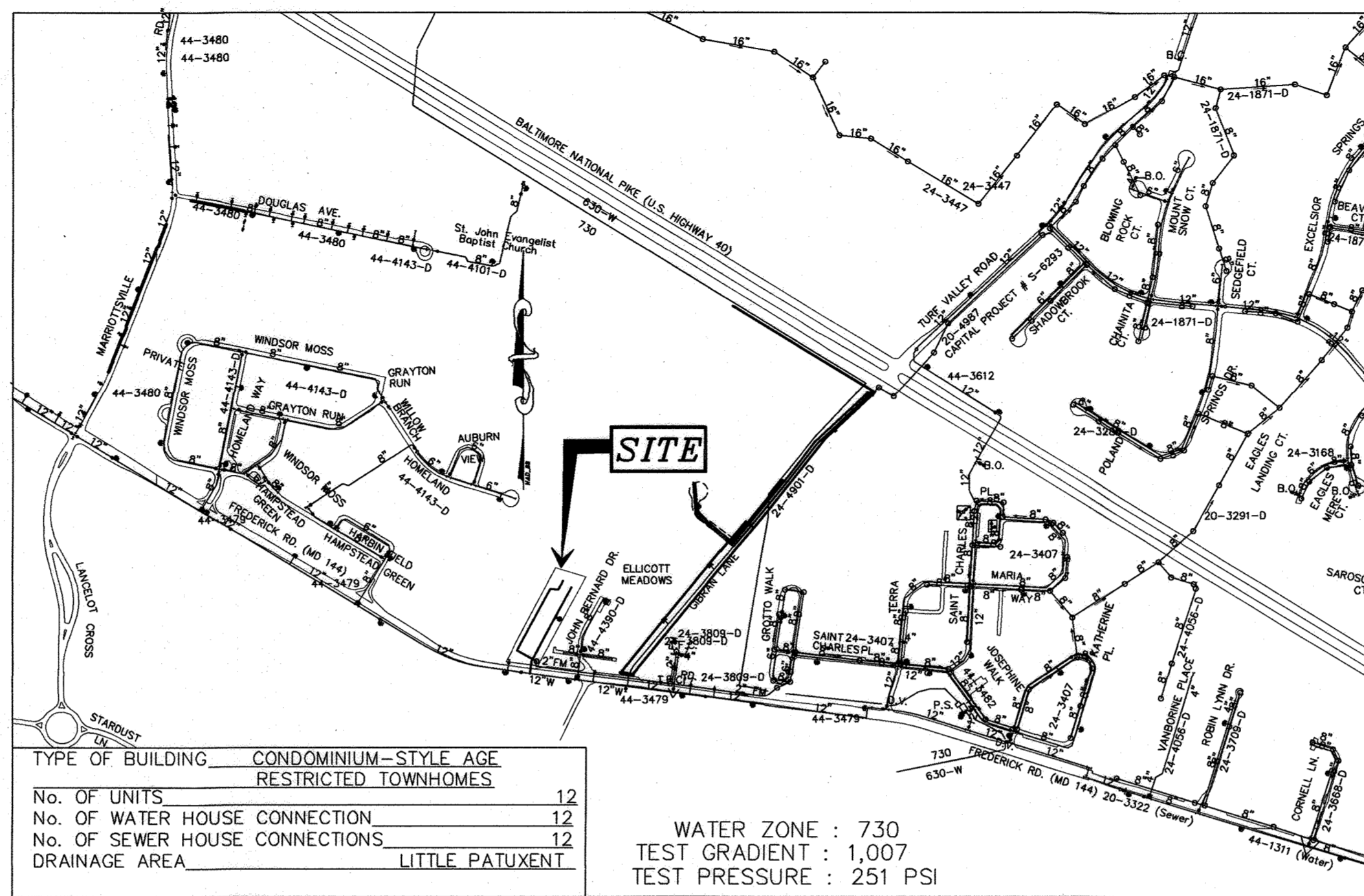
