

**GENERAL NOTES**  
DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING - UTILITY DESIGN DIVISION  
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 field surveys were performed on 3/25/13 by Shandberger & Lane. Additional topography shown taken from Howard County GIS.
- 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. 24EA, No. 24EB.  
All vertical controls are based on NAVD 88. Vertical controls provided on the drawings are pk nails. (See Traverse Coordinate Schedule)
- 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 "N" 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)	410-635-0123
Bureau of Utilities	410-313-4400
Colonial Pipeline Co.	410-745-3940
Miss Utility	1-800-251-TTTT
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)-313-1450 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.

- Part II WATER**
- All water mains shall be D.I.P. Class 54 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.
  - All fittings shall be buttressed 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 C400 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. All PVC pipe shall be DR18.
  - 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 hoses. 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.

- Part III SEWER**
- All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
  - All manholes shall be 4'-0" inside diameter unless otherwise noted.
  - Force mains shall be D.I.P. only.
  - Manholes shown with 12" and 16" walls are for brick manholes only.
  - Manholes designated M.T. in plan and profile shall have watertight frame and cover, Standard Detail 6552. Where watertight manhole frames and covers are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
  - House(s) with the symbol "C.N.S." indicates that the cellar cannot be served.

WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 303 OF THE SPECIFICATIONS AND AS SHOWN ON SDP-88-184C GP-14-014

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Plat #: SDP # 88-184C

APPROVED  
  
 HOWARD SOIL CONSERVATION DISTRICT  
 9/10/13  
 DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 BUREAU OF ENGINEERING, CHIEF  
  
 BUREAU OF UTILITIES, CHIEF  
 9/14/13  
 DATE

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND  
  
 DEVELOPMENT ENGINEERING DIVISION, CHIEF  
 9/13/13  
 DATE

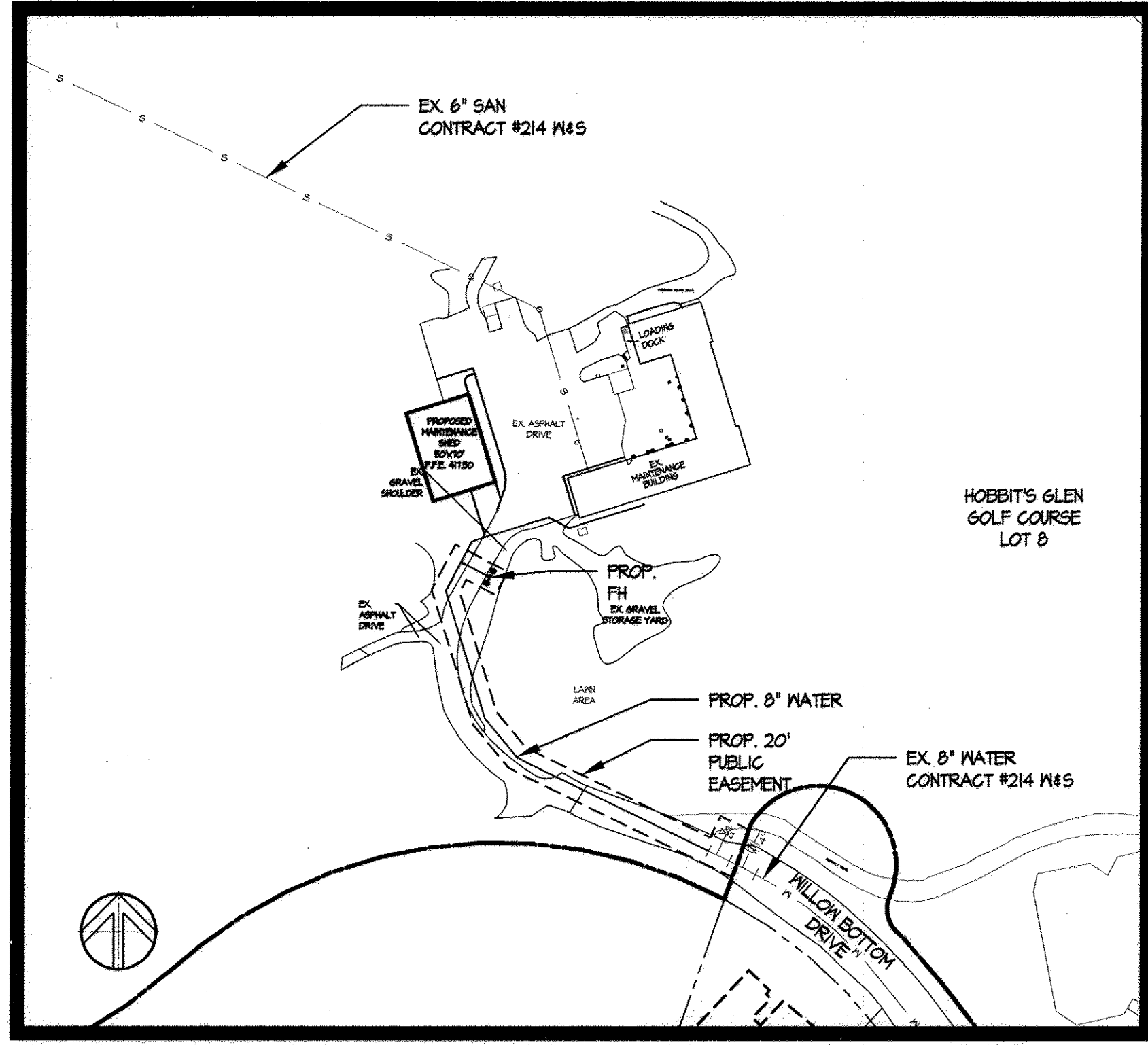
**SITE RESOURCES**  
 Comprehensive Land Planning & Site Design Services  
 14325 Arundell Mills Pkwy • Pikesville, Maryland 21111  
 (410) 653-3330 • Fax (410) 653-3339

