

INDEX OF DRAWINGS

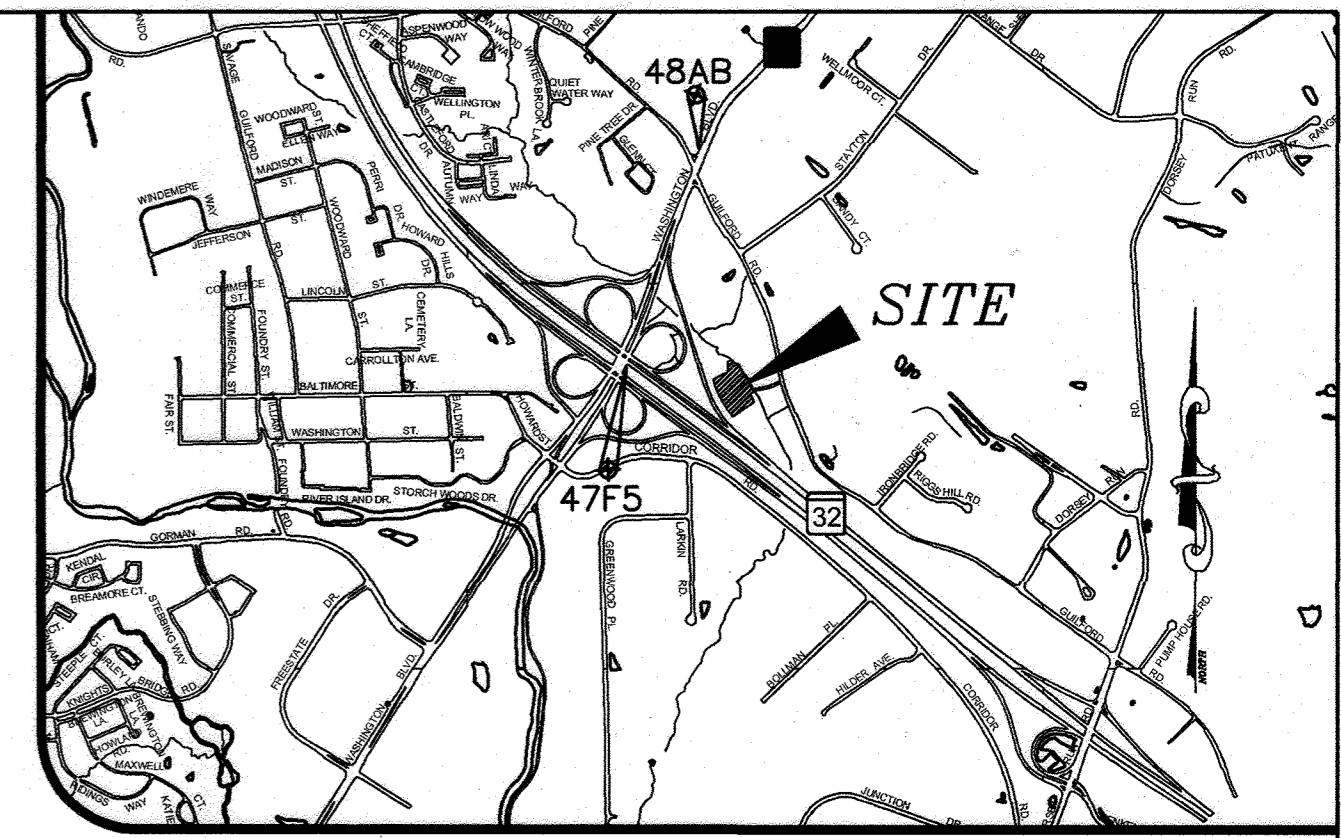
NO.	DESCRIPTION
1	COVER SHEET
2	WATER PLAN AND PROFILE

ADDRESSES WHICH COULD BE IMPACTED BY WATER SERVICE INTERRUPTION:

STREET ADDRESS:

10420 GUILFORD ROAD
10421 GUILFORD ROAD

**CONTRACT NO. 44-5205-D
FINAL WATER CONSTRUCTION PLAN
DRENNER CONCRETE
TM 48, PARCEL 13, GRID 007
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS**



GENERAL NOTES

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT OCTOBER, 2004 BY CHRISTOPHER CONSULTANTS, INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 48AB AND NO. 47F5. ALL VERTICAL CONTROLS ARE BASED ON NAVD '83 MILDENBERG, BOENDER & ASSOCIATES, INC. SHALL PROVIDE DESCRIPTIONS OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES, ETC.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, CONSTRUCTION INSPECTION DIVISION AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK, AT (410)313-1880. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS PRIOR TO EXCAVATION WORK BEING DONE:
MISS UTILITY (800) 257-7777 -OR- 811
HOWARD COUNTY BUREAU OF UTILITIES (410) 313-6900
BALTIMORE GAS AND ELECTRIC (410) 685-0123
STATE HIGHWAY ADMINISTRATION (410) 531-5533
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.
- NO RESIDENTIAL PROPERTIES ARE LIKELY TO BE AFFECTED BY THIS PROJECT.

VICINITY MAP

1" = 2000'
ADC MAP 41 GRID A4

QUANTITY TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES		
		TYPE	MANUFACTURER/SUPPLIER	
8" WATER MAIN (PVC C900) DR-14	462 LF			
12"x12" x8" TEE	1 EACH			
8" GV	2 EACH			
8"x6" F.H.T. & V.	2 EACH			
8" 1/32 BEND	4 EACH			
8" CAP (RESTRAINED) CAP & BUTTRESS	1 EACH			
24" STEEL CASING PIPE 0.5" WALL	120 LF			
4" W/C AND SHUT OFF VALVES	3 EACH			
8"x8" x4" TEE	1 EACH			
8"x8"x4"x4" CROSS	1 EACH			
12" WATER MAIN (PVC C900) DR-14	43 LF			
F.H	2 EACH			

NAME OF UTILITY CONTRACTOR:
SURVEY AND DRAFTING DIVISION AS-BUILT DATE

LEGEND

- EXISTING SEWER MAIN AND MANHOLE
- EXISTING WATER MAIN AND VALVE
- ◇— EXISTING FIRE HYDRANT
- W— PROPOSED WATER MAIN
- PROPOSED WATER HOUSE CONNECTION
- H— PROPOSED FIRE HYDRANT
- T— PROPOSED TEE
- B— PROPOSED BEND
- V— PROPOSED VALVE

PLAN REFERENCE NUMBERS:
ECP-21-033,
SDP-08-38, SDP-08-038POE,
WP-08-073, WP-09-020,
SDP-22-010

EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER : SDP-22-010 IN ACCORDANCE WITH VOLUME IV SECTION 308.

OWNER/DEVELOPER

DRENNER REAL ESTATE HOWARD COUNTY
DARREL DRENNER
10480 GUILFORD ROAD
JESSUP, MD 20794
410-792-2600

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

Alexander Batcher
HOWARD SOIL CONSERVATION DISTRICT

12/20/23
DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
12/14/2023
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature]
12-20-23
DATE

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. 26859, EXP DATE 09/08/25

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
8316 FORREST ST, STE 300 ELLICOTT CITY, MD 21043
(410) 997-0296 Cell. (410) 997-0298 Fax

[Professional Seal]
SAMER ALOMER
DATE: 12.06.2023

engineering SSA					
illustration TNB					
approval SAA					
project 20-018					
date 12.06.2023					