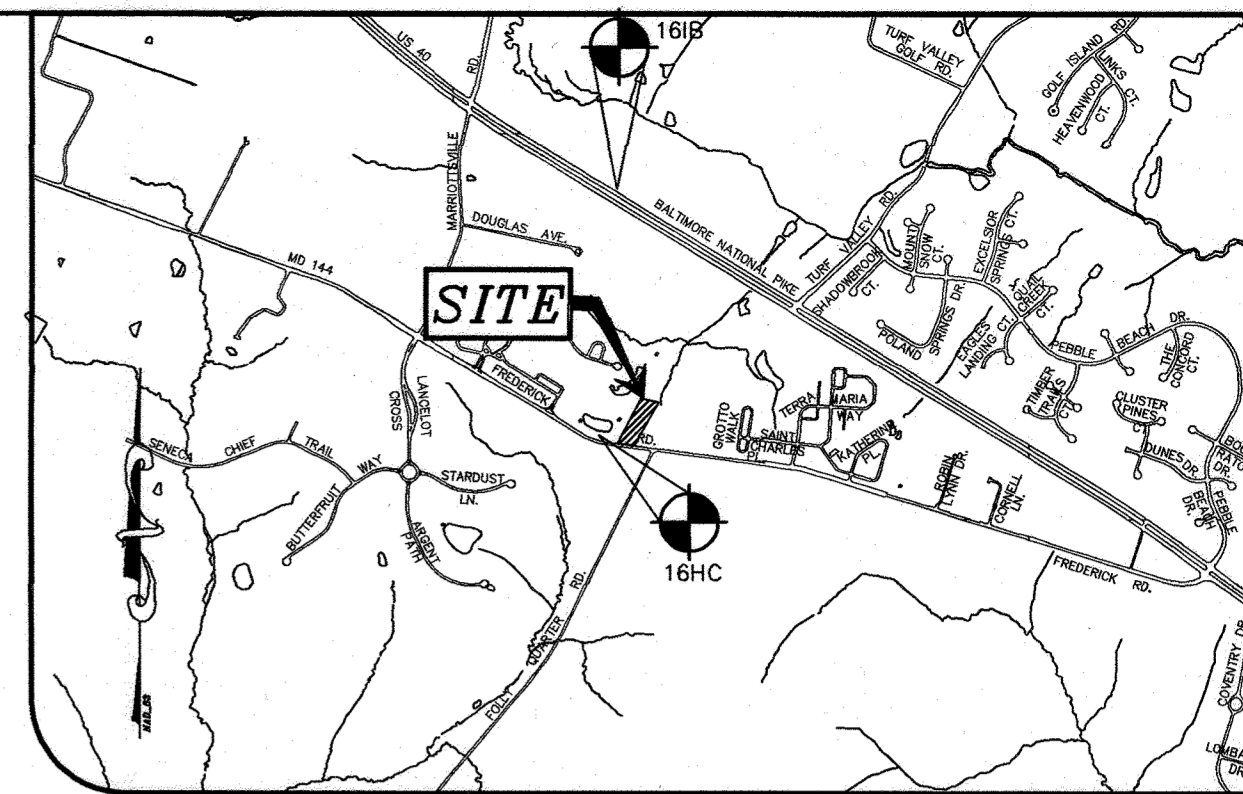