DES:	AM				
DRN:	AM				
CHK:	AFE				
DATE:	08/02/13				
BY:	SEB				
NO.:	1				
REVISION:	"As-Built" Data Shown			12/9/16	

FINAL WATER AND SEWER  
 CONSTRUCTION PLAN  
 TAX MAP NO. 24 BLOCK NO. 16

COLUMBIA ASSOCIATION MAINTENANCE FACILITY UPGRADES  
 WATER EXTENSION  
 HOWARD COUNTY, MARYLAND  
 CONTRACT NO. 24-4806-D  
 VILLAGE OF HARPERS CHOICE, HOBBIT'S GLEN GOLF COURSE, LOT 8  
 1180 WILLOW BOTTOM DRIVE  
 5th ELECTION DISTRICT  
 SCALE: AS SHOWN  
 SHEET 1 OF 2

# COLUMBIA ASSOCIATION MAINTENANCE FACILITY UPGRADES WATER EXTENSION HOWARD COUNTY, MARYLAND CONTRACT NO. 24-4806-D VILLAGE OF HARPERS CHOICE, HOBBIT'S GLEN GOLF COURSE, LOT 8



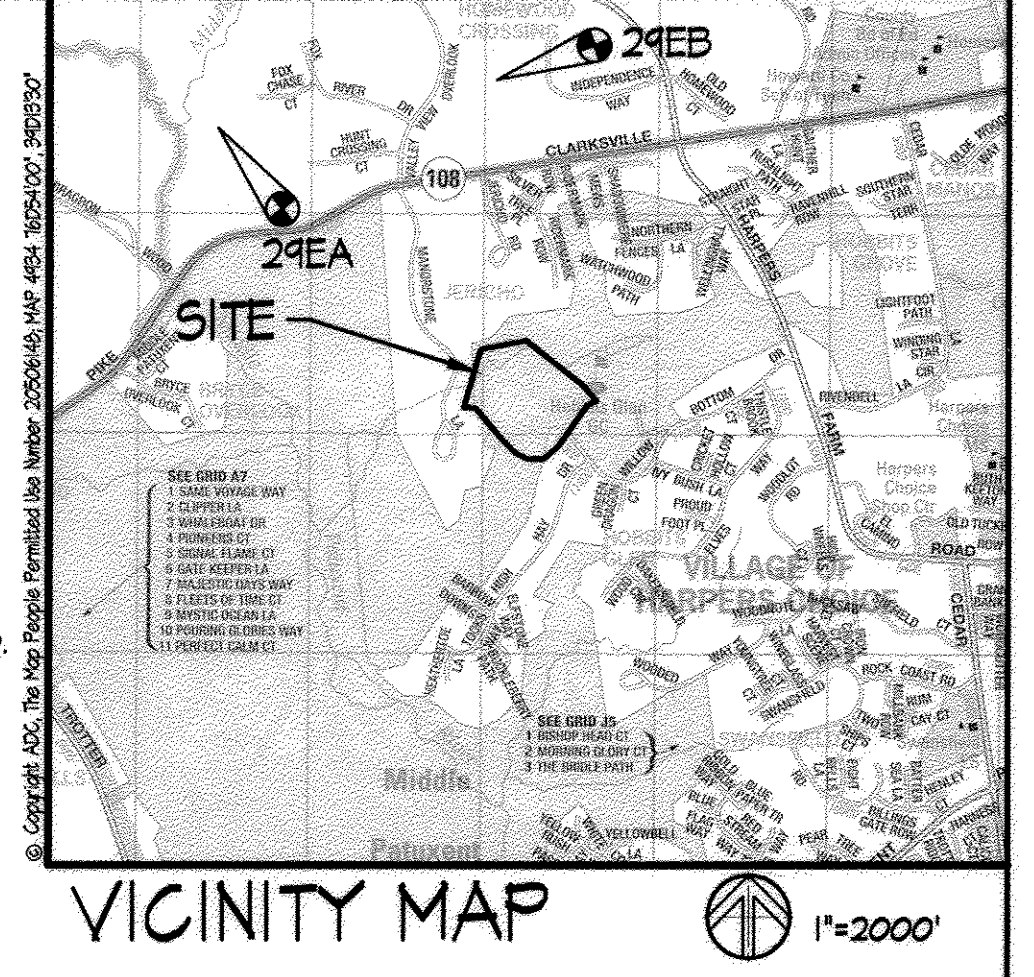
**LOCATION MAP**  
 SCALE: 1" = 100'

