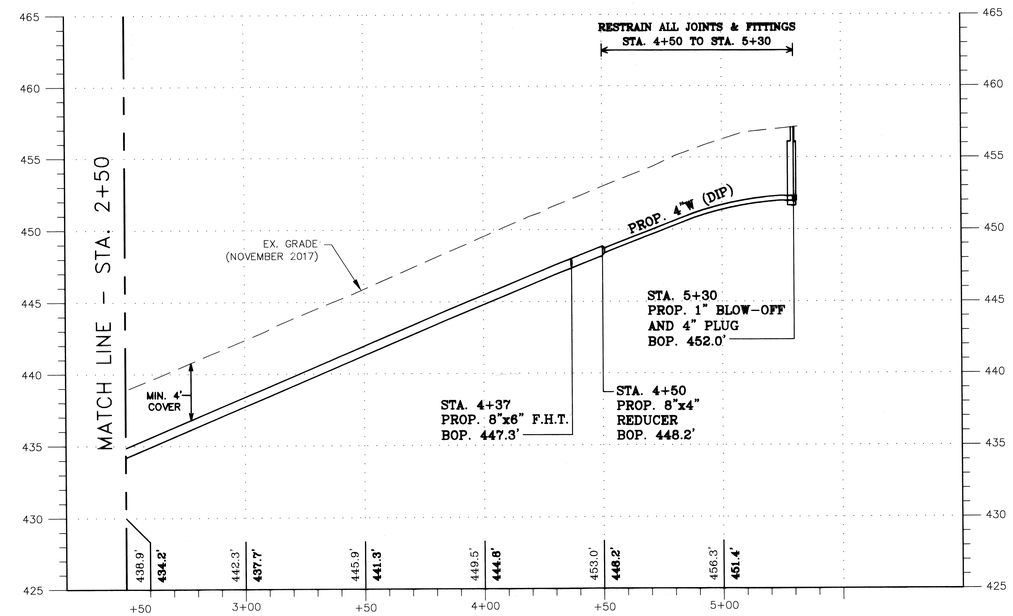
SUBDIVISION: CATONSVILLE/WINDSOR MILL
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WXO
JOB ORDER NUMBER	203-0035-0622
SHEET 10 OF 40	
DRAWING NUMBER	2020-1085
FILE NO.: 3	REV. NO.



PLAN: PROP. 8"/4" DIP WATER MAIN – RANDOLF SPRINGS COURT
(STA. 0+00 TO STA. 5+30)





PROFILE: PROP. 8"/4" DIP WATER MAIN – RANDOLF SPRINGS COURT
(STA. 0+00 TO STA. 5+30)

BILL OF MATERIALS
SHEET 11– RANDOLPH SPRINGS CT.

NO.	DESCRIPTION	SIZE
450'	DUCTILE IRON PIPE	8"
19'	DUCTILE IRON PIPE	6"
80'	DUCTILE IRON PIPE	4"
421'	TEMPORARY WATER PIPE	4"
726'	TEMPORARY WATER PIPE	2"
1	TEMPORARY WATER PIPE REDUCER	4"x2"
1	REDUCER	8"x4"
1	TAPPING SLEEVE & 8" VALVE	24"x8"
1	VALVE & VAULT	8"
2	VALVE & VAULT	6"
2	FIRE HYDRANT TEE	8"x6"
2	FIRE HYDRANT (SNFH)	6"
1	BLOW-OFF	1"
1	WYE	8"x8"
1	MECHANICAL JOINT PLUG	8"
1	MECHANICAL JOINT PLUG	4"
1	MECHANICAL JOINT CAP	8"
1	1/4 BEND	8"
2	1/8 BEND	8"
442'	COPPER PIPE (WHC)	3/4"
19	CORPORATION (DIP)	3/4"

CURVE DATA

CURVE NO.	RADIUS	ARC LENGTH	PC	PT
1	438'	118'	STA. 2+93	STA. 4+11

VERTICAL
GRAPHIC SCALE
5 0 2.5 5 10
SCALE: 1" = 5'

HORIZONTAL
GRAPHIC SCALE
30 0 15 30 60
SCALE: 1" = 30'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE

REVISION – CITY OF BALTIMORE
CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL
STATE OF MARYLAND ERIN A. MCKENNA-SMITH No. 36630 REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022

ENGINEER: ERIN MCKENNA-SMITH, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST. WATER DES. SECT.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

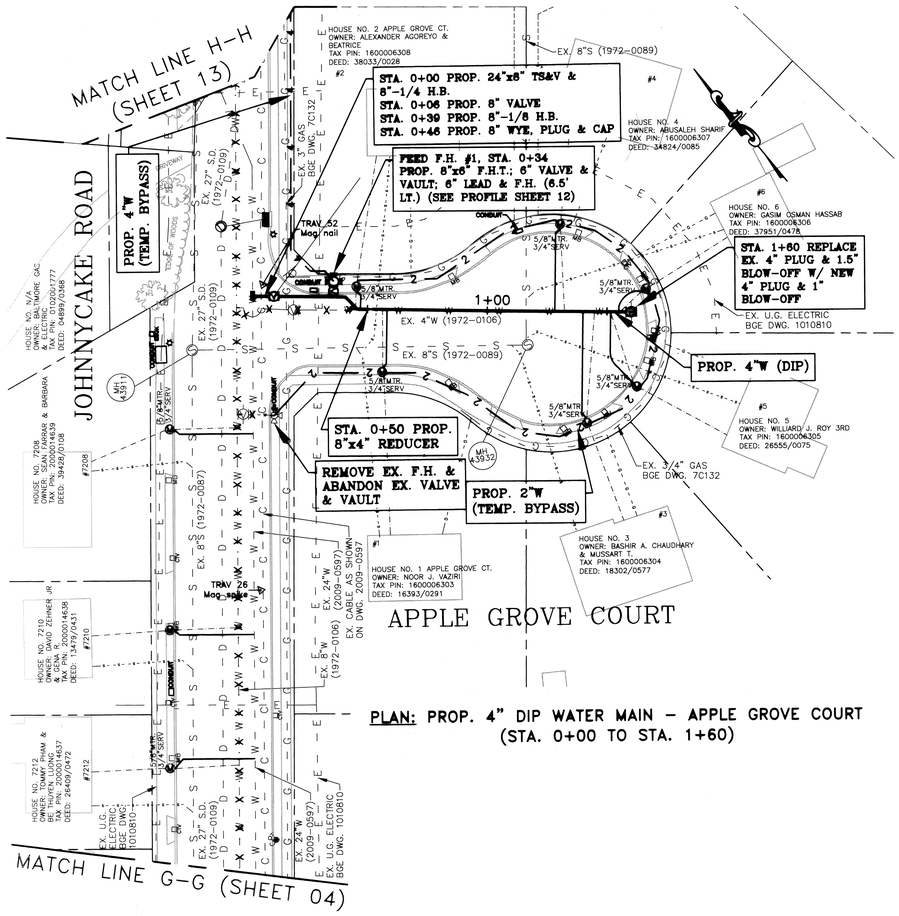
DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

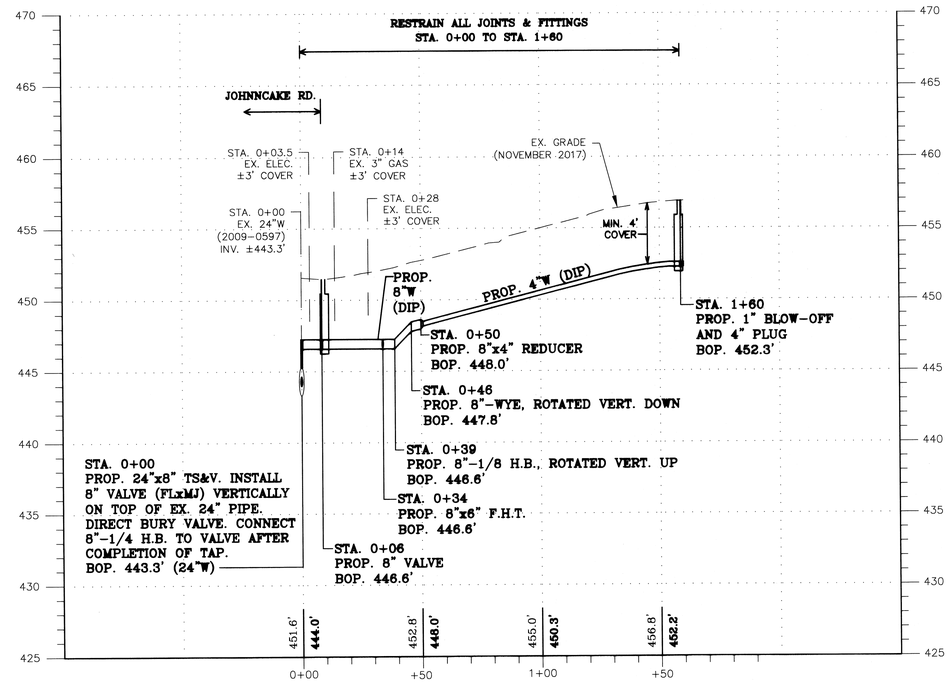
BUREAU OF ENGINEERING AND CONSTRUCTION | HIGHWAYS | STRUCTURES | STORM DRAINS | SEWER | WATER | FIELD ENGINEER | BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
RANDOLPH SPRINGS CT.
WATER PLAN & PROFILE
SUBDIVISION: CATONSVILLE/WINDSOR MILL
ELECTION DIST. NO.: 1C1

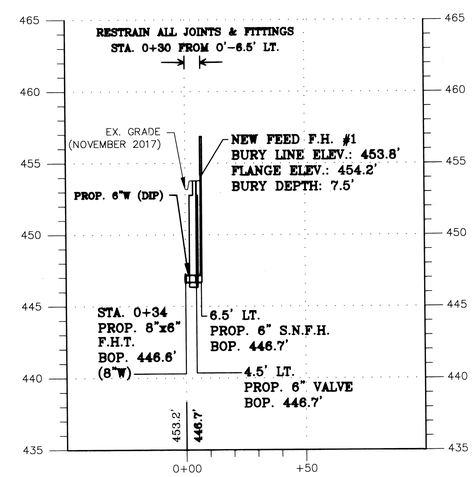
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 11 OF 40	
DRAWING NUMBER	2020-1086
FILE NO.: 3	REV. 0



PLAN: PROP. 4" DIP WATER MAIN – APPLE GROVE COURT
(STA. 0+00 TO STA. 1+60)



PROFILE: PROP. 4"/8" DIP WATER MAIN – APPLE GROVE CT.
(STA. 0+00 TO STA. 1+60)



PROFILE: PROP. NEW FEED F.H. #1 – APPLE GROVE CT.
(STA. 0+34 FROM 0'-8.5' LT.)

BILL OF MATERIALS
SHEET 12 – APPLE GROVE CT.

NO.	DESCRIPTION	SIZE
50'	DUCTILE IRON PIPE	8"
7'	DUCTILE IRON PIPE	6"
110'	DUCTILE IRON PIPE	4"
124'	TEMPORARY WATER PIPE	4"
360'	TEMPORARY WATER PIPE	2"
1	REDUCER	8"x4"
1	TAPPING SLEEVE & 8" VALVE	24"x8"
1	VALVE & VAULT	8"
1	VALVE & VAULT	6"
1	FIRE HYDRANT TEE	8"x6"
1	FIRE HYDRANT (SNFH)	6"
1	BLOW-OFF	1"
1	MECHANICAL JOINT PLUG	8"
1	MECHANICAL JOINT PLUG	4"
1	MECHANICAL JOINT CAP	8"
1	WYE	8"x8"
1	1/4 BEND	8"
2	1/8 BEND	8"
268'	COPPER PIPE (WHC)	3/4"
9	CORPORATION (DIP)	3/4"

GRAPHIC SCALE
VERTICAL 5 0 2.5 5 10
SCALE: 1" = 5'

GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60
SCALE: 1" = 30'

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND – BRIAN A. MCKENNA – No. 38630 – REGISTERED PROFESSIONAL ENGINEER

DATE: 8/24/2020

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. 38630 EXPIRATION DATE 6/7/2022
ENGINEER: BRIAN MCKENNA – SUPERVISOR, P.E. BALTIMORE COUNTY, DPW BUREAU: ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM	
DRAWN BY: EAM	
CHKD BY: MJM	

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
APPLE GROVE CT

WATER PLAN & PROFILE

SUBDIVISION: CATONSVILLE/WINDSOR MILL

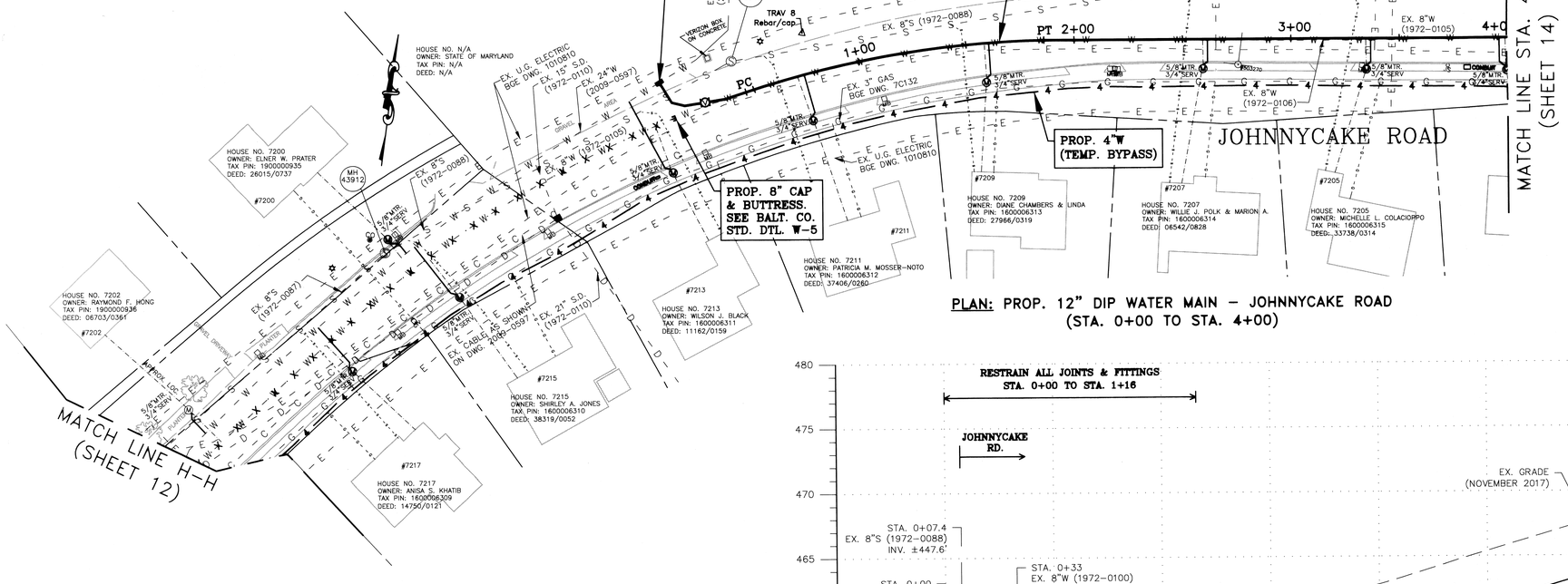
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 12 OF 40	
DRAWING NUMBER	2020-1087
FILE NO.: 3	REV.

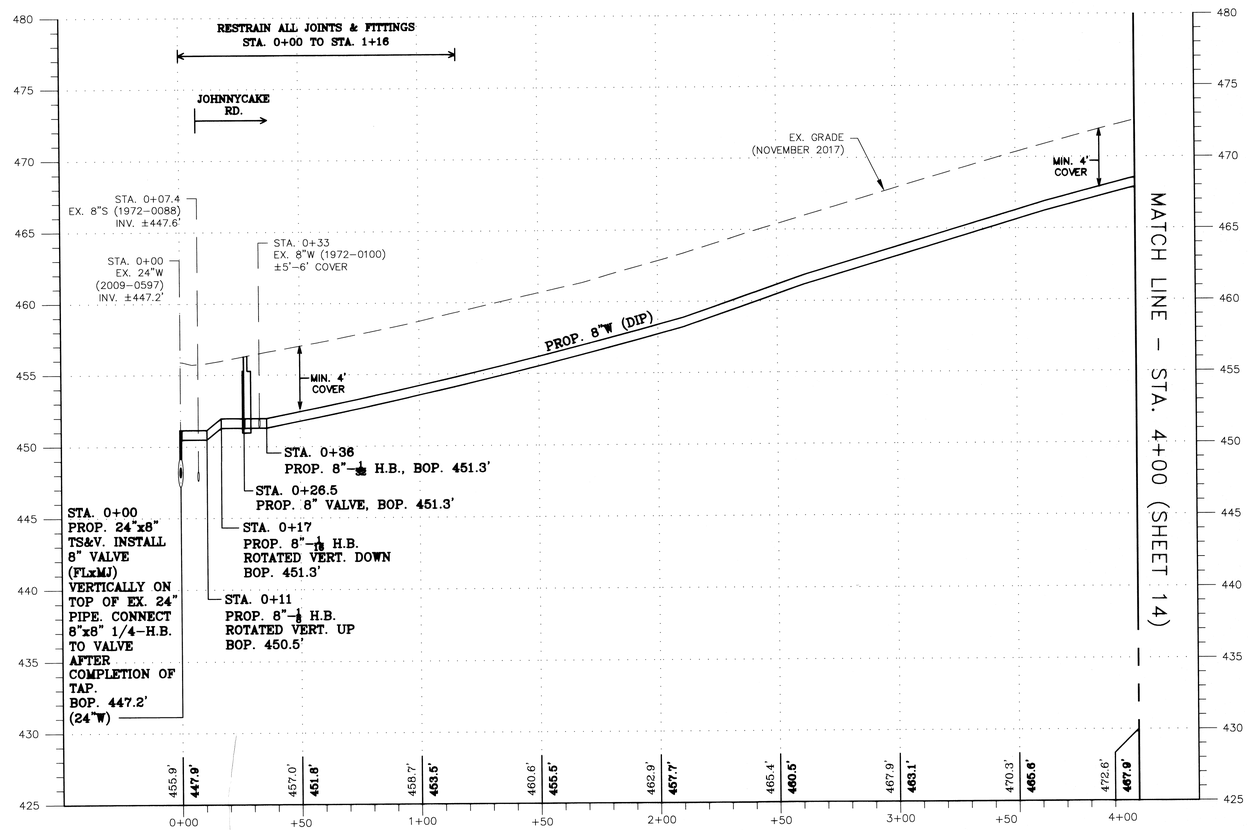
DWG. FILENAME:

STA. 0+00 PROP. 24"x8" TS&V & 8"-1/4 H.B.
STA. 0+11 PROP. 8"-1/8 H.B.
STA. 0+17 PROP. 8"-1/16 H.B.
STA. 0+26.5 PROP. 8" VALVE
STA. 0+36 PROP. 8"-1/32 H.B.

CURVE NO. 1
WATER LINE
RADIUS=465'
ARC LENGTH=140'
FROM STA. 0+46
TO STA. 1+86



PLAN: PROP. 12" DIP WATER MAIN – JOHNNYCAKE ROAD (STA. 0+00 TO STA. 4+00)



PROFILE: PROP. 8" DIP WATER MAIN – JOHNNYCAKE ROAD (STA. 0+00 TO STA. 4+00)

BILL OF MATERIALS
SHEET 13 – JOHNNYCAKE RD.

NO.	DESCRIPTION	SIZE
400'	DUCTILE IRON PIPE	8"
612'	TEMPORARY WATER PIPE	4"
1	TAPPING SLEEVE & 8" VALVE	24"x8"
1	VALVE & VAULT	8"
1	1/4 BEND	8"
1	1/8 BEND	8"
1	1/16 BEND	8"
1	1/32 BEND	8"
195'	COPPER PIPE (WHC)	3/4"
10	CORPORATION (DIP)	3/4"

CURVE DATA

CURVE NO.	RADIUS	ARC LENGTH	PC	PT
1	465'	140'	STA. 0+46	STA. 1+86

GRAPHIC SCALE
VERTICAL 5 0 2.5 5 10
SCALE: 1" = 5'

GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60
SCALE: 1" = 30'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

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

NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND — JOHN A. MCKENNA – STRYLE — No. 36630 — REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022
ENGINEER: JOHN MCKENNA-STRYLE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: KAM
DRAWN BY: KAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

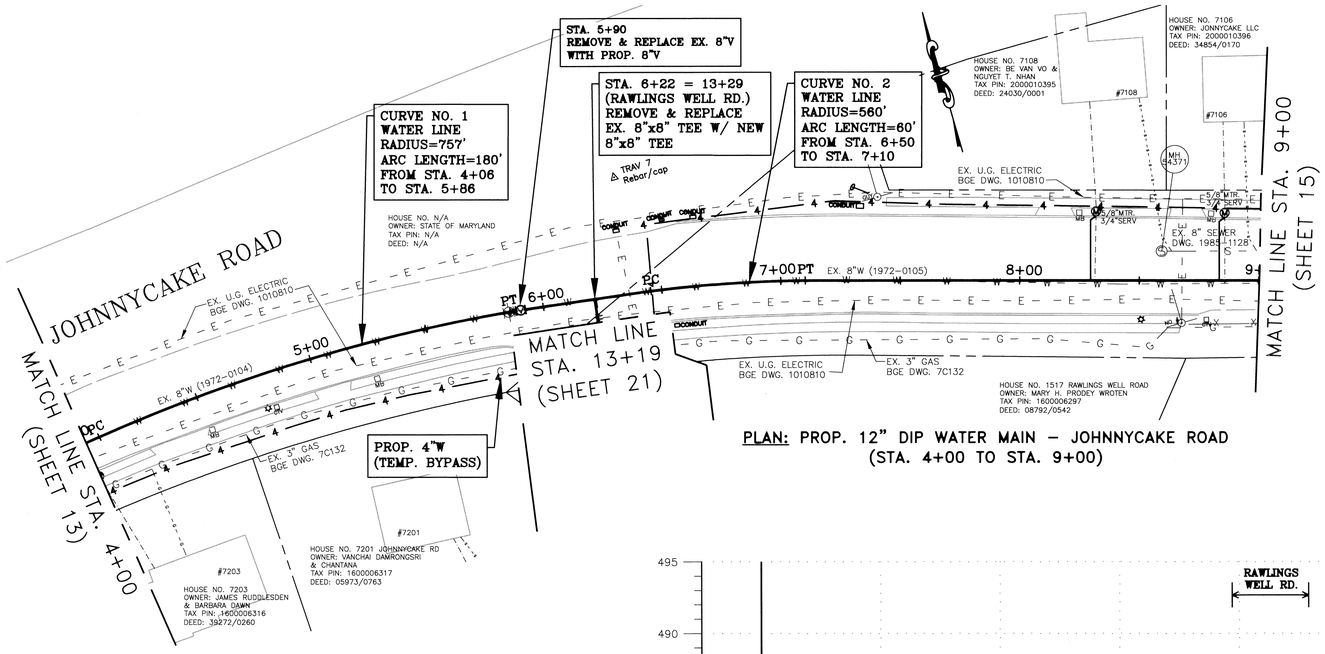
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
JOHNNYCAKE RD.

SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILE – PROP. 8"W
ELECTION DIST. NO.: 1C1

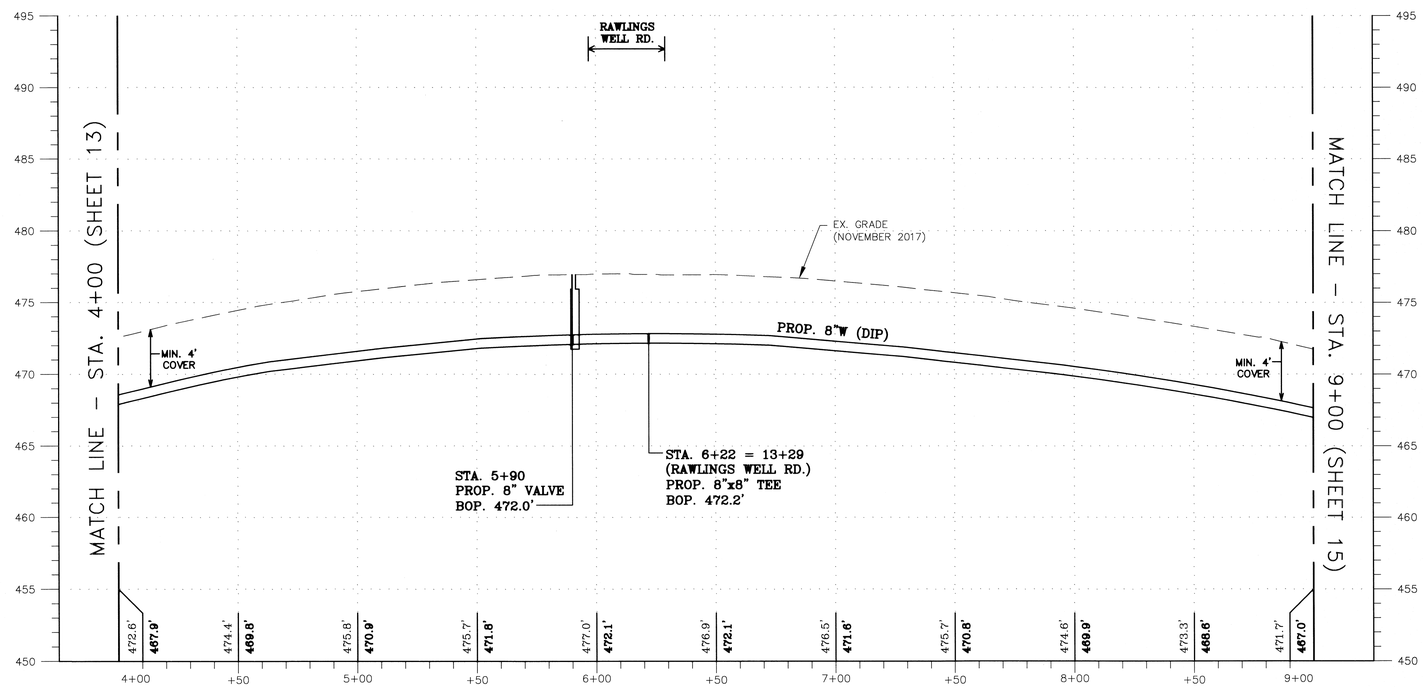
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 13 OF 40	
DRAWING NUMBER	2020-1088
FILE NO.: 3	REV.

BILL OF MATERIALS SHEET 14 – JOHNNYCAKE RD.		
NO.	DESCRIPTION	SIZE
500'	DUCTILE IRON PIPE	8"
474'	TEMPORARY WATER PIPE	4"
1	VALVE & VAULT	8"
1	TEE	8"x8"
56'	COPPER PIPE (WHC)	3/4"
2	CORPORATION (DIP)	3/4"

CURVE DATA				
CURVE NO.	RADIUS	ARC LENGTH	PC	PT
1	757'	180'	STA. 4+06	STA. 5+86
2	560'	60'	STA. 6+50	STA. 7+10



PLAN: PROP. 12" DIP WATER MAIN – JOHNNYCAKE ROAD (STA. 4+00 TO STA. 9+00)



PROFILE: PROP. 8" DIP WATER MAIN – JOHNNYCAKE ROAD (STA. 4+00 TO STA. 9+00)

GRAPHIC SCALE
VERTICAL 5 0 2.5 5 10
SCALE: 1" = 5'

GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60
SCALE: 1" = 30'

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

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

SEAL: STATE OF MARYLAND – ERIN K. MCKENNA-STRYFYLE – No. 34439 – REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022
ENGINEER: ERIN MCKENNA-STRYFYLE, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY: DATE:

REVISION	BY	DATE

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

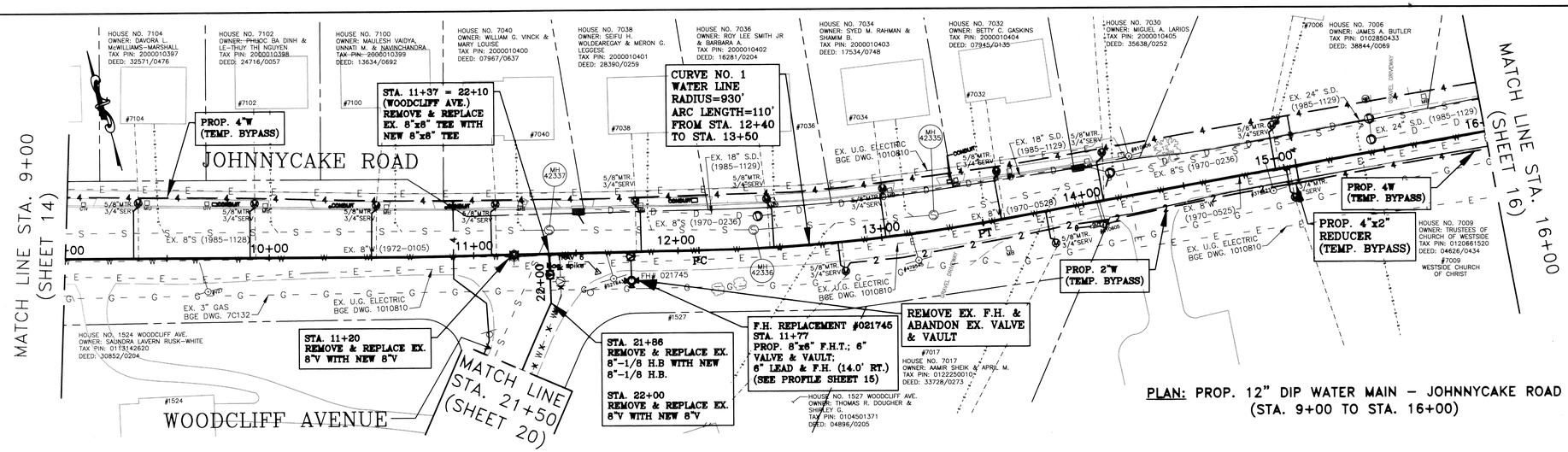
DESIGN BY: EAM	CONTRACT COMPLETION BOX	BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN BY: EAM									
CHKD BY: MJM		SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
JOHNNYCAKE RD.

SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILE – PROP. 8"W
ELECTION DIST. NO.: 1C1

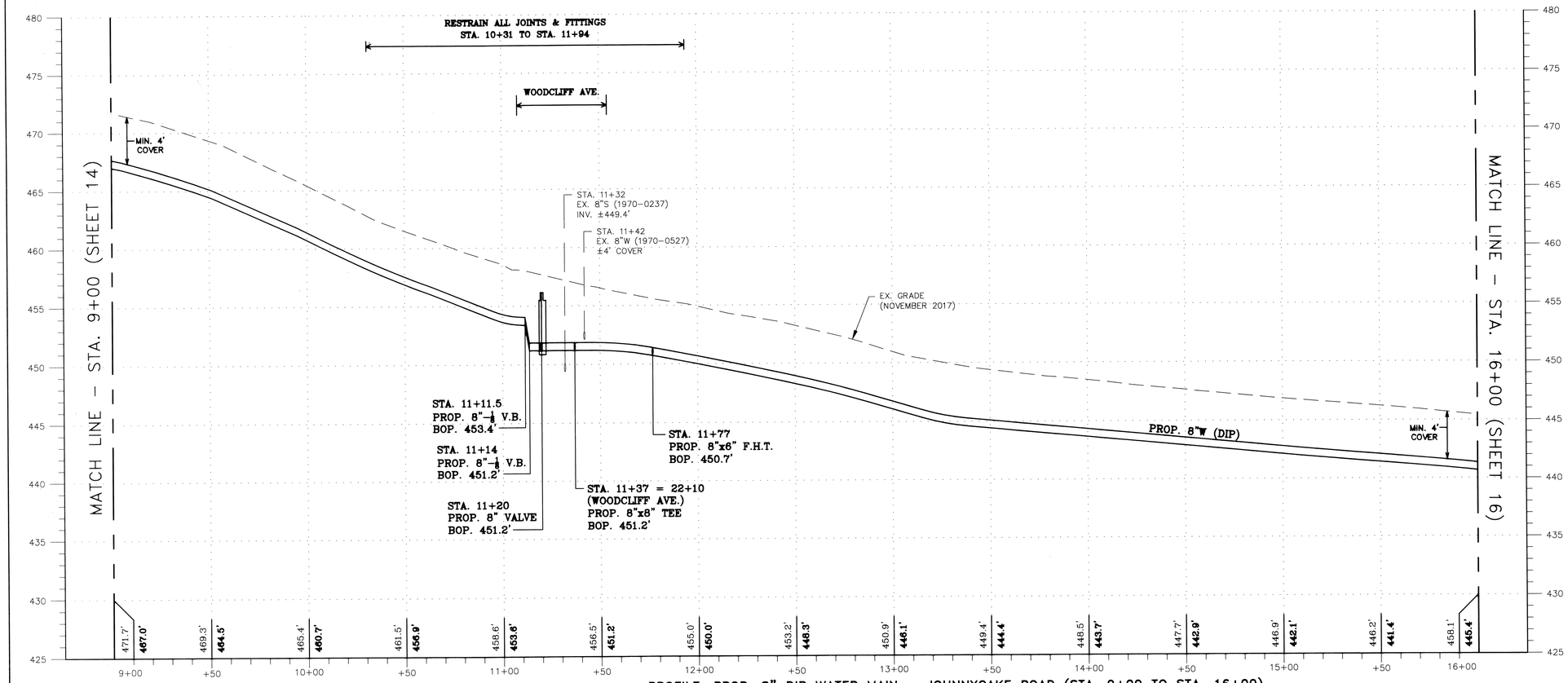
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 14 OF 40	
DRAWING NUMBER	2020-1089
FILE NO.: 3	REV. 05/17



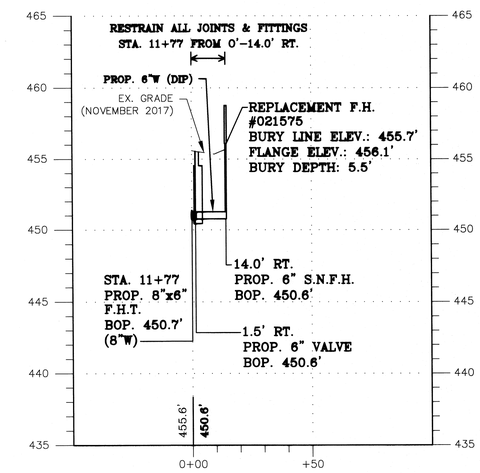
PLAN: PROP. 12" DIP WATER MAIN – JOHNNYCAKE ROAD (STA. 9+00 TO STA. 16+00)

BILL OF MATERIALS SHEET 15 – JOHNNYCAKE RD.		
NO.	DESCRIPTION	SIZE
736'	DUCTILE IRON PIPE	8"
14'	DUCTILE IRON PIPE	6"
822'	TEMPORARY WATER PIPE	4"
223'	TEMPORARY WATER PIPE	2"
2	VALVE & VAULT	8"
1	VALVE & VAULT	6"
1	TEE	8"x8"
1	FIRE HYDRANT TEE	8"x6"
1	FIRE HYDRANT (SNFH)	6"
3	1/8 BEND	8"
281'	COPPER PIPE (WHC)	3/4"
13	CORPORATION (DIP)	3/4"

CURVE DATA				
CURVE NO.	RADIUS	ARC LENGTH	PC	PT
1	930'	110'	STA. 12+40	STA. 13+50



PROFILE: PROP. 8" DIP WATER MAIN – JOHNNYCAKE ROAD (STA. 9+00 TO STA. 16+00)



PROFILE: PROP. F.H. #021745 – JOHNNYCAKE RD. (STA. 11+77 FROM 0'-14.0' RT.) (SEE PLAN ON SHEET 15)

GRAPHIC SCALE — VERTICAL: 5 0 2.5 5 10 — SCALE: 1" = 5'

GRAPHIC SCALE — HORIZONTAL: 30 0 15 30 60 — SCALE: 1" = 30'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

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

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND — EMMA A. MCKENNA-STRUZZI — No. 36830 — REGISTERED PROFESSIONAL ENGINEER

DATE: 8/24/2020

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. 36830, EXPIRATION DATE 6/7/2022

ENGINEER: EMMA MCKENNA-STRUZZI, P.E. — BALTIMORE COUNTY, DPW — BUREAU ENG/CONST, WATER DES. SECT.

AS-BUILT PER RECORD PRINT — BY: — DATE:

DESIGN BY: EAM — DRAWN BY: EAM — CHKD BY: MJM

REVISION	BY	DATE

CONTRACT COMPLETION BOX

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE: PLAN SCALE: 1"=30'; PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS: SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION | HIGHWAYS | STRUCTURES | STORM DRAINS | SEWER | WATER | FIELD ENGINEER | BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT

JOHNNYCAKE ROAD

JOHNNYCAKE RD.

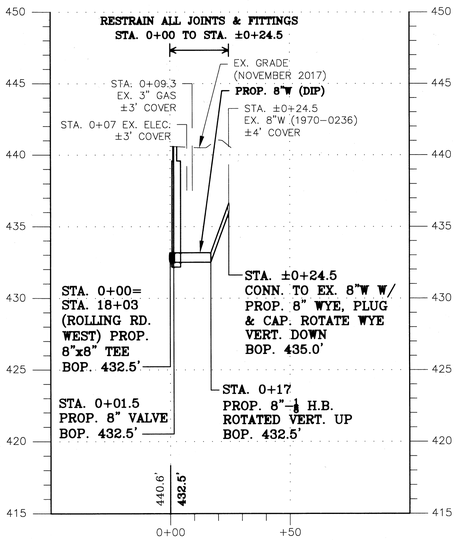
SUBDIVISION: CATONSVILLE/WINDSOR MILL

WATER PLAN & PROFILE – PROP. 8"W

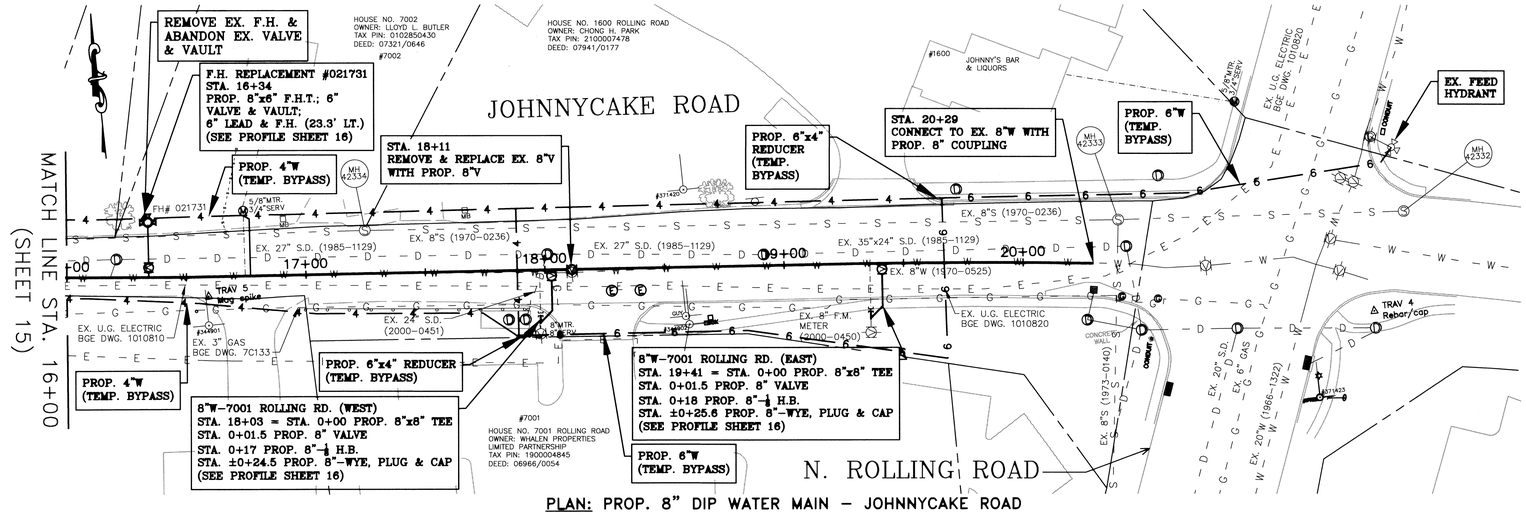
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 15 OF 40	
DRAWING NUMBER	2020-1090
FILE NO.: 3	REV. NO.

BALTIMORE COUNTY MARYLAND

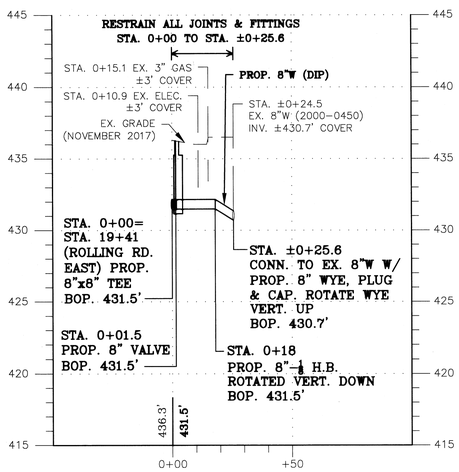


PROFILE: PROP. 8" DIP WATER MAIN
7001 ROLLING RD WEST
(STA. 0+00 TO STA. 0+24.5)

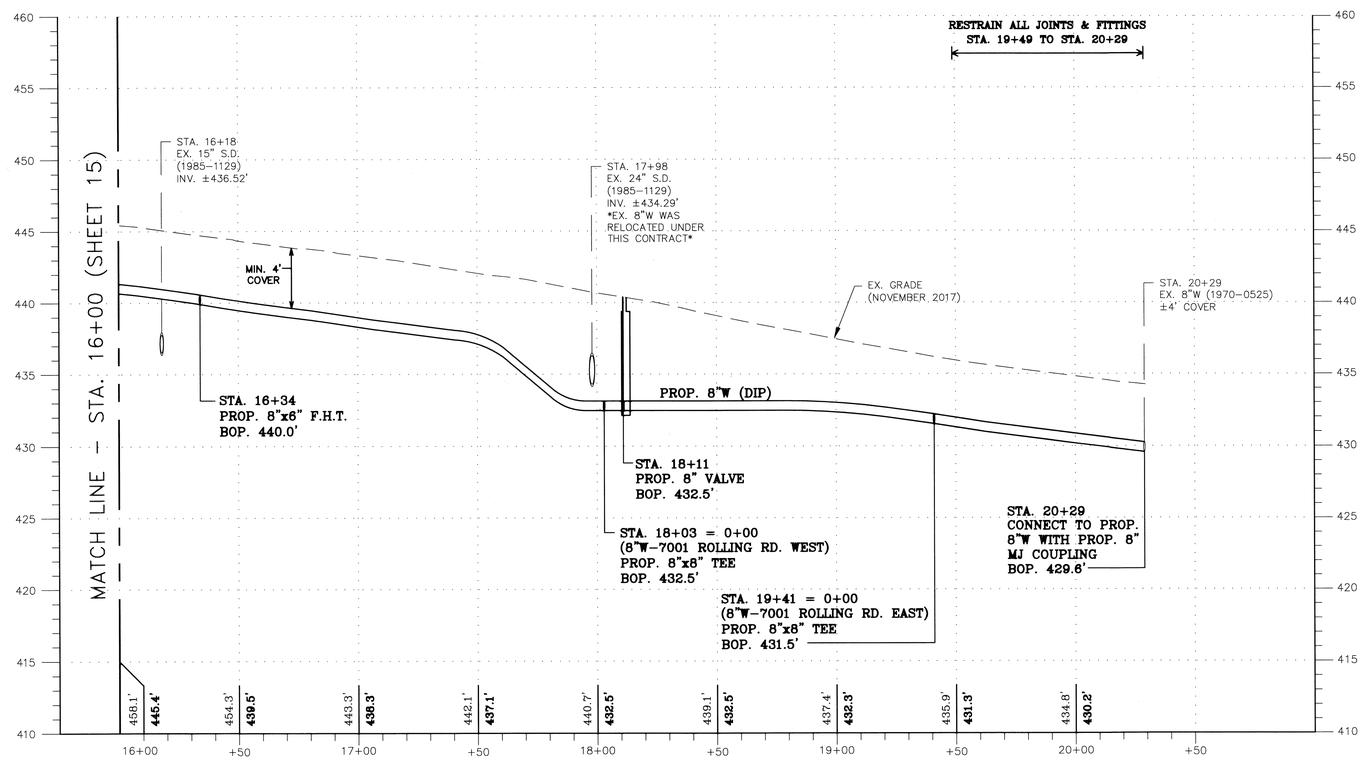


PLAN: PROP. 8" DIP WATER MAIN – JOHNNYCAKE ROAD
(STA. 16+00 TO STA. 20+29)

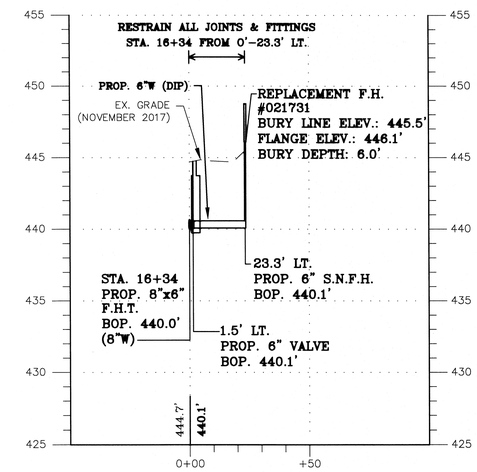
BILL OF MATERIALS SHEET 16 – JOHNNYCAKE RD.		
NO.	DESCRIPTION	SIZE
480'	DUCTILE IRON PIPE	8"
24'	DUCTILE IRON PIPE	6"
437'	TEMPORARY WATER PIPE	6"
608'	TEMPORARY WATER PIPE	4"
2	TEMPORARY WATER PIPE REDUCER	4"x6"
3	VALVE & VAULT	8"
1	VALVE & VAULT	6"
2	TEE	8"x8"
1	FIRE HYDRANT TEE	12"x6"
1	FIRE HYDRANT (SNFH)	6"
2	MECHANICAL JOINT PLUG	8"
2	MECHANICAL JOINT CAP	8"
2	WYE	8"x8"
27'	COPPER PIPE (WHC)	3/4"
1	CORPORATION (DIP)	3/4"



PROFILE: PROP. 8" DIP WATER MAIN
7001 ROLLING RD EAST
(STA. 0+00 TO STA. 0+25.6)



PROFILE: PROP. 8" DIP WATER MAIN – JOHNNYCAKE ROAD
(STA. 16+00 TO STA. 20+29)



PROFILE: PROP. F.H. #021731 – JOHNNYCAKE RD.
(STA. 16+34 FROM 0'-23.3' LT.)
(SEE PLAN ON SHEET 16)

HORIZONTAL
GRAPHIC SCALE
30 0 15 30 60
SCALE: 1" = 30'

VERTICAL
GRAPHIC SCALE
5 0 2.5 5 10
SCALE: 1" = 5'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND – WILLIAM A. MCKENNA – REGISTERED PROFESSIONAL ENGINEER – No. 34835
DATE: 6/24/2020

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. 36630 EXPIRATION DATE 6/7/2022
ENGINEER: BRIAN MCKENNA-STREFFLE, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DBS. SECT.
AS-BUILT PER RECORD PRINT
BY: DATE:
DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2	PLAN SCALE:	1"=30'
			PROFILE SCALE:	H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

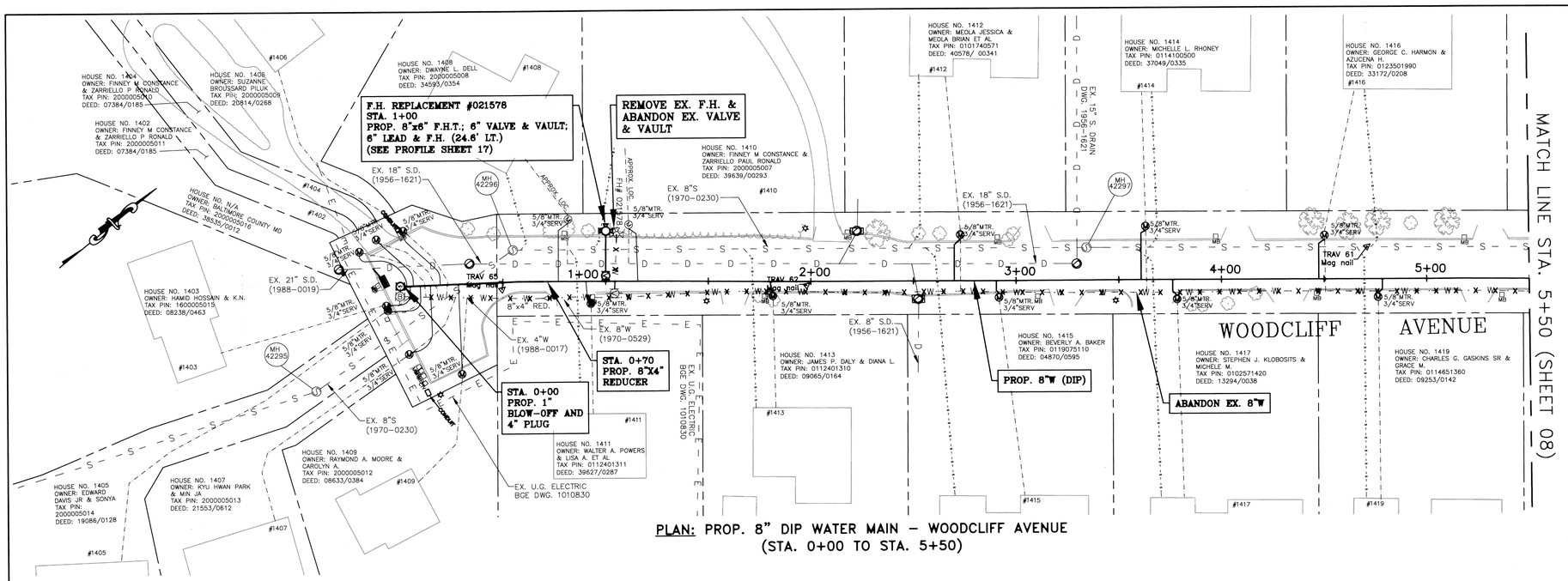
BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
JOHNNYCAKE RD.

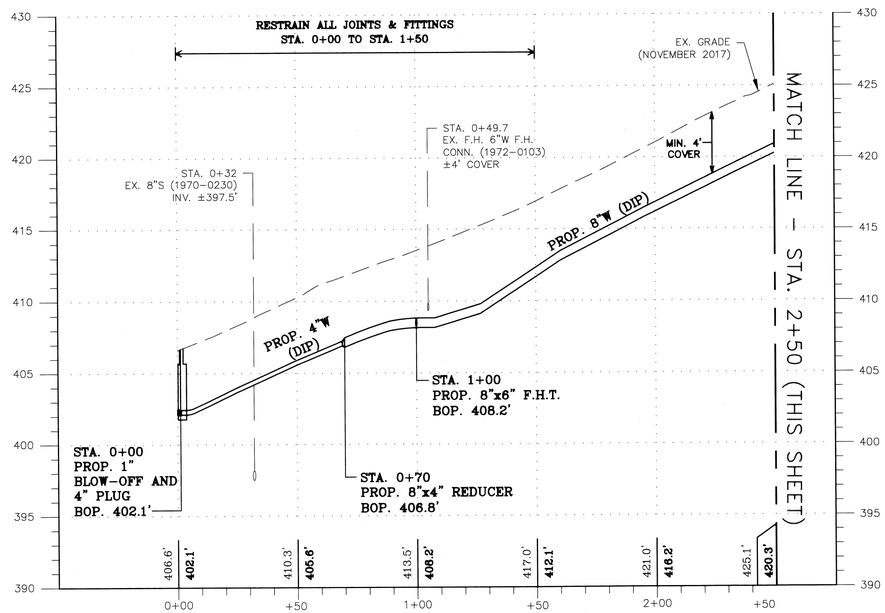
SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILE – PROP. 8"W
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 16 OF 40	
DRAWING NUMBER	2020-1091
FILE NO.: 3	

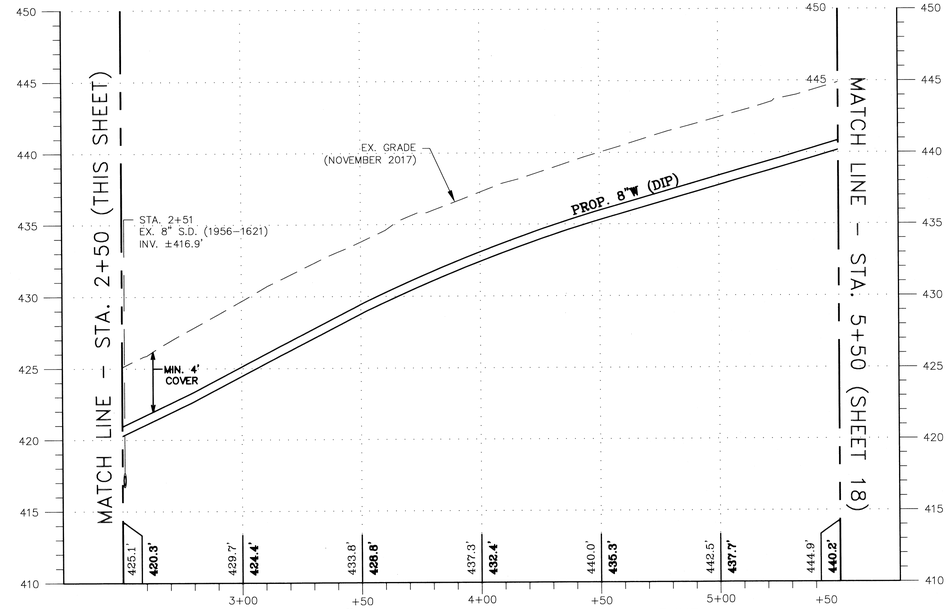


PLAN: PROP. 8" DIP WATER MAIN – WOODCLIFF AVENUE
(STA. 0+00 TO STA. 5+50)

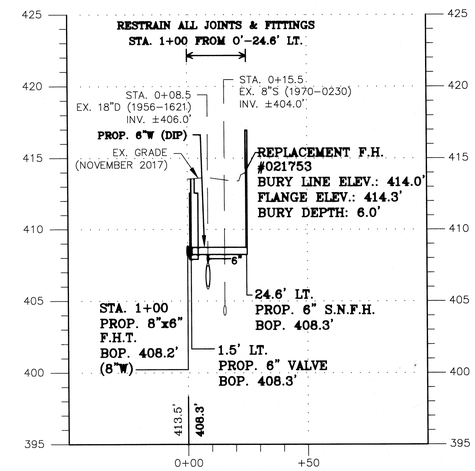
BILL OF MATERIALS SHEET 17 – WOODCLIFF AVE.		
NO.	DESCRIPTION	SIZE
480'	DUCTILE IRON PIPE	8"
25'	DUCTILE IRON PIPE	6"
70'	DUCTILE IRON PIPE	4"
1	REDUCER	8"x4"
1	BLOW-OFF	1"
1	MECHANICAL JOINT PLUG	4"
1	FIRE HYDRANT TEE	8"x6"
1	FIRE HYDRANT (SNFH)	6"
380'	COPPER PIPE (WHC)	3/4"
17	CORPORATION (DIP)	3/4"



PROFILE: PROP. 8" DIP WATER MAIN – WOODCLIFF AVENUE
(STA. 0+00 TO STA. 2+50)



PROFILE: PROP. 8" DIP WATER MAIN – WOODCLIFF AVENUE
(STA. 2+50 TO STA. 5+50)



PROFILE: PROP. F.H. #021753 – WOODCLIFFE AVE.
(STA. 1+00 FROM 0'-24.6' LT.)

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

GRAPHIC SCALE — HORIZONTAL: 30 0 15 30 60 — SCALE: 1" = 30'
GRAPHIC SCALE — VERTICAL: 5 0 2.5 5 10 — SCALE: 1" = 5'

SEAL: STATE OF MARYLAND — SHANNA MCKENNA-STRYCLE — No. 36630 — REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022

ENGINEER: SHANNA MCKENNA-STRYCLE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST. WATER DES. SECT.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
R.O.W NO.	RSW	42NE1 41NE2	PLAN SCALE:	1"=30'
AS SHOWN			PROFILE SCALE:	H: 1"=30' V: 1"=5'

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

DEPARTMENT OF PUBLIC WORKS

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
WOODCLIFF AVE.

SUBDIVISION: CATONSVILLE/WINDSOR MILL

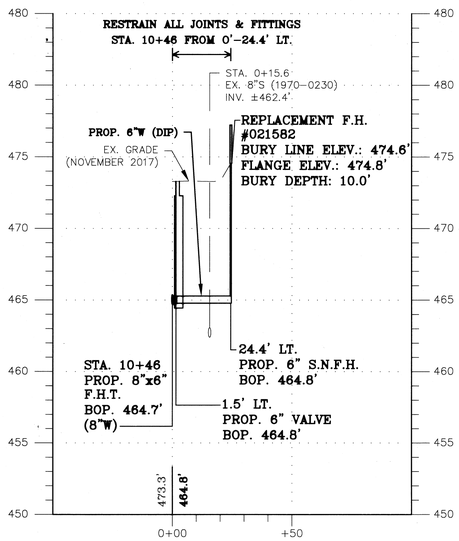
WATER PLAN & PROFILE – PROP. 8"W

ELECTION DIST. NO.: 1C1

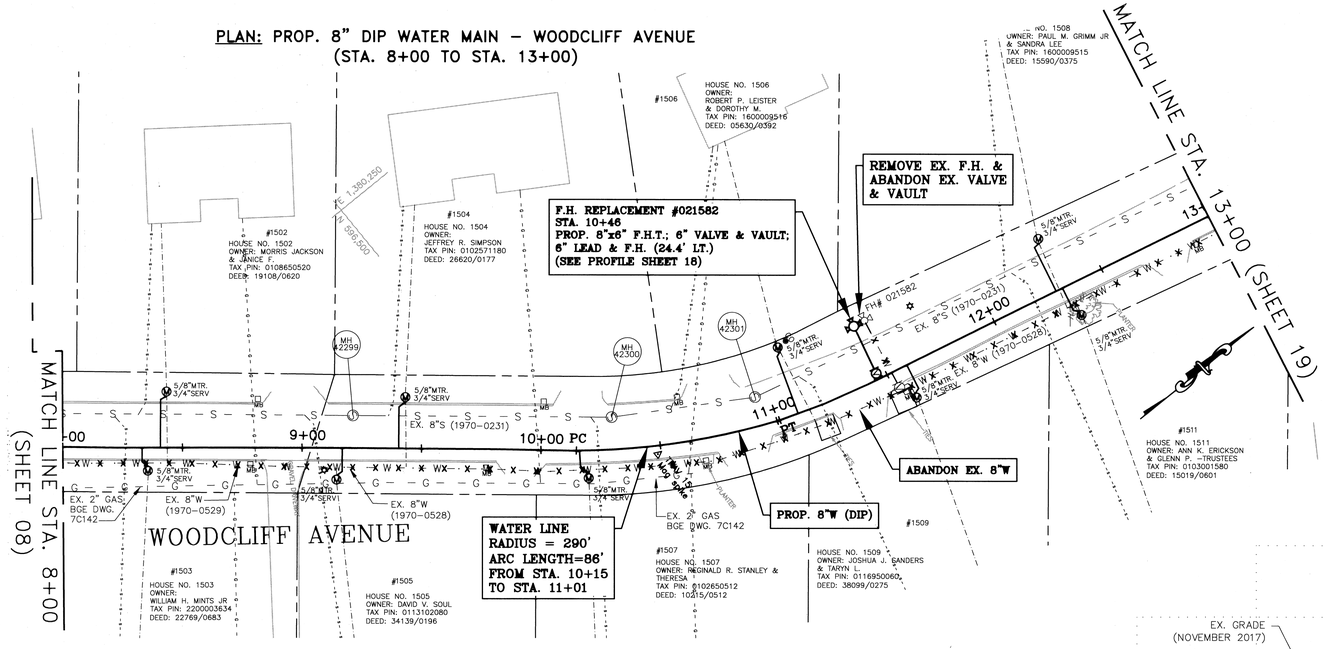
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 17 OF 40	
DRAWING NUMBER	2020-1092
FILE NO.: 3	REV. NO.

BALTIMORE COUNTY MARYLAND

DWG. FILENAME:

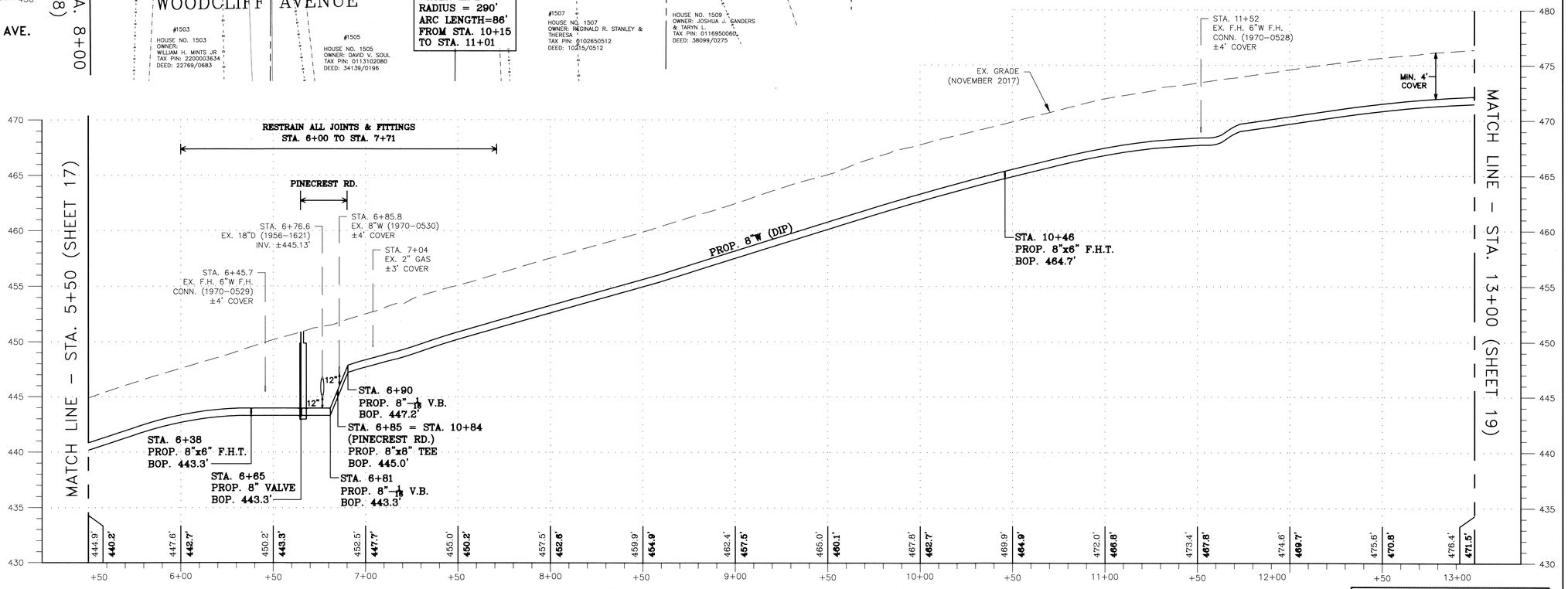


PROFILE: PROP. F.H. #021582 – WOODCLIFFE AVE.
(STA. 10+46 FROM 0'-24.4' LT.)



BILL OF MATERIALS SHEET 18 – WOODCLIFF AVE.		
NO.	DESCRIPTION	SIZE
500'	DUCTILE IRON PIPE	8"
25'	DUCTILE IRON PIPE	6"
2	1/16 BEND	8"
1	FIRE HYDRANT TEE	8"x6"
1	FIRE HYDRANT (SNFH)	6"
155'	COPPER PIPE (WHC)	3/4"
9	CORPORATION (DIP)	3/4"

CURVE DATA				
CURVE NO.	RADIUS	ARC LENGTH	PC	PT
1	290'	86'	STA. 10+15	STA. 11+01



PROFILE: PROP. 8" DIP WATER MAIN – WOODCLIFF AVENUE (STA. 5+50 TO STA. 13+00)
(SEE SHEET 08 FOR PLAN OF STA. 5+50 TO STA. 8+00)

GRAPHIC SCALE
VERTICAL 5 0 2.5 5 10
SCALE: 1" = 5'

GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60
SCALE: 1" = 30'

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

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)
DWG. FILENAME:

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

SEAL: STATE OF MARYLAND — JAMES A. MCKENNA-STRETTLE — REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022

ENGINEER: BRIAN MCKENNA-STRETTLE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST. WATER DES. SECT.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

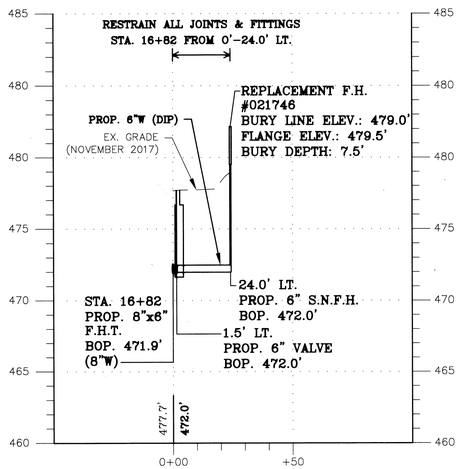
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
WOODCLIFF AVE.

SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILE – PROP. 8"W
ELECTION DIST. NO.: 1C1

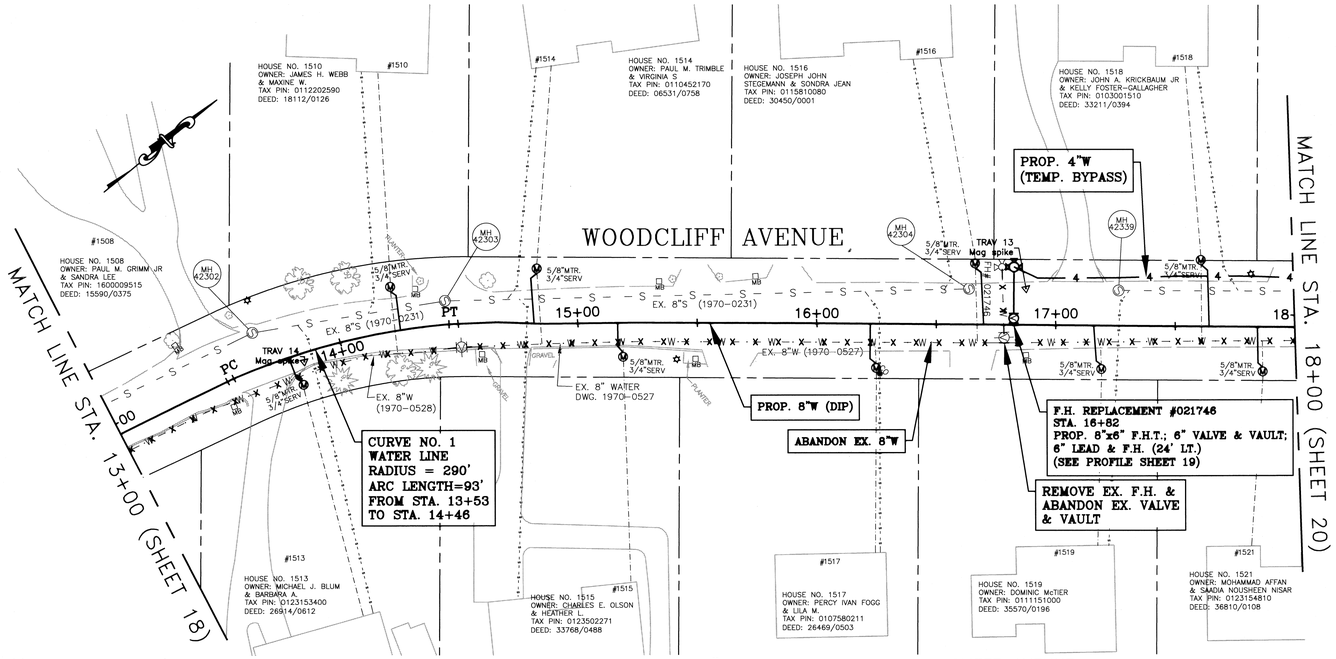
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 18 OF 40	
DRAWING NUMBER	2020-1093
FILE NO.: 3	

BILL OF MATERIALS SHEET 19 – WOODCLIFF AVE.		
NO.	DESCRIPTION	SIZE
500'	DUCTILE IRON PIPE	8"
24'	DUCTILE IRON PIPE	6"
1	FIRE HYDRANT TEE	8"x6"
1	FIRE HYDRANT (SNFH)	6"
170'	COPPER PIPE (WHC)	3/4"
9	CORPORATION (DIP)	3/4"

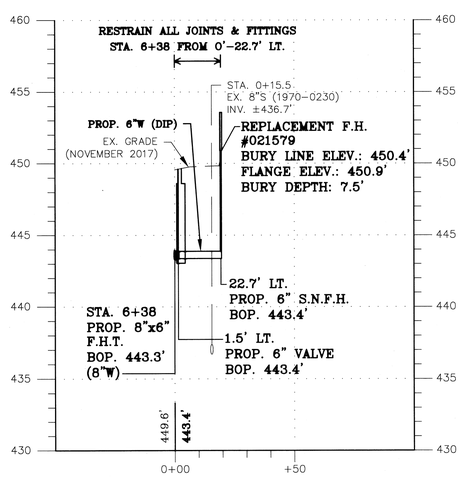
CURVE DATA				
CURVE NO.	RADIUS	ARC LENGTH	PC	PT
1	290'	93'	STA. 13+53	STA. 14+46



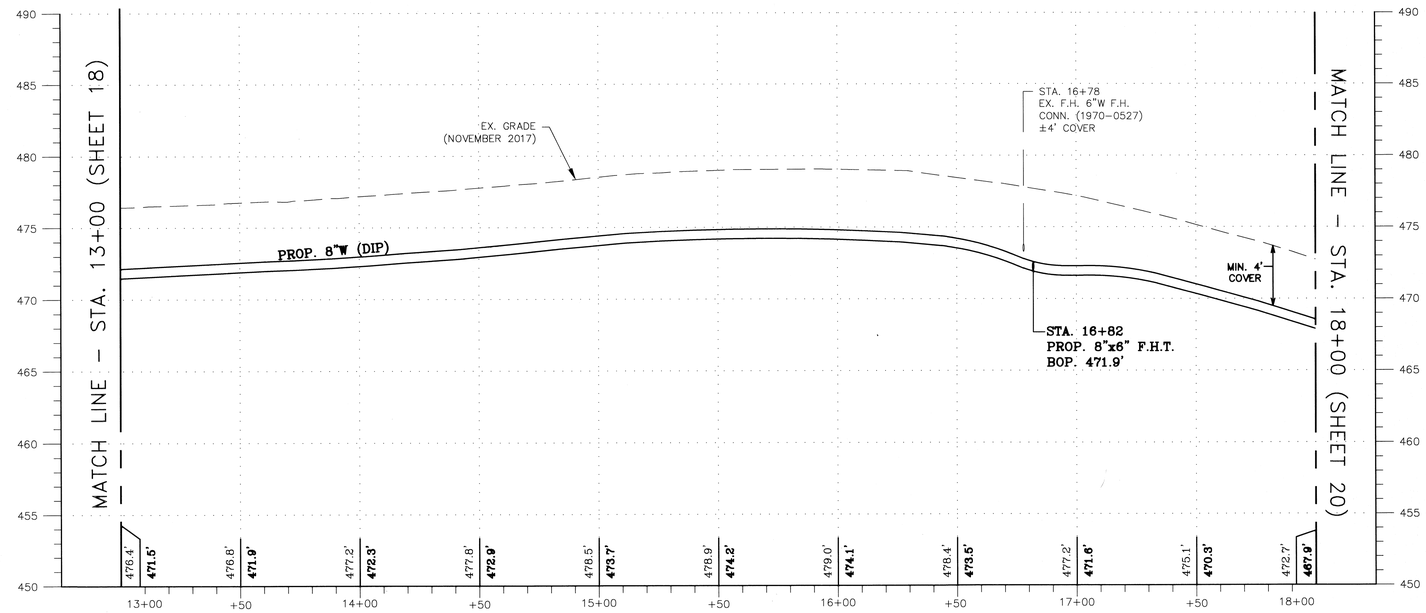
PROFILE: PROP. F.H. #021746 – WOODCLIFF AVE.
(STA. 16+82 FROM 0'–24.0' LT.)



PLAN: PROP. 8" DIP WATER MAIN – WOODCLIFFE AVENUE
(STA. 13+00 TO STA. 18+00)



PROFILE: PROP. F.H. #021579 – WOODCLIFF AVE.
(STA. 6+38 FROM 0'–22.7' LT.)
(SEE SHEET 08 FOR PLAN)



PROFILE: PROP. 8" DIP WATER MAIN – WOODCLIFF AVENUE (STA. 13+00 TO STA. 18+00)

VERTICAL
GRAPHIC SCALE
5 0 2.5 5 10
SCALE: 1" = 5'

HORIZONTAL
GRAPHIC SCALE
30 0 15 30 60
SCALE: 1" = 30'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND – BRIAN MCKENNA-SYRETTE – REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022

ENGINEER: BRIAN MCKENNA-SYRETTE, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

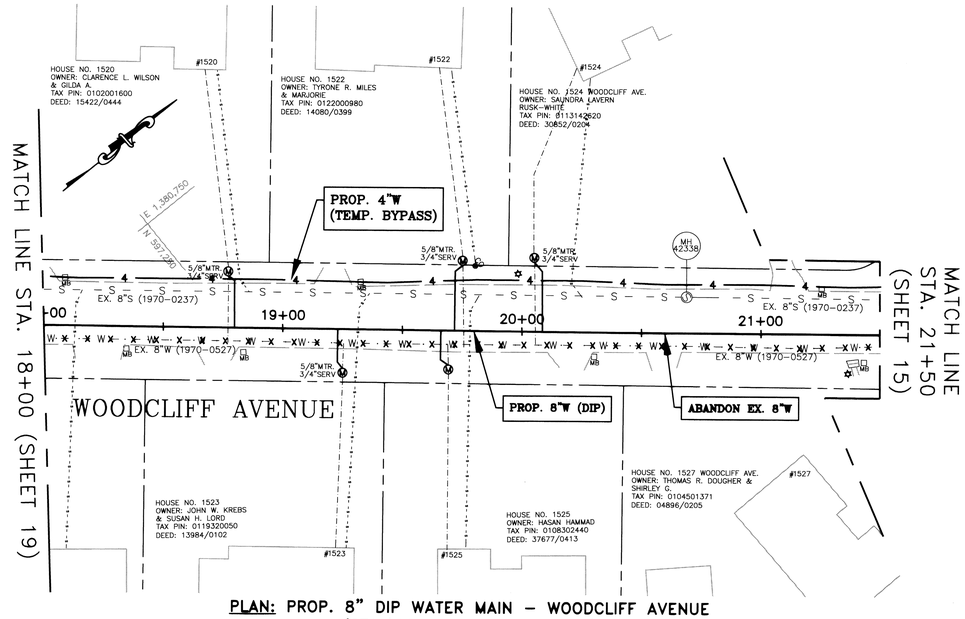
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
WOODCLIFF AVE.

SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILE – PROP. 8"W
ELECTION DIST. NO.: 1C1

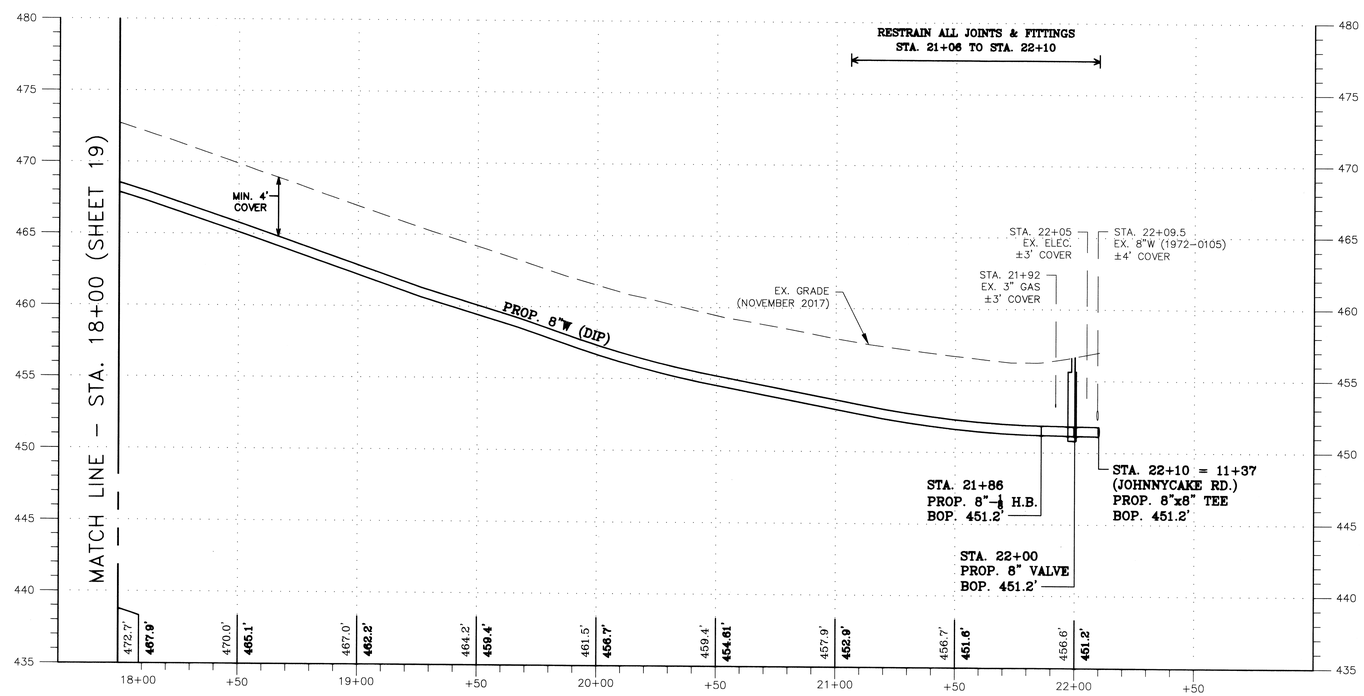
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WXO
JOB ORDER NUMBER	203-0035-0622
SHEET 19 OF 40	
DRAWING NUMBER	2020-1094
FILE NO.: 3	REV. 10/19

BALTIMORE COUNTY MARYLAND

BILL OF MATERIALS SHEET 20 – WOODCLIFF AVE.		
NO.	DESCRIPTION	SIZE
350'	DUCTILE IRON PIPE	8"
350'	TEMPORARY WATER PIPE	4"
115'	COPPER PIPE (WHC)	3/4"
5	CORPORATION (DIP)	3/4"



PLAN: PROP. 8" DIP WATER MAIN – WOODCLIFF AVENUE (STA. 18+00 TO STA. 21+50)



PROFILE: PROP. 8" DIP WATER MAIN – WOODCLIFF AVENUE (STA. 18+00 TO STA. 22+10)
(SEE SHEET 15 FOR PLAN OF STA. 21+50 TO STA. 22+10)

GRAPHIC SCALE
VERTICAL 5 0 2.5 5 10
SCALE: 1" = 5'

GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60
SCALE: 1" = 30'

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

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND – MEHRI MOKHENNA-SHERIFFIL – No. 38630 – REGISTERED PROFESSIONAL ENGINEER

DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022

ENGINEER: MEHRI MOKHENNA-SHERIFFIL, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST. WATER DES. SECT.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE	
PLAN SCALE:	1"=30'
PROFILE SCALE:	H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES							

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
WOODCLIFF AVE.

SUBDIVISION: CATONSVILLE/WINDSOR MILL

WATER PLAN & PROFILE – PROP. 8"W

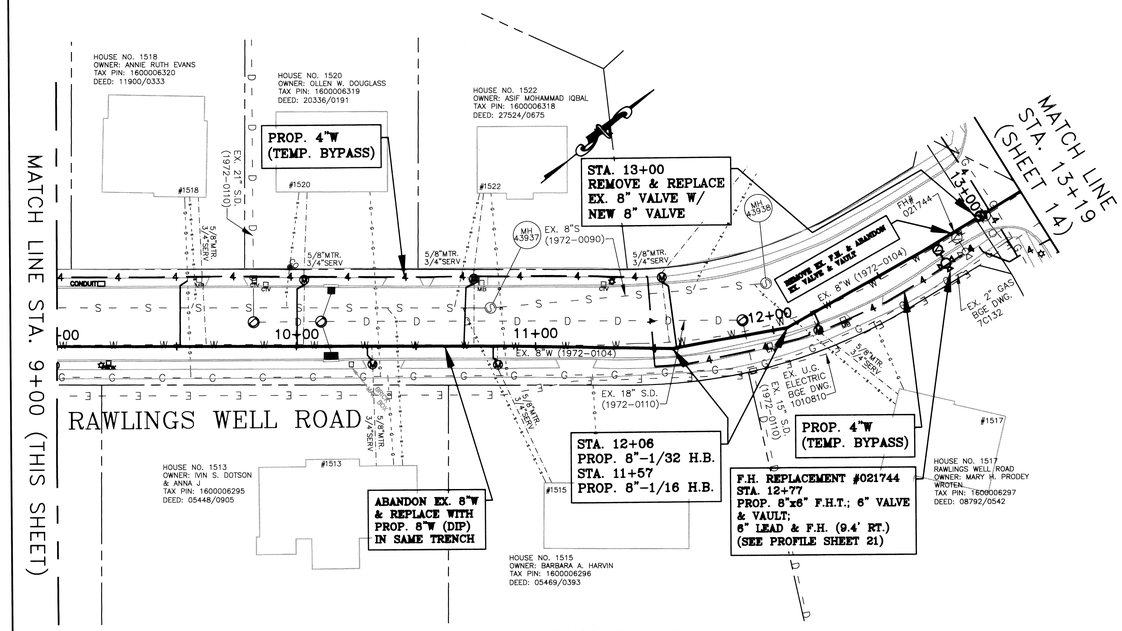
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 20 OF 40	DRAWING NUMBER 2020-1095
FILE NO.: 3	REV. 4/17

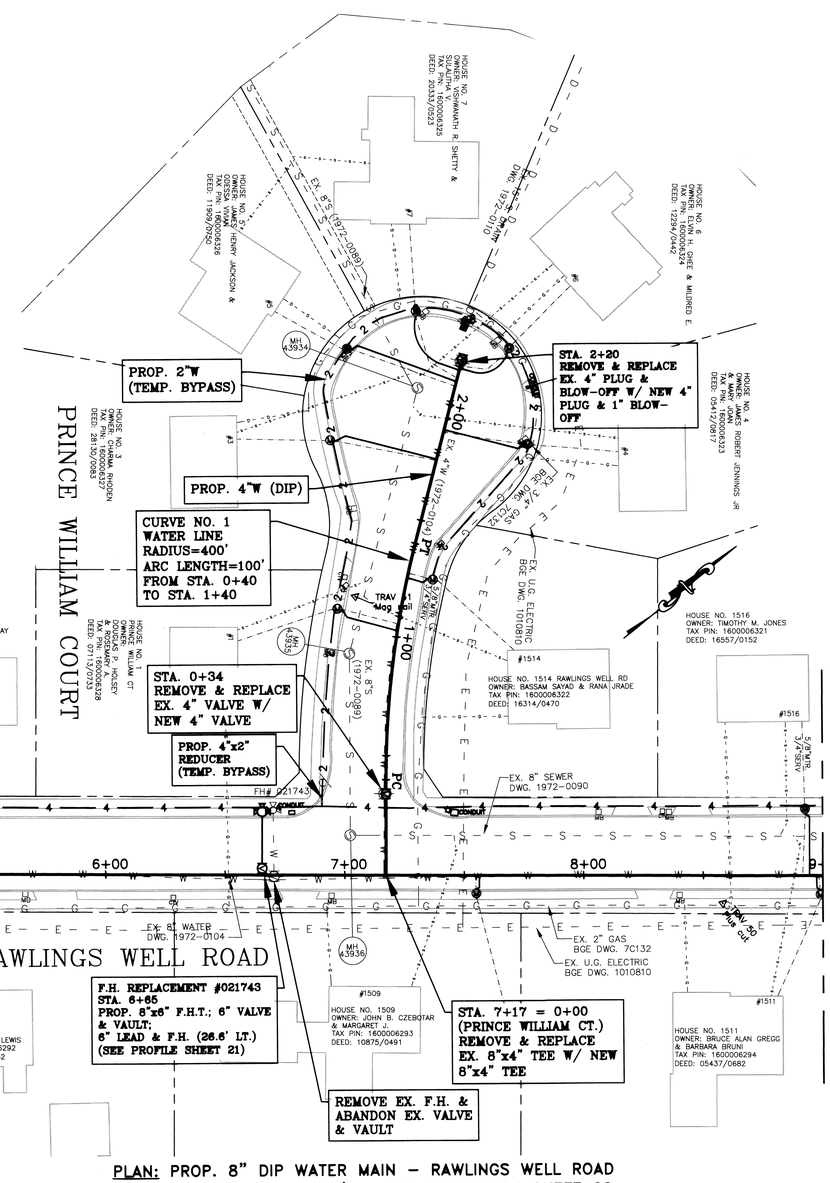
CURVE DATA				
CURVE NO.	RADIUS	ARC LENGTH	PC	PT
1	400'	100'	STA. 0+40	STA. 1+40

BILL OF MATERIALS
SHEET 21 – RAWLINGS WELL RD. & PRINCE WILLIAM CT.

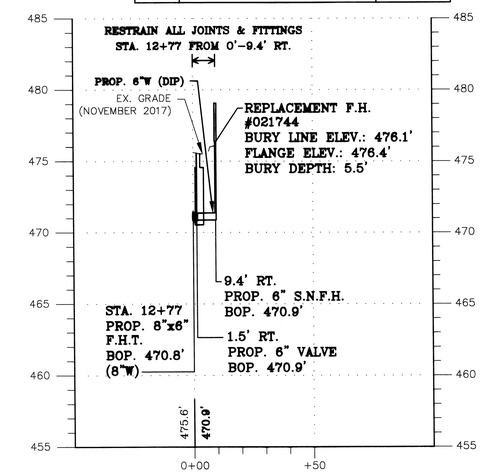
NO.	DESCRIPTION	SIZE
1014'	DUCTILE IRON PIPE	8"
36'	DUCTILE IRON PIPE	6"
220'	DUCTILE IRON PIPE	4"
1,160'	TEMPORARY WATER PIPE	4"
386'	TEMPORARY WATER PIPE	2"
1	VALVE & VAULT	8"
2	VALVE & VAULT	6"
1	VALVE & VAULT	4"
2	FIRE HYDRANT TEE	8"x6"
2	FIRE HYDRANT (SNFH)	6"
1	1/16 BEND	8"
1	1/32 BEND	8"
1	TEE	8"x4"
1	BLOW-OFF	1"
1	MECHANICAL JOINT PLUG	4"
489'	COPPER PIPE (WHC)	3/4"
22	CORPORATION (DIP)	3/4"



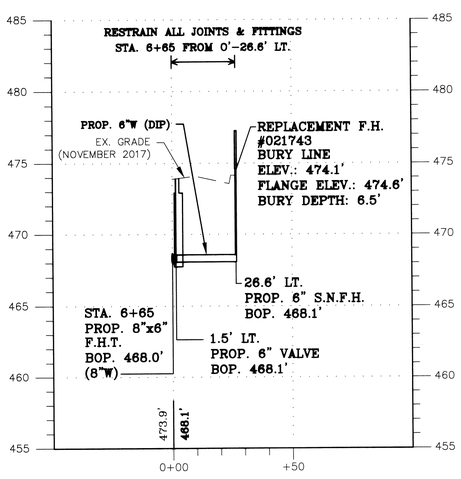
PLAN: PROP. 8" DIP WATER MAIN – RAWLINGS WELL ROAD
(STA. 9+00 TO STA. 13+19)



PLAN: PROP. 8" DIP WATER MAIN – RAWLINGS WELL ROAD
(STA. 3+00 TO STA. 9+00) – SEE PROFILE ON SHEET 22
PROP. 4" DIP WATER MAIN – PRINCE WILLIAM COURT
(STA. 0+00 TO STA. 2+20) SEE PROFILE ON SHEET 17



PROFILE: PROP. F.H. #021744 – RAWLINS WELL RD.
(STA. 12+77 FROM 0'-9.4' RT.)



PROFILE: PROP. F.H. #021743 – RAWLINS WELL RD.
(STA. 6+65 FROM 0'-26.6' LT.)

GRAPHIC SCALE VERTICAL 5 0 2.5 5 10 SCALE: 1" = 5'

GRAPHIC SCALE HORIZONTAL 30 0 15 30 60 SCALE: 1" = 30'

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

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND – ERIN A. MCKENNA-SWIFTLE – No. 36630 – REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022
ENGINEER: ERIN MCKENNA-SWIFTLE, P.E.
BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY:
DATE:
DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE: PLAN SCALE 1"=30'; PROFILE SCALE H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS: SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

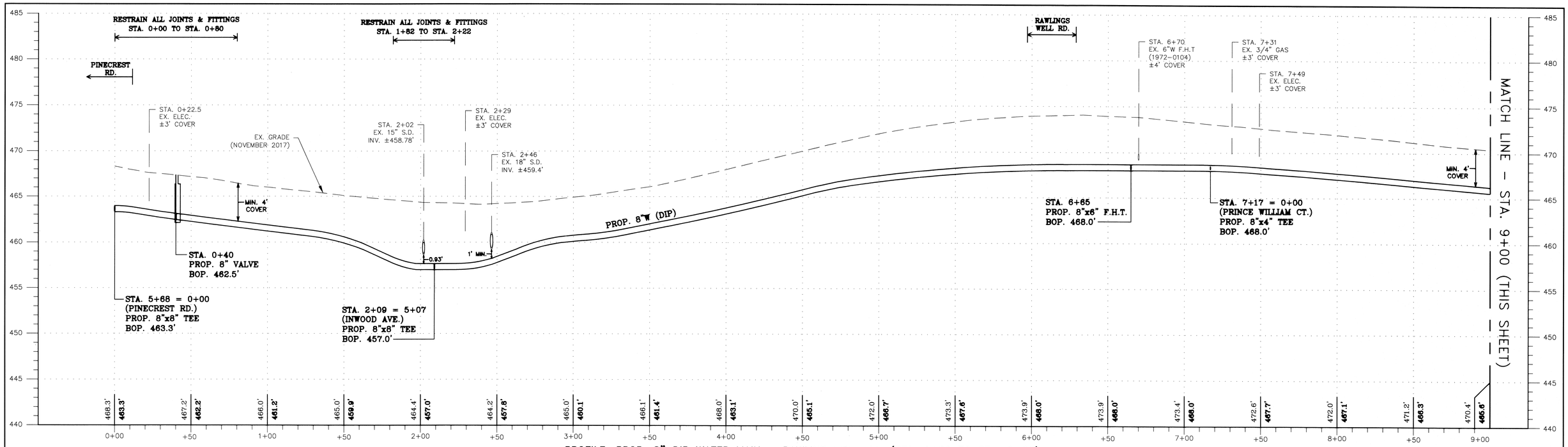
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
RAWLINS WELL RD. & PRINCE WILLIAM CT.
SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILE – PROP. 4"W & 8"W
ELECTION DIST. NO.: 1C1

CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

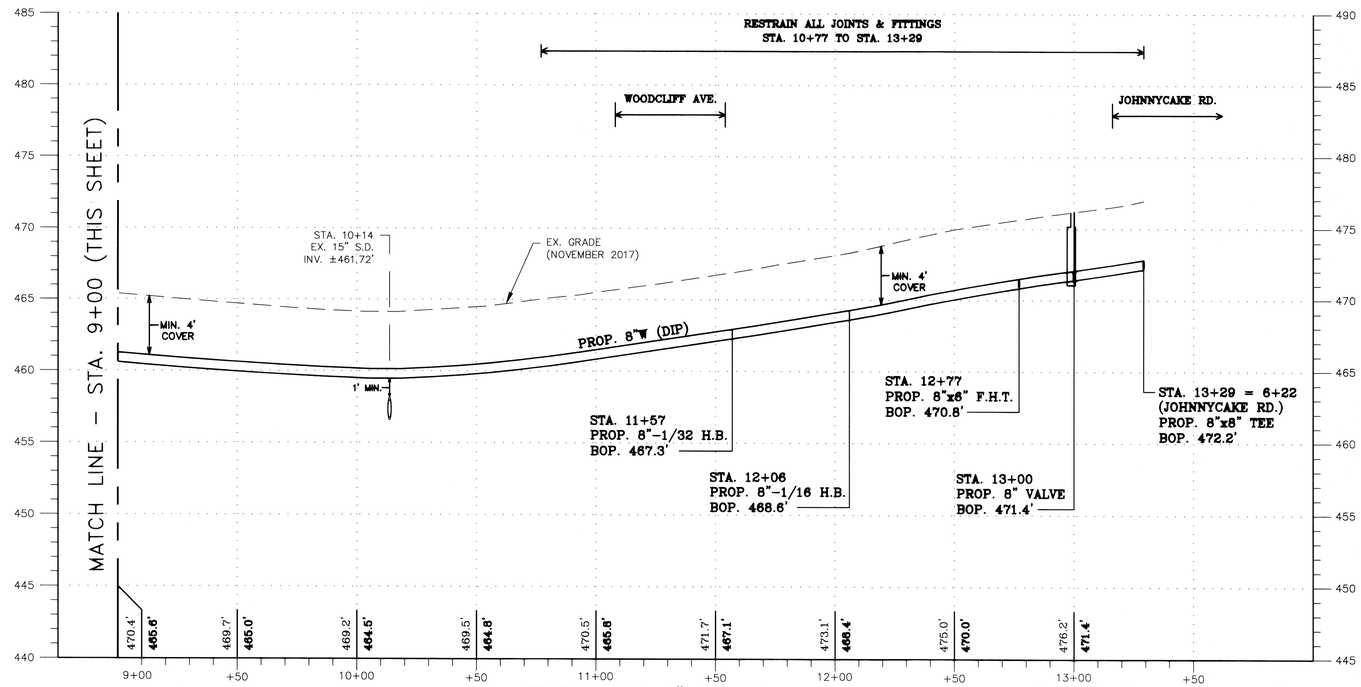
DWG. FILENAME:

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 21 OF 40	
DRAWING NUMBER	2020-1096
FILE NO.: 3	REV.

BALTIMORE COUNTY MARYLAND



PROFILE: PROP. 8" DIP WATER MAIN – RAWLINS WELL RD. (STA. 0+00 TO STA. 9+00)
SEE SHEETS 6, 8 & 21 FOR PLANS



PROFILE: PROP. 8" DIP WATER MAIN – RAWLINS WELL RD. (STA. 9+00 TO STA. 13+29)
SEE SHEETS 14 & 21 FOR PLANS

GRAPHIC SCALE
VERTICAL 5 0 2.5 5 10
SCALE: 1" = 5'

GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60
SCALE: 1" = 30'

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

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND – ERIN A. MCKENNA – 28788 – REGISTERED PROFESSIONAL ENGINEER

DATE : 8/24/2020

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. 36630 , EXPIRATION DATE 6/7/2022

ENGINEER: ERIN MCKENNA-SUSSVILE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST. WATER DES. SECT.

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

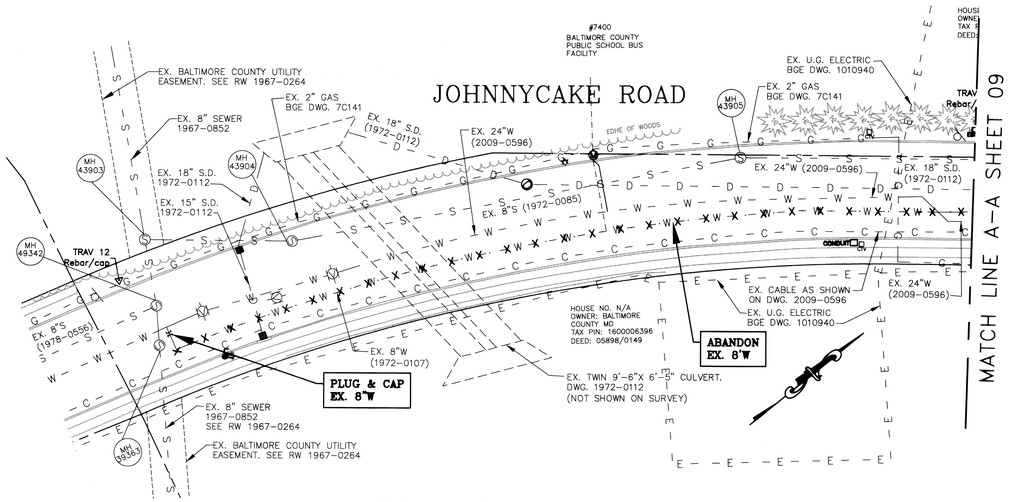
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD
RAWLINS WELL RD.

SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILE – PROP. 8"W
ELECTION DIST. NO.:1C1

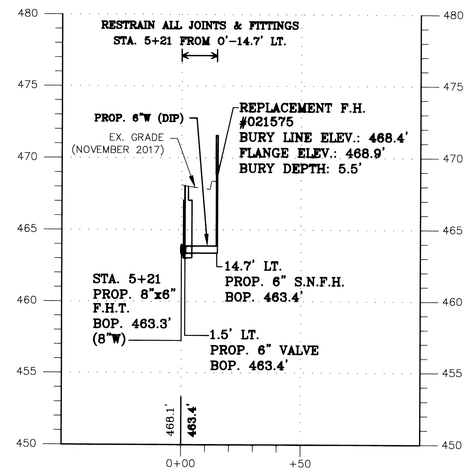
CONTRACT COMPLETION BOX
Contractor:
Date Completed:
Inspector:
Pipe Material (Pressure Only)

DWG. FILENAME:

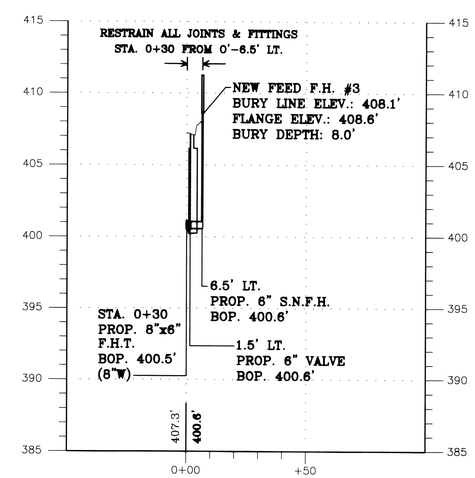
SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WXO
JOB ORDER NUMBER	203-0035-0622
SHEET 22 OF 40	
DRAWING NUMBER	2020-1097
FILE NO.: 3	REV.