QUANTITY TABLE				
ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURED/SUPPLIER
6" WATER MAIN (C900, DR-14)	160 LF			
8" WATER MAIN (C900, DR-14)	335 LF			
1 1/2" WHC	175 LF			
12" X 8" TAPPING SLEEVE AND VALVE	1 EACH			
8" X 6" TEE F.H.T. & V.	1 EACH			
1/2" H.B.	1 EACH			
HDC	1 EACH			
6" CAP AND BUTTRISS	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:				
SURVEY AND DRAFTING DIVISION AS BUILT				

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



LOCATION MAP
SCALE: 1"=600'



GENERAL NOTES

- PART I
- 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 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.
 - 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 TO 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 FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - AT&T.....1-800-252-1133
 - BGE (CONSTRUCTION SERVICES).....410-637-8713
 - BGE (EMERGENCY).....410-685-0123
 - BUREAU OF UTILITIES.....410-313-4900
 - COLONIAL PIPELINE CO.....410-795-1390
 - MISS UTILITY.....1-800-257-7777
 - STATE HIGHWAY ADMINISTRATION.....410-531-5533
 - VERIZON.....1-800-743-0033
 - 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 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.

VICINITY MAP

SCALE: 1"=2000'

ADC MAP: 11 GRID: B6

CONTRACT NO: 24-5206-D

FRIENDLY INN

LOTS 1 THRU 12

WATER AND SEWER MAIN

EXTENSION

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORK

LEGEND

- 2" LPSS ——— PROPOSED 2" (LPSS)
- 8"W ——— PROPOSED 8" WATER
- +— FIRE HYDRANT
- G— GRINDER PUMP
- M— SEWER MANHOLE
- EX. 8" SEWER— EXISTING SEWER MAIN
24-0556-D
- EX. 8" WATER— EXISTING WATER MAIN
24-0556-D
- 4"SHC— PROPOSED 4" SEWER HOUSE CONNECTION
- 1.5"WHC— PROPOSED 1.5" WATER HOUSE CONNECTION
- HDC HIGH DEFLECTION COUPLING
- HB HORIZONTAL BEND
- C&B CAP AND BUTTRISS
- F.H.T. & V FIRE HYDRANT TEE & VALVE
- T.S. & V TAP SLEEVE & VALVE

DEVELOPERS

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

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

DMV2-23-006 HAS BEEN REQUESTED TO PROVIDE LOW PRESSURE SEWER SYSTEM LPSS TO SERVICE THE PROPOSED UNITS. APPROVAL WAS GRANTED ON SEP. 19, 2023. CONDITION OF APPROVAL AREA:
 • THE SIZE OF THE EXISTING LPSS FORCE MAIN SHALL BE CONFIRMED AND IF NECESSARY UPSIZED WHERE NEEDED TO ACCOMMODATE THIS PROPOSED PROJECT. (SIZE OF LPSS PIPE HAS BEEN VERIFIED AND UPSIZED TO 2" IN THE PUBLIC ROW.)
 • DESIGN CALCULATIONS, PREPARED BY A MARYLAND LICENSED 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 AS PART OF THE W/S CONTRACT SUBMISSION.)

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

HOWARD SCD SIGNATURE BLOCK
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Alexandra Butcher 03/13/24
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Norman 3/15/2024
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Chad 4.1.24
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
8318 Forrest Street - Suite 300, Ellicott City, Maryland 21043
(410) 997-0298 Tel. (410) 997-0298 Fax.