TYPE OF BUILDING:	PREFABRICATED METAL BUILDING
NUMBER OF LOTS:	1
NUMBER OF S.H.G.S.:	1 EXISTING
NUMBER OF M.H.G.S.:	
AREA OF PARCEL:	10,937 AC.
SEWER SHED:	
TREATMENT PLANT:	
DISTURBED AREA:	0.26 AC.

**HOWARD COUNTY GEODETIC SURVEY CONTROL NUMBERS**

DESCRIPTION BENCH MARK: 24EA  
 ALSO KNOWN AS: N/A  
 NSG PID: N/A  
 HORIZONTAL ORDER: 1st  
 VERTICAL ORDER: 2nd  
 GENERAL LOCATION: RT-108 500' NW of JERICHO RD.  
 DESCRIPTION: DISC ON CONCRETE COLUMN  
 N. 57°13'24.4" E. 1330.186 ± 4544  
 NAVD88 ELEVATION: 139.0452 mts. = 456.663 ± ft.

DESCRIPTION BENCH MARK: 24EB  
 ALSO KNOWN AS: N/A  
 NSG PID: N/A  
 HORIZONTAL ORDER: 1st  
 VERTICAL ORDER: 2nd  
 GENERAL LOCATION: RT-108 580' NW of HARPERS FARM RD.  
 DESCRIPTION: DISC ON CONCRETE COLUMN  
 N. 57°15'05.4" E. 1340.430 ± 1241  
 NAVD88 ELEVATION: 134.8246 mts. = 442.386 ± ft.



**LEGEND**

---	PROPERTY LINE
---	EXISTING WALK
---	EXISTING STORM DRAIN
---	EXISTING WATER
---	EXISTING SANITARY SEWER
---	EXISTING STREAM
---	PROPOSED WATER
---	PROPOSED WATER HOUSE SERVICE & METER BOX
---	SANITARY SEWER HOUSE CONNECTION

**DRAWING INDEX**

SHEET #	DRAWING TITLE
1 OF 2	COVER SHEET
2 OF 2	WATER AND SEWER PLAN AND PROFILES

**OWNER/DEVELOPER SITE DATA**

COLUMBIA ASSOCIATION 2221 PINCOPIN CIRCLE COLUMBIA, MARYLAND 21044 (410) 715-9000	ADDRESS: SUBDIVISION NAME: VILLAGE OF HARPERS CHOICE SECTION / AREA: 2 / 1 PARCEL NO.: 2162/210 BLOCK NO.: 16 LOT: 8 ZONE: RT TAX MAP NO.: 24 ELECTION DISTRICT: 5 CENSUS TRACT: 605502	1180 WILLOW BOTTOM DRIVE VILLAGE OF HARPERS CHOICE
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**QUANTITIES**

ITEM	ESTIMATED QUANTITY	AS-BUILT		
		QUANTITY	TYPE	MANUFACTURER/SUPPLIER
6" WATER PIPE	176 L.F.	176 L.F.	DSP	ATLANTIC
8" WATER PIPE	336 L.F.	336 L.F.	DSP	ATLANTIC
FIRE HYDRANT (BURY 5'-0")	1 EA.	1 EA.	MUELLER	MUELLER
8"x6" REDUCER	1 EA.	1 EA.	DSP	MUELLER
8" VALVE	2 EA.	2 EA.	AVE	MUELLER

NAME OF UTILITY CONTRACTOR: JIM'S EXCAVATING, INC.  
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE: 12/8/16

12/8/16  
**AS-BUILT**

2:1712128-CA Maintenance Facility Water Main Upgrade (Dwg No. 03) Water Cover: Engineering - Sept. 13, 2013 11:45am P.E.

