BETHANY GLEN ARAH - PHASE II PUBLIC WATER & PUBLIC SEWER PLANS

LOTS 25-60, 65-116 AND OPEN SPACE LOTS 164 THRU 167

LOCATION OF SITE

9891 OLD FREDERICK ROAD - ROUTE 99
TAX MAP 17, GRID 15, PARCEL 34
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT No. 24-5236-D

LEGEND

- PROPOSED FIRE HYDRANT
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED SEWER TERMINAL MANHOLE
- EXISTING WATER MAIN
- EXISTING SEWER MAIN
- EXISTING SEWER MANHOLE
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- PROPOSED WATER BEND
- PROPOSED SHC'S
- PROPOSED WHC'S
- DOMESTIC WATER METER
- SEWER CLEANOUT
- UTILITY TEST PIT LOCATION
- PROPOSED WATER VALVE, TEE & CROSS
- 100 YR. FLOODPLAIN
- STREAM BUFFER
- WETLAND BUFFER

SHEET INDEX

SHEET TITLE	SHEET NUMBER
TITLE SHEET	1
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PUBLIC WATER & SEWER STRUCTURE CHARTS	8

QUANTITIES TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES	AS-BUILT TYPE	MANUFACTURER / SUPPLIER
1/8 BEND	4			
1/16 BEND	12			
1/32 BEND	15			
1 1/2" WHC	2,560 L.F.			
2" WHC	0			
8" DR 14 C900 PVC WATER (235 PSI)	3,012 L.F.			
6" DR 14 C900 PVC WATER (235 PSI)	126 L.F.			
8" VALVE	18			
6" VALVE	8			
4" VALVE	0			
FIRE HYDRANTS	7			
8"x8" TEE	3			
8"X8" TAPPING SLEEVE	1			
8"x6" TEE	7			
8" 3° HIGH DEFLECTION COUPLING	19			
CLEANOUT	43			
6" SDR 35 PVC SHC	0			
4" SDR 35 PVC SHC	2,285 L.F.			
8" DIP CL 52 (SEWER MAIN)	1,098 L.F.			
8" SDR 35 PVC (SEWER MAIN)	1,464 L.F.			
SEWER MANHOLE (PUBLIC SEWER SYSTEM EXTENSION)	30			
AIR RELEASE VALVE	0			
CAP & BUTTRESS	2			
BLOW-OFF BOX	1			
8" COUPLING	1			
24" STEEL CASING	288 L.F.			
36" STEEL CASING	-			
NAME OF UTILITY CONTRACTOR				
			CHECK BOX	
			AS-BUILT DATE	
			SURVEY AND DRAFTING DIVISION	

DMV2-24-013

REQUESTING APPROVAL TO WAIVE THE HOWARD COUNTY DESIGN MANUAL VOLUME II – WATER AND SEWER (DMV2) FOR THE PROPOSED PROJECT, ALLOWING AN APPROXIMATELY 760-FOOT LONG, 6-FOOT TALL PRIVACY SCREEN FENCE TO BE PLACED 5 FEET WITHIN THE EXISTING PUBLIC SEWER AND UTILITY EASEMENT FROM CONTRACT NO. 738-S-A, THEREBY WAIVING DMV2 SECTION 5.4.B.5 WHICH REQUIRES A MINIMUM 10 FEET OF HORIZONTAL CLEARANCE BETWEEN ANY PERMANENT STRUCTURE AND THE EDGE OF THE UTILITY EASEMENT.

JUSTIFICATION FOR THE PROPOSED WAIVER INCLUDES THAT THE PROPOSED FENCE IS REQUIRED FOR THE DEVELOPMENT, TO PROVIDE A PRIVACY BUFFER BETWEEN THE PROPOSED DEVELOPMENT AND EXISTING HOMES ALONG POSTWICK ROAD AND MICHAELS WAY. DPW NOTES THAT IT IS HIGHLY UNCOMMON TO PERMIT PERMANENT STRUCTURES WITHIN EASEMENTS SUCH AS IS PROPOSED. WITHOUT MITIGATION MEASURES THE PROPOSED FENCE WOULD BE APPROXIMATELY 5 FEET HORIZONTAL FROM THE EXISTING 12-INCH SEWER CONSTRUCTED UNDER CONTRACT NO. 738-S-A AND SIGNIFICANTLY IMPACT DPW'S ABILITY TO ACCESS AND MAINTAIN THIS SEWER AND ASSOCIATED EASEMENT. IN CONSIDERATION OF THIS AND PREVIOUS CORRESPONDENCE WITH BOHLER, DPW CONDITIONALLY APPROVES THIS WAIVER PROVIDED THE FOLLOWING:

1. AN ADDITIONAL 10 FEET WIDTH BE ADDED TO THE EXISTING EASEMENT ON THE SIDE OPPOSITE THE FENCE (TO THE NORTH BETWEEN EXISTING SEWER MH #738A-123A AND #738A-122, AND TO THE EAST BETWEEN MH #738A-122 AND #738A-120), THEREBY CREATING A 30-FOOT WIDE EASEMENT AS SHOWN ON THE EXHIBIT ATTACHED TO THIS WAIVER REQUEST.
2. THIS DEVELOPMENT'S HOMEOWNER'S ASSOCIATION (HOA) IS SOLELY RESPONSIBLE FOR THE FENCE IN PERPETUITY, INCLUDING ITS REMOVAL AND REPLACEMENT IF NEEDED IN THE FUTURE BY DPW FOR WORK ON THE SEWER, EASEMENT, OR RELATED NEED.

DMV2-23-011

THE UPDATED SUBMITTAL REQUESTS WAIVER FROM THE DESIGN MANUAL II SECTION 3.3.B.5 REQUIREMENT THAT LIMITS MAXIMUM COVER OVER THE DISTRIBUTION MAINS TO 8.0 FEET. FOLLOWING STATIONS HAVE BEEN IDENTIFIED FOR THIS WAIVER REQUEST:

CONTRACT 1 - WATER MAIN C-1 STA 9+92 TO STA 11+60 – THE MAXIMUM COVER OVER THE MAIN WILL BE ABOUT 12.0'.
CONTRACT 1 – WATER MAIN C-1 STA 27+95- STA 28+80 – THE MAXIMUM COVER OVER THE MAIN WILL BE ABOUT 10.0'.

THE UPDATED SUBMITTAL ALSO HAS AN ADDED REQUEST, WHICH SEEKS WAIVER FROM DMV2 SECTION 3.3.B.5, WHICH ALSO REQUIRES A MINIMUM COVER OVER DISTRIBUTION COVER OF 3.5'. THE REQUEST IS MADE FOR THE FOLLOWING STATION:

CONTRACT 1 – WATER MAIN C-1 STA 18+68 – STA 19+39 THE COVER OVER THE MAIN WILL BE ABOUT 2.3'.

BASED ON OUR UNDERSTANDING AND THE DISCUSSIONS HELD AT PREVIOUS MEETINGS, FOLLOWING DECISIONS ARE MADE:

1. WATER MAIN C-1 STA 9+92 TO STA 11+60 AND STA 27+95 TO STA 28+80 – THIS IS A CONNECTION POINT TO THE EXISTING MAIN. – BASED ON THE INFORMATION PROVIDED, THIS WAIVER REQUEST IS APPROVED.
2. WATER MAIN C-1 STA 18+68 TO STA 19+39 – THIS IS WAIVER REQUEST IS APPROVED SUBJECT TO FOLLOWING CONDITION –

PROVIDE A LAYER OF TRIAXIAL GEOGRID SIMILAR TO TX130 AS MANUFACTURED BY TENSAR CORPORATION, AS RECOMMENDED BY HILLIS-CARNES ENGINEERING ASSOCIATES IN THEIR LETTER TO BOHLER AND DATED SEPTEMBER 15, 2023. INCLUDE ALL DETAILS FROM THE LETTER REQUIRED FOR CONSTRUCTION ON WATER AND SEWER DRAWINGS.

IN ADDITION TO ABOVE DECISIONS, BELOW POINTS WERE DISCUSSED AND AGREED TO IN PREVIOUS MEETINGS AND SHALL BE
PROVIDED AS APPLICABLE:

1. FROM STA 10+00, THE STANDARD 20' EASEMENT WILL BE WIDENED UP TO THE ROAD RIGHT OF WAY.
2. BETWEEN STA 27+95 AND STA 28+80, FIRE HYDRANTS AND ISOLATION VALVES SHALL BE PROVIDED FOR ISOLATING SECTION OF THE WATER MAIN CROSSING THE CULVERT AND TO PROVIDE TEMPORARY BYPASS WATER supply.
3. WATER MAIN C-1 BETWEEN STA 27+95 AND STA 28+80 SHALL BE DESIGNED TO PASS OVER THE CULVERT WITH A CLEARANCE OF MINIMUM SIX (6) INCHES . THIS CLEARANCE SHALL BE FILLED WITH CONSTRUCTION SAND EXTENDING THREE FEET ALL-AROUND OF THE CROSSING BORDERS. NOTE – BOHLER HAS RESPONDED THAT IT IS NOT FEASIBLE TO CARRY THE WATER MAIN ABOVE THE BOX CULVERT DUE TO INSUFFICIENT COVER.
4. THE STREAM CROSSING PROFILES SHALL BE DEPICTED CORRECTLY IN ACCORDANCE WITH STANDARD DETAILS.
5. WHERE MANHOLE DEPTHS EXCEED 20', A 30' EASEMENT SHALL BE PROVIDED.

APPROVED SEPT. 22, 2023.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND AS SHOWN ON F-22-033

DMV2-24-003

WAIVER REQUEST LOCATION 1

IT IS UNDERSTOOD THAT THE HIGHWAY I-70 PASSES THROUGH THE PROPERTY TO BE DEVELOPED AND REQUIRES A NOISE WALL TO BE CONSTRUCTED ALONG THE SOUTH PROPERTY LINE OF THE DEVELOPMENT. THE NOISE WALL GENERALLY RUNS IN THE EAST-WEST DIRECTION. THERE IS A 12" SEWER THAT WAS CONSTRUCTED UNDER CONTRACT NO. 738-S-A AND CROSSES THE NOISE WALL IN THE NORTH-SOUTH DIRECTION WITHIN A 20' EASEMENT. TO PROVIDE ACCESS TO THE SEWER MAINTENANCE UPON CONSTRUCTING THE NOISE WALL, THE NOISE WALL HAS BEEN DESIGNED TO SPAN OVER THE EASEMENT WIDTH WITHOUT ANY SUPPORT IN THE EASEMENT AND AS PRACTICAL AS AT 90 DEGREES TO THE EASEMENT. THE WALL CONSISTS OF A SINGLE PANEL AND IS REMOVABLE AS SUCH WHEN REQUIRED TO ACCESS THE SEWER IN THIS AREA. BOHLER ALSO PROVIDED A DETAILED DESCRIPTION OF THIS 25' PANEL, ITS REMOVAL AND TEMPORARY STORAGE PROCEDURES THROUGH SUBSEQUENT CORRESPONDENCE.
WAIVER REQUEST LOCATION 1

THE WAIVER REQUEST FOR LOCATION 1 - WAS APPROVED SEPT. 22, 2023 PROVIDED FOLLOWING CONDITION IS MET:
1. INCLUDE COMPLETE INSTRUCTION PACKAGE ON THE REMOVAL AND STORAGE OF THE 25.0' PANEL ON THE WATER AND SEWER DRAWINGS. THE INSTRUCTIONS SHOULD BE CLEAR AND LEGIBLE.
2. INCLUDE STANDARD SIZE DOOR IN THE 25.00' PANEL IN THE EASEMENT.