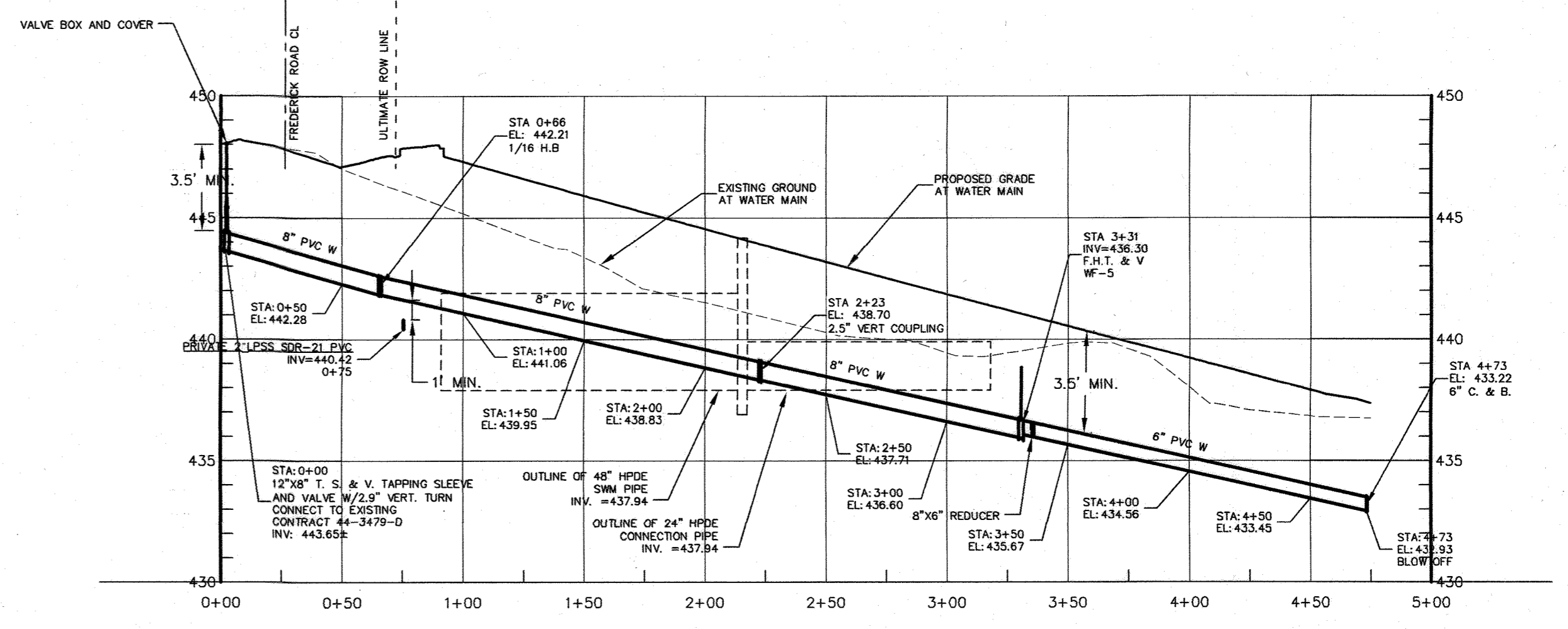
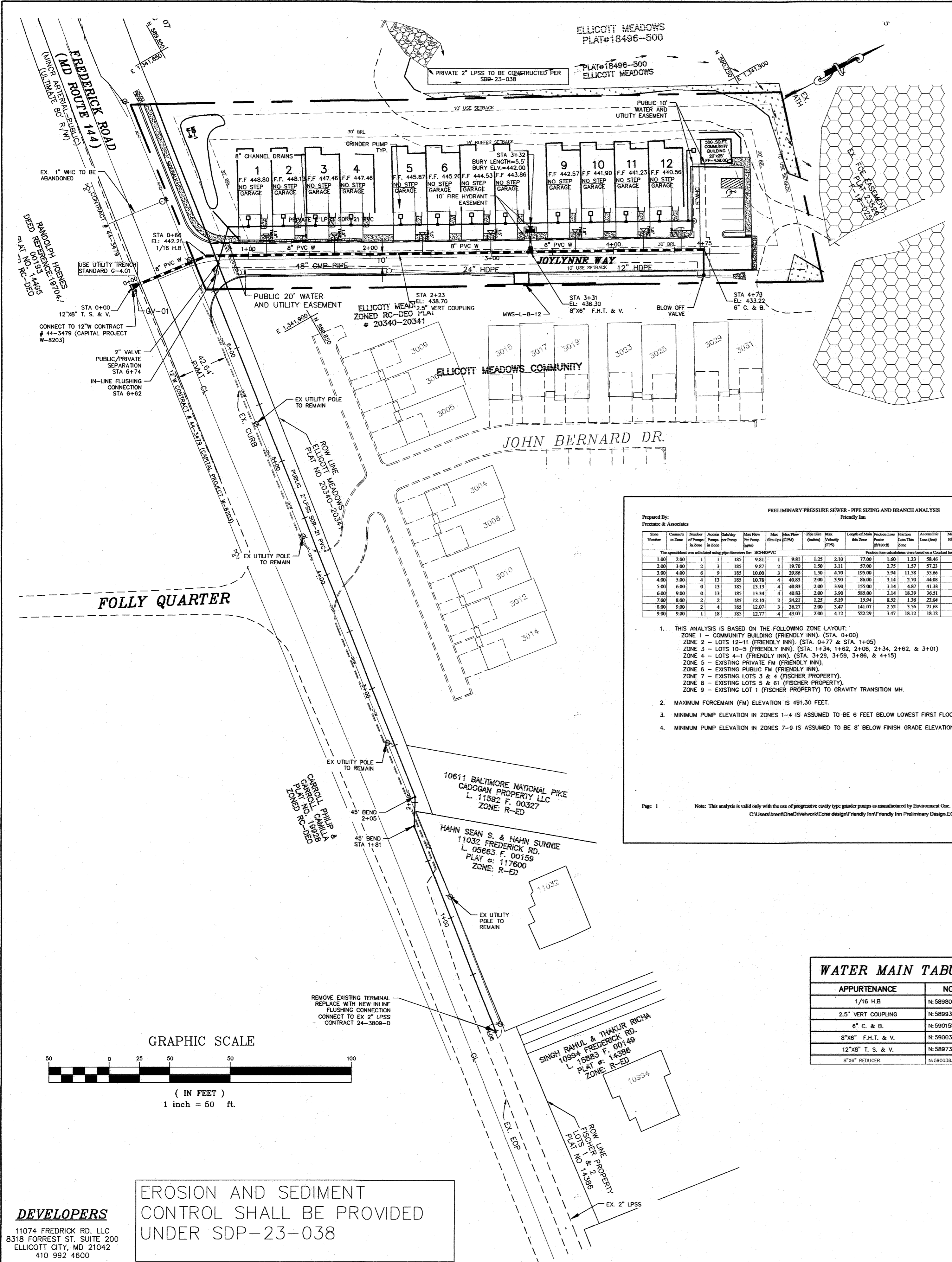
PROFESSIONAL ENGINEER
SAMER ALQUMR
02/27/2024

