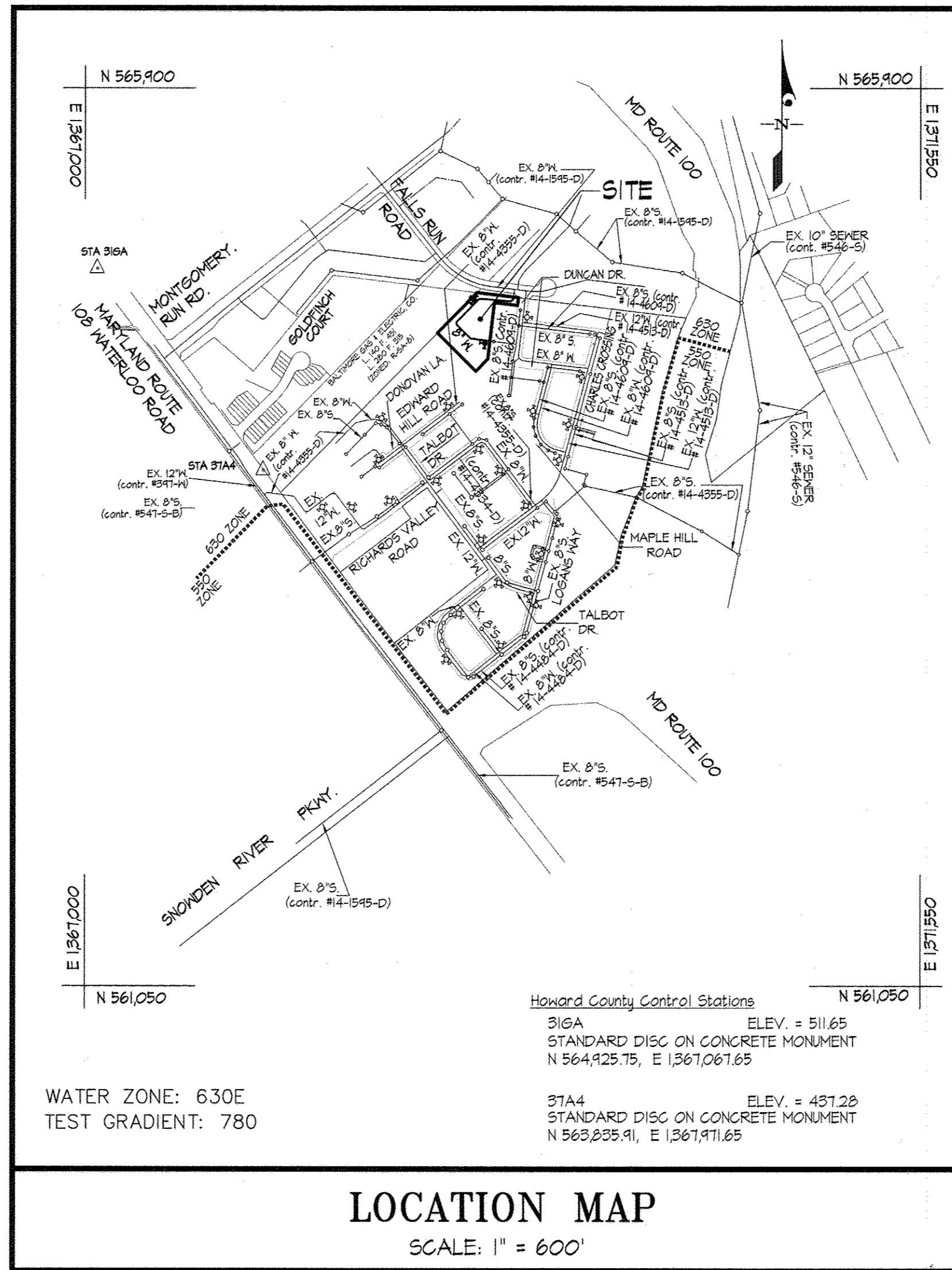


QUANTITIES					
ITEMS	QUANTITIES ESTIMATED	AS-BUILT			MANUFACTURER/SUPPLIER
		QUANTITIES	TYPE		
6" WATER (F.H. LEADS)	32 L.F.	32'			JM EAGLE
8" WATER MAIN (C900 PVC DR 18)	545 L.F.	544'			JM EAGLE
8" CAP	1 EA.	1			STAR PIPE
1 1/2" W/C	217 LF	200'			CAMBRIDGE LEE
8" x 6" F.H.T.	2 EA.	2			STAR PIPE
6" VALVE	2 EA.	2			MUELLER
FIRE HYDRANT	2 EA.	2			MUELLER
8" 1/2" HB	1 EA.	1			STAR PIPE
8" 1/2" HB	6 EA.	6			STAR PIPE
8" 5" SWEEP	2 EA.	2			STAR PIPE
CONTINUITY TEST STATION	2 EA.	2			BINGHAM & TAYLOR

DELAIR ROAD SUPPLY

NAME OF UTILITY CONTRACTOR: BOSLEY

SURVEY AND DRAFTING DIV.	CHECKBOX: AS-BUILT DATE:
--------------------------	--------------------------

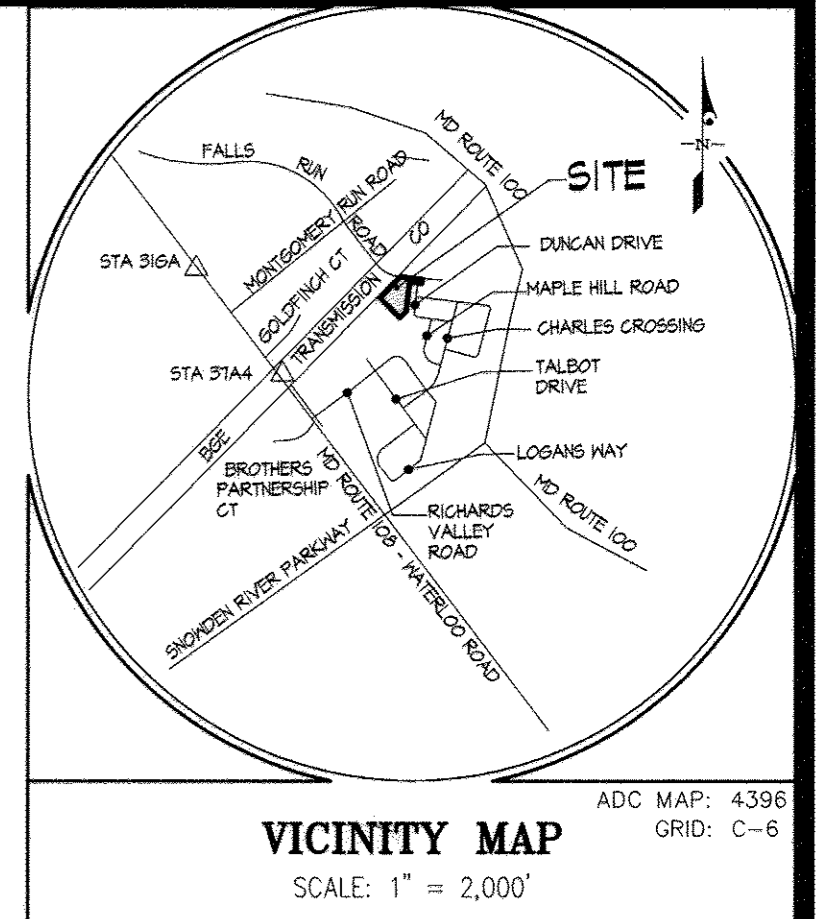


WATER ZONE: 630E  
TEST GRADIENT: 780

LOCATION MAP  
SCALE: 1" = 600'

CONTRACT No. 44-4740-D  
SHIPLEY'S GRANT - PHASE VI  
BUILDABLE PARCEL "D-224" & OPEN SPACE LOT D-225  
(A REVISION TO BUILDABLE PARCEL "D-80",  
SHIPLEY'S GRANT - PHASE VI PLAT NOS. 22373 - 22374)  
HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

TYPE OF BUILDING	RESIDENTIAL
NUMBER OF UNITS	20 CONDOMINIUMS
NUMBER OF S.H.C.'s	N/A
NUMBER OF W.H.C.'s	2 SINGLES & 9 TWINS
AREA OF COMMERCIAL LOT/PARCEL	
SEWER SHED	DORSEY - PATAPSCO
PUMPING STATION	PATAPSCO WASTEWATER TREATMENT PLANT



VICINITY MAP  
SCALE: 1" = 2,000'

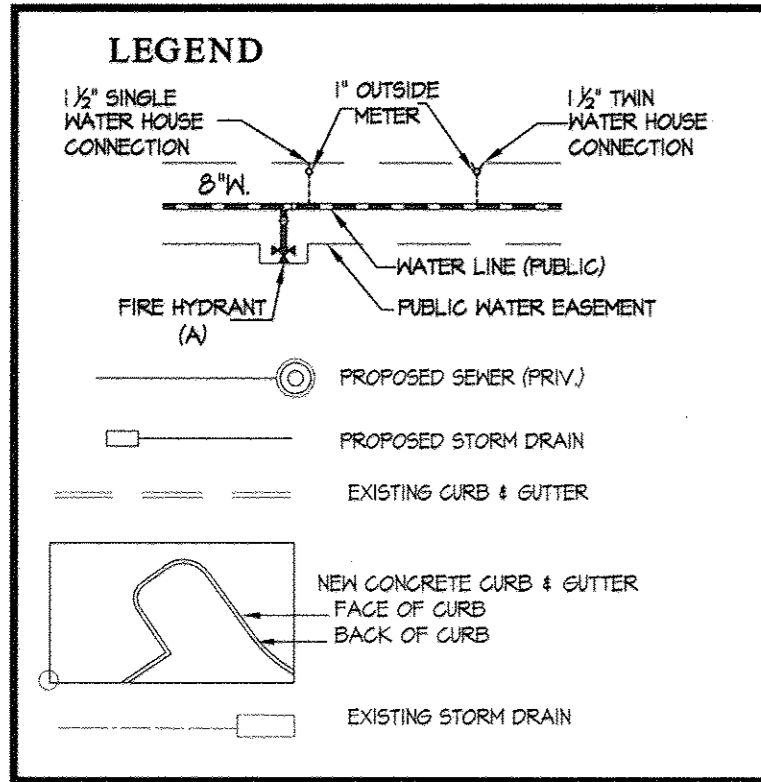
GENERAL NOTES

- 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 A/R surveys were performed on March, 2003 by MCKENZIE SNYDER.
- 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. 31GA, and No. 31A4.
  - All vertical controls are based on NAVD 88. Vertical controls provided on the drawings are STANDARD DISCS ON CONCRETE MONUMENTS.
- 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  $\oplus$  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:
 

ATI	1-800-252-1133
BGE (Construction Services)	410-637-8713
BGE (Emergency)	410-685-0123
Bureau of Utilities	410-313-4400
Colonial Pipeline Co.	410-745-1340
Mesa Utility	1-800-257-7111
State Highway Administration	410-331-5533
Verizon	1-800-743-0033

Part II WATER

- All water mains shall be ANWA C-900 PVC.
- Sprinkler systems for residential dwelling units shall have water house connections and water meters that are sized in accordance with the design of sprinkler systems. Sprinkler systems for single residential dwellings shall have a minimum of 1 1/2" inch service connection with a 1" outside meter setting.
- 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.
- All fittings shall be bolted or anchored with concrete in accordance with Standard Details unless otherwise provided for on the drawings.
- 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.
- For PVC water mains, all records for the Quality Control and Qualification Test Requirements noted in Section 5.1 of the ANWA 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.
- 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 iron.
- 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.
- 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 (1/4-degree on either end of the coupling) shall be rated for a minimum 200 psi meeting the requirements of ANWA 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 ANWA C900 and shall be Multi Fittings (pex) Blue Brute DR18 or equal.
- When PVC high deflection couplings or PVC 5-degree sweeps are used to facilitate changes in horizontal or vertical alignments of ANWA 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.



SHEET INDEX

1 - COVER SHEET
2 - WATER EXTENSION PLAN & PROFILE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SDP-16-079, & VOLUME IV SECTION 308 OF THE SPECIFICATIONS.

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

APPROVED: *[Signature]* 1/24/17  
DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 1/24/17  
DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 1/20/17  
DATE

GLW GUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20886  
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE DEC., 2016

G.L.W. No. 16022

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975

EXP. DATE: MAY 21, 2018

BY	NO	REVISION	DATE
			12/2016

REVISED TITLE SHEET

600' SCALE MAP NO. 37 BLOCK NO. 1&2

SHIPLEY'S GRANT - PHASE VI  
BUILDABLE PARCEL D-224 & OPEN SPACE LOT D-225  
(A REVISION TO BUILDABLE PARCEL "D-80"  
SHIPLEY'S GRANT - PHASE VI, PLAT NOS. 22373 - 22374)  
HOWARD COUNTY, MARYLAND  
ELECTION DISTRICT NO. 1  
CONTRACT No. 44-4740-D

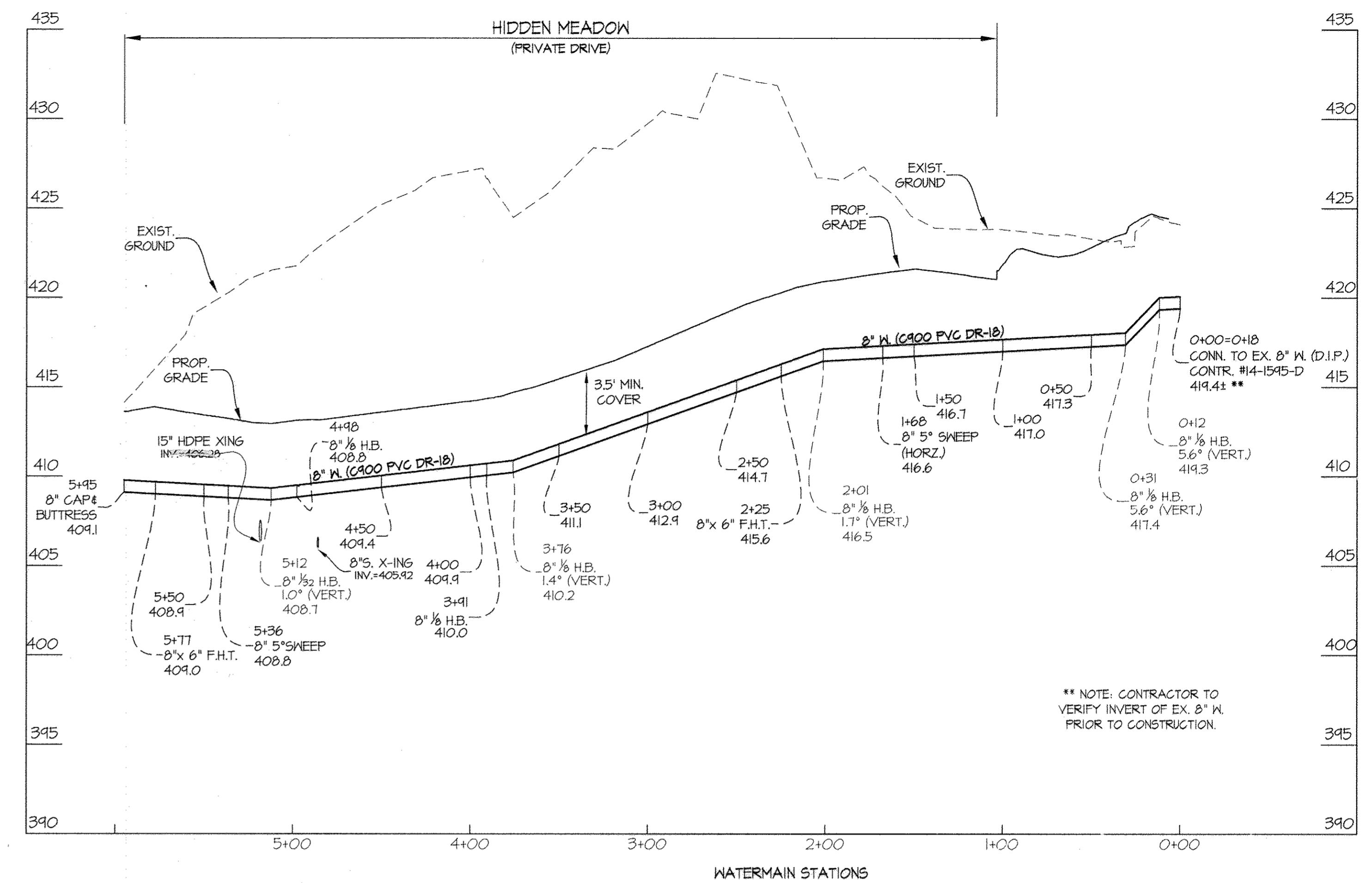
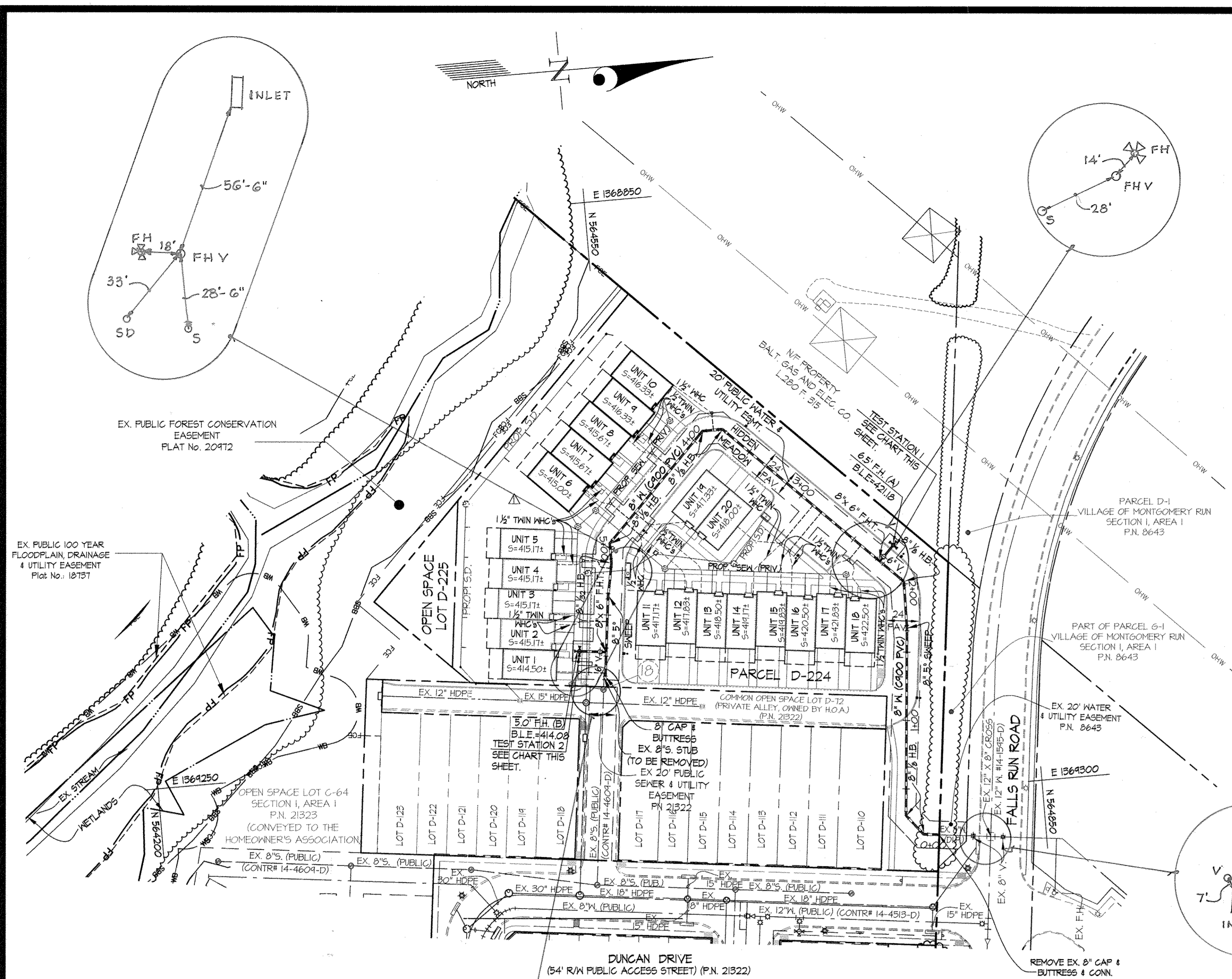
SCALE AS SHOWN

SHEET 1 OF 2

AS-BUILT

PREPARED FOR: BA WATERLOO, LLC. c/o BOZUTTO HOMES, INC. 6406 IVY LANE, SUITE 700 GREENBELT, MD 20770 ATTN: CHRIS BLOCK 301-623-3672

L:\CAD\DRAWINGS\33006\Phase VI\6022 (N+D) (Cadd)\WAT-SEW\6022-CS.dwg, PLOTTED: 12/15/2016 11:38 PM, LAST SAVED: 12/15/2016 11:23 AM, PLOTTED BY: Woywendt, jaynes



**WATER PROFILE**  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

**FIRE HYDRANT CHART**

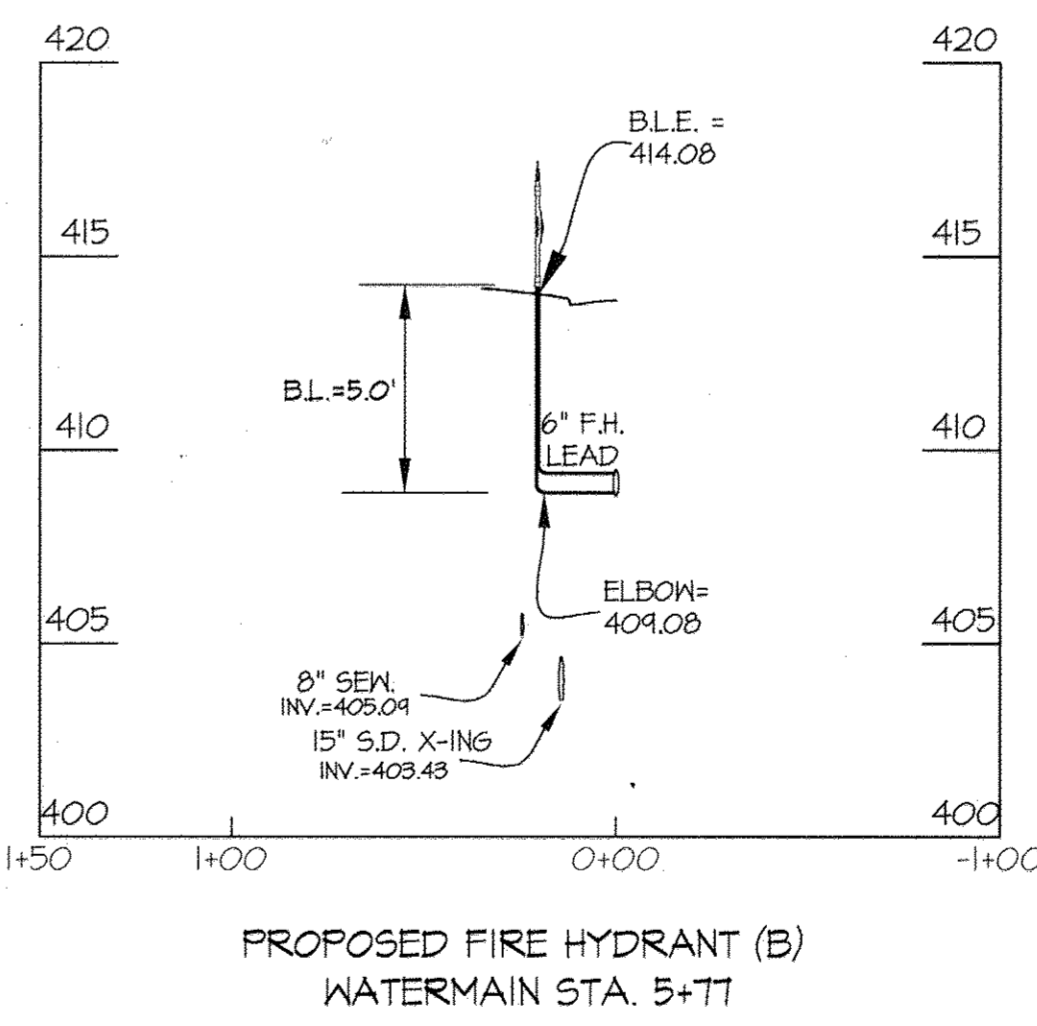
FH	NAD 83/91 COORDINATES	
A	N 564755.63	E 1364119.25
B	N 564518.40	E 1364116.10

**CONTINUITY TEST STATION CHART**

STR.	STATION	OFFSET	REMARKS
11	2+23	15' RIGHT	HO. CO. STD. DETAIL W-115
12	5+74	20' RIGHT	HO. CO. STD. DETAIL W-115

**FITTING CHART**

STATION	FITTING	LOCATION
0+12	8" 1/2 HB.	N 564754.65 E 1364331.91
0+31	8" 1/2 HB.	N 564748.06 E 1364317.17
1+68	8" 5" SWEEP	N 564760.50 E 1364180.66
2+01	8" 1/2 HB.	N 564761.08 E 1364146.14
2+25	8" x 6" F.H.T.	N 564744.73 E 1364130.25
3+76	8" 1/2 HB.	N 564657.94 E 1364024.00
3+91	8" 1/2 HB.	N 564622.54 E 1364024.08
4+98	8" 1/2 HB.	N 564547.57 E 1364100.02
5+12	8" 1/2 HB.	N 564547.44 E 1364114.32
5+36	8" 5" SWEEP	N 564542.74 E 1364138.54
5+77	8" x 6" F.H.T.	N 564537.42 E 1364174.03
5+95	8" CAP	N 564535.63 E 1364146.62



**Water House Connection**

Shipley's Grant Phase VI AA-4740-D

Address	Location 1	Measurement	Location 2	Measurement
6011 Hidden Meadow	EX SMH 1B	21'	SMH 1	13' 6"
6013	SMH 2	69'	MH 200	34' 6"
6015	SMH 2	69'	MH 200	34' 6"
6017	MH 200	10'	SMH 2	21'
6019	MH 200	10'	SMH 2	21'
6023	SMH 4	73'	1-201	45' 6"
6025	SMH 4	73'	1-201	45' 6"
6027	SMH 4	25'	1-201	82'
6029	SMH 4	25'	1-201	82'
6031	SMH 4	31'	1-201	127'
6010	SMH 4	85'	1-201	22'
6012	SMH 4	85'	1-201	22'
6014	SMH 4	75' 6"	1-201	32'
6016	SMH 6	51' 6"	1-204	20' 6"
6018	SMH 6	43' 6"	1-204	27'
6020	SMH 6	43' 6"	1-204	27'
6022	SMH 6	9'	1-204	64' 6"
6024	SMH 6	9'	1-204	64' 6"
6030	SMH 4	75' 6"	1-201	32'
6032 Hidden Meadow	SMH 6	51' 6"	1-204	20' 6"

**AS-BUILT**

PREPARED FOR:  
BA WATERLOO, LLC  
c/o BOZZITTO HOMES, INC.  
6406 IVY LANE, SUITE 700  
GREENBELT, MD 20770  
ATTN: CHRIS BLOCK  
301-623-3672

By *[Signature]* Date 2/19/18

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	<b>GLW</b> GUTSCHICK LITTLE & WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20886 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186	DATE DEC., 2016 G.L.W. No. 16022 PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS 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. 12975 EXP. DATE: MAY, 26, 2018	REVISION 12/20/16 DATE	600' SCALE MAP NO. 37 BLOCK NO. 1&2 ZONING: R-A-15	<b>SHIPLEY'S GRANT - PHASE VI</b> BUILDABLE PARCEL D-224 & OPEN SPACE LOT D-225 (A REVISION TO BUILDABLE PARCEL "D-80" SHIPLEY'S GRANT - PHASE VI, PLAT NOS. 22373 & 22374) HOWARD COUNTY, MARYLAND ELECTION DISTRICT No. 1 CONTRACT No. 44-4740-D TAX MAP 37, B-1	SCALE AS SHOWN SHEET 2 OF 2
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