WAIVER REQUEST LOCATION 2

THE SECOND LOCATION INCLUDED IN THIS WAIVER REQUEST IS AT THE END OF A PRIVATE ALLEY IN NEIGHBORHOOD D, NEAR LOT 100. SIMILAR TO LOCATION 1, NOISE WALL IS REQUIRED ALONG I-70. HOWEVER, TO MEET THE GRADING REQUIREMENTS OF THE PRIVATE ALLEY AND THE NOISE WALL, A RETAINING WALL IS REQUIRED BETWEEN THE TWO. THE RETAINING WALL WILL BE LOCATED APPROXIMATELY 5.0' BEHIND THE FACE OF THE CURB AT THE END OF THE PRIVATE ADEQUATE SPACE HAS BEEN PROVIDED FOR ROAD MAINTENANCE. THE AREA BETWEEN THE PRIVATE ALLEY AND
THE RETAINING WALL DOES NOT HAVE ANY UTILITIES. FURTHERMORE, THE NOISE WALL HAS BEEN DESIGNED TOTALLY INDEPENDENT OF THE RETAINING WALL AND IS NOT IN STRUCTURAL INFLUENCE ZONE OF THE RETAINING WALL.

WAIVER REQUEST FOR LOCATION 2 WAS APPROVED SEPT. 22, 2023.

DMV2-23-005

WAIVER REQUEST 1

IN ADDITION TO DMV2 SECTION 4.3.E.2.B.1, DMV 4 STANDARD DETAIL G-2.14 SHOWS THE PERMISSIBLE DEPTHS OF COVER FOR VARIOUS PIPE MATERIALS. THIS DETAIL ALLOWS A MAXIMUM COVER OF 20' OVER C900 FOR DEPTHS GREATER THAN 20', DIP IS REQUIRED. IN DISCUSSIONS WITH BOHLER AND UTILITIES UNLIMITED, THE COUNTY HAS BEEN INFORMED THAT AVAILABILITY OF DIP IS NO LONGER AN ISSUE. AS SUCH, THE WAIVER REQUEST IS RESCINDED AND PIPE MATERIAL AS SPECIFIED UNDER STANDARD DETAIL G-2.14 SHALL BE PROVIDED.

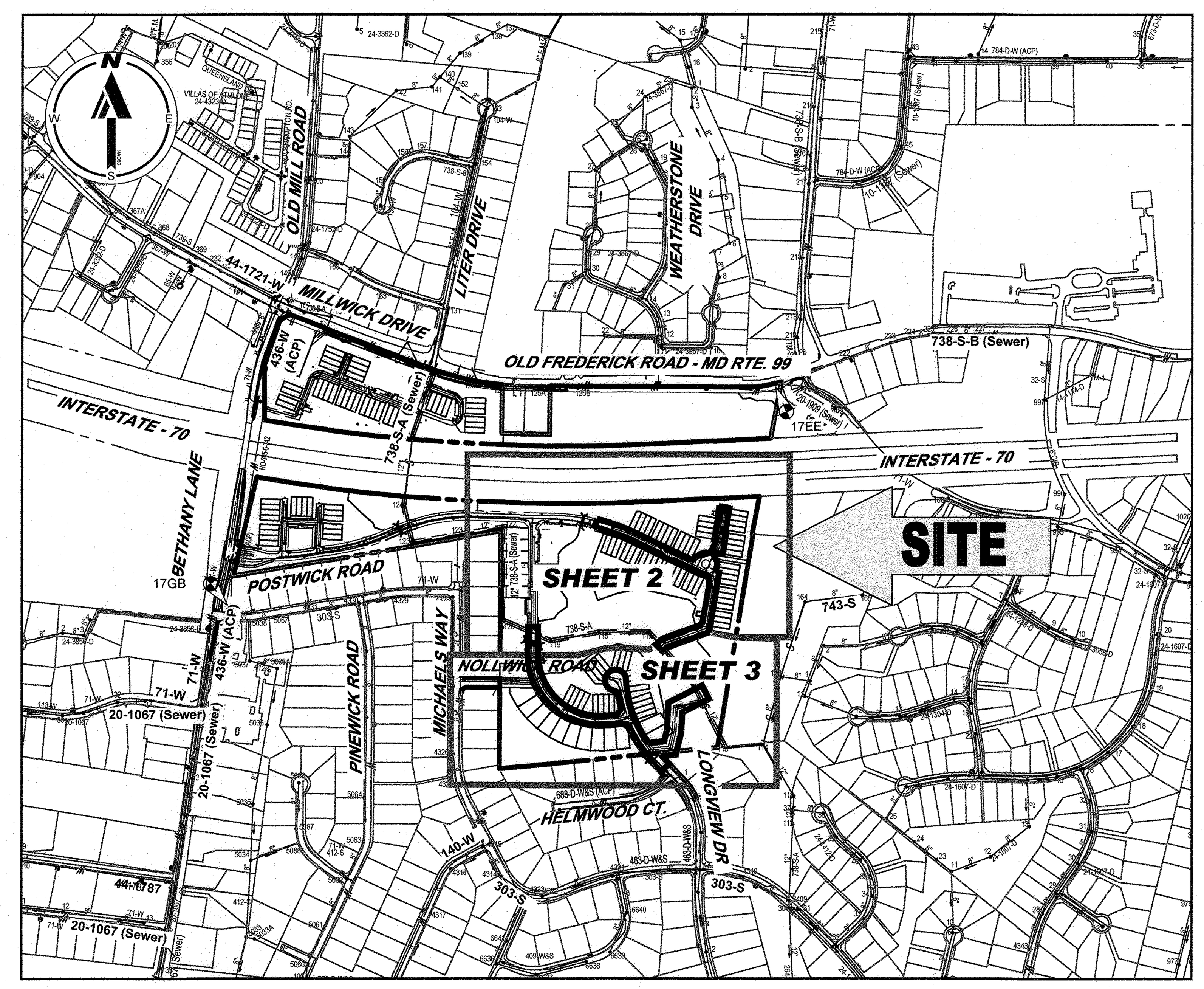
WAIVER REQUEST 2

A CLEARANCE LESS THAN 1.0' BETWEEN TOP OF THE CASING AND THE BOX CULVERT BOTTOM BETWEEN MANHOLES S-27 AND S-23 IS ACCEPTABLE, WITH THE CONDITION THAT THE GAP BETWEEN TOP OF THE CASING AND THE BOTTOM OF THE BOX CULVERT IS FILLED WITH CONSTRUCTION SAND. THE EXTENT OF THE FILL SHALL BE MINIMUM THREE (3) FEET BEYOND THE OUTER EDGES OF THE PIPE AND CULVERT, IN BOTH DIRECTIONS.

WAIVER REQUEST 2 IS APPROVED, PROVIDED ABOVE CONDITION IS MET AND DENOTED ON THE PLANS AND PROFILES.

WAIVER REQUEST 3

BASED ON THE INFORMATION PROVIDED, USE OF 24" CASING AT FIVE STATIONS NOTED EARLIER IS APPROVED.



LOCATION MAP

SCALE: 1"=600'

TYPE OF BUILDING : AGE-RESTRICTED ADULT HOUSING
DRAINAGE AREA : PATUXENT
NUMBER OF LOTS/PARCELS/UNITS: 43
AREA OF RESIDENTIAL LOT/PARCEL: 7.06 AC
NUMBER OF W.H.C.: 43 (PROPOSED)
NUMBER OF S.H.C.: 43 (PROPOSED)
WATER ZONE: 907 W
TEST GRADIENT: 907
TEST PRESSURE: 254 PSI
TREATMENT PLANT: LITTLE PATUXENT WRP

REFERENCE DRAWINGS

SP-21-002
ECP-21-017
BA-CASE No. 17-018C
F-22-033
SDP-22-021

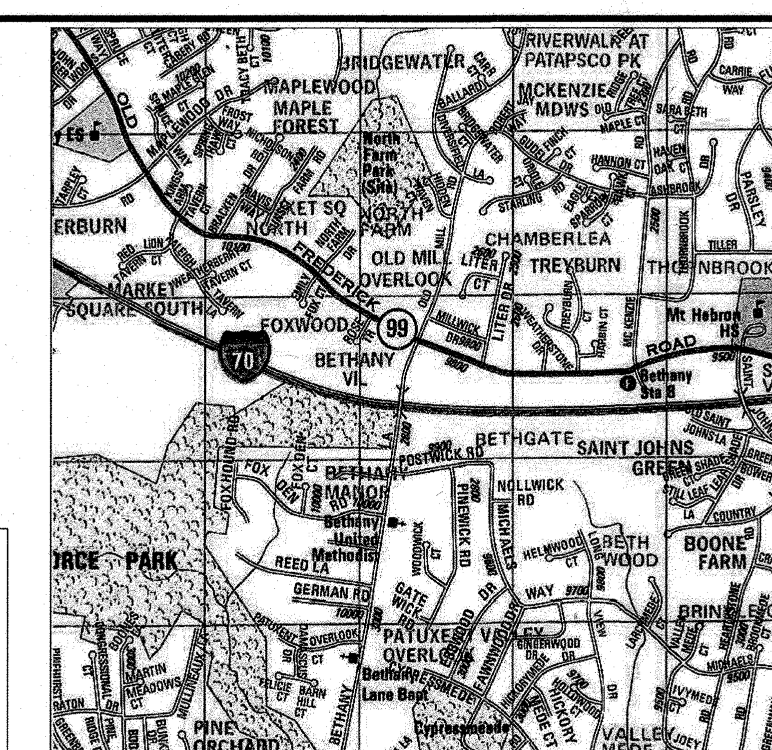
SEWER WAIVER NOTES:

DMV2-22-04 - A WAIVER OF DMV2 SECTION 3.3.B.2.B.1, 'HORIZONTAL ALIGNMENT – LOCATION' WHICH LIMITS THE NON-LOOPED LENGTH OF 8-INCH WATER MAIN TO 2,500 LF OR LENGTH REQUIRED TO PROVIDE SERVICE TO 50 UNITS, WHICHEVER IS SHORTER. FROM THE INFORMATION PROVIDED, IT IS UNDERSTOOD THAT THE PROPOSED WATER MAIN IS APPROXIMATELY 1,300 LF LONG AND MEETS THE FIRST CRITERION OF SECTION 3.3.B.2.B.1 OF LESS THAN 2,500 LF. HOWEVER, IT DOES NOT MEET THE SECOND CRITERION BECAUSE IT SERVES MORE THAN 50 UNITS (52 UNITS). IT IS ALSO UNDERSTOOD THAT IF A LOOP IS TO BE PROVIDED, AN ADDITIONAL 950 LF OF PIPE WILL BE REQUIRED, WHICH WILL NOT SERVE ANY PROPERTY, BUT WILL JUST COMPLETE A LOOP. IN ADDITION, THIS 950 LF OF ADDITIONAL LENGTH WILL REQUIRE A STREAM CROSSING INVOLVING IMPACTS TO THE FLOODPLAIN AND STREAM BUFFERS AS WELL AS CUTTING DOWN OF TREES. BASED ON THE INFORMATION PROVIDED, THE WAIVER REQUEST WAS APPROVED SEPT. 13, 2021.

