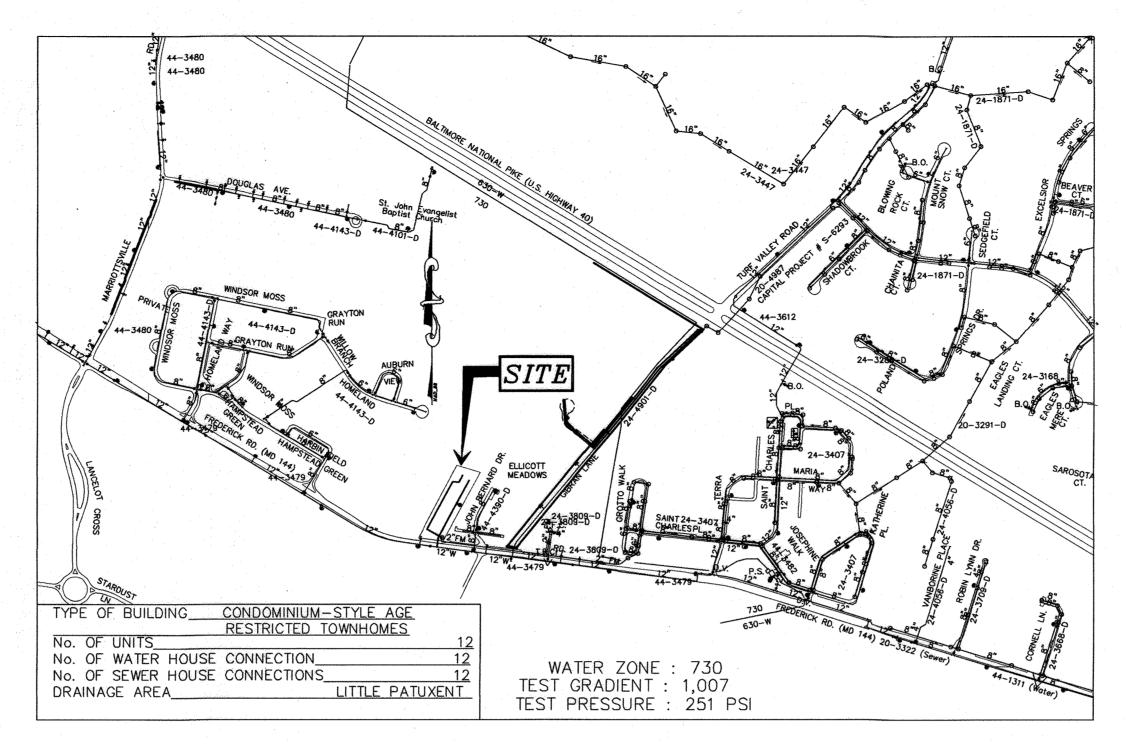
QUANTITY TABLE				
ITEMS	QUANTITIES ESTIMATED			
		QUANTITIES	TYPE	MANUFACTURED/SUPPLIER
6" WATER MIAN (C900, DR-14)	160 LF			
8" WATER MAIN (C900, DR-14)	335 LF			
1 ½" WHC	175 LF			
12" X 8" TAPPING SLEEVE AND VALVE	1 EACH			
8" X 6" TEE F.H.T & V.	1 EACH			
₁ ₆ H.B	1 EACH			
HDC	1 EACH			
6" CAP AND BUTTRESS	1 EACH			
6" VALVE	1 EACH			
8"X6" REDUCER	1 EACH			
8" VALVE	1 EACH			
6" FIRE HYDRANT	1 EACH			
2" SDR-21 PVC	674 LF			
2" VALVE	1 EACH			
2" 90 DEG BEND	1 EACH			
NAME OF UTILITY CONTRACTOR:				

SHEET INDEX

NO.	DESCRIPTION				
1	COVER SHEET				
2	WATER AND SEWER PLAN, PROFILES AND DETAILS				



<u>LOCATION MAP</u>

CONTRACT NO: 24-5206-D FRIENDLY INN LOTS 1 THRU 12 WATER AND SEWER MAIN EXTENSION HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORK

LEGEND

PROPOSED 2" (LPPS) FIRE HYDRANT GRINDER PUMP SEWER MANHOLE EXISTING SEWER MAIN EXISTING WATER MAIN

PROPOSED 4" SEWER HOUSE CONNECTION __1.5"WHC PROPOSED 1.5" WATER HOUSE CONNECTION

HIGH DEFLECTION COUPLING HORIZONTAL BEND CAP AND BUTRESS FIRE HYDRANT TEE & VALVE T.S. & V TAP SLEEVE & VALVE

DEVELOPERS

11074 FREDRICK RD. LLC 8318 FORREST ST. SUITE 200 ELLICOTT CITY, MD 21042 410 992 4600

EROSION AND SEDIMENT CONTROL SHALL BE PROVIDED UNDER SDP-23-038

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

HOWARD SCD SIGNATURE BLOCK

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL

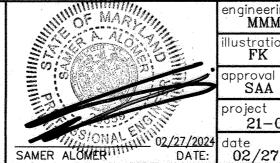
BY THE HOWARD SOIL CONSERVATION DISTRICT.

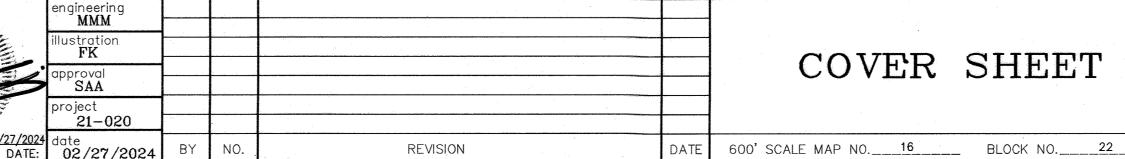
HOWARD COUNTY, MARYLAND

03/13/24

DEPARTMENT OF PLANNING & ZONING







COVER SHEET

DMV2-23-006 HAS BEEN REQUESTED TO PROVIDE LOW PRESSURE SEWER

ON SEP. 19, 2023. CONDITION OF APPROVAL AREA:

AS PART OF THE W/S CONTRACT SUBMISSION.)

UPSIZED TO 2" IN THE PUBLIC ROW.)

SYSTEM LPSS TO SERVICE THE PROPOSED UNITS. APPROVAL WAS GRANTED

THE SIZE OF THE EXISTING LPSS FORCE MAIN SHALL BE CONFIRMED

PROPOSED PROJECT. (SIZE OF LPSS PIPE HAS BEEN VERIFIED AND

DESIGN CALCULATIONS, PREPARED BY A MARYLAND LICENSED

AND IF NECESSARY UPSIZED WHERE NEEDED TO ACCOMMODATE THIS

PROFESSIONAL ENGINEER, SHALL BE INCLUDED WITH THE WATER AND

SEWER CONTRACT DRAWING SUBMITTAL TO SUPPORT THE ADDITIONAL

FLOWS AND FORCE MAIN EXTENSION. (DESIGN CALCULATION SUBMITTED

CONTRACT NO.: 24-5206-D 3RD ELECTION DISTRICT HOWARD COUNTY

UNITS: 1-12

GENERAL NOTES

VICINITY MAP

. 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 2. TOPOGRAPHIC INFORMATION IS BASED ON AERIAL TOPOGRAPHIC SURVEY BY WINGS AERIAL MAPPING CO., INC. DATED APRIL 10 2006. VERIFIED BY MILDENBERG, BOENDER & ASSOC. INC ON OR ABOUT MAY 2019 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 46FA & 47DB. ALL

VERTICAL CONTROLS ARE BASED ON NAVD '88. MILDENBERG, BOENDER & ASSOCIATES, INC. SHALL PROVIDE DESCRIPTION OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES, ETC 4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS. 5. CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM

MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE 6. FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN

7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE

CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE. 8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

BGE (CONSTRUCTION SERVICES). ..410-637-8713 BGE (EMERGENCY). BUREAU OF UTILITIES COLONIAL PIPELINE CO. 410-795-1390 ..1-800-257-7777 MISS UTILITY... STATE HIGHWAY ADMINISTRATION .410-531-5533

9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN

THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR. 10. THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH

REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN. 11. 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 OF WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 8.114(A) OF THE HOWARD COUNTY CODE.