engineering	illustration	approval	project	date	BY	NO.	REVISION	DATE
MMM	FK	SAA	21-020	02/27/2024				

COVER SHEET
600' SCALE MAP NO. 16 BLOCK NO. 22

FRIENDLY INN
UNITS: 1-12
CONTRACT NO.: 24-5206-D
3RD ELECTION DISTRICT
HOWARD COUNTY

scale AS SHOWN
1 OF 2



8" WATER MAIN PROFILE

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

PRELIMINARY PRESSURE SEWER, PIPE SIZING AND BRANCH ANALYSIS
Friendly Inn
July 27, 2023

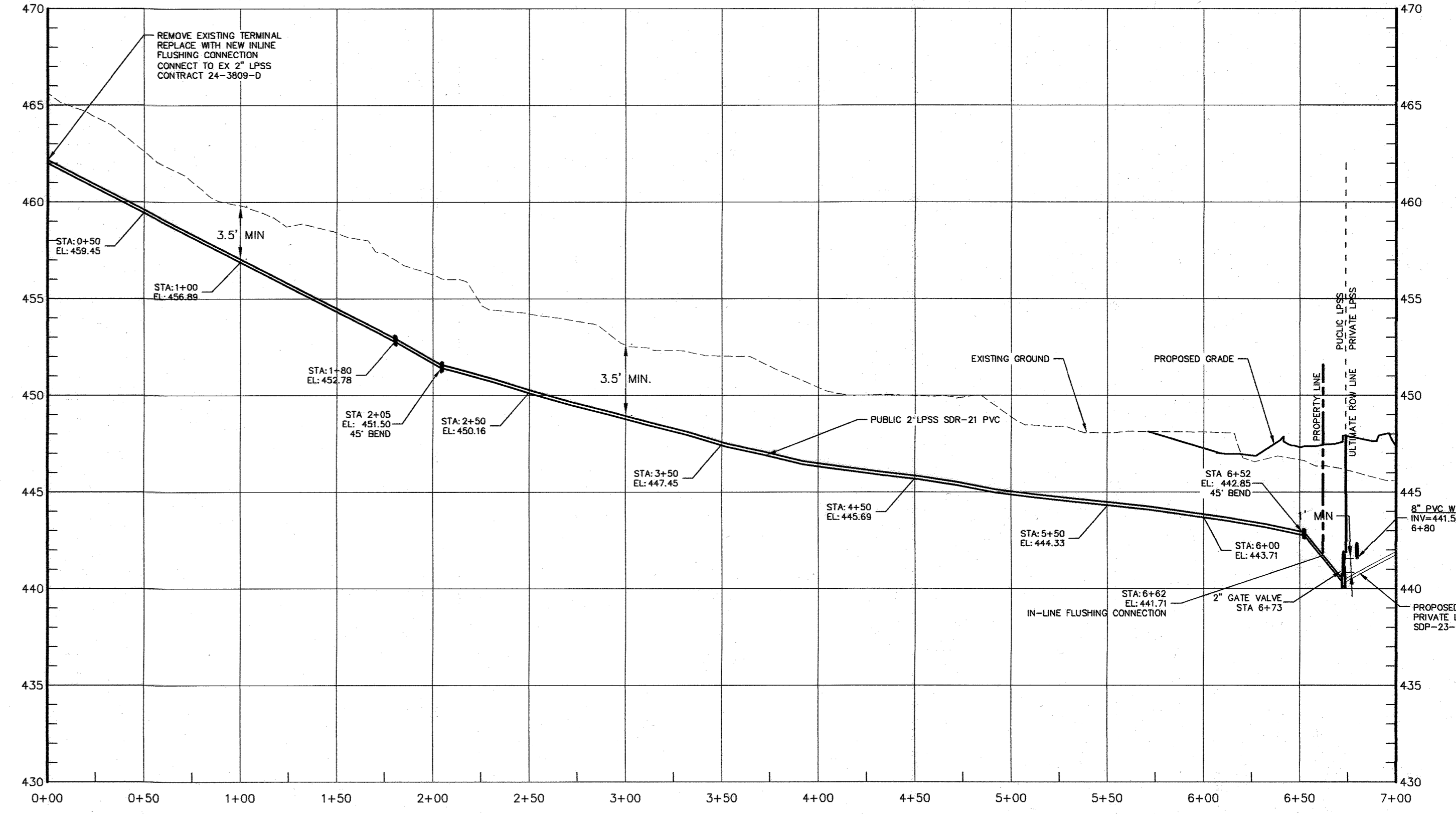
Zone	Station	Flow (gpm)	Velocity (ft/s)	Head Loss (ft)	Pressure (psi)										
1.00	2.00	1	185	9.81	1.35	2.10	77.00	1.60	1.33	58.61	491.30	434.00	57.30	115.70	
2.00	3.00	2	185	9.87	2.1	19.70	1.36	3.11	37.00	2.71	1.57	57.23	491.30	434.16	114.37
3.00	4.00	6	185	10.00	3	29.82	1.50	4.70	195.00	5.94	11.58	55.66	491.30	435.50	111.46
4.00	5.00	4	185	10.78	4	40.83	2.00	3.90	80.00	3.14	2.70	44.08	491.30	441.80	95.82
5.00	6.00	13	185	13.13	4	40.83	2.00	3.90	155.00	3.14	4.87	41.18	491.30	491.30	0.00
6.00	7.00	13	185	13.14	4	40.83	2.00	3.90	385.00	3.14	18.39	30.51	491.30	491.30	0.00
7.00	8.00	2	185	13.09	2	24.21	1.25	3.19	15.00	8.52	1.86	37.08	491.30	490.00	41.30
8.00	9.00	2	185	13.07	3	36.27	2.00	3.47	141.07	2.52	3.56	31.68	491.30	488.00	43.30
9.00	9.00	1	185	13.71	4	43.07	2.00	4.13	222.29	3.47	18.12	18.12	491.30	466.00	31.30

1. THIS ANALYSIS IS BASED ON THE FOLLOWING ZONE LAYOUT:
 ZONE 1 - COMMUNITY BUILDING (FRIENDLY INN), (STA. 0+00)
 ZONE 2 - LOTS 12-11 (FRIENDLY INN), (STA. 0+77 & STA. 1+05)
 ZONE 3 - LOTS 10-5 (FRIENDLY INN), (STA. 1+34, 1+62, 2+48, 2+34, 2+62, & 3+01)
 ZONE 4 - LOTS 4-1 (FRIENDLY INN), (STA. 3+29, 3+59, 3+86, & 4+15)
 ZONE 5 - EXISTING PRIVATE FM (FRIENDLY INN)
 ZONE 6 - EXISTING PUBLIC FM (FRIENDLY INN)
 ZONE 7 - EXISTING LOTS 3 & 4 (FISCHER PROPERTY)
 ZONE 8 - EXISTING LOTS 5 & 6 (FISCHER PROPERTY)
 ZONE 9 - EXISTING LOT 1 (FISCHER PROPERTY) TO GRAVITY TRANSITION MH.

2. MAXIMUM FORCE MAIN (FM) ELEVATION IS 491.30 FEET.
 3. MINIMUM PUMP ELEVATION IN ZONES 1-4 IS ASSUMED TO BE 6 FEET BELOW LOWEST FIRST FLOOR ELEVATION IN THAT ZONE.
 4. MINIMUM PUMP ELEVATION IN ZONES 7-9 IS ASSUMED TO BE 6' BELOW FINISH GRADE ELEVATION AT THE GRINDER PUMP.

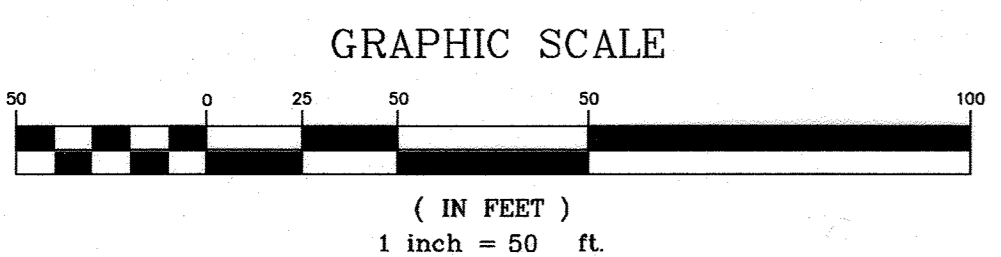
WATER MAIN TABULATION CHART

APPURTENANCE	NORTHING	EASTING
1/16" H.B.	N:589900.12	E:1341814.21
2.5" VERT COUPLING	N:589938.88	E:1341890.19
8" C. & B.	N:590158.89	E:1342010.51
8" FM F.H.T. & V.	N:590033.73	E:1341842.03
12" x 8" T. S. & V.	N:589734.88	E:1341808.37
8" x 6" REDUCER	N:590028.12	E:1341844.44



PUBLIC 2" LPSS SEWER PROFILE

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



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

DEVELOPERS
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

3/5/2024
DATE

4/24
DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
8318 Forrest Street - Suite 300, Ellicott City, Maryland 21043
(410) 997-0298 Tel. (410) 997-0298 Fax.

engineering
MMM
illustration
FK
approval
SAA
project
21-020
date
02/27/2024

WATER AND SEWER PLAN, PROFILES & DETAILS

FRIENDLY INN
UNITS: 1-12
CONTRACT NO.: 24-5206-D
3RD ELECTION DISTRICT
HOWARD COUNTY

scale
AS SHOWN
2 OF 2

Y:\21-020\Friendly Inn\Engineering\DWG\Palmas SDP V2121-020-UTILITY-REV02.dwg, 2/28/2024 9:26:18 AM, MMVT