BENCHMARK

GEODETIC SURVEY CONTROL - 17GB
ELEV. 441.515'
N 592,656.774
E 1,353,019.981

GEODETIC SURVEY CONTROL - 17EE
ELEV. 453.949'
N 593,815.262
E 1,355,774.821



VICINITY MAP

COPYRIGHT ADC THE MAP PEOPLE
PERMIT USE NO. 20602153-5
SCALE: 1"=2000'
ADC MAP COORDINATES: 24/B5

GENERAL NOTES

1. 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 FIELD SURVEYS WERE PERFORMED ON MARCH 04, 2016 BY BOHLER ENGINEERING.
3. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLAN COORDINATE SYSTEM. HORIZONTAL AND VERTICAL CONTROL DATUM ARE BASED ON HOWARD COUNTY MONUMENT NOS. 17EE AND 17GB WHICH WERE USED FOR THIS PROJECT.

   HOWARD COUNTY MONUMENT NO: 17EE ELEV. = 453.949'
   HOWARD COUNTY MONUMENT NO: 17GB ELEV. = 441.515'
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 BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
6. 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.
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 IN 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:

   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 COMPANY 410-795-1390
   MISS UTILITY 1-800-257-7777
   STATE HIGHWAY ADMINISTRATION 410-531-5533
   VERIZON 1-800-743-0033
9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT 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 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.
12. A WAIVER REQUEST FROM THE HOWARD COUNTY DESIGN MANUAL VOL. II, WATER AND SER SECTION 4.3.B.3.B AND 4.5.E FOR LOTS 22, 23, 28, 42 & 43 (NO BASEMENT GRAVITY SERVICE) WILL BE SUBMITTED TO HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS FOR APPROVAL. AS A RESULT OF TOPOGRAPHY CAUSING DEPTHS OF SEWER IN EXCESS OF 20 FEET, BASEMENT SEWER SERVICE CANNOT BE PROVIDED TO THESE PROPOSED LOTS. FOR THESE LOTS: GRAVITY SEWER SERVICE TO BE PROVIDED TO FIRST FLOOR ONLY; BASEMENT SERVICE TO BE PROVIDED BY PRIVATE ON-SITE PUMP. THE APPROVAL AND INSPECTION OF ON-SITE PUMPING UNITS INCLUDES THE DEPARTMENT OF INSPECTION, LICENSE AND PERMIT (DILP).
13. REFER TO SHEET 11 FOR STRUCTURE SCHEDULES.
14. SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFCATIONS AND AS SHOWN ON F-22-033.
15. A WAIVER REQUEST HAS BEEN SUBMITTED PENDING APPROVAL FOR THE FOLLOWING/:
    a. ALTERNATIVE PIPE MATERIAL SUBSTITUTION OF C900 TO BE USED IN LIEU OF DIP FOR SEWER DEPTHS MORE THAN 16 FEET,
    b. MINIMUM VERTICAL CLEARANCES OF LESS THAN 1-FOOT FROM OTHER UTILITIES OR LESS THAN 2' FROM STREAM TO CASING PIPE .
16. A WAIVER REQUEST HAS BEEN SUBMITTED PENDING APPROVAL FOR FOLLOWING:
    a. MAXIMUM COVER PERMITTED OVER DISTRIBUTION MAINS GREATER THAN 8'-0"

WATER NOTES

1. ALL WATER MAINS TO BE P.V.C. CLASS (DR-14) C900 UNLESS OTHERWISE NOTED.
2. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
7. TRACER WIRES AND CONTINUITY TEST STATION SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL.
8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATIONS TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH PIPE MATERIALS CERTIFICATIONS OR SHOP DRAWING 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 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 RESTRAINS 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 IRON.
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 INTO THE BELL OF PVC PIPE.
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 DEFECTION 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 DEFECTION 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 DEFECTION OF 3-DEGREES (1 ½-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, 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 DEFECTION 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 DEFECTION 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. EACH DWELLING WILL BE SERVED BY A 1-1/2" DIAMETER WHC, WITH A 1" METER WHICH WILL BE LOCATED AT THE PROPERTY LINE. THE PREFERRED LOCATION OF THE OUTSIDE WATER METER SETTING IS IN A GRASS AREA WITH THE ROAD RIGHT-OF-WAY AND OUTSIDE OF TRAFFIC BEARING AREAS.

SEWER NOTES:

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 WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS
6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THE CELLAR CANNOT BE SERVED

DIG WITH C.A.R.E. CALL BEFORE YOU DIG

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE. IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL - 811
(WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777)
(VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-282-8555)

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

Alexander Bratchie — 03/21/24
HOWARD SCD — DATE

OWNER/DEVELOPER:
BETHANY GLEN DEVELOPMENT, INC
5074 DORSEY HALL ROAD, SUITE 205
ELLICOTT CITY, MD 21042
CONTACT: JASON VAN KIRK
PHONE: (410) 720-3021

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

3/13/2024
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

4.3.24
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE MG.

BOHLER //
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

B.R. ROWE 3/8/24
PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 40808
PROFESSIONAL CERTIFICATION
I, BRANDON R. ROWE, 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. 40808, EXPIRATION DATE: 7/3/2025

DES:
DRN:
CK: B.R.R.
DATE: 03/01/24

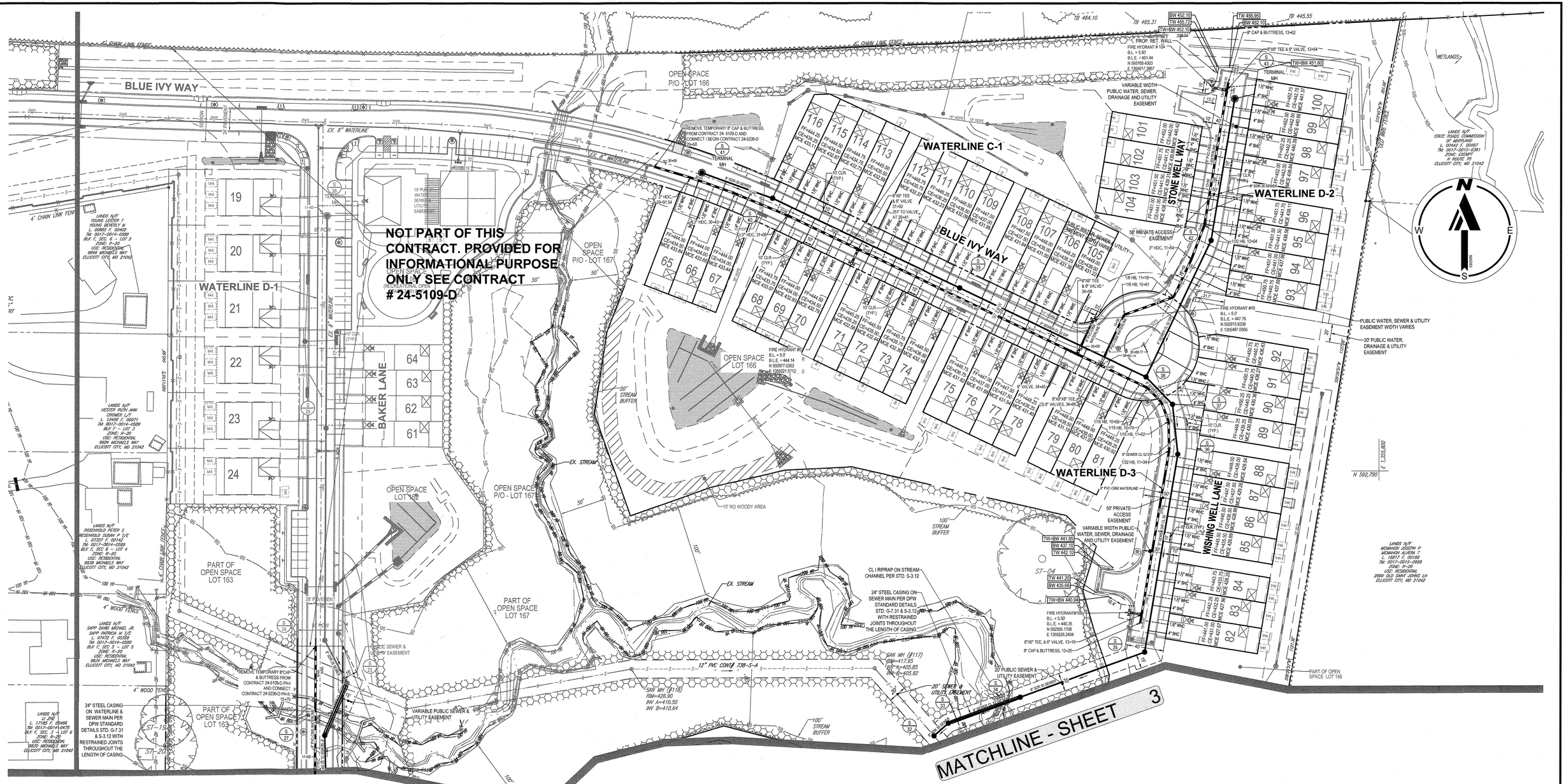
REV.	DATE	DESCRIPTION	BY

TITLE SHEET

PARCEL NO. 34
600' SCALE MAP NO. 30 BLOCK NO. 9

BETHANY GLEN - PHASE II
LOTS 25-60, 65-116
AND OPEN SPACE LOTS 164 THRU 167
9891 OLD FREDERICK ROAD - RTE. 99, ELLICOTT CITY, MD
TAX MAP 17, GRID 15, PARCEL 34
2ND ELECTION DISTRICT
HOWARD COUNTY
CONTRACT NO.: 24-5236-D

SCALE: AS SHOWN



PUBLIC WATER & PUBLIC SEWER PLAN

SCALE: 1" = 50'

50 25 12.5 0 50

1"= 50'

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE. IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL - 811
(WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-282-8555)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

3/13/2024

CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

4/3/24

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

BOHLER //

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Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

B.R. ROWE

3/14/24

PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 40808
PROFESSIONAL CERTIFICATION:
I, BRANDON R. ROWE, 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. 40808, EXPIRATION DATE: 7/3/2025