ALL WATER MAINS SHALL BE PVC C900 (DR-14) UNLESS OTHERWISE NOTED.

TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.

FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN

ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL. 8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE

SUPPLIED TO THE TEST RECORDS RECEIVED. 9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE

10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT

11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED. THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING. PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (11/2-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA COOD, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL. FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.

12. WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5 DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED

BY EBAA IRON, INC. OR APPROVED EQUAL. 13. FOR A MINIMUM 1.5" WHC FOR SINGLE FAMILY DWELLINGS OUTSIDE METER SETTINGS FOR 1" METERS SHALL BE USED.

PART III SEWER 1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.

2. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED. 3. FORCE MAINS SHALL BE D.I.P. ONLY.

4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.

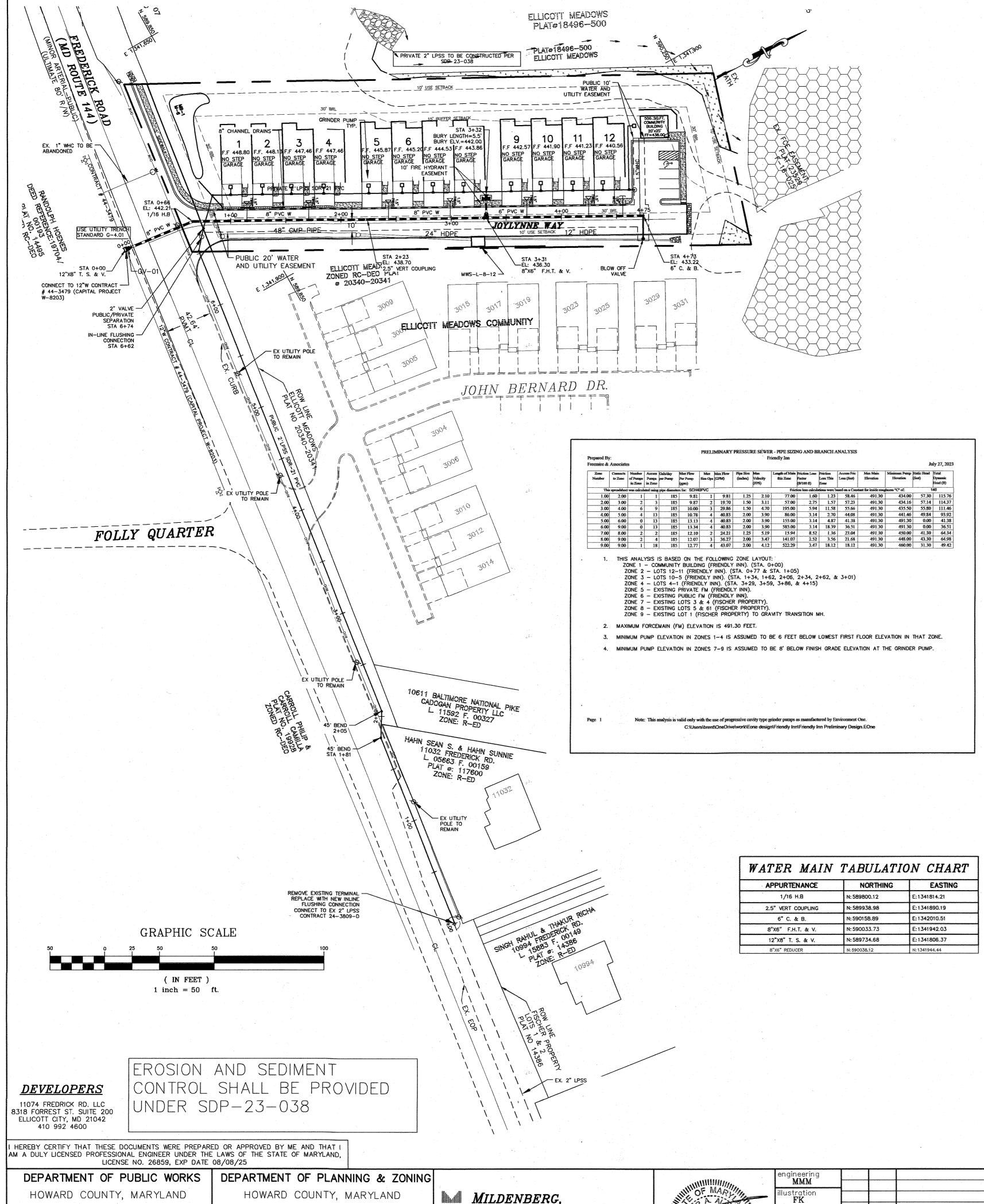
5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. 6. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS

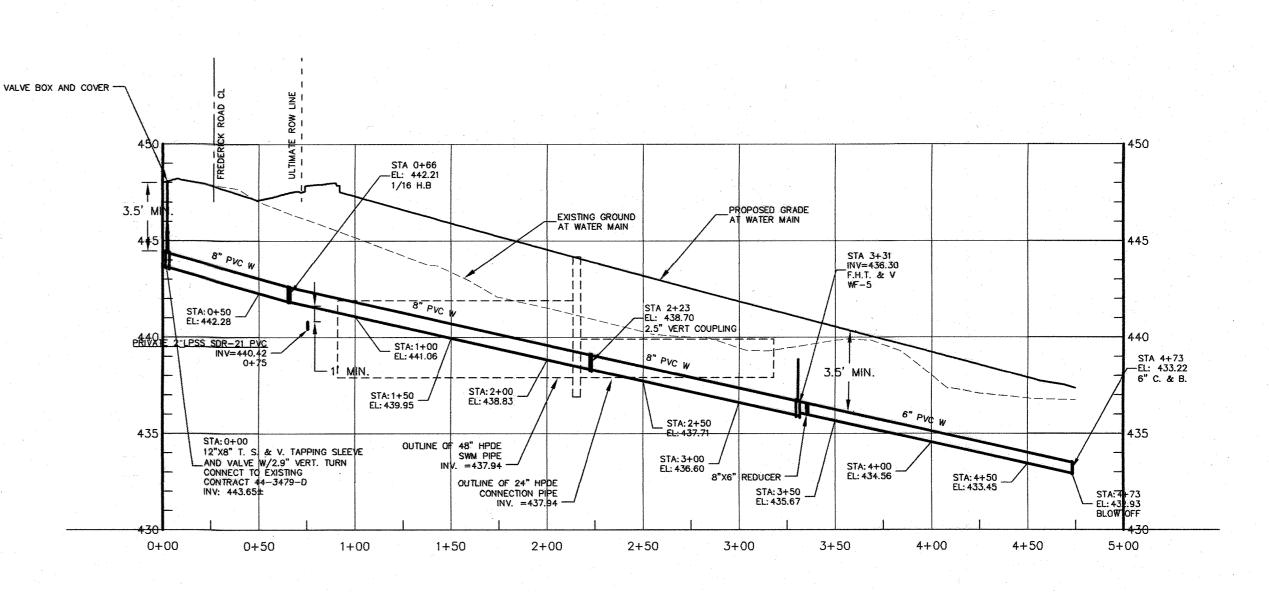
OTHERWISE NOTED ON THE DRAWINGS. 7. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

FRIENDLY INN

scale AS SHOWN

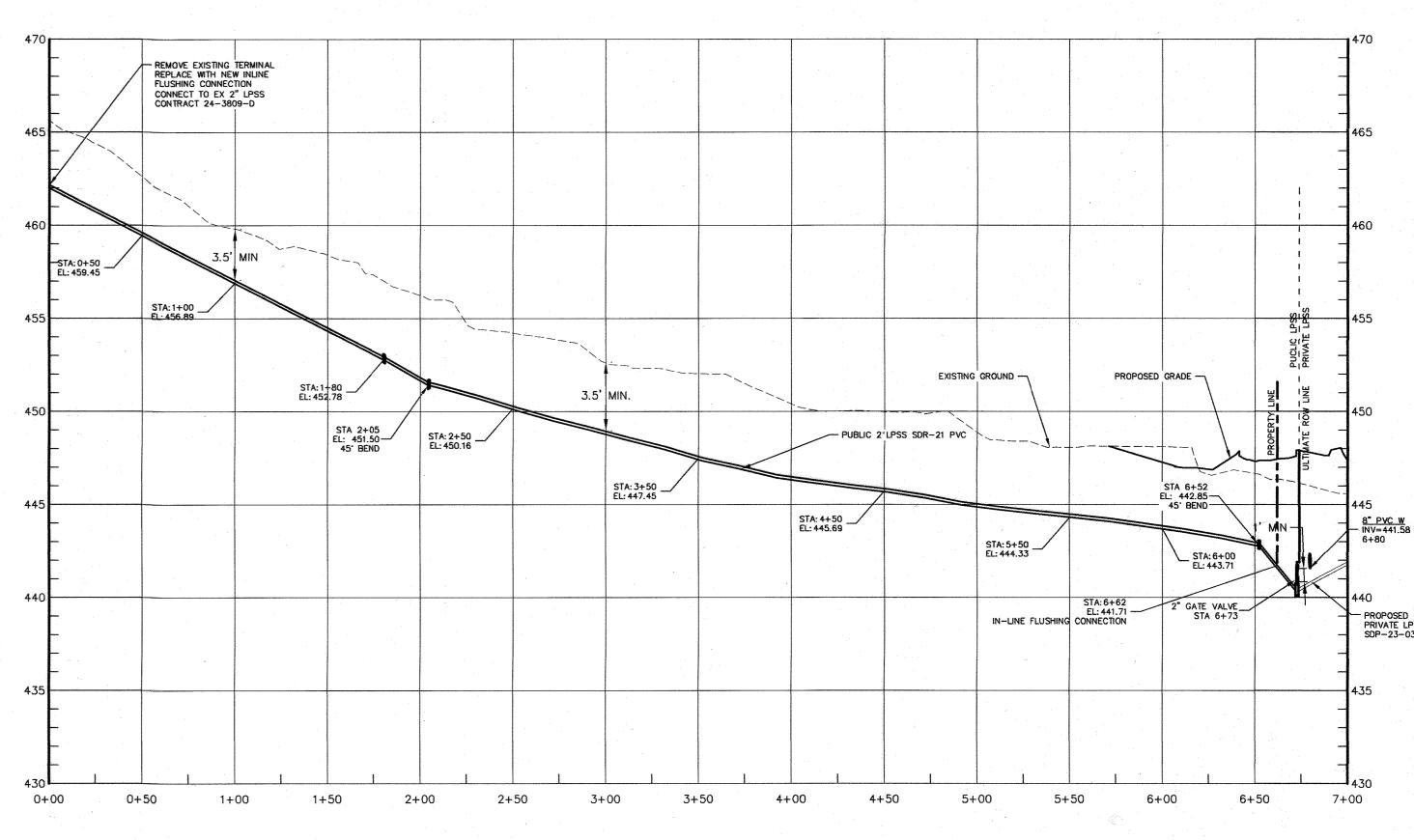
1 of 2





8"WATER MAIN PROFILE

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



PUBLIC 2" LPSS SEWER PROFILE

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

NOTES:

- ALL THE 2" LPSS WILL BE PVC SCHEDULE 40.
 EXISTING 1.5" PVC LPSS TO BE REPLACED BY 2" PVC SCHEDULE 40.
- 3. THE PROPOSED 8" WATER MAIN WILL BE PVC C900 DR-14 OR EQUIVALENT.
 4. THE TRUE DEPTH OF EXISTING WATER MAIN IS TO BE DETERMINED ON SITE BY
- 5. FOR WATER FITTING AND APPURTENANCE SCHEDULE SEE TABLE.

CHEF, BUREAU OF UTILITIES DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG,
BOENDER & ASSOC., INC.
Engineers Planners Surveyors

(410) 997-0296 Tel. (410) 997-0298 Fax.



illustration FK

approval SAA
project 21-020
date 02/27/2024 BY NO.

REVISION

WATER AND SEWER
PLAN, PROFILES

& DETAILS

DATE 600' SCALE MAP NO. 16 BLOCK NO. 22

FRIENDLY INN
UNITS: 1-12

CONTRACT NO.: 24-5206-D
3RD ELECTION DISTRICT
HOWARD COUNTY

as shown 2 of 2

O Friendly inn/Engineering/Dwg/Polina SDP V2/21-020-UTIL/ITY-REV02.dwg, 2/28/2024 9:26:18 AM, MMT