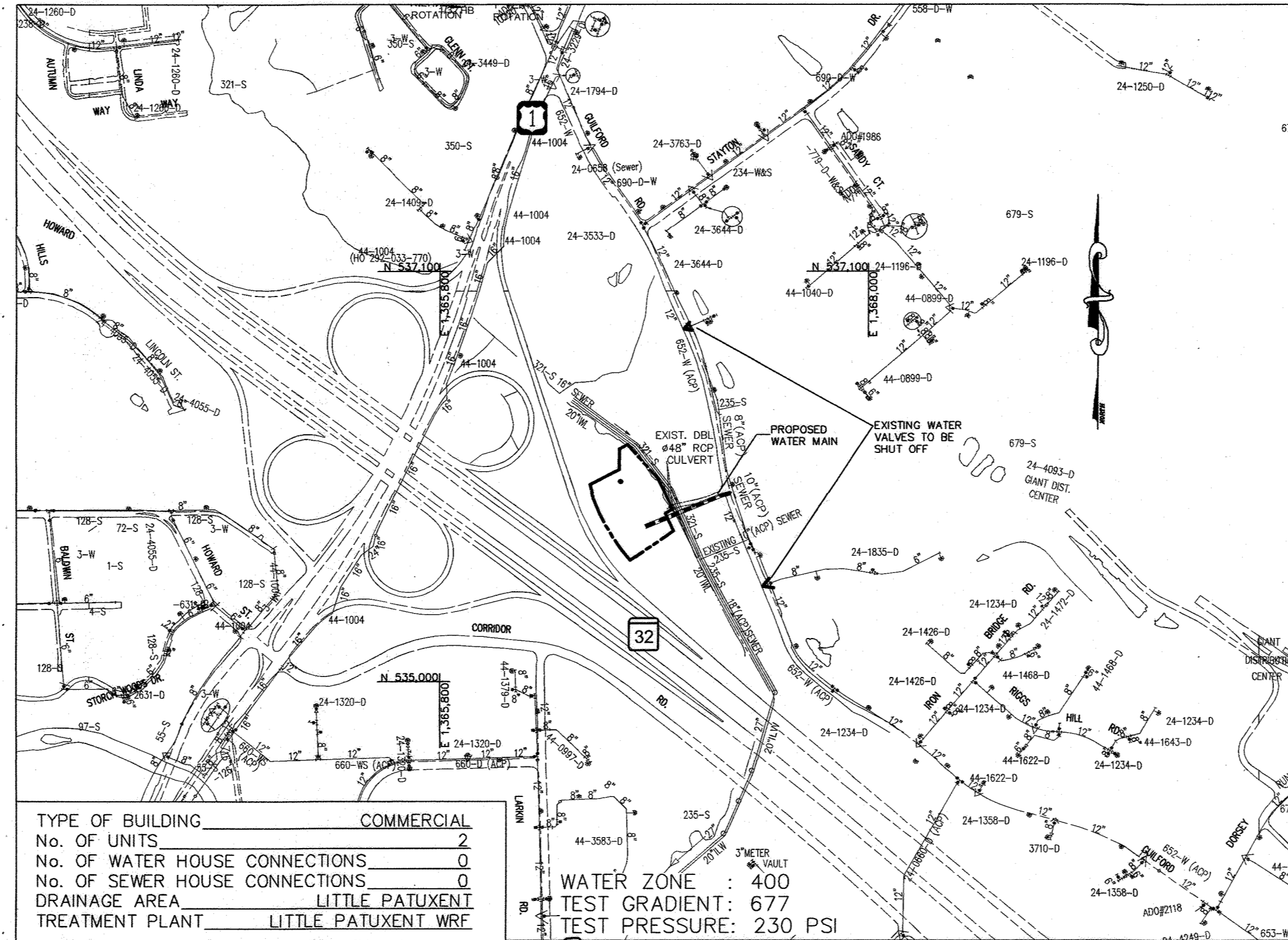
BY	NO.	REVISION	DATE

COVER SHEET

600' SCALE MAP NO. 41 BLOCK NO. 44

DRENNER CONCRETE
TM 48, PARCEL 13, GRID 007
CONTRACT NO. 44-5205-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY

scale AS SHOWN
1 OF 2



LOCATION MAP
SCALE: 1"=600'

WAIVER DMV2-22-019

DESIGN MANUAL WAIVER DMV2-22-019 TO THE SECTION 3.3.B.5, 5.4.B.3, AND 5.14 OF THE DESIGN MANUAL VOLUME II WAS APPROVED ON MARCH 17, 2022 WITH THE FOLLOWING CONDITIONS:

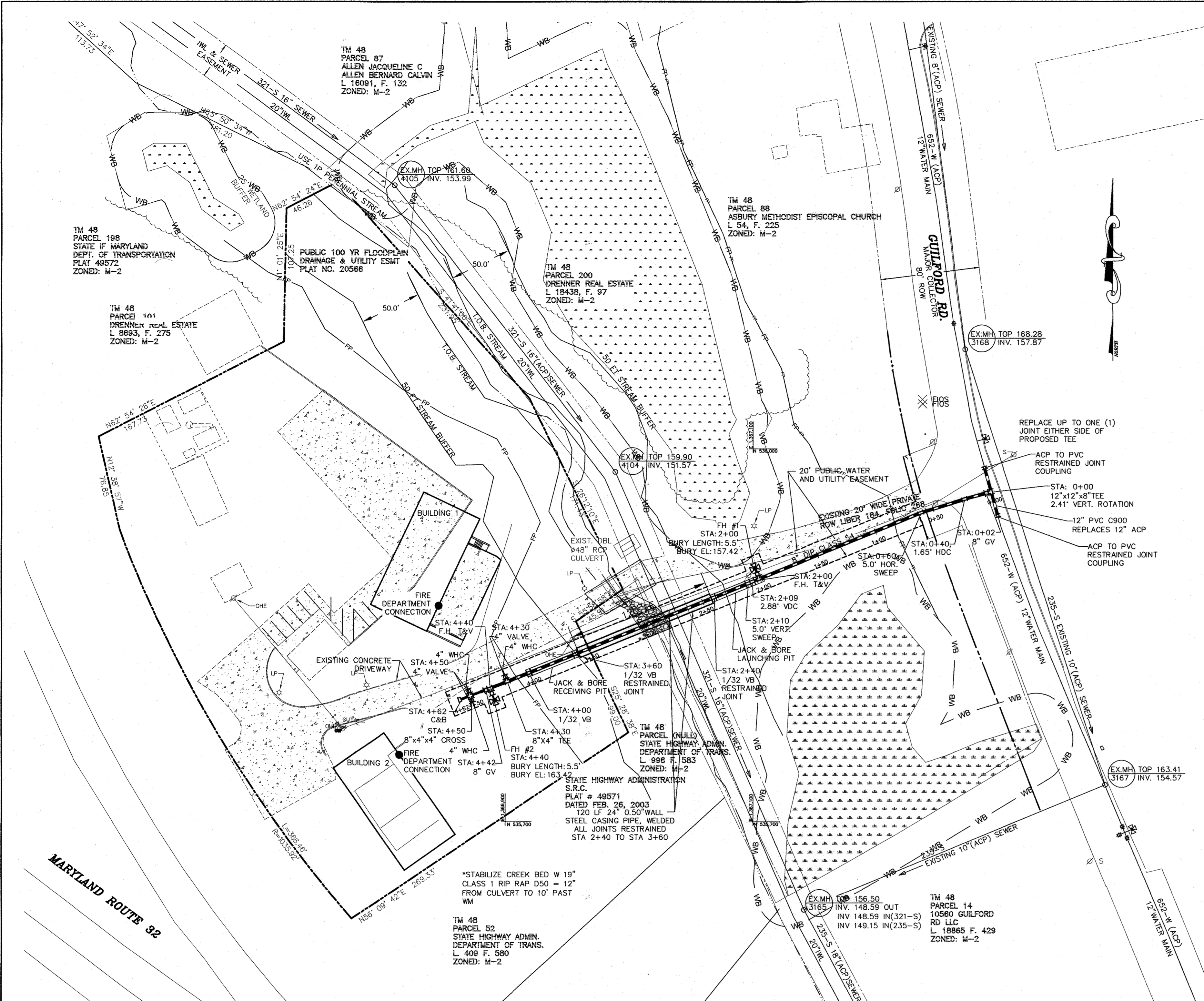
- USE A TWENTY-FOUR-INCH (24") DIAMETER CASING PIPE WITH A 1/2 INCH WALL THICKNESS TO SUPPORT THE EIGHT-INCH (8") WATER LINE AND ALLOW A WATER MAIN DEPTH GREATER THAN 8 FEET TO PROVIDE MINIMUM CLEARANCE UNDER EXISTING SEWER INTERCEPTORS AND STREAM CROSSING.

