

MD ROUTE 216 AND US ROUTE 29 12-INCH WATER AND 8-INCH SEWER RELOCATION

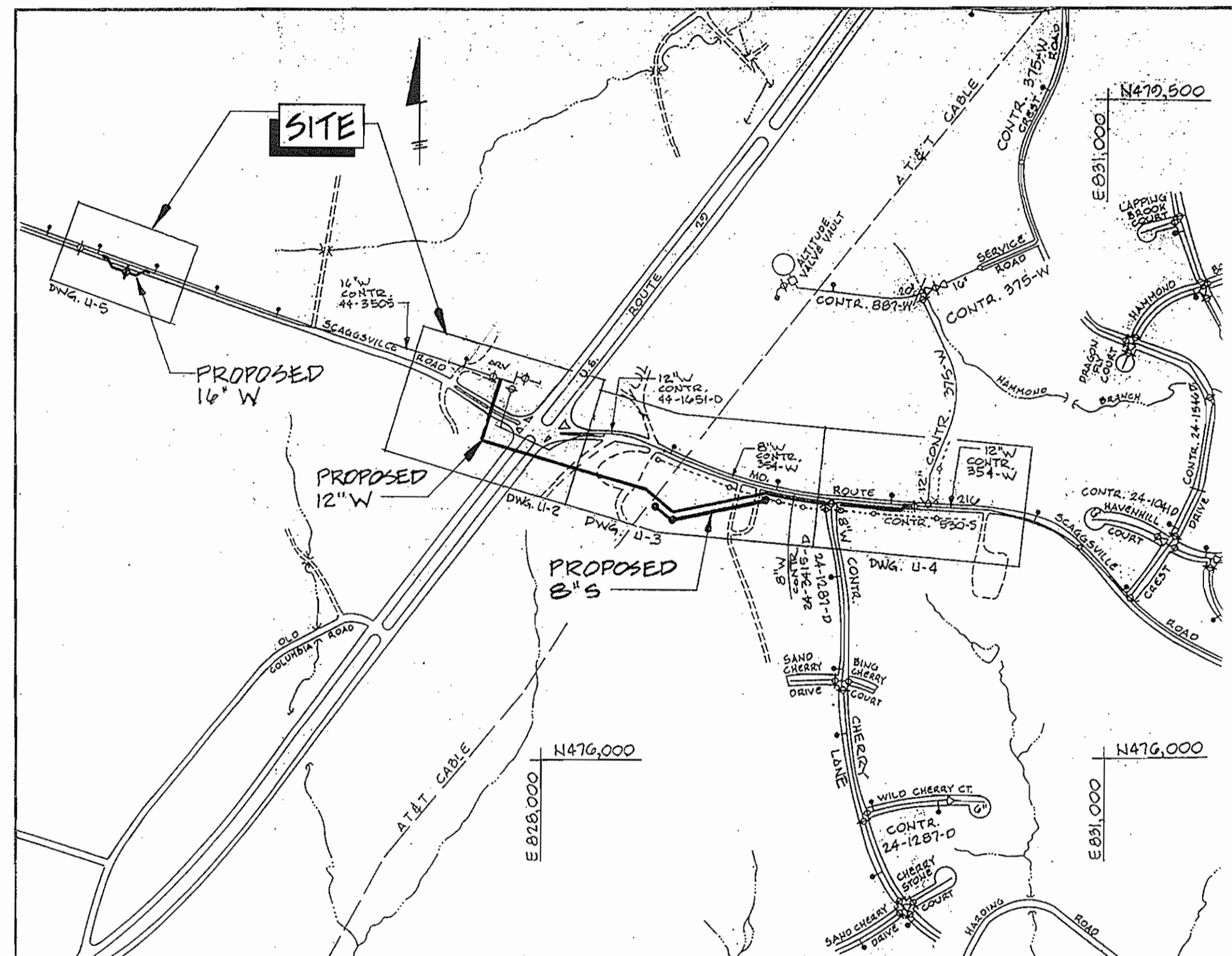
CAPITAL PROJECT W-8156 CONTRACT NO. 24-3741

WATER QUANTITIES				
ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATED	AS BUILT		
16" WATER	70 LF	74 LF	DIP	GRIFFIN PIPE
12" WATER	2850 LF	2874 LF	DIP	GRIFFIN PIPE
8" WATER	100 LF	95 LF	DIP	GRIFFIN PIPE
6" WATER	55 LF	55 LF	DIP	GRIFFIN PIPE
4" WATER	35 LF	35 LF	DIP	GRIFFIN PIPE
1" WATER	115 LF	∅	TYPE "K" COPPER TUBE	
16"x12" TAPPING SLEEVE AND VALVE ASSEMBLY	1 EACH	1 EACH	RESILIENT SEAT GATE VALVE	MUNICIPAL CONTRACTORS
16" VALVE	1 EACH	1 EACH	RESILIENT SEAT GATE VALVE	CLOW
12" VALVE	3 EACH	2 EACH	RESILIENT SEAT GATE VALVE	MULLER
8" VALVE	2 EACH	2 EACH	RESILIENT SEAT GATE VALVE	MULLER
6" VALVE	2 EACH	2 EACH	RESILIENT SEAT GATE VALVE	MULLER
4" VALVE	2 EACH	2 EACH	RESILIENT SEAT GATE VALVE	MULLER
FIRE HYDRANTS	2 EACH	2 EACH	AWWA C-502	ECLIPSE
1" ARV AND MANHOLE	2 EACH	2 EACH		ATLANTIC PRECAST
BLOW-OFF ASSEMBLY	2 EACH	2 EACH		
36" O.D. CASING	510 LF	510 LF	STEEL	BALTIMORE PIPE

SEWER QUANTITIES				
ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATED	AS BUILT		
8" SEWER	392 LF	417 LF	DIP	GRIFFIN PIPE MUNICIPAL CONTRACTORS
MANHOLES	3 EACH	3 EACH	ASTM C-478	ATLANTIC PRECAST
MANHOLES - DEPTH > 6'	23 VF	23 VF		
24" O.D. CASING	85 LF	85 LF	STEEL	BALTIMORE

NAME OF UTILITY CONTRACTOR: CALVERT UTILITIES

NOTE:
"SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH VOLUME 4, ARTICLE 15 OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS."



TYPE OF BUILDING: RESIDENTIAL
NUMBER OF PARCELS: N/A
WATER HOUSE CONNECTIONS: 3
SEWER HOUSE CONNECTIONS: 0
DRAINAGE AREA: LITTLE PATUXENT

VICINITY MAP
SCALE: 1" = 600'

WATER AND SEWER CODES FOR COUNTY USE ONLY:
WATER NO. E 18
SEWER NO. 7600000

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.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 29.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". 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 DRAWINGS, 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.....	1-800-526-2000
BGE (CONTRACTOR SERVICES).....	410-850-4620
BGE (UNDERGROUND DAMAGE CONTROL).....	410-787-9068
BUREAU OF UTILITIES.....	410-313-4900
BELL ATLANTIC MARYLAND, INC.....	1-800-621-9900
COLONIAL PIPELINE CO.....	410-795-1390
MISS UTILITY.....	1-800-257-7777
STATE HIGHWAY ADMINISTRATION.....	410-531-5533
- 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.
- 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 WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(d) OF THE HOWARD COUNTY CODE.