DES:
DRN:
CK: B.R.R.
DATE: 03/01/24

REV.	DATE	DESCRIPTION	BY

PUBLIC 8" WATER MAIN & 8" SEWER MAIN PLAN

PARCEL NO. 34
600' SCALE MAP NO. 30 BLOCK NO. 9

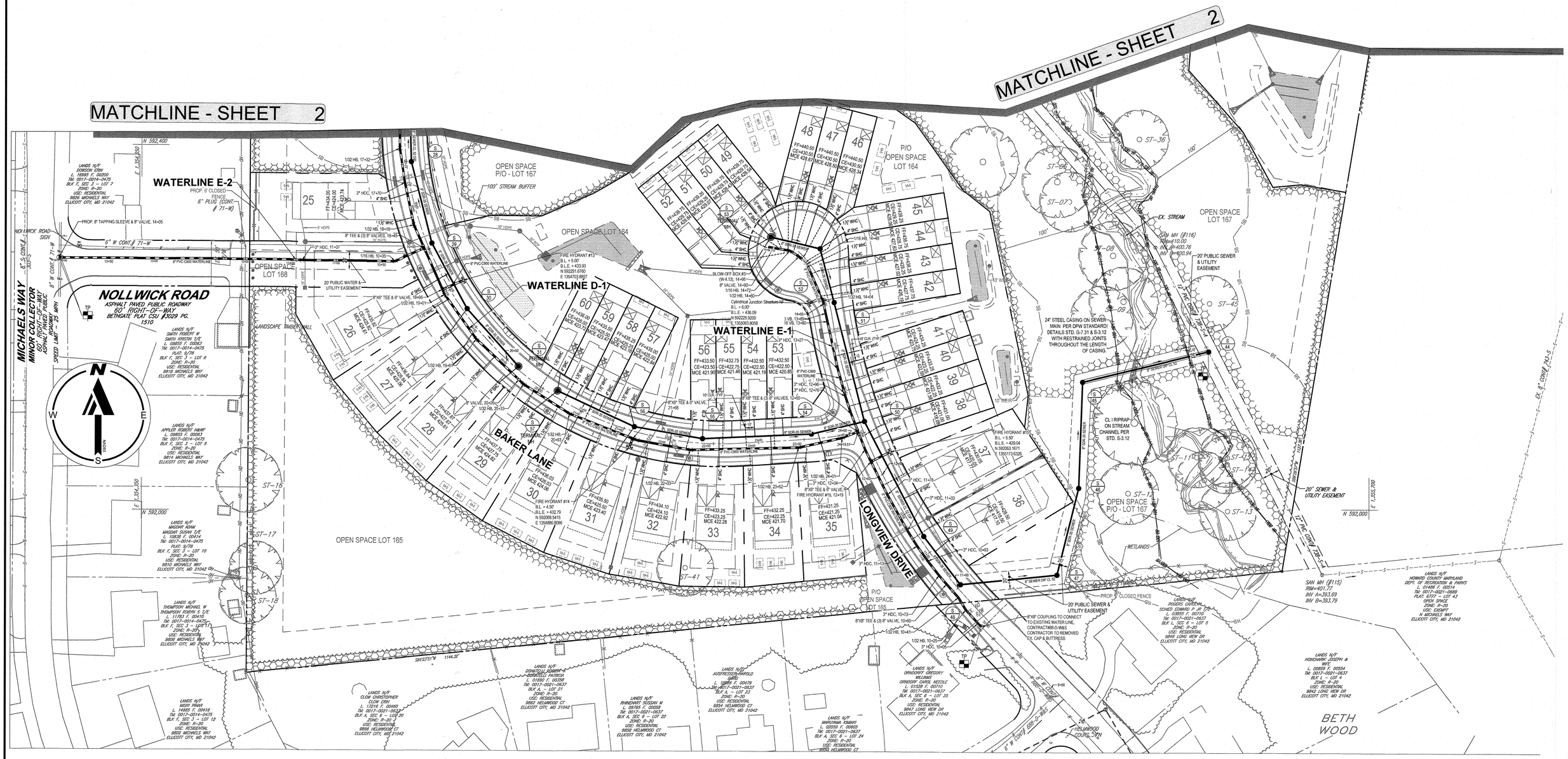
BETHANY GLEN - PHASE II

LOTS 25-60, 65-116
AND OPEN SPACE LOTS 164 THRU 167

9891 OLD FREDERICK ROAD - RTE. 99, ELLICOTT CITY, MD
TAX MAP 17, GRID 15, PARCEL 34
2ND ELECTION DISTRICT
HOWARD COUNTY
CONTRACT NO.: 24-5236-D

SCALE 1"=50'

SHEET 2 OF 8



PUBLIC WATER & PUBLIC SEWER PLAN

SCALE: 1" = 50'

50 25 12.5 0 50

1"= 50'

NOTE:

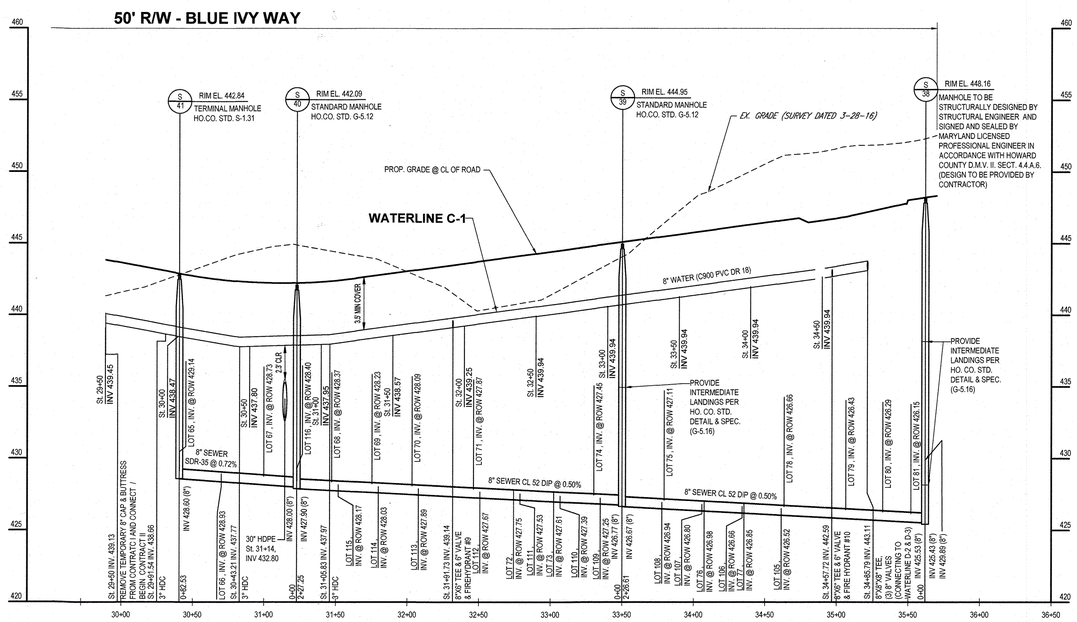
CONTRACTOR TO VERIFY ALL STRUCTURE SIZES PRIOR TO ORDERING.

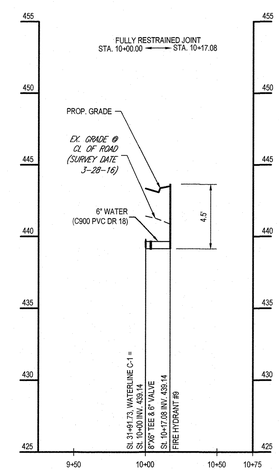
TEST PIT NOTE

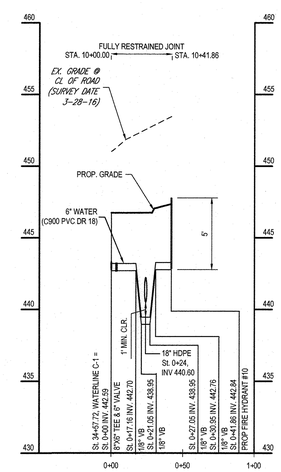
TP CONTRACTOR TO TEST PIT 2 FEET BELOW PROPOSED UTILITY OR UNTIL EXACT LOCATION OF EXISTING UTILITY IS IDENTIFIED AND SUBMIT ANY DISCREPANCIES TO BOHLER ENGINEERING IN WRITING.

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE, IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL - 811
(WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-282-8555)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND	BOHLER //	B.R. ROWE					PUBLIC 8" WATER MAIN & 8" SEWER MAIN PLAN	BETHANY GLEN - PHASE II	SCALE
3/13/2024	4-3-24	901 DULANEY VALLEY ROAD, SUITE 801 TOWSON, MARYLAND 21204 Phone: (410) 821-7900 Fax: (410) 821-7987 MD@BohlerEng.com	PROFESSIONAL ENGINEER MARYLAND LICENSE No. 40808 PROFESSIONAL CERTIFICATION I, BRANDON R. ROWE, 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. 40808, EXPIRATION DATE: 7/3/2025	DES:				PARCEL NO. 34	LOTS 25-60, 65-116 AND OPEN SPACE LOTS 164 THRU 167	1"=50'
CHIEF, BUREAU OF UTILITIES DATE	CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE			DRN:					9891 OLD FREDERICK ROAD - RTE. 99, ELLICOTT CITY, MD TAX MAP 17, GRID 15, PARCEL 34 2ND ELECTION DISTRICT HOWARD COUNTY CONTRACT NO.: 24-5236-D	SHEET
				CK: B.R.R.						3 OF 8
				DATE: 03/01/24	REV.	DATE	DESCRIPTION	BY 600' SCALE MAP NO. 30 BLOCK NO. 9		







50 25 12.5 0 50
1"= 50'

5 2.5 1.25 0 5
1"= 5'

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(WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-282-8555)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

3/13/2024
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

4-3-24
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BOHLER //
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

B.R. ROWE
3/01/24
PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 40868
PROFESSIONAL CERTIFICATION
I, BRANDON R. ROWE, 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. 40868, EXPIRATION DATE: 7/3/2025

DES:
DRN:
CK: B.R.R.
DATE: 03/01/24

REV.	DATE	DESCRIPTION	BY

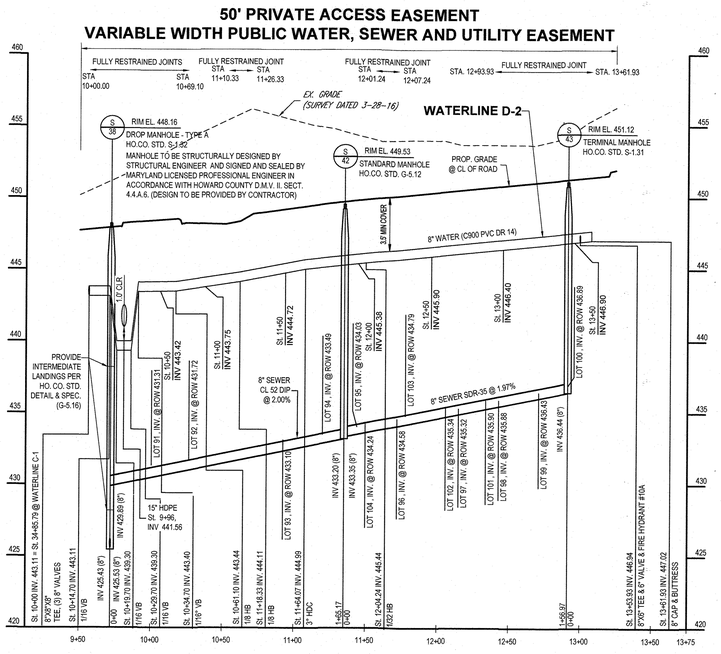
PUBLIC 8" WATER MAIN & 8" SEWER MAIN PROFILES