TUNNELS AND CASING SLEEVES (PER DESIGN MANUAL VOLUME IV)

- 1012.02 MATERIALS.
 - 1012.02.01 CARRIER PIPE. 1012 JACK AND BORE AND TUNNELING INSTALLATIONS DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS CARRIER PIPE SHALL BE IN ACCORDANCE WITH THEIR RESPECTIVE SECTIONS OF CATEGORY 900 OF THESE SPECIFICATIONS.
 - 1012.02.02 CASING PIPE. CASING PIPE FOR JACK AND BORE INSTALLATIONS SHALL BE IN ACCORDANCE WITH SECTION 963 OF THESE SPECIFICATIONS.
 - 1012.02.03 CASING END SEALS. CASING END SEALS FOR JACK AND BORE INSTALLATIONS SHALL BE IN ACCORDANCE WITH SECTION 963 OF THESE SPECIFICATIONS.
 - 1012.02.04 CASING SPACER/INSULATORS. CASING SPACER/INSULATORS SHALL BE IN ACCORDANCE WITH SECTION 963 OF THESE SPECIFICATIONS.
 - 1012.02.05 GROUT. GROUT SHALL BE IN ACCORDANCE WITH SECTION 963 OF THESE SPECIFICATIONS.
 - 1012.02.06 TUNNEL BULKHEADS. TUNNEL BULKHEADS SHALL BE IN ACCORDANCE WITH SECTION 963 OF THESE SPECIFICATIONS.

TUNNELS AND CASING SLEEVES (SECTION 963)