**COORDINATE TABLE**

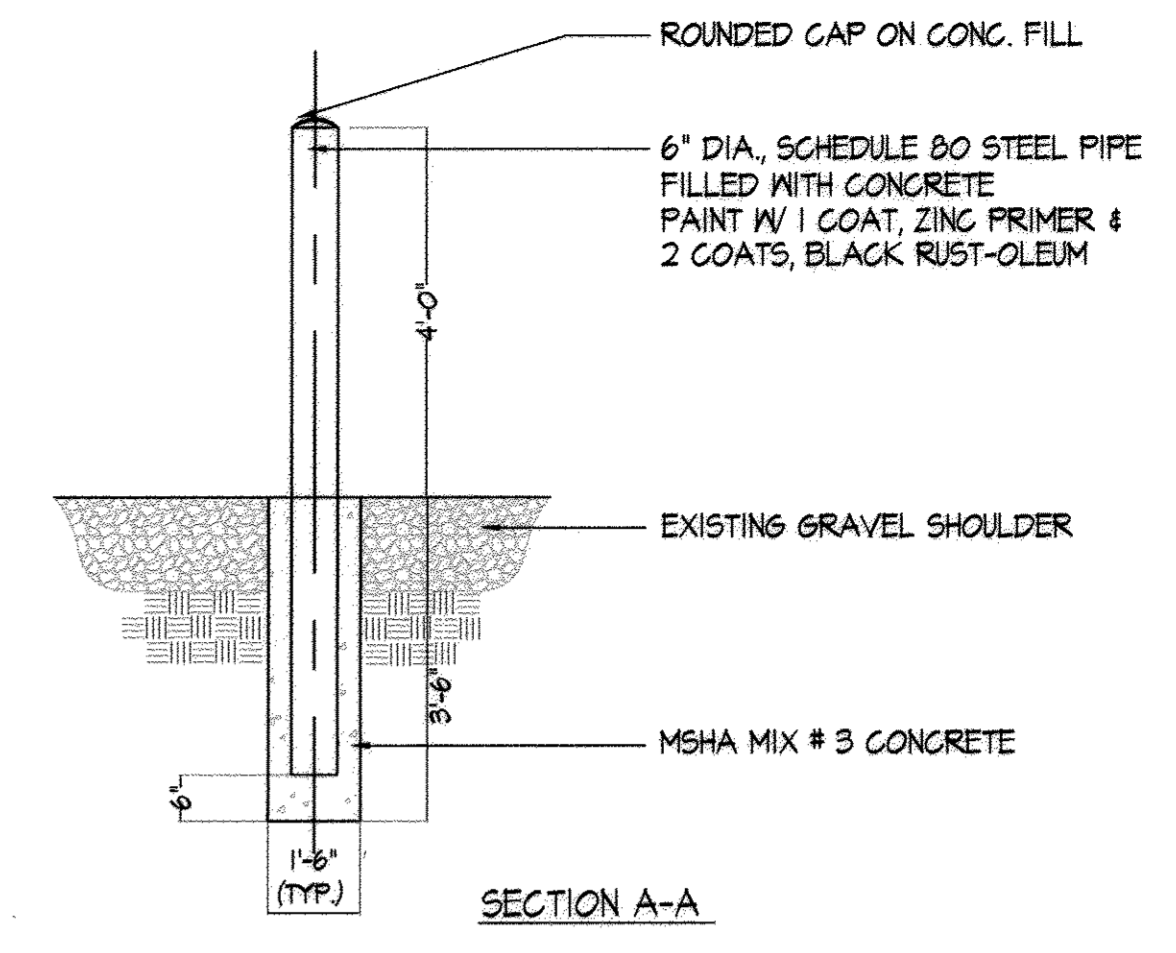
STATION	EASTING COORDINATES	NORTHING COORDINATES
0+00	1834149.31	567644.21
1+63.93	1834545.44	567721.02
2+01.64	1834571.82	567750.04
3+04.00	1834541.54	567847.77
3+28.93 / 0+00	1834552.48	567864.34
3+46.51	1834561.15	567885.40
4+08.65	1834620.48	567909.87
4+26.20	1834636.03	567945.71
4+86.01	1834643.13	567913.44