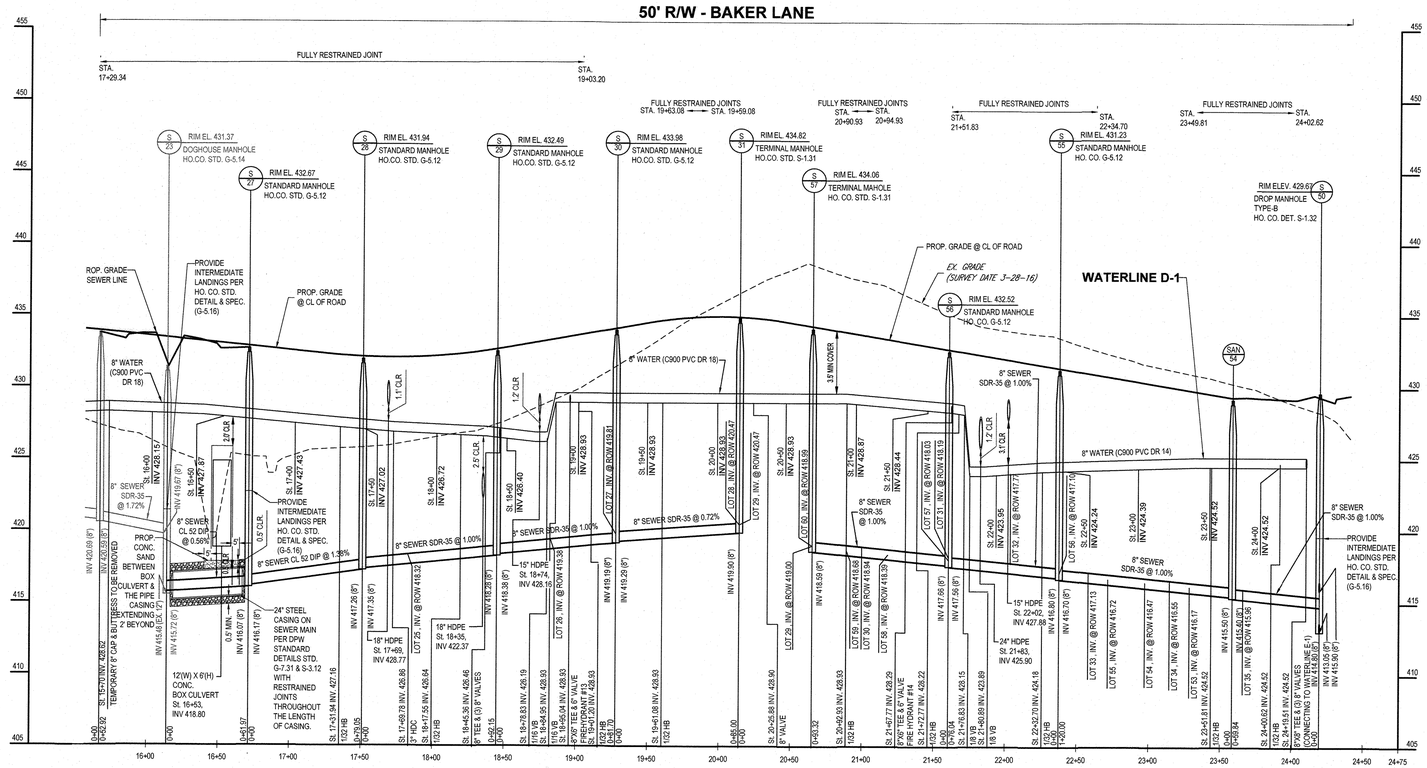
PARCEL NO. 34
600' SCALE MAP NO. 30 BLOCK NO. 9

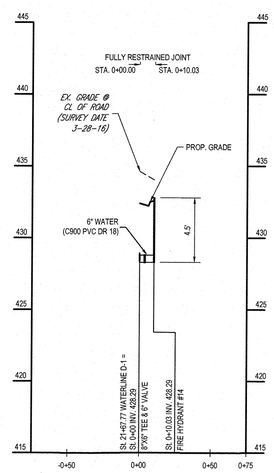
BETHANY GLEN - PHASE II
LOTS 25-60, 65-116
AND OPEN SPACE LOTS 164 THRU 167
9891 OLD FREDERICK ROAD - RTE. 99, ELLICOTT CITY, MD
TAX MAP 17, GRID 15, PARCEL 34
2ND ELECTION DISTRICT
HOWARD COUNTY
CONTRACT NO.: 24-5236-D

SCALE
H=1"=50'
V=1"=5'

SHEET
4 OF 8

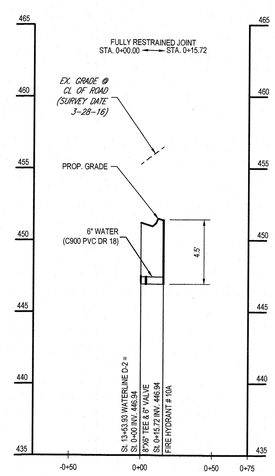






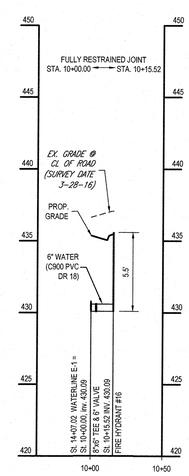
FH#14 - PROFILE

SCALE: 1"= 50' HORIZONTAL
1"= 5' VERTICAL



FH#10 A - PROFILE

SCALE: 1"= 50' HORIZONTAL
1"= 5' VERTICAL



FH#16 - PROFILE

SCALE: 1"= 50' HORIZONTAL
1"= 5' VERTICAL

50 25 12.5 0 50
1"= 50'

5 2.5 1.25 0 5
1"= 5'

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/13/2024 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND 4-3-24 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	**BOHLER //** 901 DULANEY VALLEY ROAD, SUITE 801 TOWSON, MARYLAND 21204 Phone: (410) 821-7900 Fax: (410) 821-7987 MD@BohlerEng.com	B.R. ROWE 3/01/24 PROFESSIONAL ENGINEER MARYLAND LICENSE No. 40868 PROFESSIONAL CERTIFICATION I, BRANDON R. ROWE, 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. 40868, EXPIRATION DATE: 03/2025

DES:
DRN:
CK: B.R.R.
DATE: 03/01/24

REV.	DATE	DESCRIPTION	BY

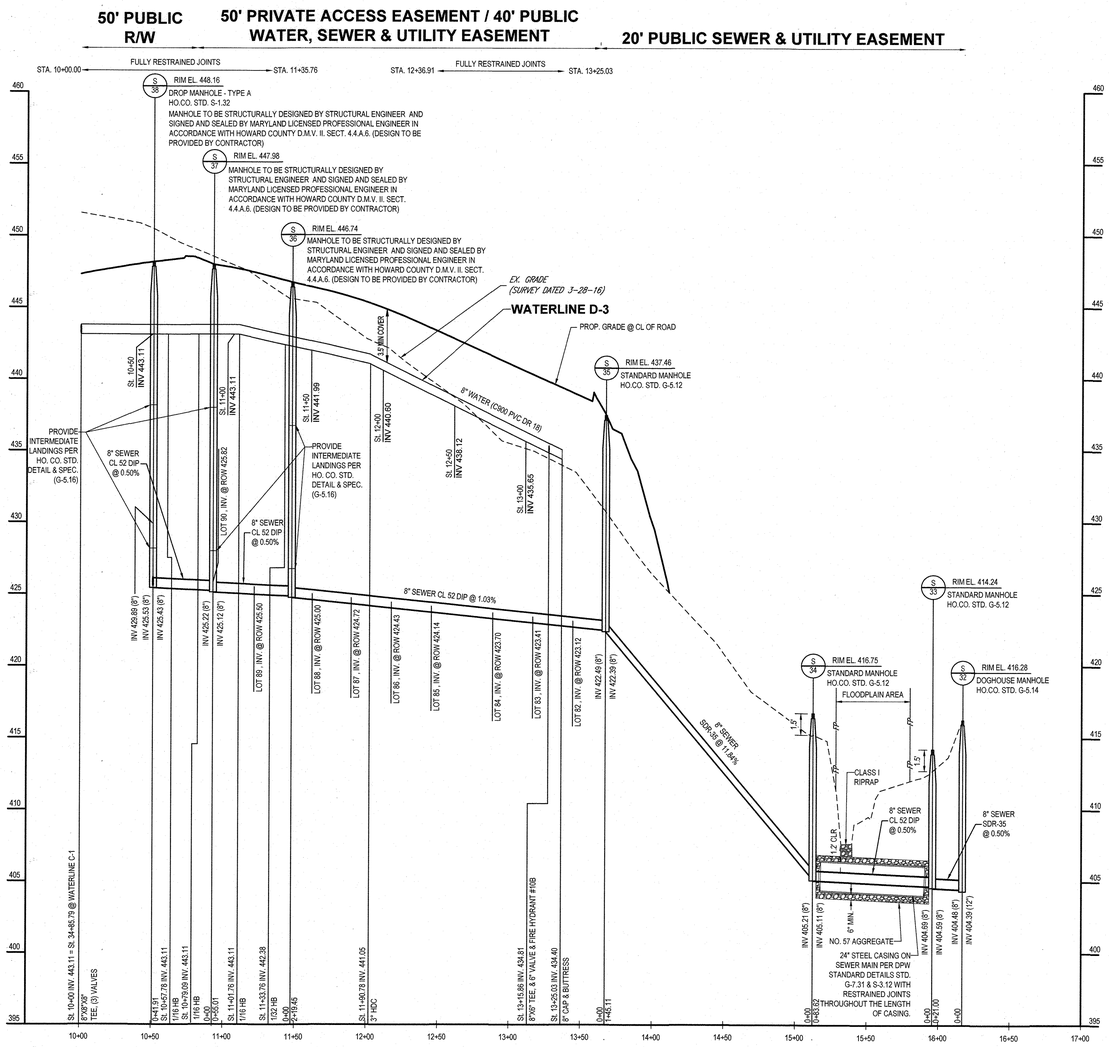
PUBLIC 8" WATER MAIN & 8" SEWER MAIN PROFILES

PARCEL NO. 34
600' SCALE MAP NO. 30 BLOCK NO. 9

BETHANY GLEN - PHASE II
LOTS 25-60, 65-116
AND OPEN SPACE LOTS 164 THRU 167
9891 OLD FREDERICK ROAD - RTE. 99, ELLICOTT CITY, MD
TAX MAP 17, GRID 15, PARCEL 34
2ND ELECTION DISTRICT
HOWARD COUNTY
CONTRACT NO.: 24-5236-D

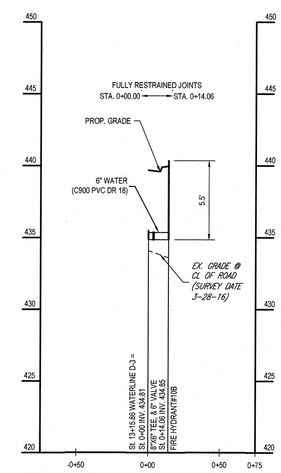
SCALE H=1"=50' V=1"=5'

SHEET 5 OF 8



PUBLIC SEWER FROM S-32 TO S-38 AND PUBLIC WATER D-3

SCALE: 1"= 50 ' HORIZONTAL
1"= 5 ' VERTICAL



FH#10 B - PROFILE

SCALE: 1"= 50 ' HORIZONTAL
1"= 5 ' VERTICAL

50 25 12.5 0 50
1"= 50'

5 2.5 1.25 0 5
1"= 5'

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

3/13/2024
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

4-3-24
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BOHLER //
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

B.R. ROWE
PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 40608
"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. 40608, EXPIRATION DATE: 1/2/2025"
3/01/24

DES:
DRN:
CK: B.R.R.
DATE: 03/01/24

REV.	DATE	DESCRIPTION	BY

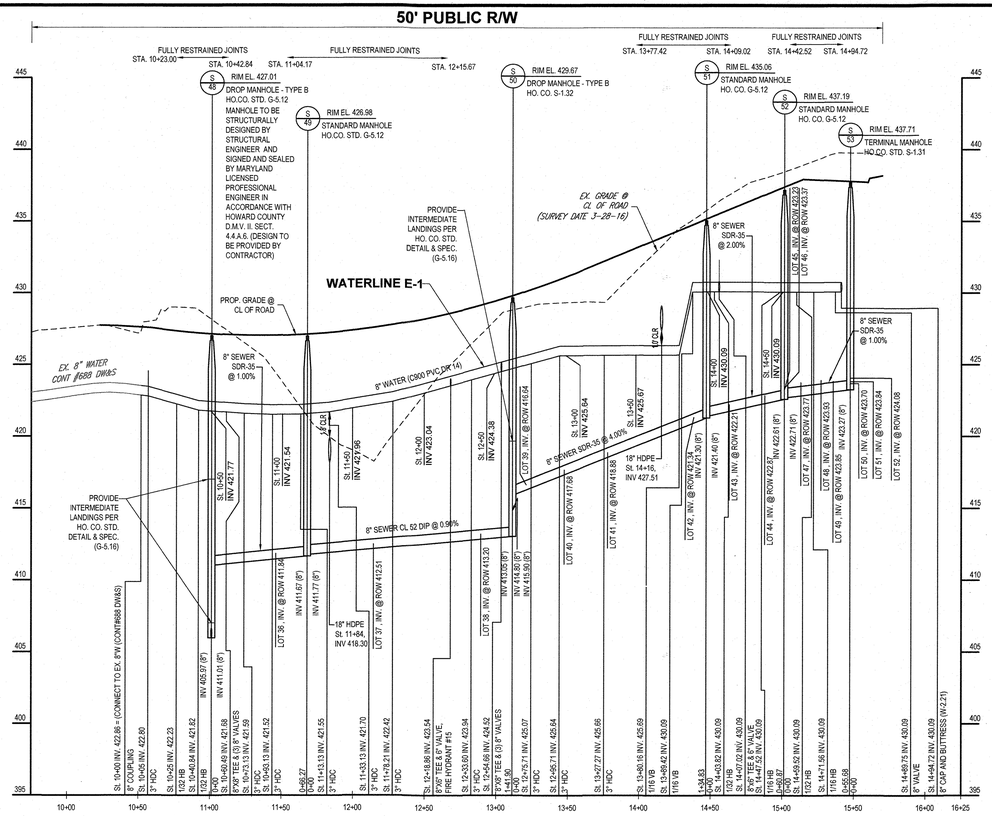
PUBLIC 8" WATER MAIN & 8" SEWER MAIN PROFILES