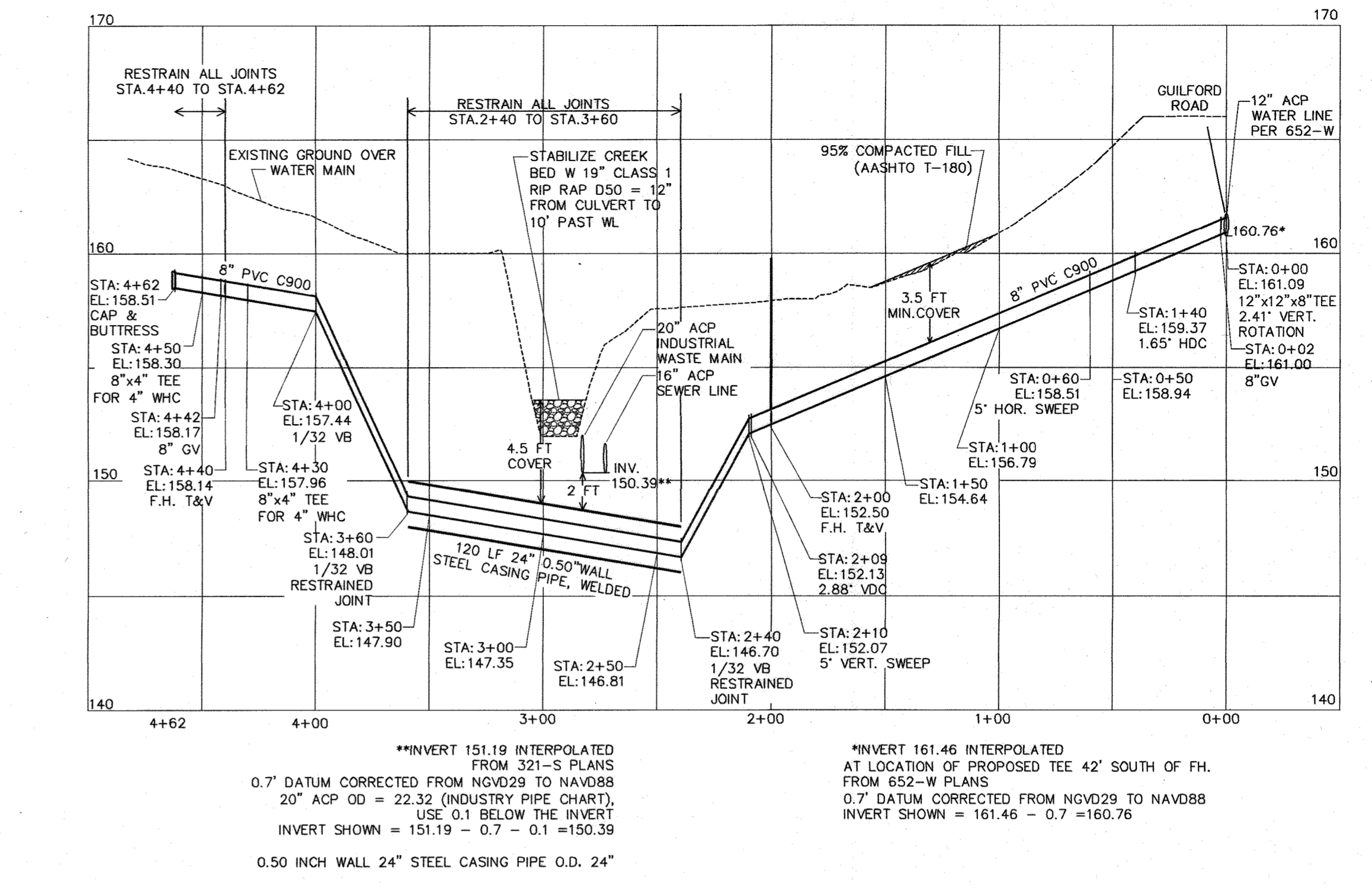
- 963.02.01 STEEL CASING PIPE. FOR WATER AND SEWER CARRIER PIPELINES, THE MINIMUM STEEL CASING PIPE DIAMETER SHALL BE (PER VOLUME IV) INCHES WITH A MINIMUM WALL THICKNESS OF 1/4 INCH. THE CASING PIPE SHALL BE SMOOTH-WALLED STEEL PIPE, AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 36,000 PSI (ASTM A-570 GRADE 36). JOINTS SHALL BE FULLY WELDED AROUND THE CIRCUMFERENCE OF THE PIPE WITH A COMPLETE PENETRATION WELD. PIPE SHALL CONFORM TO AWWA C-200. PAINT THE OUTSIDE OF PIPE WITH 2 COATS OF COAL TAR PROTECTIVE COATING.
- 963.03 CASING END SEALS. SEE COUNTY'S APPROVED PRODUCTS LIST.
- 963.04 CASING SPACER/INSULATORS. SEE COUNTY'S APPROVED PRODUCTS LIST.
- 963.05 GROUT.
 - (A) THE CEMENT USED FOR GROUT SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD SPECIFICATIONS FOR PORTLAND CEMENT* ASTM DESIGNATION C150 FOR TYPE I OR TYPE II, CERTIFIED MILL TESTS SHALL BE FURNISHED FOR ALL CEMENT USED FOR GROUT. THE SAND USED FOR GROUT SHALL BE IN ACCORDANCE WITH ASTM C404 SIZE NO. 1 FINE AGGREGATE, OR ASTM C33 FINE AGGREGATE.
 - (B) WATER SHALL BE FREE FROM SULFATES AND OTHER OBJECTIONABLE QUANTITIES OF SILT, ORGANIC MATTER AND OTHER IMPURITIES.
 - (C) DESIGN MIX FOR GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 100 PSI ATTAINED WITHIN 24 HOURS. GROUT SHALL BE FLUID ENOUGH TO INJECT THROUGH THE GROUT FITTINGS AND TO FILL VOIDS, HOWEVER, IT SHALL SET PROMPTLY ENOUGH TO KEEP GROUT FLOW UNDER CONTROL AND TO KEEP GROUT FROM FLOWING INTO THE NEW ANNULAR SPACE AFTER THE INITIAL ADVANCE.
- 963.06 TUNNEL BULKHEADS. TUNNEL BULKHEADS SHALL BE 8-INCH THICK BRICK AND MORTAR EACH END WITH 2 IN DIAMETER PVC DRAIN PIPES