CONTRACTOR MUST FIELD VERIFY LOCATION OF EXISTING 8" WATER

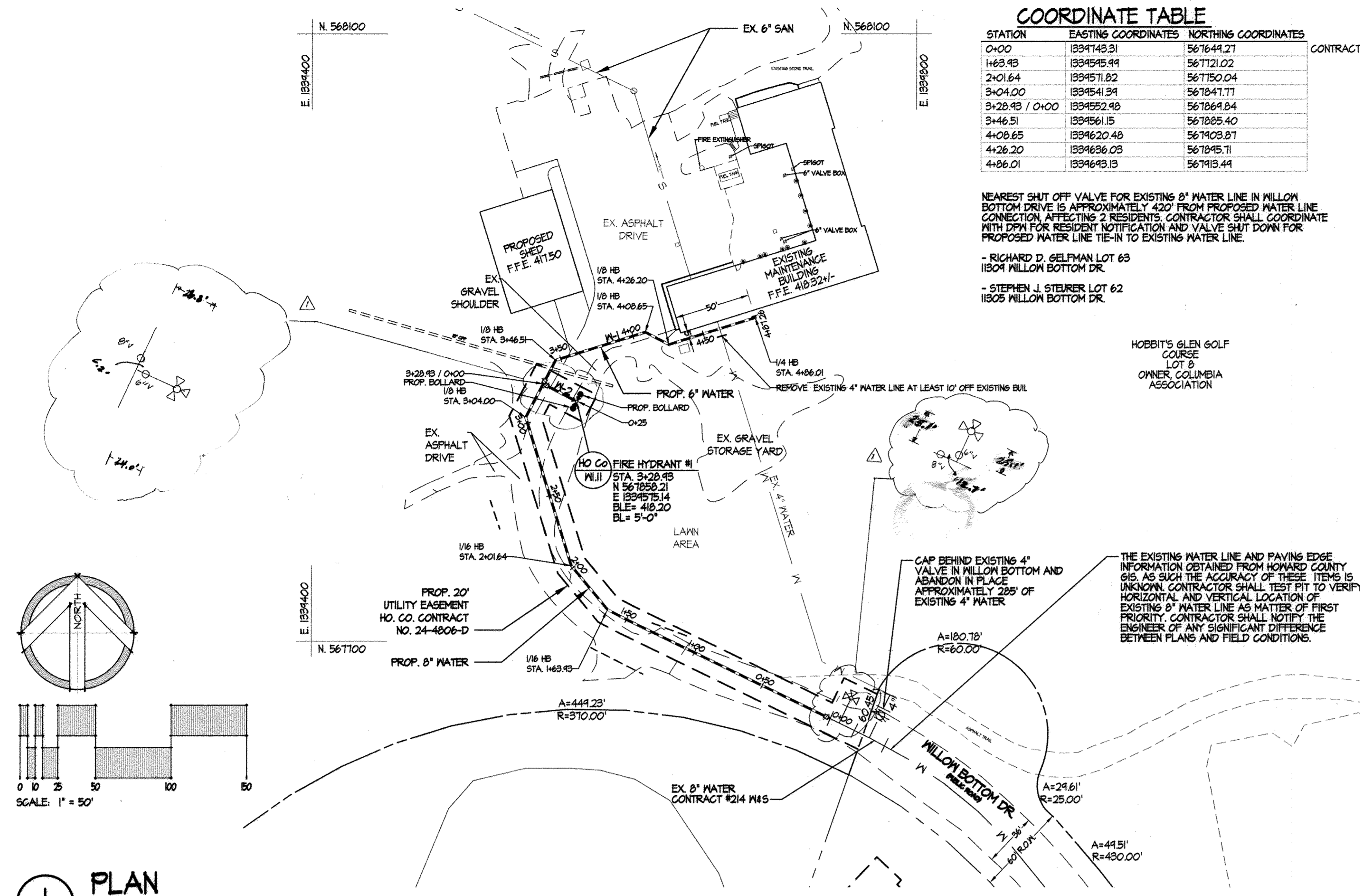
NEAREST SHUT OFF VALVE FOR EXISTING 8" WATER LINE IN WILLOW BOTTOM DRIVE IS APPROXIMATELY 420' FROM PROPOSED WATER LINE CONNECTION AFFECTING 2 RESIDENTS. CONTRACTOR SHALL COORDINATE WITH DPW FOR RESIDENT NOTIFICATION AND VALVE SHUT DOWN FOR PROPOSED WATER LINE TIE-IN TO EXISTING WATER LINE.

- RICHARD D. BELFMAN LOT 63  
1804 WILLOW BOTTOM DR.

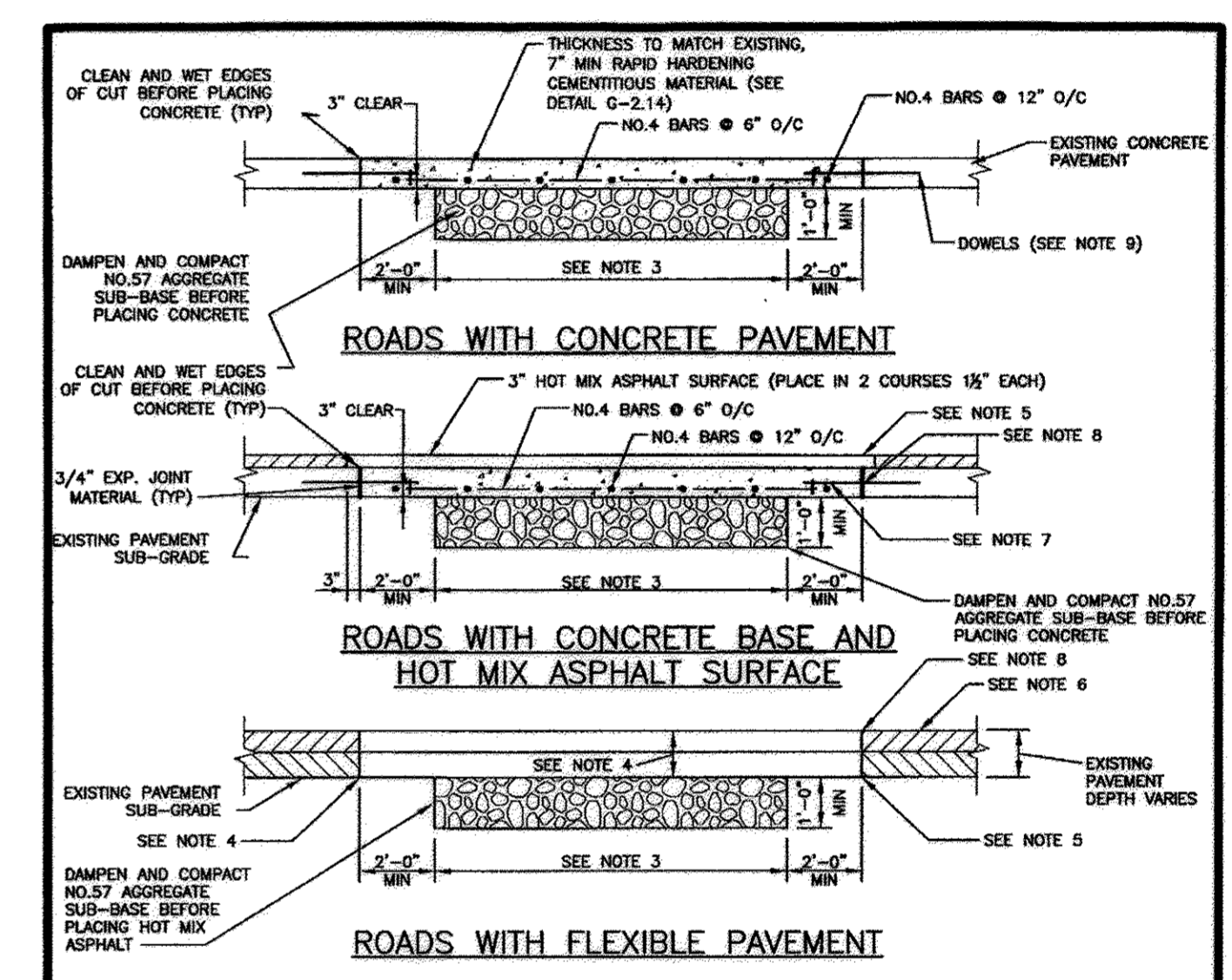
- STEPHEN J. STEURER LOT 62  
1805 WILLOW BOTTOM DR.