PART II WATER

- ALL WATER MAINS SHALL BE D.I.P. PRESSURE CLASS 350 WITH RESTRAINED JOINTS UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 4'-0" 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 THE 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.

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 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.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
AS BUILT

INDEX OF SHEETS		
SHEET NO.	DWG. NO.	DESCRIPTION
	U-1	TITLE SHEET
	U-2	PLAN AND PROFILE
	U-3	PLAN AND PROFILE
	U-4	PLAN AND PROFILE
	U-5	PLAN AND PROFILE

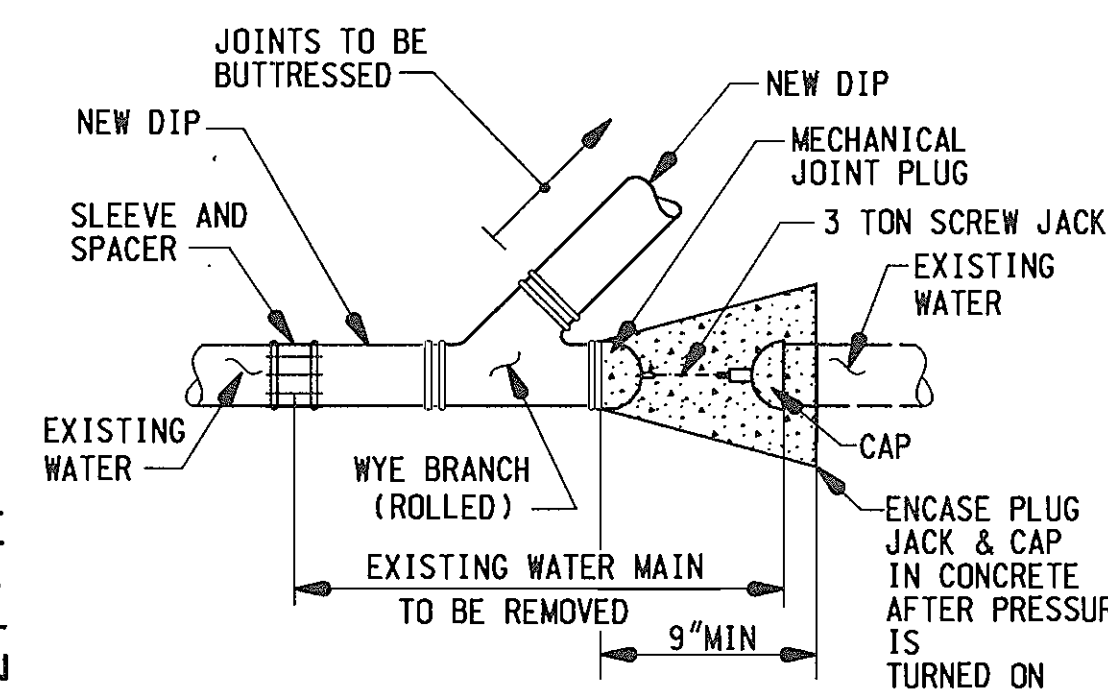
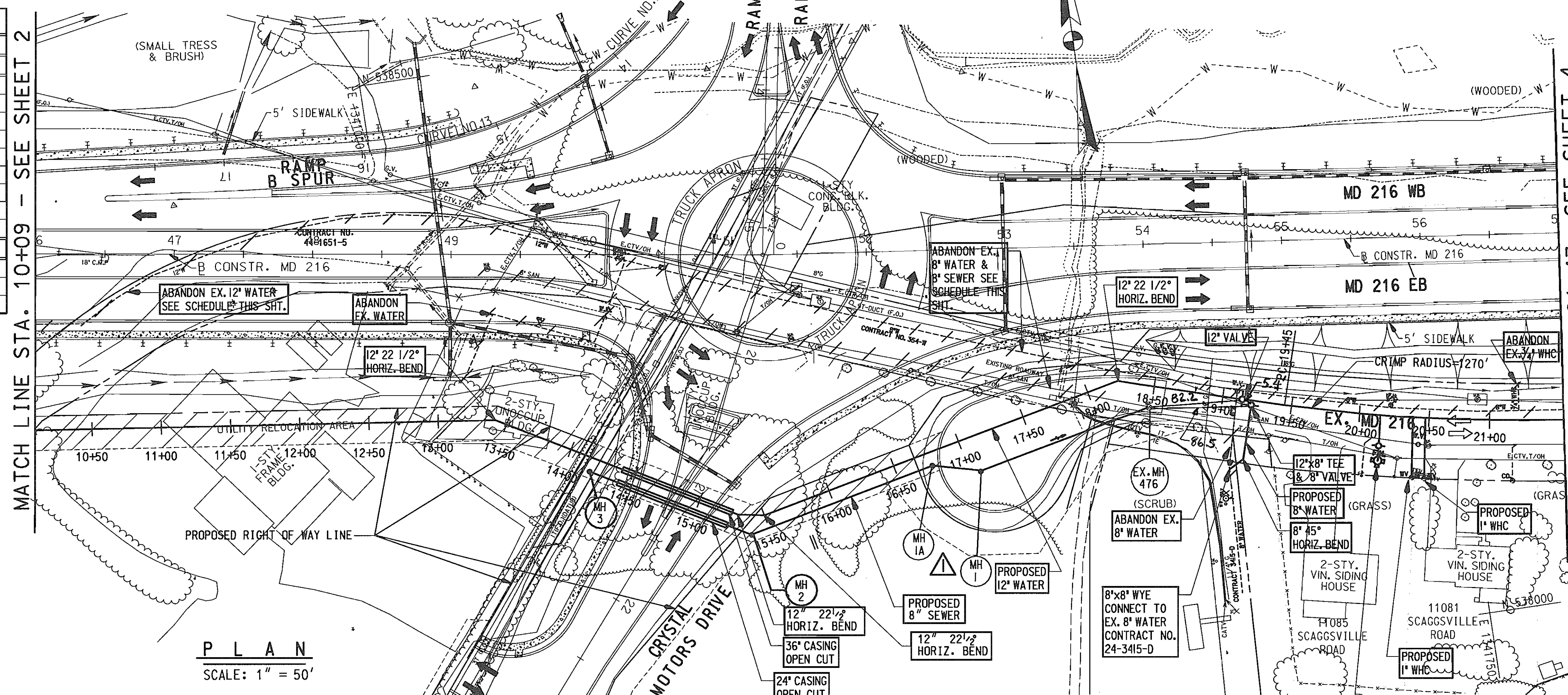
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 12/21/98 12-21-98	WALLACE, MONTGOMERY & ASSOCIATES CIVIL AND STRUCTURAL ENGINEERS 110 WEST ROAD TOWSON, MARYLAND 21204 12/21/98	DES: JJS/LAF DRN: DED/MEK CHK: JJS DATE: 12/18/98	TITLE SHEET	MD ROUTE 216 AND US ROUTE 29 CAPITAL PROJECT W-8156 CONTRACT NO. 24-3741 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN DWG. U-1 SHEET 1 OF 6
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TO FULTON

TO I-95

WATER MAIN STAKE-OUT TABLE			
12" WATER			
STATION	DESCRIPTION	NORTH	EAST
13+42	12" 22 1/2" HORIZ. BEND	538,245.4680	1,341,060.6580
14+40	BEGIN 36" CASING	538,196.1238	1,341,146.2106
15+25	END 36" CASING	538,153.6559	1,341,219.8411
15+30	12" 22 1/2" HORIZ. BEND	538,151.5270	1,341,223.5300
15+50	12" 22 1/2" HORIZ. BEND	538,148.0990	1,341,242.5750
18+23	12" 22 1/2" HORIZ. BEND	538,206.2680	1,341,509.5500
19+21+0+00	12"x8" TEE	538,177.5740	1,341,603.0090
19+45	P.C.	538,245.4680	1,341,625.9770
20+15	12"x6" TEE	538,152.9090	1,341,693.1330
8" WATER			
0+03	8" VALVE	538,174.7020	1,341,603.0090
0+45	8" 45" HORIZ. BEND	538,136.4580	1,341,590.5730
0+57	8"x8" WYE BRANCH	538,130.7280	1,341,579.8150

SEWER STAKE-OUT TABLE			
STRUCTURE	NORTH	EAST	STD. DTL.
M-1	538,155.7420	1,341,401.8150	C 5.11
M-1A	538,165.1520	1,341,367.8170	G 5.11
M-2	538,135.4330	1,341,231.4200	G 5.11
M-3	538,198.0450	1,341,122.3100	S 1.31
WEST END 24" CASING	538,187.4614	1,341,141.2150	
EAST END 24" CASING	538,144.9928	1,341,214.8456	



NOTE: CONCRETE DIMENSIONS SHALL BE IN ACCORDANCE WITH STD. DTL. W-21

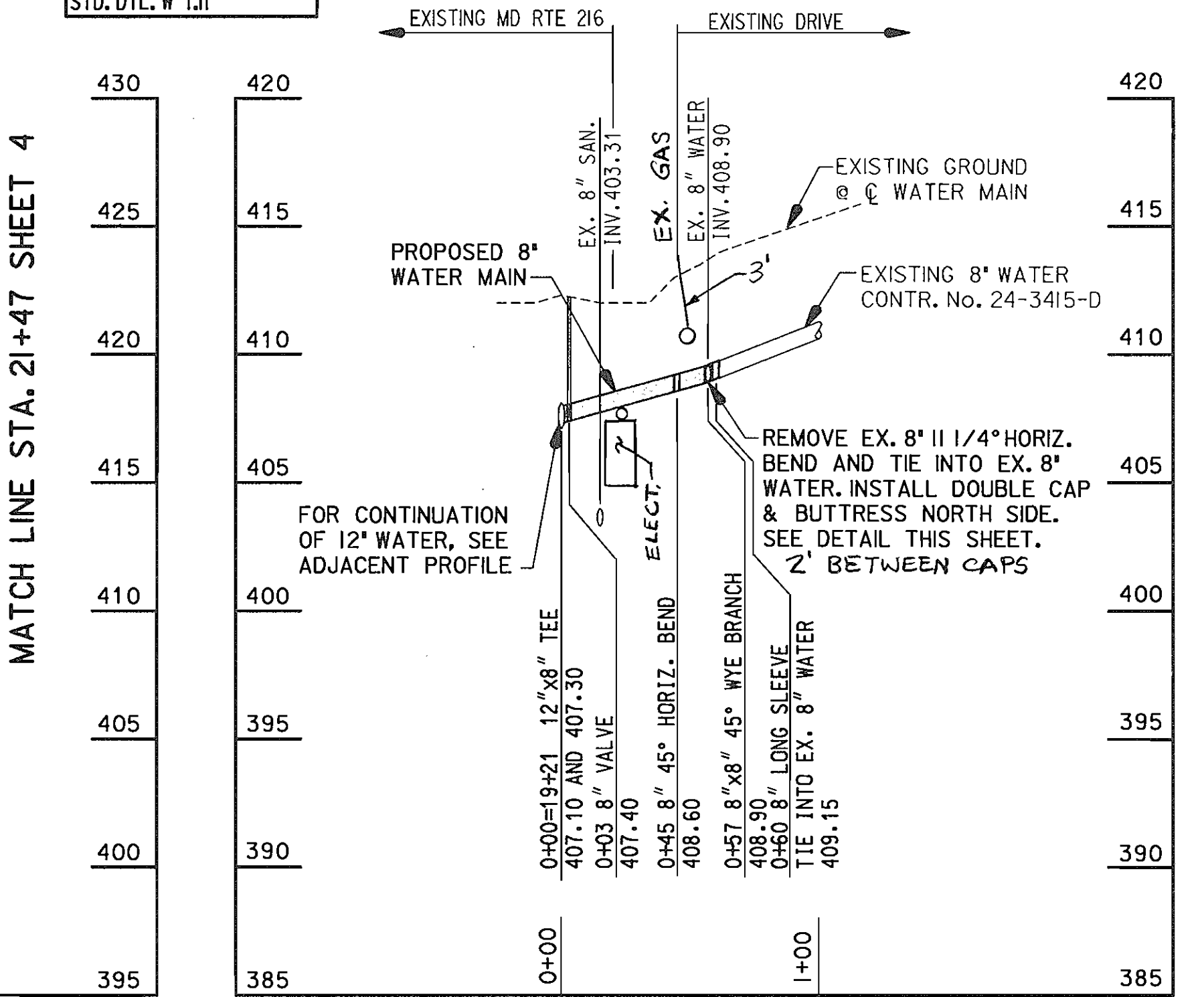
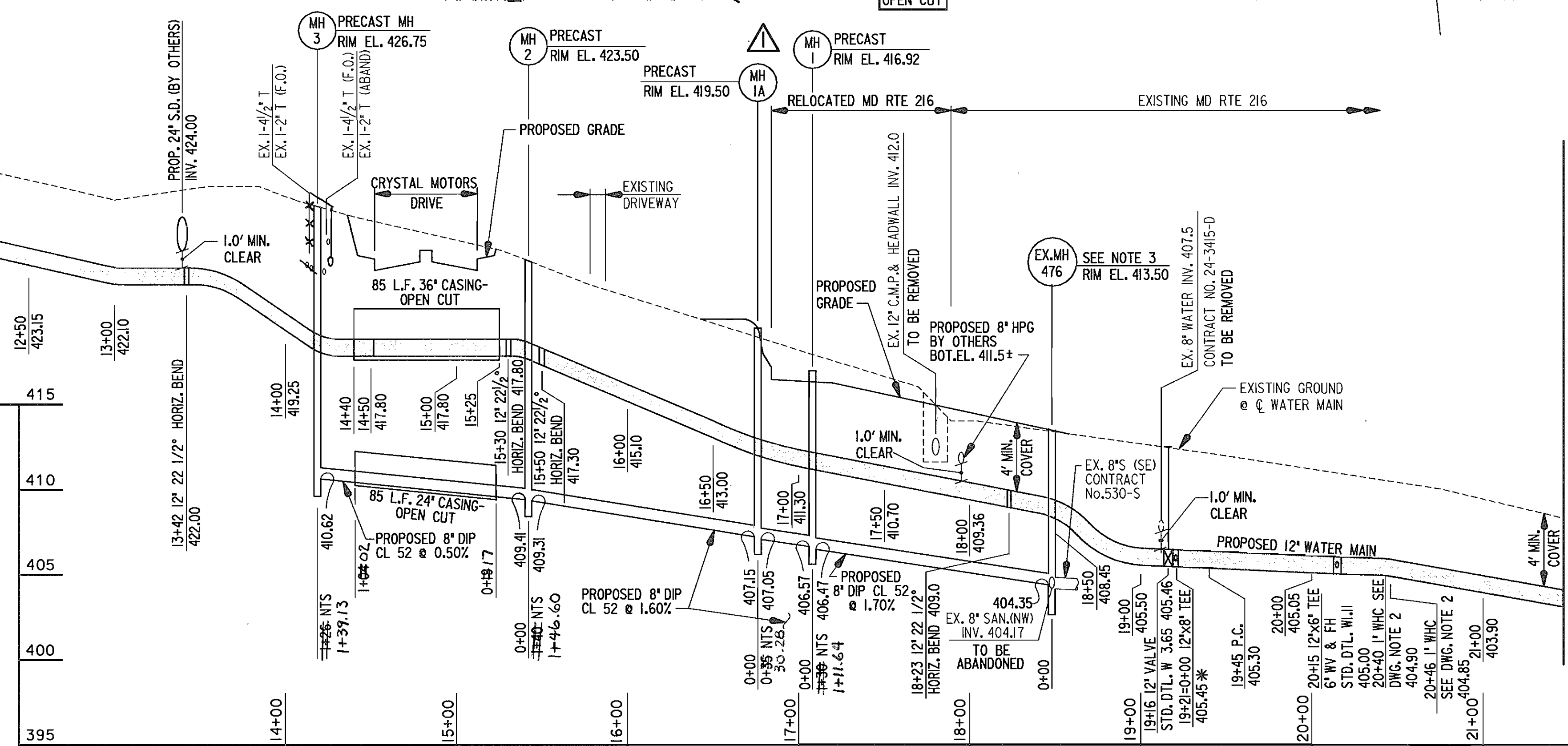
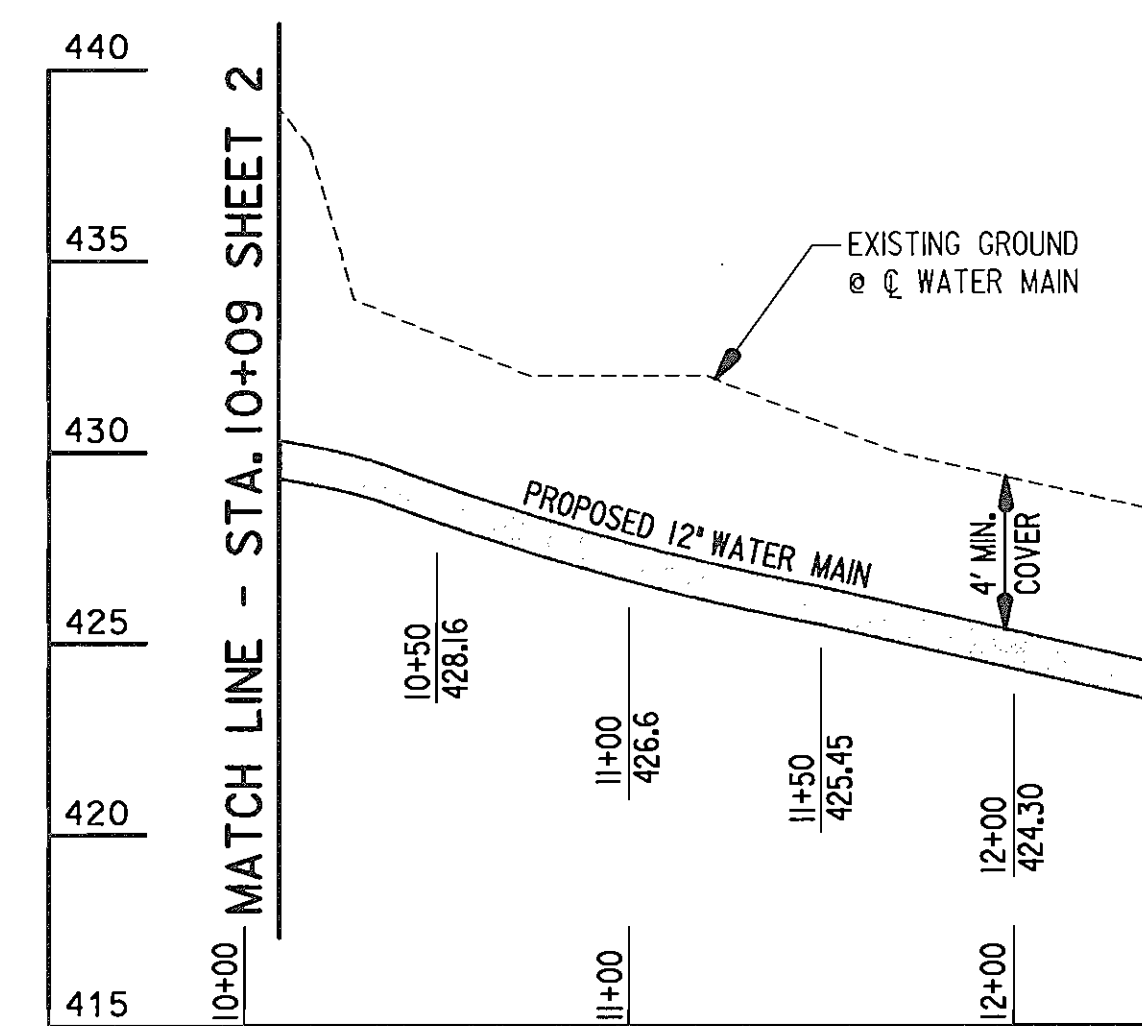
DOUBLE CAP & BUTTRESS DETAIL

NOT TO SCALE

- DRAWING NOTES:**
- ALL HORIZONTAL AND VERTICAL BENDS, CAPS AND TEES SHALL BE BUTTRESSED OR ANCHORED IN ACCORDANCE WITH STANDARD DETAILS W2-21, W2.22 OR W2.23
 - INSTALL 1" WHC IN ACCORDANCE WITH STANDARD DETAIL W3-21. PROVIDE TRANSITION FITTING PRIOR TO CONNECTING INTO THE EXISTING 3/4" CURB STOP.
 - CONNECT TO EXISTING SANITARY MANHOLE. REFORM EXISTING CHANNEL AS NECESSARY.

PLAN

SCALE: 1" = 50'



EXISTING UTILITY SCHEDULE			
FROM SHA STA.	TO SHA STA.	LENGTH	DESCRIPTION
WATER			
46+00, 52' RT	50+24, 4' RT	460 FEET	ABANDON 12" WATER
50+20, 1' LT			REMOVE 6" VALVE & FH
50+20, 1' LT		5 FEET	ABANDON EX. FH LEAD
50+24, 4' RT			ABANDON BLOW-OFF ASSEMBLY
50+24, 4' RT	57+00, 128' RT	683 FEET	ABANDON 8" WATER
50+25, 4' RT	49+10, 90' RT	190 FEET	ABANDON WATER SERVICE
54+65, 107' RT	54+57, 164' RT	57 FEET	ABANDON 8" WATER & 8" VALVE
55+76, 179' RT			REMOVE 6" VALVE & FH
55+76, 179' RT		5 FEET	ABANDON EX. FH LEAD
SEWER			
49+26, 10' RT			REMOVE SANITARY MANHOLE
49+26, 10' RT	51+44, 61' RT	220 FEET	ABANDON 8" SANITARY
51+44, 61' RT			REMOVE SANITARY MANHOLE
51+44, 61' RT	53+72, 112' RT	230 FEET	ABANDON 8" SANITARY

12" W PROFILE

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

8" W PROFILE

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Van... 4/26/99
DIRECTOR OF PUBLIC WORKS DATE

Robert M. ... 4-20-99
CHIEF, BUREAU OF UTILITIES DATE

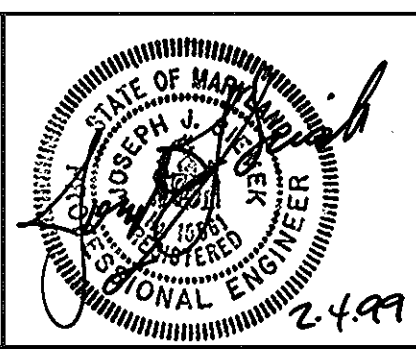
... 4/16/99
CHIEF, BUREAU OF CONSTRUCTION DATE

... 4-16-99
CHIEF, UTILITY DESIGN DIVISION DATE

WALLACE, MONTGOMERY & ASSOCIATES

CIVIL AND STRUCTURAL ENGINEERS

110 WEST ROAD
TOWSON, MARYLAND 21204



DES: JJS/LAF	LAF	REVISED SANITARY SEWER ALIGNMENT BETWEEN EXISTING MH 476 AND PROPOSED MH 2	1/29/99
DRN: DED/MEK			
CHK: JJS			
DATE: 12/18/98	BY	NO.	REVISION

PLAN AND PROFILE

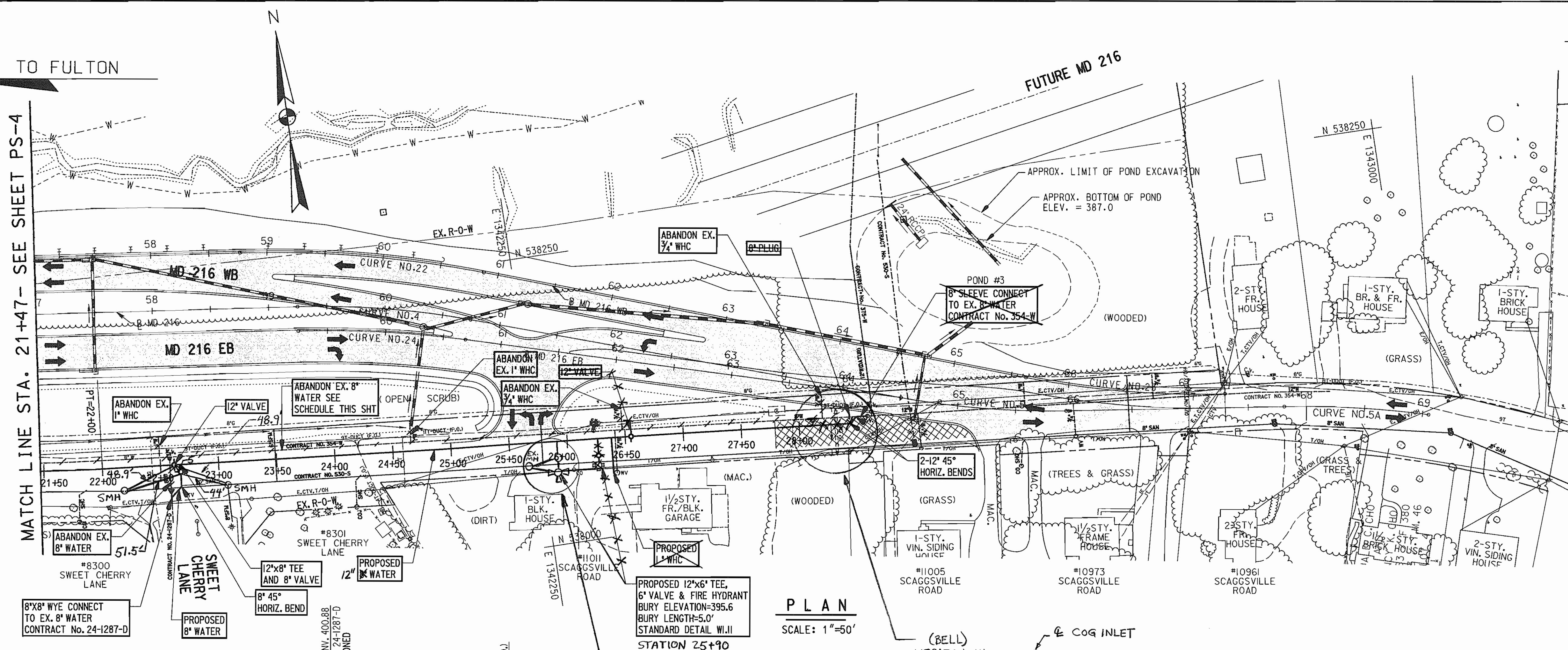
600' SCALE MAP NO. 46 BLOCK NO. 4

MD ROUTE 216 AND US ROUTE 29
CAPITAL PROJECT NO. W-8156
CONTRACT NO. 24-3741
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
DWG. U-3
SHEET 3 OF 6

TO FULTON

MATCH LINE STA. 21+47 - SEE SHEET PS-4



PLAN

SCALE: 1"=50'

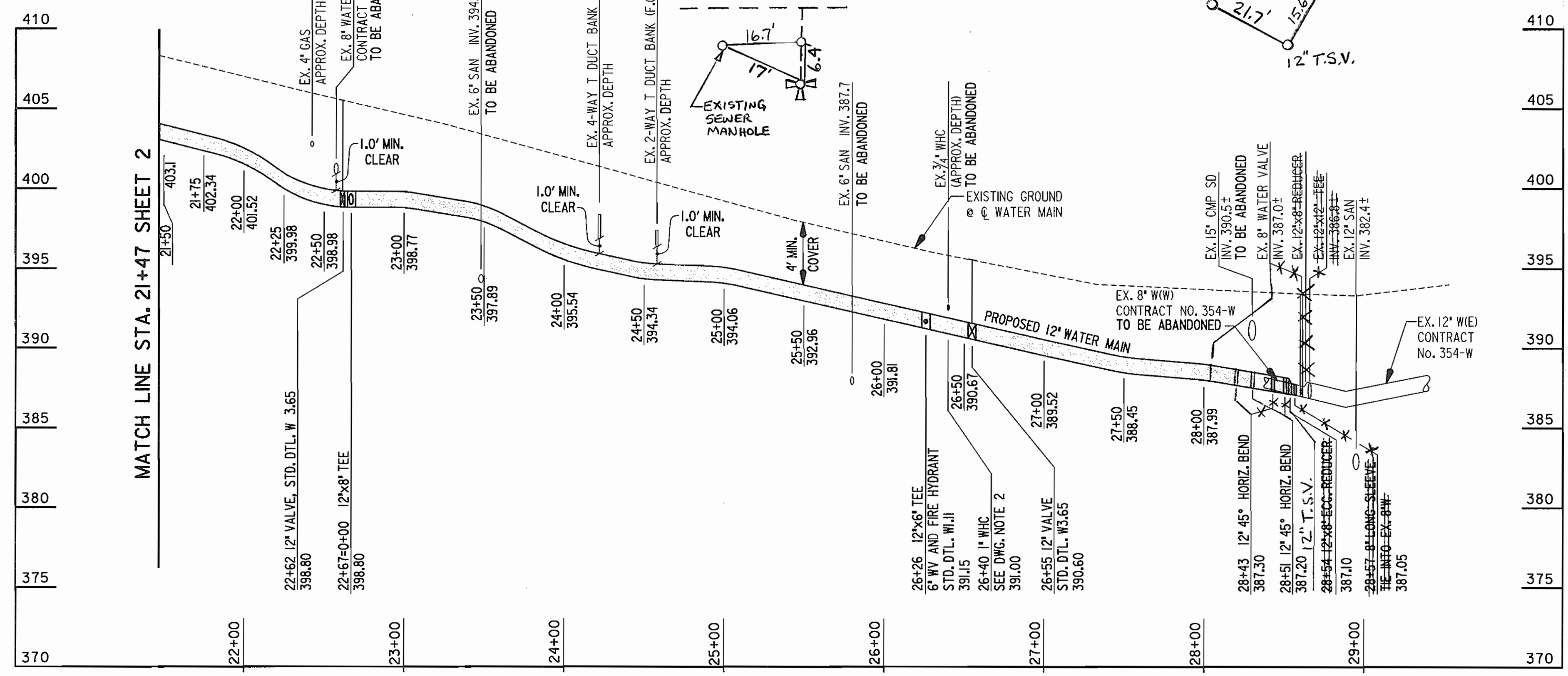
WATER MAIN STAKE-OUT TABLE			
12" WATER			
STATION	DESCRIPTION	NORTH	EAST
22+00	P.T.	538.124.2802	1.341.876.5161
22+67+0+00	12"x8" TEE	538.117.9390	1.341.943.4010
26+26	12"x6" TEE	538.086.08000	1.342.301.1770
28+43	12" 45° HORIZ. BEND	538.066.2040	1.342.517.8010
28+51	12" 45° HORIZ. BEND	538.071.2960	1.342.523.9730
8" WATER			
0+03	8" VALVE	538.111.7022	1.341.942.7790
0+19	8" 45° HORIZ. BEND	538.098.9790	1.341.941.5880
0+32	8"x8" WYE BRANCH	538.090.8410	1.341.931.7290

EXISTING UTILITY SCHEDULE			
FROM SHA STA.	TO SHA STA.	LENGTH	DESCRIPTION
57+00, 128' RT	64+07, 25' RT	694 FEET	ABANDON 8" WATER
58+11, 126' RT	58+11, 157' RT	31 FEET	ABANDON 8" WATER & 8" VALVE
61+95, 71' RT	---	---	REMOVE 6" VALVE & FH
61+95, 71' RT	---	5 FEET	ABANDON FH LEAD
64+07, 25' RT	64+13, 22' RT	9 FEET	REMOVE 8" WATER

NOTE: FOR SHA STATIONING USE & CONSTRUCTION MD 216

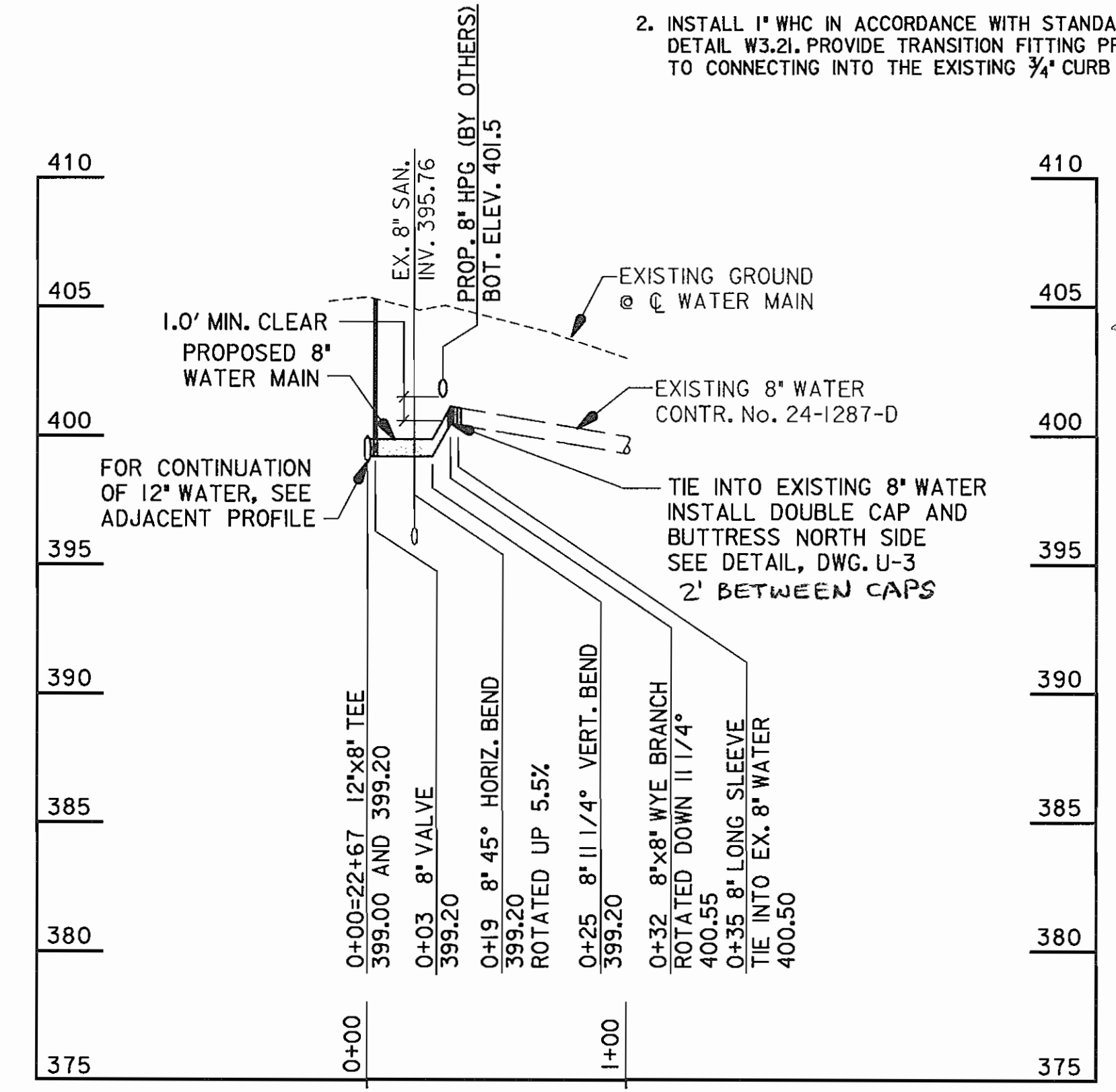
DRAWING NOTES

- ALL HORIZONTAL AND VERTICAL BENDS, CAP AND TEES SHALL BE BUTTRESSED OR ANCHORED IN ACCORDANCE WITH STANDARD DETAILS W2.21, W2.22 OR W2.23.
- INSTALL 1" WHC IN ACCORDANCE WITH STANDARD DETAIL W3.21. PROVIDE TRANSITION FITTING PRIOR TO CONNECTING INTO THE EXISTING 3/4" CURB STOP.



12" W PROFILE

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



8" W PROFILE

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

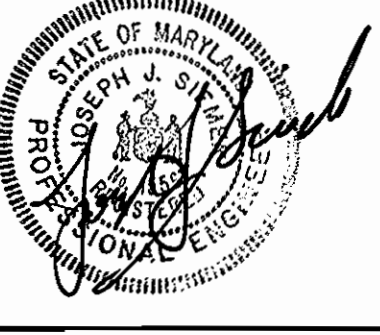
AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

12-21-98
DATE

12-21-98
DATE

WALLACE, MONTGOMERY & ASSOCIATES
CIVIL AND STRUCTURAL ENGINEERS
110 WEST ROAD
TOWSON, MARYLAND 21284



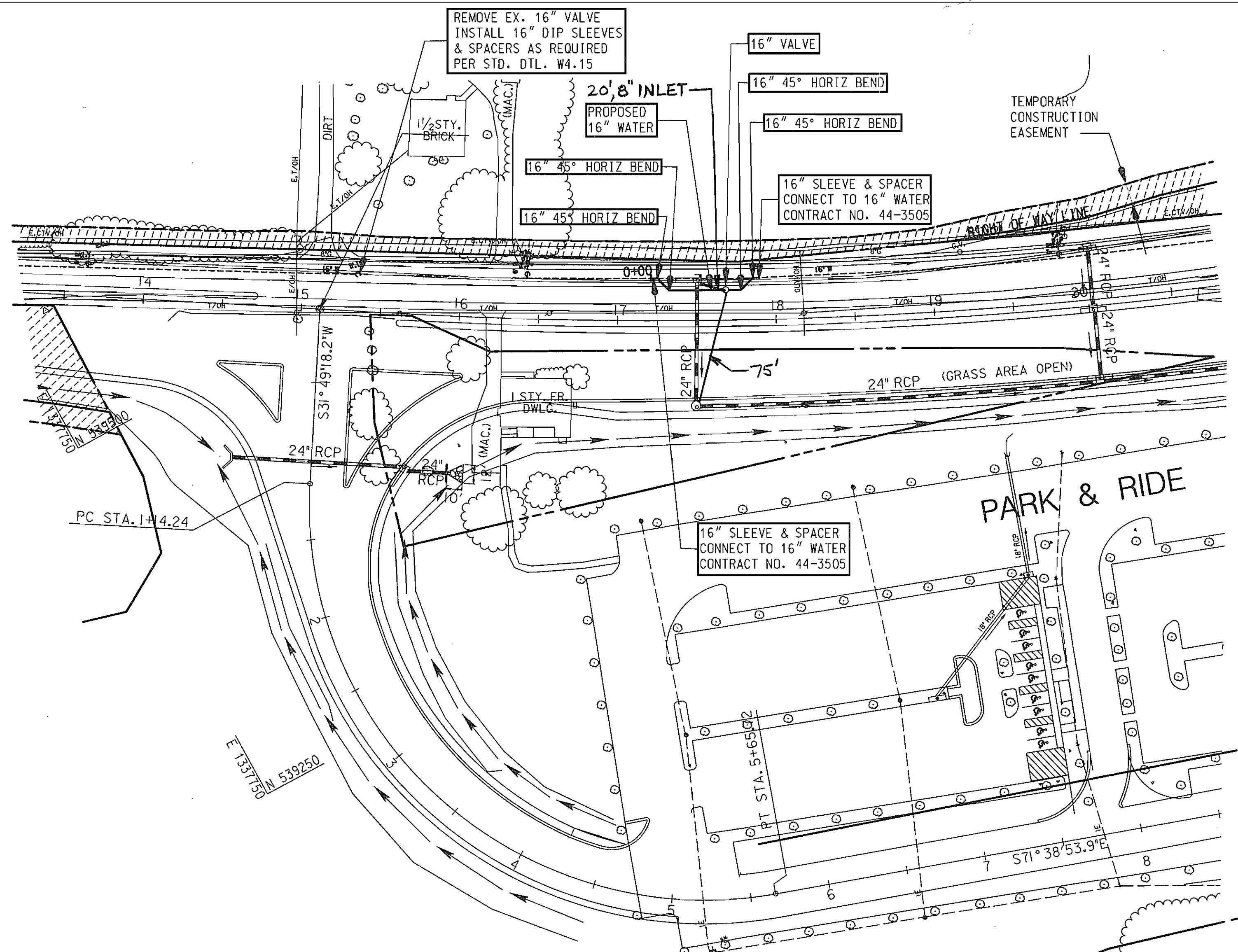
DES: JJS/LAF	BY	NO.	REVISION	DATE
DRN: DEE/MEK				
CHK: JJS				
DATE: 12/18/98				

PLAN AND PROFILE

600' SCALE MAP NO. 46 BLOCK NO. 4

MD ROUTE 216 AND US ROUTE 29
CAPITAL PROJECT NO. W-8156
CONTRACT NO. 24-3741
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

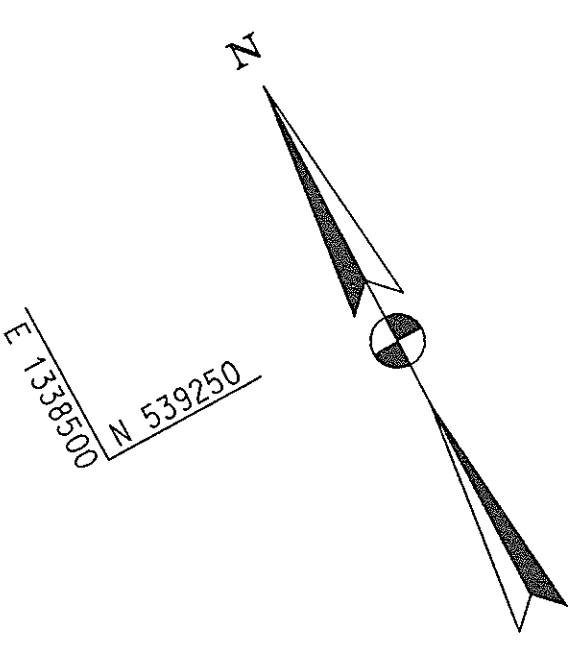
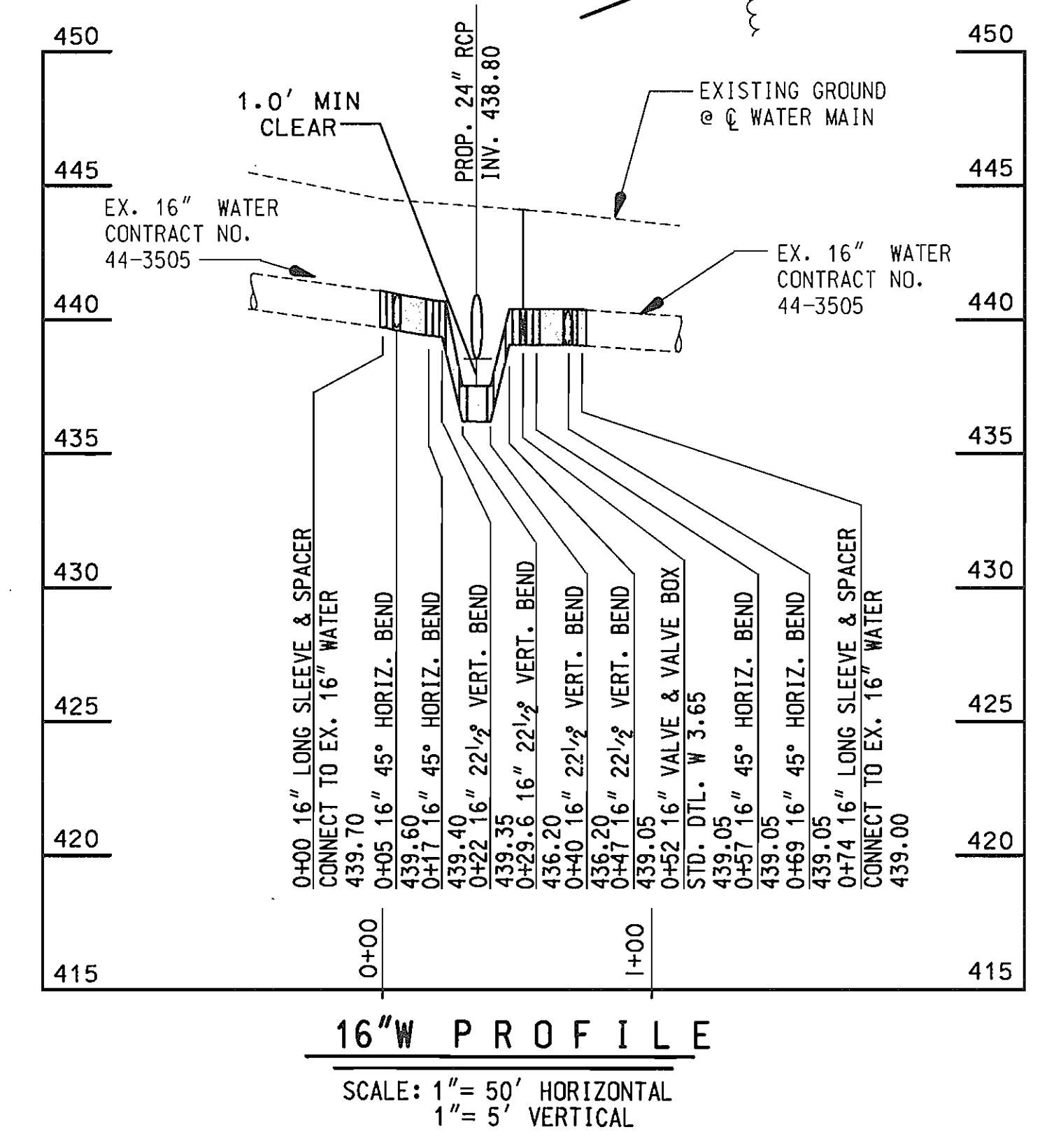
SCALE AS SHOWN
DWG. U-4
SHEET 4 OF 6



WATER MAIN STAKE-OUT TABLE			
16" WATER			
STATION	DESCRIPTION	NORTH	EAST
0+00	16" 45° HORIZ. BEND	539.419.0380	1.338.122.4160
0+17	16" 45° HORIZ. BEND	539.408.6440	1.338.125.4350
0+57	16" 45° HORIZ. BEND	539.387.4950	1.338.165.2810
0+69	16" 45° HORIZ. BEND	539.390.5590	1.338.175.5600

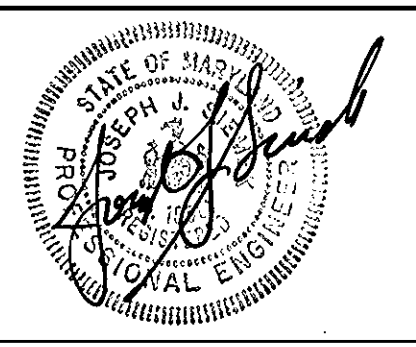
RESTORATION SCHEDULE			
16" WATER			
STATION	TO STATION	LENGTH	MATERIAL
0+00	0+70	70 FEET	TEMPORARY PAVING

RESTORATION NOTE:
 1. ALL HORIZONTAL AND VERTICAL BENDS, CAPS AND TEES SHALL BE BUTTRESSED OR ANCHORED IN ACCORDANCE WITH STANDARD DETAILS W2-21, W2.22 OR W2.23



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *John R. ...* 12/21/98
 Chief, Bureau of Engineering: *Richard ...* 12/21/98
 Chief, Bureau of Utilities: *...* 12-21-98
 Chief, Utility Design Division: *...* 12-21-98

WALLACE, MONTGOMERY & ASSOCIATES
 CIVIL AND STRUCTURAL ENGINEERS
 110 WEST ROAD
 TOWSON, MARYLAND 21204



DES:	LAF		
DRN:	RCT		
CHK:	JJS		
DATE:	12/18/98	BY:	NO.
		REVISION	
		DATE	

PLAN AND PROFILE
 SCALE: 1" = 50' HORIZONTAL
 1" = 5' VERTICAL

AS BUILT
 MD ROUTE 216 AND US ROUTE 29
 CAPITAL PROJECT NO. W-8156
 CONTRACT NO. 24-3741
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 DWG. U-5
 SHEET 5 OF 6

3/01/97015-001.cadd\up07m216.dgn Dec. 18, 1998 14:00:21