PLAN VIEW:
SCALE: 1" = 50'

EROSION & SEDIMENT CONTROL NOTES:

1. SAME DAY STABILIZATION REQUIRED FOR EACH PORTION OF THIS PROJECT.
2. LOD FOR THIS PROJECT IS THE 20' WATERLINE AND UTILITY EASEMENT MORE OR LESS. REFER TO SDP 22-010 PHASE 1 FOR DETAILED LOD, AND REQUIRED EROSION AND SEDIMENT CONTROLS.
3. PARTICULAR ATTENTION IS DIRECTED TO THE GUIDELINES FOR WORKING IN A CREEK. NOTE THAT THE REQUIRED RIP RAP IS TO BE HAND PLACED ON TOP OF THE EXISTING RIP RAP.
4. WHILE THE 20FT PUBLIC WATER AND UTILITY EASEMENT DOES EXTEND ONTO THE EXISTING CONCRETE DRIVE, IT IS NOT THE INTENT OF THESE PLANS THAT SAID CONCRETE DRIVE SHOULD BE DISTURBED WITHIN THE WETLAND BUFFER.



PROFILE VIEW:
SCALE: HOR. 1" = 50'
VER. 1" = 5'

WATER MAIN TABULATION CHART:

FITTINGS/APPART.	NORTHING	EASTING	STATION
12"x12"x8" T.&V.	535,965.2030	1,367,291.9232	0+00
8" GVC	535,964.1710	1,367,288.2150	0+02
1.65' HOR. SWEEP	535,959.3424	1,367,270.5490	0+40
5' HOR. SWEEP	535,948.3567	1,367,235.1475	0+60
F.H. T.&V.	535,895.6897	1,367,105.0390	2+00
2.88' VDC	535,892.2729	1,367,097.7104	2+09
5' VERTICAL SWEEP	535,891.5729	1,367,096.0104	2+10
1/2" V.B. RESTR'D JOINT	535,880.2406	1,367,068.1481	2+40
1/2" V.B. RESTR'D JOINT	535,834.8799	1,366,956.5500	3+60
1/2" VERTICAL BEND	535,819.8108	1,366,919.3745	4+00
8"x8"x4" TEE	535,812.8095	1,366,901.4970	4+30
4" WHC AND VALVE	535,812.8095	1,366,901.4970	4+30
F.H. T.&V.	535,807.6941	1,366,887.6633	4+40
8" GV	535,806.0521	1,366,884.5309	4+42
8"x8"x4"x4" CROSS	535,800.9958	1,366,871.9271	4+50
2 EA 4" GV	535,800.9958	1,366,871.9271	4+50
8" CAP & BUTTRESS	535,798.1951	1,366,863.3287	4+62
RESTRAINED JOINT COUPLING	535,984.4247	1,367,286.7505	EXISTING LINE
RESTRAINED JOINT COUPLING	535,945.8675	1,367,297.3264	EXISTING LINE

CONSTRUCTION NOTES:

1. STATION 0+00 IS LOCATED AT THE EXISTING 12" DIAMETER ACP WATER MAIN ON THE EAST OR NORTH SIDE OF GUILFORD ROAD.
2. 1 SECTION OF EXISTING 12" DIAMETER ACP (IF THE CONNECTION FALLS MID SECTION, OR 2 SECTIONS IF THE CONNECTION LOCATION IS AT A JOINT) IS TO BE REPLACED BY PVC C900 PIPE WITH APPROPRIATE PVC TO ACP COUPLINGS.
3. ACTUAL LOCATION OF WATER AND SEWER LINES TO BE VERIFIED BY HAND DIGGING OR WATERJET POT-HOLING AS DIRECTED BY DPW.
4. IF DISCREPANCY FOUND BETWEEN FIELD CONDITIONS AND PLAN, ENGINEER TO BE NOTIFIED IMMEDIATELY.
5. EXISTING SITE CONNECTION TO SEWER AND WATER AND SHOWN FOR COORDINATION BASED ON ANECDOTAL LOCATION ONLY (NOT FIELD VERIFIED) AS THESE ARE THE ORIGINAL CONNECTIONS MADE IN THE 1970-1980 TIME FRAME.
6. WATER CONNECTIONS TO PROPOSED WAREHOUSES ARE FOR SPRINKLERS ONLY. NO NEW SEWER CONNECTIONS ARE PROPOSED.
7. CONSTRUCTION WILL REQUIRE REVISED WATER AND SEWER CONNECTION TO THE OFFICE. THIS IS DETAILED IN THE SDP.

SEQUENCE OF CONSTRUCTION INCLUDING REMOVAL OF SECTION OF EXISTING WATER MAIN:

1. INSTALL ALL OF PROPOSED 8" MAIN, HYDRANTS, VALVES, WHC, CAPS ETC AS PER PLAN INCLUDING THE JACK AND BORE, CASING AND RELATED APPURTENANCES, EXCEPT FOR THE GUILFORD ROAD CROSSING, CONNECTION TO EXISTING MAIN. (7-14 DAYS)
2. CUT AND COVER GUILFORD ROAD CROSSING (8" MAIN INSTALLATION) IN SUCH A MANNER AS TO MINIMIZE DISRUPTION OF TRAFFIC TO STATION 0+2. (1-2 DAY)
3. SHUT OFF WATER TO THE EFFECTED SECTION OF THE EXISTING WATERLINE AT THE LOCATIONS SHOWN ON THE LOCATION MAP. (0-1 DAY)
4. EXPOSE COMPLETE SECTION(S) TO BE REPLACED. (0-1 DAY)
5. REMOVE SECTION(S) TO BE REPLACED. (0-1 DAY)
6. PLACE NEW PIPE BEDDING. (0-1 DAY)
7. INSTALL COUPLINGS AND NEW PIPE AND APPURTENANCES (8"GV AND 12X12X8 TEE). CONNECT TO 8" MAIN. (0-1 DAY)
8. PRESSURE TEST. (0-1 DAY)
9. DISINFECT LINE. (0-1 DAY)
10. COVER AND COMPACT LINE AS PER SPECIFICATIONS. (0-1 DAY)
11. OPEN LINE AND RESTORE SERVICES. (0-1 DAY)

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. 26859, EXP DATE 08/08/25

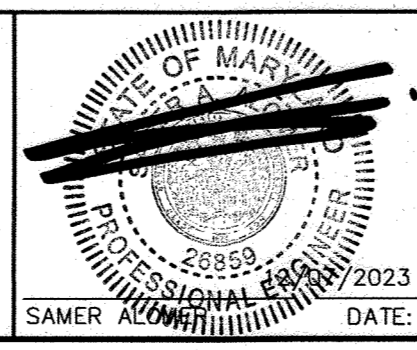
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 12/14/2023
CHIEF, BUREAU OF UTILITIES

[Signature] 12-28-23
CHIEF, DEVELOPMENT ENGINEERING DIVISION

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
8316 FORREST ST, STE 300 ELICOTT CITY, MD 21043
(410) 997-0286 Ball. (410) 997-0288 Fax.



engineering SAA					
illustration TNB					
approval SAA					
project 20-018					
date 12.06.2023	BY	NO.	REVISION	DATE	

WATER PLAN AND PROFILE

600' SCALE MAP NO. 41 BLOCK NO. A4

DRENNER CONCRETE
TM 48, PARCEL 13, GRID 007
CONTRACT NO. 44-5205-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY