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SURVEY CONTROL

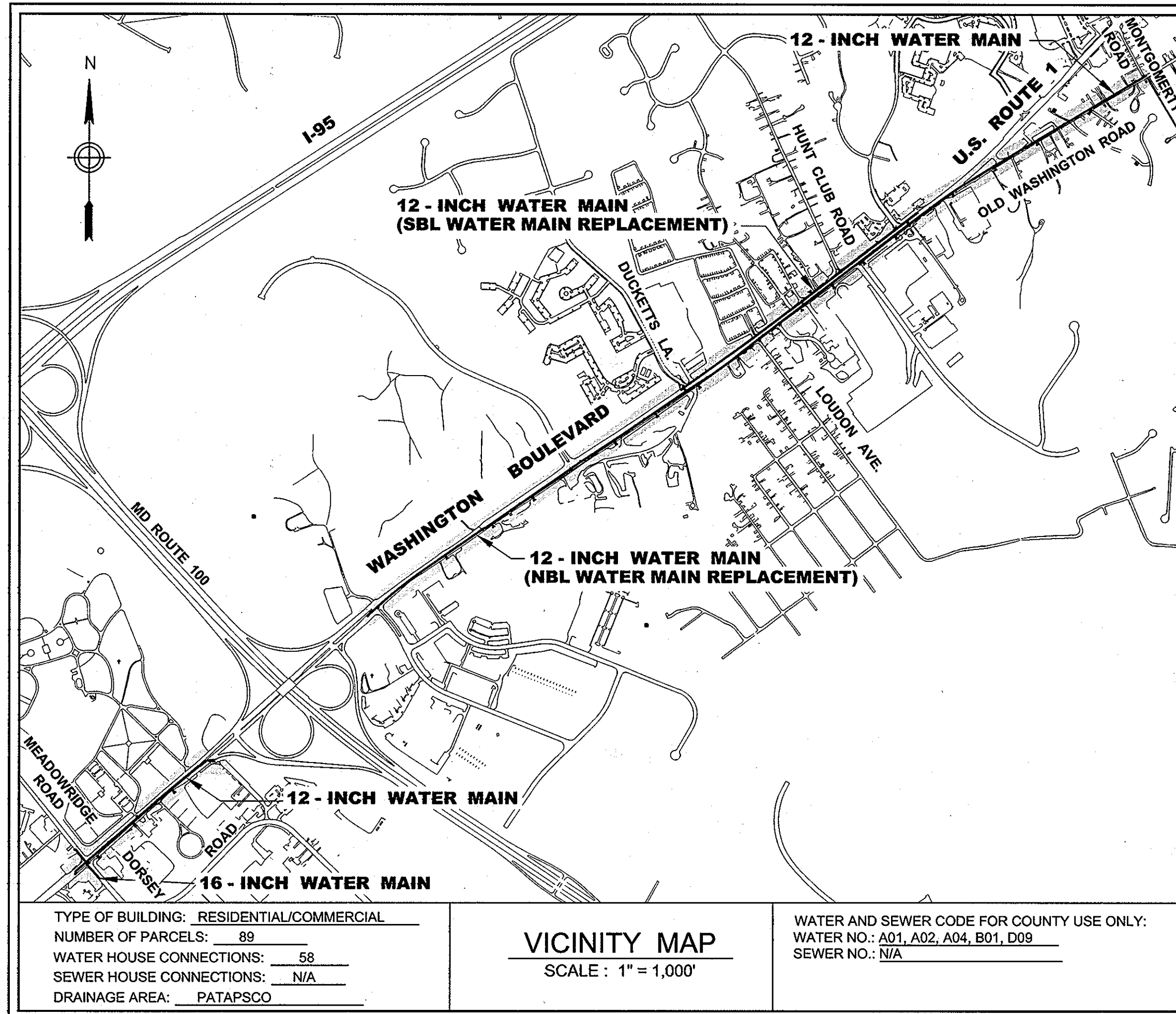
B.M. #1	B.M. #4
HOWARD CO. CONTROL PT. 371A STAMPED DISC ON TOP OF CONCRETE MONUMENT 00.0' LT. OF C.L. STA. 000+00.00 N 553315.147 EL. 195.760 (NGVD 29) E 1379987.154	HOWARD CO. CONTROL PT. 38D5 STAMPED DISC ON TOP OF CONCRETE MONUMENT 00.0' LT. OF C.L. STA. 000+00.00 N 558378.575 EL. 193.726 (NGVD 29) E 1386524.158
B.M. #2	B.M. #5
HOWARD CO. CONTROL PT. 38BA STAMPED DISC ON TOP OF CONCRETE MONUMENT 00.0' LT. OF C.L. STA. 000+00.00 N 562553.278 EL. 166.944 (NGVD 29) E 1390987.927	HOWARD CO. CONTROL PT. 38D6 STAMPED DISC ON TOP OF CONCRETE MONUMENT 00.0' LT. OF C.L. STA. 000+00.00 N 557155.495 EL. 175.228 (NGVD 29) E 1384982.282
B.M. #3	B.M. #6
HOWARD CO. CONTROL PT. 38AA STAMPED DISC ON TOP OF CONCRETE MONUMENT 00.0' LT. OF C.L. STA. 000+00.00 N 551158.784 EL. 220.778 (NGVD 29) E 13789726.391	HOWARD CO. CONTROL PT. 43CA STAMPED DISC ON TOP OF CONCRETE MONUMENT 00.0' LT. OF C.L. STA. 000+00.00 N 552688.1087 EL. 192.24 (NGVD 29) E 1379388.3884

TRAVERSE DATA		
D&D TRAV. PT.	NORTHING	EASTING
100	560954.9420	1389708.9360
101	560643.4720	1390045.4550
102	560501.9310	1389750.4950
103	559855.2490	1388720.0020
104	559538.6920	1388143.3580
105	558993.2660	1387444.9710
106	556115.0900	1383281.0660
107	555300.8090	1382327.1000
108	554143.5530	1381059.1220
110	5593.13.4164	1387875.2700
111	559335.9535	1387780.3142
112	558732.4414	1387101.5229

HOWARD COUNTY

DEPARTMENT OF PUBLIC WORKS

ELLCOTT CITY, MARYLAND 21043



TYPE OF BUILDING: RESIDENTIAL/COMMERCIAL
 NUMBER OF PARCELS: 89
 WATER HOUSE CONNECTIONS: 58
 SEWER HOUSE CONNECTIONS: N/A
 DRAINAGE AREA: PATAPSCO

WATER AND SEWER CODE FOR COUNTY USE ONLY:
 WATER NO.: A01, A02, A04, B01, D09
 SEWER NO.: N/A

VICINITY MAP
 SCALE: 1" = 1,000'

U.S. ROUTE 1 MEADOWRIDGE ROAD TO MONTGOMERY ROAD

12 - INCH WATER MAIN REPLACEMENT CAPITAL PROJECT W-8238 CONTRACT NO. 44-4073

AS-BUILT DRAWING

I HEREBY STATE, TO THE BEST OF MY KNOWLEDGE AND PERSONAL BELIEF, THAT THE WORK SHOWN ON THESE PLANS WAS CONSTRUCTED TO THE LINES AND GRADES SHOWN.

Ryan B. [Signature] 15512 6-12-09
 P.E. NO. DATE

GENERAL NOTES

- Approximate location 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 by the Contractor at the Contractor's expense.
- Topographic field surveys were performed on March 2002 by Dewberry & Davis, LLC.
- 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 Howard Co. B.M.'s 371A, 38BA, 38AA, 38D5, 38D6 and 43CA.
All vertical controls are based on NGVD '29
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 12". 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 location of the test pit. A note or notes containing the results of the test pit or pits is included on the drawings or specifications. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the Contractor two (2) weeks in advance of construction operations at his own expense.
- Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work shown on these plans:
 AT&T 1-800-252-1133
 BGE - Contractor Services 410-850-4620
 BGE - Emergency 410-685-1400
 State Highway Administration 410-531-5533
 Bureau of Utilities (DPW) 410-313-4900
 Verizon 1-800-743-0033 / 410-224-9210
 Colonial Pipeline Co. 410-795-1390
 Miss Utility 1-800-257-7777
- 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 (5) working days before any open cut, boring, jacking or trenchless installation operation in any county roads 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.
- The Contractor is responsible for contacting the various businesses and coordinating his work activities so as not to negatively impact connected customers. The installation of water main shall cause a minimum of disturbance to the existing businesses and notification to the businesses of any "interruptions of service" shall be the responsibility of the Contractor. The County requires that the Contractor notify each business affected, by letter or with door tags, of the impending service interruption at least 48 hours in advance of the planned interruption. In the event of an unplanned interruption, the Contractor will be responsible for notifying the businesses by "door to door" canvassing.
- The Contractor shall provide all necessary lines, grades and elevations, and cut sheets shall be prepared based on the lines and grades shown on the Contract drawings.
- The Contractor shall provide maintenance of traffic Plan for approval prior to installation of water main.

WATER MAIN NOTES

- Water mains 4-inch through 12-inch shall be polyvinyl chloride (PVC) C900, DR-14 unless otherwise noted. All 16-inch water mains shall be polyvinyl chloride (PVC) C905, DR-21. All 16-inch (13.3-inch I.D.) HDPE pipe shall be C901 or C906 and ASTM 2837, DR-11, unless otherwise noted.
- Tops of water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
- Distances shown for the water main are along the centerline of the pipe.
- All fire hydrant valves and mainline valves shall be strapped to trees where applicable, otherwise see Howard County Standard Specifications.
- All fittings shall be restrained joints unless otherwise provided for on the drawings.
- All fire hydrant leads including the tee shall be ductile iron Class 54. Fire hydrants shall be set in the bury line elevations shown on the drawings. All fire hydrants shall be installed in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1000 and Section 1005 of the Howard County Standard Specifications.
- The Contractor shall not operate any water main valves on the existing water system.
- All existing fire hydrants & air release valves abandoned to be removed and returned to:
Howard County Bureau of Utilities
8250 Old Montgomery Road
Columbia, Md. 21045
410-331-4900
- The Contractor shall notify the Howard County Bureau of Utilities at least fifteen (15) days prior to any water main shut downs.
- The Contractor shall field verify the sizes and locations of all the existing water house connections (WHC), horizontal connections and lateral connections prior to tie-ins.
- All valves on existing water main to be abandoned shall be left in closed position and valve boxes removed.
- Installation and tie-ins of water main shall be performed at nighttime.
- The Contractor shall field verify the field condition for utility conflicts prior to installing the fire hydrants setting and valves setting.

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 4/29/05
 DIRECTOR OF PUBLIC WORKS DATE
[Signature] 5/2/05
 CHIEF, BUREAU OF ENGINEERING DATE
[Signature] 4-29-05
 CHIEF, BUREAU OF UTILITIES DATE

Dewberry & Davis LLC
 3120 Lord Baltimore Drive
 Baltimore, Maryland 21244
 (410) 265-9500 FAX: (410) 265-8875
 Architects Engineers Planners Surveyors



DES: RJB			
DRN: CD			
CHK: TND			
DATE: June 15, 2005	BY	NO.	REVISIONS

TITLE SHEET

600' SCALE MAP NO. 37, 38 BLOCK NO.

US ROUTE 1
 MEADOWRIDGE ROAD TO MONTGOMERY ROAD
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT W-8238
 CONTRACT 44-4073
 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 1 OF 27

**U.S. ROUTE 1 - SECTION 1
MEADOWRIDGE RD. & DORSEY RD.**

WATER STAKEOUT TABLE			
U.S. ROUTE 1 - SECT. 1		COORDINATES	
ITEM	STATION	NORTHING	EASTING
16" TIE-IN	0+00	552,777.58	1,379,201.23
16" CAP (OFFSET 21' L)	0+00	552,790.71	1,379,217.35
1/8 H.B.	0+16	552,765.25	1,379,210.94
16" WYE	0+45	552,762.06	1,379,240.26
PC	0+45.32	552,762.06	1,379,240.26
PT	1+67.15	552,668.97	1,379,318.83
16" X 16" CROSS	1+76	552,662.28	1,379,324.69
16" CAP	3+16	552,557.06	1,379,416.86

**U.S. ROUTE 1 - SECTION 1
MEADOWRIDGE RD. TO ROUTE 100**

WATER STAKEOUT TABLE			
U.S. ROUTE 1 - SECT. 1		COORDINATES	
ITEM	STATION	NORTHING	EASTING
16"x 16" TEE	99+90	552,550.38	1,379,196.81
16" X 16" CROSS	101+60	552,662.28	1,379,324.69
PC	102+12	552,696.99	1,379,364.36
PT	106+04	552,955.72	1,379,658.38
12" X 8" TEE	108+24	553,101.27	1,379,823.86
12", 1/8 H.B.	109+03	553,153.34	1,379,883.07
12", 1/8 H.B.	109+21	553,171.17	1,379,884.28
12", 1/8 H.B.	112+62	553,394.91	1,380,142.07
12", 1/8 H.B.	113+03	553,391.90	1,380,182.79
12", 1/16 & 1/32 H.B.	117+63	553,682.47	1,380,538.69
12", 1/16 & 1/32 H.B.	118+04	553,686.69	1,380,580.08
12" TIE-IN	118+22	553,697.89	1,380,594.05

**U.S. ROUTE 1
SECTION 1**

QUANTITIES - SECTION 1				
ITEM	UNIT	ESTIMATE	AS-BUILT	SUPPLIER
6" WATER MAIN DIP (FH LEADS)	L.F.	135	-	- GRIFFIN PIPE
8" WATER MAIN PVC, C900, DR-14	L.F.	65	-	- J-M PIPE
12" WATER MAIN PVC, C900, DR-14	L.F.	1,665	-	- J-M PIPE
16" WATER MAIN PVC, C905, DR-14	L.F.	510	-	- DIAMOND PIPE
16" X 16" CROSS	EA.	1	-	-
16"x 16" TEE	EA.	1	-	-
16"x 6" TEE	EA.	1	-	-
12"x 8" TEE	EA.	1	-	-
12"x 6" TEE	EA.	5	-	-
FIRE HYDRANTS	EA.	6	-	- MUELLER
16" GATE VALVE & ROADWAY BOX	EA.	6	-	- MUELLER
12" GATE VALVE & ROADWAY BOX	EA.	2	-	- U.S. PIPE
8" GATE VALVE & ROADWAY BOX	EA.	1	-	- U.S. PIPE
6" GATE VALVE & ROADWAY BOX	EA.	6	-	- MUELLER
AIR RELEASE VALVE & MH, 1" VALVE	EA.	1	-	- CLA-VAL
16", 1/8 HOR. BEND	EA.	1	-	- TYLER PIPE/UNION
12", 1/8 HOR. BEND	EA.	4	-	- TYLER-UNION
8", 1/8 HOR. BEND	EA.	2	-	- " "
12", 1/16 HOR. BEND	EA.	2	-	- " "
12", 1/32 HOR. BEND	EA.	2	-	- " "
16", 1/8 VERT. BEND	EA.	2	-	- " "
16", 1/32 VERT. BEND	EA.	4	-	- " "
12", 1/32 VERT. BEND	EA.	2	-	- " "
8", 1/32 VERT. BEND	EA.	2	-	- " "
16" WYE	EA.	1	-	- " "
16"x 12" REDUCER	EA.	2	-	- TYLER-UNION
3/4" W.H.C.	L.F.	75	-	- MUELLER
1" W.H.C.	L.F.	10	-	- MUELLER
16" PLUG	EA.	2	-	-

**U.S. ROUTE 1 - SECTION 2 (NBL)
AMBERTON LA. TO MONTGOMERY RD.**

WATER STAKEOUT TABLE			
U.S. ROUTE 1 - SECT. 2		COORDINATES	
ITEM	STATION	NORTHING	EASTING
12" X 12" TS&V	200+00	555,158.39	1,382,141.80
12", 1/8 H.B.	200+08	555,164.37	1,382,136.14
12", 1/8 H.B.	200+15	555,171.35	1,382,136.41
PC	200+20	555,174.50	1,382,140.01
12" X 12" TEE	201+31	555,248.92	1,382,222.29
PCC	204+01	555,421.16	1,382,429.86
PT	206+44	555,564.85	1,382,626.36
12", 1/8 H.B.	210+91	555,818.04	1,382,994.79
12", 1/8 H.B.	211+62	555,805.16	1,383,064.33
12", 1/32 V.B. (ROT.)	213+76	555,926.23	1,383,240.48
12", 1/8 H.B.	214+46 (BACK)	555,995.77	1,383,253.37
12" X 12" TEE	214+36 (AHEAD)	556,013.54	1,383,279.21
PC	219+07	556,279.91	1,383,666.64
PRC	220+34	556,349.33	1,383,773.88
PT	221+54	556,416.02	1,383,873.54
12" X 12" TEE	225+18	556,623.51	1,384,172.41
12" X 12" TEE	239+31	557,423.16	1,385,336.97
PC	239+33	557,424.47	1,385,338.87
PCC	242+36	557,593.81	1,385,589.72
PT	243+53	557,662.26	1,385,684.97
12" X 8" TEE	245+40	557,775.48	1,385,833.64
PC	245+74	557,796.73	1,385,860.00
PRC	246+83	557,864.23	1,385,946.40
PRC	248+07	557,938.96	1,386,045.06
12" X 12" TEE	248+11	557,941.37	1,386,048.20
12" X 10" TEE	248+31	557,953.57	1,386,064.11
12" X 6" TEE	250+83	558,106.61	1,386,264.06
PRC	251+49	558,146.86	1,386,316.50
12" X 12" TEE	253+84	558,290.14	1,386,502.82
PT	255+03	558,363.00	1,386,596.86
12" X 8" TEE	260+84	558,716.55	1,387,057.64
12" X 12" CROSS	267+30	559,111.06	1,387,569.67
12", 1/8 H.B.	268+38	559,176.82	1,387,654.61
12", 1/32 V.B. (ROT.)	268+95	559,168.86	1,387,711.58
12", 1/32 V.B. (ROT.)	272+57	559,386.53	1,388,000.01
12", 1/8 H.B.	273+07 (BACK)	559,436.11	1,388,006.94
PC	273+07 (BACK)	559,436.11	1,388,006.94
PT	276+01 (AHEAD)	559,612.84	1,388,280.33
12" X 8" TEE	285+09	560,083.01	1,389,057.41
12" X 8" TEE	288+89	560,277.81	1,389,383.75
PC	289+04	560,285.46	1,389,396.62
PRC	291+05	560,388.89	1,389,569.42
12" X 6" TEE	295+20	560,597.79	1,389,927.06
12", 1/8 H.B.	295+52	560,613.67	1,389,955.20
PT	295+52	560,613.67	1,389,955.20
12", 1/8 H.B.	295+65	560,626.31	1,389,958.36
12" TIE-IN	295+73	560,630.68	1,389,965.62

**U.S. ROUTE 1
SECTION 2 (NBL)**

QUANTITIES - SECTION 2 (NBL)				
ITEM	UNIT	ESTIMATE	AS-BUILT	SUPPLIER
6" WATER MAIN DIP (FH LEADS)	L.F.	675	-	- GRIFFIN PIPE
6" WATER MAIN PVC, C900, DR-14	L.F.	75	-	- J-M PIPE
8" WATER MAIN PVC, C900, DR-14	L.F.	135	-	- J-M PIPE
10" WATER MAIN PVC, C900, DR-14	L.F.	46	-	- J-M PIPE
12" WATER MAIN PVC, C900, DR-14	L.F.	9,227	-	- J-M PIPE
16" HDPE, DR11	L.F.	750	-	- N/A
12"x 12" TAPPING SLEEVE & 12" VALVE	EA.	1	-	- MUELLER
12" X 12" CROSS	EA.	1	-	-
12"x 12" TEE	EA.	6	-	-
12"x 10" TEE	EA.	1	-	-
12"x 8" TEE	EA.	4	-	-
12"x 6" TEE	EA.	32	-	-
8"x 6" TEE	EA.	2	-	-
FIRE HYDRANTS	EA.	32	-	- MUELLER
12" GATE VALVE & ROADWAY BOX	EA.	18	-	- U.S. PIPE
10" GATE VALVE & ROADWAY BOX	EA.	1	-	- U.S. PIPE
8" GATE VALVE & ROADWAY BOX	EA.	5	-	- U.S. PIPE
6" GATE VALVE & ROADWAY BOX	EA.	33	-	- MUELLER
AIR RELEASE VALVE & MH, 1" VALVE	EA.	4	-	- CLA-VAL
BLOWOFF VALVE & VAULT	EA.	1	-	-
12" ISOLATION VALVE & FLUSHING CONN.	EA.	4	-	-
12", 1/8 HOR. BEND	EA.	16	-	- TYLER-UNION
10", 1/8 HOR. BEND	EA.	2	-	- " "
8", 1/8 HOR. BEND	EA.	6	-	- " "
6", 1/8 HOR. BEND	EA.	4	-	- " "
8", 1/16 HOR. BEND	EA.	1	-	- " "
12", 1/8 VERT. BEND	EA.	8	-	- " "
12", 1/16 VERT. BEND	EA.	2	-	- " "
12", 1/32 VERT. BEND	EA.	10	-	- " "
10", 1/8 VERT. BEND	EA.	2	-	- " "
8", 1/8 VERT. BEND	EA.	4	-	- " "
8", 1/16 VERT. BEND	EA.	2	-	- " "
6", 1/8 VERT. BEND	EA.	2	-	- " "
6", 1/16 VERT. BEND	EA.	2	-	- TYLER-UNION
3/4" W.H.C.	L.F.	213	-	- MUELLER
1" W.H.C.	L.F.	110	-	- MUELLER
2" W.H.C.	L.F.	88	-	- MUELLER
4" W.H.C.	L.F.	16	-	- GRIFFIN PIPE
6" W.H.C.	L.F.	75	-	- GRIFFIN PIPE

**U.S. ROUTE 1 - SECTION 2 (SBL)
DUCKETTS LA. TO ROWANBERRY DR.**

WATER STAKEOUT TABLE			
U.S. ROUTE 1 - SECT. 2		COORDINATES	
ITEM	STATION	NORTHING	EASTING
12" CAP	400+00	557,437.75	1,385,269.16
12" X 12" CROSS	400+48	557,464.87	1,385,308.29
PC	403+53	557,639.32	1,385,558.99
PT	405+25	557,737.68	1,385,700.36
PC	408+02	557,902.88	1,385,922.37
PRC	408+60	557,936.20	1,385,970.28
PCC	408+85	557,949.98	1,385,990.31
12" X 8" TEE	409+24	557,973.07	1,386,021.98
PCC	410+95	558,076.21	1,386,158.68
PRC	411+26	558,095.69	1,386,182.27
PT	411+39	558,103.97	1,386,192.30
PC	411+43	558,106.87	1,386,196.11
PRC	411+91	558,136.07	1,386,234.08
PT	413+10	558,207.93	1,386,328.59
12" X 12" TEE	414+98	558,321.82	1,386,478.35
12" X 12" TEE	419+86	558,619.12	1,386,865.37
12" X 8" TEE	420+11	558,634.29	1,386,885.52
12" X 6" TEE	424+82	558,920.68	1,387,258.42
12" X 8" TEE	427+15	559,063.94	1,387,442.90
12" X 8" TEE	428+44	559,143.08	1,387,544.80
12" CAP	429+75	559,222.67	1,387,648.56

**U.S. ROUTE 1
SECTION 2 (SBL)**

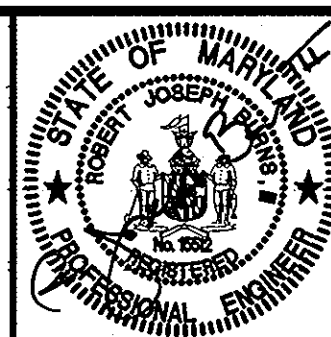
QUANTITIES - SECTION 2 (SBL)				
ITEM	UNIT	ESTIMATE	AS-BUILT	SUPPLIER
6" WATER MAIN DIP (FH LEADS)	L.F.	175	-	- GRIFFIN PIPE
8" WATER MAIN PVC, C900, DR-14	L.F.	135	-	- J-M PIPE
12" WATER MAIN PVC, C900, DR-14	L.F.	3,105	-	- J-M PIPE
12"x 12" CROSS	EA.	1	-	-
12"x 12" TEE	EA.	3	-	-
12"x 8" TEE	EA.	3	-	-
12"x 6" TEE	EA.	10	-	-
FIRE HYDRANTS	EA.	8	-	- MUELLER
12" GATE VALVE & ROADWAY BOX	EA.	10	-	- U.S. PIPE
8" GATE VALVE & ROADWAY BOX	EA.	3	-	- U.S. PIPE
6" GATE VALVE & ROADWAY BOX	EA.	10	-	- MUELLER
AIR RELEASE VALVE & MH, 1" VALVE	EA.	1	-	- CLA-VAL
BLOWOFF VALVE & VAULT	EA.	1	-	-
12", 1/8 HOR. BEND	EA.	4	-	- TYLER-UNION
8", 1/8 HOR. BEND	EA.	6	-	- " "
6", 1/8 HOR. BEND	EA.	2	-	- " "
8", 1/32 HOR. BEND	EA.	1	-	- " "
12", 1/16 VERT. BEND	EA.	2	-	- " "
8", 1/8 VERT. BEND	EA.	2	-	- " "
6", 1/16 VERT. BEND	EA.	2	-	- " "
3/4" W.H.C.	L.F.	134	-	- MUELLER
6" W.H.C.	L.F.	75	-	- MUELLER

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

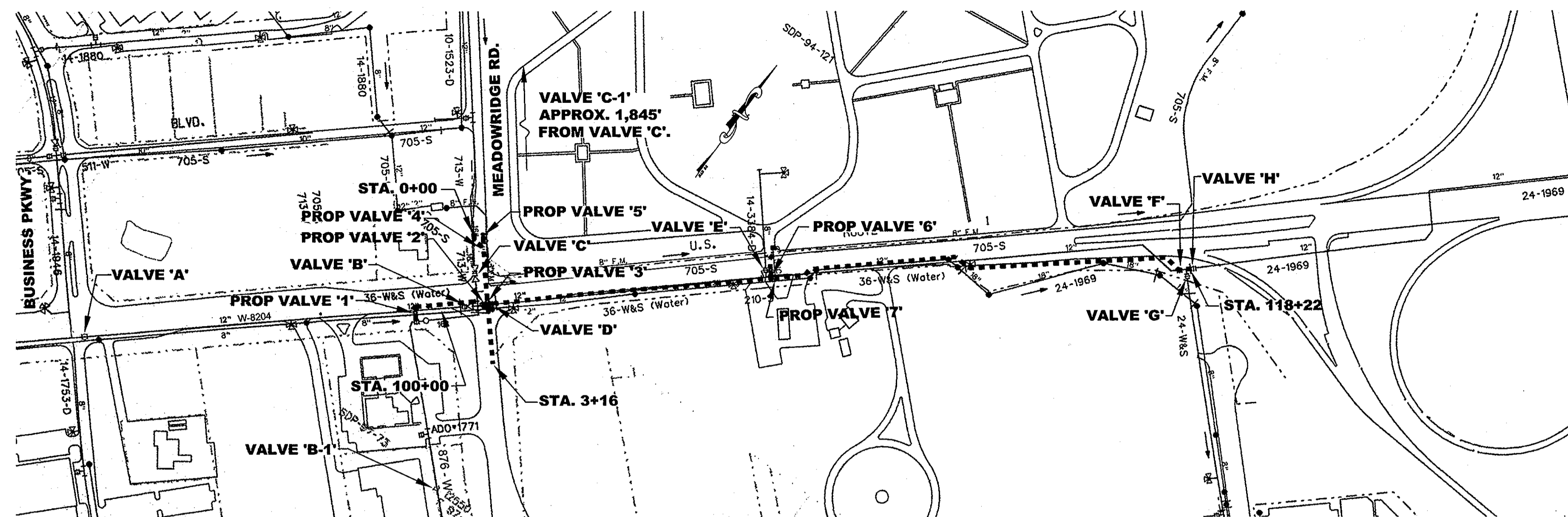
John A. ... 4-29-05
DIRECTOR OF PUBLIC WORKS
DATE
Paul J. ... 5/6/05
CHIEF, BUREAU OF ENGINEERING
DATE
John ... 4-28-05
CHIEF, UTILITY DESIGN DIVISION
DATE

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875
Architects Engineers Planners Surveyors



DES: RJB
DRN: CD
CHK: TND
DATE: June 15, 2005

||
||
||



**EXISTING VALVE PLAN
STA. 100+00 TO STA. 118+22
SCALE: 1" = 200'**

SUGGESTED SEQUENCE OF CONSTRUCTION *

1. Obtain Grading Permit.
2. The existing 12" water has been test pitted at all tie-in points. The Contractor shall verify this information prior to Construction.
3. Install 16" water in U.S. Rte. 1, from Sta. 100+10± to Sta. 101+55± and 12" water in U.S. Rte. 1, from Sta. 101+65± to Sta. 118+15±, including FH leads.
4. Install 16" water in Meadowridge Rd., including FH leads, from Sta. 0+10± to Sta. 3+06±.
5. Pressure test and chlorinate new water mains upon completion of installation.
6. Close Valves 'C' and 'C-1'. Connect 16" water in Meadowridge Rd. to existing 16" water.
7. Re-open Valve 'C-1' (this will energize all water mains constructed in Items 2 & 3) Close Valve 'E'.
8. Install Tie-In to Meadowridge Memorial Park. Re-open Valve 'E'.
9. Install all water service connections.
10. After all water service connections have been made, close Valves A, B, Valve 2, & B-1 on the existing 12" water for connection on South end and tie-in to existing 16" water 10'± Southwest of Sta. 100+00. The new 12" PVC water main will then be backfed from the existing 16" water main constructed under contract W-876 prior to connecting the new 12" water main to the existing 12" water main in step 12.
11. Open existing Valves 'A', 'B', Valve 2, & 'B-1' at Sta. 100+00.
12. Close valve on new 12" water at Sta. 101+66. Tie-in to 12" water. Close Valve E, F, & Valve 3 for connection on new 12" water at Sta. 118+22.
13. Open existing Valves 'E', 'F' & all Valves on new 12" water and 16" water.

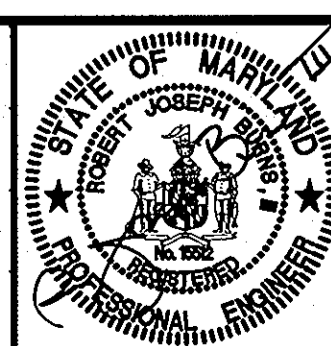
NOTE: THIS IS ONE SUGGESTED SEQUENCE OF CONSTRUCTION THAT IS DESIGNED TO MINIMIZE THE DISRUPTION OF WATER SERVICE AND VEHICULAR TRAFFIC TO BUSINESSES AND RESIDENTS IN THE PROJECT AREA. ALTERNATIVE SEQUENCES THAT DO NOT INCREASE THE DISRUPTION OR DEGRADE THE HEALTH AND SAFETY OF PERSONS AND PROPERTY MAY BE SUBMITTED FOR REVIEW AND APPROVAL WELL IN ADVANCE OF CONSTRUCTION.

* EXISTING VALVES ARE DESIGNATED WITH LETTERS (ex. 'C' and 'C-1') AND NEW VALVES ARE DESIGNATED BY NUMBERS (ex. '1', '2' etc.).

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875
Architects Engineers Planners Surveyors



DES: RJB			
DRN: CD			
CHK: TND			
DATE: June 15, 2005	BY NO.	REVISIONS	DATE

SEQUENCE OF CONSTRUCTION

600' SCALE MAP NO. 37, 38 BLOCK NO.

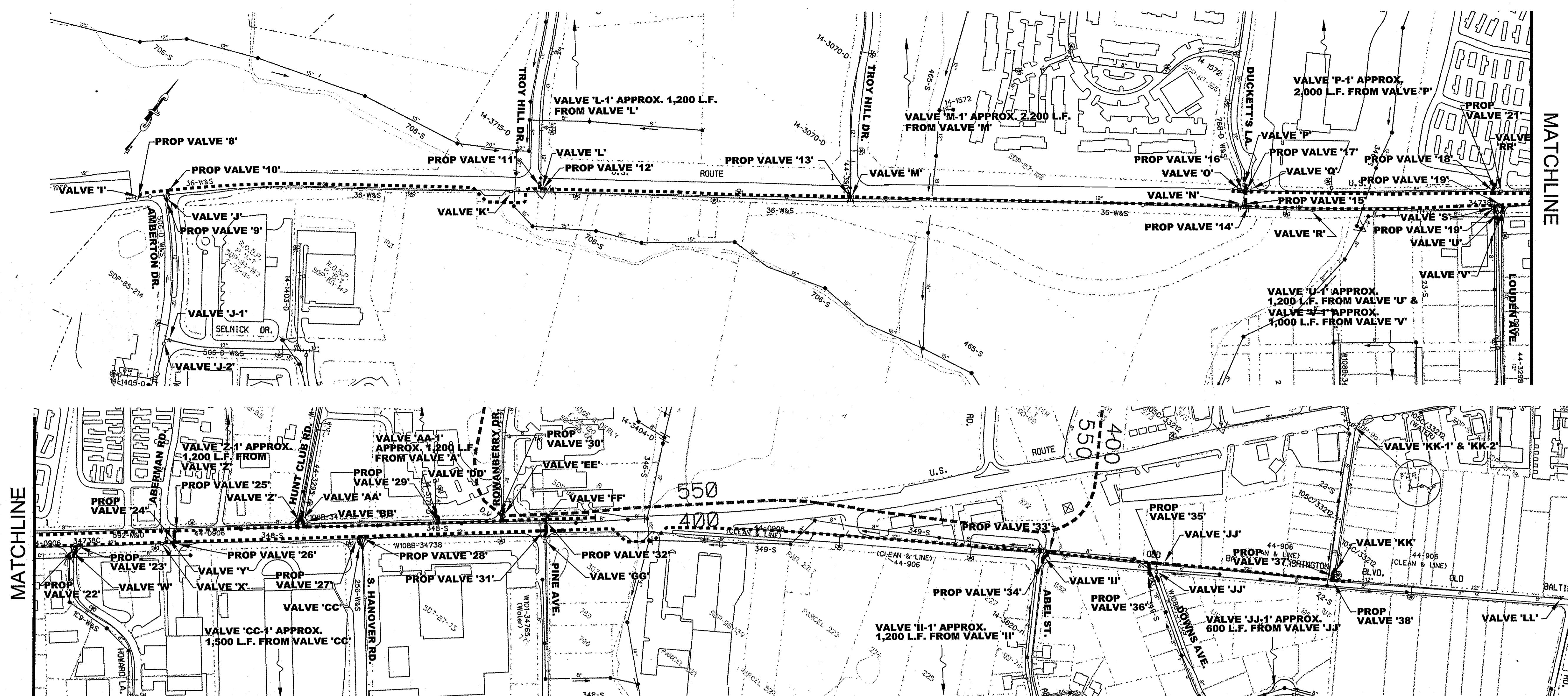
**US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT**
CAPITAL PROJECT W-8238
CONTRACT 44-4073

ELECTION DISTRICT NO. 1

HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
3 OF 27



EXISTING VALVE PLAN
STA. 200+00 TO STA. 295+73 &
STA. 400+00 TO STA. 429+75
SCALE: 1" = 200'

SUGGESTED SEQUENCE OF CONSTRUCTION

1. The existing 12" water mains have been test pitted at all tie-in points. The Contractor shall verify this information prior to Construction.
2. Install 12" water in U.S. Rte. 1, Northbound Lane, including FH leads, from Sta. 200+10± to Sta. 295+63±.
3. Pressure Test and chlorinate new water main upon completion of installation.
4. Connect 12" water in Northbound Lane to existing 12" at Sta. 200+00 and Sta. 295+73.3.
5. Close Valves 'J', 'J-1' and 'J-2'. Connect 12" water in Amber-ton Rd. to existing 12" water. Re-open Valves 'J', 'J-1' and 'J-2'.
6. Close Valves 'L' and 'L-1'. Connect 12" water in Troy Hill Rd. to existing 12" water. Re-open Valves 'L' and 'L-1'.
7. Close Valves 'M' and 'M-1'. Connect 12" water in Troy Hill Rd. to existing 12" water. Re-open Valves 'M' and 'M-1'.
8. Close Valves 'P' and 'P-1'. Connect 12" water in Duckett's La. to existing 12" water. Re-open Valves 'P' and 'P-1'.
9. Close Valves 'V' and 'V-1'. Connect 12" water in East Side of Louden Ave. to existing 12" water. Re-open Valves 'V' and 'V-1'.
10. Close Valves 'U' and 'U-1'. Connect 12" water in West Side of Louden Ave. to existing 12" water. Re-open Valves 'U' and 'U-1'.
11. Close Valve 'W'. Connect 12" water in Howard La. to existing 6" water. Re-open Valve 'W'.
12. Close Valves 'CC' and 'CC-1'. Connect 12" water in S. Hanover Rd. to existing 8" water. Re-open Valves 'CC' and 'CC-1'.
13. Close Valve 'GG'. Connect 12" water in Pine Ave. to existing 8" water. Re-open Valve 'GG'.
14. Close Valves 'II' and 'II-1'. Connect 12" water in Abel St. to existing 12" water. Re-open Valves 'II' and 'II-1'.
15. Close Valves 'JJ' and 'JJ-1'. Connect 12" water in Downs Ave. to existing 8" water. Re-open Valves 'JJ' and 'JJ-1'.
16. Close Valves 'KK', 'KK-1' and 'KK-2'. Connect 12" water in Montgomery Rd. to existing 6" water. Re-open Valves 'KK', 'KK-1' and 'KK-2'.
17. Install service connections for the properties along U.S. Rte. 1, Northbound Lane. Re-open all Proposed Valves.
18. Install 12" water in U.S. Rte. 1, Southbound lane, from Sta. 400+00 and Sta. 429+75. Pressure test and chlorinate new water main upon completion of installation.
19. Close Proposed Valves on 12" water in Rte. 1, Southbound lane, and connect to existing 12" water at sta. 400+00 and sta. 429+75. Re-open all Proposed Valves.
20. Install service connections to properties along U.S. Route 1, Southbound lane.
21. Close Valve 'RR' and Proposed Valve '21' and connect to existing meter vault.
22. Close Valves 'AA' and 'AA-1' and connect to existing 8" water in Hunt Club Rd. Re-open Valves 'AA' and 'AA-1'.
23. Close Valves 'Z' and 'Z-1' and connect to existing 12" water in Hunt Club Rd. Re-open Valves 'Z' and 'Z-1'.
24. Close Valve 'DD' and connect to existing 6" water for Howard County, Elkridge Library. Re-open Valve 'DD'.
25. Close Valves 'EE' and connect to existing 8" water in Rowanberry Dr. Re-open Valve 'EE'.

NOTE: THIS IS ONE SUGGESTED SEQUENCE OF CONSTRUCTION THAT IS DESIGNED TO MINIMIZE THE DISRUPTION OF WATER SERVICE AND VEHICULAR TRAFFIC TO BUSINESSES AND RESIDENTS IN THE PROJECT AREA. ALTERNATIVE SEQUENCES THAT DO NOT INCREASE THE DISRUPTION OR DEGRADE THE HEALTH AND SAFETY OF PERSONS AND PROPERTY MAY BE SUBMITTED FOR REVIEW AND APPROVAL WELL IN ADVANCE OF CONSTRUCTION.

"AS-BUILT" - MAY 2009

R:\proj\beta\16023\CD\view closure rev.dwg, 4/25/2005 12:45:38 PM

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		Dewberry & Davis LLC 3120 Lord Baltimore Drive Baltimore, Maryland 21244 (410) 265-9500 FAX: (410) 265-8875 Architects Engineers Planners Surveyors	
[Signature] 4/24/05 DIRECTOR OF PUBLIC WORKS CHIEF, BUREAU OF UTILITIES	[Signature] 5/2/05 CHIEF, BUREAU OF ENGINEERING	[Signature] 4-29-05 CHIEF, BUREAU OF UTILITIES	[Signature] 4-28-05 CHIEF, UTILITY DESIGN DIVISION

	DES: RJB DRN: CD CHK: TND DATE: June 15, 2005
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BY	NO.	REVISIONS	DATE

SEQUENCE OF CONSTRUCTION

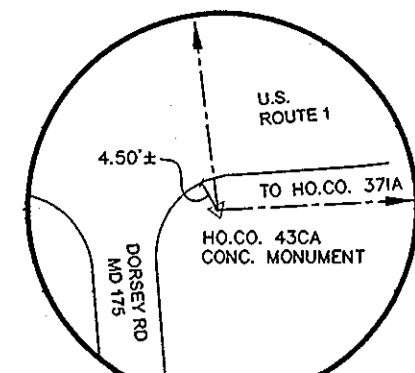
600' SCALE MAP NO. 37, 38 BLOCK NO.

US ROUTE 1
 MEADOWRIDGE ROAD TO MONTGOMERY ROAD
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT W-8238
 CONTRACT 44-4073
 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 4 OF 27

TEST HOLE DATA TABLE				
T.H. NO.	UTILITY	COORDINATES NORTHING EASTING	SURFACE ELEVATION	TOP OF UTIL. ELEVATION
1	16" WATER	552,777.51 1,379,201.72	186.78	182.41
2	16" WATER	552,531.48 1,379,213.24	193.14	186.93
101*	12" WATER	552,545.97 1,379,199.96	192.73	183.96
105	12" WATER	552,645.41 1,379,306.15	192.08	186.55

* TEST HOLE 101-Unable to visually inspect pipe for size and material due to excessive ground water and soil cave-ins. Plans indicate a 12" water at this location. PK set over approximate crown of pipe.



HO.CO. 43CA

BM-6
HOWARD CO. CONTROL PT. 43CA STAMPED
DISC ON TOP OF CONCRETE MONUMENT
N 552686.1087, E 1379388.3884

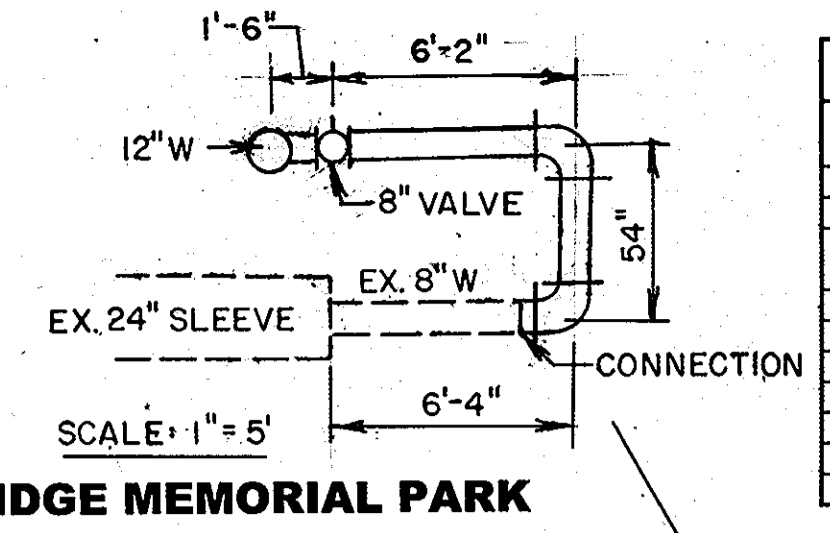
TRAVERSE POINTS
43CA HO.CO CONCRETE MONUMENT
N 552,686.1087, E 1,379,388.3884

SE. ROOSEVELT BLVD.
MAP 43 PAR. 375 LT. 29
ACCT. NO. 01-163516
KUNIMOTO TOSHIRO & KIM JOONG
5342
REC. PLAT L 5 F. 13

#7300
MAP 37 PAR. 375 LT. 14
ACCT. NO. 01-167957
KENTON OIL COMPANY, INC.
L 5418 F. 106
REC. PLAT L 5 F. 13

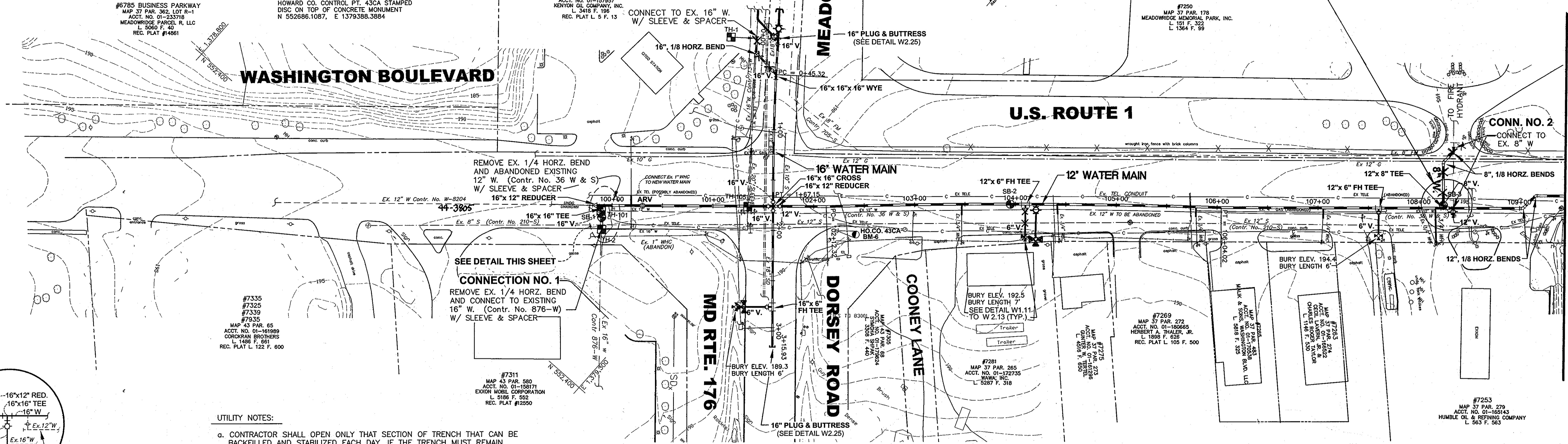
CONNECT TO EX. 16" W.
W/ SLEEVE & SPACER

WHC WASHINGTON BOULEVARD			
ADDRESS	SIZE	STATION	REMARKS
7300	1"	100+19±	In Island
7310	N/A	N/A	Not in Contract
7250	6"	108+24	Memorial Park Connection
7253	3/4"	108+16	No W.H.C. Card
7263	3/4"	107+03	No W.H.C. Card
7265	3/4"	105+80	No W.H.C. Card
7269	3/4"	105+80	No W.H.C. Card
7275	3/4"	104+42	No W.H.C. Card
7281	3/4"	103+45	No W.H.C. Card
7291	3/4"	103+00	For Future Use

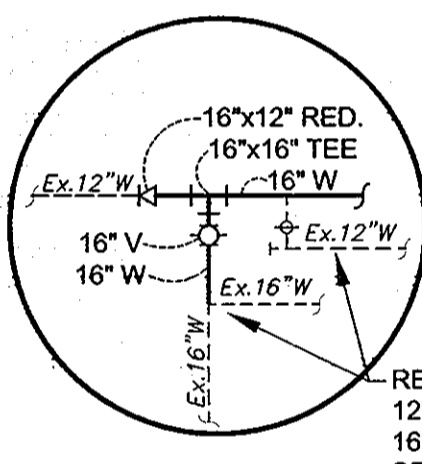


MEADOWRIDGE MEMORIAL PARK

#7250
MAP 37 PAR. 178
MEADOWRIDGE MEMORIAL PARK, INC.
L 1364 F. 99



PLAN
SCALE: 1"=50'

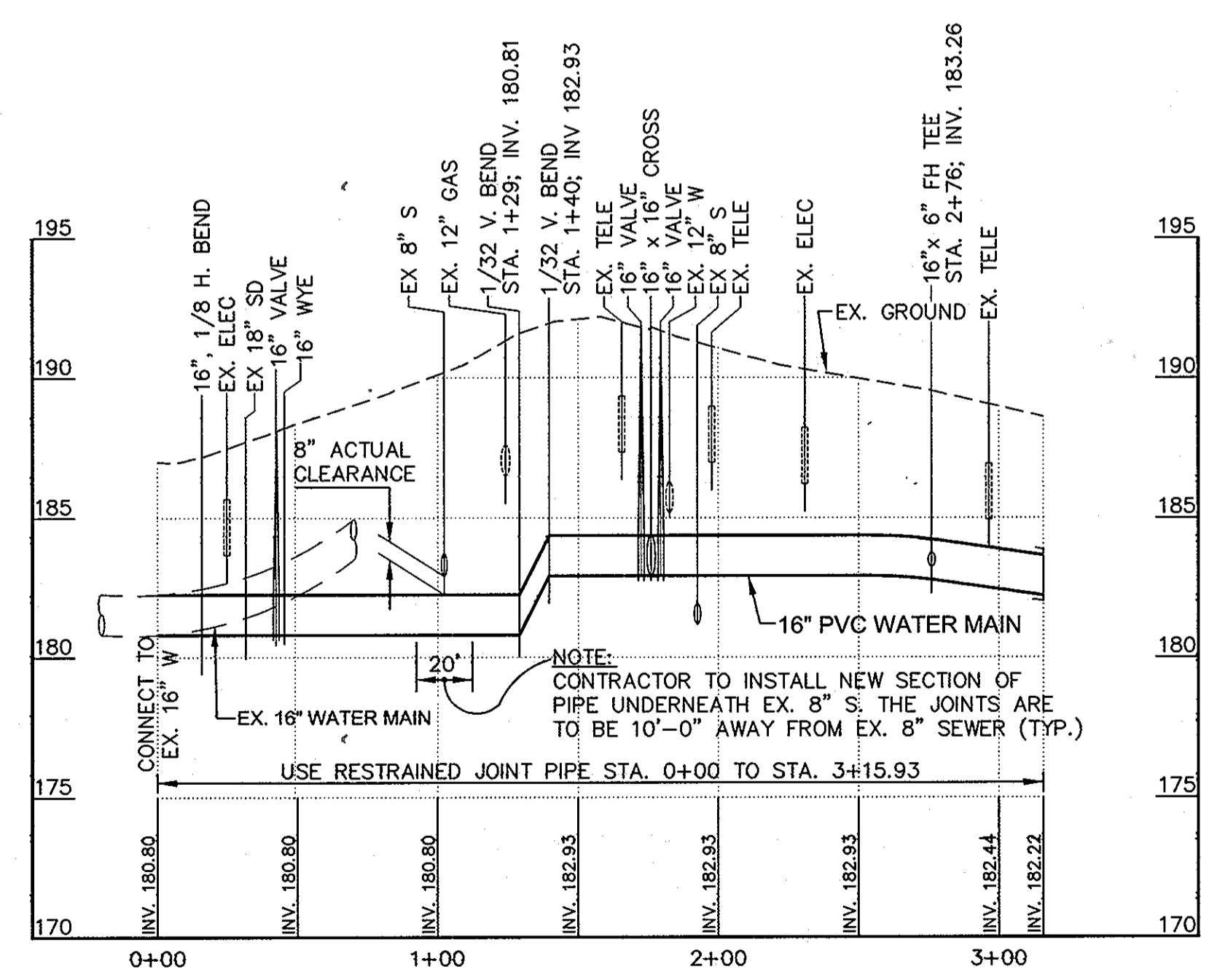


REMOVE EX. 1/4 H. BENDS AND
12" VALVE, ABANDON EX. 12" &
16" W. LINES AS NECESSARY.
SEE STD. DETAIL W2.25

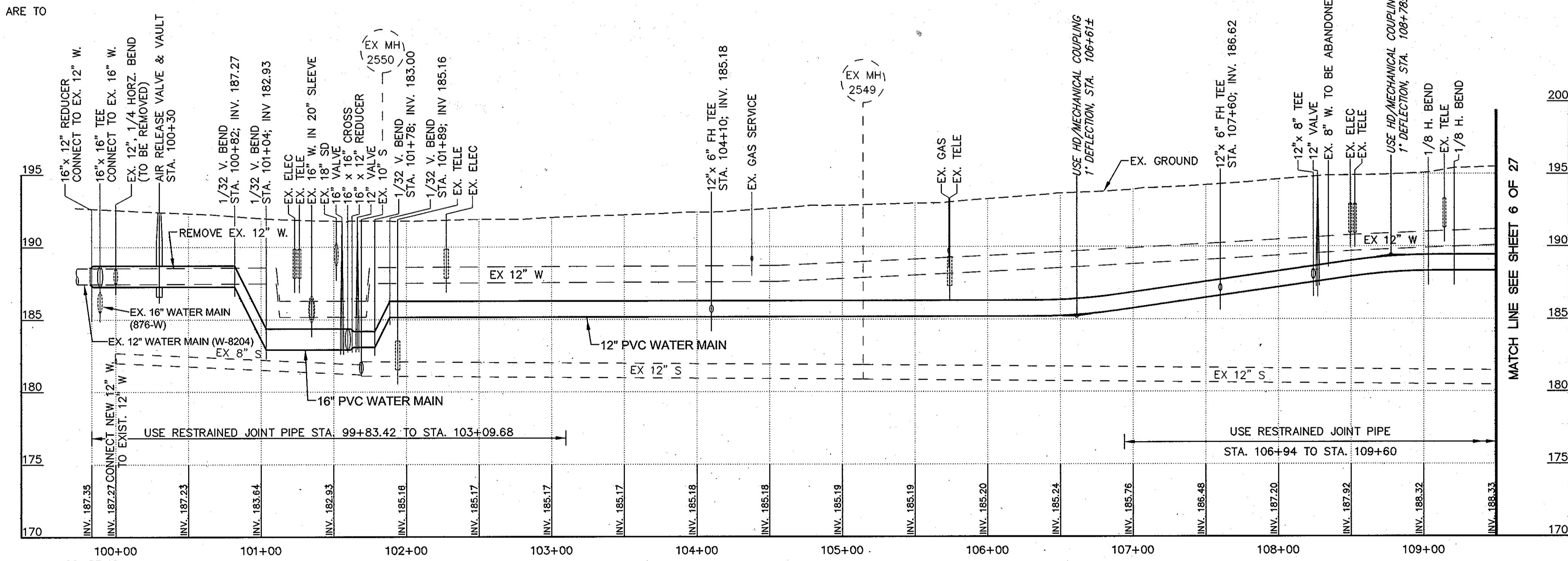
CONNECTION AND ABANDONMENT DETAIL
FOR 12" AND 16" WATER MAINS

UTILITY NOTES:

- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.



PROFILE MEADOWRIDGE ROAD
SCALE: 1"=50' H.
1"=5' V.



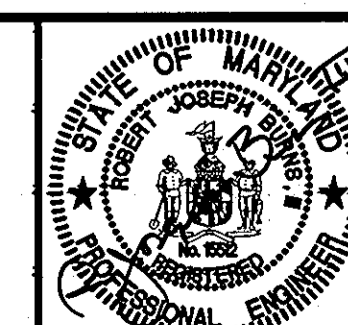
PROFILE WASHINGTON BOULEVARD
SCALE: 1"=50' H.
1"=5' V.

"AS-BUILT"- MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. ... 4/29/05
DIRECTOR OF PUBLIC WORKS
DATE
Paul P. ... 5/2/05
CHIEF, BUREAU OF ENGINEERING
DATE
... 4-28-05
CHIEF, UTILITY DESIGN DIVISION
DATE

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875
Architects Engineers Planners Surveyors



DES: RJB
DRN: CD
CHK: TND
DATE: June 15, 2005

PLAN AND PROFILE

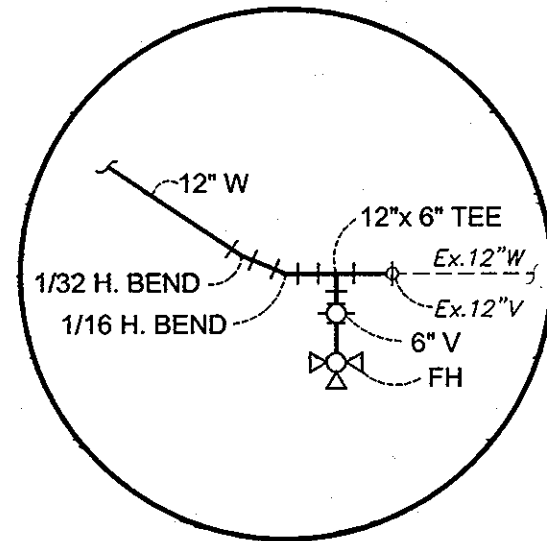
US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073
ELECTION DISTRICT NO. 1
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 27

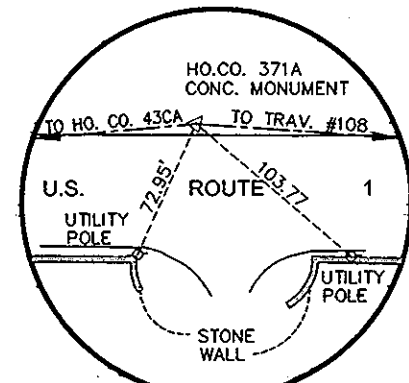
TEST HOLE DATA TABLE				
T.H. NO.	UTILITY	COORDINATES NORTHING EASTING	SURFACE ELEVATION	TOP OF UTIL. ELEVATION
3	4" TEL. PVC	553,675.38 1,380,535.44	196.74	195.25
4	8" WATER	553,678.49 1,380,622.16	195.90	191.35
5	26" GAS	553,702.20 1,380,604.23	196.12	192.47
6	12" WATER	553,717.56 1,380,615.13	196.52	193.34
112*	12" WATER	553,392.38 1,380,116.85	196.37	191.84
115*	12" WATER	553,574.30 1,380,407.74	196.56	192.68

* TEST HOLE 112—Revealed a 4" wrapped steel gas running with water, offset 1.4'± northwest of PK, cover 4.04'.

* TEST HOLE 115—PK set over crown of southeasternmost conduit. Distance to crown of northwesternmost conduit 1.1'



CONNECTION DETAIL
FOR 12" WATER TO EXISTING 12" WATER



HO. CO. 371A

BM-1 ELEV. 195.76
HOWARD CO. CONTROL PT. 371A STAMPED
DISC ON TOP OF CONCRETE MONUMENT
N 553,315.147 E 1,379,982.154

UTILITY NOTES:

- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

BENCH MARKS
ELEV. 195.76
HOWARD CO. CONTROL PT. 371A STAMPED
DISC ON TOP OF CONCRETE MONUMENT

TRAVERSE POINTS
HO. CO. CONCRETE MONUMENT
N 553,315.147 E 1,379,982.154

#7250
MAP 37 PAR. 178
MEADOWRIDGE MEMORIAL PARK, INC.
L 151 F. 322
L 1364 F. 99

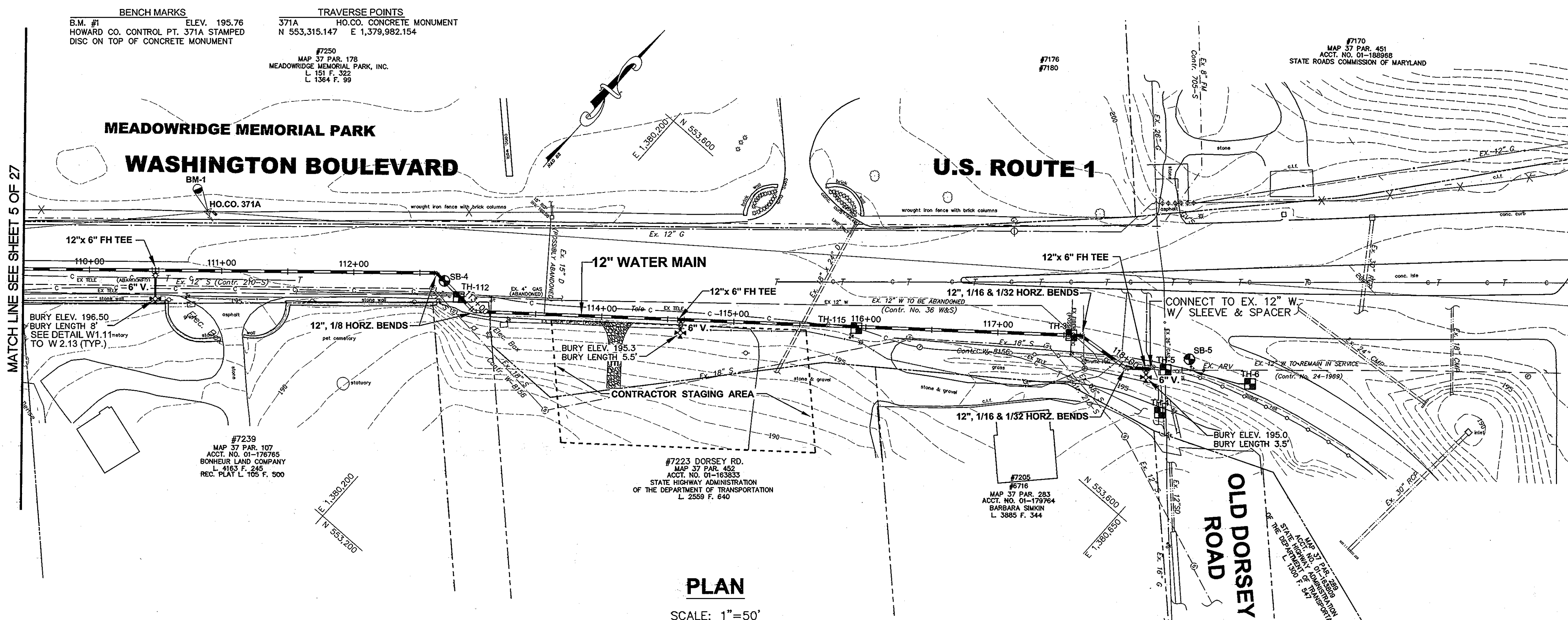
#7239
MAP 37 PAR. 107
ACCT. NO. 01-176765
DORSEY LAND COMPANY
L 4163 F. 245
REC. PLAN L 165 F. 500

#7223 DORSEY RD.
MAP 37 PAR. 452
ACCT. NO. 01-163833
STATE HIGHWAY ADMINISTRATION
OF THE DEPARTMENT OF TRANSPORTATION
L 2559 F. 640

#7205
MAP 37 PAR. 283
ACCT. NO. 01-179764
BARBARA SIMON
L 3885 F. 344

#7170
MAP 37 PAR. 451
ACCT. NO. 01-188988
STATE ROADS COMMISSION OF MARYLAND

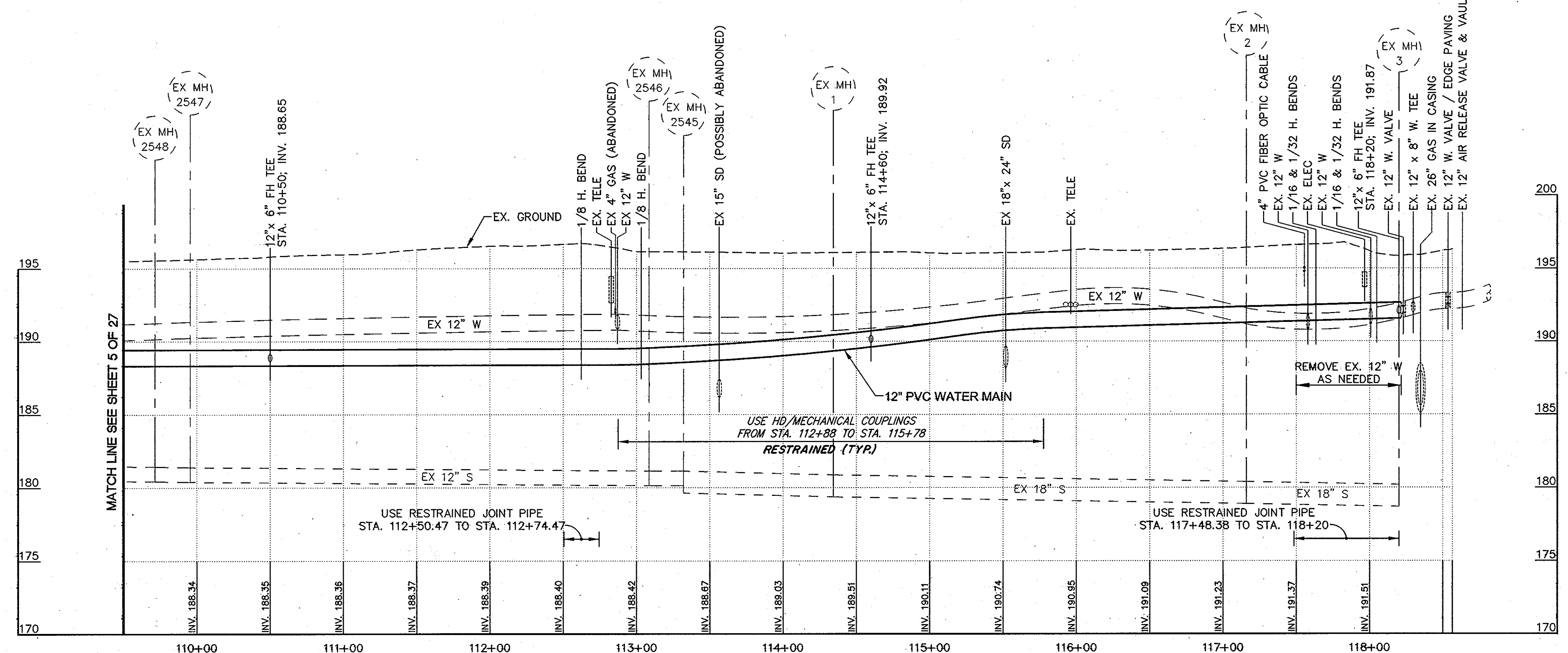
MATCH LINE SEE SHEET 5 OF 27



PLAN

SCALE: 1"=50'

- NOTE:
- CONTRACTOR SHALL CONTACT SHA REGARDING THE USE OF THIS SITE AS A POSSIBLE STAGING AREA.
 - CONTRACTOR TO REMOVE THE EXIST. GUARDRAIL FOR WATER MAIN INSTALLATION WHERE NECESSARY, AND RESTORE THE GUARDRAIL TO ITS ORIGINAL LOCATION UPON COMPLETION OF WORK.



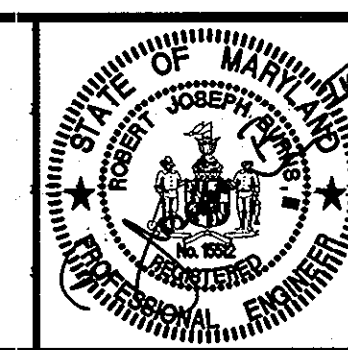
PROFILE

SCALE: 1"=50'

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875



DES: RJB
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PLAN AND PROFILE

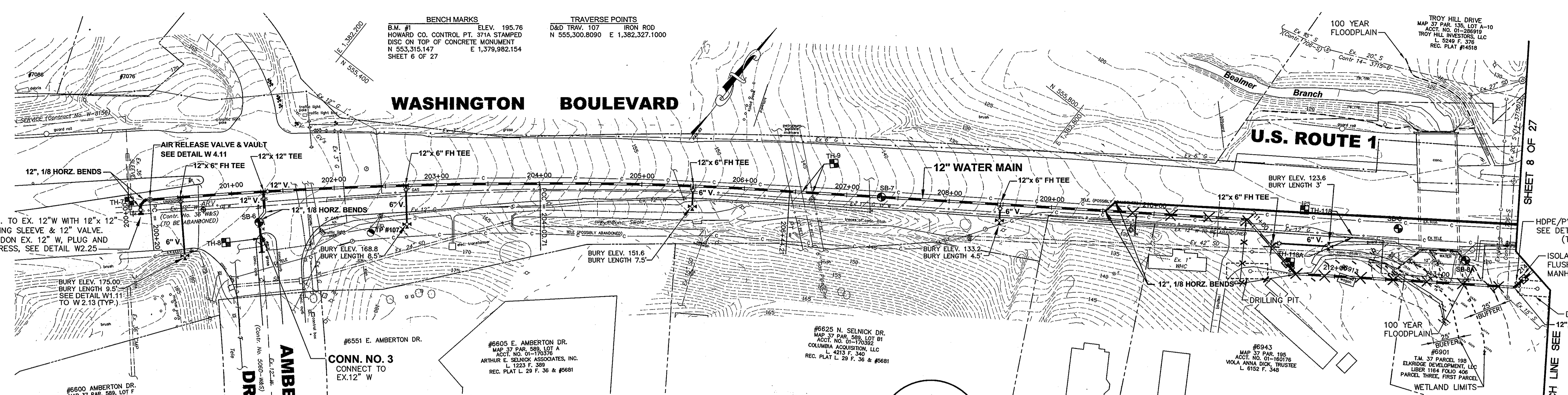
US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

SCALE
AS
SHOWN
SHEET
6 OF 27

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

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WHC WASHINGTON BOULEVARD

ADDRESS	SIZE	STATION	REMARKS
6943	1"	209+82	2 Meters
6961	1"	209+82	W/ 1" WHC

PLAN
SCALE: 1"=50'

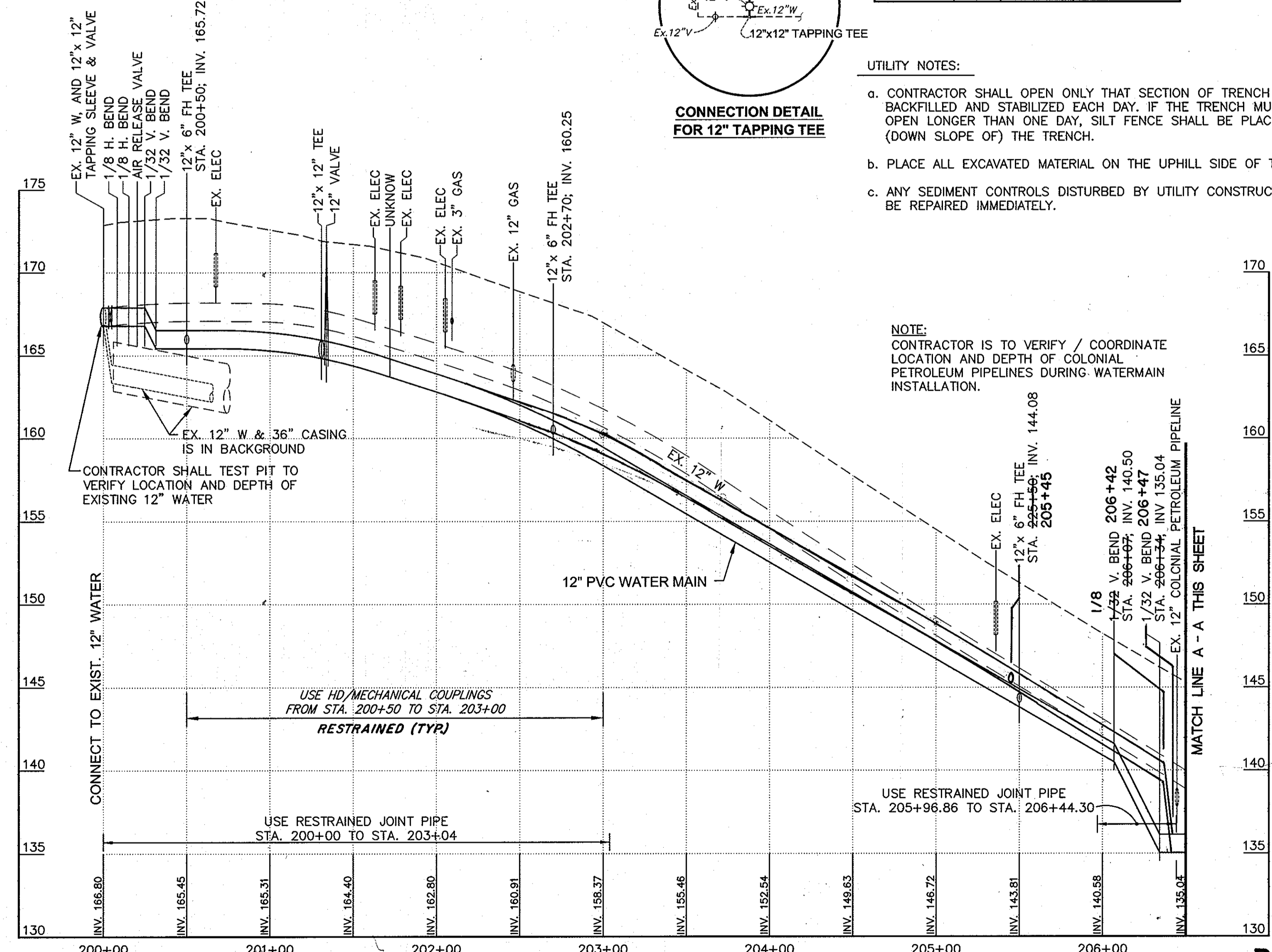
TEST HOLE DATA TABLE

T.H. NO.	UTILITY	COORDINATES NORTHING EASTING	SURFACE ELEVATION	TOP OF UTIL. ELEVATION
7*	12" WATER	555,160.67 1,382,125.26	172.62	165.41
8	12" WATER	555,211.28 1,382,248.20	172.24	167.87
9*	12" GAS	555,566.63 1,382,628.36	145.61	138.91
9A*	12" GAS	555,572.18 1,382,635.66	145.06	138.34
9B*	6" GAS	555,577.73 1,382,643.72	144.50	140.37
11B*	12" GAS	555,868.34 1,383,085.04	124.47	119.77
11B8*	TELE	555,866.72 1,383,086.06	124.49	123.59

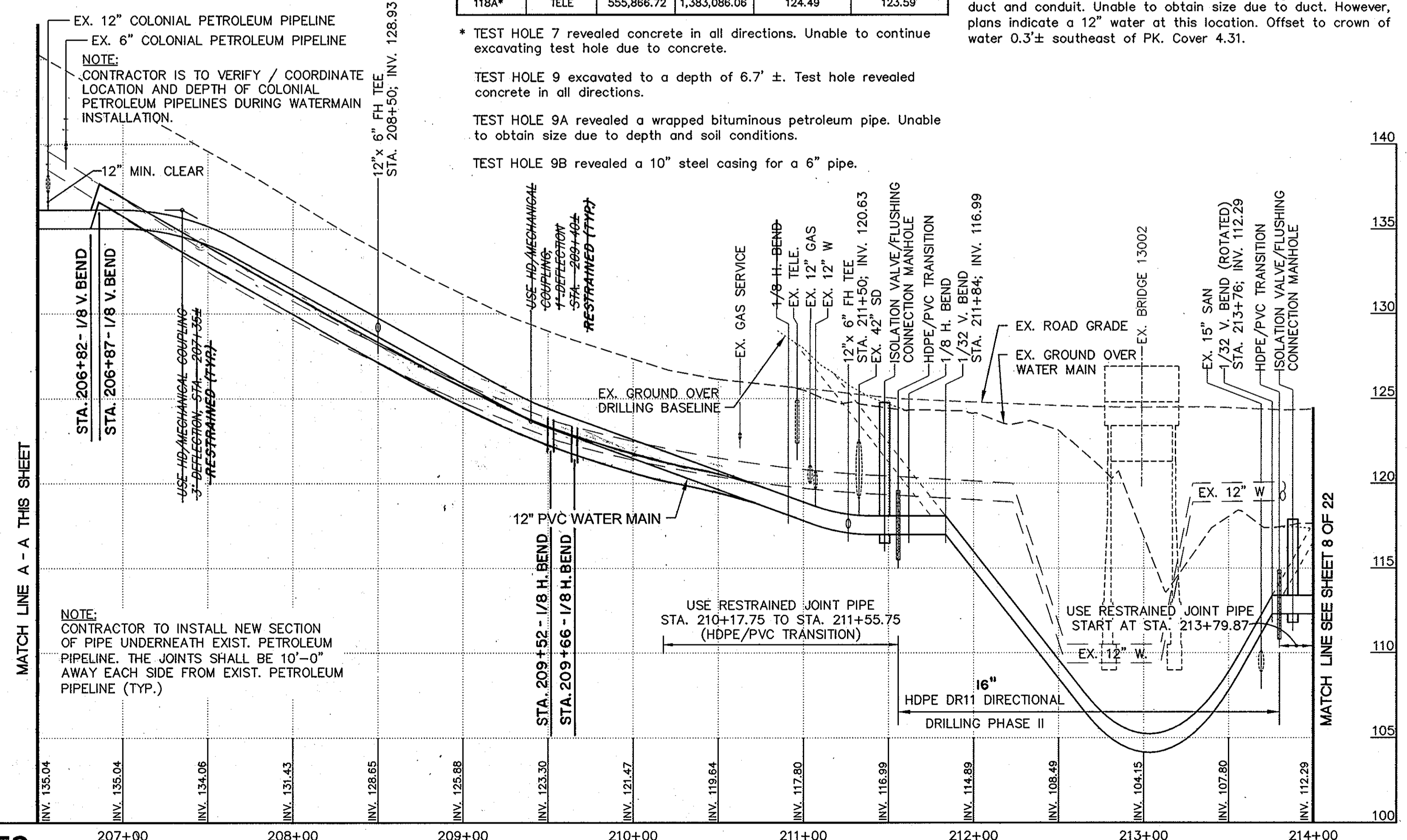
TEST HOLE 11B--Revealed crown and southeast springline of requested gas. Unable to obtain size due to location of pipe in test hole; however, investigation of test hole #119A performed further upline on gas revealed an O.D. of 13.25"±. Plans indicate a 12" gas at this location.

TEST HOLE 11B8A--Revealed cast in place concrete duct with single conduit below duct. Cover to top of conduit 2.52'. Investigation of nearby telephone manhole indicates possible 8 conduits in area. PK set over southeast edge of duct. Test hole also revealed a cast iron water line running with and below duct and conduit. Unable to obtain size due to duct. However, plans indicate a 12" water at this location. Offset to crown of water 0.3'± southeast of PK. Cover 4.31'.

- UTILITY NOTES:**
- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
 - PLACING ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
 - ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.



PROFILES
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



"AS-BUILT" - MAY 2009

R:\Projects\60023\CD\PLANS\4/29/05 1:46:17 PM

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Samuel A. Williams 4/29/05
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Brown 4-29-05
CHIEF, BUREAU OF UTILITIES DATE

Paul J. Brown 5/2/05
CHIEF, BUREAU OF ENGINEERING DATE

Clayton J. Brown 4-28-05
CHIEF, UTILITY DESIGN DIVISION DATE

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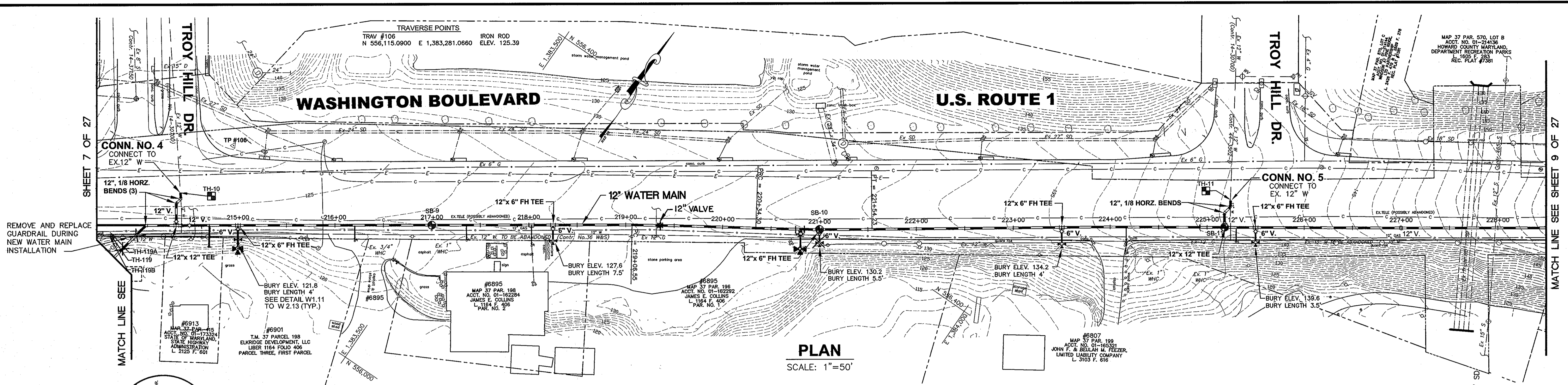
PLAN AND PROFILE

600' SCALE MAP NO. 37, 38 BLOCK NO.

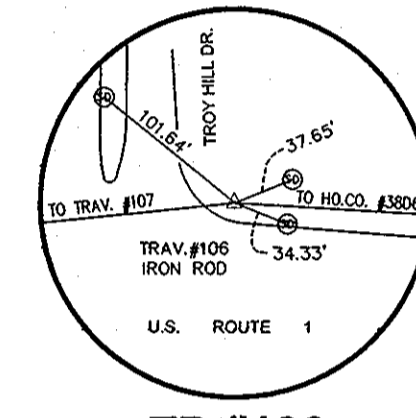
US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

ELECTION DISTRICT NO. 1
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 27



PLAN
SCALE: 1"=50'



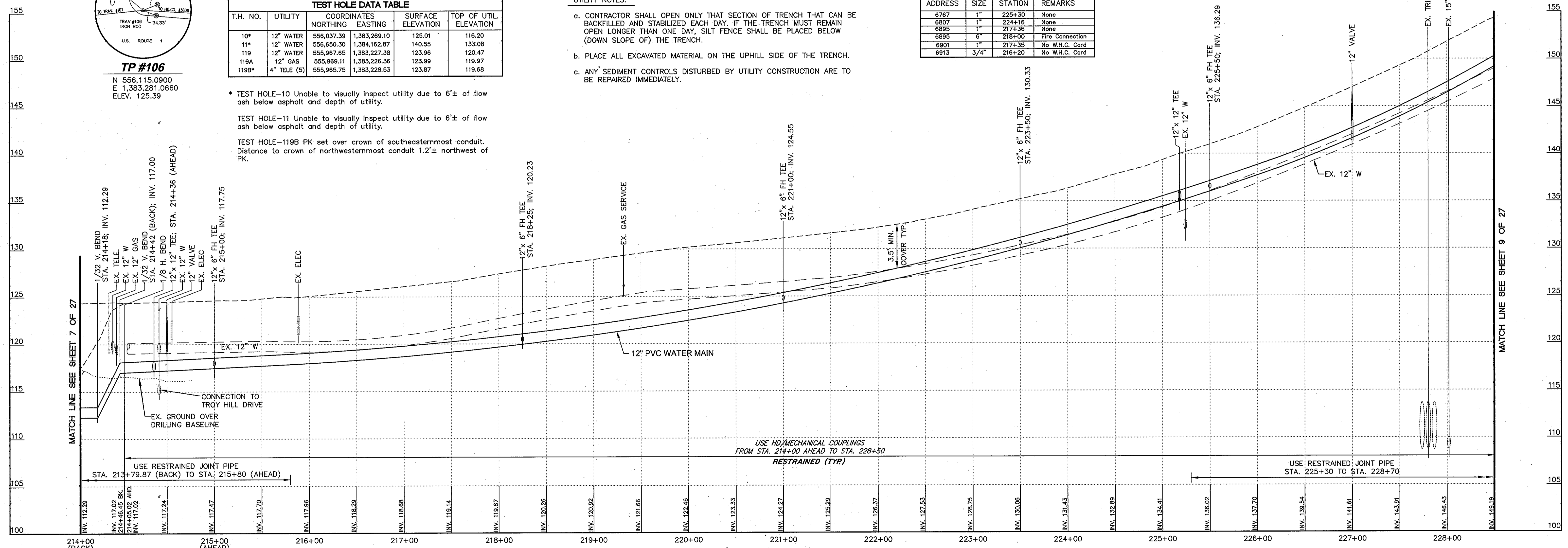
TP #106
N 556,115.0900
E 1,383,281.0660
ELEV. 125.39

TEST HOLE DATA TABLE					
T.H. NO.	UTILITY	COORDINATES		SURFACE ELEVATION	TOP OF UTIL. ELEVATION
		NORTHING	EASTING		
10*	12" WATER	556,037.39	1,383,269.10	125.01	116.20
11*	12" WATER	556,650.30	1,384,162.87	140.55	133.08
119	12" WATER	555,967.65	1,383,227.38	123.96	120.47
119A	12" GAS	555,969.11	1,383,226.36	123.99	119.97
119B*	4" TELE (5)	555,965.75	1,383,228.53	123.87	119.68

UTILITY NOTES:

- a. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
- b. PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
- c. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

WHC WASHINGTON BOULEVARD			
ADDRESS	SIZE	STATION	REMARKS
6767	1"	225+30	None
6807	1"	224+16	None
6895	1"	217+36	None
6895	6"	218+00	Fire Connection
6901	1"	217+35	No W.H.C. Card
6913	3/4"	216+20	No W.H.C. Card



PROFILE
SCALE: HORZ. 1"=50'
VERT. 1"=5'

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James A. Shales
DIRECTOR OF PUBLIC WORKS
DATE: 5/2/05

Paul D. Depina
CHIEF, BUREAU OF ENGINEERING
DATE: 4-28-05

Robert D. ...
CHIEF, UTILITY DESIGN DIVISION
DATE: 4-28-05

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875

Architects Engineers Planners Surveyors

DES: RJB
DRN: CD
CHK: TND
DATE: June 15, 2005

BY NO. REVISIONS DATE

PLAN AND PROFILE

600' SCALE MAP NO. 37, 38 BLOCK NO.

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 8 OF 27

BENCH MARKS
 B.M. #5 ELEV. 175.23
 HOWARD CO. CONTROL PT. 3806 STAMPED
 DISC ON TOP OF CONCRETE MONUMENT

TRAVERSE POINTS
 HO.CO. 3806 CONCRETE MONUMENT
 N 557,155.4950 E 1,384,992.2620 ELEV. 175.23

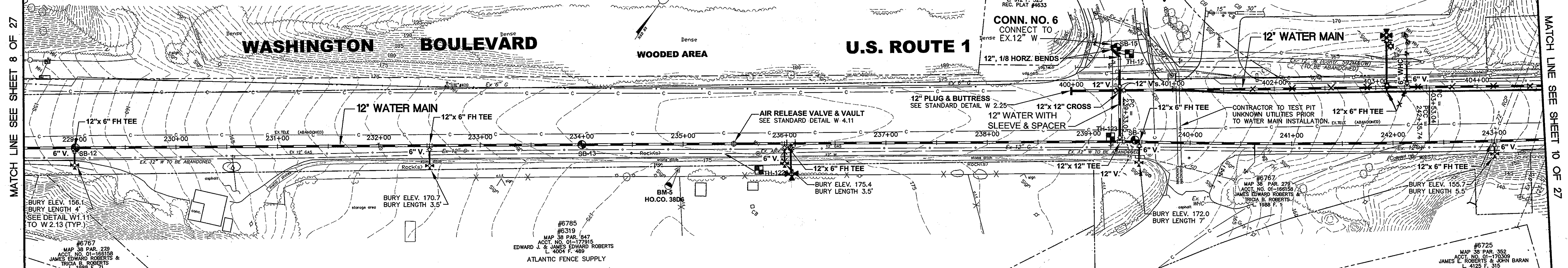
#7086
 MAP 37 PAR. 670, LOT A
 ACCT. NO. 01-159004
 WINDSOR AT PINE RIDGE LTD PARTNERSHIP
 L 2426 F. 479
 REC. PLAT #7381

#7128 - #7138
 DUCKETT'S LANE
 MAP 37 PAR. 610, LOT A
 ACCT. NO. 01-180288
 MARBLE HILLS JOINT VENTURE
 L 912 F. 303
 REC. PLAT #4633

TEST HOLE DATA TABLE					
T.H. NO.	UTILITY	COORDINATES NORTHING	EASTING	SURFACE ELEVATION	TOP OF UTIL. ELEVATION
12	12" WATER	557,493.75	1,385,279.34	171.84	165.29
122A	12" WATER	557,194.28	1,385,021.13	176.10	171.66
123	12" WATER	557,418.66	1,385,329.27	171.51	165.20

#720
 MAP 37 PAR. 605, LOT B
 ACCT. NO. 01-188631
 MARBLE HILL CONDOMINIUM COUNCIL, INC.
 L 2098 F. 577
 REC. PLAT #3899

#725
 MAP 38 PAR. 845
 ACCT. NO. 01-181237
 95-10 DEVELOPMENT, L.C.
 L 4007 F. 489

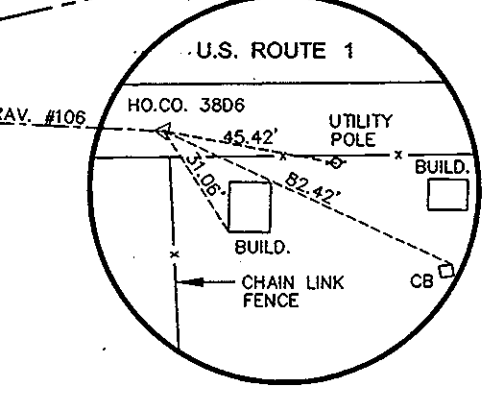


WHC WASHINGTON BOULEVARD			
ADDRESS	SIZE	STATION	REMARKS
6767	1"	240+63	None
6720	6"	403+30±	12" x 6" Tee (2 Connections)

PLAN
 SCALE: 1"=50'

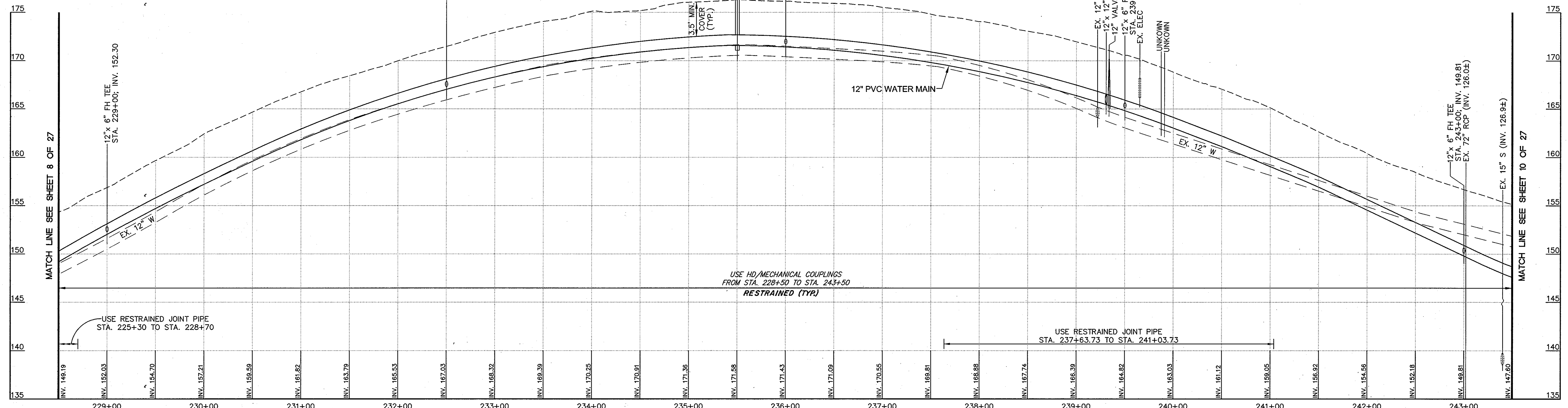
UTILITY NOTES:

- a. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
- b. PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
- c. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.



HO. CO. 3806

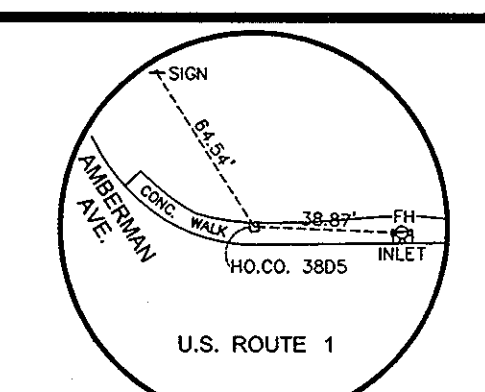
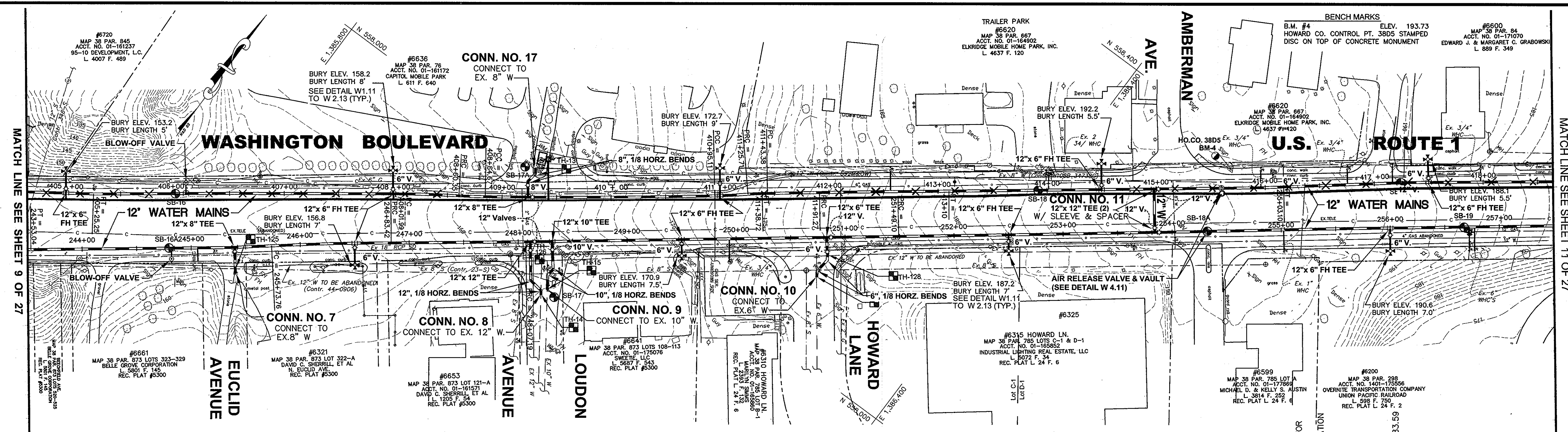
BM-5
 HOWARD CO. CONTROL PT. 3806 STAMPED
 DISC ON TOP OF CONCRETE MONUMENT
 N 557,155.495 E 1,384,992.262
 ELEV. 175.228



PROFILE
 SCALE: HORZ. 1"=50'
 VERT. 1"=5'

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works Chief, Bureau of Utilities	Dewberry & Davis LLC 3120 Lord Baltimore Drive Baltimore, Maryland 21244 (410) 265-9500 FAX: (410) 265-8875 Architects Engineers Planners Surveyors	DES: RJB DRN: CD CHK: TND DATE: June 15, 2005	REVISIONS BY NO. DATE	PLAN AND PROFILE 600' SCALE MAP NO. 37, 38 BLOCK NO.	US ROUTE 1 MEADOWRIDGE ROAD TO MONTGOMERY ROAD WATER MAIN REPLACEMENT CAPITAL PROJECT W-8238 CONTRACT 44-4073 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 9 OF 27



HO. CO. 38D5
 ELEV. 193.728
 HOWARD CO. CONTROL PT. 38D5 STAMPED
 DISC ON TOP OF CONCRETE MONUMENT
 N 558,378.575 E 1,306,524.158

PLAN

SCALE: 1"=50'

ADDRESS	SIZE	STATION	REMARKS
6200	6"	256+75	S. Hanover Rd.
6200	6"	256+80	S. Hanover Rd.
6310	3/4"	249+93	Howard Lane
6599	1"	255+03	No WH.C. Card
6600	3/4"	417+17	None
6600	3/4"	417+97	None
6620	3/4"	416+75	None
6620	3/4"	414+00	2 WH Conn's.
6620	3/4"	411+33	None
6620	3/4"	411+66	None
6620	3/4"	415+27	None
6636	6"	409+23	Feed Development
6641	3/4"	N/A	Not in Contrast
6653	3/4"	N/A	Not in Contrast
6661	3/4"	N/A	Euclid Ave.

T.H. NO.	UTILITY	COORDINATES NORTHING EASTING	SURFACE ELEVATION	TOP OF UTIL. ELEVATION
13*	8" WATER	557,998.32 1,386,011.64	163.07	157.45
14	12" WATER	557,908.93 1,386,086.52	163.22	158.72
15	10" WATER	557,914.06 1,386,088.84	163.10	158.59
16	6" WATER	558,073.43 1,386,278.66	178.06	173.29
125*	12" WATER	557,762.43 1,385,845.67	154.60	150.29
126*	12" WATER	557,933.43 1,386,064.67	162.55	158.22
128	12" WATER	558,095.05 1,386,275.75	178.11	173.91

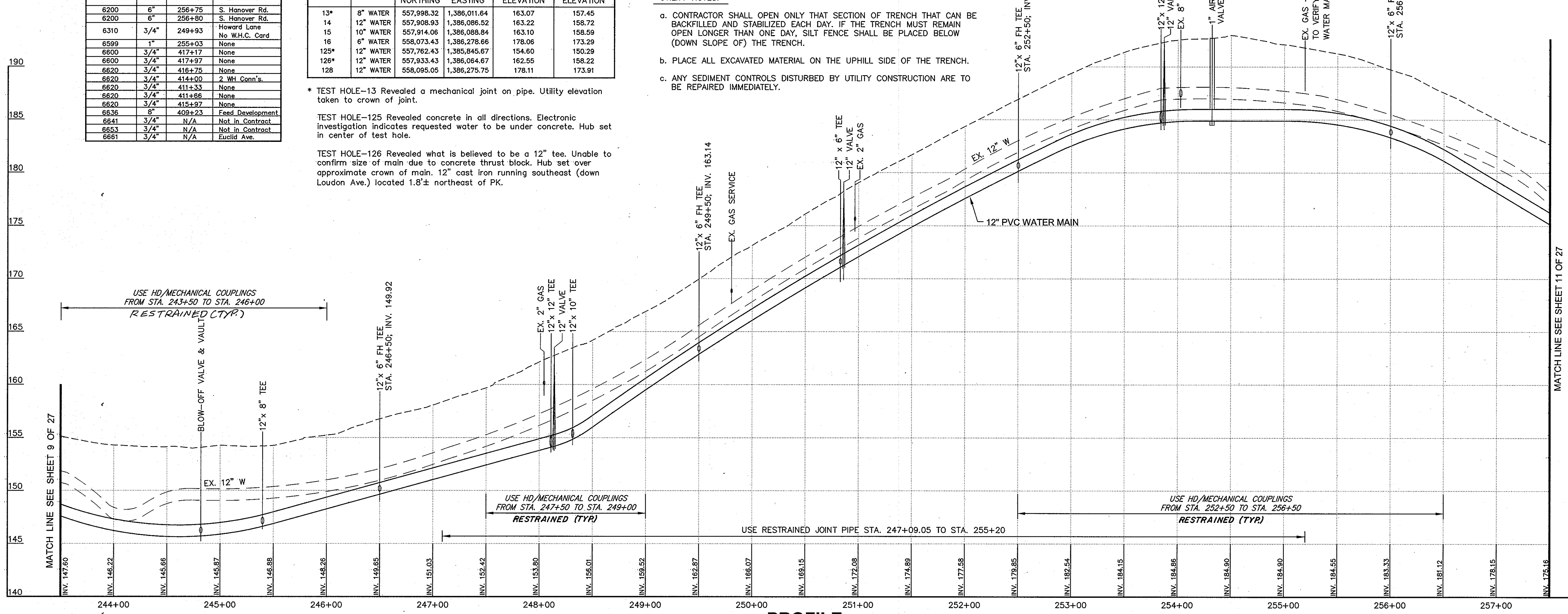
UTILITY NOTES:

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- PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
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* TEST HOLE-13 Revealed a mechanical joint on pipe. Utility elevation taken to crown of joint.

TEST HOLE-125 Revealed concrete in all directions. Electronic investigation indicates requested water to be under concrete. Hub set in center of test hole.

TEST HOLE-126 Revealed what is believed to be a 12" tee. Unable to confirm size of main due to concrete thrust block. Hub set over approximate crown of main. 12" cast iron running southeast (down Loudon Ave.) located 1.8± northeast of PK.

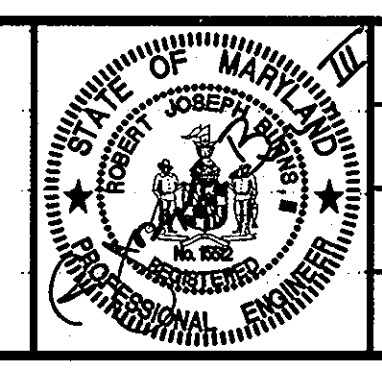


PROFILE

SCALE: HORIZ. 1" = 50'
 VERT. 1" = 5'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Dewberry & Davis LLC
 3120 Lord Baltimore Drive
 Baltimore, Maryland 21244
 (410) 265-9500 FAX: (410) 265-8875



DES: RJB	DATE: June 15, 2005
DRN: CD	BY: NO.
CHK: TND	REVISIONS
DATE: June 15, 2005	DATE:

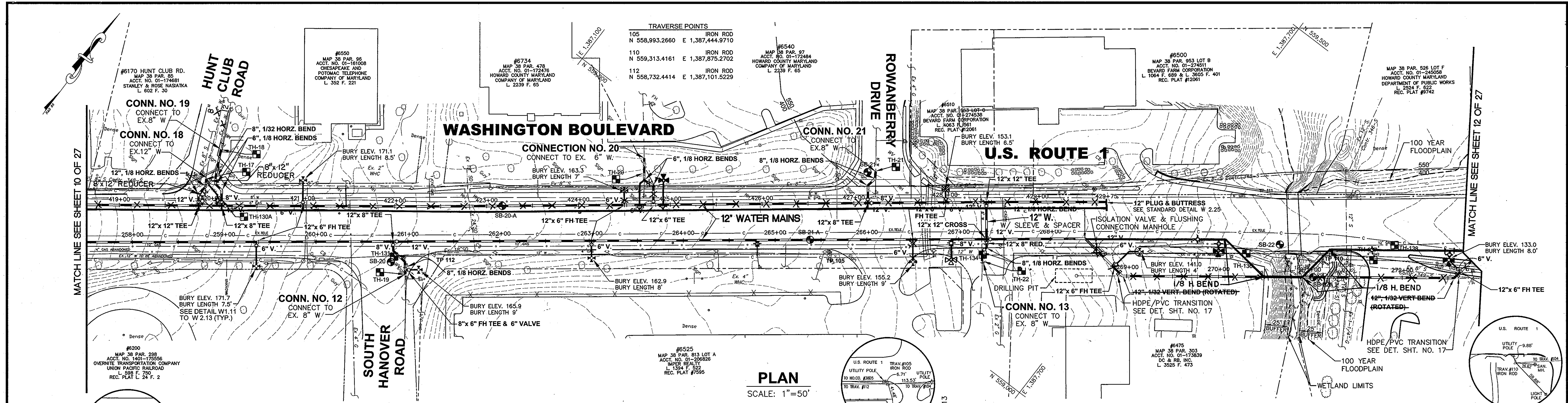
PLAN AND PROFILE

600' SCALE MAP NO. 37, 38 BLOCK NO.

US ROUTE 1
 MEADOWRIDGE ROAD TO MONTGOMERY ROAD
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT W-8238
 CONTRACT 44-4073
 ELECTION DISTRICT NO. 1
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 10 OF 27

RA:\p01\10023\CD\PLAN\38.dwg, 4/25/2005 1:24:31 PM



PLAN
SCALE: 1"=50'

TEST HOLE DATA TABLE					
T.H. NO.	UTILITY	COORDINATES		SURFACE ELEVATION	TOP OF UTIL. ELEVATION
		NORTHING	EASTING		
17*	12" WATER				
18*	8" WATER	558,680.19	1,386,848.72	176.21	-
19	8" WATER	558,695.11	1,387,090.18	165.31	160.58
20	6" WATER	558,942.79	1,387,228.42	165.63	158.54
21	8" WATER	559,095.69	1,387,428.16	154.82	151.68
22*	8" WATER	559,089.43	1,387,580.10	150.62	145.20
130A	8" WATER	558,639.66	1,386,881.82	174.02	169.90
131*	12" WATER	558,704.22	1,387,068.42	165.95	161.24
134*	12" WATER	559,095.29	1,387,576.57	150.74	145.07
136	12" WATER	559,270.47	1,387,803.88	134.73	127.89
137*	12" WATER	559,348.73	1,387,918.16	131.41	126.45
138	12" GAS	559,375.79	1,387,926.53	131.63	128.56

* TEST HOLE-17 Requested 12" W. at this location; however, test hole revealed an 8" water with 4.65' cover. No survey data provided.

TEST HOLE-18 performed at requested location to a depth of 7.0'±. Utility not found, PK set in center of test hole attempt.

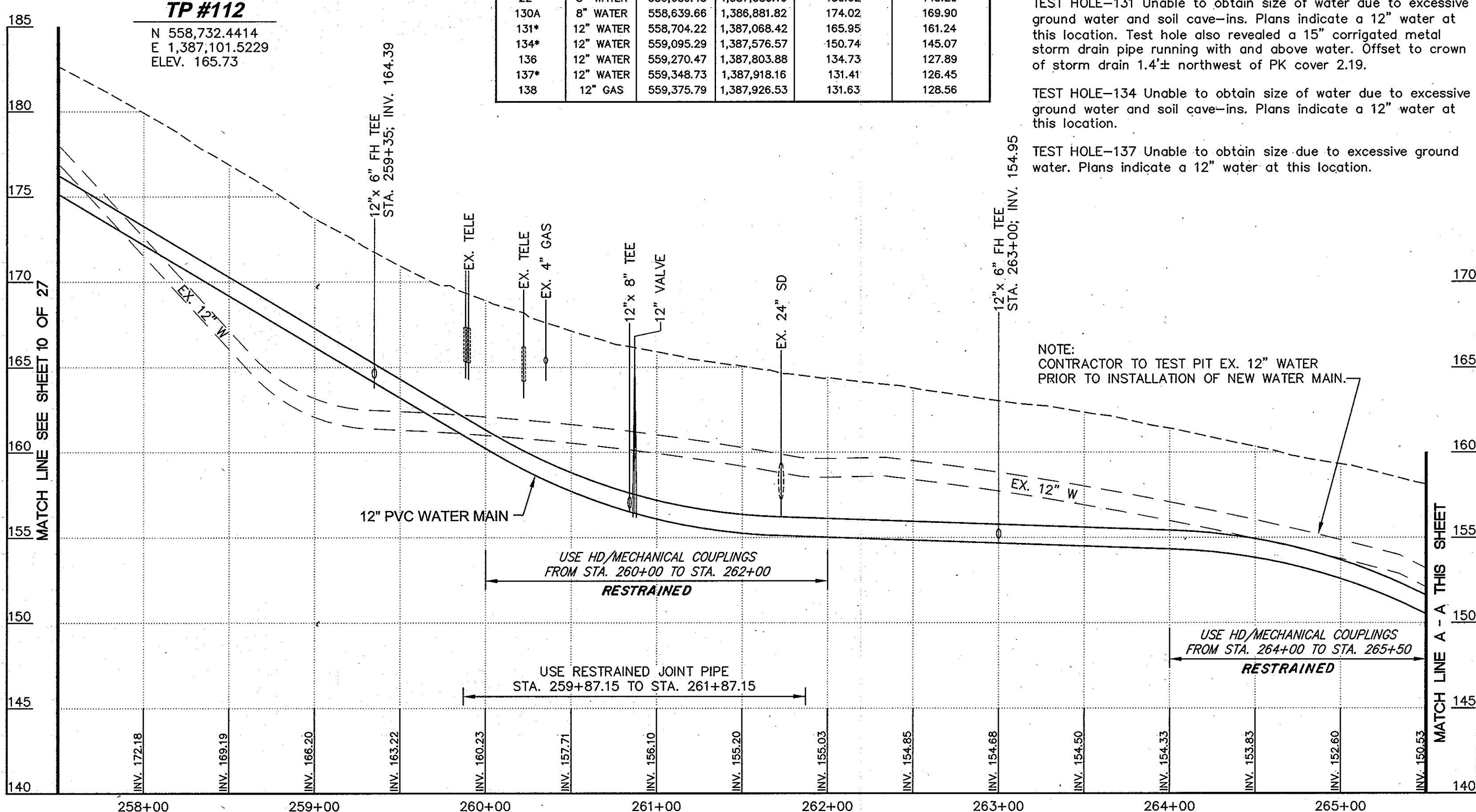
TEST HOLE-22 unable to obtain OD of pipe due to soil cave-ins and excessive ground water.

TEST HOLE-131 Unable to obtain size of water due to excessive ground water and soil cave-ins. Plans indicate a 12" water at this location. Test hole also revealed a 15" corrugated metal storm drain pipe running with and above water. Offset to crown of storm drain 1.4'± northwest of PK cover 2.19.

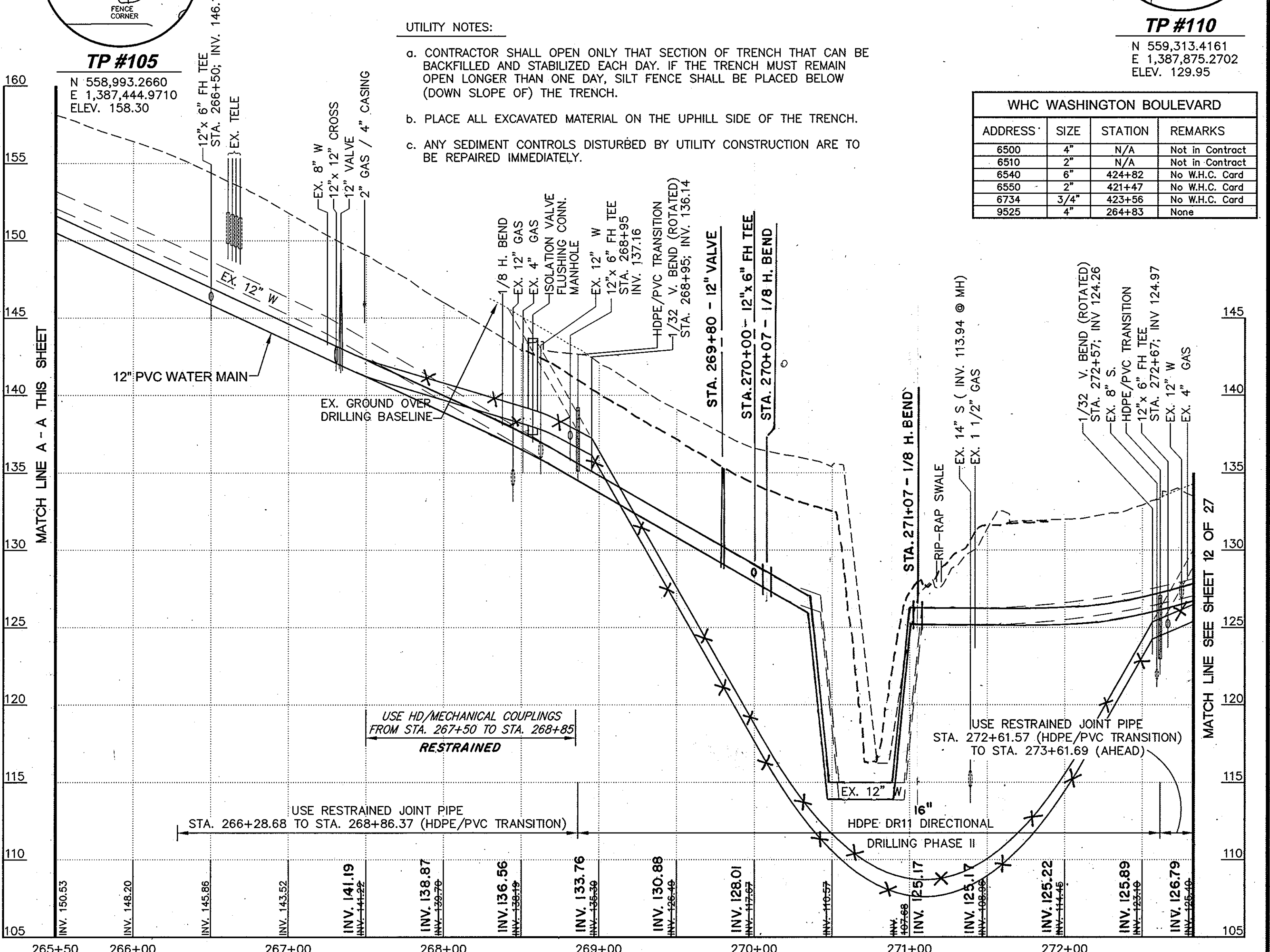
TEST HOLE-134 Unable to obtain size of water due to excessive ground water and soil cave-ins. Plans indicate a 12" water at this location.

TEST HOLE-137 Unable to obtain size due to excessive ground water. Plans indicate a 12" water at this location.

NOTE:
CONTRACTOR TO TEST PIT EX. 12" WATER PRIOR TO INSTALLATION OF NEW WATER MAIN.



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



- UTILITY NOTES:**
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 - PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
 - ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

WHC WASHINGTON BOULEVARD				
ADDRESS	SIZE	STATION	REMARKS	
6500	4"	N/A	Not in Contract	
6510	2"	N/A	Not in Contract	
6540	6"	424+82	No WH.C. Card	
6550	2"	421+47	No WH.C. Card	
6734	3/4"	423+56	No WH.C. Card	
9525	4"	264+83	None	

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *Ruth Berman* 4/29/05
Date: 4/29/05

Chief, Bureau of Engineering: *Paul C. ...* 5/2/05
Date: 5/2/05

Chief, Utility Design Division: *...* 4/28/05
Date: 4/28/05

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875

Architects Engineers Planners Surveyors

DES: RJB
DRN: CD
CHK: TND
DATE: June 15, 2005

PLAN AND PROFILE

600' SCALE MAP NO. 37, 38 BLOCK NO.

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 11 OF 27

TRAVERSE POINTS

103	IRON ROD	N 559,855.2490	E 1,388,720.0020
104	IRON ROD	N 559,538.6920	E 1,388,143.3580

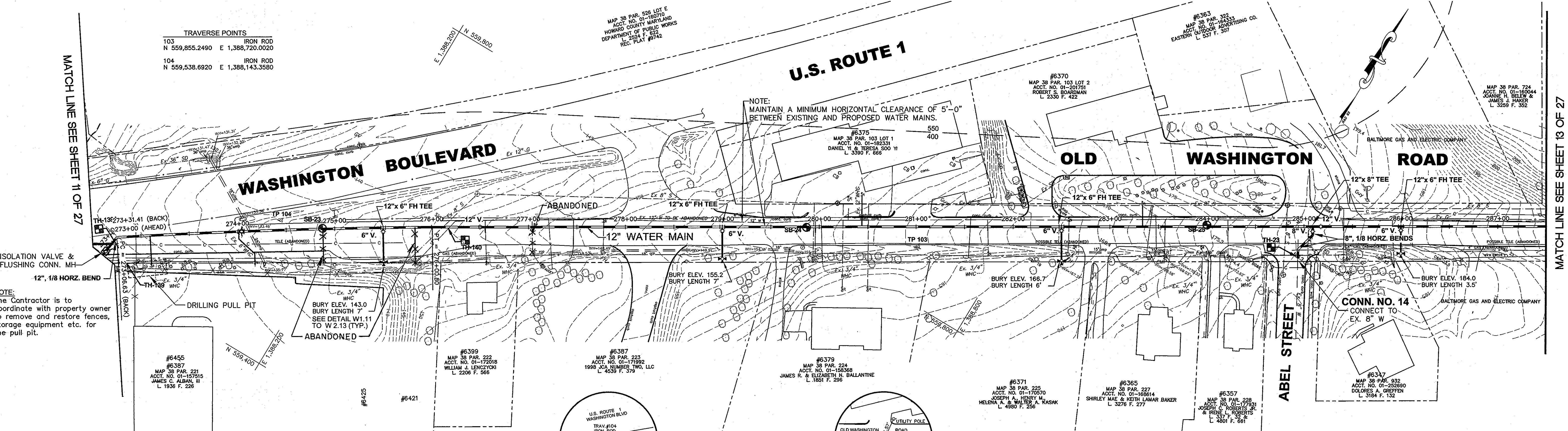
MAP 38 PAR. 526 LOT E
ACCT. NO. 01-16070
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
REC. PLAT. #742

#363
MAP 38 PAR. 320
ACCT. NO. 01-16070
EASTERN WATERWORKS ADVERTISING CO.
L. 537 F. 307

#6370
MAP 38 PAR. 103 LOT 2
ACCT. NO. 01-16070
ROBERT S. BOARDMAN
L. 2330 F. 422

NOTE:
MAINTAIN A MINIMUM HORIZONTAL CLEARANCE OF 5'-0"
BETWEEN EXISTING AND PROPOSED WATER MAINS.

MAP 38 PAR. 724
ACCT. NO. 01-16044
JOHN H. BRYAN &
JAMES J. HAKER
L. 3259 F. 352

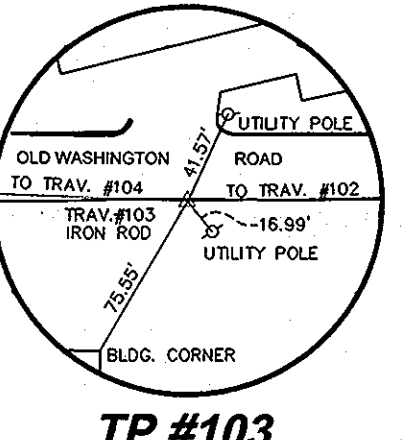
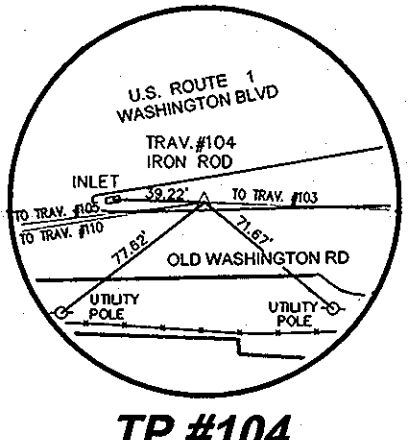


TEST HOLE DATA TABLE

T.H. NO.	UTILITY	COORDINATES NORTHING EASTING	SURFACE ELEVATION	TOP OF UTIL. ELEVATION
23	8" WATER	560,046.77 1,389,062.57	180.91	174.80
139A*	12" WATER	559,419.19 1,388,027.07	134.56	129.16
139A*	4" GAS	559,421.91 1,388,025.59	134.37	130.31
140	12" WATER	559,620.62 1,388,294.72	145.74	140.62

* TEST HOLE-139 Moved 2'± southeast to locate 12" water initially attempted in No. 139A.
TEST HOLE-139A Requested 12" water. However, test hole revealed a 4" wrapped steel abandoned gas at this location.

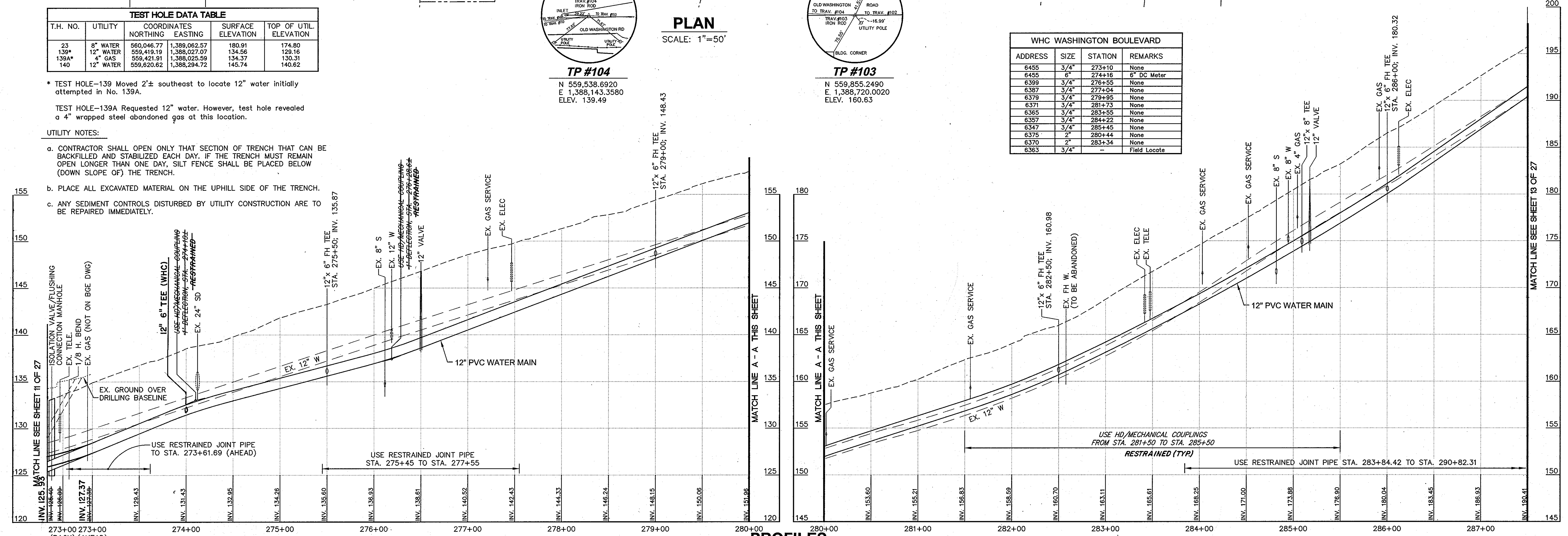
- UTILITY NOTES:
- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
 - PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
 - ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.



PLAN
SCALE: 1"=50'

WHC WASHINGTON BOULEVARD

ADDRESS	SIZE	STATION	REMARKS
6455	3/4"	2734+10	None
6455	6"	2744+16	6" DC Meter
6399	3/4"	2764+55	None
6387	3/4"	2774+04	None
6379	3/4"	2794+95	None
6371	3/4"	2814+73	None
6365	3/4"	2834+55	None
6357	3/4"	2844+22	None
6347	3/4"	2854+45	None
6375	2"	2804+44	None
6370	2"	2834+34	None
6363	3/4"	-	Field Locate



PROFILES
SCALE: HORZ. 1"=50'
VERT. 1"=5'

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *Robert Bauman* DATE: 4-29-05
Chief, Bureau of Utilities: *Robert Bauman* DATE: 4-29-05

Chief, Bureau of Engineering: *Robert Bauman* DATE: 5/2/05
Chief, Utility Design Division: *Robert Bauman* DATE: 4-28-05

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875

Architects Engineers Planners Surveyors

DES: RJB	DRN: CD	CHK: TND	DATE: June 15, 2005
BY: NO.	REVISIONS	DATE	600' SCALE MAP NO. 37, 38

PLAN AND PROFILE

SCALE AS SHOWN

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

ELECTION DISTRICT NO. 1
HOWARD COUNTY, MARYLAND

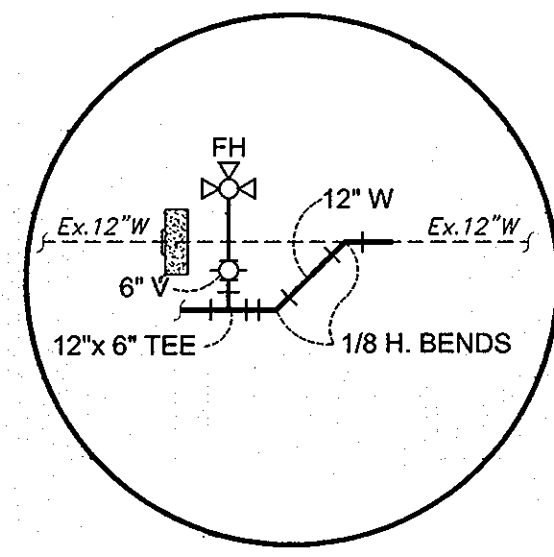
SHEET 12 OF 27

TEST HOLE DATA TABLE					
T.H. NO.	UTILITY	COORDINATES NORTHING	COORDINATES EASTING	SURFACE ELEVATION	TOP OF UTIL. ELEVATION
24*	8" WATER	560,253.43	1,389,407.15	205.72	200.81
25	6" WATER	560,636.30	1,389,913.88	226.40	222.35
26	12" WATER	560,630.66	1,389,965.81	226.83	222.54
27	6" GAS	560,608.73	1,389,946.84	228.03	224.68

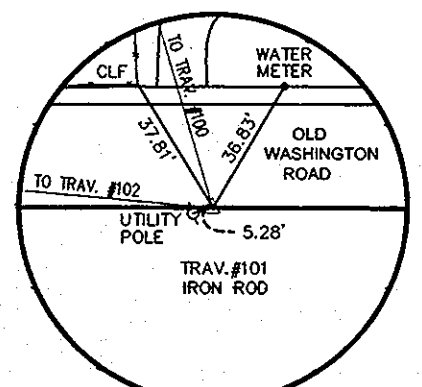
* Test Hole 24 unable to visually inspect pipe due to excessive amount of ground water.

WHC OLD WASHINGTON ROAD			
ADDRESS	SIZE	STATION	REMARKS
6100	N/A	N/A	Not in Contract
6101	N/A	N/A	Not in Contract
6289	3/4"	295+34	None
6293	1"	295+34	None
6301	3/4"	295+34	None
6305	3/4"	294+09	None
6307	3/4"	295+36	None
6308/6221	3/4"	294+03	2, W.H.C.
6309	3/4"	294+18	None
6315/6318	3/4"	293+22	2, W.H.C.
6317	3/4"	294+08	None
6319	3/4"	291+05	None
6325	4"	N/A	Not in Contract
6326	3/4"	290+70	None
6326	2"	291+05	None
6330	3/4"	289+58	None
6334	3/4"	288+94	None
7362	3/4"	294+64	No W.H.C. Cord 7321 Montgomery Rd.

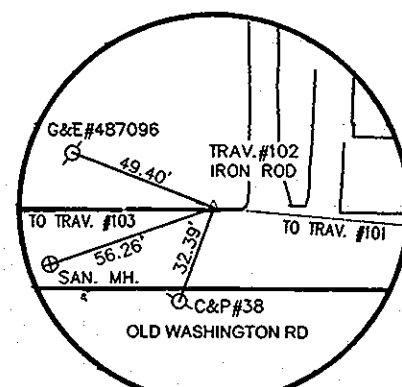
TRAVERSE POINTS		
101	IRON ROD	N 560,643.4720 E 1,390,045.4550
102	IRON ROD	N 560,501.9310 E 1,389,750.4950



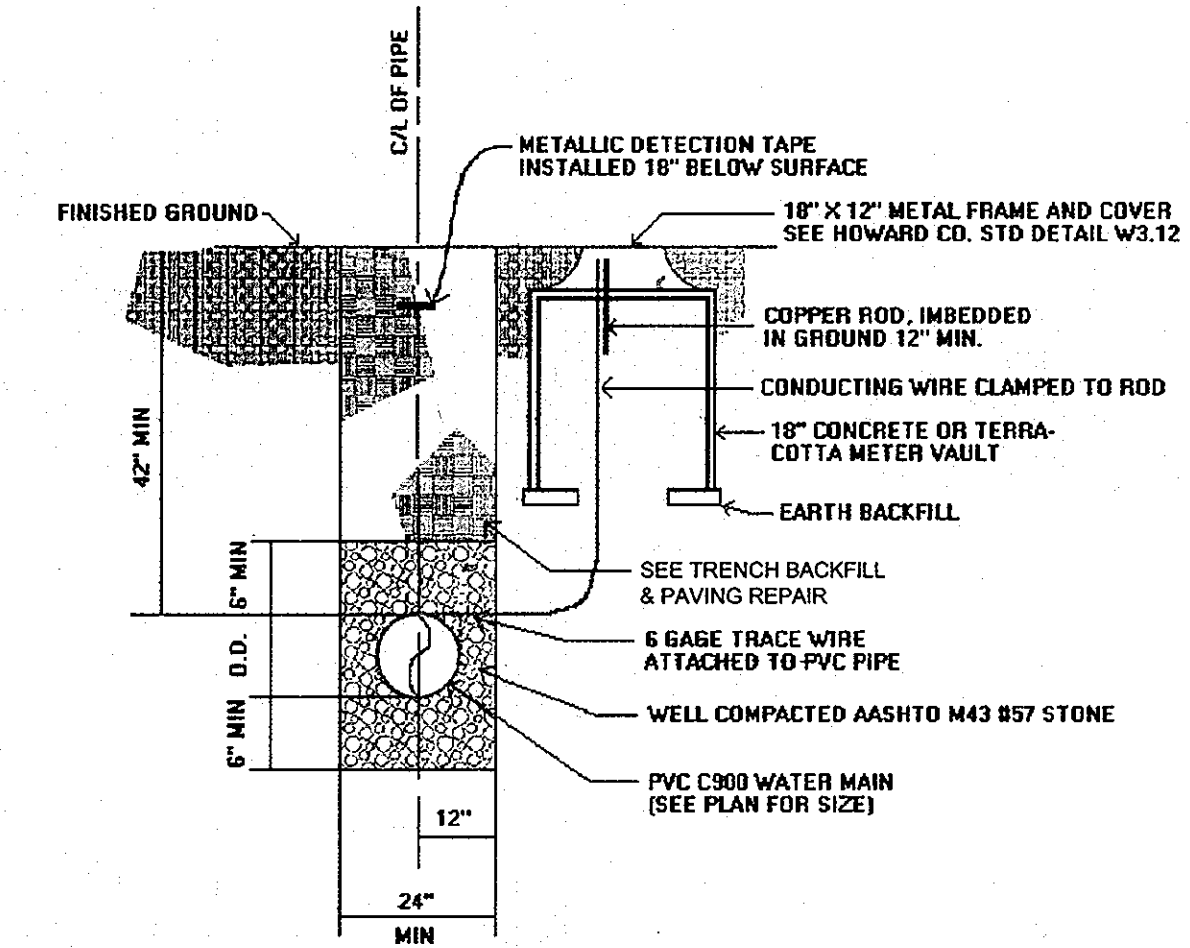
CONNECTION DETAIL FOR 12" WATER TO EXISTING 12" WATER



TP #101
N 560,643.4720
E 1,390,045.4550
ELEV. 222.68

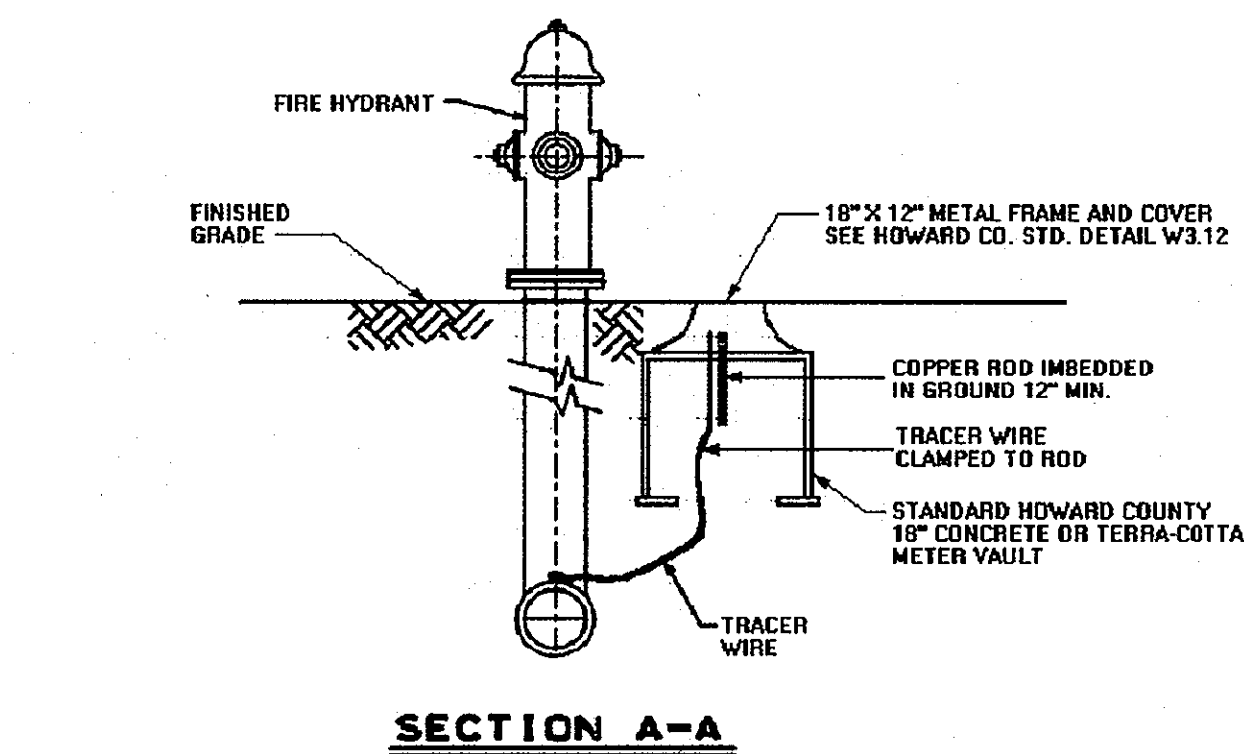


TP #102
N 560,501.9310
E 1,389,750.4950
ELEV. 231.13

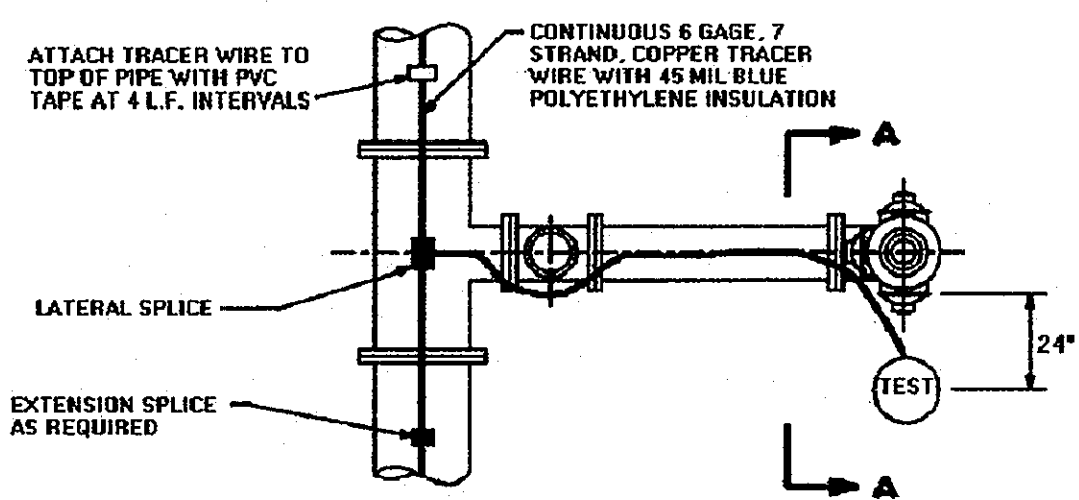


CONTINUITY TEST STATION AND METALLIC DETECTION TAPE DETAIL

NOT TO SCALE



SECTION A-A

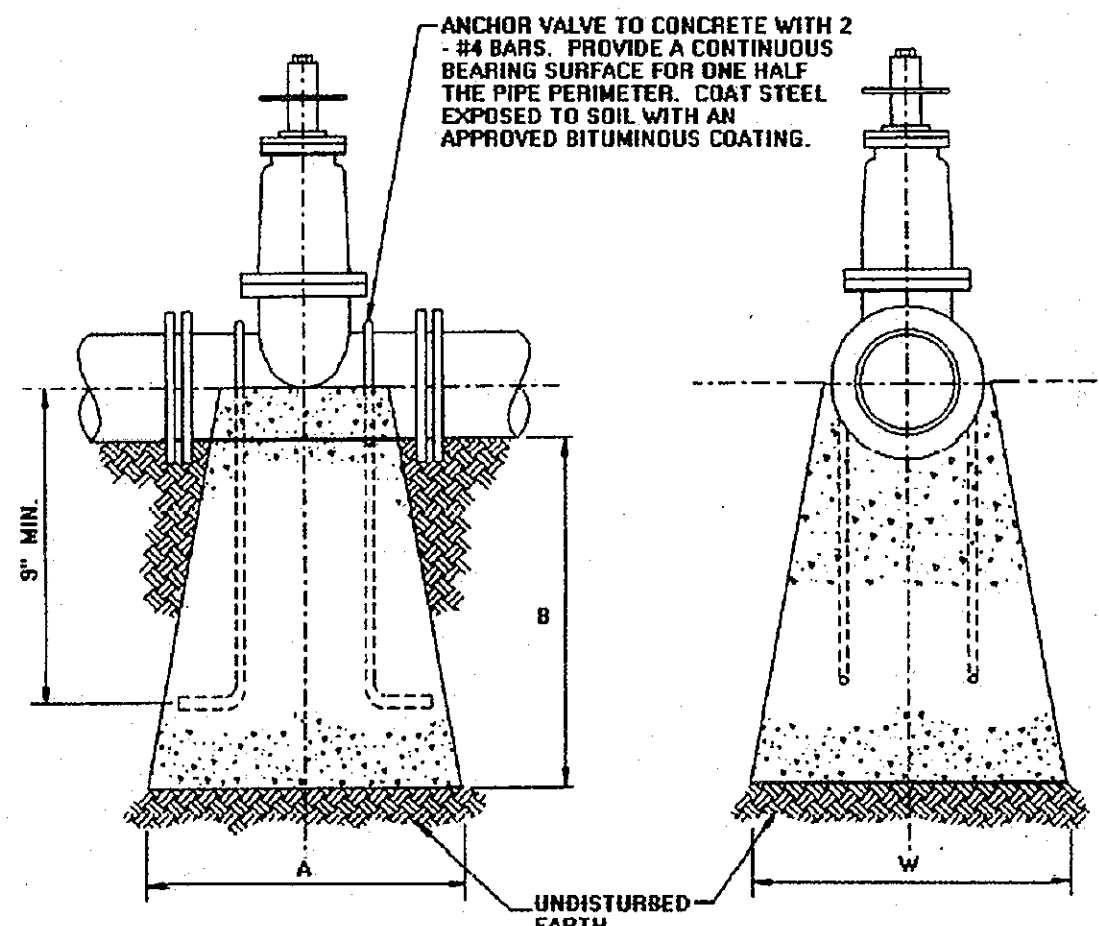


PLAN

- NOTES:
- TEST STATION MUST BE PLACED TO THE RIGHT OR LEFT SIDE OF THE FIRE HYDRANT.
 - VALVE VAULT FRAME AND COVER TO BE SET FLUSH WITH FINAL GRADE.
 - BUTTRISSES AND STRAPPING NOT SHOWN FOR CLARITY

CONTINUITY TEST STATION AT FIRE HYDRANT

NOT TO SCALE

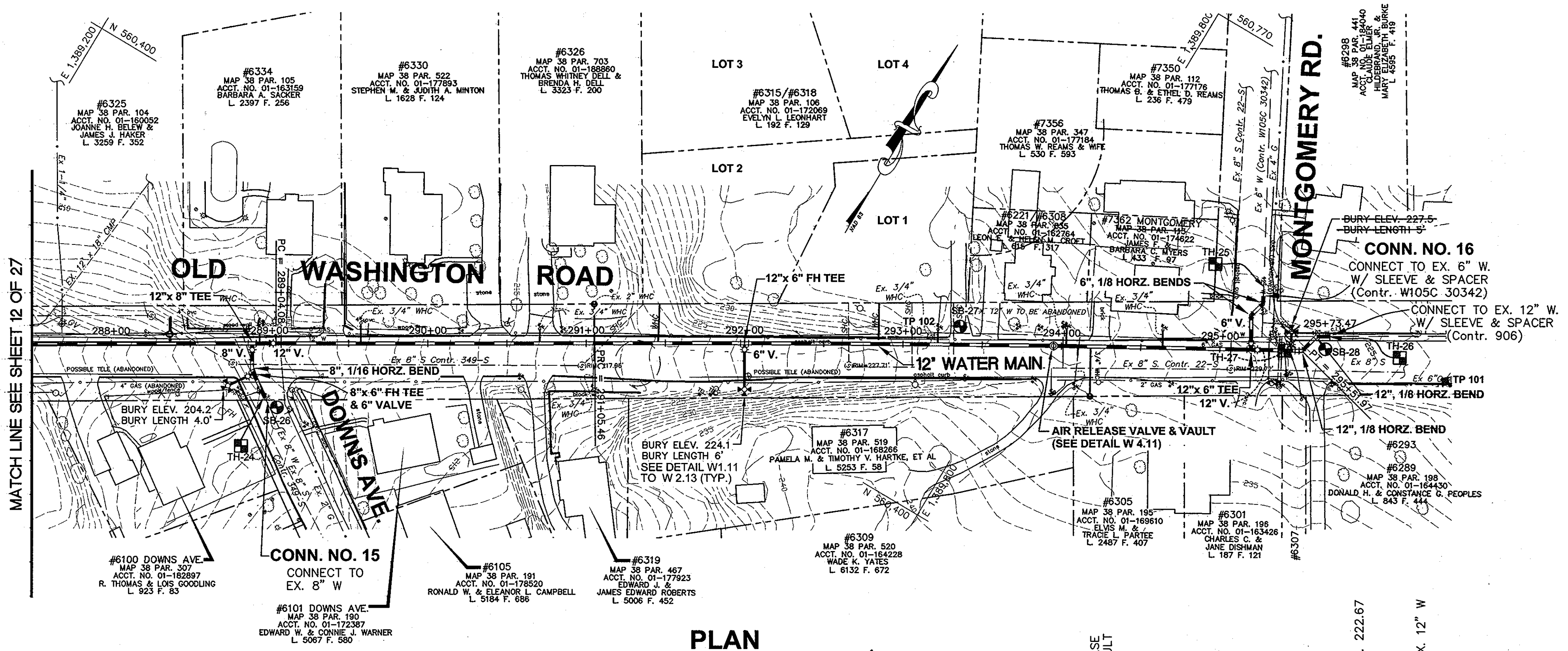


PIPE SIZE	A	B	W
4"	5"	1'-0"	1'-0"
6"	10"	1'-6"	1'-0"
8"	1'-0"	2'-0"	2'-0"
12"	1'-0"	2'-0"	3'-0"

ALL CONCRETE TO BE MIX NO. 2

ANCHORAGES FOR VALVES WITH PVC PIPE

NOT TO SCALE

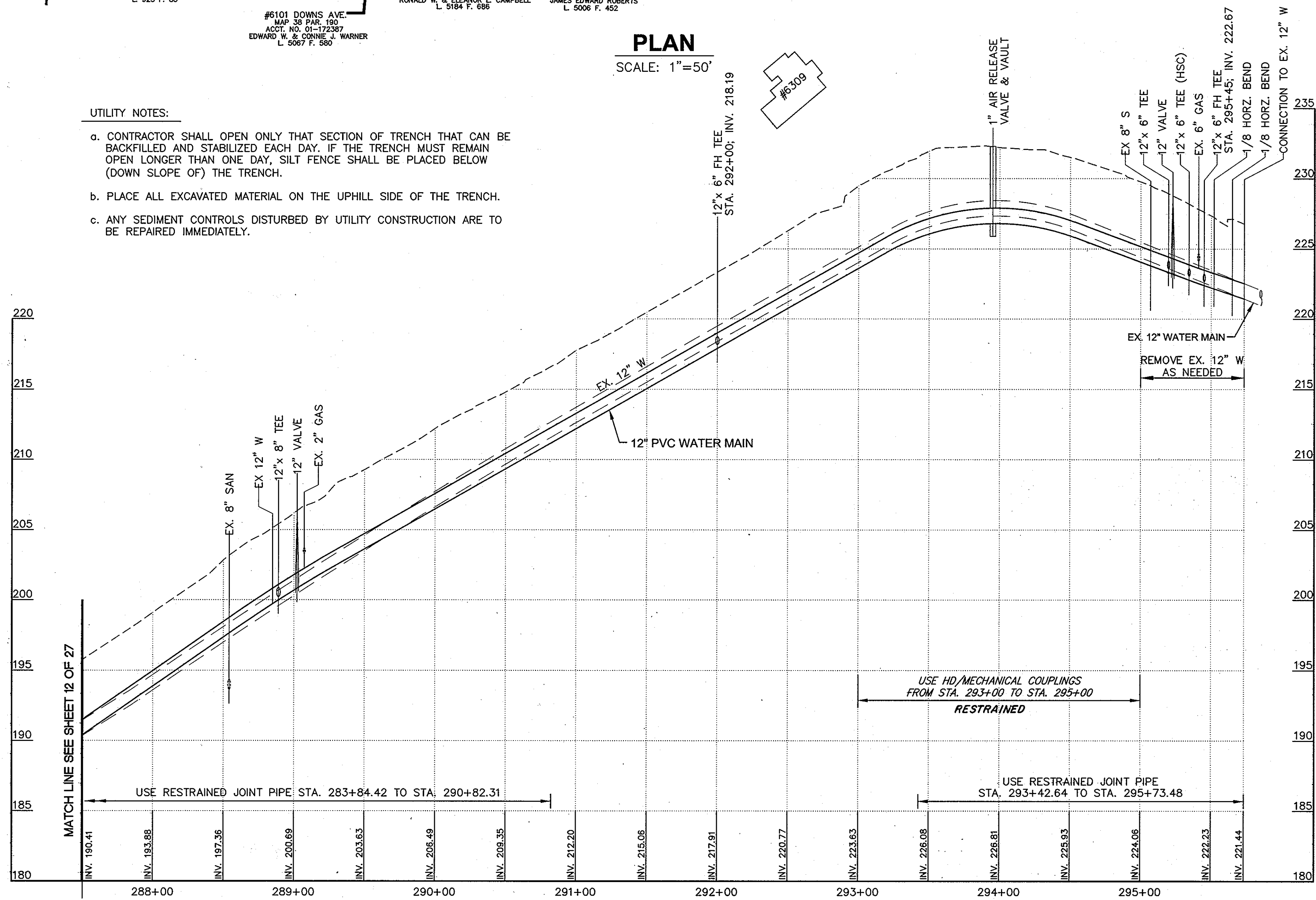


PLAN

SCALE: 1"=50'

UTILITY NOTES:

- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.



PROFILE

SCALE: HORIZ. 1"=50'
VERT. 1"=5'

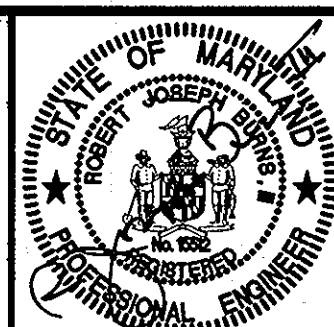
"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works
4/21/05
4-29-05

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875

Architects Engineers Planners Surveyors



DES: RJB
DRN: CD
CHK: TND
DATE: June 15, 2005

BY	NO.	REVISIONS	DATE

PLAN AND PROFILE

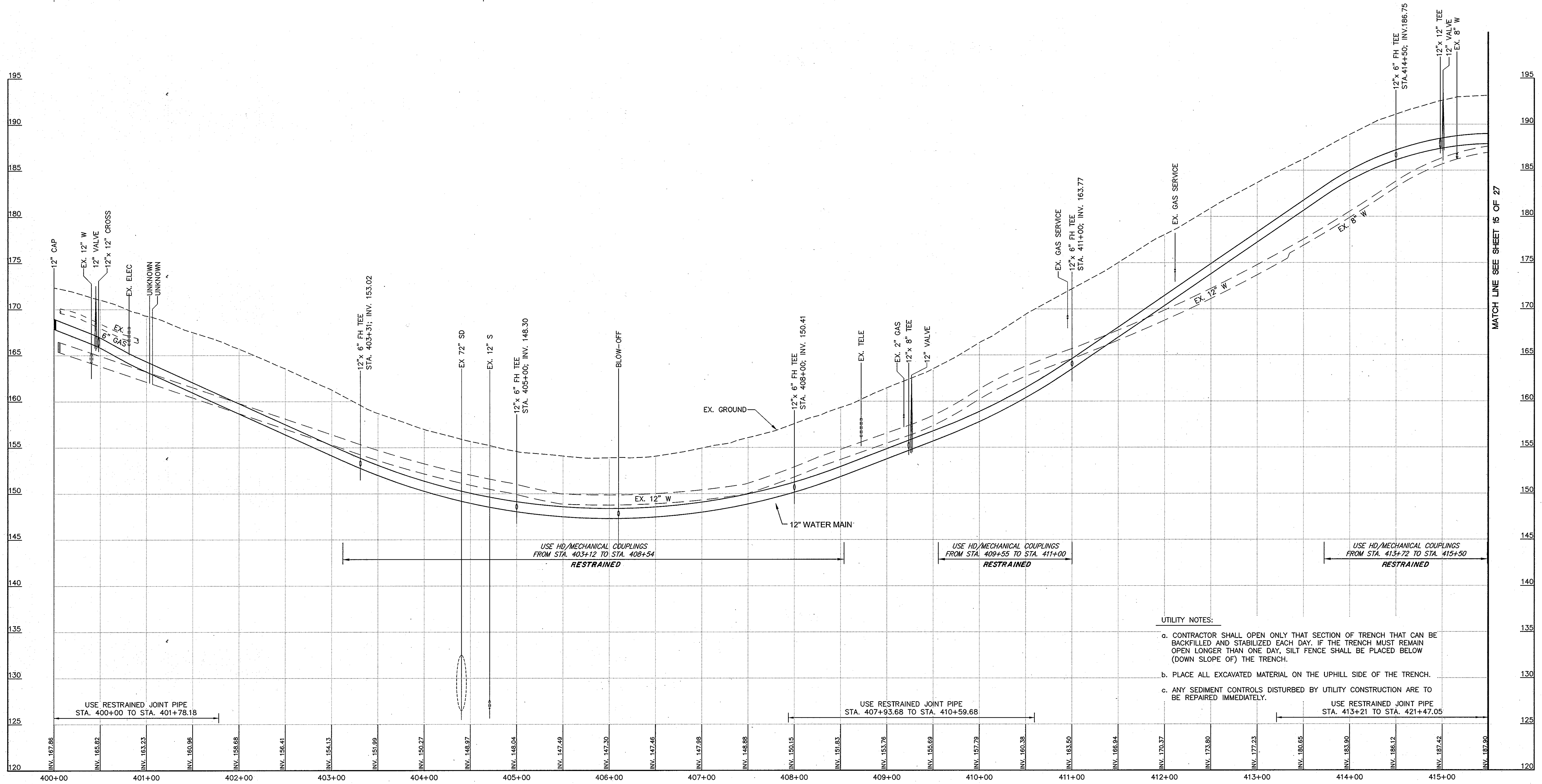
600' SCALE MAP NO. 37, 38 BLOCK NO.

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT

CAPITAL PROJECT W-8238
CONTRACT 44-4073
ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 13 OF 27



PROFILE

SCALE: HORZ. 1" = 50'
 VERT. 1" = 5'

- UTILITY NOTES:**
- a. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
 - b. PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
 - c. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John J. ... 4/29/05
 DIRECTOR OF PUBLIC WORKS DATE

Ralph ... 4-29-05
 CHIEF, BUREAU OF UTILITIES DATE

Dewberry & Davis LLC
 3120 Lord Baltimore Drive
 Baltimore, Maryland 21244
 (410) 265-9500 FAX: (410) 265-8875

Architects Engineers Planners Surveyors



DES: RJB			
DRN: CD			
CHK: TND			
DATE: June 15, 2005	BY: NO.	REVISIONS	DATE

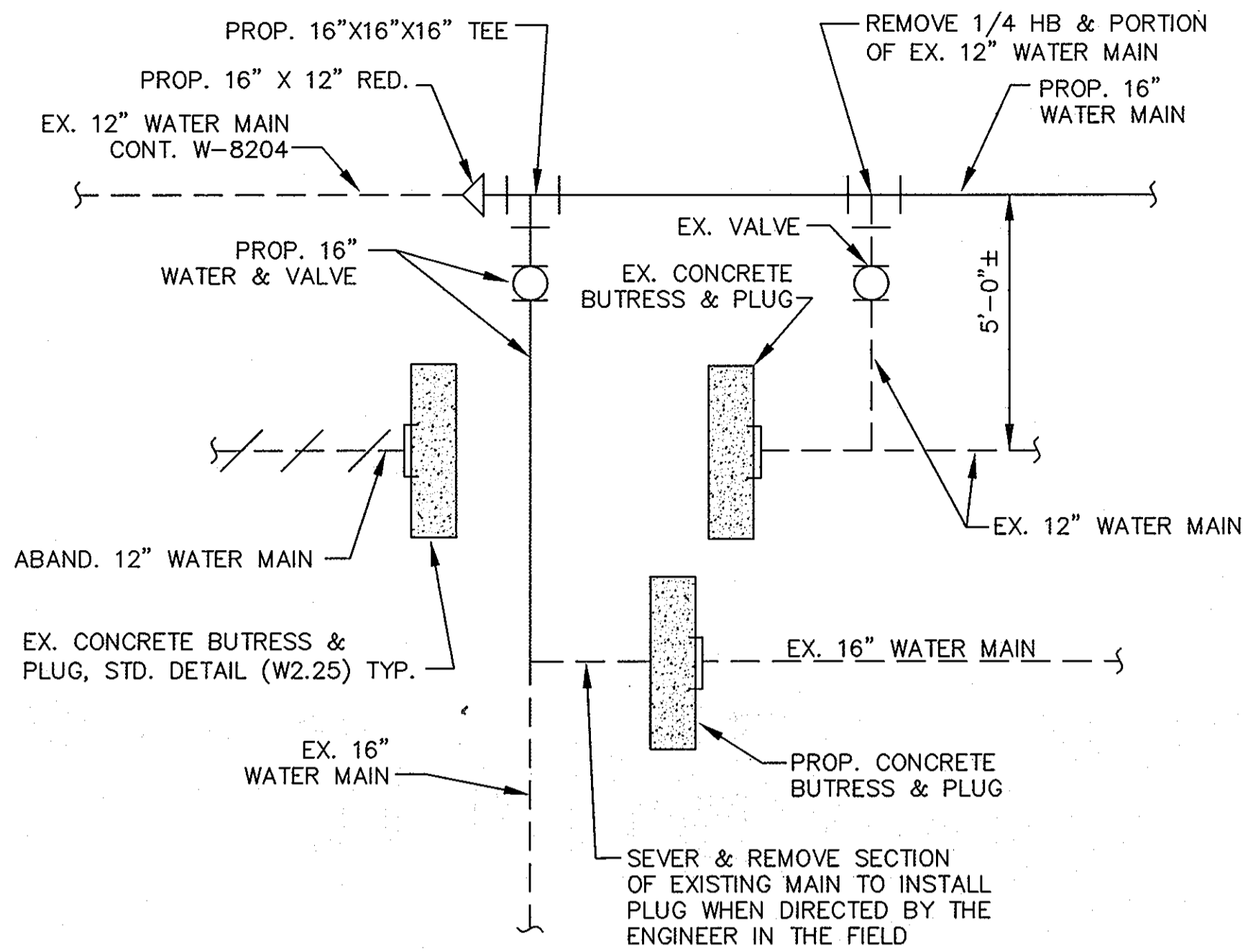
PROFILE

600' SCALE MAP NO. 37, 38
 BLOCK NO.

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
 CAPITAL PROJECT W-8238
 CONTRACT 44-4073

ELECTION DISTRICT NO. 1
 HOWARD COUNTY, MARYLAND

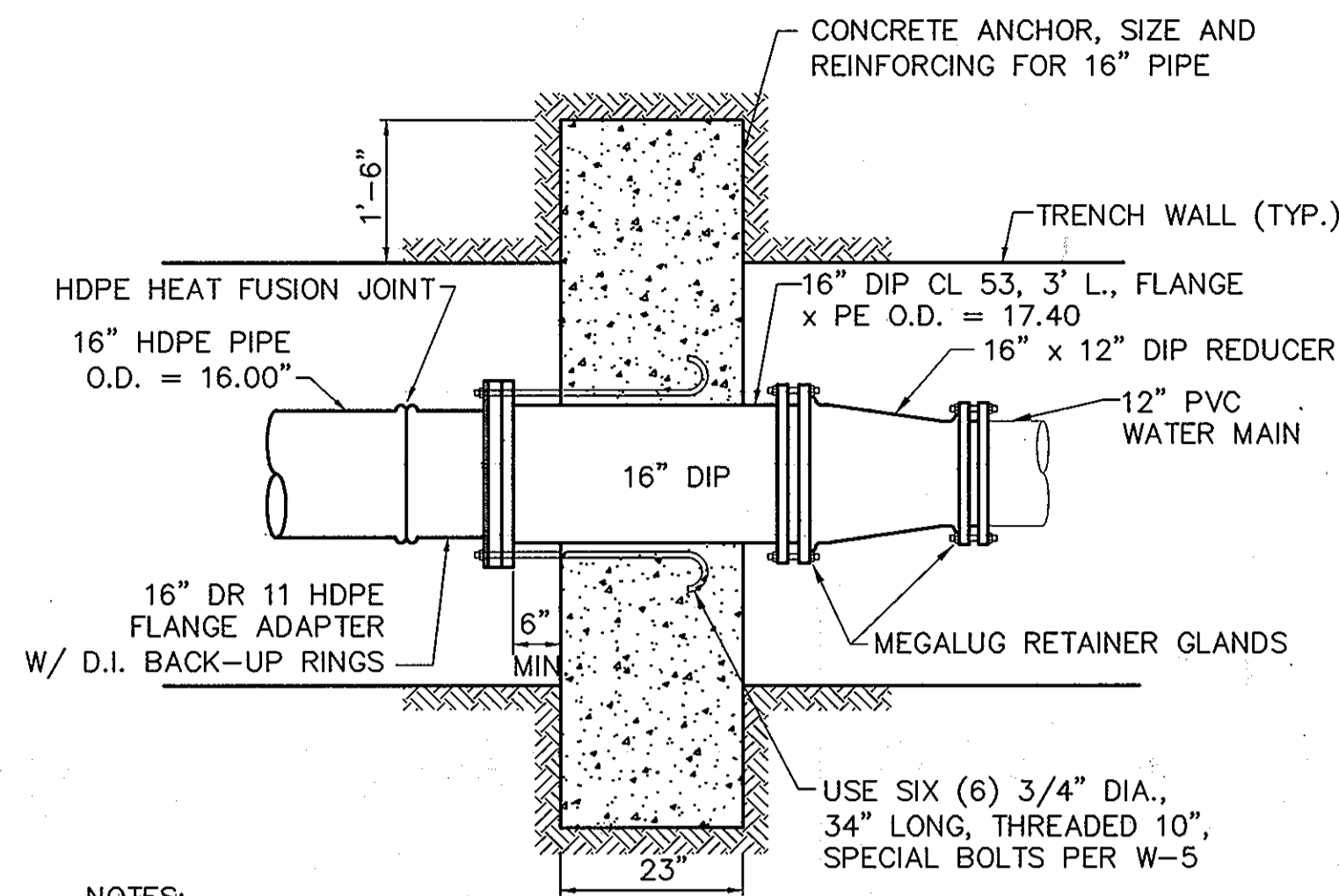
SCALE AS SHOWN
 SHEET 14 OF 27



SCHMATIC DIAGRAM

ABANDONMENT OF EXISTING WATER MAIN - DETAIL

NOT TO SCALE

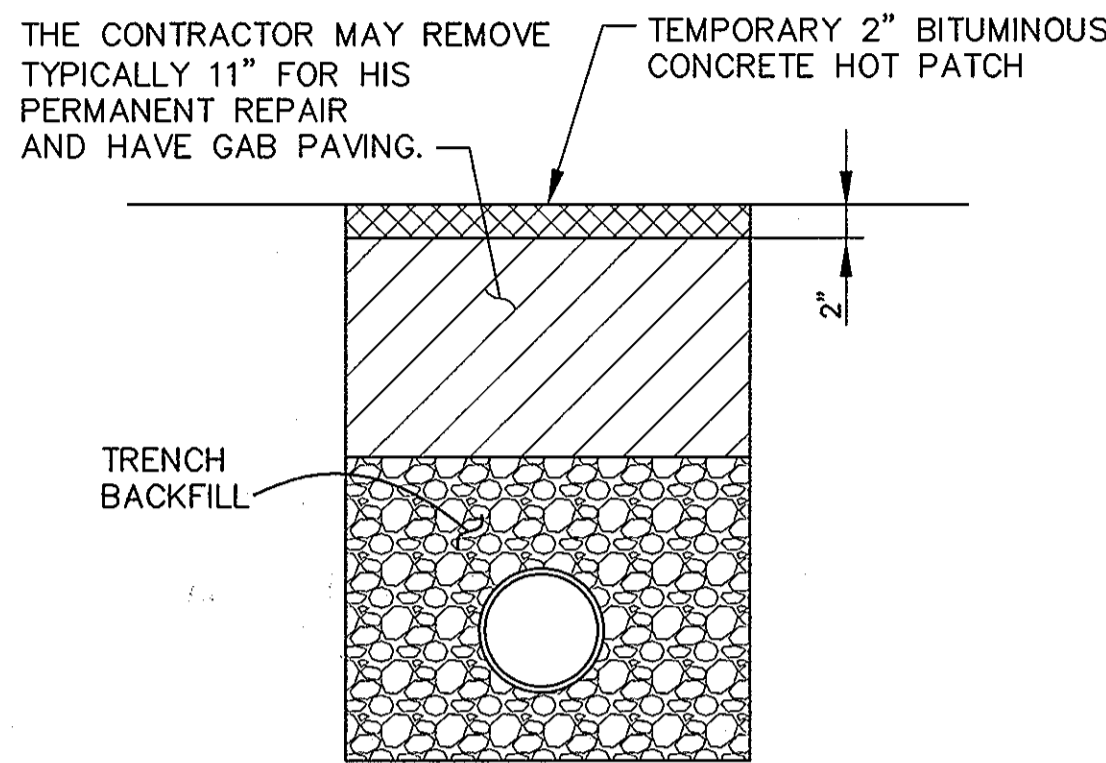


- NOTES:**
1. CONSTRUCT CONCRETE ANCHOR PER HOWARD CO. STD. DETAIL W-2.25.
 2. APPLY TWO (2) COATS OF BITUMINOUS PAINT TO ALL FASTENERS FOLLOWING INSTALLATION.

DETAIL - H.D.P.E. TO PVC PIPE TRANSITION

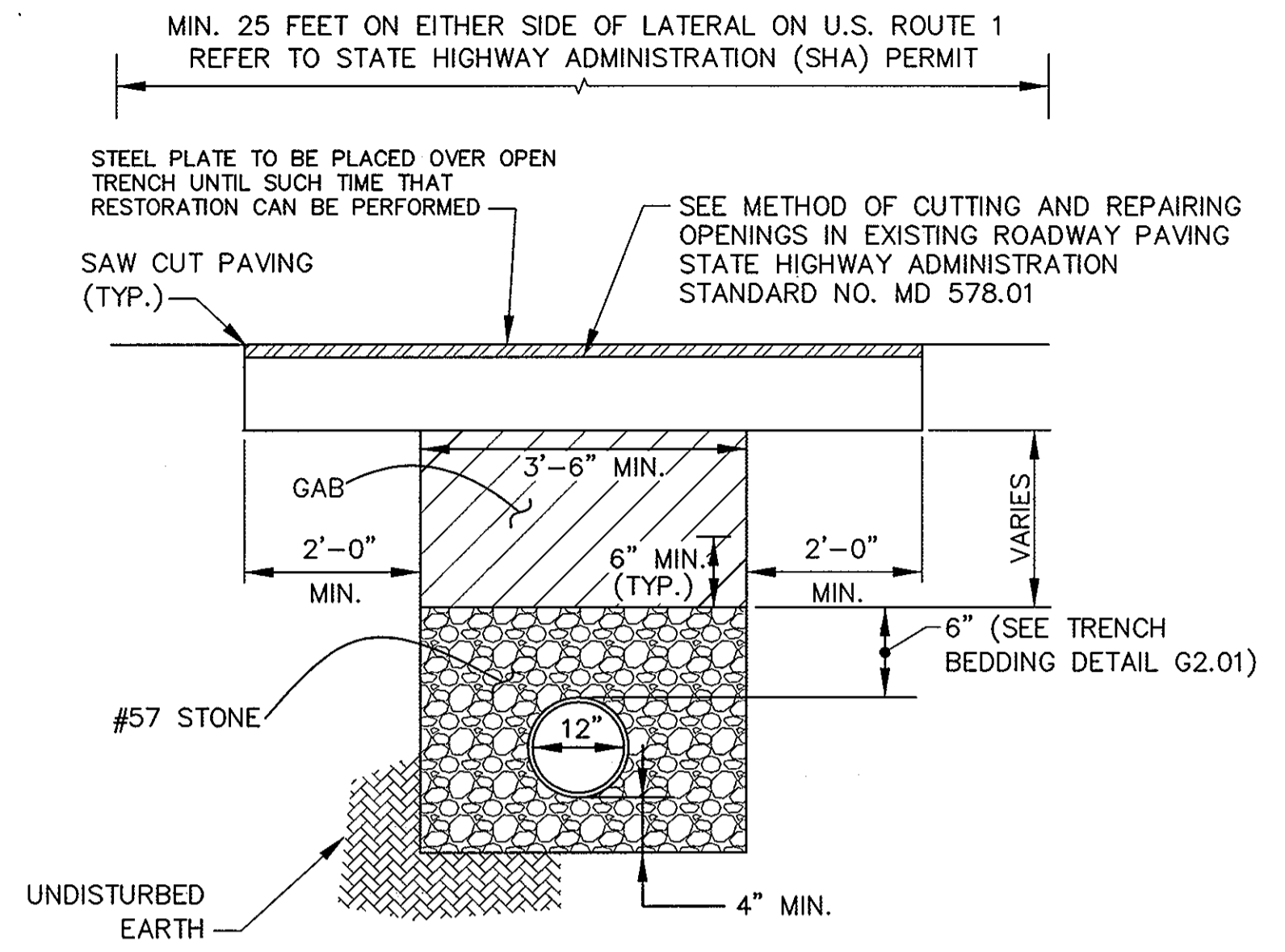
NOT TO SCALE

NOTE
Temporary paving for utility trench repair shall consist of graded aggregate base (GAB) with 2" of bituminous concrete surface material, so that the surface is flush with the adjoining paving surfaces. If any settlement occurs, the contractor shall refill with proper material and restore said paving as above specified.



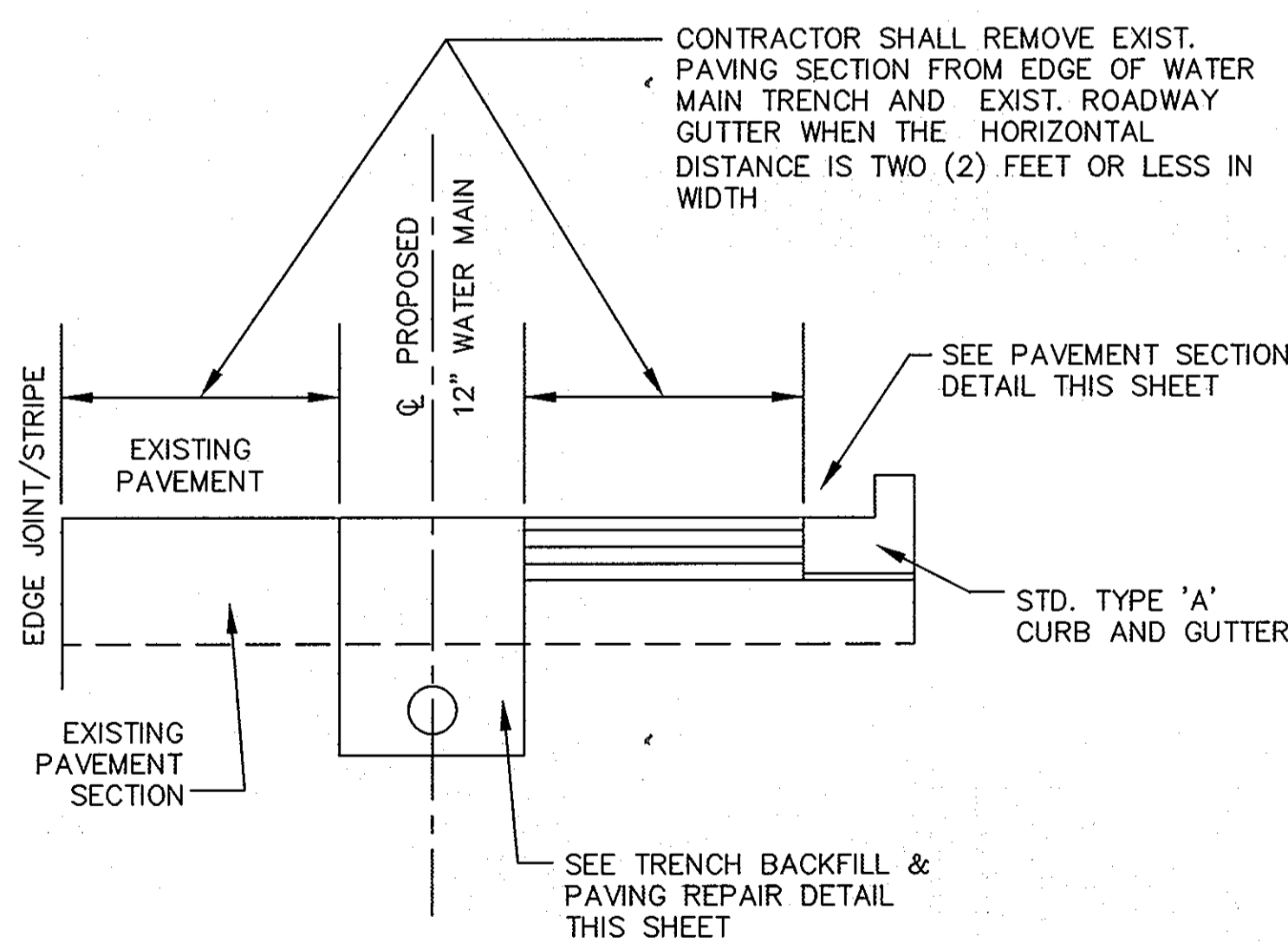
TEMPORARY PAVING DETAIL

NOT TO SCALE



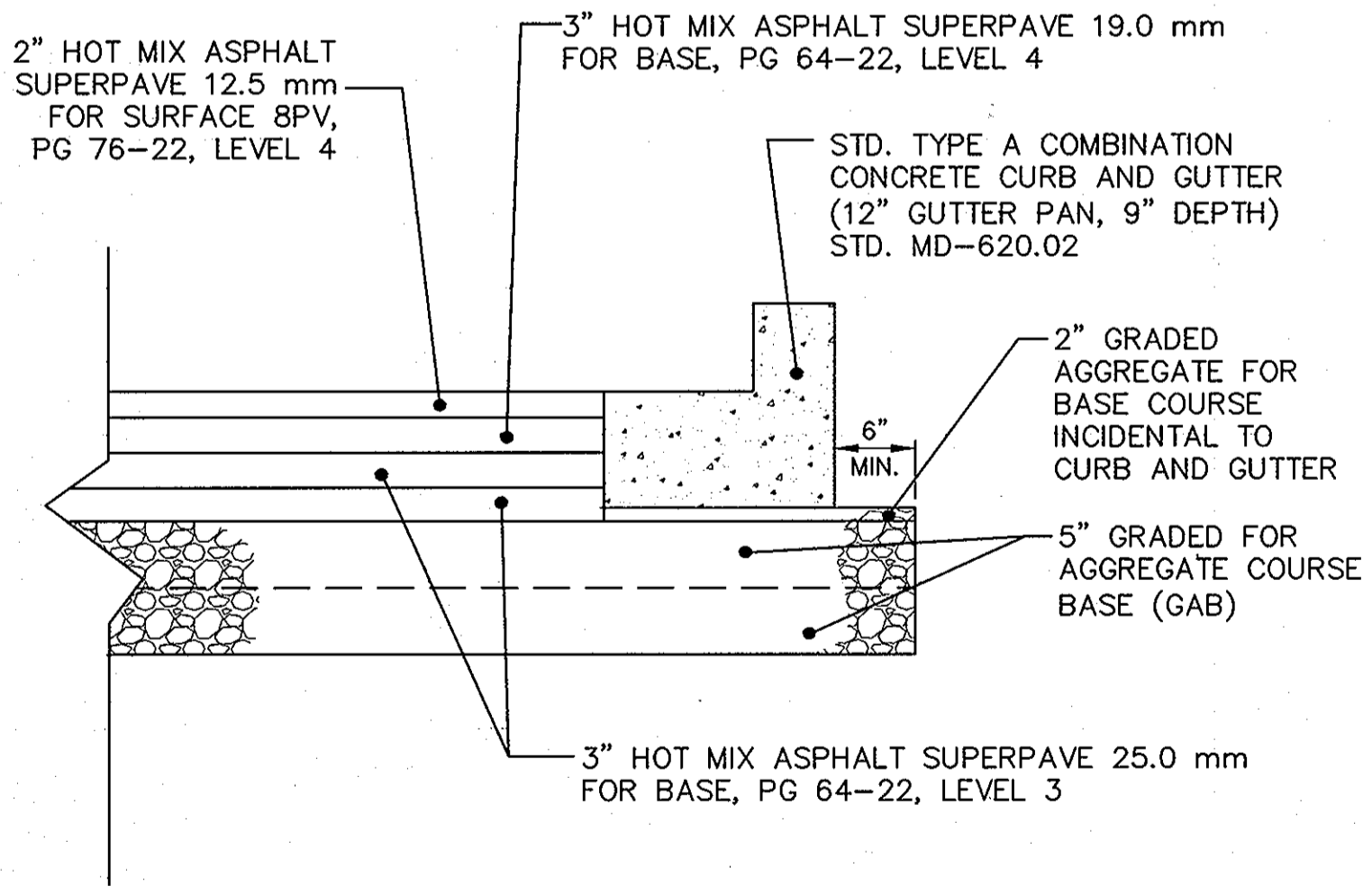
TRENCH & PAVING REPAIR FOR LATERAL PIPES ON U.S. RTE. 1 - DETAIL

NOT TO SCALE



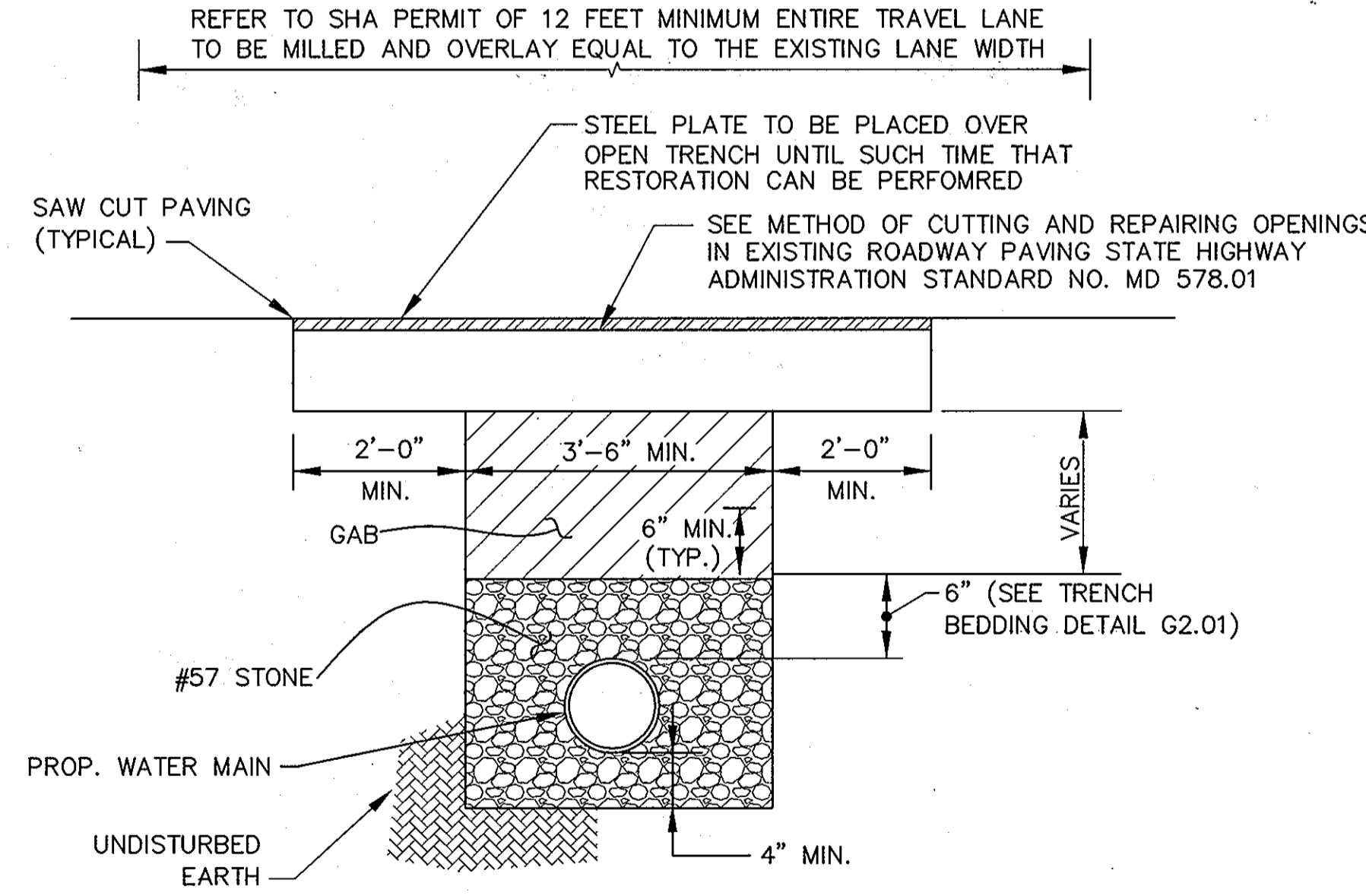
PAVING DETAIL

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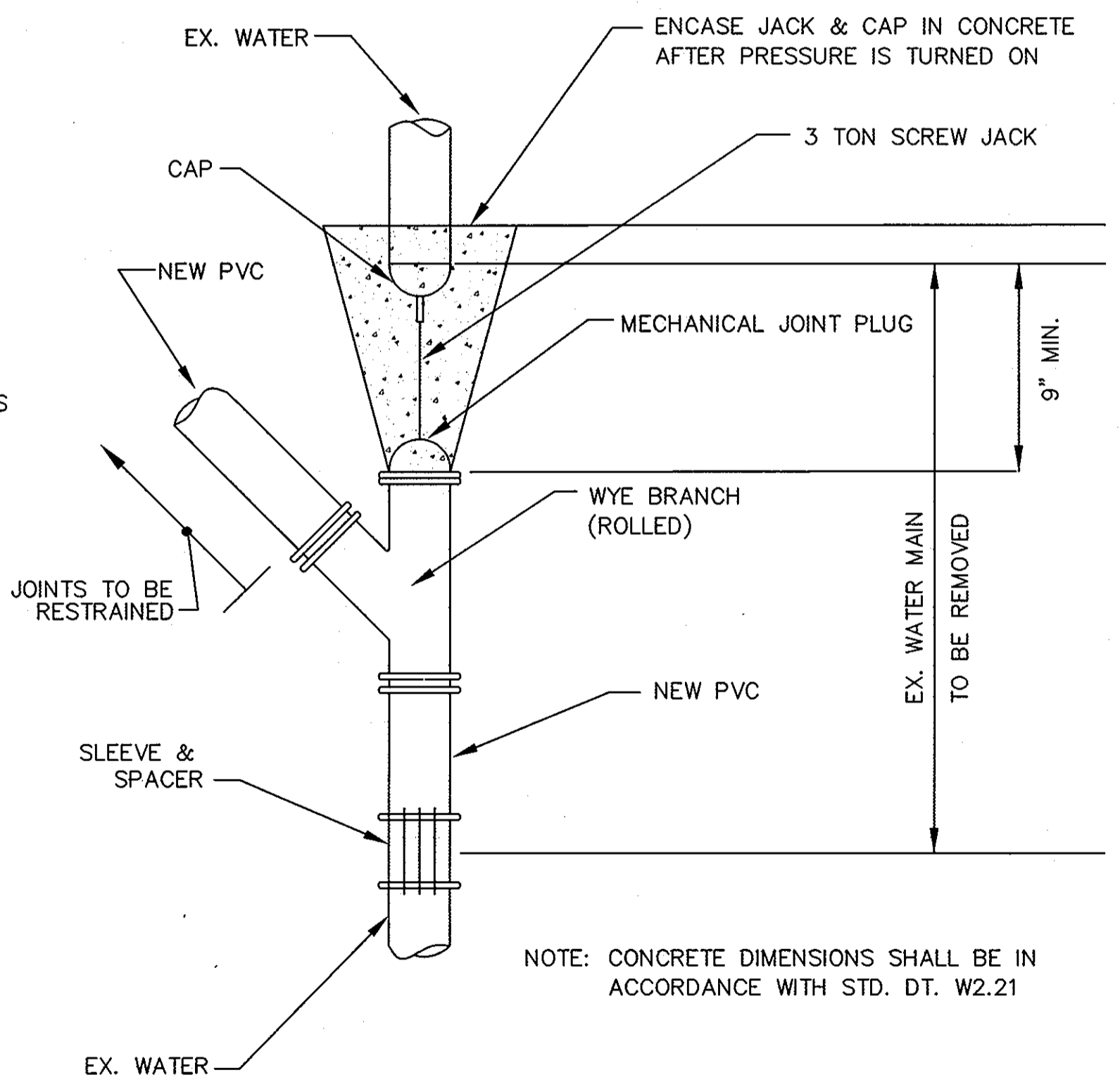
PAVEMENT SECTION DETAIL

NOT TO SCALE



TRENCH BACKFILL & PAVING REPAIR ON U.S. RTE. 1 - DETAIL

NOT TO SCALE



DOUBLE CAP & BUTTRESS DETAIL

NOT TO SCALE

NOTE:
TEMPORARY PAVING TO BE HOT MIX ASPHALT ONLY

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *R. J. ...* DATE: 4-29-05
 Chief, Bureau of Engineering: *...* DATE: 5/2/05
 Chief, Bureau of Utilities: *...* DATE: 4-28-05

Dewberry & Davis LLC
 3120 Lord Baltimore Drive
 Baltimore, Maryland 21244
 (410) 265-9500 FAX: (410) 265-8875

Architects Engineers Planners Surveyors

DES: RJB				
DRN: CD				
CHK: TND				
DATE: June 15, 2005	BY: NO.	REVISIONS	DATE	

600' SCALE MAP NO. 37, 38

BLOCK NO.

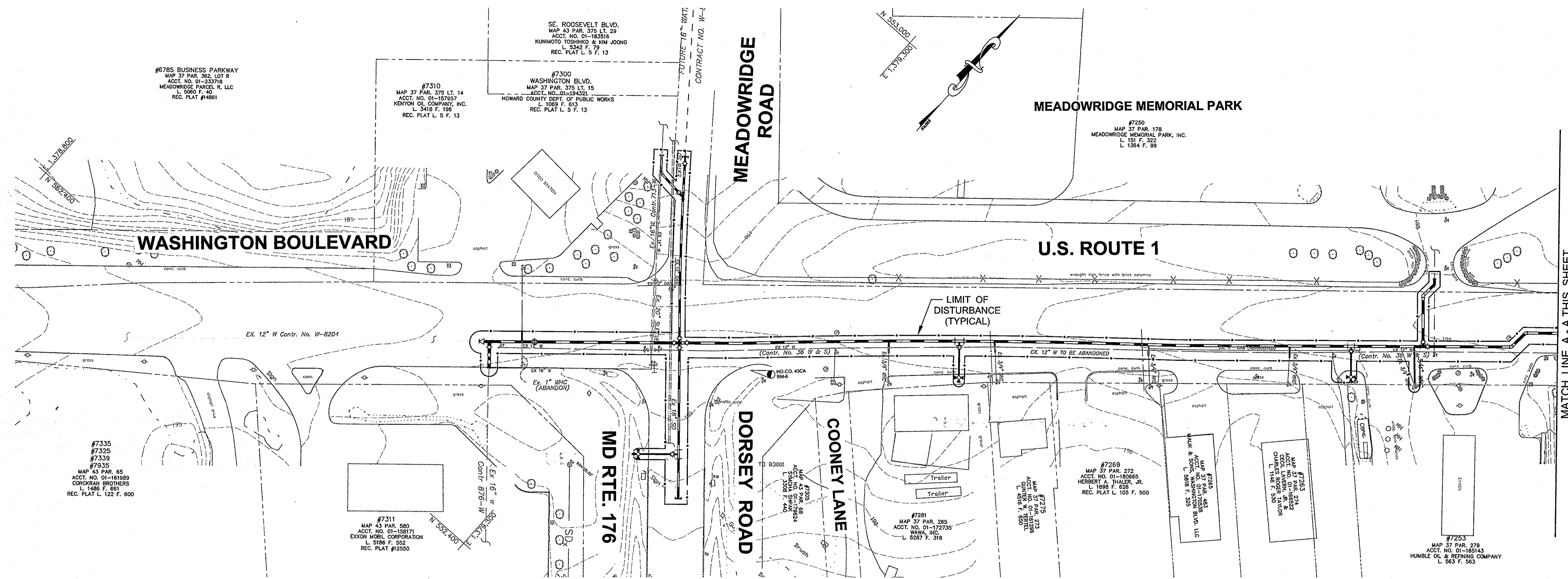
US ROUTE 1
 MEADOWRIDGE ROAD TO MONTGOMERY ROAD
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT W-8238
 CONTRACT 44-4073

ELECTION DISTRICT NO. 1

HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

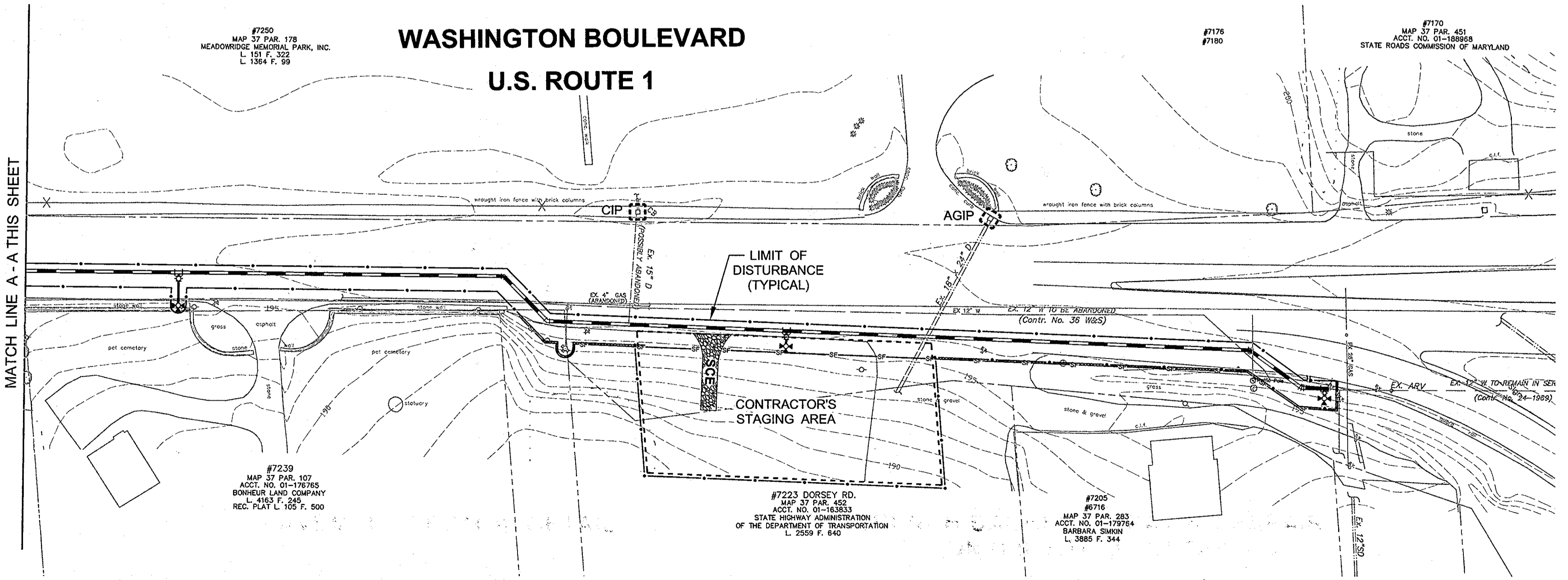
SHEET 17 OF 27



PLAN
SCALE: 1"=50'

- UTILITY NOTES:
- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
 - PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
 - ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

SEDIMENT CONTROL NOTE:
THE PROPOSED LIMITS OF DISTURBANCE EQUAL THE PROPOSED LIMITS OF SEDIMENT CONTROLS.



PLAN
SCALE: 1"=50'

"AS-BUILT" - MAY 2009

ES-1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 265-9500 FAX: (410) 265-8875
Architects Engineers Planners Surveyors



DES: RJB
DRN: CD
CHK: TND
DATE: June 15, 2005

**SEDIMENT AND EROSION
CONTROL PLAN**

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

SCALE
AS
SHOWN

SHEET
18 OF 27

Director of Public Works: *[Signature]* 4/29/05
Chief, Bureau of Utilities: *[Signature]* 4-29-05
Chief, Bureau of Engineering: *[Signature]* 5/2/05
Chief, Utility Design Division: *[Signature]* 4-29-05

BY	NO.	REVISIONS	DATE

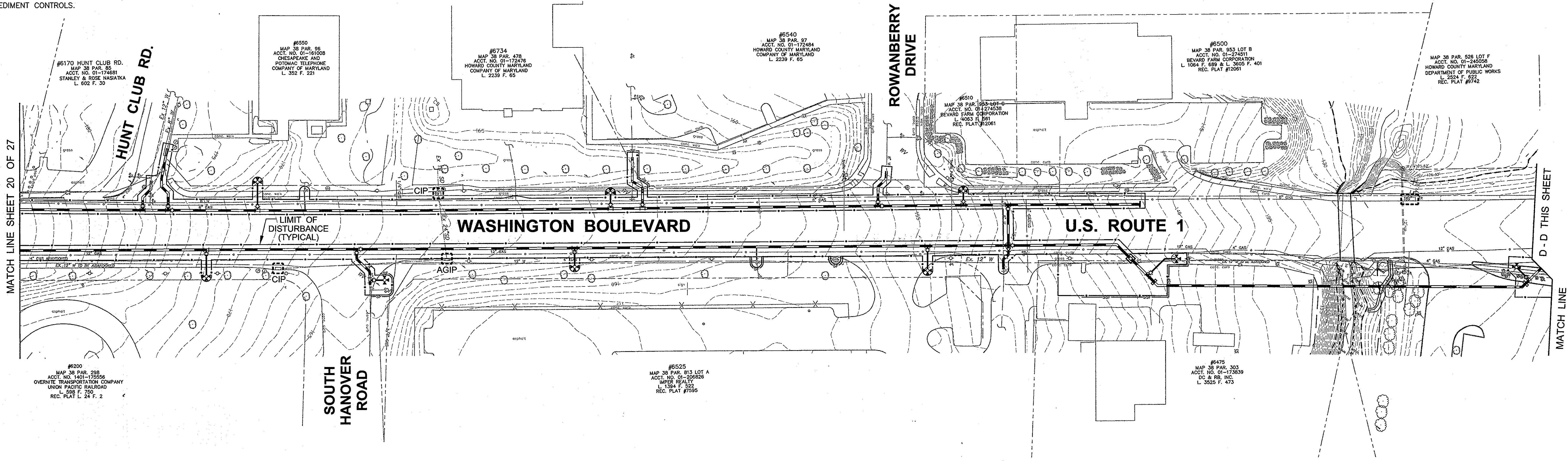
600' SCALE MAP NO. 37, 38 BLOCK NO.

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

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SEDIMENT CONTROL NOTE:

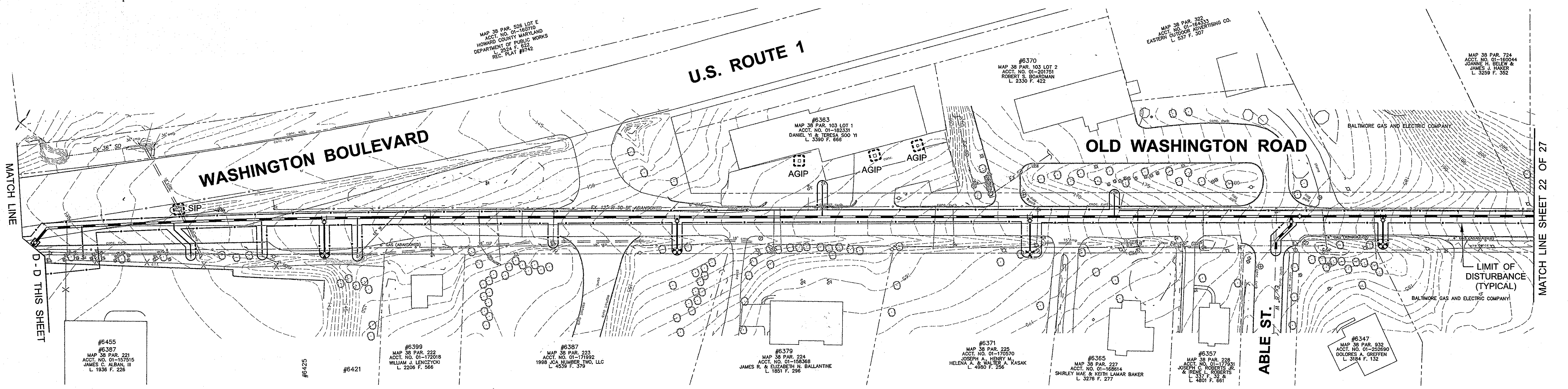
THE PROPOSED LIMITS OF DISTURBANCE EQUAL THE PROPOSED LIMITS OF SEDIMENT CONTROLS.



UTILITY NOTES:

- d. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
- b. PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
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PLAN
SCALE: 1"=50'



PLAN
SCALE: 1"=50'

"AS-BUILT" - MAY 2009

ES-4

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

4/29/05
DATE

4-28-05
DATE

4-28-05
DATE

Dewberry & Davis LLC
3120 Lord Baltimore Drive
Baltimore, Maryland 21244
(410) 285-9500 FAX: (410) 285-8875

Architects Engineers Planners Surveyors

DES: RJB			
DRN: CD			
CHK: TND			
DATE: June 15, 2005	BY: NO.	REVISIONS	DATE

SEDIMENT AND EROSION CONTROL PLAN

600' SCALE MAP NO. 37, 38

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

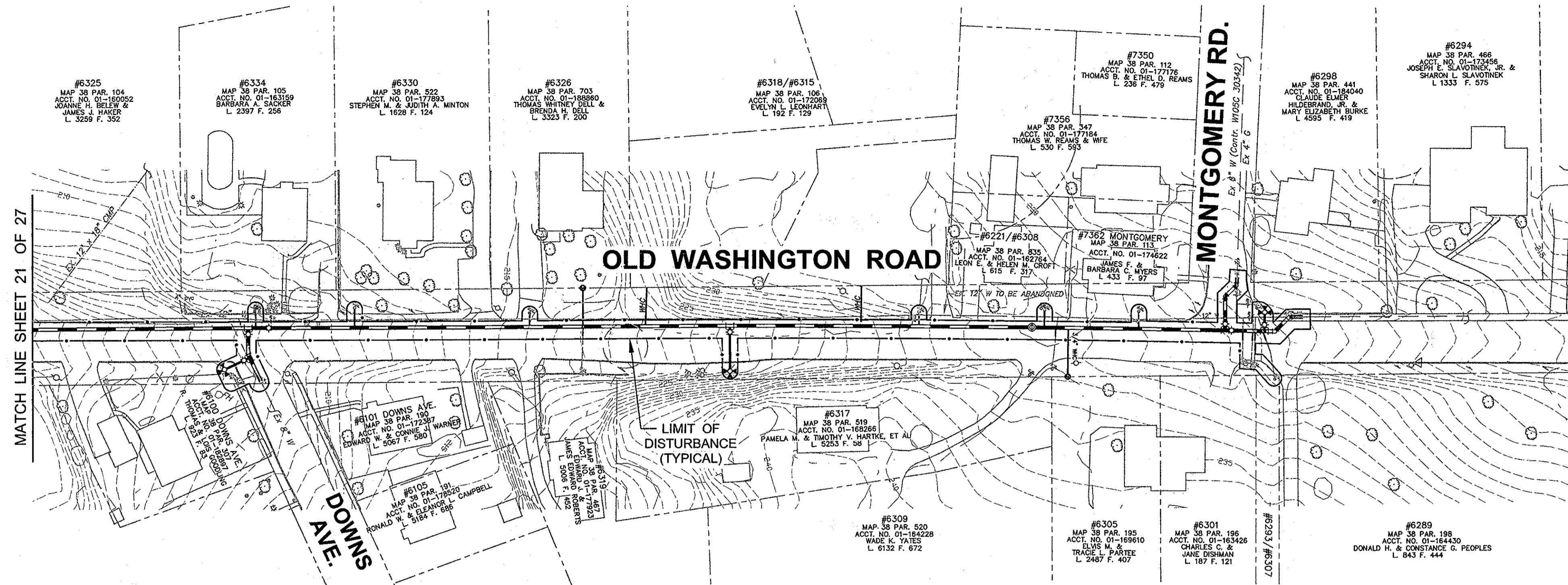
ELECTION DISTRICT NO. 1

HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 21 OF 27

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PLAN
SCALE: 1"=50'

UTILITY NOTES:

- a. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
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SEDIMENT CONTROL NOTE:

THE PROPOSED LIMITS OF DISTURBANCE EQUAL THE PROPOSED LIMITS OF SEDIMENT CONTROLS.

"AS-BUILT" - MAY 2009 ES-5

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Ruth Berman</i> 4/29/05 Chief, Bureau of Utilities: <i>Ruth Berman</i> 4-29-05		Dewberry & Davis LLC 3120 Lord Baltimore Drive Baltimore, Maryland 21244 (410) 265-9500 FAX: (410) 265-8875 Architects Engineers Planners Surveyors		DES: RJB DRN: CD CHK: TND DATE: June 15, 2005		SEDIMENT AND EROSION CONTROL PLAN		US ROUTE 1 MEADOWRIDGE ROAD TO MONTGOMERY ROAD WATER MAIN REPLACEMENT CAPITAL PROJECT W-8238 CONTRACT 44-4073 ELECTION DISTRICT NO. 1		SCALE AS SHOWN SHEET 22 OF 27	
Chief, Bureau of Engineering: <i>Paul Degan</i> 5/2/05 Chief, Utility Design Division: <i>Paul Degan</i> 4-28-05		DATE: June 15, 2005 BY: NO. REVISIONS DATE		600' SCALE MAP NO. 37, 38 BLOCK NO.		HOWARD COUNTY, MARYLAND					

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STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Section I - Vegetative Stabilization Methods and Materials

- A. Site Preparation
 - i. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)
 - i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
 - ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
 - iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
 - iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seedbed Protection

- i. Temporary Seeding
 - a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - b. Apply fertilizer and lime as prescribed on the plans.
 - c. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
- ii. Permanent Seeding
 - a. Minimum soil conditions required for permanent vegetative establishment:
 - 1. Soil pH shall be between 5.0 and 7.0.
 - 2. Soluble salts shall be less than 500 parts per million (ppm).
 - 3. The soil shall contain less than 40% clay but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loess or silt loess is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
 - 4. Soil shall contain 1.5% minimum organic matter by weight.
 - 5. Soil must contain sufficient pore space to permit adequate root penetration.
 - 6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
 - b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - c. Apply soil amendments as per soil tests or as included on the plans.
 - d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1"-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

- i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
- ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding

- i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.
 - a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous): 200 lbs/acre; K20 (potassium): 200 lbs/acre.
 - b. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
- ii. Dry Seeding : This includes use of conventional drop or broadcast spreaders.
 - a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- iii. Drill or Cultipacker Seeding : Mechanized seeders that apply and cover seed with soil.
 - a. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
 - b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (In order of preference)

- i. Straw shall consist of thoroughly threshed wheat, rye, or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
- ii. Wood Cellulose Fiber Mulch (WCFM)
 - a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

- c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
- d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- e. WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
- f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

- i. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
- ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied in a uniform layer of depth between 2" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
- iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- iv. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
 - i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used to the contour if possible.
 - ii. Wood Cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Ago-Tack), DCA-70, Petrosert, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
- v. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization - Cut Slopes

- i. All cut slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
 - ii. Construction sequence (refer to Figure 4 below):
 - a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
 - b. Perform phase 1 excavation, dress and stabilize.
 - c. Perform phase 2 excavation, dress, and stabilize. Overseed phase 1 areas as necessary.
 - d. Perform final phase excavation, dress, and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun, the operation should be continuous from grubbing through completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the season will necessitate the application of temporary stabilization.

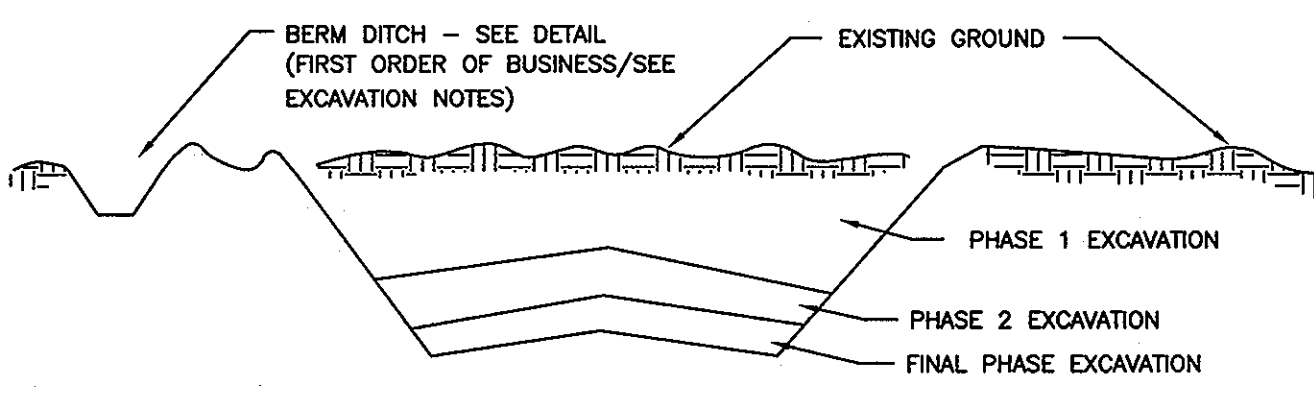


Figure 4 Incremental Stabilization - Cut

J. Incremental Stabilization of Embankments - Fill Slopes

- i. Embankments shall be constructed in lifts as prescribed on the plans.
- ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed on the plans.
- iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
- iv. Construction sequence: Refer to Figure 5 (below):
 - a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct Slope Silt Fence on low side of the area as shown in Figure 4, unless other methods shown on the plans address this area.
 - b. Place phase 1 embankment, dress and stabilize.
 - c. Place phase 2 embankment, dress and stabilize.
 - d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun, the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

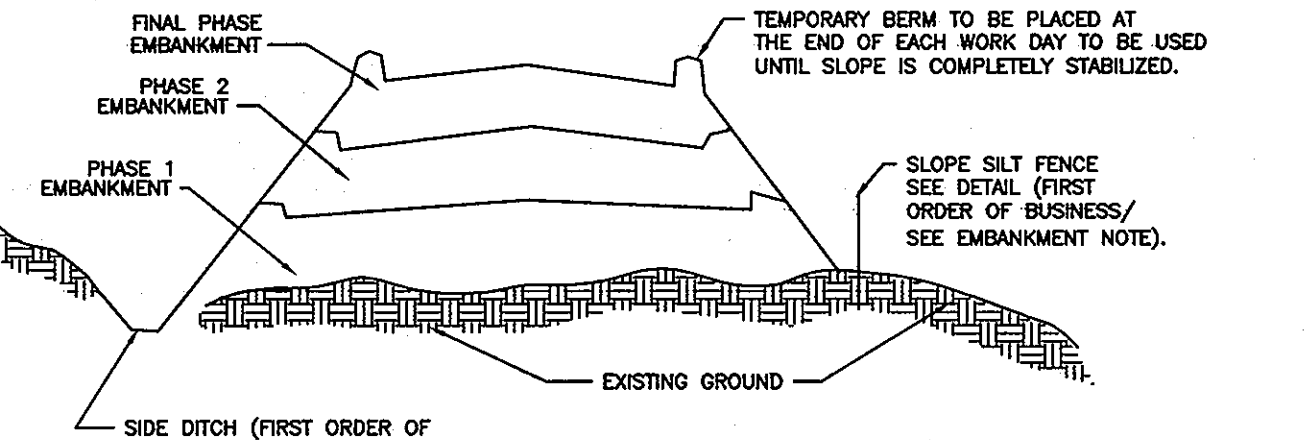


Figure 5 Incremental Stabilization - Embankment Fill Comply with MD 378 Specifications.

Section II - Temporary Seeding

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed Mixtures - Temporary Seeding

- i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. If this Summary is not put on the plans and completed, then Table 26 must be put on the plans.
- ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

TEMPORARY SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE - 6b -)				SEEDING DEPTHS	FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES			
	ANNUAL RYEGRASS	50 LB/AC	3/1 - 4/30 8/15 - 11/1	1/4" - 1/2"	600 LB/AC (15 LB/1000 SF)	2 TONS/AC (100 LB/1000 SF)
	MILLET	50 LB/AC	5/1 - 8/14	1/2"		

Section III: Permanent Seeding

Seeding grasses and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

A. Seed Mixtures - Permanent Seeding

- i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seed Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 25. If this Summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or athletic treatment may be found in USDA-SCS technical Field Office Guide, Section 342 - Critical Area Planting. For special low maintenance areas, see Section IV Sod and V Turfgrass.
- ii. For sites having disturbed area over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
- iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/acre), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

PERMANENT SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE - 6b -)				FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	N	P205	K20	
3	TALL FESCUE PERENNIAL RYE KY.BLUGRASS	125 LB/AC 15 LB/AC 10 LB/AC	3/1 - 5/15 8/15 - 10/15	1/4" - 1/2"	90 LB/AC (15 LB/1000 SF)	175 LB/AC (4 LB/1000 SF)	175 LB/AC (4 LB/1000 SF)
7	TALL FESCUE WHEATING LOWGRASS SERREXIA LESPEDEZA	110 LB/AC 3 LB/AC 20 LB/AC	3/1 - 10/15	1/4" - 1/2"			

Section IV - Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

A. General specifications

- i. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.
- ii. Sod shall be machine cut uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pods and torn or uneven ends will not be acceptable.
- iii. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
- iv. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- v. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation.

B. Sod Installation

- i. During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.
- ii. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
- iii. Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
- iv. Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

C. Sod Maintenance

- i. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.
- ii. After the first week, sod watering is required as necessary to maintain adequate moisture content.
- iii. The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

Section IV - Turfgrass Establishment

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. Areas to receive seed shall be tilled by disking or other approved methods to a depth of 2 to 4 inches, leveled and rolled to prepare a proper seedbed. Stones and debris over 1 1/2 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future mowing of grasses will pose no difficulty.

Note: Choose certified material. Certified material is the best guarantee to cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

A. Permanent Seeding

- i. Kentucky Bluegrass - Full sun mixture - For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and eastern shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
- ii. Kentucky Bluegrass/Perennial Rye - Full sun mixture - For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Rye/Cultivars/Certified Kentucky Bluegrass Seeding rate: 2 pounds mixture/1000 square feet. A minimum of 3 Kentucky Bluegrass Cultivars must be chosen, with each cultivar ranging from 10% to 35% of the mixture by weight.

- iii. Tall Fescue/Kentucky Bluegrass - Full sun mixture - For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: certified Tall Fescue Cultivars 95-100%, certified Kentucky Bluegrass Cultivars 0 - 5%. Seeding rate: 5 to 8 lb/1000 sq. ft. One or more cultivars may be blended.
- iv. Kentucky Bluegrass/Fine Fescue - Shade Mixture - For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: certified Kentucky Bluegrass Cultivars 30-40% and certified Fine Fescue and 60-70%. Seeding rate: 1 1/2 - 3 lbs/1000 square feet. A minimum of 3 Kentucky bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.

Note: Turfgrass varieties should be selected from those listed in the most current University of Maryland Publication, Agronomy Mimeo #77, "Turfgrass Cultivar Recommendations for Maryland".

B. Ideal times of seeding

- Western MD: March 15 - June 1, August 1 - October 1 (Hardiness Zones - 5b, 6a)
- Central MD: March 1 - May 15, August 15 - October 15 (Hardiness Zone - 6b)
- Southern MD, Eastern Shore: March 1 - May 15, August 15 - October 15 (Hardiness Zones - 7a,7b)

C. Irrigation

If soil moisture is deficient, supply new seedlings with adequate water for plant growth (23/64 " 0.1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

D. Repairs and Maintenance

- i. Inspect all seeded areas for failures and make necessary repairs, replacements, and reseeding within the planting season.
- ii. Once the vegetation is established, the site shall have 95% ground cover to be considered adequately stabilized.
- iii. If the stand provides less than 40% ground coverage, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.
- iv. If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing half of the rates originally applied may be necessary.
- v. Maintenance fertilizer rates for permanent seedings are shown in table 24. For lawns and other medium to high maintenance turfgrass areas, refer to the University of Maryland publication "Lawn Care in Maryland" Bulletin No. 171.

SEDIMENT CONTROL CONSTRUCTION NOTES:

1. SEE SHEET ES-___ OF ES-___ FROM SEDIMENT CONTROL LEGEND.
2. ALL DISTURBED AREAS SHALL BE STABILIZED AT THE END OF EACH DAY.
3. STABILIZED CONSTRUCTION ENTRANCE LOCATIONS ARE TO BE DETERMINED BY THE CONTRACTOR AND THE COUNTY INSPECTOR.
4. INSTALLATION OF THE MSD SHALL NOT INTERFERE WITH THE TRAFFIC CONTROL MEASURES NECESSARY FOR THE CONTRACTOR TO MAINTAIN FLOW AROUND THE JOB SITE.
5. PORTABLE SEDIMENT TANK LOCATIONS TO BE DETERMINED BY THE CONTRACTOR WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.
6. DUE TO THE CONSTRAINTS OF THE CONSTRUCTION SITE, STAGING & STOCKPILE AREAS AND STABILIZED CONSTRUCTION ENTRANCES (SCE) ARE NOT SHOWN. CONTRACTOR'S RESPONSIBILITY FOR LOCATING THEIR STAGING AND STOCKPILE AREAS, INSTALLING SEDIMENT CONTROL MEASURES AND GETTING SEDIMENT INSPECTOR APPROVAL. LOCATIONS FOR SCE WILL BE DETERMINED IN THE FIELD AS APPROVED BY THE PROJECT ENGINEER AND THE SEDIMENT INSPECTOR. ANY CHANGES TO THE LOD SHOWN ON THE PLANS WILL ALSO REQUIRE APPROVAL BY THE SEDIMENT INSPECTOR.
7. SPOIL FROM TRENCH EXCAVATION SHALL BE PLACED ON THE UPHILL SIDE OF THE EXCAVATION.

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Arnold G. Lepson 5/2/05
Signature of Developer Date

Arnold G. Lepson
Print Name

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

R. Joseph Burns, III 4-25-05
Signature of Engineer Date

R. Joseph Burns, III
Print Name

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Hughes 5/28/05
USDA-Natural Resources Conservation Service Date

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

Howard Soil Conservation District 4/28/05
Signature Date

"AS-BUILT" - MAY 2009 ES-6

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Ralph B... 4/29-05
DIRECTOR OF PUBLIC WORKS DATE

Arnold G. Lepson 5/2/05
CHIEF, BUREAU OF ENGINEERING DATE

... 4-28-05
CHIEF, UTILITY DIVISION DATE

Dewberry & Davis LLC
3120 Timanus Lane
Baltimore, Maryland 21244
(410) 285-9500 FAX: (410) 285-8875

Architects Engineers Planners Surveyors

DES:	RJB				
DRN:	CD				
CHK:	TND				
DATE:					
BY:	NO.				
REVISIONS:					
DATE:					
600' SCALE:	MAP NO.				
BLOCK NO.					

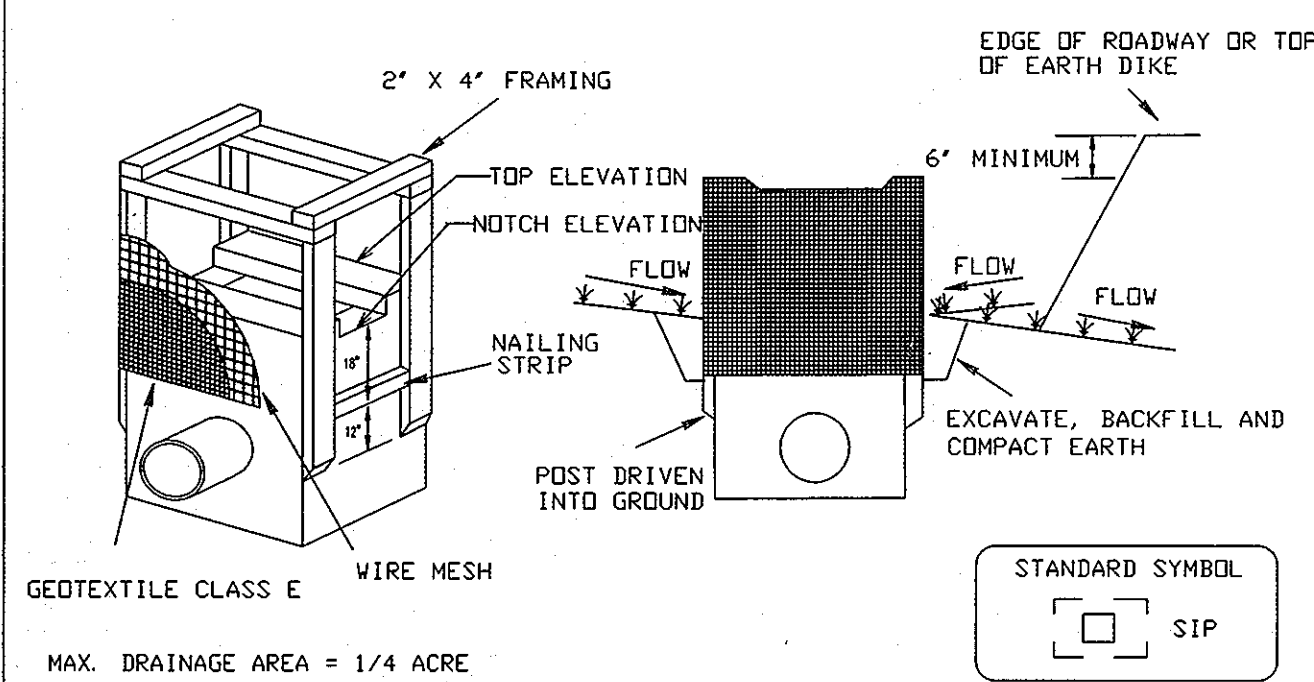
SEDIMENT AND EROSION CONTROL NOTES

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 23 OF 27

DETAIL 23A - STANDARD INLET PROTECTION

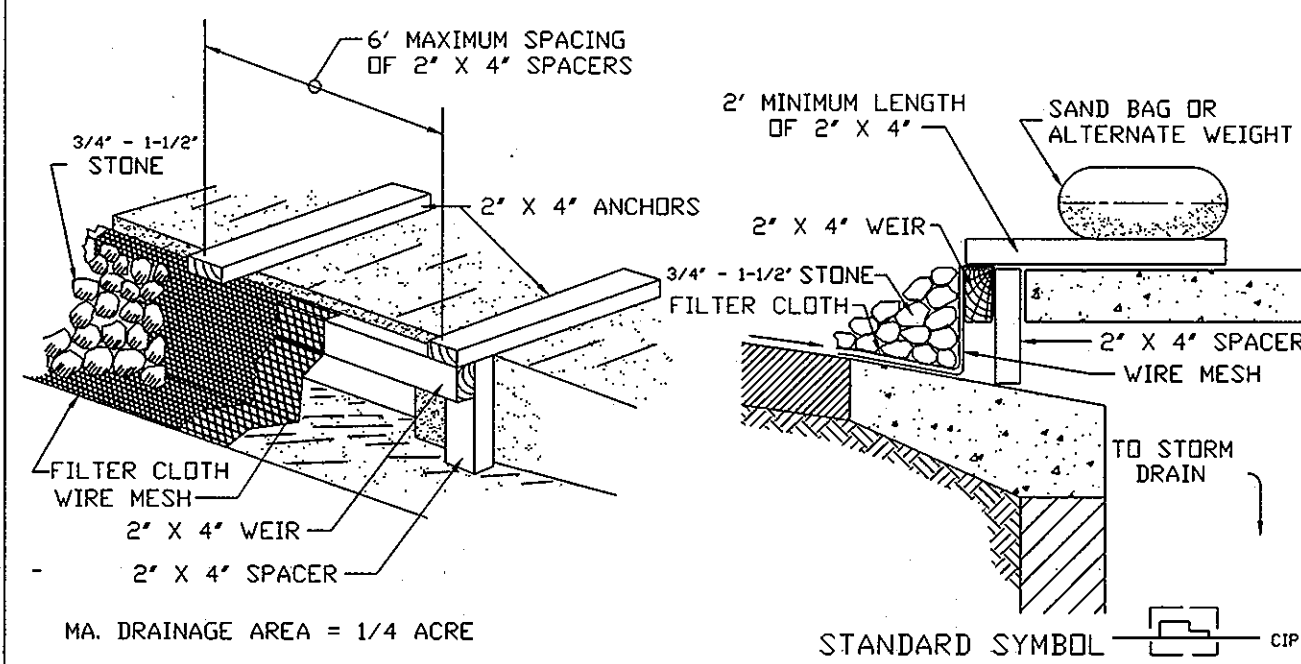


Construction Specifications

- Excavate completely around the inlet to a depth of 18" below the notch elevation.
- Drive the 2' x 4' construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2' x 4' frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
- Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
- Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
- Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
- If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
- The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



Construction Specifications

- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2"x4" weir (measuring throat length plus 2") as shown on the standard drawing.
- Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2"x4" weir.
- Securely nail the 2"x4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4" apart).
- Place the assembly against the inlet throat and nail (minimum 2" lengths of 2"x4" to the top of the weir at spacer locations). These 2"x4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
- Form the 1/2"x1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4"x1-1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-5B MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF OPERATION

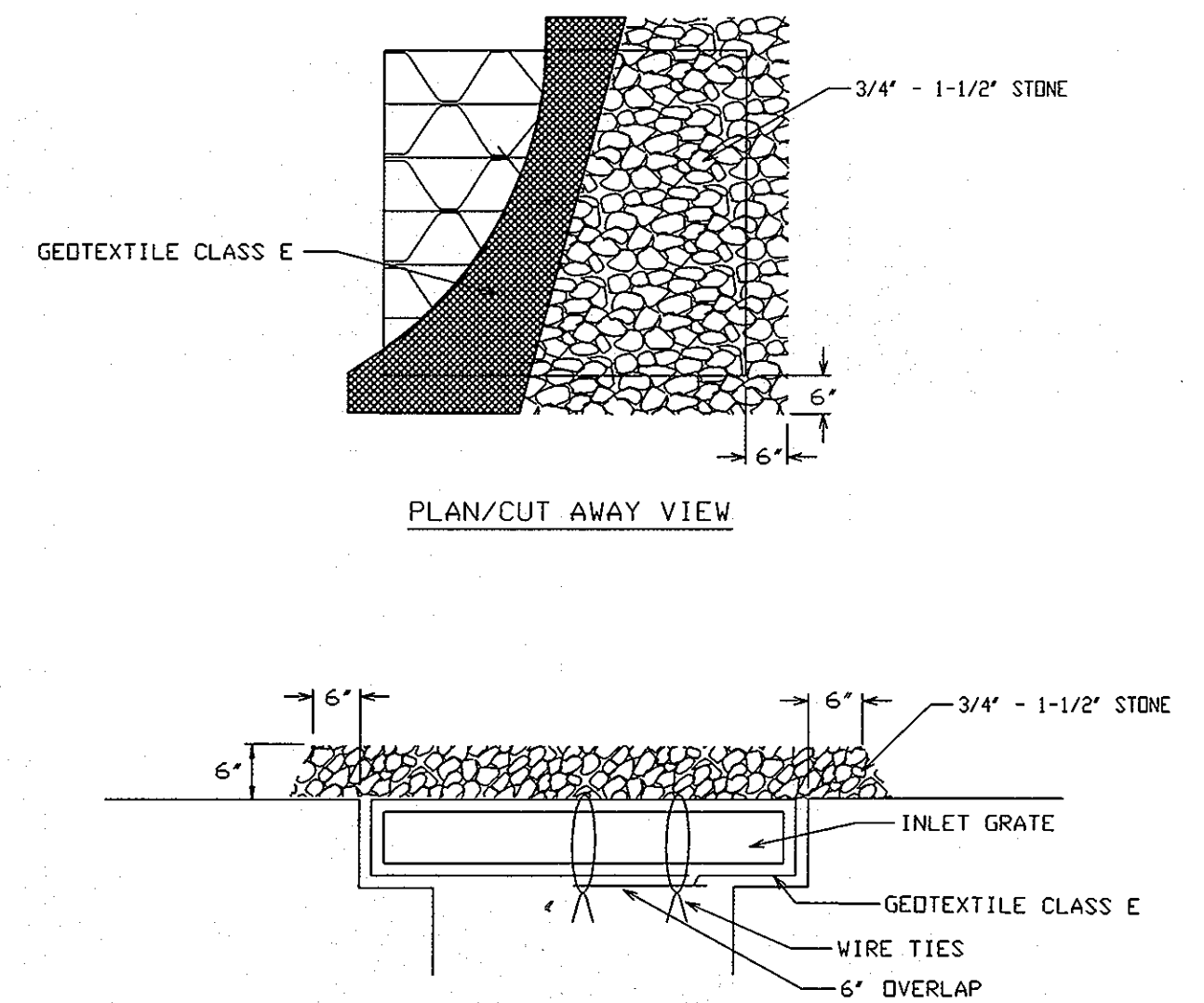
- Pre-construction meeting: Notify the Department of Inspections and Permits (1-410-313-3800) at least 48 hours before commencing work. Work may not commence until the permittee or the responsible personnel have met on site with the sediment and erosion control inspector to review the approved plans.
- Contractor shall locate and procure all staging and stockpiling areas which shall be approved by project inspector.
- Conduct test pit operations. Present finalized schedule of work and maintenance of traffic operations to the Engineer and Howard County Inspections and Permits Division.
- Clear and grub those areas for installation of sediment and erosion perimeter controls.
- Install sediment control devices as required per the Plans. Obtain approval from the County Sediment and Erosion Control Inspector.
- Perform the following sequence for each day of utility construction operations as outlined in the Sequence of Construction on sheet 1:
 - Install silt fence downstream of area to be worked on a daily basis.
 - Clear and grub area where pipeline will be installed. Remove and salvage topsoil.
 - Excavate and install water main and appurtenances. Place backfill and compact.
 - Place topsoil, fine grade, seed and apply mulch to disturbed area.
 - Streets are to be swept free of dirt and debris.
- Direct all water pumped during trench dewatering operations to an approved portable sediment tank. Clean out tank when one-third (1/3) filled with silt. Haul sediment to an HCSCD approved site.
- No excavated material shall be placed in the ditch adjacent to the existing roadway. The Contractor shall take precautions to prevent the disturbance of existing vegetated areas to the extent possible. Any existing vegetated areas disturbed as a result of the contractor's work operations shall be stabilized by the end of the work day.
- Stabilize the top of all trenches by the end of each work day. All excess stockpiled soil remaining after refilling of the trench(s) shall be removed from the surface and hauled from the site by the end of the working day. The Contractor shall be responsible for obtaining all permits for his off-site stockpile areas. The Contractor shall also adequately clean all dirt and mud off the roadways by the end of each working day.
- Stabilize any remaining disturbed areas as required.
- Remove any remaining sediment controls after prior approval from Howard County Inspections and Permits Division. Fine grade and stabilize area formerly occupied by perimeter controls.

SEDIMENT CONTROL GENERAL NOTES

- A minimum of 48 hours notice must be given to Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction. 410-313-1855.
- All vegetative and structural practices are to be installed according to the provisions of the plan and are to be in conformance with the most current Maryland Standards and Specifications for Soil Erosion and Sediment Control and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for permanent seeding (Sec. 51), sod (Sec. 54) temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis

Total Area of Site	5.50 Acres
Area Disturbed	1.70 Acres
Area to be paved	1.70 Acres
Area to be Vegetatively Stabilized	2,400 Sq. Yds.
Total Cut	N/A Cu. Yds.
Total Fill	N/A Cu. Yds.
Offsite waste/borrow area location	To be determined by contractor.
- Any sediment control practices which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.
- Spoil from trench excavation shall be placed on the uphill side of the excavation.

DETAIL 23B - AT GRADE INLET PROTECTION

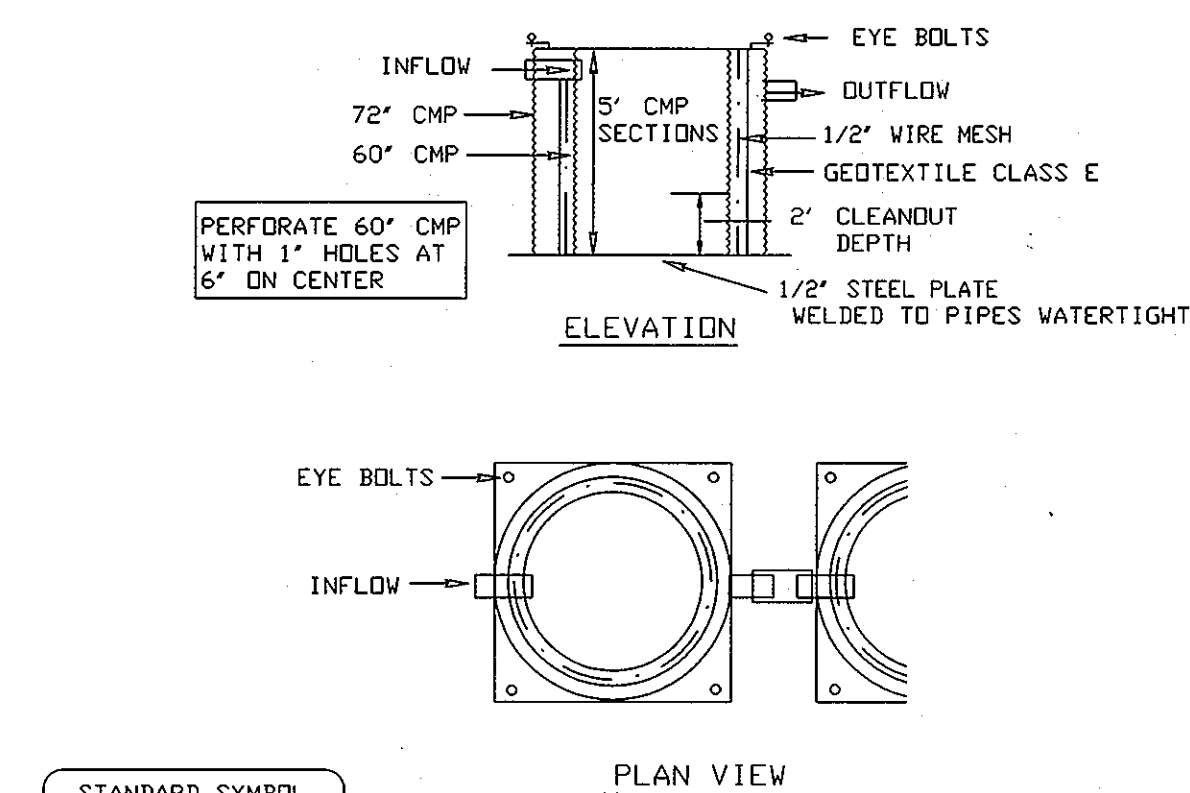


Construction Specifications

- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
- Place 3/4" to 1-1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 21 - PORTABLE SEDIMENT TANK



Construction Specifications

- The following formula should be used in determining the storage volume of the sediment tank: 1 cubic foot of storage for each gallon per minute of pump discharge capacity.
- An example of a typical sediment tank is shown above. Other container designs can be used if the storage volume is adequate and approval is obtained from the local approving agency.
- Tanks may be connected in series.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D-14-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

TIME FRAME

Sequence of Operation No.	Calendar Days
1, 2, 3	14
4,5	14
6,7,8,9	391
10	21
11	10
TOTAL =	450 Days

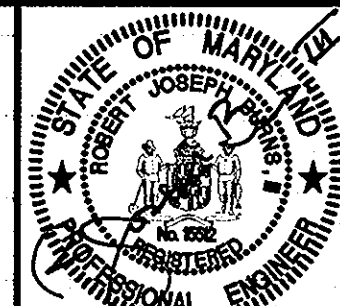
Note: Sequence of Operation time frame is approximate.

"AS-BUILT" - MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James L. ...* DATE: 4-29-05
 Chief, Bureau of Engineering: *Paul J. ...* DATE: 5/2/05
 Chief, Bureau of Utilities: *Paul J. ...* DATE: 4-28-05

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Architects Engineers Planners Surveyors



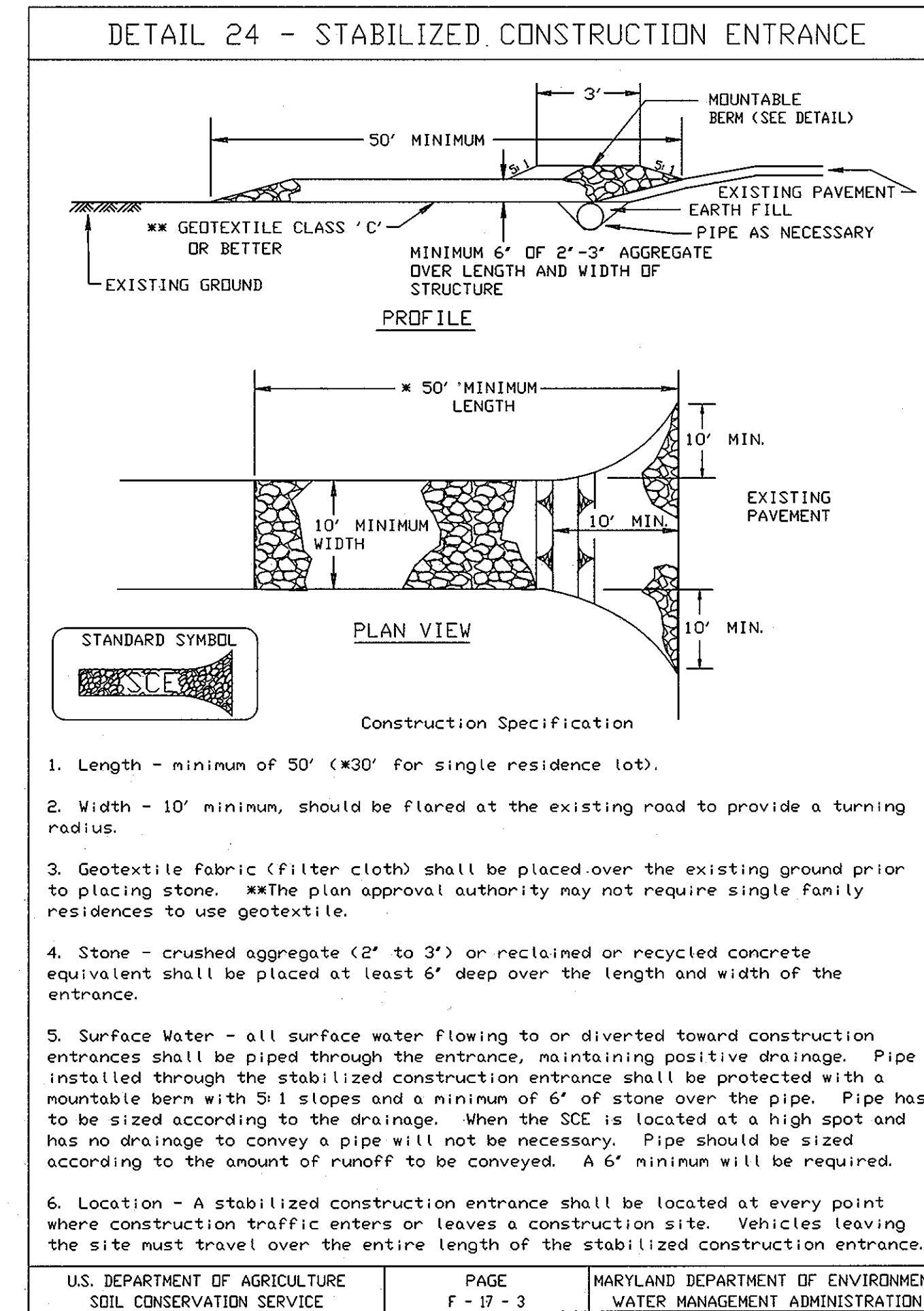
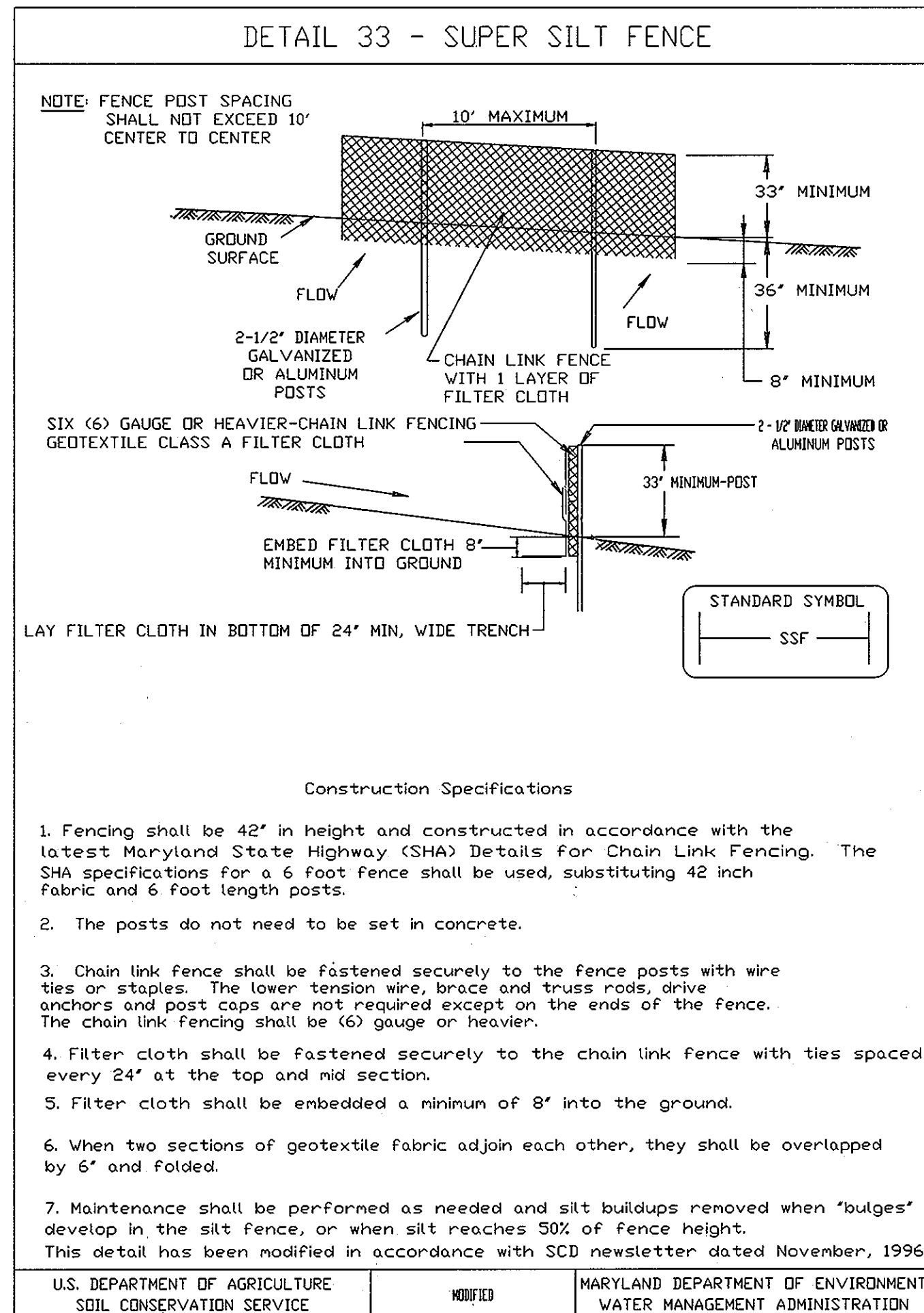
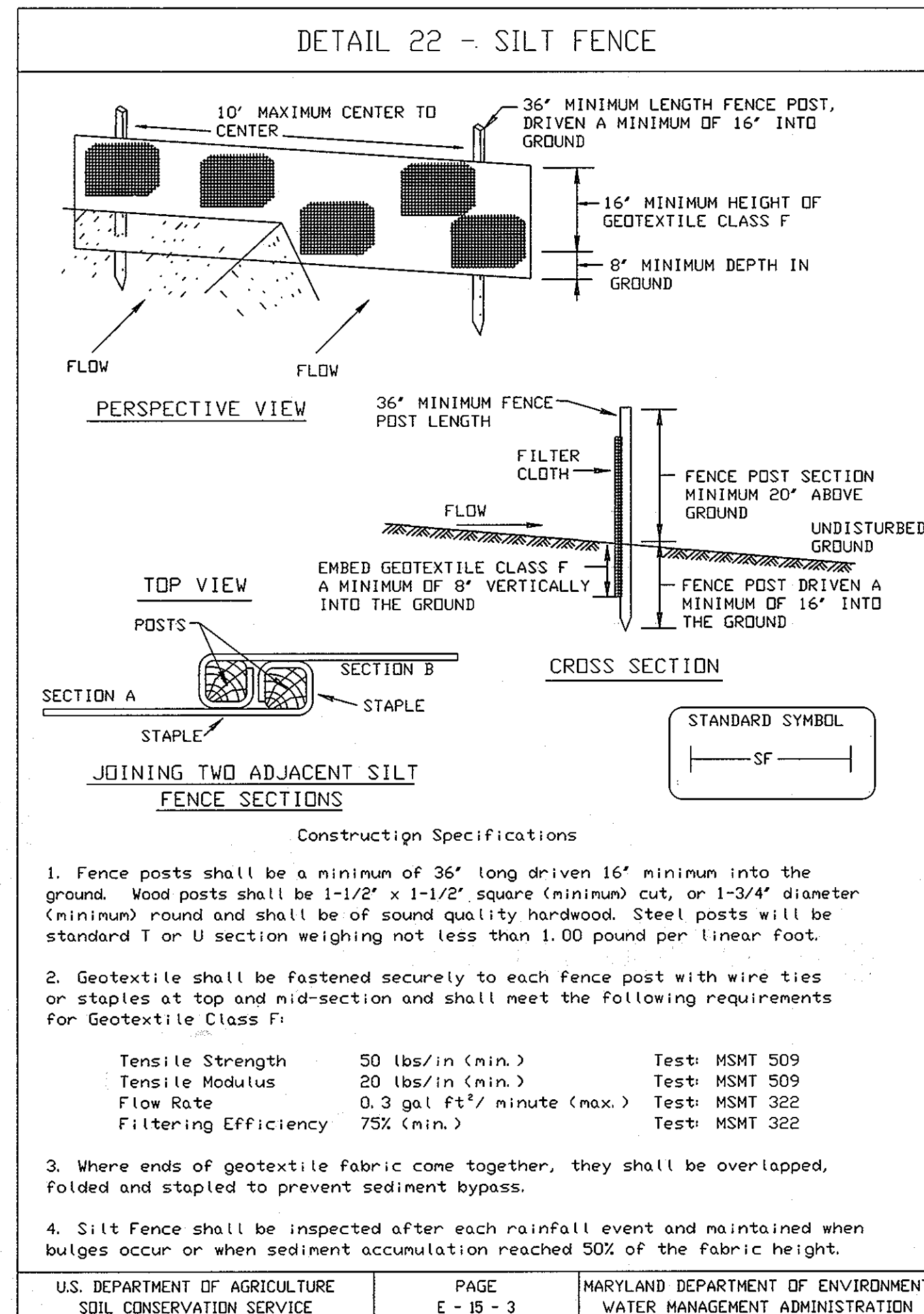
DES: RJB
DRN: CD
CHK: TND
DATE: 6-15-05

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073
ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

ES-7
SCALE AS SHOWN
SHEET 24 OF 27

BY NO. REVISIONS DATE 600' SCALE-MAP NO. BLOCK NO.



SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum)	(Maximum)
	Slope Length	Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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"AS-BUILT"-MAY 2009

ES-8

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 4/21/05
 Chief, Bureau of Engineering: *[Signature]* 5/2/05
 Chief, Bureau of Utilities: *[Signature]* 4-29-05
 Chief, Utility Division: *[Signature]* 4-28-05

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Architects Engineers Planners Surveyors

DES: RJB
DRN: CD
CHK: TND
DATE: June 15, 2005

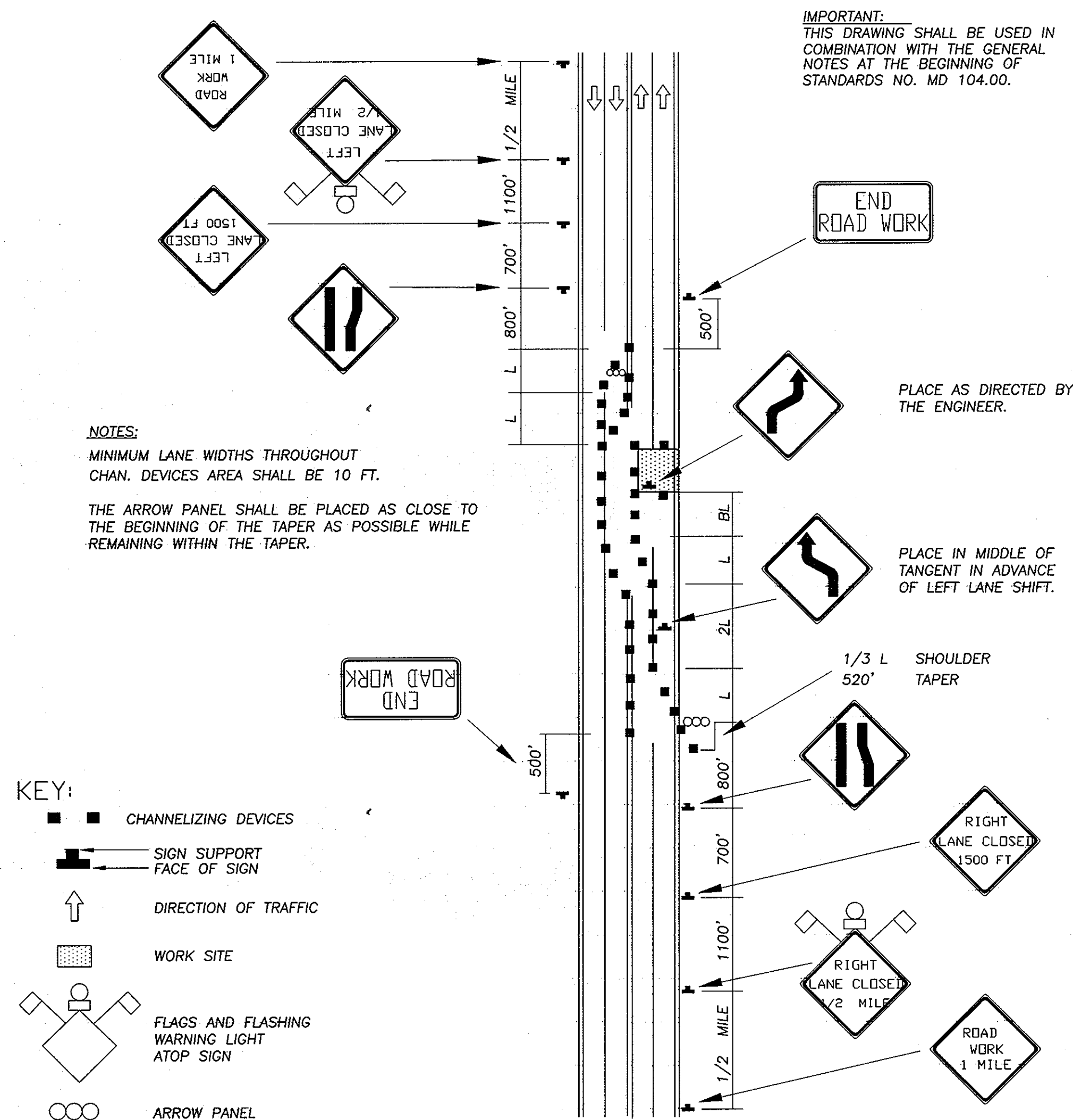
SEDIMENT AND EROSION CONTROL DETAILS

US ROUTE 1
MEADOWRIDGE ROAD TO MONTGOMERY ROAD
WATER MAIN REPLACEMENT
CAPITAL PROJECT W-8238
CONTRACT 44-4073

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

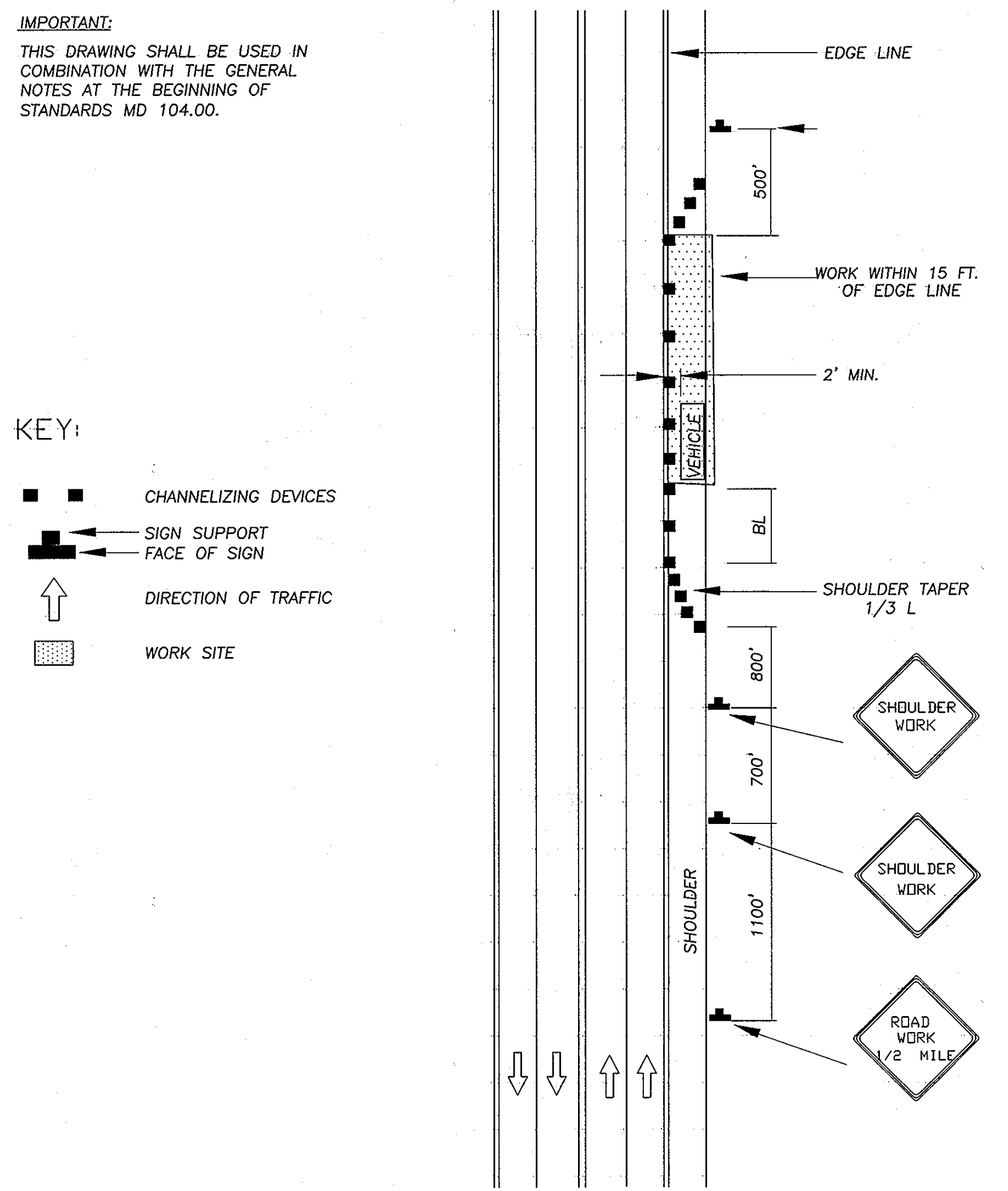
SCALE AS SHOWN
SHEET 25 OF 27

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION - NO. 1



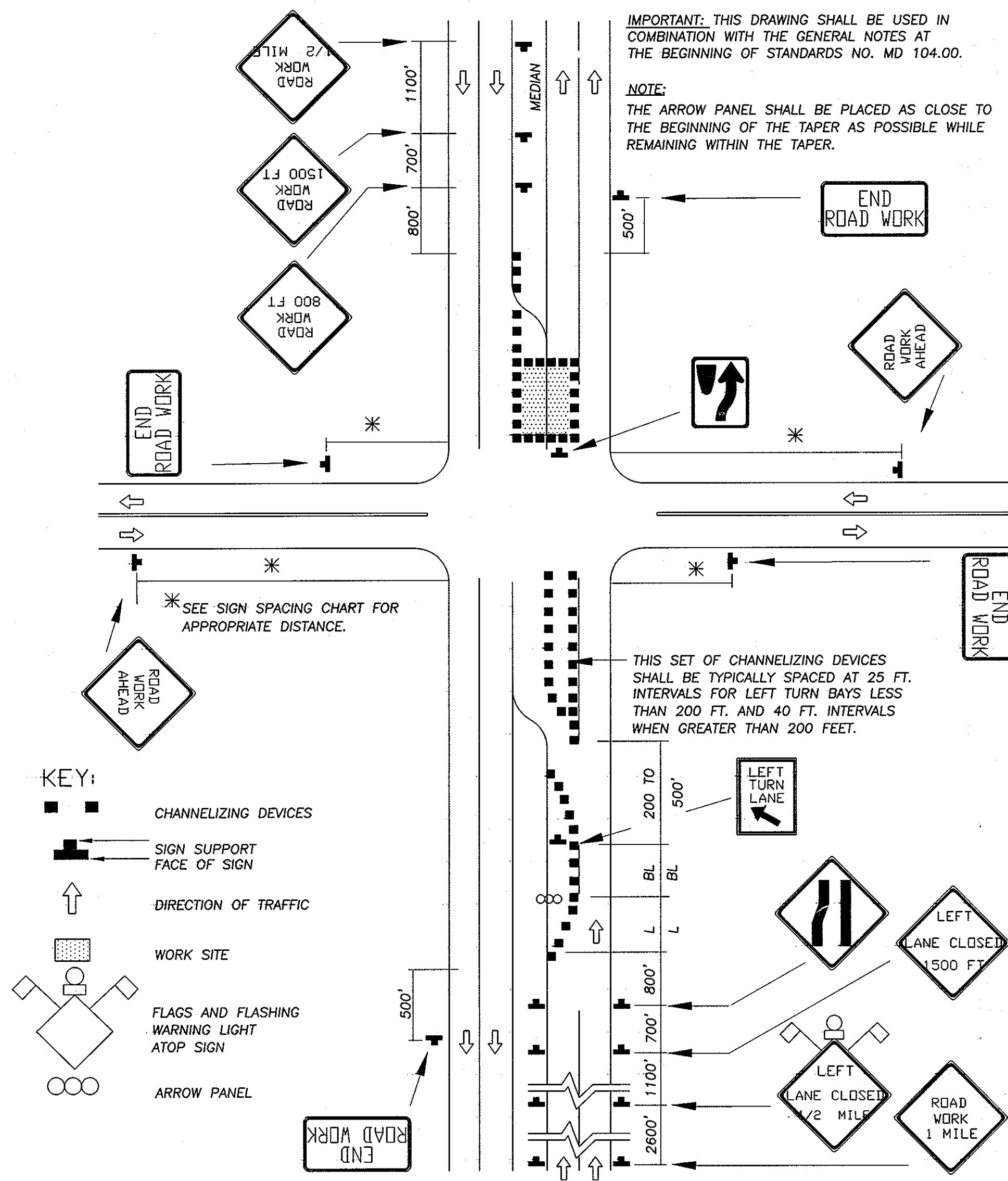
PARTIAL ROADWAY CLOSURE / MULTILANE UNDIV.
GREATER THAN 40 MPH / OVER 12 HRS. OR NIGHTTIME USE
STANDARD NO. MD 104.03-07

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION - NO. 2



SHOULDER WORK / MULTILANE UNDIV.
GREATER THAN 40 MPH / OVER 12 HRS. OR NIGHTTIME USE
STANDARD NO. MD 104.03-01

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION - NO. 3



INTER. (LEFT LANE, TURN BAY) CLOSURE / DIVIDED UNCON.
GREATER THAN 40 MPH / OVER 12 HRS. OR NIGHTTIME USE
STANDARD NO. MD 104.04-15

GENERAL NOTES - MAINTENANCE OF TRAFFIC

- G1. THE CONTRACTOR SHALL CONFORM TO THE TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS AND OTHER TEMPORARY TRAFFIC CONTROL STANDARDS FOUND IN THE "STATE OF MARYLAND, DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION, BOOK OF STANDARDS, HIGHWAY AND INCIDENTAL STRUCTURES." THE TYPICAL APPLICATIONS THAT ARE MOST PERTINENT TO THIS PROJECT ARE INCLUDED IN THE PROJECT PLANS, BUT THE CONTRACTOR IS RESPONSIBLE TO FOLLOW ALL STANDARDS FOUND IN THIS BOOK OF STANDARDS.
- G2. WORK ON U.S. ROUTE 1 (WASHINGTON BOULEVARD) SHALL BE COMPLETED AS A NIGHT OPERATION. WORK ON OLD WASHINGTON ROAD SHALL BE COMPLETED AS A NIGHT OPERATION. THE WORK ON OLD WASHINGTON ROAD WILL REQUIRE THE USE OF A FLAGGER.
- G3. WHEN THE CONTRACTOR IS PERFORMING NIGHT OPERATIONS ON U.S. ROUTE 1, CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES AT THE END OF EACH NIGHT OF WORK AND REPLACE THEM BEFORE THE NEXT NIGHT OF WORK BEGINS.

GENERAL NOTES FOR MAINTENANCE OF TRAFFIC (CONTINUED)

- G4. THE CONTRACTOR SHALL CONTINUOUSLY PROVIDE ACCESS TO ALL EXITS, INTERSECTING ROADS, DRIVEWAYS AND ENTRANCES ALONG U.S. ROUTE 1 AND OLD WASHINGTON ROAD DURING THE COURSE OF THE PROJECT.
- G5. THE CONTRACTOR SHALL BACKFILL THE TRENCH IMMEDIATELY AFTER THE INSTALLATION OF A SECTION OF PIPE. THE CONTRACTOR SHALL NOT LEAVE AN OPEN TRENCH UNATTENDED.
- G6. ANY EXCAVATED AREA NOT BACKFILLED AT THE END OF A WORK-DAY/WORK-NIGHT MUST BE COVERED WITH STEEL PLATES AS PER MARYLAND STATE HIGHWAY ADMINISTRATION STANDARDS.
- G7. THE DIMENSIONS FOR THE TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS SHALL BE CALCULATED USING FORMULAS AND CRITERIA FOUND IN THE STATE OF MARYLAND, DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION, BOOK OF STANDARDS, HIGHWAY AND INCIDENTAL STRUCTURES, SECTION 100, STANDARD NO. MD104.00-13 AND STANDARD NO MD 104.00-09. THE FORMULAS TO BE USED ARE AS FOLLOWS:

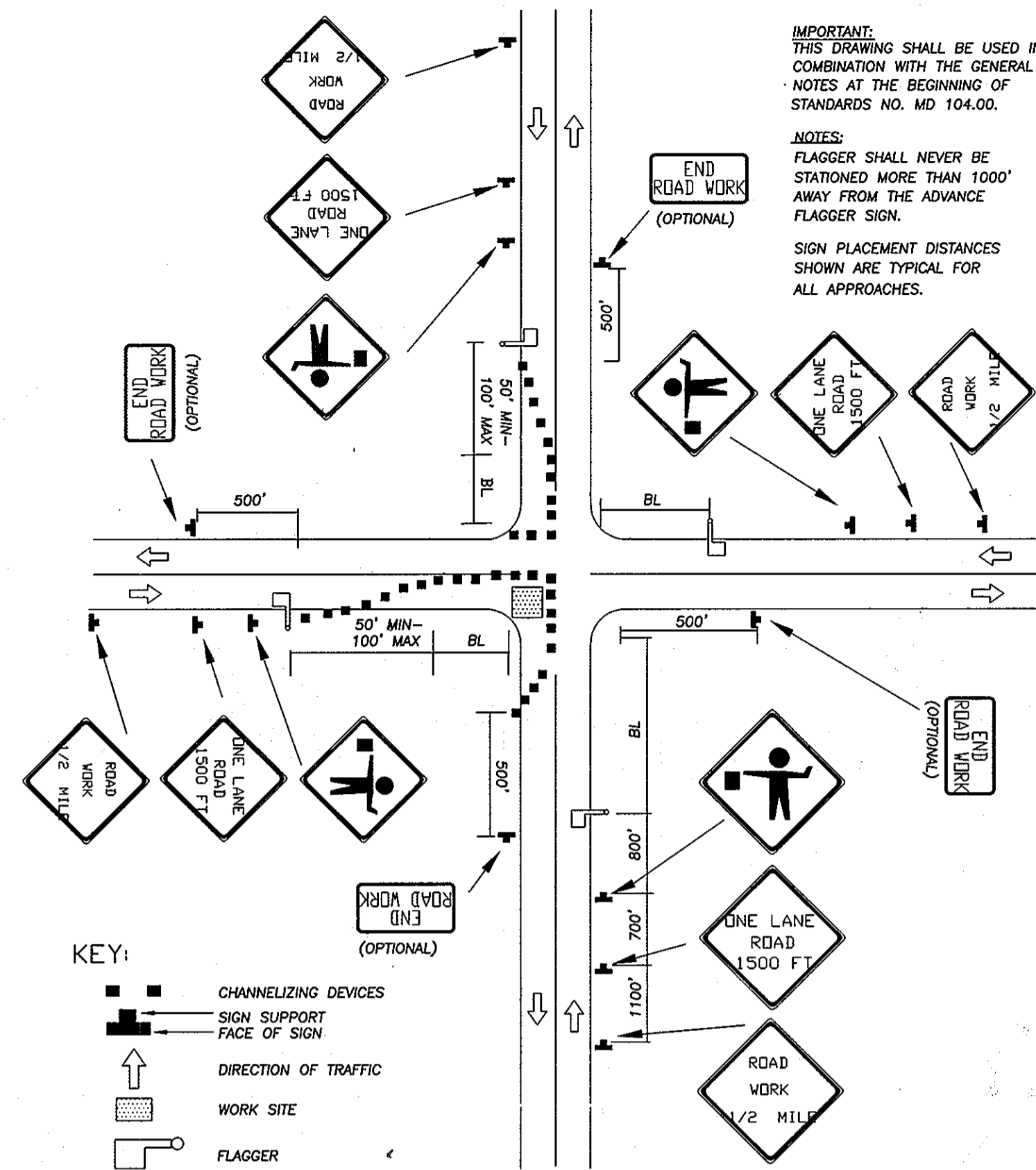
GENERAL NOTES FOR MAINTENANCE OF TRAFFIC (CONTINUED)

- TRANSITION AREA TAPER LENGTH (L) = WS
- WHERE: L = MINIMUM LENGTH OF TAPER
S = NUMERICAL VALUE OF PREVAILING TRAVEL SPEED OR SPEED LIMIT (MPH),WHICHEVER IS HIGHER, PRIOR TO WORK STARTING = 65 MPH
W = WIDTH OF OFFSET (FEET)
- BUFFER AREA LENGTH (BL) = 485' (MIN)
- TERMINATION AREA TAPER (L) = 100' (MIN)

"AS-BUILT" - MAY 2009

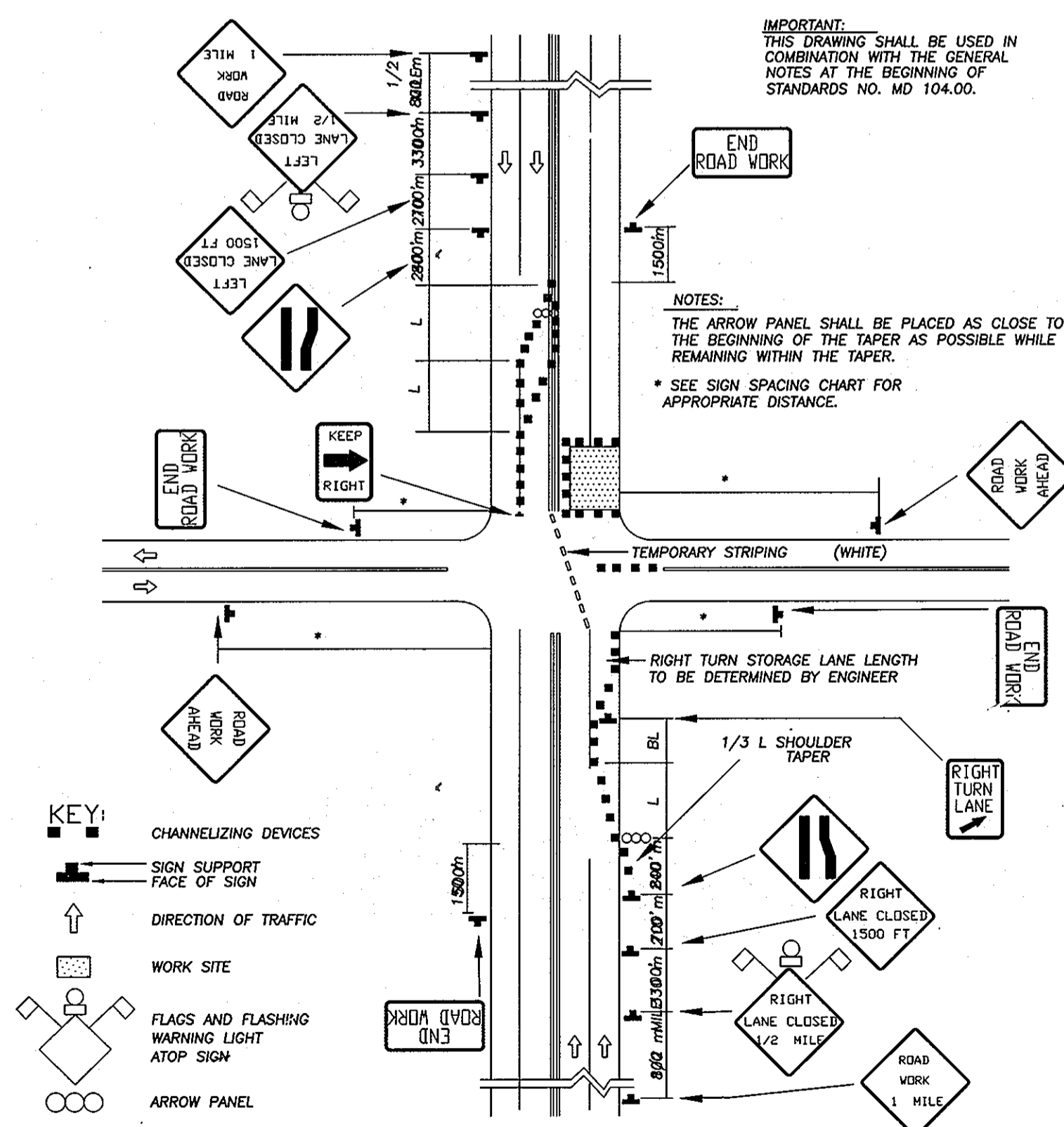
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>[Signature]</i> 4/21/05 Chief, Bureau of Engineering: <i>[Signature]</i> 5/2/05 Chief, Bureau of Utilities: <i>[Signature]</i> 4-29-05 Chief, Utility Design Division: <i>[Signature]</i> 4-28-05		Dewberry & Davis LLC 3120 Lord Baltimore Drive Baltimore, Maryland 21244 (410) 265-9500 FAX: (410) 265-8875 Architects Engineers Planners Surveyors		DES: RJB DRN: CD CHK: TND DATE: June 15, 2005		TRAFFIC CONTROL PLAN		US ROUTE 1 MEADOWRIDGE ROAD TO MONTGOMERY ROAD WATER MAIN REPLACEMENT CAPITAL PROJECT W-8238 CONTRACT 44-4073 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 26 OF 27
				REVISIONS BY NO. DATE		600' SCALE MAP NO. 37, 38 BLOCK NO.:				

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION — NO. 4



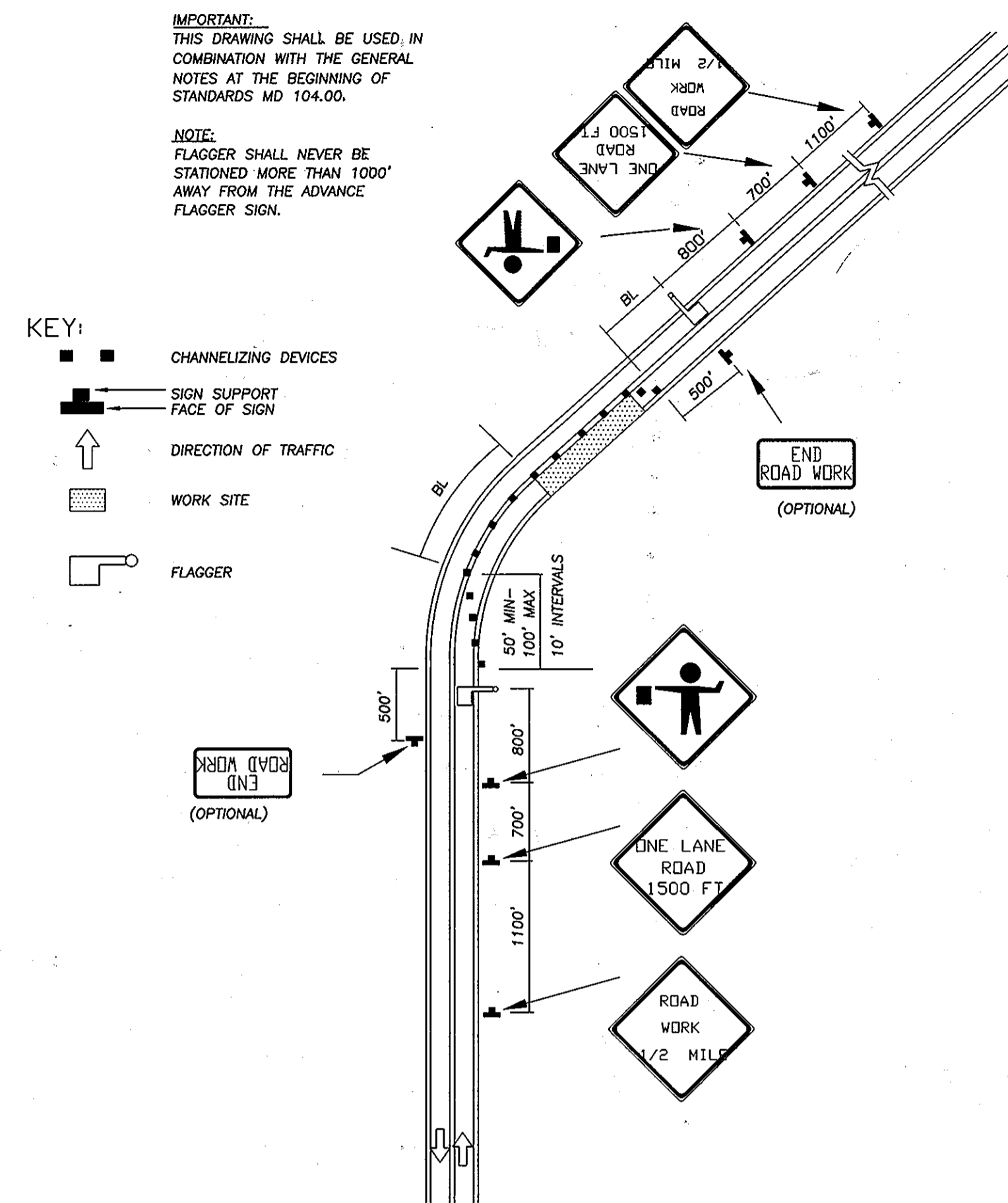
INTERSECTION FLAGGING OPERATION 2-LANE,
GREATER THAN 40 MPH/15 MIN-12 HRS OR NIGHTTIME USE
STANDARD NO. MD 104.32-01

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION — NO. 5



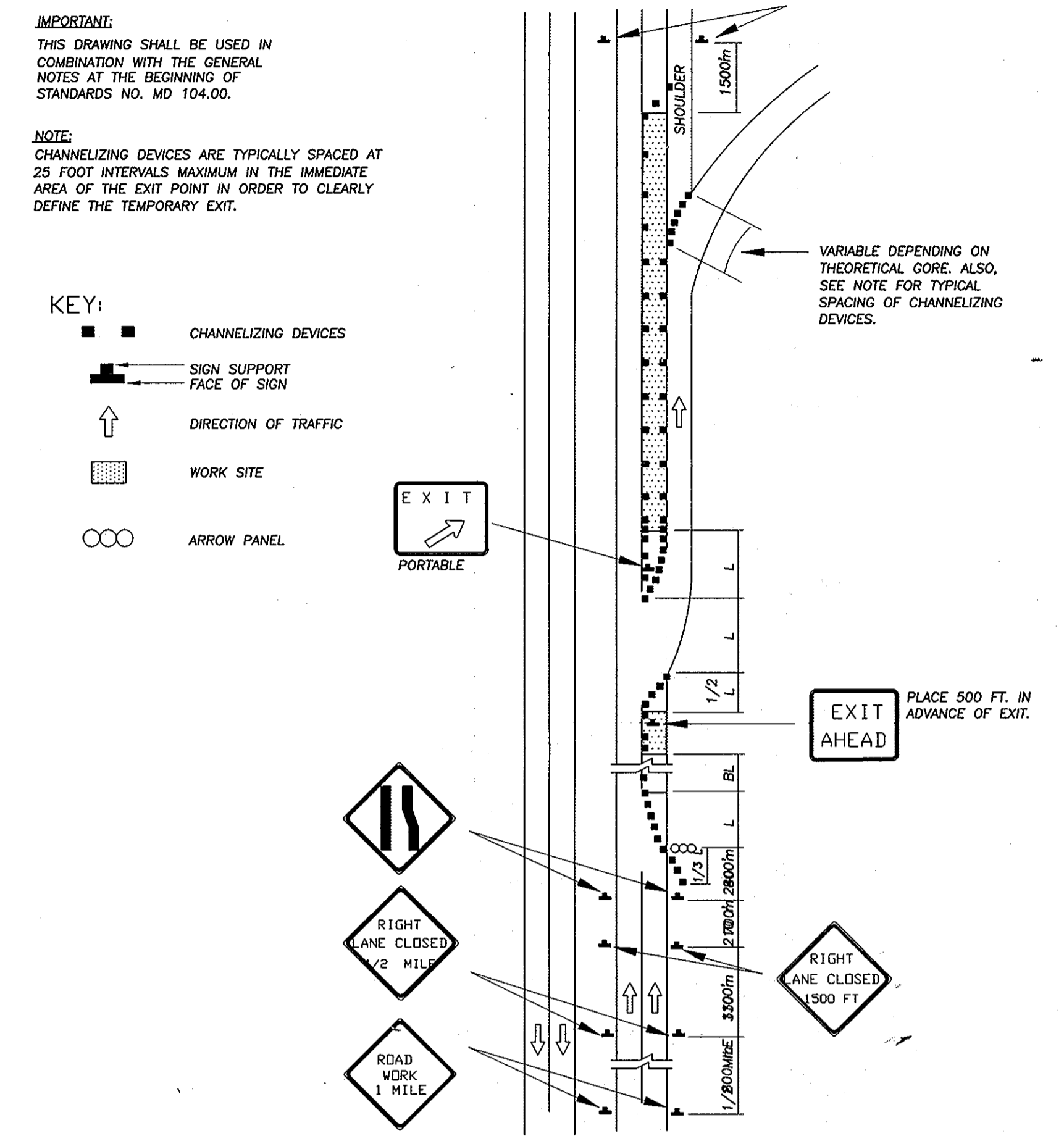
INTERSECTION FAR-SIDE CLOSURE/MULTILANE UNDIVIDED,
GREATER THAN 40 MPH/OVER 12 HRS OR NIGHTTIME USE
STANDARD NO. MD 104.07-01

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION — NO. 6



FLAGGING OPERATION/ 2-LANE, 2-WAY
GREATER THAN 40 MPH/ 15 MIN - 12 HRS. OR NIGHTTIME ONLY
STANDARD NO. MD 104.31-01

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION — NO. 7



EXIT RAMP TREATMENT/ EXP-FREEWAY
GREATER THAN 40 MPH/ OVER 12 HRS. OR NIGHTTIME USE
STANDARD NO. MD 104.29

MAINTENANCE OF TRAFFIC
REFERENCE TABLE

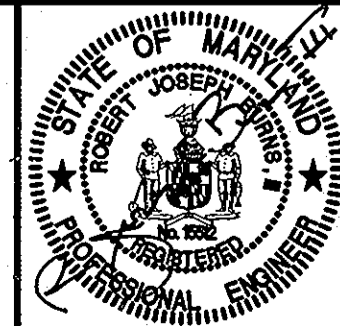
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION NO.	APPROXIMATE LOCATION(S) TO USE SPECIFIED TYPICAL TEMPORARY TRAFFIC CONTROL APPLICATION
1	U.S. ROUTE 1 FROM STA 100+00 TO STA 113+00, STA 200+00 TO STA 273+00, AND STA 400+00 TO STA 429+75.
2	U.S. ROUTE 1 SHOULDERS AND OLD WASHINGTON ROAD SHOULDERS
3	U.S. ROUTE 1 AT THE INTERSECTION OF MEADOWRIDGE ROAD AND DORSEY ROAD (MD RT 176)
4	WHERE APPLICABLE FOR ROADS INTERSECTING OLD WASHINGTON ROAD
5	U.S. ROUTE 1 AT THE INTERSECTION OF MEADOWRIDGE ROAD AND DORSEY ROAD (MD RT 176)
6	OLD WASHINGTON ROAD FROM STA 273+00 TO STA 295+73.47
7	BEFORE RAMP EXITING U.S. ROUTE 1 - STA 113+00 TO STA 118+00

"AS-BUILT"- MAY 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *John A. ...* DATE: 4/29/05
 Chief, Bureau of Utilities: *...* DATE: 4-28-05

Dewberry & Davis LLC
 3120 Lord Baltimore Drive
 Baltimore, Maryland 21244
 (410) 265-9500 FAX: (410) 265-8875
 Architects Engineers Planners Surveyors



DES: RJB
 DRN: CD
 CHK: TND
 DATE: June 15, 2005

TRAFFIC CONTROL PLAN

US ROUTE 1
 MEADOWRIDGE ROAD TO MONTGOMERY ROAD
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT W-8238
 CONTRACT 44-4073
 ELECTION DISTRICT NO. 1
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 27 OF 27

600' SCALE MAP NO. 37, 38 BLOCK NO.