PARCEL NO. 34
600' SCALE MAP NO. 30 BLOCK NO. 9

BETHANY GLEN - PHASE II
LOTS 25-60, 65-116
AND OPEN SPACE LOTS 164 THRU 167
9891 OLD FREDERICK ROAD - RTE. 99, ELLICOTT CITY, MD
TAX MAP 17, GRID 15, PARCEL 34
2ND ELECTION DISTRICT
HOWARD COUNTY
CONTRACT NO.: 24-5236-D

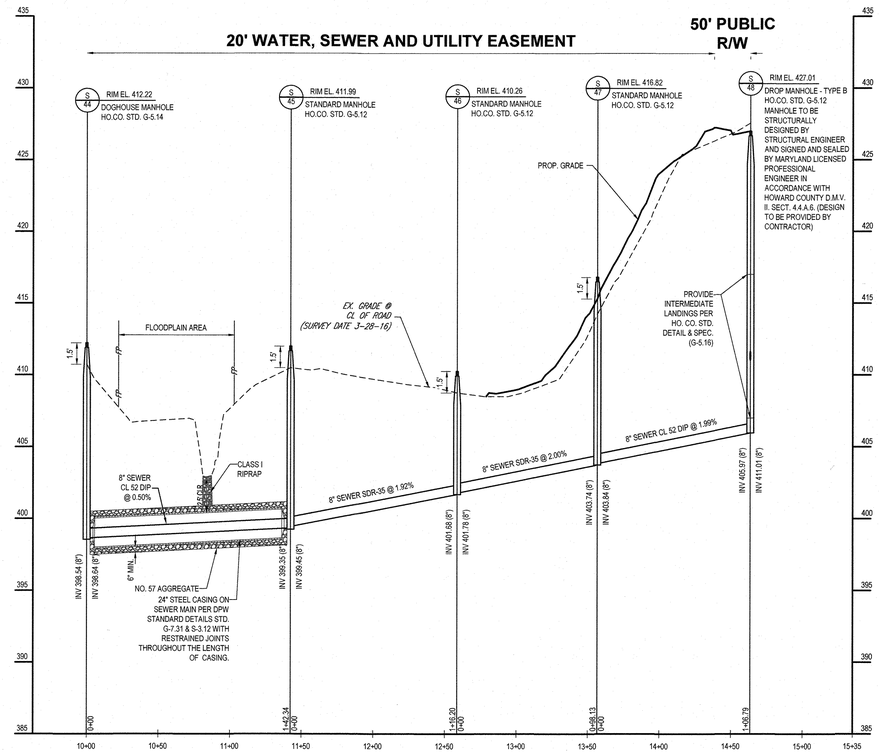
SCALE
H=1"=50'
V=1"=5'

SHEET
6 OF 8



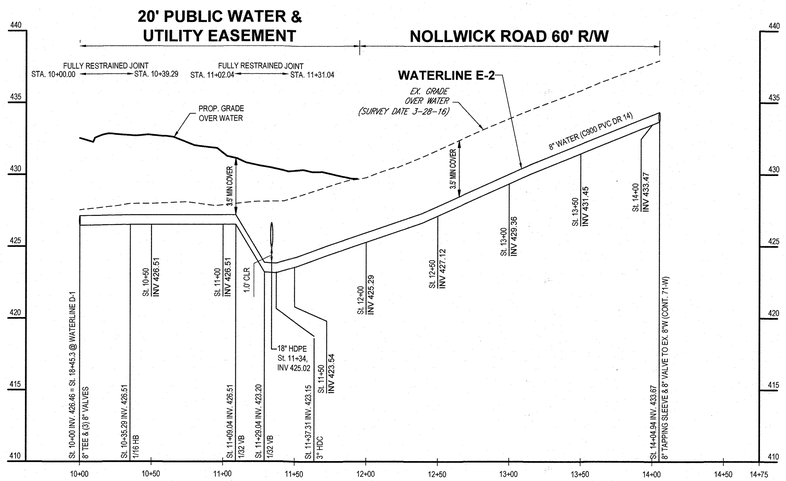
PUBLIC SEWER FROM S-48 TO S-53 AND PUBLIC WATERLINE E-1

SCALE: 1"= 50' HORIZONTAL
1"= 5' VERTICAL



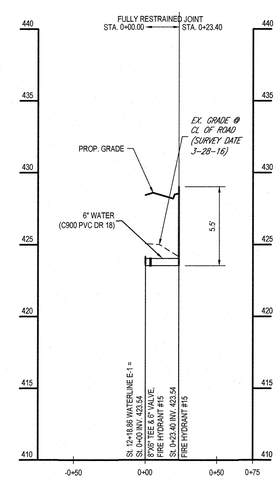
SEWER FROM S-44 TO S-48

SCALE: 1"= 50' HORIZONTAL
1"= 5' VERTICAL



PUBLIC WATERLINE E-2

SCALE: 1"= 50' HORIZONTAL
1"= 5' VERTICAL



FH#15 - PROFILE

SCALE: 1"= 50' HORIZONTAL
1"= 5' VERTICAL

1"= 50'

1"= 5'

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

3/13/2024
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

4-3-24
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BOHLER //
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

B.R. ROWE
PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 45909
PROFESSIONAL CERTIFICATION
I, BRANDON R. ROWE, 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. 45909, EXPIRATION DATE: 7/3/2025

DES:
DRN:
CK: B.R.R.
DATE: 03/01/24

REV.	DATE	DESCRIPTION	BY

PUBLIC 8" WATER MAIN & 8" SEWER MAIN PROFILES

PARCEL NO. 34
600' SCALE MAP NO. 30 BLOCK NO. 9

BETHANY GLEN - PHASE II

LOTS 25-60, 65-116
AND OPEN SPACE LOTS 164 THRU 167

9891 OLD FREDERICK ROAD - RTE. 99, ELLICOTT CITY, MD
TAX MAP 17, GRID 15, PARCEL 34
2ND ELECTION DISTRICT
HOWARD COUNTY
CONTRACT NO.: 24-5236-D

SCALE
H=1"=50'
V=1"=5'

SHEET
7 OF 8

SEWER STRUCTURE SCHEDULE

NAME	TYPE	RIM ELEV. (FT.)	INVERTS	COORDINATE
27	STANDARD MANHOLE HO.CO. STD. G-5.12	432.67'	INV IN = 416.16' (8") INV OUT = 416.06' (8")	N 592460.592 E 1354644.276
28	STANDARD MANHOLE HO.CO. STD. G-5.12	431.94'	INV IN = 417.35' (8") INV OUT = 417.26' (8")	N 592381.575 E 1354646.485
29	STANDARD MANHOLE HO.CO. STD. G-5.12	432.49'	INV IN = 418.37' (8") INV OUT = 418.27' (8")	N 592292.258 E 1354669.145
30	STANDARD MANHOLE HO.CO. STD. G-5.12	433.98'	INV IN = 419.28' (8") INV OUT = 419.19' (8")	N 592220.439 E 1354708.089
31	TERMINAL MANHOLE HO.CO. STD. S-1.31	434.82'	INV OUT = 419.90' (8")	N 592157.041 E 1354764.708
32	DOGHOUSE MANHOLE HO.CO. STD. G-5.14	416.28'	INV IN = 404.48' (8")	N 592460.309 E 1355312.507
33	STANDARD MANHOLE HO.CO. STD. G-5.12	414.24'	INV IN = 404.69' (8") INV OUT = 404.59' (8")	N 592474.220 E 1355328.244
34	STANDARD MANHOLE HO.CO. STD. G-5.12	416.75'	INV IN = 405.21' (8") INV OUT = 405.11' (8")	N 592502.577 E 1355406.907
35	STANDARD MANHOLE HO.CO. STD. G-5.12	437.46'	INV IN = 422.49' (8") INV OUT = 422.39' (8")	N 592551.789 E 1355543.420
36	STANDARD MANHOLE HO.CO. STD. G-5.12	446.74'	INV IN = 424.84' (8") INV OUT = 424.74' (8")	N 592768.265 E 1355579.448
37	STANDARD MANHOLE HO.CO. STD. G-5.12	447.98'	INV IN = 425.22' (8") INV OUT = 425.12' (8")	N 592822.963 E 1355573.594
38	DROP MANHOLE - TYPE A HO.CO. STD. S-1.32	448.16'	INV IN = 425.53' (8")	N 592853.151 E 1355544.527
39	STANDARD MANHOLE HO.CO. STD. G-5.12	444.95'	INV IN = 426.76' (8") INV OUT = 426.66' (8")	N 592950.561 E 1355339.920
40	STANDARD MANHOLE HO.CO. STD. G-5.12	442.09'	INV IN = 428.00' (8") INV OUT = 427.90' (8")	N 593048.247 E 1355134.735
41	TERMINAL MANHOLE HO.CO. STD. S-1.31	442.84'	INV OUT = 428.59' (8")	N 593076.141 E 1355057.063
42	STANDARD MANHOLE HO.CO. STD. G-5.12	449.53'	INV IN = 433.34' (8") INV OUT = 433.19' (8")	N 593002.234 E 1355615.636
43	TERMINAL MANHOLE HO.CO. STD. S-1.31	451.12'	INV OUT = 436.43' (8")	N 593157.074 E 1355641.406
44	DOGHOUSE MANHOLE HO.CO. STD. G-5.14	412.22'	INV IN = 398.64' (8")	N 592173.322 E 1355523.526
45	STANDARD MANHOLE HO.CO. STD. G-5.12	411.99'	INV IN = 399.45' (8") INV OUT = 399.35' (8")	N 592139.984 E 1355385.149
46	STANDARD MANHOLE HO.CO. STD. G-5.12	410.26'	INV IN = 401.78' (8") INV OUT = 401.68' (8")	N 592023.851 E 1355381.065
47	STANDARD MANHOLE HO.CO. STD. G-5.12	416.82'	INV IN = 403.84' (8") INV OUT = 403.74' (8")	N 591928.608 E 1355357.441
48	DROP MANHOLE - TYPE B HO.CO. STD. G-5.12	427.01'	INV IN = 411.01' (8") INV OUT = 405.97' (8")	N 591918.183 E 1355251.166
49	STANDARD MANHOLE HO.CO. STD. G-5.12	426.98'	INV IN = 411.77' (8") INV OUT = 411.67' (8")	N 591970.737 E 1355210.791
50	DROP MANHOLE - TYPE B HO. CO. S-1.32	429.67'	INV IN = 415.90 (8") INV IN = 414.80 (8") INV. OUT = 413.04 (8")	N 592096.598 E 1355145.254
51	STANDARD MANHOLE HO. CO. G-5.12	435.06'	INV IN = 421.39' (8") INV OUT = 421.29' (8")	N 592227.182 E 1355111.671
52	STANDARD MANHOLE HO. CO. G-5.12	437.19'	INV IN = 422.71' (8") INV OUT = 422.61' (8")	N 592286.040 E 1355096.153
53	TERMINAL MANHOLE HO.CO. STD. S-1.31	437.71'	INV OUT = 423.27' (8")	N 592299.000 E 1355042.000
54	STANDARD MANHOLE HO. CO. G-5.12	429.21'	INV IN = 415.50' (8") INV OUT = 415.40' (8")	N 592082.794 E 1355087.026
55	STANDARD MANHOLE HO. CO. G-5.12	431.23'	INV IN = 416.80' (8") INV OUT = 416.70' (8")	N 592077.722 E 1354967.134
56	STANDARD MANHOLE HO. CO. G-5.12	432.52'	INV IN = 417.66' (8") INV OUT = 417.56' (8")	N 592090.846 E 1354892.238
57	TERMINAL MAHOLE HO. CO. STD. S-1.31	434.06'	INV OUT = 418.59' (8")	N 592130.371 E 1354807.706