**4 BOLLARD DETAIL**  
SCALE: N.T.S.



**1 PLAN**  
SCALE: 1" = 50'

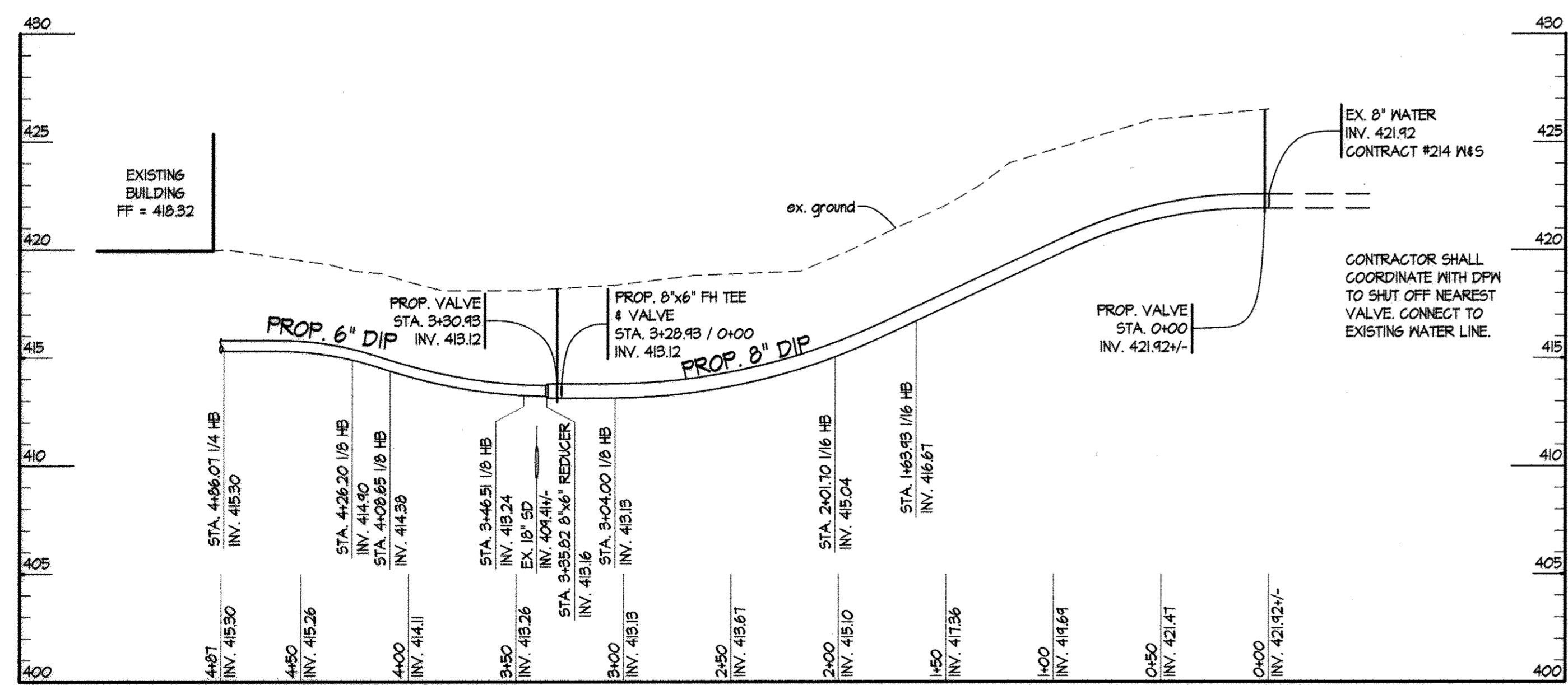


**NOTES:**

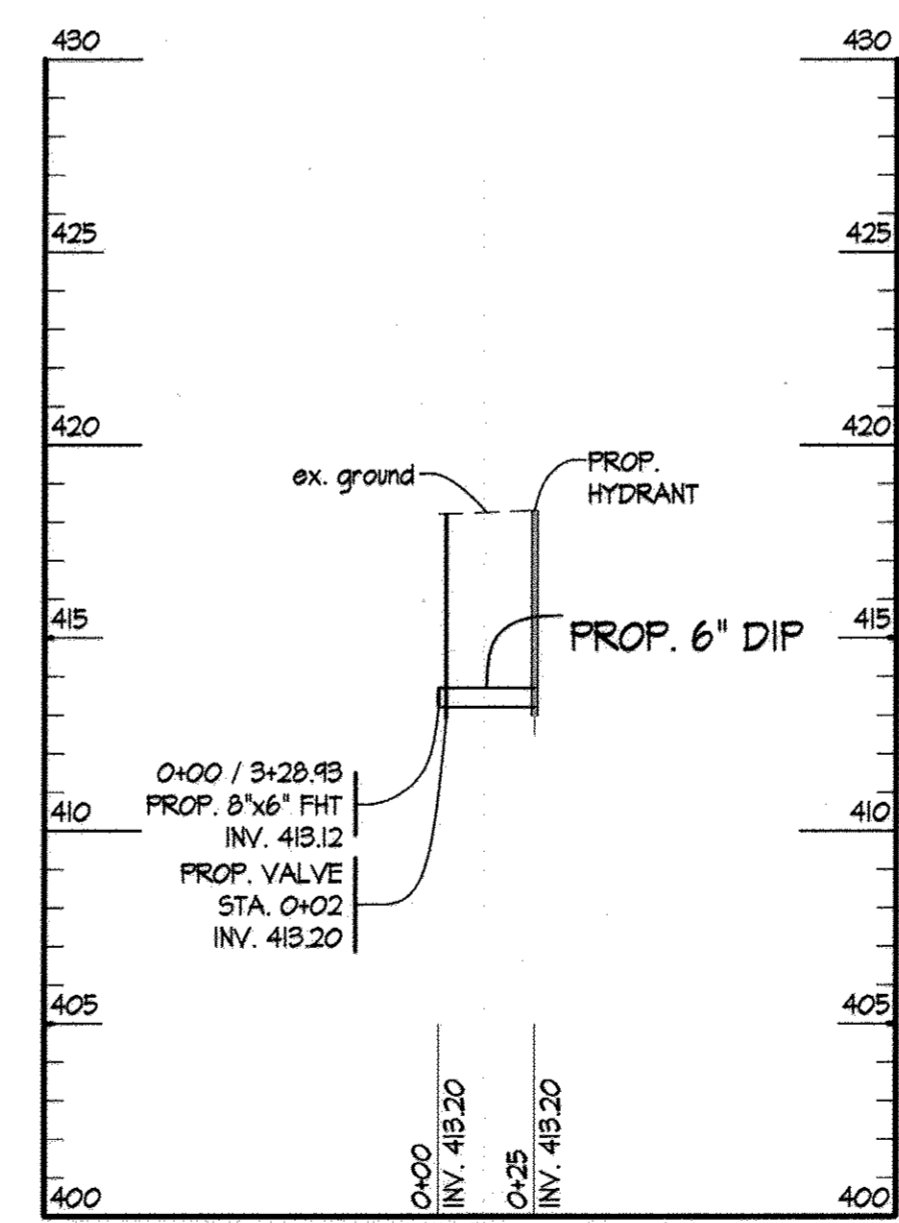
- WHEREVER A TRENCH CROSSES A CONCRETE ROADWAY THAT HAS JOINT INSTALLATIONS THE ENTIRE SLAB BETWEEN THE EDGE OF THE TRENCH AND THE NEAREST JOINT SHALL BE REMOVED IF THE DISTANCE IS LESS THAN 10 FEET.
- CLEAN AND WET EDGES OF CUT AND SUBGRADE BEFORE PLACING CONCRETE.
- AGGREGATE SUB-BASE WIDTH SHALL BE 6 FT MINIMUM OR ACTUAL TRENCH WIDTH, WHICHEVER IS GREATER.
- HOT MIX ASPHALT PAVEMENT PATCH THICKNESS SHALL BE EQUAL TO THE EXISTING PAVING SECTION OR AS APPROVED BY DPW. THE MINIMUM PAVING PATCH SHALL CONSIST OF 2" HMA SURFACE COURSE OVER 4" HMA BASE COURSE. GRADED AGGREGATE BASE SHALL BE PLACED AND COMPACTED IN 6" MAXIMUM COMPACTED THICKNESS LAYERS.
- CLEAN EXPOSED VERTICAL SURFACE OF ADJACENT PAVEMENT AND PLACE TACK COAT ON ALL VERTICAL SURFACES PRIOR TO PLACING HMA.
- IF THE REMAINING EXISTING PAVEMENT IS LESS THAN 4" WIDE, THE RESIDUAL PAVEMENT SHALL BE REMOVED IN ITS ENTIRETY AND REPLACED.
- CONCRETE REPLACEMENT SHALL BE 10" MINIMUM MIX NO. 6.
- SAW CUT FULL DEPTH ALL JOINTS OF EXISTING CONCRETE, BITUMINOUS, AND BASE PAVEMENTS.
- REINFORCEMENT OF CONCRETE PAVING SHALL BE ACCOMPLISHED BY DOWELING. DOWELS SHALL BE CENTERED IN PAVEMENT THICKNESS. NEW REINFORCING SHALL BE TIED TO DOWELS.
- TOTAL REPAIR WIDTH SHALL BE EQUAL TO THE LANE WIDTH IN ACCORDANCE WITH THE SPECIFICATIONS.

Drawn	Howard County, Maryland Department of Public Works	Utility Trench Roadway Repaving	Detail G-4.01
Checked			
Approved			

**5 PAVEMENT REPAIR**  
SCALE: N.T.S.



**2 PROFILE W-1**  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



**3 PROFILE W-2**  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

**AS-BUILT**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

BUREAU OF ENGINEERING, CHIEF \_\_\_\_\_ DATE \_\_\_\_\_

BUREAU OF UTILITIES, CHIEF \_\_\_\_\_ DATE 8/14/13

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

DEVELOPMENT ENGINEERING DIVISION, CHIEF \_\_\_\_\_ DATE 9/18/13

**SITE RESOURCES**  
INCORPORATED  
Comprehensive Land Planning & Site Design Services

18355 Arrettsville Pike • Pikesville, Maryland 21111  
(410) 885-3388 • Fax (410) 885-3389

DES: AM					
DRN: AM					
CHK: AFE					
DATE: 08/02/13	BY: SFB	NO. 1	REVISION	DATE: 9/2/13	

**WATER CONSTRUCTION PLAN**

TAX MAP NO. 29 BLOCK NO. 16

COLUMBIA ASSOCIATION MAINTENANCE FACILITY UPGRADES  
WATER EXTENSION  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-4806-D  
VILLAGE OF HARPERS CHOICE, HOBBIT'S GLEN GOLF COURSE, LOT 8  
1805 WILLOW BOTTOM DRIVE  
5th ELECTION DISTRICT

SCALE: AS SHOWN  
SHEET 2 OF 2

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