PLAN: EX. 8" DIP WATER MAIN ABANDONMENT
JOHNNYCACK ROAD



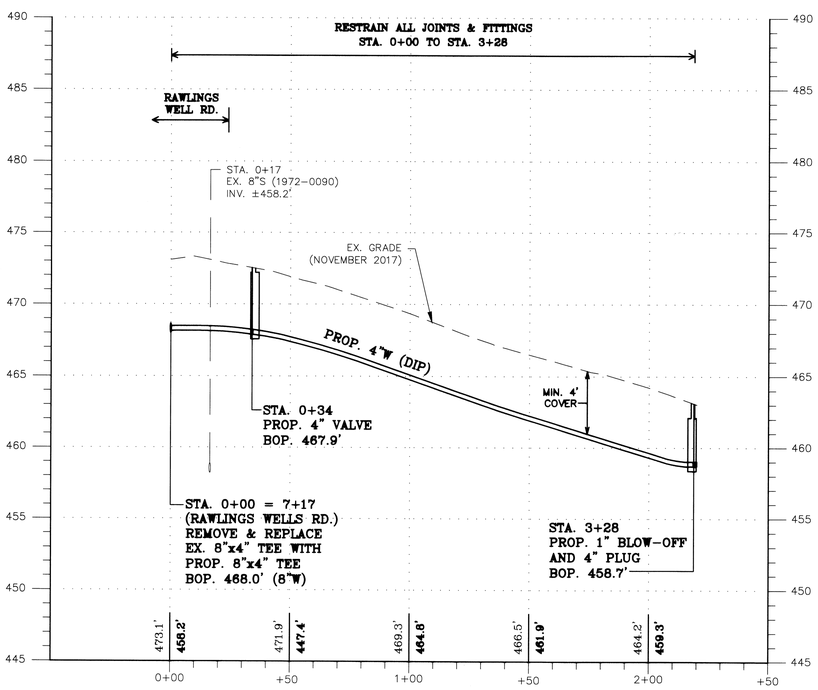
PROFILE: PROP. F.H. #021575
PINECREST RD.
(STA. 5+21 FROM 0'-14.7' LT.)
(SEE PLAN ON SHEET 08)



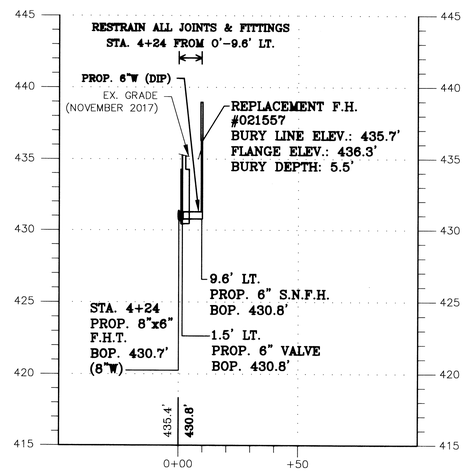
PROFILE: PROP. FEED F.H. #3
FOREST ROCK CT.
(STA. 0+30 FROM 0'-6.5' LT.)
(SEE PLAN ON SHEET 10)

BILL OF MATERIALS
SHEET 23 – JOHNNYCAKE RD.

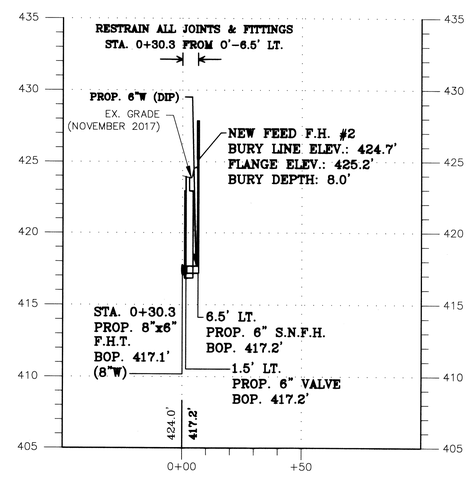
NO.	DESCRIPTION	SIZE
1	MECHANICAL JOINT CAP	8"
1	MECHANICAL JOINT PLUG	8"
23'	COPPER PIPE (WHC)	3/4"
1	CORPORATION (DIP)	3/4"



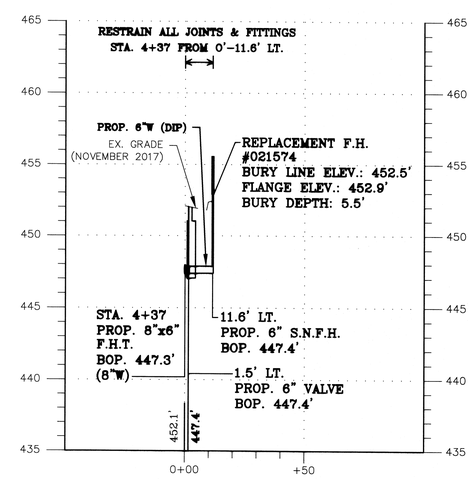
PROFILE: PROP. 4" DIP WATER MAIN – PRINCE WILLIAM CT.
(STA. 0+00 TO STA. 3+28)
SEE PLAN ON SHEET 21



PROFILE: PROP. F.H. #021557
FOREST ROCK CT.
(STA. 4+24 FROM 0'-9.6' LT.)
(SEE PLAN ON SHEET 10)



PROFILE: PROP. FEED F.H. #2
RANDOLPH SPRINGS CT.
(STA. 0+30.3 FROM 0'-6.5' LT.)
(SEE PLAN ON SHEET 11)



PROFILE: PROP. F.H. #021574
RANDOLPH SPRINGS CT.
(STA. 4+37 FROM 0'-11.6' LT.)
(SEE PLAN ON SHEET 11)

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

CONTRACT COMPLETION BOX
Contractor: _____
Date Completed: _____
Inspector: _____
Pipe Material (Pressure Only) _____

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

**NOTE:
1. TEST PIT FOR LOCATION AND DEPTH ALL UTILITY CROSSINGS PRIOR TO LAYING PROPOSED WATER MAIN.

SEAL: STATE OF MARYLAND – EMM A. McKENNA-SUSTILE – REGISTERED PROFESSIONAL ENGINEER – No. 36630

DATE: 8/24/2020

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. 36630 EXPIRATION DATE 6/7/2022

ENGINEER: EMM McKENNA-SUSTILE, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST. WATER DES. SECT.
DESIGN BY: RAM
DRAWN BY: RAM
CHKD BY: MJM
AS-BUILT PER RECORD PRINT
BY:
DATE:

REVISION	BY	DATE

CONTRACT COMPLETION BOX

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO. AS SHOWN	RSW	42NE1 41NE2

DRAWING SCALE
PLAN SCALE: 1"=30'
PROFILE SCALE: H: 1"=30' V: 1"=5'

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

GRAPHIC SCALE
HORIZONTAL 30 0 15 30 60 SCALE: 1" = 30'
VERTICAL 5 0 2.5 5 10 SCALE: 1" = 5'

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
8" WATERMAIN REPLACEMENT
JOHNNYCACK ROAD
JOHNNYCACKE RD. & PRINCE WILLIAM CT.
SUBDIVISION: CATONSVILLE/WINDSOR MILL
WATER PLAN & PROFILES
ELECTION DIST. NO.: 1C1

SHEET DESIGNATION	CONTRACT NUMBER
WATER	20070-WX0
JOB ORDER NUMBER	203-0035-0622
SHEET 23 OF 40	
DRAWING NUMBER	2020-1098
FILE NO.: 3	

INWOOD AVENUE (WEST) - WATER SERVICE CONNECTIONS - SHEET 03

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
0+18	7408 INWOOD AVE	2000014668	08397827000	5/8	3/4	7	
0+22	2 CALVIN SPRINGS CT	0113207280	08415777005	5/8	3/4	28	
0+82	7404 INWOOD AVE	2000014667	08397828008	5/8	3/4	7	
1+29	1 CALVIN SPRINGS CT	1600006445	08145507003	5/8	3/4	27	
1+44	7400 INWOOD AVE	2000014643	08397829006	5/8	3/4	8	
2+62	7401 INWOOD AVE	1600006444	08145508001	5/8	3/4	27	
3+96	7313 INWOOD AVE	1600006443	08145509009	5/8	3/4	26	
4+77	7316 INWOOD AVE	2000014615	08397853006	5/8	3/4	9	
4+81	7311 INWOOD AVE	1600006442	08145510007	5/8	3/4	27	

INWOOD AVENUE (WEST) & JOHNNYCAKE ROAD - WATER SERVICE CONNECTIONS - SHEET 04

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
--	7214 JOHNNYCAKE RD	2000014636	08397857007	5/8	3/4	34	
5+57	7309 INWOOD AVE	1600006441	08145511005	5/8	3/4	27	
5+63	7314 INWOOD AVE	2000014616	08397852008	5/8	3/4	7	
6+26	7307 INWOOD AVE	1600006440	08145512003	5/8	3/4	26	
7+11	7305 INWOOD AVE	1600006439	08145513001	5/8	3/4	27	
7+64	7308 INWOOD AVE	2000014631	08397850002	5/8	3/4	7	
8+15	7306 INWOOD AVE	2000014632	08397849004	5/8	3/4	7	
8+70	7304 INWOOD AVE	2000014633	08397848006	5/8	3/4	7	
9+27	7302 INWOOD AVE	2000014634	08397847008	5/8	3/4	7	
9+91	7300 INWOOD AVE	2000014635	08397846000	5/8	3/4	7	

CALVIN SPRINGS COURT - WATER SERVICE CONNECTIONS - SHEET 05

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
1+89	3 CALVIN SPRINGS CT	1600006446	08145506005	5/8	3/4	22	
2+34	4 CALVIN SPRINGS CT	1600006452	08145500008	5/8	3/4	12	
2+75	5 CALVIN SPRINGS CT	1600006447	08145505007	5/8	3/4	43	
2+97	6 CALVIN SPRINGS CT	1600006451	08145501006	5/8	3/4	36	
3+10	7 CALVIN SPRINGS CT	1600006448	08145504000	5/8	3/4	47	
3+14	9 CALVIN SPRINGS CT	1600006449	08145503002	5/8	3/4	39	
3+17	8 CALVIN SPRINGS CT	1600006450	08145502004	5/8	3/4	32	

INWOOD AVENUE (EAST) & RAWLINS WELL ROAD - WATER SERVICE CONNECTIONS - SHEET 06

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
0+54	7209 INWOOD AVE	1600006333	08145577006	5/8	3/4	24	
0+59	7208 INWOOD AVE	1600006302	08145584002	5/8	3/4	9	
1+38	7207 INWOOD AVE	1600006332	08145578004	5/8	3/4	25	
1+43	7206 INWOOD AVE	1600006301	08145583004	5/8	3/4	9	
2+16	7205 INWOOD AVE	1600006331	08145579002	5/8	3/4	25	
2+20	7204 INWOOD AVE	1600006300	08145582006	5/8	3/4	9	
3+00	7203 INWOOD AVE	1600006330	08145580000	5/8	3/4	24	
3+09	7202 INWOOD AVE	1600006299	08145581008	5/8	3/4	10	
3+97	7200 INWOOD AVE	1600006298	08145614007	5/8	3/4	10	
4+03	7201 INWOOD AVE	1600006329	08145615004	5/8	3/4	24	
--	1501 RAWLINS WELL RD	1600006289	08145616002	5/8	3/4	9	
--	1503 RAWLINS WELL RD	1600006290	08145617000	5/8	3/4	10	

PINECREST ROAD & JOHNNYCAKE RD - WATER SERVICE CONNECTIONS - SHEET 07

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
0+58	7210 PINECREST RD	1600006342	08145576008	5/8	3/4	15	
0+65	7213 PINECREST RD	1600006355	08145561000	5/8	3/4	29	
1+33	7208 PINECREST RD	1600006343	08145575000	5/8	3/4	15	
1+43	7211 PINECREST RD	1600006354	08145562008	5/8	3/4	29	
2+09	7206 PINECREST RD	1600006344	08145574003	5/8	3/4	15	
2+18	7209 PINECREST RD	1600006353	08145563006	5/8	3/4	29	
2+80	7204 PINECREST RD	1600006345	08145573005	5/8	3/4	15	
2+89	7207 PINECREST RD	1600006352	08145564004	5/8	3/4	29	
3+42	7205 PINECREST RD	1600006351	08145565001	5/8	3/4	30	
3+65	7202 PINECREST RD	1600006346	08145572007	5/8	3/4	14	
--	7300 JOHNNYCAKE RD	1600006438	08145514009	5/8	3/4	35	
--	7304 JOHNNYCAKE RD	1600006437	08145515006	5/8	3/4	35	
--	7306 JOHNNYCAKE RD	1600006436	08145516004	5/8	3/4	33	

PINECREST ROAD & WOODCLIFF AVE - WATER SERVICE CONNECTIONS - SHEET 08

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
4+13	7203 PINECREST RD	1600006350	08145566009	5/8	3/4	30	
4+66	7200 PINECREST RD	1600006347	08145571009	5/8	3/4	15	
4+80	7201 PINECREST RD	1600006349	08145567007	5/8	3/4	29	
5+38	7111 PINECREST RD	1600006348	08145568005	5/8	3/4	30	
7+73	7103 PINECREST RD	0102370202	08145569003	5/8	3/4	20	
8+29	7102 PINECREST RD	0118870131	08145570001	5/8	3/4	6	
9+61	1500 WOODCLIFF AVE	0112590990	08145636000	5/8	3/4	6	
5+60	1421 WOODCLIFF AVE	0119001040	08145647007	5/8	3/4	8	
5+57	1418 WOODCLIFF AVE	0119001000	08145637008	5/8	3/4	23	
7+60	7006 PINECREST RD	2200003633	08421904007	5/8	3/4	16	

BIG STONE COURT & JOHNNYCAKE ROAD - WATER SERVICE CONNECTIONS - SHEET 09

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
1+48	3 BIG STONE CT	1600006394	08145522002	5/8	3/4	24	
1+51	4 BIG STONE CT	1600006386	08145530005	5/8	3/4	11	
2+21	6 BIG STONE CT	1600006387	08145529007	5/8	3/4	11	
2+24	5 BIG STONE CT	1600006393	08145523000	5/8	3/4	23	
3+04	8 BIG STONE CT	1600006388	08145528009	5/8	3/4	20	
3+08	7 BIG STONE CT	1600006392	08145524008	5/8	3/4	38	
3+44	9 BIG STONE CT	1600006391	08145525005	5/8	3/4	49	
3+56	10 BIG STONE CT	1600006389	08145527001	5/8	3/4	27	
3+60	11 BIG STONE CT	1600006390	08145526003	5/8	3/4	20	
--	7400 JOHNNYCAKE RD	0102000438	08427272003	5/8	3/4	37	

FOREST ROCK COURT & JOHNNYCAKE ROAD - WATER SERVICE CONNECTIONS - SHEET 10

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
0+56	1 FOREST ROCK CT	1600006385	08145531003	5/8	3/4	24	
0+57	2 FOREST ROCK CT	1600006371	08145545003	5/8	3/4	10	
1+39	3 FOREST ROCK CT	1600006384	08145532001	5/8	3/4	23	
1+46	4 FOREST ROCK CT	1600006372	08145544006	5/8	3/4	10	
2+13	5 FOREST ROCK CT	1600006383	08145533009	5/8	3/4	24	
2+21	6 FOREST ROCK CT	1600006373	08145543008	5/8	3/4	10	
2+89	7 FOREST ROCK CT	1600006382	08145534007	5/8	3/4	23	
2+92	8 FOREST ROCK CT	1600006374	08145542000	5/8	3/4	11	
3+64	9 FOREST ROCK CT	1600006381	08145535004	5/8	3/4	24	
3+68	10 FOREST ROCK CT	1600006375	08145541002	5/8	3/4	11	
4+34	11 FOREST ROCK CT	1600006380	08145536002	5/8	3/4	24	
4+38	12 FOREST ROCK CT	1600006376	08145540004	5/8	3/4	12	
5+14	13 FOREST ROCK CT	1600006379	08145537000	5/8	3/4	48	
5+19	14 FOREST ROCK CT	1600006377	08145539006	5/8	3/4	34	
5+24	15 FOREST ROCK CT	1600006378	08145538008	5/8	3/4	24	
--	7316 JOHNNYCAKE RD	1600006431	08145521004	5/8	3/4	34	

RANDOLPH SPRINGS COURT & JOHNNYCAKE ROAD - WATER SERVICE CONNECTIONS - SHEET 11

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
0+54	1 RANDOLPH SPRINGS CT	1600006370	08145546001	5/8	3/4	23	
0+57	2 RANDOLPH SPRINGS CT	1600006356	08145560002	5/8	3/4	10	
1+41	4 RANDOLPH SPRINGS CT	1600006357	08145559004	5/8	3/4	10	
1+43	3 RANDOLPH SPRINGS CT	1600006369	08145547009	5/8	3/4	23	
2+15	5 RANDOLPH SPRINGS CT	1600006368	08145548007	5/8	3/4	23	
2+17	6 RANDOLPH SPRINGS CT	1600006358	08145558006	5/8	3/4	10	
2+88	8 RANDOLPH SPRINGS CT	1600006359	08145557008	5/8	3/4	11	
2+89	7 RANDOLPH SPRINGS CT	1600006367	08145549005	5/8	3/4	22	
3+62	9 RANDOLPH SPRINGS CT	1600006366	08145550003	5/8	3/4	24	
3+64	10 RANDOLPH SPRINGS CT	1600006360	08145556000	5/8	3/4	10	
4+22	11 RANDOLPH SPRINGS CT	1600006365	08145551001	5/8	3/4	23	
4+46	12 RANDOLPH SPRINGS CT	1600006361	08145555002	5/8	3/4	11	
5+10	13 RANDOLPH SPRINGS CT	1600006364	08145552009	5/8	3/4	49	
5+13	14 RANDOLPH SPRINGS CT	1600006362	08145554005	5/8	3/4	33	
5+24	15 RANDOLPH SPRINGS CT	1600006363	08145553007	5/8	3/4	24	
--	7308 JOHNNYCAKE RD	1600006435	08145517002	5/8	3/4	33	
--	7310 JOHNNYCAKE RD	1600006434	08145518000	5/8	3/4	35	
--	7312 JOHNNYCAKE RD	1600006433	08145519008	5/8	3/4	34	
--	7314 JOHNNYCAKE RD	1600006432	08145520006	5/8	3/4	34	

APPLE GROVE COURT & JOHNNYCAKE ROAD - WATER SERVICE CONNECTIONS - SHEET 12

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
0+47	2 APPLE GROVE CT	1600006308	08145590009	5/8	3/4	9	
0+58	1 APPLE GROVE CT	1600006303	08145585009	5/8	3/4	25	
1+28	4 APPLE GROVE CT	1600006307	08145589001	5/8	3/4	36	
1+40	3 APPLE GROVE CT	1600006304	08145586007	5/8	3/4	46	
1+51	5 APPLE GROVE CT	1600006305	08145587005	5/8	3/4	34	
1+55	6 APPLE GROVE CT	1600006306	08145588003	5/8	3/4	15	
--	7208 JOHNNYCAKE RD	2000014639	08397854004	5/8	3/4	34	
--	7210 JOHNNYCAKE RD	2000014638	08397855001	5/8	3/4	34	
--	7212 JOHNNYCAKE RD	2000014637	08397856009	5/8	3/4	35	

JOHNNYCAKE ROAD - WATER SERVICE CONNECTIONS - SHEET 13

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
0+74	7211 JOHNNYCAKE RD	1600006312	08145594001	5/8	3/4	21	
1+61	7209 JOHNNYCAKE RD	1600006313	08145595008	5/8	3/4	17	
2+61	7207 JOHNNYCAKE RD	1600006314	08145596006	5/8	3/4	13	
3+37	7205 JOHNNYCAKE RD	1600006315	08145597004	5/8	3/4	14	
3+96	7203 JOHNNYCAKE RD	1600006316	08145598002	5/8	3/4	15	
--	7200 JOHNNYCAKE RD	1900000935	08145498005	5/8	3/4	10	
--	7202 JOHNNYCAKE RD	1900000936	08379234001	5/8	3/4	12	
--	7213 JOHNNYCAKE RD	1600006311	08145593003	5/8	3/4	38	
--	7215 JOHNNYCAKE RD	1600006310	08145592005	5/8	3/4	30	
--	7217 JOHNNYCAKE RD	1600006309	08145591007	5/8	3/4	25	

JOHNNYCAKE ROAD - WATER SERVICE CONNECTIONS - SHEET 14

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
8+30	7108 JOHNNYCAKE RD	2000010395	08397618003	5/8	3/4	28	
8+83	7106 JOHNNYCAKE RD	2000010396	08397617005	5/8	3/4	28	

JOHNNYCAKE ROAD & WOODCLIFF AVENUE - WATER SERVICE CONNECTIONS - SHEET 15

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
9+34	7104 JOHNNYCAKE RD	2000010397	08397616007	5/8	3/4	26	
9+91	7102 JOHNNYCAKE RD	2000010398	08397615009	5/8	3/4	26	
11+50	7100 JOHNNYCAKE RD	2000010399	08397614002	5/8	3/4	25	
11+09	7040 JOHNNYCAKE RD	2000010400	08397613004	5/8	3/4	24	
11+82	7038 JOHNNYCAKE RD	2000010401	08397578009	5/8	3/4	24	
12+47	7036 JOHNNYCAKE RD	2000010402	08397577001	5/8	3/4	22	
12+78	1527 WOODCLIFF AVE	0104501371	08145660000	5/8	3/4	14	
13+02	7034 JOHNNYCAKE RD	2000010403	08397576003	5/8	3/4	23	
13+51	7032 JOHNNYCAKE RD	2000010404	08397575005	5/8	3/4	23	
13+81	7017 JOHNNYCAKE RD	0122250010	08145661008	5/8	3/4	16	
14+10	7030 JOHNNYCAKE RD	2000010405	08397574008	5/8	3/4	23	
14+96	7006 JOHNNYCAKE RD	0102850433	08145665009	5/8	3/4	21	
15+01	7009 JOHNNYCAKE RD	0120661520	08145662006	5/8	3/4	14	

JOHNNYCAKE ROAD - WATER SERVICE CONNECTIONS - SHEET 16

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
16+77	7002 JOHNNYCAKE RD	0102850430	08145664002	5/8	3/4	27	

WOODCLIFF AVENUE - WATER SERVICE CONNECTIONS - SHEET 17

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
0+03	1402 WOODCLIFF AVE	XXXXXXXXXX	XXXXXXXXXXX	5/8	3/4	31	NO METER INFORMATION AVAILABLE
0+05	1403 WOODCLIFF AVE	2000005015	08401627008	5/8	3/4	17	
0+06	1404 WOODCLIFF AVE	XXXXXXXXXX	XXXXXXXXXXX	5/8	3/4	28	NO METER INFORMATION AVAILABLE
0+10	1405 WOODCLIFF AVE	2000005014	08401626000	5/8	3/4	25	
0+15	1407 WOODCLIFF AVE	2000005013	08401625002	5/8	3/4	38	
0+19	1406 WOODCLIFF AVE	2000005009	08401623007	5/8	3/4	32	
0+28	1409 WOODCLIFF AVE	2000005012	08401624005	5/8	3/4	42	
0+77	1408 WOODCLIFF AVE	2000005008	08398501000	5/8	3/4	31	
0+90	1411 WOODCLIFF AVE	0112401311	08145642008	5/8	3/4	10	
1+16	1410 WOODCLIFF AVE	2000005007	08145641000	5/8	3/4	27	
1+80	1413 WOODCLIFF AVE	0112401310	08145643006	5/8	3/4	6	
2+70	1412 WOODCLIFF AVE	0101740571	08145640002	5/8	3/4	22	
2+90	1415 WOODCLIFF AVE	0119075110	08145644004	5/8	3/4	7	
3+61	1414 WOODCLIFF AVE	0114100500	08145639004	5/8	3/4	26	
3+76	1417 WOODCLIFF AVE	0102571420	08145645001	5/8	3/4	9	
4+47	1416 WOODCLIFF AVE	0123501990	08145638006	5/8	3/4	21	
4+78	1419 WOODCLIFF AVE	0114651360	08145646009	5/8	3/4	8	

WOODCLIFF AVENUE - WATER SERVICE CONNECTIONS - SHEET 18

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
8+33	1503 WOODCLIFF AVE	2200003634	08145648005	5/8	3/4	18	
8+41	1502 WOODCLIFF AVE	0108650520	08145635002	5/8	3/4	23	
9+17	1505 WOODCLIFF AVE	0113102080	08145649003	5/8	3/4	13	
9+40	1504 WOODCLIFF AVE	0102571180	08145634005	5/8	3/4	21	
10+16	1507 WOODCLIFF AVE	0102650512	08145650001	5/8	3/4	11	
11+09	1506 WOODCLIFF AVE	1600009516	08145625003	5/8	3/4	28	
11+59	1509 WOODCLIFF AVE	0116950060	08145651009	5/8	3/4	14	
12+29	1508 WOODCLIFF AVE	1600009515	08145633007	5/8	3/4	23	
12+32	1511 WOODCLIFF AVE	0103001580	08145652007	5/8	3/4	13	

WOODCLIFF AVENUE - WATER SERVICE CONNECTIONS - SHEET 19

STATION	SERVICE ADDRESS	PROPERTY ID	ACCOUNT NUMBER	METER SIZE (IN.)	SERVICE SIZE (IN.)	PROPOSED SERVICE LENGTH (FT)	REMARKS/NOTES:
13+77	1513 WOODCLIFF AVE	0123153400	08145653005	5/8	3/4	20	
14+26	1510 WOODCLIFF AVE	0112202590	08145632009	5/8	3/4	17	
14+82	1514 WOODCLIFF AVE	0110452170	08145631001	5/8	3/4	22	
15+17	1515 WOODCLIFF AVE	0123502271	08145654003	5/8	3/4	13	
16+22	1517 WOODCLIFF AVE	0107580211	08145655000	5/8	3/4	18	
16+70	1516 WOODCLIFF AVE	0115810080	08145630003	5/8	3/4	25	
17+16	1519 WOODCLIFF AVE	0123502271	08145654003	5/8	3/4	17	
17+64	1518 WOODCLIFF AVE	0103001510	08145629005	5/8	3/4	27	
17+84	1521 WOODCLIFF AVE	0123154810	08145657006	5/8	3/4	18	

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

CONTRACT COMPLETION BOX
Contractor: ______
Date Completed: ______
Inspector: ______
Pipe Material (Pressure Only) ______

DWG. FILENAME:

CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

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

SEAL: STATE OF MARYLAND — ERIN A. MCKENNA-STREYLE — NO. 36630 — REGISTERED PROFESSIONAL ENGINEER
DATE : 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022.

ENGINEER: ERIN MCKENNA-STREYLE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST, WATER DES. SECT.
DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM
AS-BUILT PER RECORD PRINT
BY:
DATE:

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.		
CONTRACT COMPLETION BOX			AS SHOWN		

DRAWING SCALE — PLAN SCALE: ______ PROFILE SCALE: ______

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD

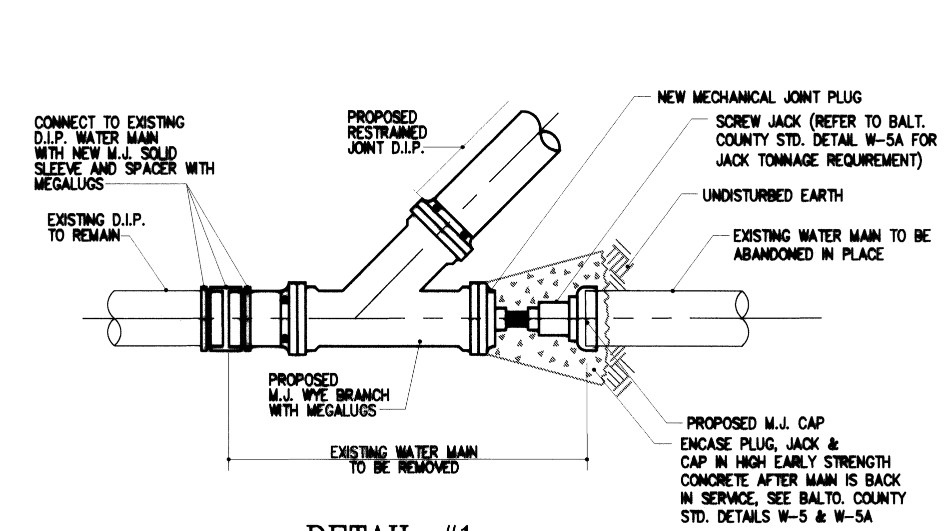
SUBDIVISION: **CATONSVILLE/WINDSOR MILL**
WATER SERVICE CONNECTIONS
ELECTION DIST. NO.: **1C1**

SHEET DESIGNATION: **WATER**
CONTRACT NUMBER: **20070-WX0**
BALTIMORE COUNTY MARYLAND
JOB ORDER NUMBER: **203-0035-0622**

DRAWING NUMBER: **2020-1099**
FILE NO.: 3

WOODCLIFF AVENUE – WATER SERVICE CONNECTIONS – SHEET 20							
STATION	**SERVICE ADDRESS**	**PROPERTY ID**	**ACCOUNT NUMBER**	**METER SIZE (IN.)**	**SERVICE SIZE (IN.)**	**PROPOSED SERVICE LENGTH (FT)**	**REMARKS/NOTES:**
18+80	1520 WOODCLIFF AVE	0102001600	08145653005	5/8	3/4	23	
19+23	1523 WOODCLIFF AVE	0119320050	08145658004	5/8	3/4	17	
19+66	1525 WOODCLIFF AVE	0108302440	08145659002	5/8	3/4	16	
19+72	1522 WOODCLIFF AVE	0122000980	08145627009	5/8	3/4	29	
20+09	1524 WOODCLIFF AVE	0113142620	08145626001	5/8	3/4	30	

RAWLINGS WELL ROAD & PRINCE WILLIAM COURT – WATER SERVICE CONNECTIONS – SHEET 21							
STATION	**SERVICE ADDRESS**	**PROPERTY ID**	**ACCOUNT NUMBER**	**METER SIZE (IN.)**	**SERVICE SIZE (IN.)**	**PROPOSED SERVICE LENGTH (FT)**	**REMARKS/NOTES:**
3+63	1505 RAWLINGS WELL RD	1600006291	08145618008	5/8	3/4	9	
3+74	1506 RAWLINGS WELL RD	1600007946	08145613009	5/8	3/4	25	
4+23	1508 RAWLINGS WELL RD	1600007945	08145612001	5/8	3/4	25	
5+11	1507 RAWLINGS WELL RD	1600006292	08145619006	5/8	3/4	9	
5+35	1510 RAWLINGS WELL RD	1600007944	08145611003	5/8	3/4	26	
7+56	1509 RAWLINGS WELL RD	1600006293	08145620004	5/8	3/4	7	
8+94	1516 RAWLINGS WELL RD	1600006321	08145603000	5/8	3/4	27	
8+97	1511 RAWLINGS WELL RD	1600006294	08145621002	5/8	3/4	7	
9+51	1518 RAWLINGS WELL RD	1600006320	08145602002	5/8	3/4	29	METER NOT SURVEYED – CONTRACTOR TO LOCATE
10+00	1520 RAWLINGS WELL RD	1600006319	08145601004	5/8	3/4	28	
10+30	1513 RAWLINGS WELL RD	1600006295	08145622000	5/8	3/4	7	
10+70	1522 RAWLINGS WELL RD	1600006318	08145600006	5/8	3/4	29	
10+82	1515 RAWLINGS WELL RD	1600006296	08145623008	5/8	3/4	7	
11+59	7200 JOHNNYCAKE RD	1600006317	08145599000	5/8	3/4	29	
12+19	1517 RAWLINGS WELL RD	1600006297	08145624006	5/8	3/4	6	
1+03	1 PRINCE WILLIAM CT	1600006328	08145610005	5/8	3/4	26	
1+25	1514 RAWLINGS WELL RD	1600006322	08145604008	5/8	3/4	10	
1+77	3 PRINCE WILLIAM CT	1600006327	08145609007	5/8	3/4	44	
1+89	4 PRINCE WILLIAM CT	1600006323	08145605005	5/8	3/4	35	
2+10	5 PRINCE WILLIAM CT	1600006326	08145608009	5/8	3/4	47	
2+15	7 PRINCE WILLIAM CT	1600006325	08145607001	5/8	3/4	33	
2+16	6 PRINCE WILLIAM CT	1600006324	08145606003	5/8	3/4	24	



DETAIL #1
WYE BRANCH WITH PLUG, CAP, JACK AND BUTTRESS
NOT TO SCALE

FITTING SCHEDULE – 8"W INWOOD AVE. (WEST)
(STA. 0+00 TO STA. 10+85)

STATION	FITTING	NORTHING	EASTING
0+00	8" WYE, 8" PLUG & 8" CAP	596949.1871	1378414.9067
0+07	8"–1/8 H.B.	596954.8165	1378419.3786
0+56 = 0+00	8"x8" TEE (CALVIN SPRINGS CT.)	596960.6582	1378467.8621
2+45 = 0+00	8"x8" TEE (ELDERBERRY CT.)	596983.2863	1378655.4004
3+90	8"x6" F.H.T.	597002.0865	1378799.2461
4+02	8"–1/8 V.B.	597003.7355	1378811.1348
4+05	8"–1/8 V.B.	597004.1487	1378814.1030
4+20	8"–1/8 V.B.	597006.2171	1378828.9632
4+24	8"–1/8 V.B.	597006.7691	1378832.9289
6+48 = 0+00	8"x8" TEE (BRIARLEAF CT.)	597036.3358	1379054.6490
6+65	8"–1/8 V.B.	597038.6207	1379071.8605
6+69	8"–1/8 V.B.	597039.0071	1379074.7849
10+12	8"–1/16 H.B.	597084.3291	1379416.0649
10+20	8"x6" F.H.T.	597081.4834	1379425.5661
10+50	8"–1/16 H.B.	597073.4036	1379452.5125
10+54.7	8"–1/32 V.B.	597070.4611	1379456.1887
10+78	8"–1/4 H.B.	597056.1918	1379473.9299
10+82.5	8" VALVE	597052.5753	1379471.0235
10+85 = 0+08	8"x8" TEE (INWOOD AVE. – EAST)	597050.7426	1379469.5507

FITTING SCHEDULE – 8"W ELDERBERRY CT.
(STA. 0+00 TO STA. 0+25)

STATION	FITTING	NORTHING	EASTING
0+01.5	8" VALVE	596984.7714	1378655.1893
0+07	8"–1/32 H.B.	596990.2166	1378654.4154
0+18	8"–1/8 H.B.	597000.6202	1378650.8323
0+25	8" WYE, 8" PLUG & 8" CAP	597003.7151	1378644.4857

FITTING SCHEDULE – 8"W BRIARLEAF CT.
(STA. 0+00 TO STA. 0+14.5)

STATION	FITTING	NORTHING	EASTING
0+01.5	8" VALVE	597037.8228	1379054.4518
0+06	8"–1/8 H.B.	597042.2900	1379053.8593
0+14.5	8" WYE, 8" PLUG & 8" CAP	597047.4977	1379047.0590

FITTING SCHEDULE – 4"W & 8"W CALVIN SPRINGS CT.
(STA. 0+00 TO STA. 3+28)

STATION	FITTING	NORTHING	EASTING
0+02	8" VALVE	596958.7815	1378468.0786
0+55	8"x6" F.H.T.	596905.8045	1378474.1869
0+60	8"–1/8 H.B.	596900.8374	1378474.7596
0+67	8" WYE, PLUG & CAP	596895.2976	1378470.3652
0+71	8"x4" REDUCER	596890.3319	1378470.9500
3+28	1" BLOW–OFF & 4" PLUG	596635.7093	1378455.8053

FITTING SCHEDULE – 8"W INWOOD AVE. (EAST)
(STA. 0+00 TO STA. 5+07)

STATION	FITTING	NORTHING	EASTING
0+00	24"x8" TS&V & 8"–1/8 H.B.	597055.8317	1379463.3711
0+08 = 10+85	8"x8" TEE (INWOOD AVE. – WEST)	597050.7426	1379469.5507
0+16	8"–1/16 H.B.	597045.7034	1379475.6697
0+24.5	8" WYE, PLUG & CAP	597037.3188	1379476.4811
0+30	8" VALVE	597034.0243	1379480.6454
4+74	8" VALVE	596768.7094	1379836.4430
5+07 = 2+09	8"x8" TEE (RAWLINS WELL RD.)	596748.3978	1379862.9589

FITTING SCHEDULE – 8"W PINECREST RD.
(STA. 0+00 TO STA. 10+84)

STATION	FITTING	NORTHING	EASTING
0+00	24"x8" TEE	596851.4796	1379294.3505
0+09	8" VALVE	596845.6465	1379301.2712
0+26	8"–1/8 H.B.	596834.8800	1379314.0451
0+33	8" WYE, PLUG & CAP	596827.8345	1379314.6459
0+45	8"–1/8 V.B.	596820.0794	1379324.0274
5+21	8"x6" F.H.T.	596577.3165	1379724.6485
5+68 = 0+00	8"x8" TEE (RAWLINGS WELL RD.)	596563.7746	1379770.0519
5+90	8" VALVE	596555.9281	1379790.1152
10+27	8" VALVE	596291.8738	1380136.9525
10+39	8"–1/8 V.B.	596284.5410	1380145.9990
10+63	8"–1/8 V.B.	596269.9385	1380165.0545
10+84 = 6+85	8"x8" TEE (WOODCLIFF AVE.)	596257.2701	1380181.5861

FITTING SCHEDULE – 4"W & 8"W BIG STONE CT.
(STA. 0+00 TO STA. 1+60)

STATION	FITTING	NORTHING	EASTING
0+00	24"x8" TS&V & 8"–1/8 H.B.	596198.2554	1378756.4978
0+09	8" VALVE	596192.5725	1378763.4767
0+28	8"x6" F.H.T.	596180.2740	1378778.4431
0+31	8"–1/8 H.B.	596178.3607	1378780.7782
0+38.5	8" WYE, PLUG & CAP	596171.3242	1378781.4768
2+70	8"x6" F.H.T.	596024.3601	1378960.8390
2+80	8"x4" REDUCER	596017.6279	1378969.0554
3+64	1" BLOW–OFF & 4" PLUG	595965.0015	1379033.2832

FITTING SCHEDULE – 4"W & 8"W FOREST ROCK CT.
(STA. 0+00 TO STA. 5+30)

STATION	FITTING	NORTHING	EASTING
0+00	24"x8" TS&V & 8"–1/8 H.B.	596414.3730	1378934.7563
0+17.5	8" VALVE	596403.1702	1378948.3435
0+22	8" OFFSET W/ 12" DROP	596400.3776	1378951.7306
0+30	8"x6" F.H.T.	596395.3671	1378957.7886
0+33	8"–1/8 H.B.	596393.4679	1378960.1109
0+40	8" WYE, PLUG & CAP	596386.1107	1378960.8186
0+58	8"–1/16 V.B.	596374.7987	1378974.5338
4+24	8"x6" F.H.T.	596141.7953	1379257.0385
4+40	8"x4" REDUCER	596131.1545	1379269.9400
5+30	1" BLOW–OFF & 4" PLUG	596074.4940	1379338.6379

FITTING SCHEDULE – 4"W & 8"W RANDOLF SPRINGS CT.
(STA. 0+00 TO STA. 5+30)

STATION	FITTING	NORTHING	EASTING
0+00	24"x8" TS&V & 8"–1/8 H.B.	596630.1206	1379112.4355
0+09	8" VALVE	596624.3236	1379119.4664
0+30.3	8"x6" F.H.T.	596610.6730	1379136.0224
0+36	8"–1/8 H.B.	596607.0267	1379140.4448
0+43	8" WYE, PLUG & CAP	596599.9635	596599.9635
4+37	8"x6" F.H.T.	596363.5608	1379453.6789
4+40	8"x4" REDUCER	596357.7103	1379466.7029
5+30	1" BLOW–OFF & 4" PLUG	596325.3595	1379538.8751

FITTING SCHEDULE – 4"W APPLE GROVE CT.
(STA. 0+00 TO STA. 1+60)

STATION	FITTING	NORTHING	EASTING
0+00	24"x8" TS&V & 8"–1/4 H.B.	597300.1480	1379664.4199
0+06	8" VALVE	597294.2698	1379671.1771
0+34	8"x6" F.H.T.	597278.2518	1379690.0234
0+39	8"–1/8 H.B.	597274.9247	1379693.9380
0+46	8" WYE, PLUG & CAP	597267.8521	1379694.5117
0+50	8"x4" REDUCER	597264.4194	1379698.5305
1+60	1" BLOW–OFF & 4" PLUG	597193.7957	1379781.5805

FITTING SCHEDULE – 8"W JOHNNYCAKE RD.
(STA. 0+00 TO STA. 20+29)

STATION	FITTING	NORTHING	EASTING
0+00	24"x8" TS&V & 8"–1/4 H.B.	597574.4849	1379903.3574
0+11	8"–1/8 H.B.	597566.0606	1379910.2300
0+17	8"–1/16 H.B.	597565.4307	1379916.4399
0+26.5	8" VALVE	597568.1596	1379925.4878
0+36	8"–1/32 H.B.	597570.8606	1379934.5865
5+90	8" VALVE	597648.5038	1380478.6416
6+22 = 13+29	8"x8" TEE (RAWLINGS WELL RD.)	597644.3121	1380509.6296
11+11.5	8"–1/8 V.B.	597517.8352	1380982.4130
11+14	8"–1/8 V.B.	597517.1868	1380984.8275
11+20	8" VALVE	597515.6850	1380990.3339
11+37 = 22+10	8"x8" TEE (WOODCLIFF AVE.)	597511.2591	1381006.9290
11+77	8"x6" F.H.T.	597500.9716	1381045.5192
16+34	8"x6" F.H.T.	597436.7074	1381497.6708
18+03 = 0+00	8"x8" TEE (7001 ROLLING RD. – WEST)	597422.2259	1381665.5571
18+11	8" VALVE	597421.5036	1381674.0382
19+41 = 0+00	8"x8" TEE (7001 ROLLING RD. – EAST)	597410.5208	1381803.2290
20+29	8" MJ COUPLING	597401.3712	1381891.2427

FITTING SCHEDULE – 8"W WOODCLIFFE AVE.
(STA. 0+00 TO STA. 22+10)

STATION	FITTING	NORTHING	EASTING
0+00	1" BLOW–OFF & 4" PLUG	595725.6887	1379750.2443
0+70	8"x4" REDUCER	595781.8815	1379793.4302
1+00	8"x6" F.H.T.	595804.3183	1379811.7695
6+38	8"x6" F.H.T.	596221.4276	1380152.0828
6+65	8" VALVE	596241.7583	1380168.8299
6+81	8"–1/16 V.B.	596254.3727	1380179.2045
6+85 = 10+84	8"x8" TEE (PINECREST RD.)	596257.3480	1380181.4845
6+90	8"–1/16 V.B.	596261.3253	1380184.9194
10+46	8"x6" F.H.T.	596630.2157	1380446.4851
16+82	8"x6" F.H.T.	597098.9708	1380680.9358
21+86	8"–1/8 H.B.	597487.7709	1381001.1135
22+00	8" VALVE	597501.2446	1381004.5429
22+10 = 11+37	8"x8" TEE (JOHNNYCAKE RD.)	597511.2306	1381006.9220

FITTING SCHEDULE – 8"W RAWLINGS WELL RD.
(STA. 0+00 TO STA. 13+29)

STATION	FITTING	NORTHING	EASTING
0+00 = 5+68	8"x8" TEE (PINECREST RD.)	596563.7746	1379770.0519
0+40	8" VALVE	596601.8891	1379782.0184
2+09 = 5+07	8"x8" TEE (INWOOD AVE.)	596748.3978	1379862.9589
6+65	8"x6" F.H.T.	597100.9881	1380153.4607
7+17 = 0+00	8"x8" TEE (PRINCE WILLIAM CT.)	597140.9689	1380186.4546
11+57	8"–1/32 H.B.	597480.1093	1380466.6314
12+06	8"–1/16 H.B.	597522.8460	1380490.4608
12+77	8"x6" F.H.T.	597592.5200	1380502.4333
13+00	8" VALVE	597614.8124	1380505.4601
13+29 = 6+22	8"x8" TEE (JOHNNYCAKE RD.)	597644.3121	1380509.6296

FITTING SCHEDULE – 4"W PRINCE WILLIAM CT.
(STA. 0+00 TO STA. 3+28)

STATION	FITTING	NORTHING	EASTING
0+00 = 7+17	8"x4" TEE (RAWLINGS WELL RD.)	597140.9880	1380186.4313
0+34	4" VALVE	597162.6641	1380160.0521
3+28	1" BLOW–OFF & 4" PLUG	597303.3208	1380039.6393

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

CONTRACT COMPLETION BOX
Contractor: ____
Date Completed: ____
Inspector: ____
Pipe Material (Pressure Only) ____

DWG. FILENAME:

CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

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

SEAL
DATE : 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022.

ENGINEER: [redacted] MCKENNA-STREYLE, P.E.
BALTIMORE COUNTY, DPW
BUREAU ENG/CONST. WATER DES. SECT.
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
R.O.W NO.			PLAN SCALE:	
AS SHOWN			PROFILE SCALE:	

DEPARTMENT OF PUBLIC WORKS
SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020–1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

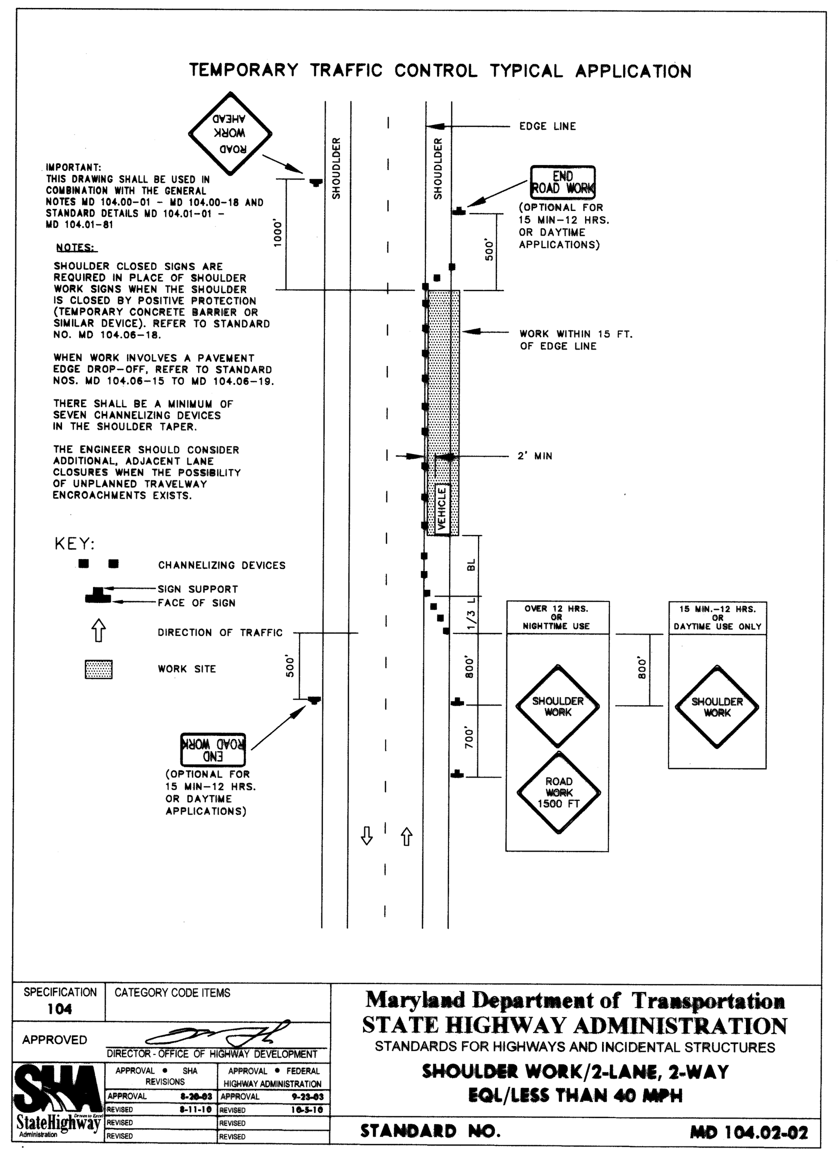
8" WATERMAIN REPLACEMENT
JOHNNYCAKE ROAD

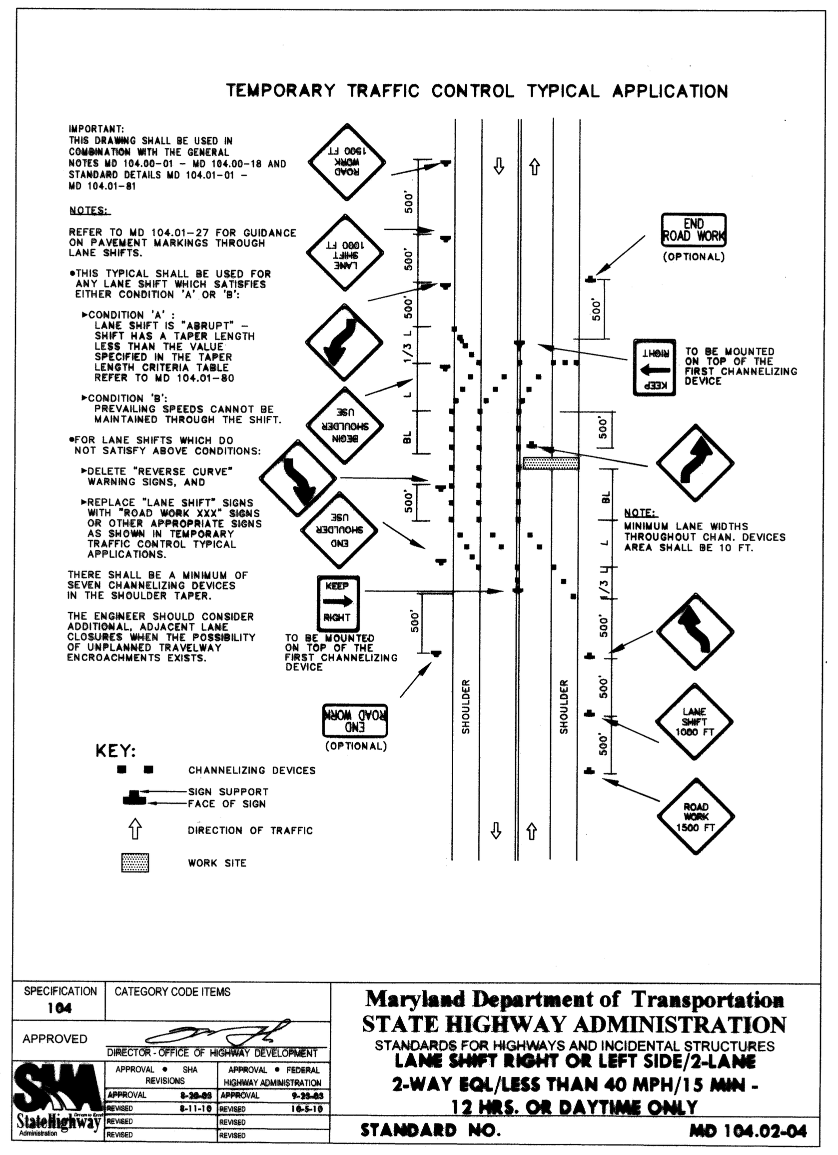
SUBDIVISION: **CATONSVILLE/WINDSOR MILL**

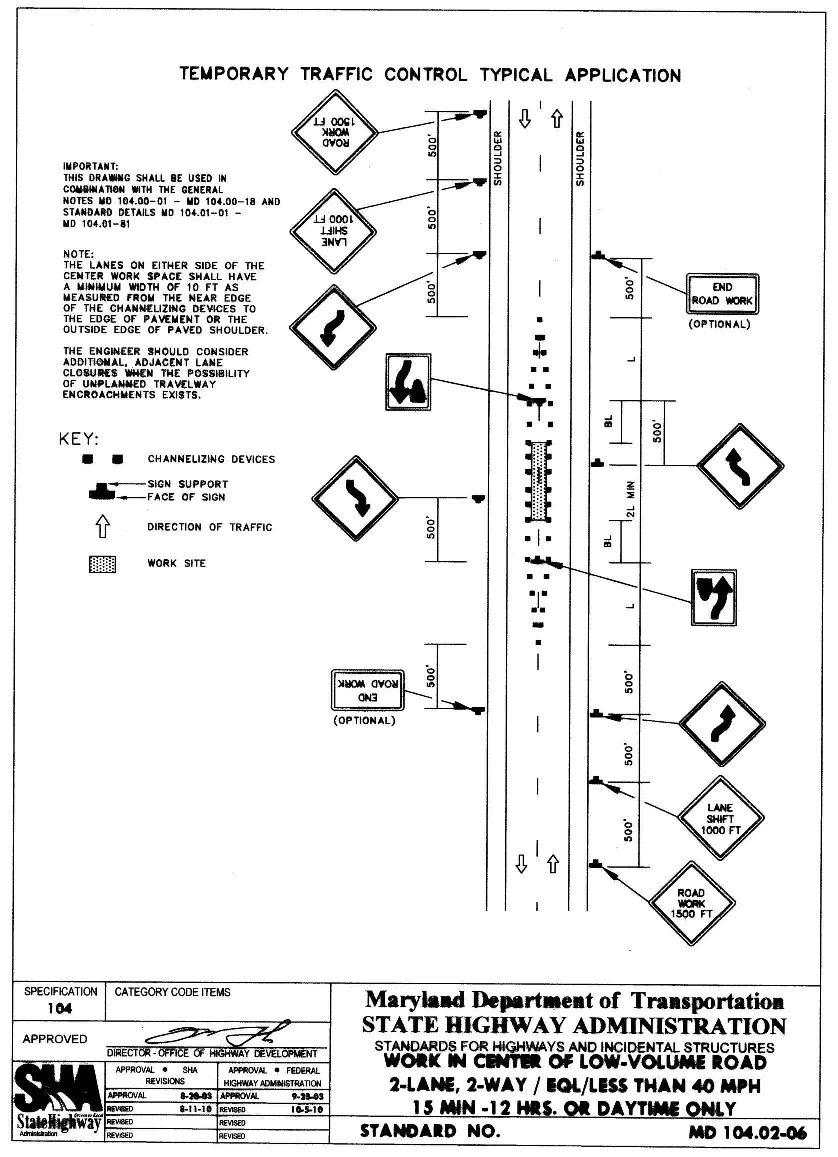
WATER SERVICE CONNECTIONS, FITTING SCHEDULE & DETAILS

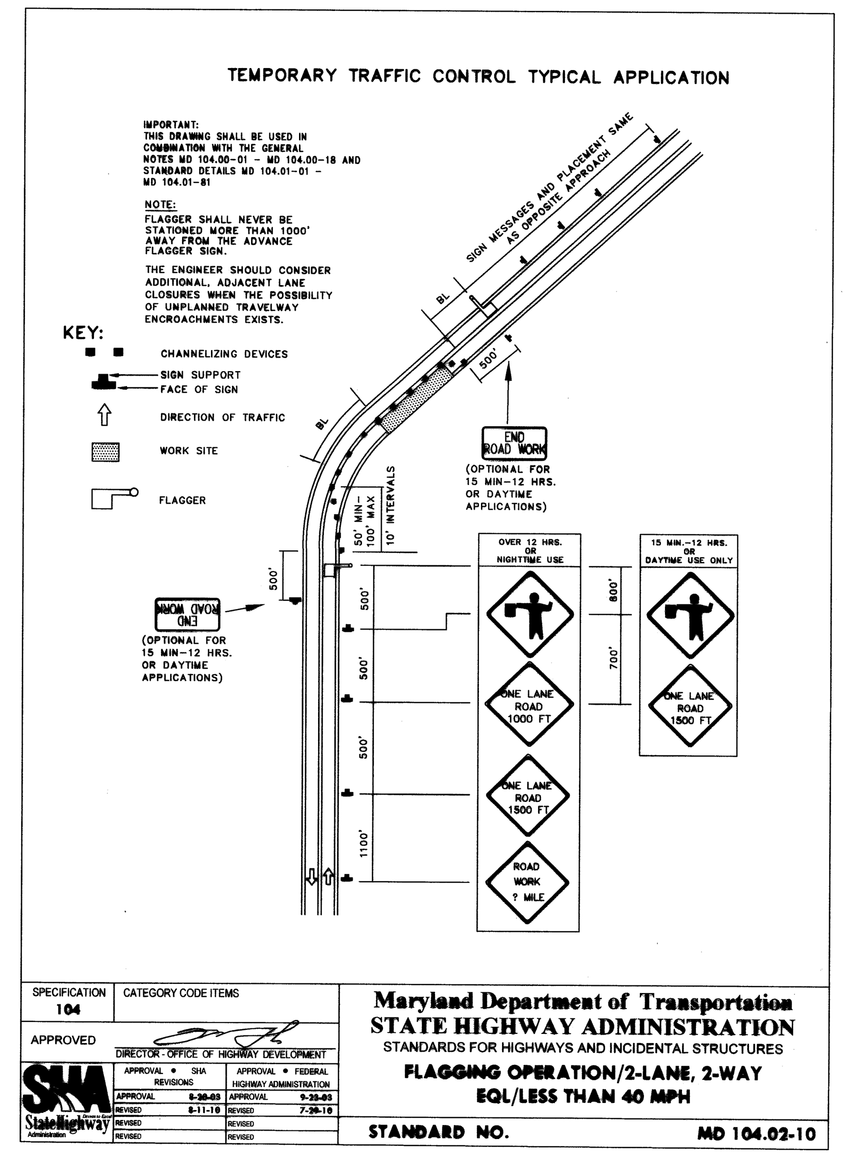
ELECTION DIST. NO.: **1C1**

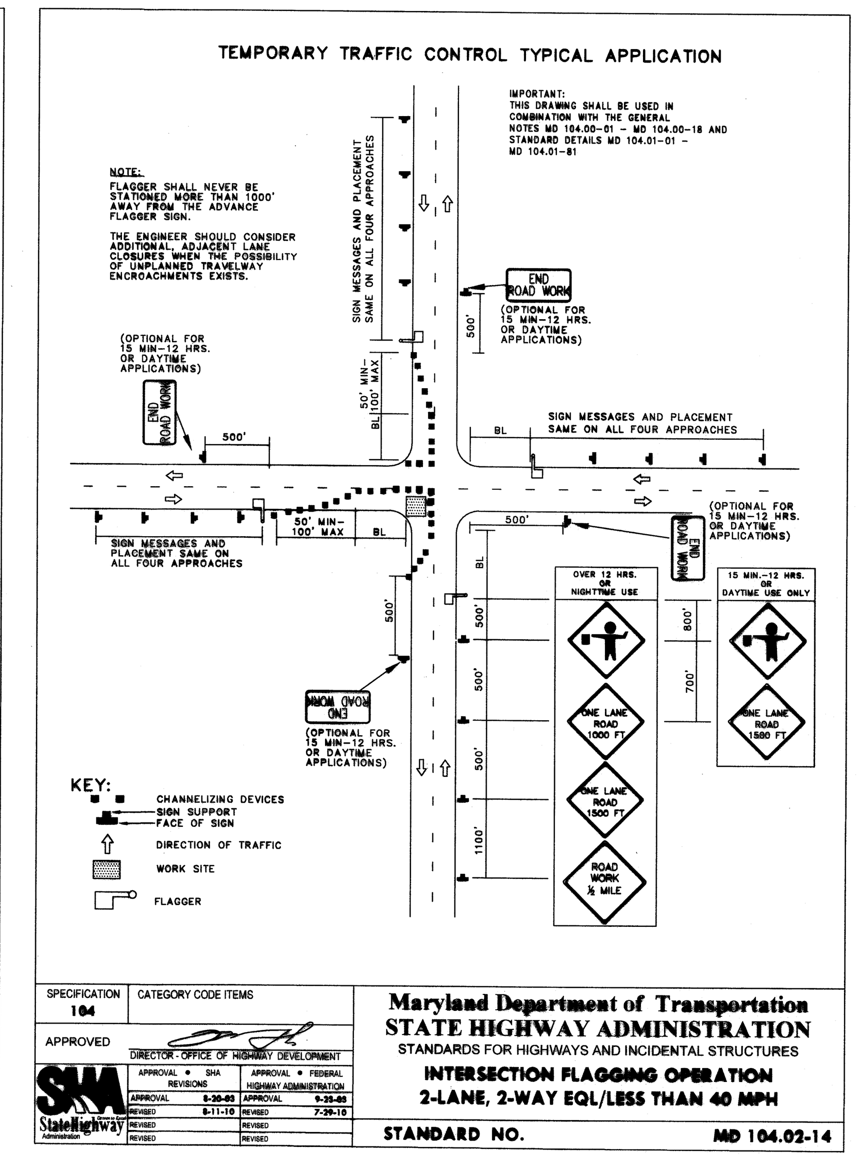
SHEET DESIGNATION	CONTRACT NUMBER
WATER	**20070–WX0**
	JOB ORDER NUMBER
	203–0035–0622
	SHEET **25** OF **40**
	DRAWING NUMBER
	2020–1100
	FILE NO.: **3**

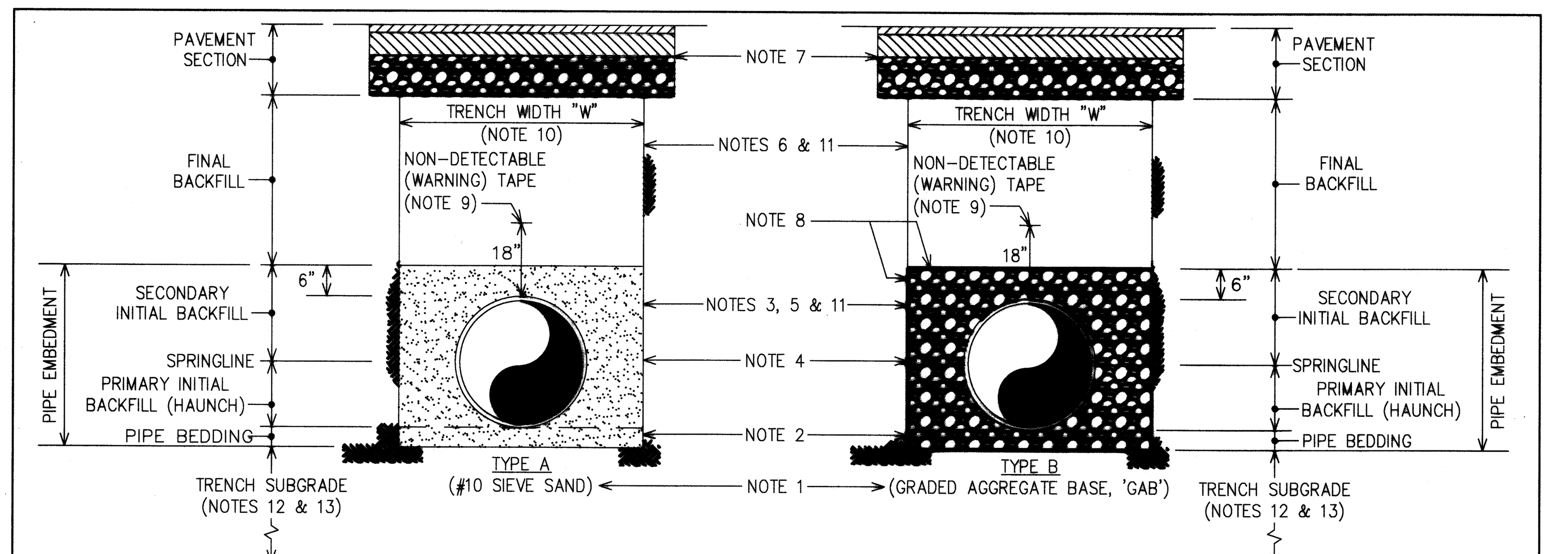












NOTES:

1. STANDARD TRENCH BACKFILL TO BE TYPE A, SAND, IN PIPE EMBEDMENT ZONE. SAND TO BE SILICA-BASED (NO LIMESTONE BASED PRODUCTS ALLOWED) MEETING GRADING REQUIREMENTS OF ASTM C-33. USE TYPE B TRENCH BACKFILL (GAB WRAPPED WITH FILTER FABRIC IN PIPE EMBEDMENT ZONE) ONLY WHEN DIRECTED BY THE ENGINEER.
2. STANDARD PIPE BEDDING DEPTH IS 4-INCHES. WHEN TRENCH SUBGRADE IS COMPOSED OF ROCK, EXTEND PIPE BEDDING DEPTH DOWN AN ADDITIONAL 2-INCHES (6-INCHES TOTAL). ALL PIPE BEDDING TO BE PLACED LOOSE (NO COMPACTION).
3. THE PRICE FOR BACKFILL IN THE PIPE EMBEDMENT ZONE, INCLUDING PIPE BEDDING, SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR THE PIPE.
4. IN HAUNCH ZONE, BRING BACKFILL UP UNIFORMLY ON BOTH SIDES OF THE PIPE IN MAXIMUM 4-INCH LIFTS (LOOSE MATERIAL) AND COMPACT TO A MINIMUM OF 92% OF AASHTO T-180 DENSITY.
5. IN SECONDARY INITIAL BACKFILL ZONE, BRING BACKFILL UP UNIFORMLY IN MAXIMUM 6-INCH LIFTS (LOOSE MATERIAL) AND COMPACT TO A MINIMUM OF 92% OF AASHTO T-180 DENSITY.
6. FINAL BACKFILL TO CONSIST OF SUITABLE NATIVE MATERIAL. IF SUITABLE NATIVE MATERIAL IS NOT AVAILABLE, USE SELECT BACKFILL OR GAB, AS DIRECTED BY THE ENGINEER. BACKFILL IN ACCORDANCE WITH STANDARD SPECIFICATION 300.03.04(h)(4).
7. PROVIDE SECTION PER CONTRACT DOCUMENTS.
8. WRAP BOTTOM, TOP AND BOTH SIDES OF GAB IN PIPE EMBEDMENT ZONE WITH FILTER FABRIC, TYPE SE.
9. WHERE PIPE HAS RESTRAINED JOINTS, PROVIDE NON-DETECTABLE WARNING TAPE ON TOP OF POLYETHYLENE ENCASEMENT/BONDED COATING. SECURE WARNING TAPE USING WRAPPING TAPE SUITABLE FOR INSTALLING POLYETHYLENE ENCASEMENT; WRAP TAPE COMPLETELY AROUND PIPE AT 4-FOOT INTERVALS. SEE GENERAL NOTES ON CONTRACT DRAWINGS FOR WORDING ON WARNING TAPE.
10. TRENCH WIDTH "W" PER STANDARD DETAIL PLATES G-6 AND G-7.
11. BACKFILL SHALL NOT BE ALLOWED TO FREE-FALL INTO THE TRENCH UNTIL AT LEAST 2-FEET OF COVER IS PROVIDED OVER THE TOP OF THE PIPE.
12. IF THE TRENCH SUBGRADE IS UNSTABLE, CONSULT THE DESIGN DIVISION OF THE BUREAU OF ENGINEERING AND CONSTRUCTION FOR DIRECTION. IF APPROVED BY THE ENGINEER, ADDITIONAL EXCAVATION BELOW THE PIPE BEDDING WILL BE PAID UNDER THE FIXED CONTINGENT BID ITEM "CLASS 3 EXCAVATION/SELECT BACKFILL – PROPER DISPOSAL OF UNSUITABLE MATERIAL."
13. IN NON-PAVED AREAS ONLY, TRENCHES INSTALLED IN ROCK SHALL BE PROVIDED WITH CLAY TRENCH PLUGS TO REDUCE THE FLOW OF WATER ALONG THE TRENCH BOTTOM; SEE DETAIL PLATE G-21. CONSTRUCT ACROSS THE ENTIRE PIPE EMBEDMENT ZONE AND AT INTERVALS ALONG THE PIPE NOT TO EXCEED 150 FEET. FOR PIPE LENGTHS LESS THAN 300 FEET, PROVIDE ONE CLAY TRENCH PLUG MIDWAY ALONG THE PIPE. FIRE HYDRANT LEADS AND SERVICE LEADS TO LARGE METERS DO NOT REQUIRE CLAY TRENCH PLUGS. COST OF CLAY TRENCH PLUGS SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR PIPE.

APPROVAL	DEPARTMENT OF PUBLIC WORKS	ISSUED:
DIRECTOR	STANDARD WATER DETAILS	REVISED:
BUR. OF ENGINEERING/CONSTRUCTION	TRENCH BACKFILL FOR BONDED-COATED OR POLYETHYLENE-ENCASED PIPE, ≤ 12"	REVISED:
DATE		PLATE

GENERAL NOTES:

1. PAVEMENT MARKINGS:
UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER, ALL EXISTING PAVEMENT MARKINGS SHALL REMAIN IN PLACE DURING AND AFTER CONSTRUCTION OR IT SHALL BE REPLACED IMMEDIATELY IN KIND. THIS WILL INCLUDE BOTH TEMPORARY AND PERMANENT PAVEMENT MARKINGS. THE COST TO BE INCLUDED IN THE PRICE BID ITEM FOR MAINTENANCE OF TRAFFIC.
2. ALL BUSINESSES AND RESIDENTS SHALL BE INFORMED AT LEAST SEVEN DAYS PRIOR TO SHUTDOWN OF THEIR SERVICES.
3. ALL SHUTDOWNS FOR THE TIE-INS OF THE WATER MAIN SHALL BE BRIEF, AFFECTING THE LEAST POSSIBLE SERVICES AND BETWEEN 9:00PM AND 6:00AM ON WEEKENDS OR AS DIRECTED BY THE ENGINEER.
4. LANE CLOSURES SHALL BE BETWEEN THE HOURS OF 9:00AM AND 3:00PM.

CONTRACT COMPLETION BOX
Contractor: ____
Date Completed: ____
Inspector: ____
Pipe Material (Pressure Only) ____
DWG. FILENAME:

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

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

SEAL: STATE OF MARYLAND — ERIN A. MCKENNA-STREYLE — No. 36630 — REGISTERED PROFESSIONAL ENGINEER
DATE : 8/24/2020

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. 36630, EXPIRATION DATE 6/7/2022.
ENGINEER: ERIN MCKENNA-STREYLE, P.E. BALTIMORE COUNTY, DPW BUREAU ENG/CONST, WATER DES. SECT.
DESIGN BY: EAM
DRAWN BY: EAM
CHKD BY: MJM
AS-BUILT PER RECORD PRINT
BY:
DATE:

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	DEPARTMENT OF PUBLIC WORKS
			R.O.W NO.	N/A	N/A	PLAN SCALE:	SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES
CONTRACT COMPLETION BOX			AS SHOWN			PROFILE SCALE:	

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION

SEE DRAWING 2020-1076 FOR ORIGINAL SIGNATURES

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

8" WATERMAIN REPLACEMENT

JOHNNYCAKE ROAD

SUBDIVISION: **CATONSVILLE/WINDSOR MILL**

TRAFFIC AND PAVING DETAILS

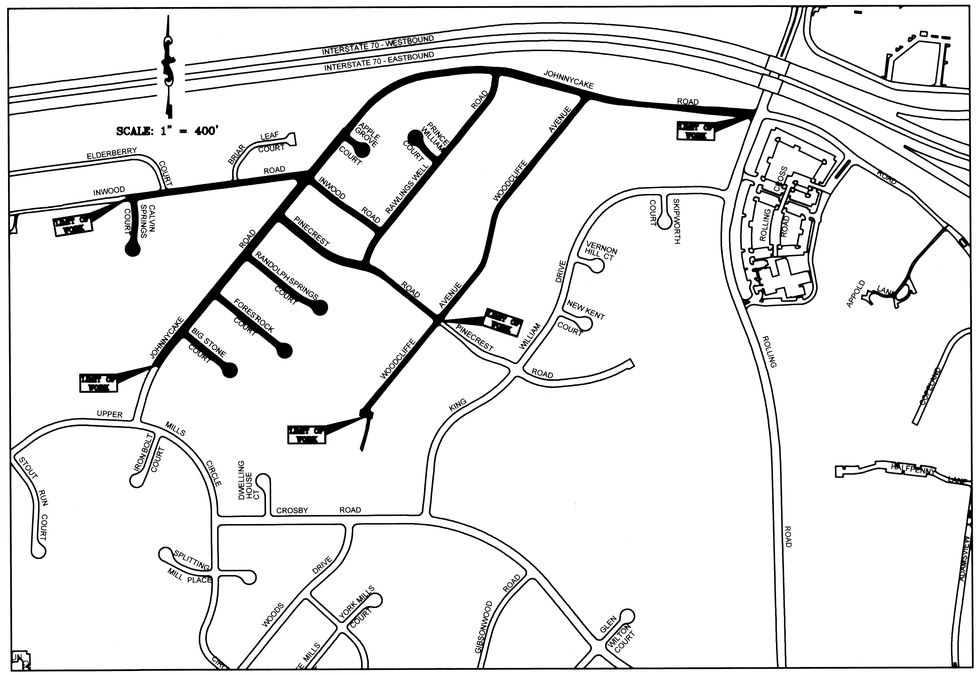
ELECTION DIST. NO.:**1C1**

SHEET DESIGNATION	CONTRACT NUMBER
TRAFFIC	20070-WX0
	JOB ORDER NUMBER
	203-0035-0622
	SHEET 26 OF 40
	DRAWING NUMBER
	2020-1101
	FILE NO.: 3

GRADING, SED. & EC INDEX OF DRAWINGS			
SC SHEET NO.	PLAN SHEET NO.	DRAWING NO.	DESCRIPTION
1	27	2020-1102	TITLE SHEET
2	28	2020-1103	GRADING, EROSION & SED. CONTROL PLAN
3	29	2020-1104	GRADING, EROSION & SED. CONTROL PLAN
4	30	2020-1105	GRADING, EROSION & SED. CONTROL PLAN
5	31	2020-1106	GRADING, EROSION & SED. CONTROL PLAN
6	32	2020-1107	GRADING, EROSION & SED. CONTROL PLAN
7	33	2020-1108	GRADING, EROSION & SED. CONTROL PLAN
8	34	2020-1109	GRADING, EROSION & SED. CONTROL PLAN
9	35	2020-1110	GRADING, EROSION & SED. CONTROL PLAN
10	36	2020-1111	GRADING, EROSION & SED. CONTROL PLAN
11	37	2020-1112	GRADING, EROSION & SED. CONTROL PLAN
12	38	2020-1113	EROSION & SEDIMENT CONTROL DETAILS
13	39	2020-1114	EROSION & SEDIMENT CONTROL DETAILS
14	40	2020-1115	EROSION & SEDIMENT CONTROL NOTES

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

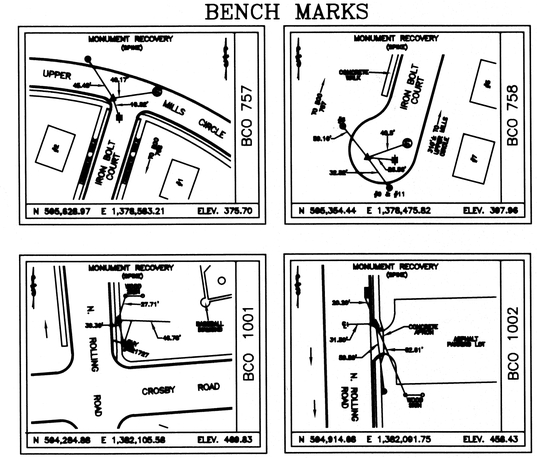
JOHNNYCAKE ROAD
8" WATERMAIN REPLACEMENT
GRADING, EROSION, AND SEDIMENT CONTROL
JOB ORDER 231-203-0035-0622
CONTRACT No. 20070 WXO



SEDIMENT CONTROL NOTES

1. ONLY THAT SECTION OF TRENCH SHALL BE OPENED WHICH CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY.
2. WHEN EXCAVATING FOR UTILITIES, ALL SPOIL MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
3. ANY SEDIMENT CONTROL MEASURES DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
4. TEMPORARY STOCKPILE: THE CONSTRUCTION EASEMENT AND/OR EXISTING PAVING LOCATED WITHIN THE LIMITS OF DISTURBANCE (L.O.D.) SHALL BE USED AS THE ONSITE TEMPORARY STOCKPILE AREA, IF THE CONTRACTOR ELECTS TO DO SO. THE CONTRACTOR MUST ADHERE TO SOIL CONSERVATION RULES AND REGULATIONS. THE TEMPORARY STOCKPILE MUST DRAIN TO A FUNCTIONING SEDIMENT CONTROL DEVICE AND POSITIONED TO NOT IMPEDE UPON OR IMPAIR THE FUNCTION OF SAID DEVICE AND NOT ALTER DRAINAGE DIVIDES. ANY OFFSITE AREA THAT THE CONTRACTOR DESIRES TO USE AS A TEMPORARY STOCKPILE AREA SHALL BE IN A SITE WITH AN OPEN GRADING PERMIT, AND AN APPROVED SEDIMENT CONTROL PLAN AND MUST BE APPROVED BY THE CONSTRUCTION INSPECTOR AND A REPRESENTATIVE OF THE ENVIRONMENTAL IMPACT REVIEW SECTION OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY (DEPS).
5. NO STAGING OF EQUIPMENT OR STOCKPILING OF MATERIAL SHALL OCCUR WITHIN 100' OF ANY STREAM OR TIDAL WETLANDS, 25' OF ANY NON-TIDAL WETLAND, WITHIN LIMITS OF WETLANDS, OUTSIDE OF THE APPROVED LIMIT OF DISTURBANCE, OR WITHIN THE 100 YEAR FLOODPLAIN.
6. ALL WORK WITHIN THE 100 YEAR FLOODPLAIN MUST BE DONE IN STRICT ACCORDANCE WITH APPLICABLE STATE PERMIT REQUIREMENTS.
7. ALL STORM DRAINS, 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 DE-WATERING OPERATIONS, NO WATER SHALL BE DISCHARGED DIRECTLY ACROSS THE GROUND NOR INTO AN EXISTING BODY OF WATER OR STREAM WITHOUT FIRST FLOWING THROUGH AN APPROVED DE-WATERING BASIN OR PORTABLE SEDIMENT TANK.
8. ALL NECESSARY EASEMENTS AND/OR LETTERS OF PERMISSION WILL BE ACQUIRED PRIOR TO THE BEGINNING OF CONSTRUCTION.

BENCH MARKS



APPROVAL STAMPS

BALTIMORE COUNTY ATF 11/17/2020
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
APPROVED FOR GRADING
11/17/2020 Date

STORM WATER MANAGEMENT PERMIT NOT REQUIRED

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL 10-29-20 Date
DISTRICT OFFICIAL 140-32K10,11-20 PLAN NO.
TECHNICAL REVIEW FOR THE DISTRICT BY:
Sara C. Dulina
This plan approval will expire three (3) years from the approval date.

NO GRADE CHANGE

GRADING PERMIT: B-968300

Total Disturbed Area = 43,418 SF OR 0.997 AC.

LEGEND

LOD — LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
	EXISTING SANITARY SEWER
	EXISTING GAS
D — D	EXISTING STORM DRAIN
	EXISTING WATER
X — X — X	EXISTING WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

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

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 1 of 14	WATER	20070 WXO

JOB ORDER NUMBER 231-203-0035-0622
SHEET 27 OF 40
DRAWING NUMBER 2020-1102
FILE NO.: 3

DWG. FILENAME:

CITY OF BALTIMORE		
CHIEF, UTILITIES ENGINEERING SECTION — DATE	CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE	DIRECTOR, DEPT. OF PUBLIC WORKS — DATE

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

SEAL: STATE OF MARYLAND — ERIN A. McKENNA-STREILE — No. 36220 — REGISTERED PROFESSIONAL ENGINEER

DATE: 8/24/2020

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. 36220 EXPIRATION DATE 06/07/2022

ENGINEER: ERIN McKENNA-STREILE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION

DESIGN BY: S. ERM
DRAWN BY: S. ERM
CHKD BY: EAM

AS-BUILT PER RECORED PRINT
BY:
DATE:

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
			R.O.W NO.	L-SE	02,03,04 NW 26 02,03,04 NW 26 04 NW 27

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

REFER TO TITLE SHEET 1 OF 40

DRAWING SCALE	
PLAN SCALE:	AS NOTED
PROFILE SCALE:	AS NOTED / AS NOTED

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: DIRECTOR
DATE:

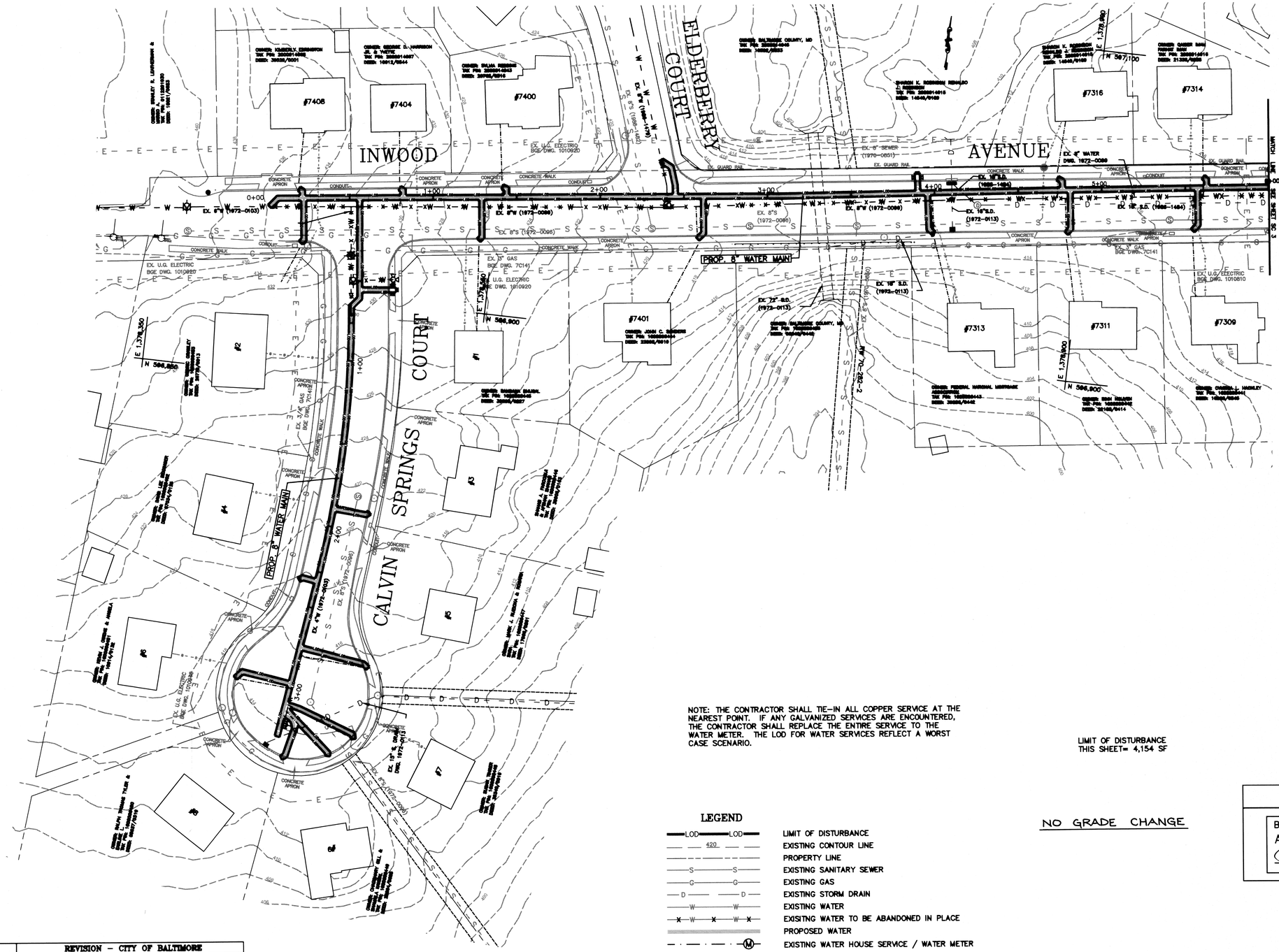
BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: CHIEF
DATE:

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
GRADING, EROSION AND SEDIMENT CONTROL PLAN
JOHNNYCAKE ROAD 8" WATER MAIN REPLACEMENT
SC TITLE SHEET

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

BALTIMORE COUNTY MARYLAND



NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICE AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

LIMIT OF DISTURBANCE
THIS SHEET= 4,154 SF

NO GRADE CHANGE

LEGEND

LOD LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S S	EXISTING SANITARY SEWER
G G	EXISTING GAS
D D	EXISTING STORM DRAIN
W W	EXISTING WATER
X W X W X	EXISITNG WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P West 10-29-20
Date

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL (Pressure Only)	

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

SEAL: STATE OF MARYLAND – MARCUS A. TRETTI – No. 39939 – REGISTERED PROFESSIONAL ENGINEER

DATE : 8/24/2020

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. 39939, EXPIRATION DATE 06/07/2020

ENGINEER: ERIN McGINNIS-SCHNELLE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S.BRN
DRAWN BY: S.BRN
CHKD BY: SAM

REVISION	BY	DATE

CONTRACT COMPLETION BOX

BUREAU OF ENGINEERING & CONSTRUCTION	HIGHWAYS	STRUCTURES
REVIEWED BY:		
DATE REVIEWED:		

P.W.A. NO.	KEY SHEET	POSITION SHEET	DRAWING SCALE	
		03 NW 20	PLAN SCALE:	1"=20'
R.O.W NO.	L-22	04 NW 20	PROFILE SCALE:	AS SHOWN
				AS SHOWN

REFER TO TITLE SHEET

STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS	
APPROVED BY:	DIRECTOR
DATE:	
BUR. OF ENGINEERING & CONSTRUCTION	
APPROVED BY:	CHIEF
DATE:	

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

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 2 OF 14	WATER	20070 WXO
		JOB ORDER NUMBER
		231-203-0036-0622
		SHEET 26 OF 40
		DRAWING NUMBER
		2020-1103
		FILE NO.: 3

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

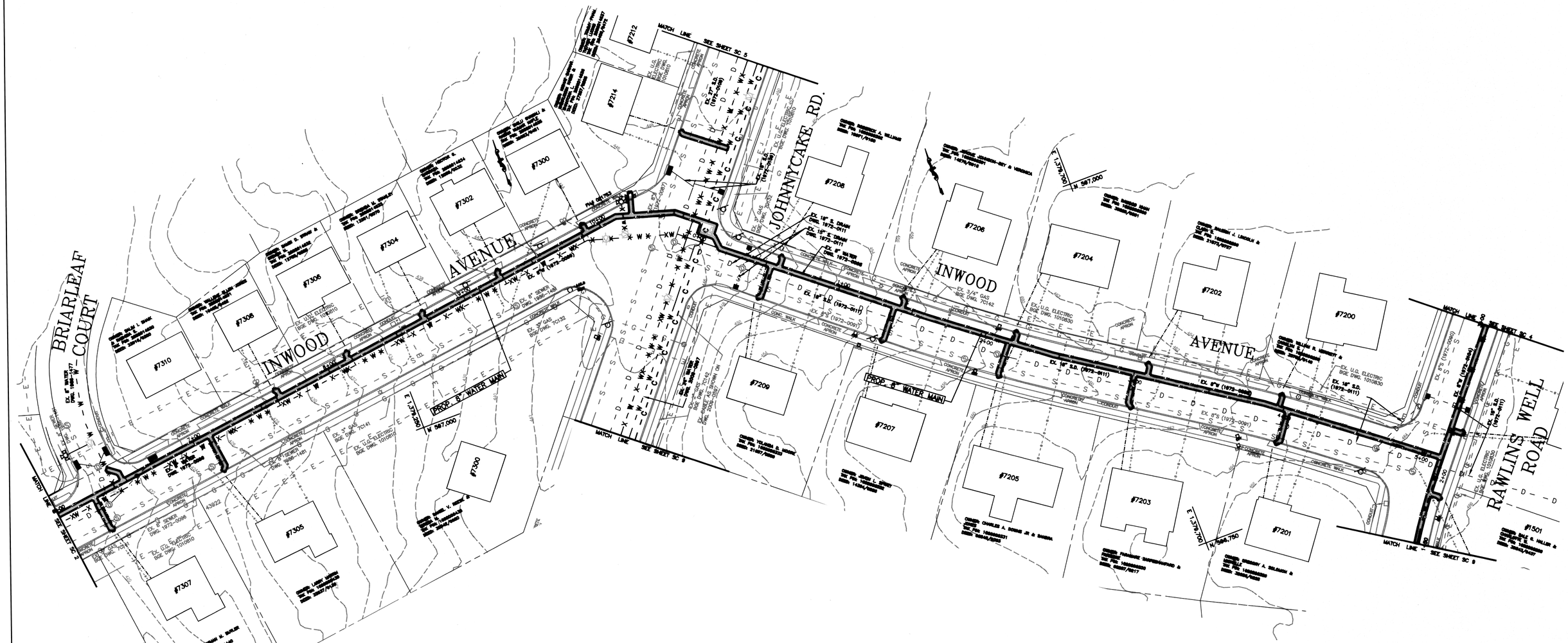
GRADING, EROSION AND SEDIMENT CONTROL

JOHNNYCAKE ROAD WATER MAIN REPLACEMENT

INWOOD AVENUE – FROM HOUSE #7408 TO BRIARLEAF COURT AND CALVIN SPRINGS COURT

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1



NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICE AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

LEGEND

LOD — LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S — S	EXISTING SANITARY SEWER
G — G	EXISTING GAS
D — D	EXISTING STORM DRAIN
W — W	EXISTING WATER
X — W — X — W — X	EXISITNG WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

NO GRADE CHANGE

LIMIT OF DISTURBANCE
THIS SHEET= 4,380 SF

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. Wast 10-29-20
Date

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)
DWG. FILENAME:

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

SEAL: STATE OF MARYLAND — ERIN A. McKENNA-STREYLE — REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 30620 EXPIRATION DATE 06/07/2022
ENGINEER: ERIN McKENNA-STREYLE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION
AS-BUILT PER RECORD PRINT
BY:
DATE:
DESIGN BY: S.HAM
DRAWN BY: S.HAM
CHKD BY: HAM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	L-SE	04 NW 28,29 / 05 NW 28,29

DRAWING SCALE: PLAN SCALE: 1"=20' PROFILE SCALE: AS SHOWN / AS SHOWN

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:						
DATE REVIEWED:						

REFER TO TITLE SHEET

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: DIRECTOR
DATE:
BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: CHIEF
DATE:

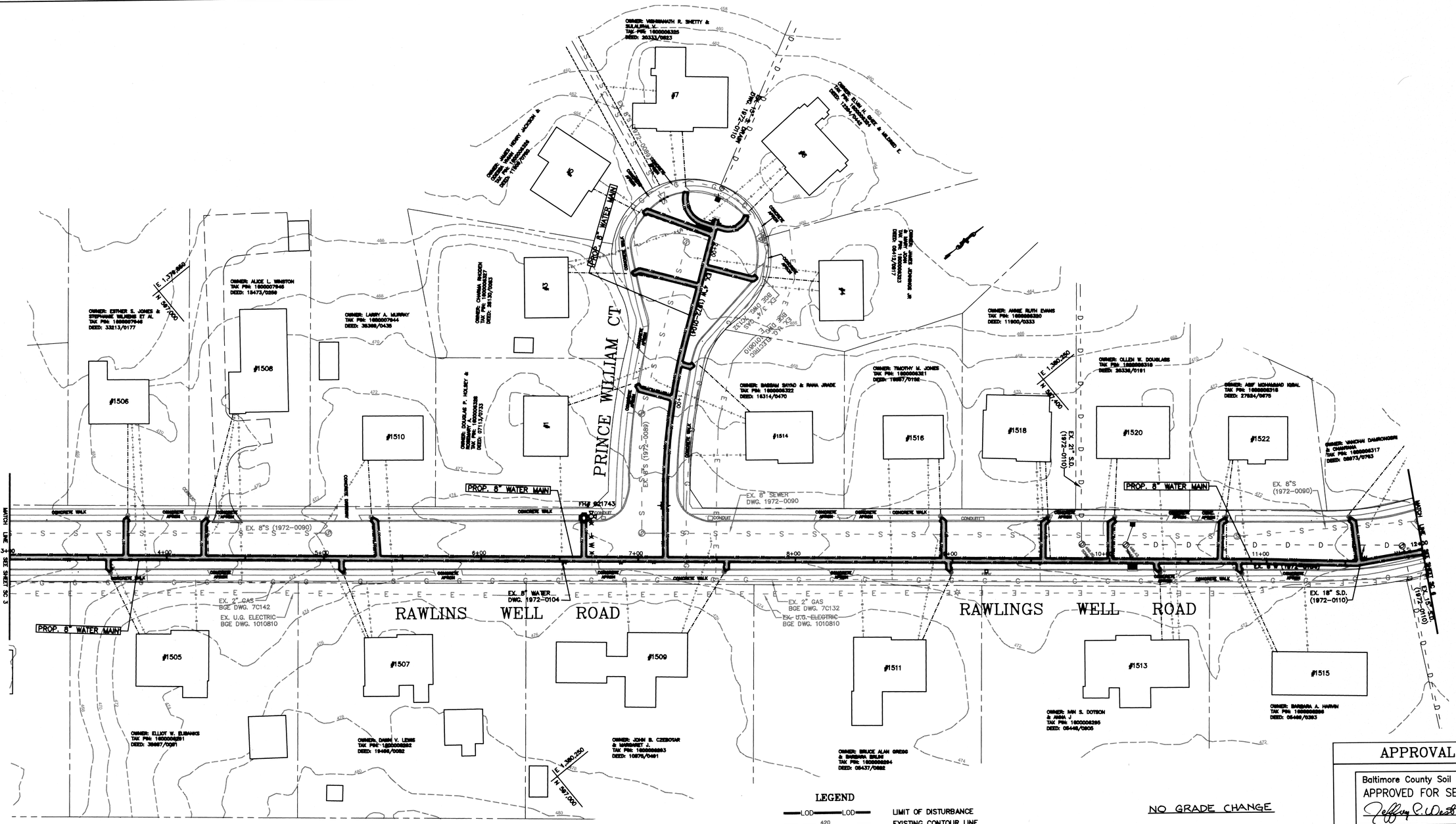
DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM HORIZONTAL - NAD 83/91 VERTICAL - NAVD 88

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 3 OF 14	WATER	20070 WXO

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
GRADING, EROSION AND SEDIMENT CONTROL
JOHNNYCAKE ROAD 8" WATER MAIN REPLACEMENT
INWOOD ROAD FROM BRIARLEAF COURT TO RAWLINS WELL ROAD
SUBDIVISION: WINDSOR MILL
ELECTION DIST. NO.:1 C1

BALTIMORE COUNTY MARYLAND

JOB ORDER NUMBER: 231-203-0035-0622
SHEET 29 OF 40
DRAWING NUMBER: 2020-1104
FILE NO.: 3



LEGEND

LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S	EXISTING SANITARY SEWER
G	EXISTING GAS
D	EXISTING STORM DRAIN
W	EXISTING WATER
X W X W X	EXISTING WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

NO GRADE CHANGE

LIMIT OF DISTURBANCE
THIS SHEET= 4,782 SF

NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICES AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 10-29-20
Date

CONTRACT COMPLETION BOX

CONTRACTOR: _____
DATE COMPLETED: _____
INSPECTOR: _____
PIPE MATERIAL (Pressure Only) _____

DWG. FILENAME:

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

SEAL: STATE OF MARYLAND — EMA A. MAKKENNA — REGISTERED PROFESSIONAL ENGINEER

DATE: 8/24/2020

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. 28880 EXPIRATION DATE 06/07/2022

ENGINEER: EMA MAKKENNA-SCHULZ
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S.EMM
DRAWN BY: S.EMM
CHKD BY: EAM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

BUREAU OF ENGINEERING AS CONSTRUCTED	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:						
DATE REVIEWED:						

REFER TO TITLE SHEET

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO.	L-05	03 NW 23 04 NW 23

DRAWING SCALE	
PLAN SCALE:	1"=50'
PROFILE SCALE:	AS SHOWN AS SHOWN

DEPARTMENT OF PUBLIC WORKS	
APPROVED BY:	DIRECTOR
DATE:	
BUR. OF ENGINEERING & CONSTRUCTION	
APPROVED BY:	CHIEF
DATE:	

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

GRADING, EROSION AND SEDIMENT CONTROL

JOHNNYCAKE ROAD 8' WATER MAIN REPLACEMENT

RAWLINS WELL ROAD – FROM HOUSE #1505 TO #1522 AND PRINCE WILLIAM COURT

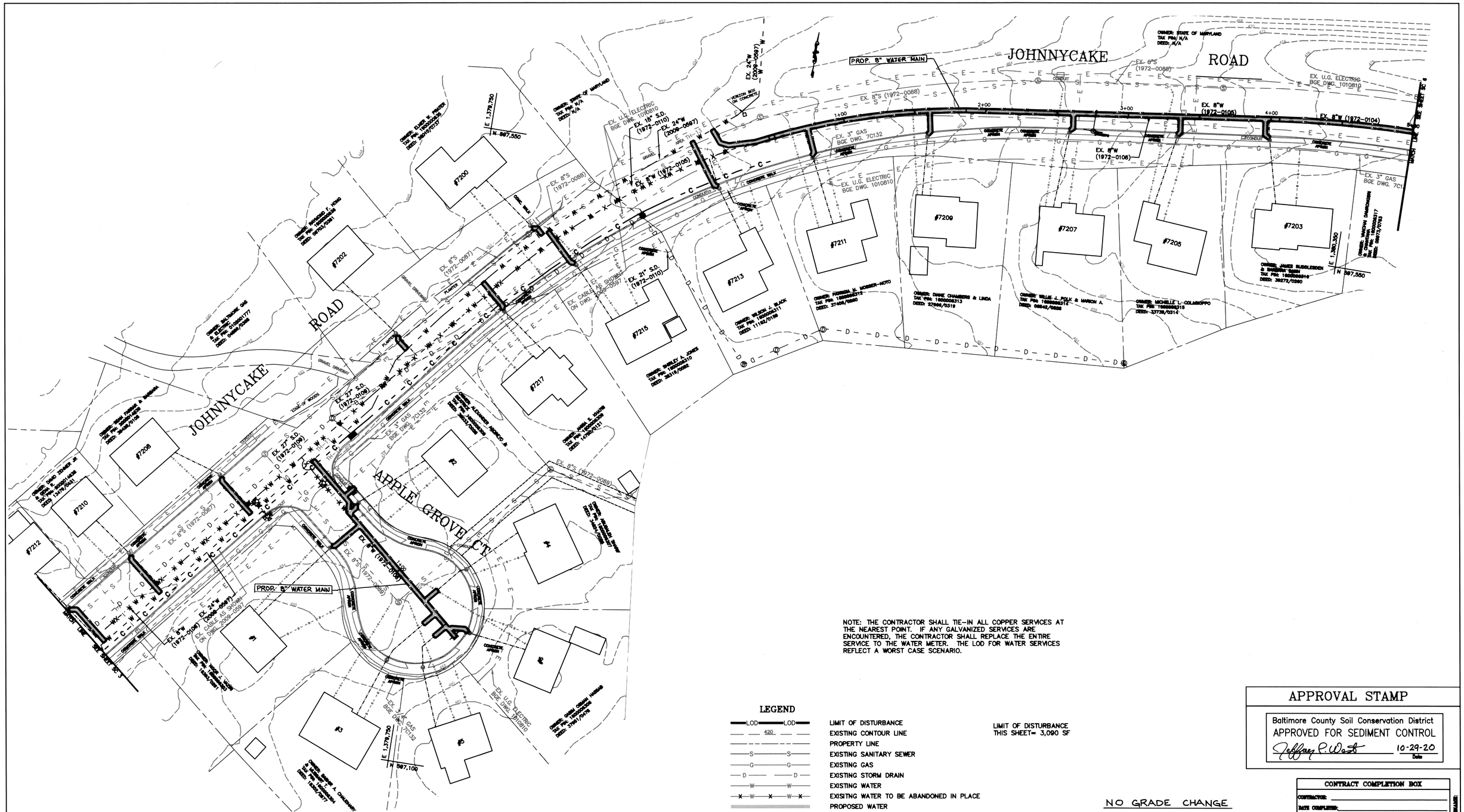
SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

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

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 4 OF 14	WATER	20070 WXO

JOB ORDER NUMBER
231-203-0036-0622
SHEET 30 OF 40
DRAWING NUMBER
2020-1105
FILE NO.: 3 25



NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICES AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

LEGEND

LOD ——— LOD	LIMIT OF DISTURBANCE
— — 420 — —	EXISTING CONTOUR LINE
	PROPERTY LINE
—S— —S—	EXISTING SANITARY SEWER
—G— —G—	EXISTING GAS
—D— —D—	EXISTING STORM DRAIN
—W— —W—	EXISTING WATER
—X—W—X—W—X—	EXISITNG WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
—·—·—·—M—	EXISTING WATER HOUSE SERVICE / WATER METER

LIMIT OF DISTURBANCE THIS SHEET= 3,090 SF

NO GRADE CHANGE

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 10-29-20
Date

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL (Pressure Only)	

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

SEAL: STATE OF MARYLAND — SHIRA A. McKENNA-STEELE — 38578 — REGISTERED PROFESSIONAL ENGINEER

DATE : 8/24/2020

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. 38578 EXPIRATION DATE 06/07/2022

ENGINEER: SHIRA McKENNA-STEELE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S.RMM
DRAWN BY: S.RMM
CHKD BY: RAM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO.	L-32	04 NW 20

DRAWING SCALE	
PLAN SCALE:	1"=20'
PROFILE SCALE:	AS SHOWN / AS SHOWN

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:	REFER TO TITLE SHEET					
DATE REVIEWED:						

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: _____ DIRECTOR
DATE:

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: _____ CHIEF
DATE:

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM HORIZONTAL – NAD 83/91 VERTICAL – NAVD 88	SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
	SC 5 OF 14	WATER	20070 WXO

JOB ORDER NUMBER 231-203-0035-0622
SHEET 31 OF 40
DRAWING NUMBER 2020-1106
FILE NO.: 3 ZM

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

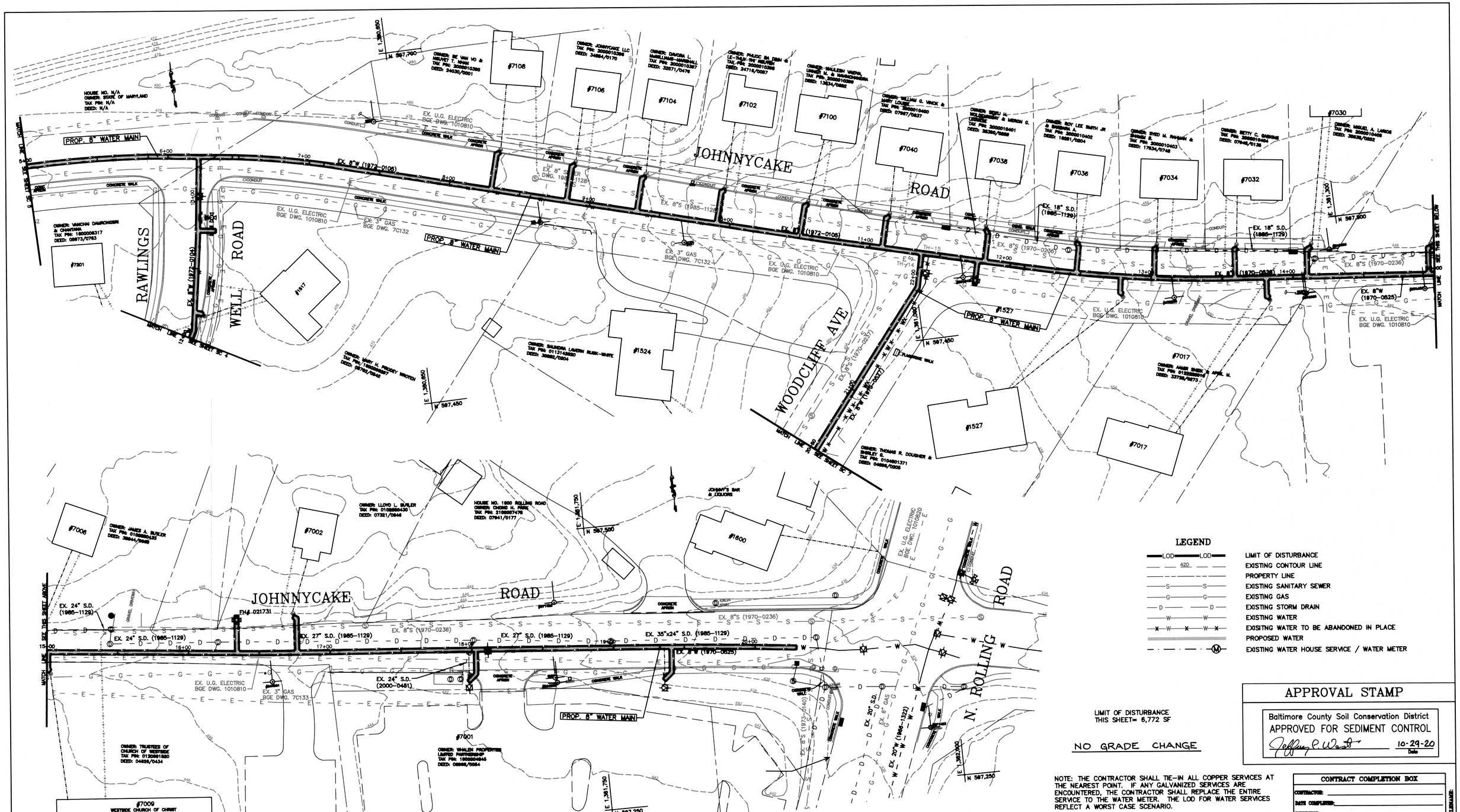
GRADING, EROSION AND SEDIMENT CONTROL

JOHNNYCAKE ROAD 8" WATER MAIN REPLACEMENT

FROM HOUSE #7203 TO HOUSE #7212 AND APPLE GROVE COURT

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1



LEGEND

LOD — LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S — S	EXISTING SANITARY SEWER
G — G	EXISTING GAS
D — D	EXISTING STORM DRAIN
W — W	EXISTING WATER
W W W	EXISTING WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

LIMIT OF DISTURBANCE
THIS SHEET= 6,772 SF

NO GRADE CHANGE

NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICES AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
10-29-20
Date

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL (Pressure Only):	

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

SEAL: STATE OF MARYLAND — EMIL MALINOWSKI — REGISTERED PROFESSIONAL ENGINEER — 34934

DATE : 8/14/2020

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. 34934 EXPIRATION DATE 06/07/2022

ENGINEER: EMIL M. MALINOWSKI - SENIOR
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S.RAM
DRAWN BY: S.RAM
CHKD BY: SAM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES
REVIEWED BY:		
DATE REVIEWED:		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	L-25	04 NW 07 04 NW 08

STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REFER TO TITLE SHEET			

DRAWING SCALE	
PLAN SCALE:	1"=20'
PROFILE SCALE:	AS SHOWN AS SHOWN

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: _____ DIRECTOR
DATE: _____

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: _____ CHIEF
DATE: _____

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

GRADING, EROSION AND SEDIMENT CONTROL

JOHNNYCAKE ROAD 8" WATER MAIN REPLACEMENT

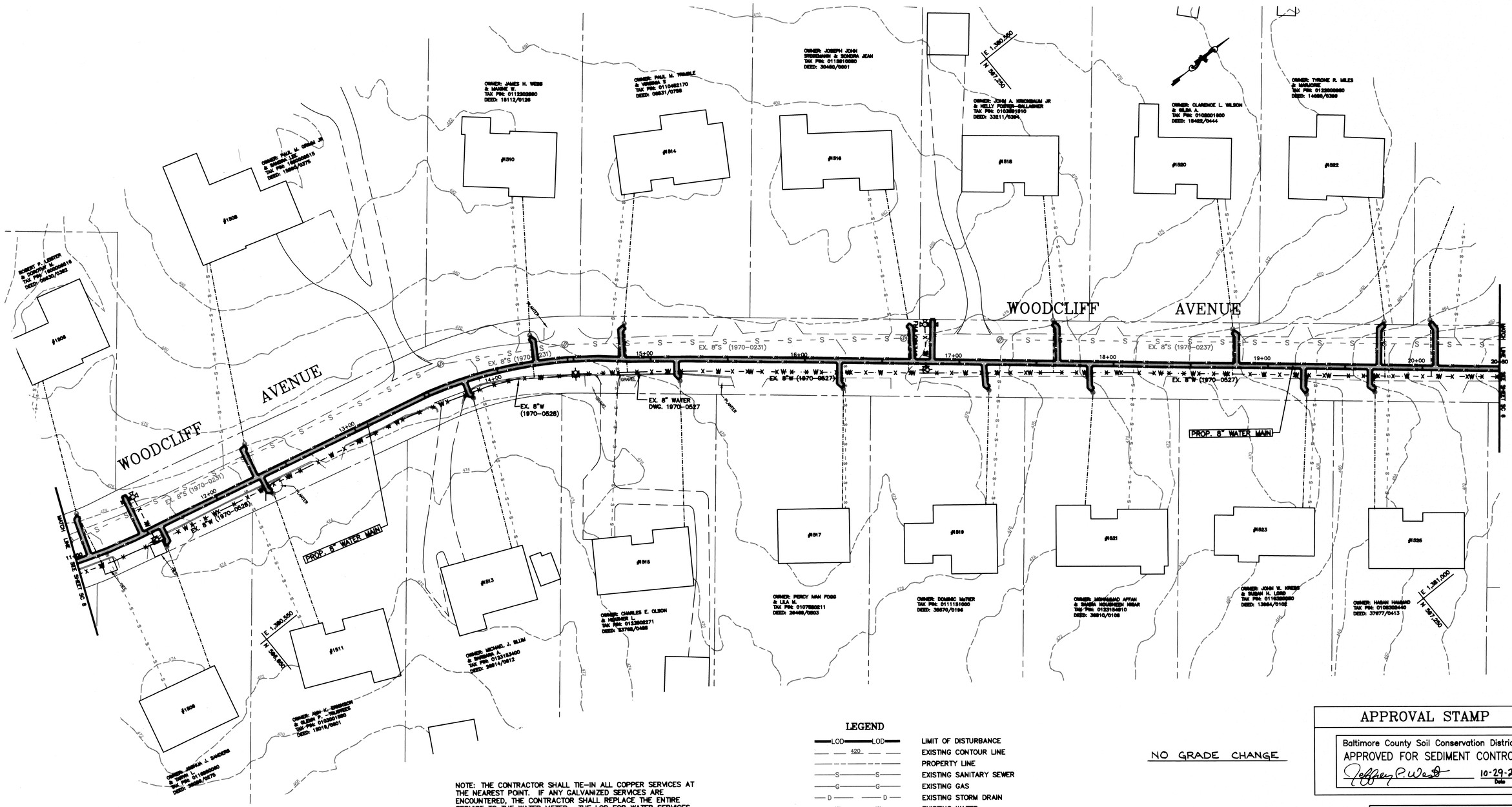
FROM HOUSE #7201 TO N. ROLLING ROAD

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

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

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 6 OF 14	WATER	20070 WXO
		JOB ORDER NUMBER
		231-203-0035-0622
		SHEET 32 OF 40
		DRAWING NUMBER
		2020-1107
		FILE NO.: 3 35



NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICES AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

LEGEND

LOD — LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S — S	EXISTING SANITARY SEWER
G — G	EXISTING GAS
D — D	EXISTING STORM DRAIN
W — W	EXISTING WATER
X W X — X W X	EXISITNG WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

NO GRADE CHANGE

LIMIT OF DISTURBANCE
THIS SHEET= 4,016 SF

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 10-29-20
Date

CONTRACT COMPLETION BOX

CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only):

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

SEAL: STATE OF MARYLAND — BRIAN A. McKENNA-STREETER — No. 39139 — REGISTERED PROFESSIONAL ENGINEER
DATE: 8/24/2020

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. 39139 EXPIRATION DATE 06/07/2022

ENGINEER: BRIAN McKENNA-STREETER
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S.BRM
DRAWN BY: S.BRM
CHKD BY: BAM

REVISION	BY	DATE

CONTRACT COMPLETION BOX

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	L-22	03 NW 22,23 04 NW 22,23

DRAWING SCALE: PLAN SCALE 1"=20'; PROFILE SCALE AS NOTED; AS NOTED

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:						
DATE REVIEWED:						

REFER TO TITLE SHEET

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: DIRECTOR
DATE:
BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: CHIEF
DATE:

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

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 7 OF 14	WATER	20070 WXO

JOB ORDER NUMBER 231-203-0036-0622
SHEET 33 OF 40
DRAWING NUMBER 2020-1108
FILE NO.: 3 25

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

GRADING, EROSION AND SEDIMENT CONTROL

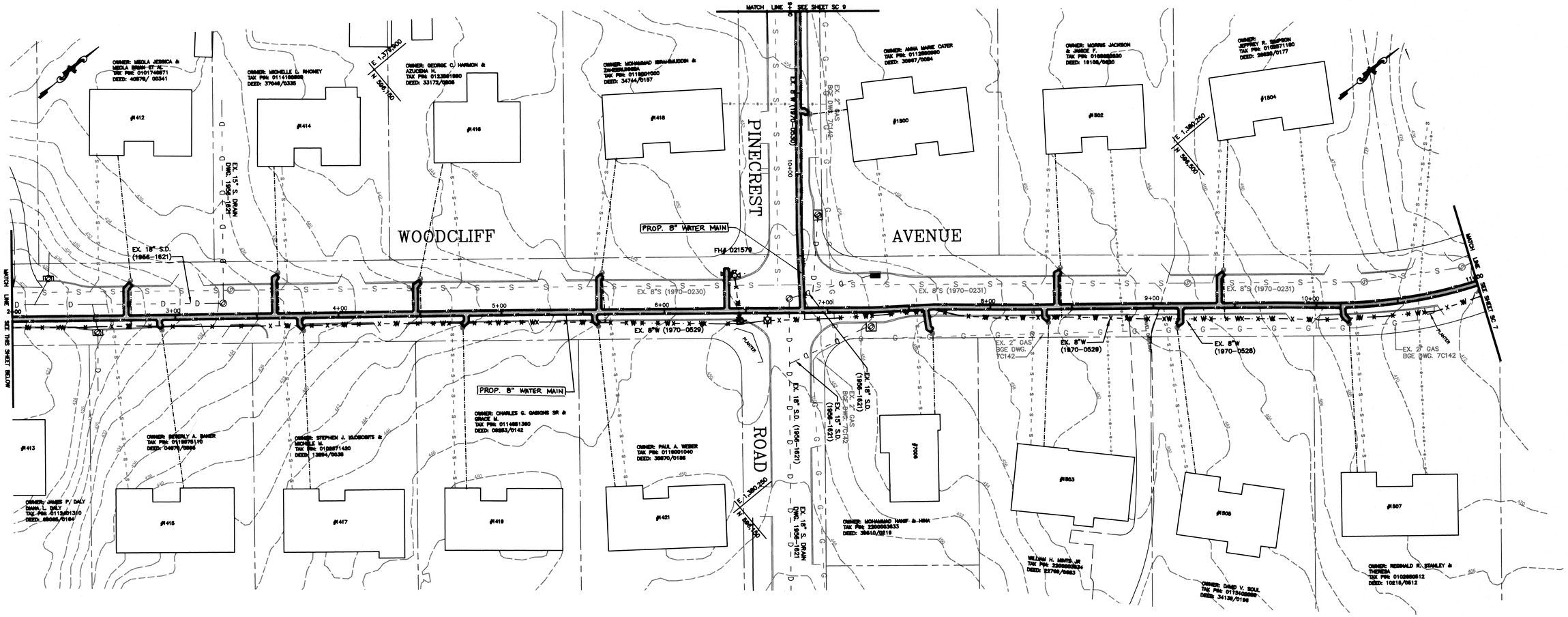
JOHNNYCAKE ROAD WATER MAIN REPLACEMENT

WOODCLIFF AVENUE – FROM HOUSE #1506 TO HOUSE #1525

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

DWG. FILENAME:

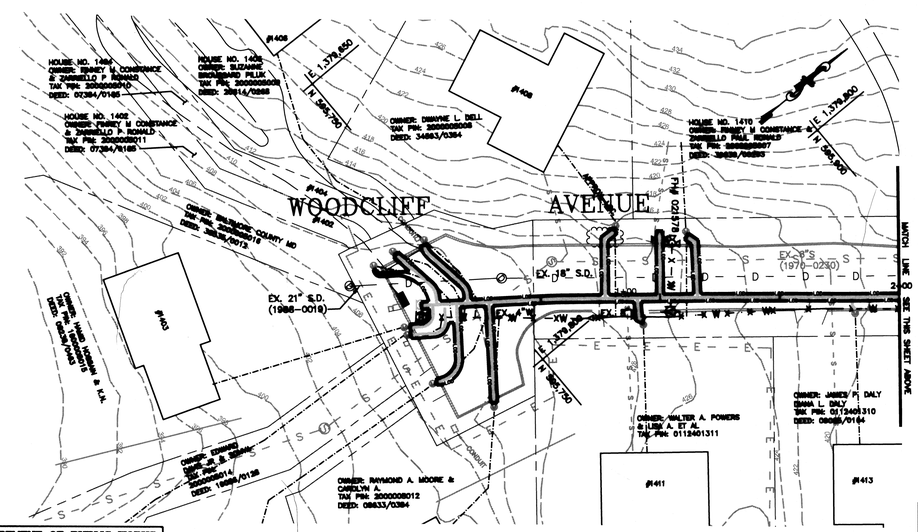


NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICES AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

LEGEND

LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S	EXISTING SANITARY SEWER
G	EXISTING GAS
D	EXISTING STORM DRAIN
W	EXISITNG WATER
W	EXISITNG WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

LIMIT OF DISTURBANCE
THIS SHEET= 5,397 SF



NO GRADE CHANGE

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey C. West 10-29-20
Date

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL (Pressure Only)	

DWG. FILENAME:

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

SEAL: STATE OF MARYLAND — ERIN McKENNA-STRELLE — No. 36487 — REGISTERED PROFESSIONAL ENGINEER

DATE : 8/24/2020

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. 36487, EXPIRATION DATE 06/27/2022

ENGINEER: ERIN McKENNA-STRELLE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S.RMM
DRAWN BY: S.RMM
CHKD BY: RAM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

BUREAU OF ENGINEERING AS CONSTRUCTED

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

REFER TO TITLE SHEET

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO.	L-26	06 NW 20 06 NW 20

DRAWING SCALE
PLAN SCALE: 1"=20'
PROFILE SCALE: AS NOTED / AS NOTED

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: DIRECTOR
DATE:

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: CHIEF
DATE:

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

GRADING, EROSION AND SEDIMENT CONTROL

JOHNNYCAKE ROAD WATER MAIN REPLACEMENT

WOODCLIFF AVENUE – FROM HOUSE #1504 TO DEAD END

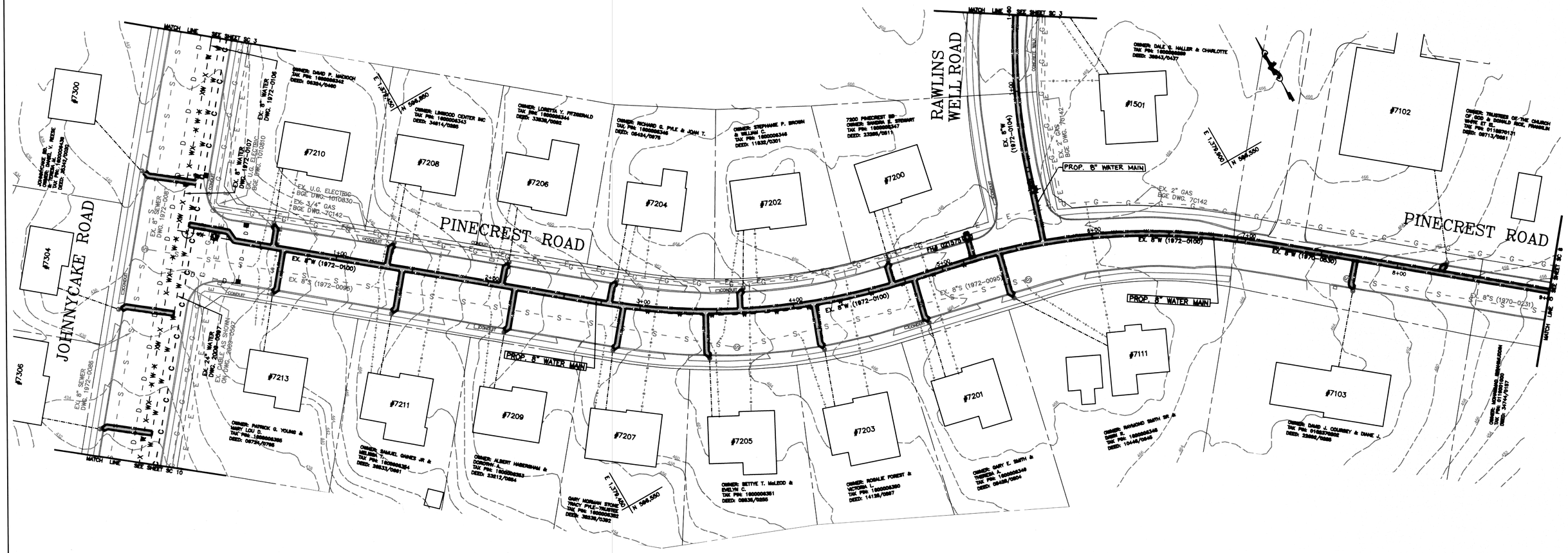
SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

DESIGN AND DRAWING BASED ON MARYLAND COORDINATE SYSTEM NORTH/SOUTH – NAD 83/91 VERTICAL – NGVD 88

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 8 OF 14	WATER	20070 WXO

JOB ORDER NUMBER: 231-203-0035-0622
SHEET 34 OF 40
DRAWING NUMBER: 2020-1109
FILE NO.: S 25



NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICES AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

LEGEND

LOD LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S S	EXISTING SANITARY SEWER
G G	EXISTING GAS
D D	EXISTING STORM DRAIN
W W	EXISTING WATER
W W	EXISITNG WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

NO GRADE CHANGE

LIMIT OF DISTURBANCE
THIS SHEET= 4,099 SF

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
10-29-20
Date

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only):

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

SEAL: STATE OF MARYLAND – BENJAMIN STEVENS – No. 36734 – REGISTERED PROFESSIONAL ENGINEER

DATE: 8/24/2020

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. 36734 EXPIRATION DATE 06/07/2022

ENGINEER: BEN McSENNA-STEVENS
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION

AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S.BRM
DRAWN BY: S.BRM
CHKD BY: BAM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:			REFER TO TITLE SHEET			
DATE REVIEWED:						

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO.	L-22	66 NW 20

DRAWING SCALE	
PLAN SCALE:	1"=20'
PROFILE SCALE:	AS SHOWN
	AS SHOWN

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: DIRECTOR
DATE:
BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: CHIEF
DATE:

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

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 9 OF 14	WATER	20070 WXO

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

GRADING, EROSION AND SEDIMENT CONTROL

JOHNNYCAKE ROAD WATER MAIN REPLACEMENT

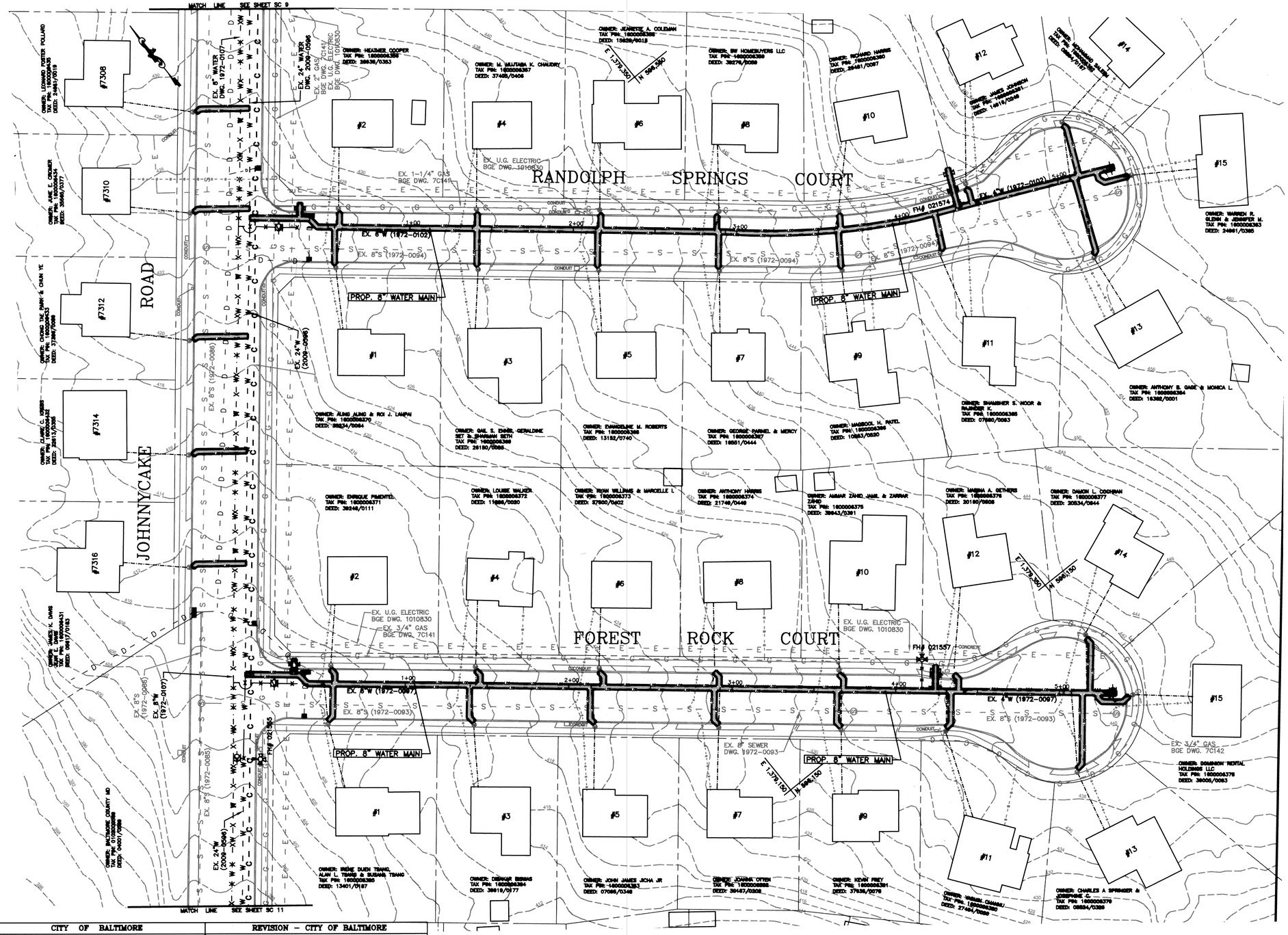
PINECREST ROAD – FROM HOUSE #7102 TO JOHNNYCAKE ROAD

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

BALTIMORE COUNTY MARYLAND

JOB ORDER NUMBER
231-203-0035-0622
SHEET 35 OF 40
DRAWING NUMBER
2020-1110
FILE NO.: 3



LEGEND

LOD — LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S — S	EXISTING SANITARY SEWER
G — G	EXISTING GAS
D — D	EXISTING STORM DRAIN
W — W	EXISTING WATER
W — W	EXISITNG WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICES AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

LIMIT OF DISTURBANCE
THIS SHEET= 4,743 SF

NO GRADE CHANGE

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 10-29-20
Date

CONTRACT COMPLETION BOX	
CONTRACTOR:	
DATE COMPLETED:	
INSPECTOR:	
PIPE MATERIAL (Pressure Only)	

INVC. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

SEAL: STATE OF MARYLAND — ERIN A. McKENNA-SEESTILE — No. 30616 — PROFESSIONAL ENGINEER

DATE : 8/24/2020

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. 30616 EXPIRATION DATE 06/07/2022

ENGINEER: ERIN McKENNA-SEESTILE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION
AS-BUILT PER RECORD PRINT
BY: DATE:

DESIGN BY: S.HAM
DRAWN BY: S.HAM
CHKD BY: BAM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:						
DATE REVIEWED:						

REFER TO TITLE SHEET

P.W.A. NO.	KEY SHEET	POSITION SHT.
R.O.W NO.	L-55	06 NW 20 05 NW 20

DRAWING SCALE	
PLAN SCALE:	1"=20'
PROFILE SCALE:	AS NOTED AS NOTED

DEPARTMENT OF PUBLIC WORKS	
APPROVED BY:	DIRECTOR
DATE:	
BUR. OF ENGINEERING & CONSTRUCTION	
APPROVED BY:	CHIEF
DATE:	

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

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 10 OF 14	WATER	20070 WXO

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
GRADING, EROSION AND SEDIMENT CONTROL

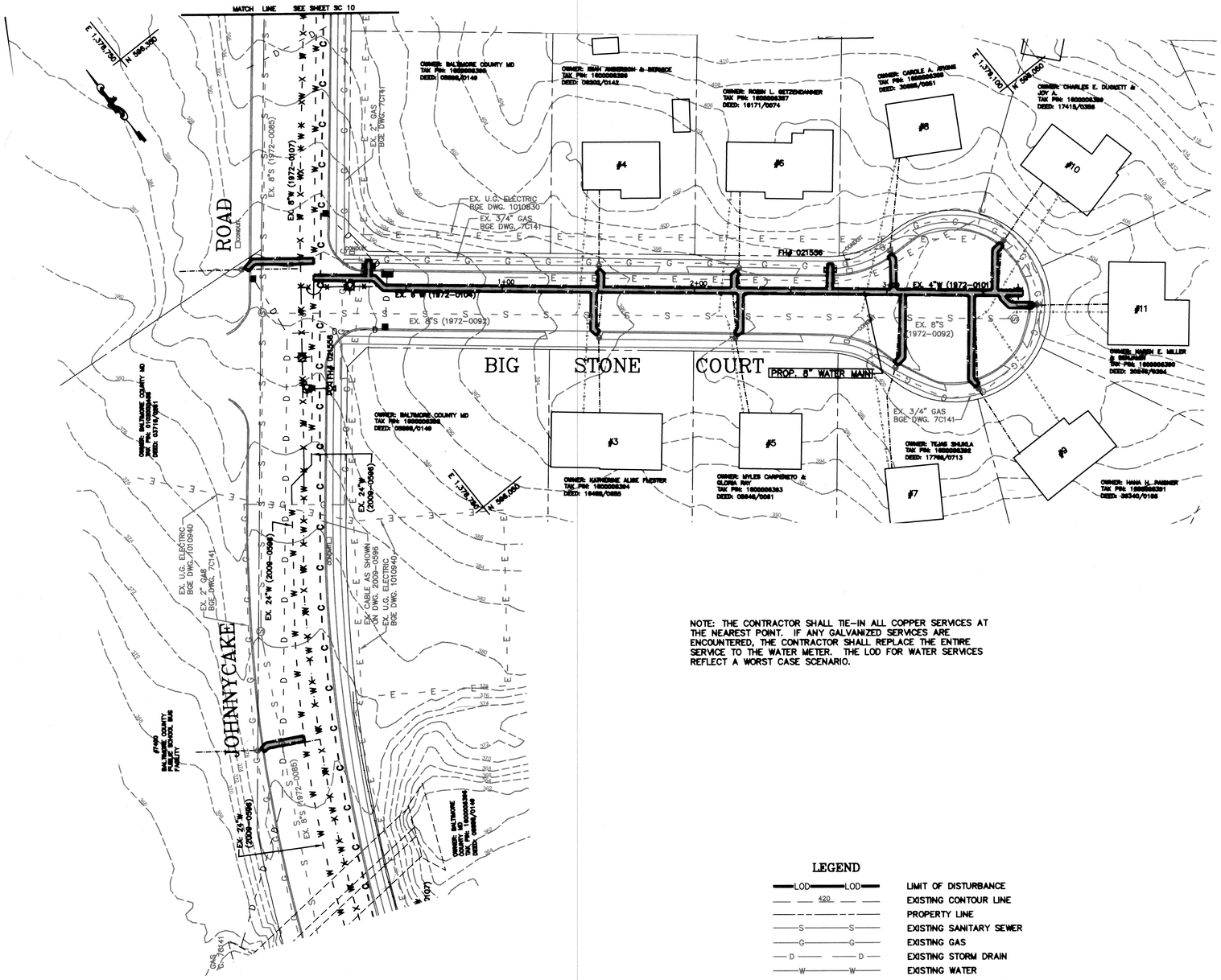
JOHNNYCAKE ROAD WATER MAIN REPLACEMENT

FROM HOUSE #7308 TO #7316, RANDOLPH SPRINGS CT, FOREST ROCK CT.

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

JOB ORDER NUMBER
231-203-0035-0622
SHEET 36 OF 40
DRAWING NUMBER
2020-1111
FILE NO.: 3



NOTE: THE CONTRACTOR SHALL TIE-IN ALL COPPER SERVICES AT THE NEAREST POINT. IF ANY GALVANIZED SERVICES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPLACE THE ENTIRE SERVICE TO THE WATER METER. THE LOD FOR WATER SERVICES REFLECT A WORST CASE SCENARIO.

LEGEND

LOD — LOD	LIMIT OF DISTURBANCE
420	EXISTING CONTOUR LINE
	PROPERTY LINE
S — S	EXISTING SANITARY SEWER
G — G	EXISTING GAS
D — D	EXISTING STORM DRAIN
W — W	EXISTING WATER
X — X — X	EXISITNG WATER TO BE ABANDONED IN PLACE
	PROPOSED WATER
M	EXISTING WATER HOUSE SERVICE / WATER METER

NO GRADE CHANGE

LIMIT OF DISTURBANCE
THIS SHEET= 1,985 SF

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 10-29-20
Date

CONTRACT COMPLETION BOX
CONTRACTOR:
DATE COMPLETED:
INSPECTOR:
PIPE MATERIAL (Pressure Only)

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION DATE	CHIEF, UTILITIES ENGINEERING SECTION DATE

SEAL: STATE OF MARYLAND — JOHN A. McKENNA-STREYLE — REGISTERED PROFESSIONAL ENGINEER

DATE : 8/24/2020

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. 20020 EXPIRATION DATE 06/07/2020
ENGINEER: BEN MACKENNA-STREYLE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION
AS-BUILT PER RECORD PRINT
BY:
DATE:
DESIGN BY: S.BAM
DRAWN BY: S.BAM
CHKD BY: BAM

REVISION	BY	DATE
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	L-SE	02 NW 20 / 03 NW 20

DRAWING SCALE: PLAN SCALE: 1"=20' PROFILE SCALE: AS SHOWN / AS SHOWN

BUREAU OF ENGINEERING AND CONSTRUCTION	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:						
DATE REVIEWED:						

REFER TO TITLE SHEET

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: DIRECTOR
DATE:

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: CHIEF
DATE:

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

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 11 OF 14	WATER	20070 WXO

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
GRADING, EROSION AND SEDIMENT CONTROL
JOHNNYCAKE ROAD WATER MAIN REPLACEMENT
BIG STONE COURT

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

JOB ORDER NUMBER: 231-203-0035-0622
SHEET 37 OF 40
DRAWING NUMBER: 2020-1112
FILE NO.: 3

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 REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND B.) SEVEN (7) CALENDER 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 RESUBMISSION 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 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.

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.

UTILITY NOTE

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

INLET PROTECTION NOTE

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

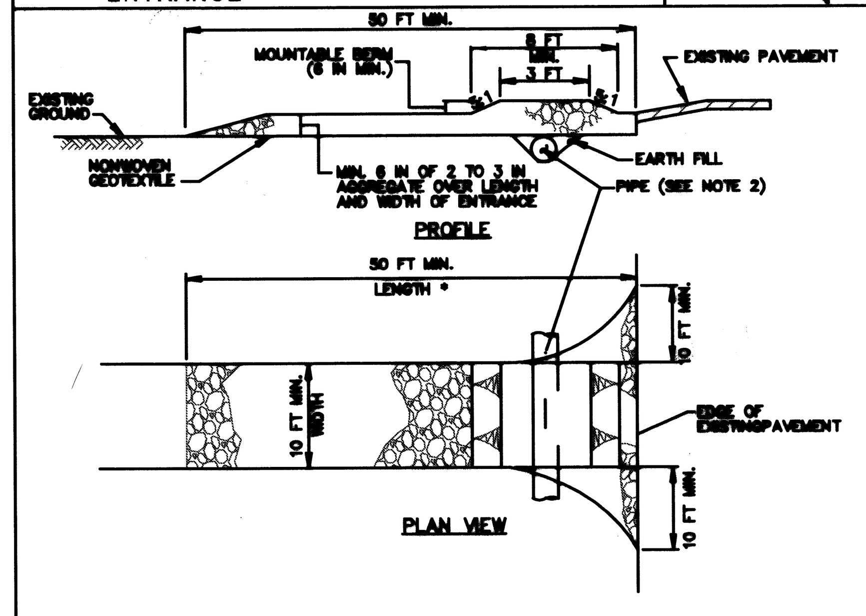
*1) ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE
2) INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC.

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.

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

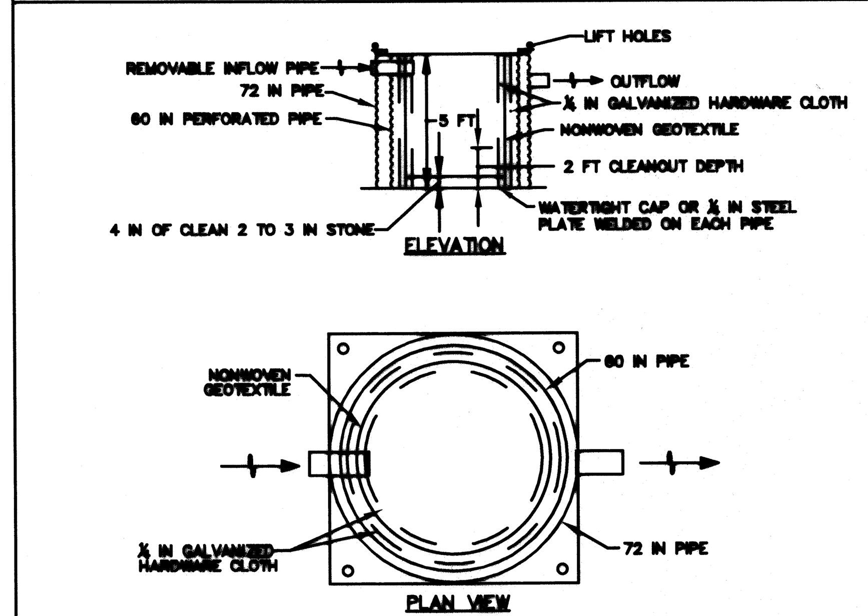
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING 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.
6. INSTALL SCE(S) AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR

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 F-3 PORTABLE SEDIMENT TANK

STANDARD SYMBOL: PST



CONSTRUCTION SPECIFICATIONS

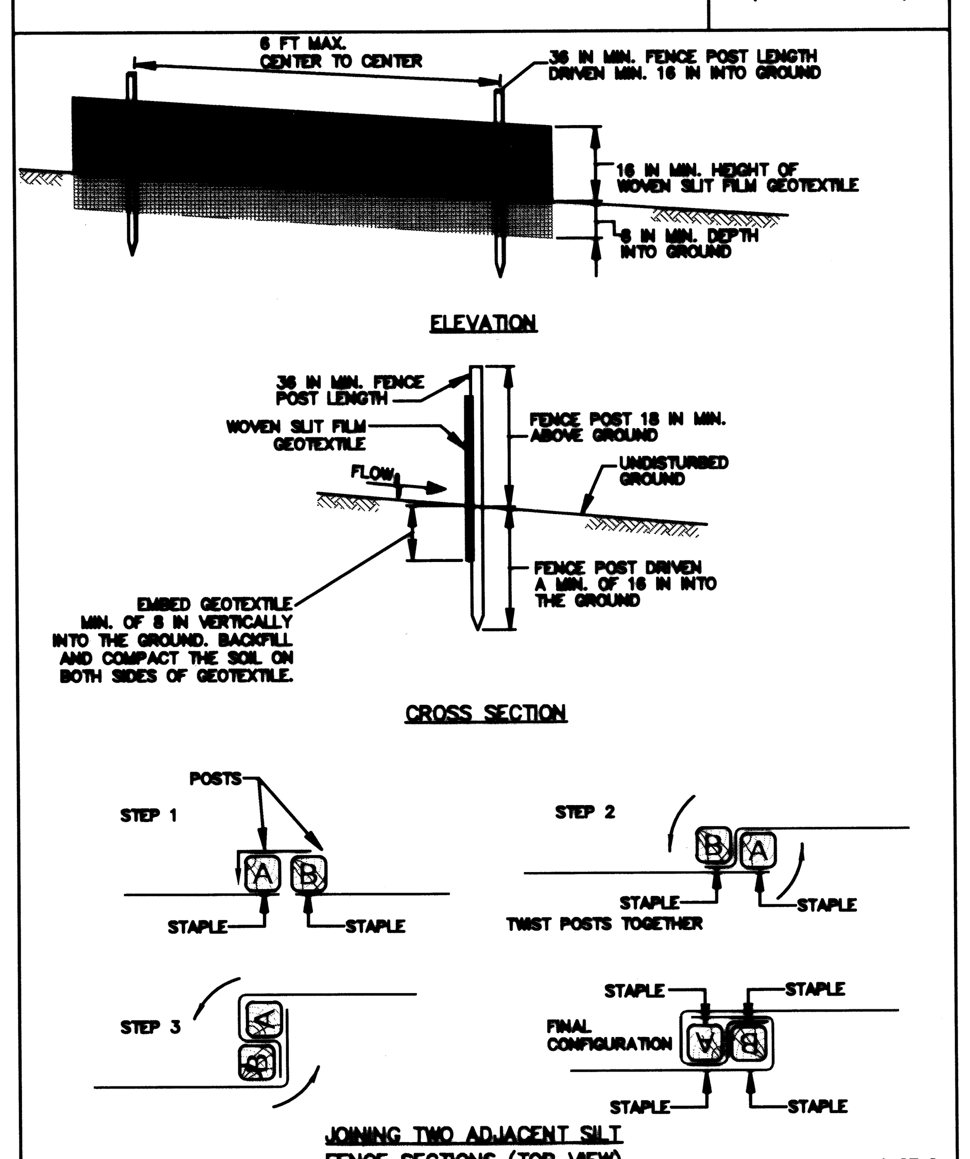
1. PROVIDE 1 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP CAPACITY. REQUIRED STORAGE VOLUME MAY BE ATTAINED BY PLACEMENT OF TANKS IN PARALLEL WITH INFLOW EVENLY DISTRIBUTED AMONG TANKS. OVERTOPPING OF TANKS IS NOT PERMITTED.
2. USE 60 INCH CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER 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 6 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

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 ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
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

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 10-29-20
Date

DWG. FILENAME:

CITY OF BALTIMORE	REVISION – CITY OF BALTIMORE
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION / DATE	CHIEF, UTILITIES ENGINEERING SECTION / DATE

SEAL: STATE OF MARYLAND — ERIN A. McKENNA–STEYLE — NO. 38630 — REGISTERED PROFESSIONAL ENGINEER
DATE : 8/24/2020

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. 38630, EXPIRATION DATE 06/07/2022.

ENGINEER: ERIN McKENNA–STEYLE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION
AS–BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S. EAM
DRAWN BY: S. EAM
CHKD BY: EAM

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
				L-22	02,03,04 NW 20	PLAN SCALE:	N/A
			R.O.W NO.		02,03,04 NW 20	PROFILE SCALE:	N/A
					04 NW 27		N/A

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

REFER TO TITLE SHEET

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: ______ DIRECTOR
DATE: ______
BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: ______ CHIEF
DATE: ______

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

GRADING, EROSION AND SEDIMENT CONTROL PLAN – GENERAL NOTES / DETAILS

JOHNNYCAKE ROAD 8" WATER MAIN REPLACEMENT

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

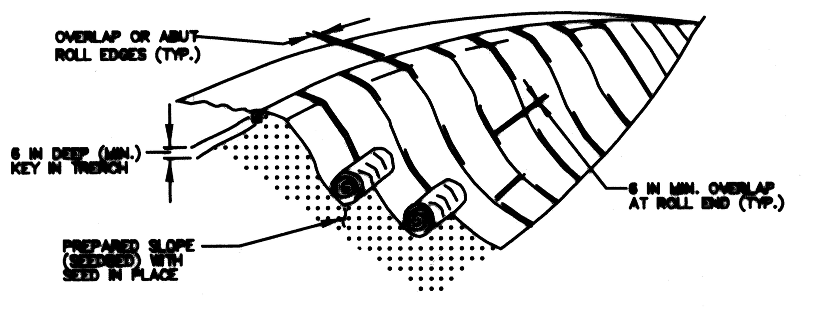
SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 12 of 14	WATER	20070 WXO

JOB ORDER NUMBER: 231–203–0035–0622
SHEET 38 OF 40
DRAWING NUMBER: 2020–1113
FILE NO.: 3

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL

TSSMS >1.5 lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

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

PROPERTY	TEST METHOD	WOVEN SLIT FILM GEOTEXTILE MD	WOVEN SLIT FILM GEOTEXTILE CD	WOVEN MONOFILAMENT GEOTEXTILE MD	WOVEN MONOFILAMENT GEOTEXTILE CD	NONWOVEN GEOTEXTILE MD	NONWOVEN GEOTEXTILE CD
		MINIMUM AVERAGE ROLL VALUE[1]					
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)	
Permitivity	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.

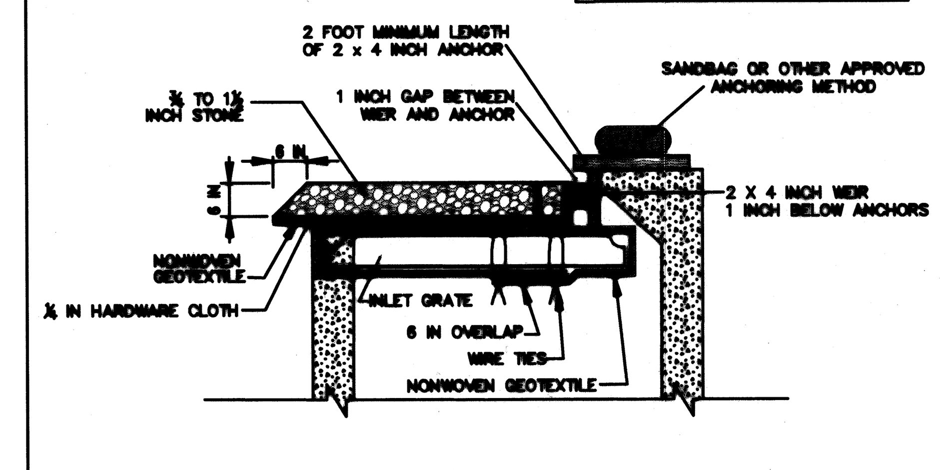
When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

H.1

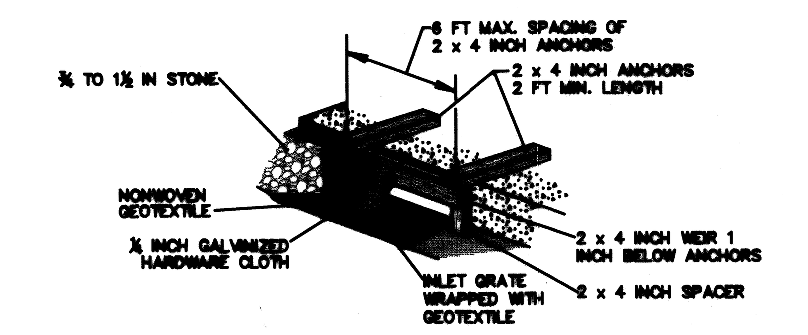
DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL COIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



SECTION



ISOMETRIC VIEW

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 BY 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 2 X 4 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 2 X 4 INCH ANCHORS (MINIMUM 2 FOOT LENGTHS) AT THE SPACER LOCATIONS. EXTEND 2 X 4 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 BOTH 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 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

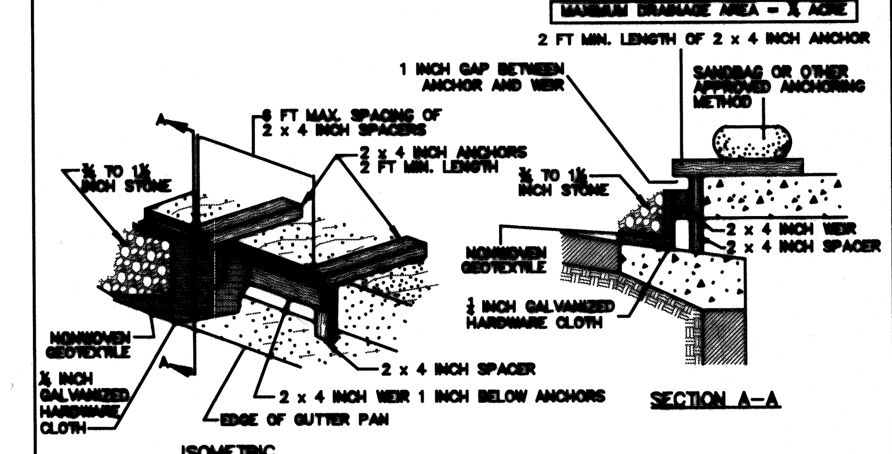
SEQUENCE OF OPERATIONS & CONSTRUCTION

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 SEDIMENT & EROSION CONTROL MEETING.
3. CLEAR AND GRUB FOR SEDIMENT & EROSION CONTROL MEASURES OR DEVICES ONLY.
4. INSTALL ALL SEDIMENT & EROSION CONTROL DEVICES.
5. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATIONS.
6. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND DPW INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, THE CONTRACTOR MAY PROCEED WITH CONSTRUCTION.
7. INSTALL PROPOSED WATER MAIN INCLUDING ALL CONNECTIONS, SERVICES, VALVES AND FIRE HYDRANTS. ALL FINAL SURFACE ELEVATIONS SHALL MATCH EXISTING GRADES. STABILIZE DISTURBED AREAS WITH CR-6 STONE SUB-BASE AND/OR TEMPORARY BITUMINOUS PAVEMENT FOR IMPERVIOUS AREAS & PERMANENT SEED & MULCH FOR PERVIOUS DISTURBED AREAS. (SAME DAY STABILIZATION WILL BE REQUIRED.) SEE UTILITY NOTE ON SHEET SC 12 OF 14.
8. TRENCHES LEFT OPEN DURING PERIODS WHEN CONTRACTOR FORCES ARE NOT PRESENT SHALL BE COVERED OVER WITH STEEL PLATES AND MARKED AS TO CAUSE NO DANGER TO THE PUBLIC.
9. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, STEEL PLATING WILL BE REQUIRED AND SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH.
10. ANY SEDIMENTATION WATER RESULTING FROM DEWATERING OPERATIONS SHALL BE DISCHARGED THROUGH A PORTABLE SEDIMENT TANK.
11. APPLY ADDITIONAL CR-6 STONE SUB-BASE (IF NEEDED) & PAVE ALL ALL EXPOSED SECTIONS TO RESTORE PAVEMENT SURFACES TO MATCH THE EXISTING CONDITIONS.
12. APPLY VEGETATION STABILIZATION FOR AREAS DISTURBED AROUND FIRE HYDRANTS (IF NECESSARY) IN CONJUNCTION W/UTILITY NOTE & TO BE COMPLETED ON SAME DAY.
13. UPON STABILIZATION OF THE SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 x 4 INCH LUMBER
2. ATTACH A CONTINOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, MINIMUM WIDTH OF 30 INCHES , AND MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2 X4 INCH WEIR, EXTENDING 2 FEET BEYOND THE 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 2 x 4 INCH WEIR.
4. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
5. NAIL THE 2 x 4 INCH WEIR (1 INCH BELOW THE ANCHORS) TO THE 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2 x 4 INCH ANCHORS (MIN. 2 FEET IN 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 THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF 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

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 10-29-20
Date

DWG. FILENAME:

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

SEAL: STATE OF MARYLAND ERIN A. McKENNA-STREYLE No. 36630 REGISTERED PROFESSIONAL ENGINEER

DATE : 8/24/2020

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. 36630, EXPIRATION DATE 06/07/2022.

ENGINEER: ERIN McKENNA-STREYLE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S. HAM
DRAWN BY: S. HAM
CHKD BY: EAM

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		DEPARTMENT OF PUBLIC WORKS
				L-SE	02,03,04 NW 28	PLAN SCALE:	N/A	APPROVED BY: ____ DIRECTOR
			R.O.W NO.		02,03,04 NW 28	PROFILE SCALE:	N/A	DATE:
					04 NW 27		N/A	

BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
REVIEWED BY:								APPROVED BY: ____ CHIEF
DATE REVIEWED:								DATE:

REFER TO TITLE SHEET

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

GRADING, EROSION AND SEDIMENT CONTROL PLAN – DETAILS

JOHNNYCAKE ROAD 8" WATER MAIN REPLACEMENT

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 13 of 14	WATER	20070 WXO

JOB ORDER NUMBER: 231-203-0035-0622

SHEET 39 OF 40

DRAWING NUMBER: 2020-1114

FILE NO.: 3

VEGETATIVE STABILIZATION

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

1)SOIL PREPARATION
1. TEMPORARY STABILIZATION
a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2.PERMANENT STABILIZATION
a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
i. SOIL PH BETWEEN 6.0 AND 7.0.
ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
v. . SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B) TOPSOILING
1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.
b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
6. TOPSOIL APPLICATION
a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C) SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. B.15

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

A. SEEDING
1. SPECIFICATIONS
A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
D. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. APPLICATION
A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2 O (POTASSIUM), 200 POUNDS PER ACRE.
II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERUPTION
IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
2. APPLICATION
A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
3. ANCHORING
A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES:
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES:
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

A. SEED MIXTURES
1. GENERAL USE
A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

TEMPORARY SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB/AC.)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)	LIME RATE
HARDINESS ZONE (FROM FIGURE B.3): 7A; SEED MIXTURE (FROM TABLE B.1): N/A						
N/A	ANNUAL RYEGRASS	40	2/15 - 4/30 8/15 - 11/30	0.5 IN.	436 LB/AC. (10 LB/ 1000 SF)	2 TONS/AC. (90 LB/ 1000 SF)
	FOXTAIL MILLET	30	5/1 - 8/14	0.5 IN.		

2. TURFGRASS MIXTURES
A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1½ TO 3 POUNDS PER 1000 SQUARE FEET.
NOTES:
SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (½ TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
1. GENERAL SPECIFICATIONS
A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾ INCH, PLUS OR MINUS ¼ INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
E. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
2. SOD INSTALLATION
A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
D. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
3. SOD MAINTENANCE
A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ⅓ OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

B-4-6 STANDARDS AND SPECIFICATIONS FOR SOIL STABILIZATION MATTING

DESIGN CRITERIA
1. THE SOIL STABILIZATION MATTING THAT IS USED MUST WITHSTAND THE FLOW VELOCITIES AND SHEAR STRESSES DETERMINED FOR THE AREA, BASED ON THE 2-YEAR, 24-HOUR FREQUENCY STORM FOR TEMPORARY APPLICATIONS AND THE 10-YEAR, 24-HOUR FREQUENCY STORM FOR PERMANENT APPLICATIONS. DESIGNATE ON THE PLAN THE TYPE OF SOIL STABILIZATION MATTING USING THE STANDARD SYMBOL AND INCLUDE THE CALCULATED SHEAR STRESS FOR THE RESPECTIVE TREATMENT AREA.
2. MATTING IS REQUIRED ON PERMANENT CHANNELS WHERE THE RUNOFF VELOCITY EXCEEDS TWO AND HALF FEET PER SECOND (2.5 FPS) OR THE SHEAR STRESS EXCEEDS TWO POUNDS PER SQUARE FOOT (2 LBS/FT2). ON TEMPORARY CHANNELS DISCHARGING TO A SEDIMENT TRAPPING PRACTICE, PROVIDE MATTING WHERE THE RUNOFF VELOCITY EXCEEDS FOUR FEET PER SECOND (4 FPS).
3. TEMPORARY SOIL STABILIZATION MATTING IS MADE WITH DEGRADABLE (LASTS 6 MONTHS MINIMUM), NATURAL, OR MANMADE FIBERS OF UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND IS SMOLDER RESISTANT. THE MAXIMUM PERMISSIBLE VELOCITY FOR TEMPORARY MATTING IS 6 FEET PER SECOND.
4. PERMANENT SOIL STABILIZATION MATTING IS AN OPEN WEAVE, SYNTHETIC MATERIAL CONSISTING OF NONDEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION OF WEAVE THROUGHOUT. THE MAXIMUM PERMISSIBLE VELOCITY FOR PERMANENT MATTING IS 8.5 FEET PER SECOND.
5. CALCULATE CHANNEL VELOCITY AND SHEAR STRESS USING THE FOLLOWING PROCEDURE: SHEAR STRESS (T) IS A MEASURE OF THE FORCE OF MOVING WATER AGAINST THE SUBSTRATE AND IS CALCULATED AS: SHEAR STRESS (LB/SQFT)=Γ (WEIGHT DENSITY OF WATER (62.4 LB/CUBICFT))XR(AVERAGE WATER DEPTH (HYDRAULIC RADIUS,FT)) X SW (WATER SURFACE SLOPE (FT/FT))

PERMANENT SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB/AC.)	** SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20) 7A: N	P_2O_5	K_2O	LIME RATE
HARDINESS ZONE (FROM FIGURE B.3): 7A; SEED MIXTURE (FROM TABLE B.3): 4 & 8								
4	DEERTONGUE	15	2/15 - 4/30 ♦♦ 5/1 - 5/31 *	1/4 - 1/2 IN.	45 LB/AC. (1 LB/ 1000 SF)	90 LB/AC. (2 LB/ 1000 SF)	90 LB/AC. (2 LB/ 1000 SF)	2 TONS/AC. (90 LB/ 1000 SF)
	CREEPING RED FESCUE	20		1/4 - 1/2 IN.				
	VIRGINIA WILD RYE	5		1/4 - 1/2 IN.				
8	TALL FESCUE	100	2/15 - 4/30 8/15 - 10/31	1/4 - 1/2 IN.				

* ADDITIONAL PLANTING DATES DURING WHICH SUPPLEMENTAL WATERING MAY BE NEEDED TO ENSURE PLANT ESTABLISHMENT.

** FOR DATES 5/1 - 8/14 ADD 5 LB/AC OF FOXTAIL MILLET OR PEARL MILLET TO PERMANENT SEED MIX #8 ABOVE.

♦♦ WARM-SEASON GRASSES NEED A TEMPERATURE OF AT LEAST 50 DEGREES FARENHEIT IN ORDER TO GERMINATE. IF SOIL TEMPERATURES ARE COLDER THAN 50 DEGREES, OR MOISTURE IS NOT ADEQUATE. THE SEEDS WILL REMAIN DORMANT UNTIL CONDITIONS ARE FAVORABLE. IN GENERAL, PLANTING DURING THE LATTER PORTION OF THIS PERIOD ALLOWS MORE TIME FOR WEED EMERGENCE AND WEED CONTROL PRIOR TO PLANTING. WHEN SELECTING A PLANTING DATE, CONSIDER THE NEED FOR WEED CONTROL VS. THE LIKELIHOOD OF HAVING SUFFICIENT MOISTURE FOR LATER PLANTINGS, ESPECIALLY ON DROUGHTY SITES.

V. Certifications

A. Owner'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 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."

Signature of Owner — Acting Director, Department of Public Works (Title) — 9/2/2020 (Date)

THOMAS KIEFER
Print Name

B. Engineer'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 that 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."

Signature — 8/28/2020 (Date)

ERIN A. MCKENNA-STREYLE (Print Name) — 36630 (MD License Number)

C. Owner's Grading Certification:

"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."

Signature of Owner — Acting Director, Department of Public Works (Title) — 9/2/2020 (Date)

THOMAS KIEFER
Print Name

NOTE:

STORMWATER MANAGEMENT HAS BEEN ADDRESSED THROUGH STORMWATER MANAGEMENT VARIANCE.

THE EXISTING WATER MAIN WILL BE ABANDONED IN PLACE.

APPROVAL STAMP

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL
10-29-20
Date

DWG. FILENAME:

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE	
CHIEF, OFFICE OF ENGINEERING AND CONSTRUCTION	DATE	CHIEF, UTILITIES ENGINEERING SECTION	DATE

SEAL: STATE OF MARYLAND — ERIN A. McKENNA-STREYLE — NO. 36630 — REGISTERED PROFESSIONAL ENGINEER

DATE : 8/24/2020

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. 36630 , EXPIRATION DATE 06/07/2022 .

ENGINEER: ERIN McKENNA-STREYLE
BALTIMORE COUNTY DPW
BUR. OF ENG./WATER DESIGN SECTION
AS-BUILT PER RECORD PRINT
BY:
DATE:

DESIGN BY: S. EMM
DRAWN BY: S. EMM
CHKD BY: EAM

REVISION | BY | DATE

BUREAU OF ENGINEERING AND CONSTRUCTION
REVIEWED BY:
DATE REVIEWED:

BUILDINGS | HIGHWAYS | STRUCTURES | STORM DRAINS | SEWER | WATER | FIELD ENGINEER

P.W.A. NO. | R.O.W NO. | KEY SHEET: L-SE | POSITION SHT: 02,03,04 NW 28; 02,03,04 NW 29; 04 NW 27

REFER TO TITLE SHEET

DRAWING SCALE
PLAN SCALE: N/A
PROFILE SCALE: N/A / N/A

DEPARTMENT OF PUBLIC WORKS
APPROVED BY: ______ DIRECTOR
DATE: ______
BUR. OF ENGINEERING & CONSTRUCTION
APPROVED BY: ______ CHIEF
DATE: ______

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

GRADING, EROSION AND SEDIMENT CONTROL PLAN - SEEDING SPECIFICATIONS

JOHNNYCAKE ROAD 8" WATER MAIN REPLACEMENT

SUBDIVISION: WINDSOR MILL

ELECTION DIST. NO.:1 C1

SC SHEET NO.	SHEET DESIGNATION	CONTRACT NUMBER
SC 14 of 14	WATER	20070 WXO

JOB ORDER NUMBER: 231-203-0035-0622
SHEET 40 OF 40
DRAWING NUMBER: 2020-1115
FILE NO.: 3