WATERLINE C-1 MAIN FITTINGS CHART

WATER MAIN CL STATION	FITTINGS	COORDINATES
St. 29+50 WATERLINE C-1	8" CAP & BUTTRESS	N 593082.762 E 1355005.115
St. 29+92 WATERLINE C-1	3" HDC	N 593070.865 E 1355044.918
St. 30+43 WATERLINE C-1	3" HDC	N 593053.497 E 1355093.581
St. 31+06 WATERLINE C-1	3" HDC	N 593029.389 E 1355151.377
St. 31+92 WATERLINE C-1	6"X6" TEE & 6" VALVE	N 592992.447 E 1355228.918
St. 31+92 WATERLINE C-1	FIRE HYDRANT #9	N 592977.030 E 1355221.571
St. 34+58 WATERLINE C-1	6"X6" TEE & 6" VALVE	N 592878.042 E 1355469.048
St. 34+58 WATERLINE C-1	PROP FIRE HYDRANT #10	N 592915.834 E 1355487.057
St. 34+86 WATERLINE C-1	8"X8"X8" TEE, (3) 8" VALVES	N 592865.963 E 1355494.395

WALTERLINE D-1 FITTINGS CHART

WATER MAIN CL STATION	FITTINGS	COORDINATES
St. 15+70 WATERLINE D-1	TEMPORARY 8"CAP & BUTTRESS	N 592558.323 E 1354634.239
St. 17+32 WATERLINE D-1	1/32 HB	N 592396.380 E 1354633.591
St. 17+70 WATERLINE D-1	3" HDC	N 592358.997 E 1354639.430
St. 18+18 WATERLINE D-1	1/32 HB	N 592312.278 E 1354649.390
St. 18+45 WATERLINE D-1	8" TEE & (3) 8" VALVES	N 592286.884 E 1354660.725
St. 18+79 WATERLINE D-1	1/16 VB	N 592256.321 E 1354674.367
St. 18+85 WATERLINE D-1	1/16 VB	N 592250.731 E 1354676.862
St. 19+95 WATERLINE D-1	8"X8" TEE & 8" VALVE	N 592241.513 E 1354690.977
St. 19+95 WATERLINE D-1	FIRE HYDRANT #13	N 592251.676 E 1354703.886
St. 19+01 WATERLINE D-1	1/32 HB	N 592235.888 E 1354683.488
St. 19+61 WATERLINE D-1	1/32 HB	N 592187.138 E 1354716.259
St. 20+26 WATERLINE D-1	8" VALVE	N 592142.441 E 1354785.177
St. 20+93 WATERLINE D-1	1/32 HB	N 592105.295 E 1354820.858
St. 21+68 WATERLINE D-1	8"X8" TEE & 8" VALVE	N 592077.874 E 1354890.484
St. 21+73 WATERLINE D-1	1/32 HB	N 592076.042 E 1354895.136
St. 21+77 WATERLINE D-1	1/8 VB	N 592075.313 E 1354899.129
St. 21+81 WATERLINE D-1	1/8 VB	N 592074.582 E 1354903.131
St. 22+33 WATERLINE D-1	1/32 HB	N 592065.415 E 1354954.115
St. 23+52 WATERLINE D-1	1/32 HB	N 592067.888 E 1355073.205
St. 24+01 WATERLINE D-1	1/32 HB	N 592078.622 E 1355120.823

WATER MAIN D-2 FITTINGS CHART

WATER MAIN CL STATION	FITTINGS	COORDINATES
St. 10+15 WATERLINE D-2	1/16 VB	N 592879.238 E 1355000.721
St. 10+20 WATERLINE D-2	1/16 VB	N 592883.752 E 1355002.872
St. 10+30 WATERLINE D-2	1/16 VB	N 592892.779 E 1355007.173
St. 10+35 WATERLINE D-2	1/16" VB	N 592897.293 E 1355009.324
St. 10+61 WATERLINE D-2	1/8 HB	N 592921.123 E 1355020.680
St. 11+18 WATERLINE D-2	1/8 HB	N 592940.245 E 1355074.619
St. 11+64 WATERLINE D-2	3" HDC	N 592981.591 E 1355094.172
St. 12+04 WATERLINE D-2	1/32 HB	N 593019.193 E 1355608.321
St. 13+54 WATERLINE D-2	8"X6" TEE & 6" VALVE	N 593166.949 E 1355632.895
St. 13+54 WATERLINE D-2	FIRE HYDRANT # 10A	N 593169.430 E 1355617.367
St. 13+62 WATERLINE D-2	8" CAP & BUTTRESS	N 593174.741 E 1355634.209

WATER MAIN D-3 FITTINGS CHART

WATER MAIN CL STATION	FITTINGS	COORDINATES
St. 10+58 WATERLINE D-3	1/16 HB	N 592841.109 E 1355546.552
St. 10+79 WATERLINE D-3	1/16 HB	N 592825.651 E 1355561.230
St. 11+02 WATERLINE D-3	1/16 HB	N 592804.495 E 1355585.358
St. 11+34 WATERLINE D-3	1/32 HB	N 592772.500 E 1355670.000
St. 11+91 WATERLINE D-3	3" HDC	N 592716.254 E 1355560.643
St. 13+16 WATERLINE D-3	FIRE HYDRANT#10B	N 592595.171 E 1355526.249
St. 13+16 WATERLINE D-3	8"X8" TEE, & 6" VALVE	N 592592.864 E 1355540.117
St. 13+25 WATERLINE D-3	8" CAP & BUTTRESS	N 592583.820 E 1355538.612

WATER MAIN E-1 FITTINGS CHART

WATER MAIN CL STATION	FITTINGS	COORDINATES
St. 10+00 WATERLINE E-1	8" COUPLING	N 591872.108 E 1355274.147
St. 10+05 WATERLINE E-1	3" HDC	N 591875.629 E 1355270.597
St. 10+25 WATERLINE E-1	1/32 HB	N 591890.437 E 1355257.154
St. 10+41 WATERLINE E-1	1/32 HB	N 591904.016 E 1355249.000
St. 10+60 WATERLINE E-1	8"X6" TEE & (3) 6" VALVE	N 591918.749 E 1355235.993
St. 10+73 WATERLINE E-1	3" HDC	N 591928.223 E 1355227.636
St. 10+93 WATERLINE E-1	3" HDC	N 591943.894 E 1355215.209
St. 11+13 WATERLINE E-1	3" HDC	N 591960.193 E 1355203.619
St. 11+33 WATERLINE E-1	3" HDC	N 591977.077 E 1355192.898
St. 11+78 WATERLINE E-1	3" HDC	N 592016.348 E 1355170.757
St. 12+19 WATERLINE E-1	8"X6" TEE & 6" VALVE, FIRE HYDRANT #15	N 592052.756 E 1355152.672
St. 12+34 WATERLINE E-1	3" HDC	N 592065.990 E 1355146.114
St. 12+55 WATERLINE E-1	8"X6" TEE & (3) 8" VALVES	N 592085.547 E 1355138.394
St. 12+76 WATERLINE E-1	3" HDC	N 592105.134 E 1355130.674
St. 12+96 WATERLINE E-1	3" HDC	N 592124.099 E 1355124.325
St. 13+27 WATERLINE E-1	3" HDC	N 592154.511 E 1355115.885
St. 13+60 WATERLINE E-1	1/16 VB	N 592206.147 E 1355104.427
St. 13+89 WATERLINE E-1	1/16 VB	N 592215.187 E 1355102.421
St. 14+04 WATERLINE E-1	1/32 HB	N 592229.242 E 1355099.303
St. 14+07 WATERLINE E-1	8"x6" TEE & 6" VALVE	N 592232.174 E 1355098.012
St. 14+07 WATERLINE E-1	Cylindrical Junction Structure NF	N 592225.920 E 1355083.806
St. 14+36 WATERLINE E-1	3" HDC	N 592258.254 E 1355086.531
St. 14+48 WATERLINE E-1	1/16 HB	N 592269.237 E 1355081.698
St. 14+60 WATERLINE E-1	1/32 HB	N 592277.533 E 1355073.026
St. 14+72 WATERLINE E-1	1/16 HB	N 592284.003 E 1355062.867
St. 14+90 WATERLINE E-1	8" VALVE	N 592287.192 E 1355044.995
St. 14+95 WATERLINE E-1	BLOW-OFF BOX #3 (W-4.13)	N 592287.968 E 1355040.057

WATER MAIN E-2 FITTINGS CHART

WATER MAIN CL STATION	FITTINGS	COORDINATES
St. 10+35 WATERLINE E-2	1/16 HB	N 592272.500 E 1354628.500
St. 11+09 WATERLINE E-2	1/32 VB	N 592272.417 E 1354554.757
St. 11+29 WATERLINE E-2	1/32 VB	N 592273.665 E 1354534.761
St. 11+37 WATERLINE E-2	3" HDC	N 592273.768 E 1354526.485
St. 14+05 WATERLINE E-2	PROP. 8" TAPPING SLEEVE & 8" VALVE	N 592276.145 E 1354258.886

SHC TABLE

LOT	FF ELEV.	INV. @ MAIN	SHC LENGTH TO ROW (FT)	SHC SLOPE WITHIN ROW	INVERT @ ROW	SHC SLOPE WITHIN LOT	MAX SHC LENGTH (FT)	2.50 FT BELOW CELLAR	MIN. CELLAR ELEV. (MCE)	CELLAR ELEV.	CONNECTION TYPE
25	434.00	417.66	33.14	2.0%	418.32	2.0%	119.61	2.50	423.22	424.00	STD SHC
26	435.75	418.74	32.17	2.0%	419.38	2.0%	135.55	2.50	424.59	425.75	STD SHC
27	436.50	419.19	30.82	2.0%	419.81	2.0%	133.33	2.50	424.97	426.50	STD SHC
28	436.50	419.90	28.38	2.0%	420.47	2.0%	132.24	2.50	425.61	426.50	STD SHC
29	436.00	419.00	33.51	2.0%	419.67	2.0%	132.35	2.50	424.82	426.00	STD SHC
30	435.00	418.25	34.42	2.0%	418.94	2.0%	131.32	2.50	424.06	425.00	STD SHC
31	435.50	417.66	31.62	2.0%	418.29	2.0%	130.57	2.50	423.40	425.50	STD SHC
32	433.75	417.14	32.65	2.0%	417.79	2.0%	131.47	2.50	422.92	423.75	STD SHC
33	433.00	416.51	31.75	2.0%	417.15	2.0%	131.70	2.50	422.28	423.00	STD SHC
34	432.00	415.94	31.64	2.0%	416.57	2.0%	131.55	2.50	421.70	422.00	STD SHC
35	431.25	415.32	31.66	2.0%	415.95	2.0%	129.30	2.50	421.04	421.25	STD SHC
36	428.00	411.44	20.06	2.0%	411.84	2.0%	137.74	2.50	417.10	418.00	STD SHC
37	429.00	412.18	17.09	2.0%	412.52	2.0%	137.46	2.50	417.77	419.00	STD SHC
38	431.00	412.84	18.33	2.0%	413.21	2.0%	119.18	2.50	418.09	421.00	DROP TYPE A
39	432.25	416.28	19.44	2.0%	416.67	2.0%	120.69	2.50	421.58	422.25	STD SHC
40	433.25	417.32	17.68	2.0%	417.67	2.0%	120.80	2.50	422.59	423.25	STD SHC
41	434.00	418.52	17.05	2.0%	418.86	2.0%	119.55	2.50	423.75	424.00	STD SHC
42	437.75	420.92	20.13	2.0%	421.32	2.0%	118.25	2.50	426.19	427.75	STD SHC
43	438.25	421.70	23.89	2.0%	422.18	2.0%	117.19	2.50	427.02	428.25	STD SHC
44	438.75	422.25	29.14	2.0%	422.83	2.0%	114.80	2.50	427.63	428.75	STD SHC
45	439.25	422.61	32.54	2.0%	423.26	2.0%	114.80	2.50	428.06	429.25	STD SHC
46	439.75	422.71	38.31	2.0%	423.48	2.0%	118.06	2.50	428.34	429.75	STD SHC
47	439.75	422.86	46.47	2.0%	423.79	2.0%	110.51	2.50	428.50	429.75	STD SHC
48	440.25	423.03	45.58	2.0%	423.94	2.0%	111.18	2.50	428.67	430.25	STD SHC
49	439.75	423.12	36.47	2.0%	423.85	2.0%	109.59	2.50	428.54	429.75	STD SHC
50	439.75	423.27	21.69	2.0%	423.70	2.0%	111.52	2.50	428.43	429.75	STD SHC
51	439.75	423.27	28.62	2.0%	423.84	2.0%	136.34	2.50	429.07	429.75	STD SHC
52	439.75	423.27	40.26	2.0%	424.08	2.0%	163.52	2.50	429.85	429.75	STD SHC
53	431.75	415.79	19.38	2.0%	416.18	2.0%	108.78	2.50	420.85	421.75	STD SHC
54	431.75	416.11	18.90	2.0%	416.49	2.0%	110.12	2.50	421.19	421.75	STD SHC
55	432.75	416.37	18.06	2.0%	416.73	2.0%	111.27	2.50	421.46	422.75	STD SHC
56	433.25	416.80	19.97	2.0%	417.20	2.0%	110.12	2.50	421.90	423.25	STD SHC
57	435.00	417.66	23.28	2.0%	418.13	2.0%	110.80	2.50	422.84	425.00	STD SHC
58	435.25	418.07	15.87	2.0%	418.39	2.0%	113.53	2.50	423.16	425.25	STD SHC
59	435.25	418.36	16.83	2.0%	418.70	2.0%	113.64	2.50	423.47	425.25	STD SHC
60	436.00	418.59	19.88	2.0%	418.99	2.0%	111.52	2.50	423.72	426.00	STD SHC
65	444.50	428.60	27.14	2.0%	429.14	2.0%	109.83	2.50	433.84	434.50	STD SHC
66	444.00	428.39	27.83	2.0%	428.95	2.0%	110.17	2.50	433.65	434.00	STD SHC
67	444.00	428.17	28.94	2.0%	428.75	2.0%	109.66	2.50	433.44	434.00	STD SHC
68	445.25	427.78	30.26	2.0%	428.39	2.0%	109.44	2.50	433.07	435.25	STD SHC
69	444.00	427.64	30.26	2.0%	428.25	2.0%	109.43	2.50	432.93	434.00	STD SHC
70	444.25	427.50	30.26	2.0%	428.10	2.0%	109.43	2.50	432.79	434.25	STD SHC
71	445.25	427.28	30.26	2.0%	427.89	2.0%	109.43	2.50	432.58	435.25	DROP TYPE A
72	445.50	427.14	30.26	2.0%	427.75	2.0%	109.42	2.50	432.44	435.50	DROP TYPE A
73	445.75	427.00	30.26	2.0%	427.61	2.0%	109.42	2.50	432.30	435.75	DROP TYPE A
74	446.00	426.86	30.26	2.0%	427.47	2.0%	109.42	2.50	432.16	436.00	DROP TYPE A
75	446.50	426.53	30.26	2.0%	427.13	2.0%	109.42	2.50	431.82	436.50	DROP TYPE A
76	447.00	426.39	30.26	2.0%	426.99	2.0%	109.42	2.50	431.68	437.00	DROP TYPE A
77	447.25	426.25	30.26	2.0%	426.85	2.0%	109.42	2.50	431.54	437.25	DROP TYPE A
78	447.75	426.06	29.92	2.0%	426.65	2.0%	109.42	2.50	431.35	437.75	DROP TYPE A
79	448.50	425.83	29.94	2.0%	426.43	2.0%	109.42	2.50	431.12	438.50	DROP TYPE A
80	448.75	425.69	29.95	2.0%	426.29	2.0%	110.45	2.50	431.00	438.75	DROP TYPE A
81	449.00	425.58	28.50	2.0%	426.15	2.0%	109.42	2.50	430.84	439.00	DROP TYPE A
82	441.00	422.72	20.00	2.0%	423.12	2.0%	112.00	2.50	427.96	431.00	DROP TYPE A
83	442.00	423.01	20.00	2.0%	423.41	2.0%	112.00	2.50	428.15	432.00	DROP TYPE A
84	443.25	423.30	20.00	2.0%	423.70	2.0%	112.00	2.50	428.44	433.25	DROP TYPE A
85	445.50	423.74	20.00	2.0%	424.14	2.0%	112.00	2.50	428.88	435.50	DROP TYPE A
86	446.50	424.03	20.00	2.0%	424.43	2.0%	112.00	2.50	429.17	436.50	DROP TYPE A
67	447.50	424.32	20.00	2.0%	424.72	2.0%	112.00	2.50	429.46	437.50	DROP TYPE A
88	448.00	424.60	20.00	2.0%	425.00	2.0%	112.00	2.50	429.74	438.00	DROP TYPE A
89	449.25	424.97	26.41	2.0%	425.50	2.0%	115.94	2.50	430.32	439.25	DROP TYPE A
90	450.25	425.12	35.09	2.0%	425.82	2.0%	127.71	2.50	430.88	440.25	DROP TYPE A
91	451.00	430.46	42.25	2.0%	431.31	2.0%	121.05	2.50	436.23	441.00	DROP TYPE A
92	450.75	430.99	36.61	2.0%	431.72	2.0%	118.64	2.50	436.60	440.75	DROP TYPE A
93	450.75	432.33	38.30	2.0%	433.10	2.0%	129.77	2.50	438.19	440.75	DROP TYPE A
94	451.00	432.89	30.00	2.0%	433.49	2.0%	120.69	2.50	438.40	441.00	DROP TYPE A
95	451.50	433.52	25.67	2.0%	434.03	2.0%	115.66	2.50	438.85	441.50	DROP TYPE A
96	451.75	434.07	25.67	2.0%	434.58	2.0%	115.66	2.50	439.40	441.75	STD SHC
97	452.00	434.92	20.00	2.0%	435.32	2.0%	110.00	2.50	440.02	442.00	STD SHC
98	452.25	435.48	20.00	2.0%	435.88	2.0%	110.00	2.50	440.58	442.25	STD SHC
99	452.50	436.03	20.00	2.0%	436.43	2.0%	110.00	2.50	441.13	442.50	STD SHC
100	452.75	436.43	21.73	2.0%	436.86	2.0%	110.00	2.50	441.56	442.75	STD SHC
101	452.00	435.30	30.00	2.0%	435.90	2.0%	110.00	2.50	440.60	442.00	STD SHC
102	451.75	434.74	30.00	2.0%	435.34	2.0%	110.00	2.50	440.04	441.75	STD SHC
103	451.50	434.19	30.00	2.0%	434.79	2.0%	110.00	2.50	439.49	441.50	STD SHC
104	451.00	433.64	30.00	2.0%	434.24	2.0%	110.00	2.50	438.94	441.00	STD SHC
105	448.25	426.11	20.50	2.0%	426.52	2.0%	110.00	2.50	431.22	438.25	DROP TYPE A
106	448.00	426.25	20.50	2.0%	426.66	2.0%	110.00	2.50	431.36	438.00	DROP TYPE A
107	447.50	426.39	20.50	2.0%	426.80	2.0%	110.00	2.50	431.50	437.50	DROP TYPE A
108	447.00	426.53	20.50	2.0%	426.94	2.0%	110.00	2.50	431.64	437.00	DROP TYPE A
109	446.50	426.84	20.50	2.0%	427.25	2.0%	110.00	2.50	431.95	436.50	DROP TYPE A
110	446.00	426.98	20.50	2.0%	427.39	2.0%	110.00	2.50	432.09	436.00	DROP TYPE A
111	445.75	427.12	20.50	2.0%	427.53	2.0%	110.00	2.50	432.23	435.75	DROP TYPE A
112	445.50	427.26	20.50	2.0%	427.67	2.0%	110.00	2.50	432.37	435.50	DROP TYPE A
113	444.75	427.48	20.50	2.0%	427.89	2.0%	110.00	2.50	432.59	434.75	STD SHC
114	444.50	427.62	20.50	2.0%	428.03	2.0%	110.00	2.50	432.73	434.50	STD SHC
115	444.25	427.76	20.50	2.0%	428.17	2.0%	110.00	2.50	432.87	434.25	STD SHC
116	444.50	428.00	19.87	2.0%	428.40	2.0%	110.00	2.50	433.10	434.50	STD SHC

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE. IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL - 811
(WV: 1-800-245-4848) (PA: 1-800-242-1776) (DC: 1-800-257-7777) (VA 1-800-552-7001) (MD: 1-800-257-7777) (DE: 1-800-282-8555)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

3/13/2024
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

4.9.24
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

BOHLER //
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

B.R. ROWE
PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 49868
PROFESSIONAL CERTIFICATION
I, BRANDON R. ROWE 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. 49868, EXPIRATION DATE: 7/3/2025

DES:
DRN:
CK: B.R.R.
DATE: 03/01/24

REV.	DATE	DESCRIPTION	BY

PUBLIC WATER & SEWER STRUCTURE CHARTS

PARCEL NO. 34
600' SCALE MAP NO. 30 BLOCK NO. 9

BETHANY GLEN - PHASE II

LOTS 25-60, 65-116
AND OPEN SPACE LOTS 164 THRU 167

9891 OLD FREDERICK ROAD - RTE. 99, ELLICOTT CITY, MD
TAX MAP 17, GRID 15, PARCEL 34
2ND ELECTION DISTRICT
HOWARD COUNTY
CONTRACT NO.: 24-5236-D

SCALE
H=1"=50'
V=1"=5'

SHEET
8 OF 8