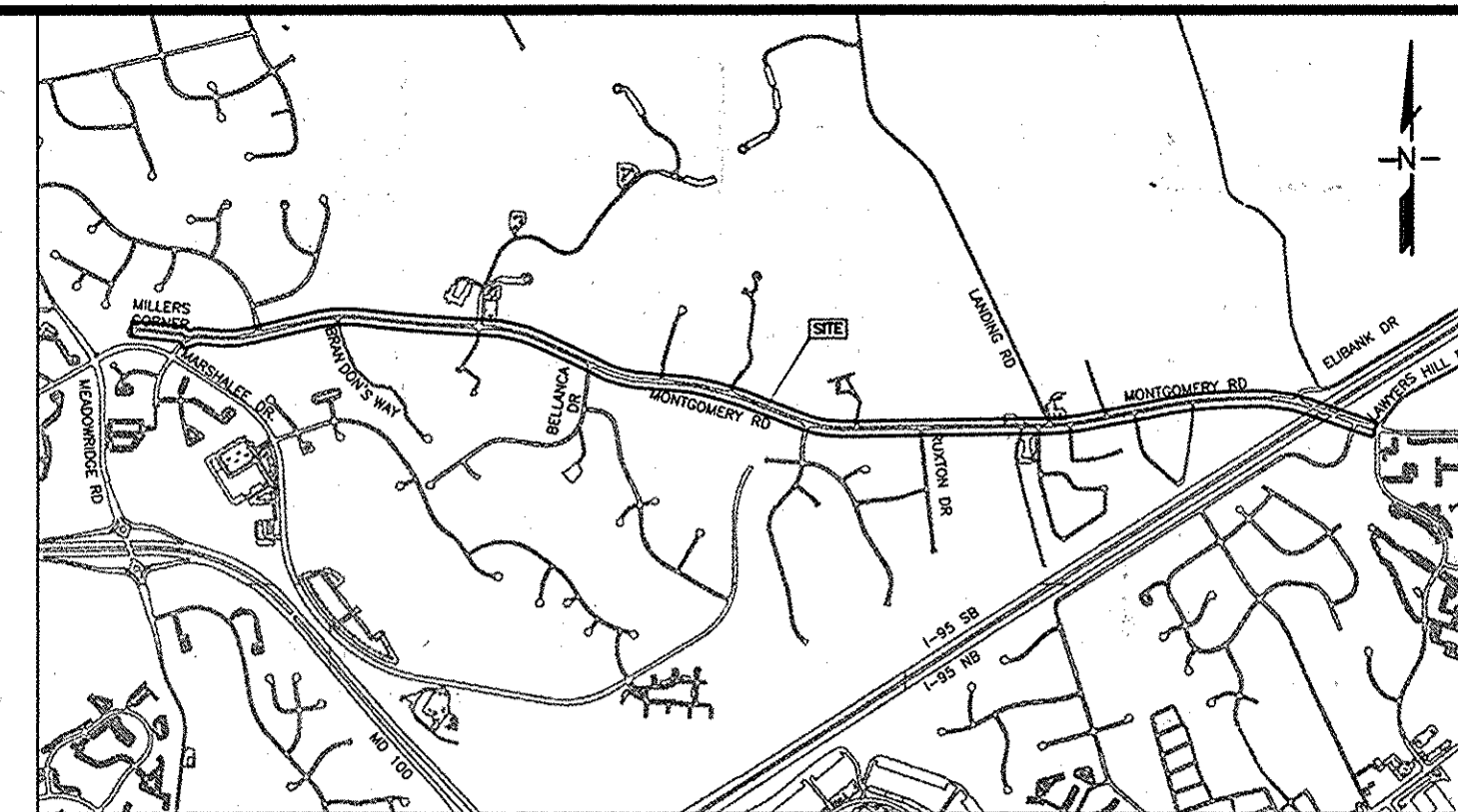




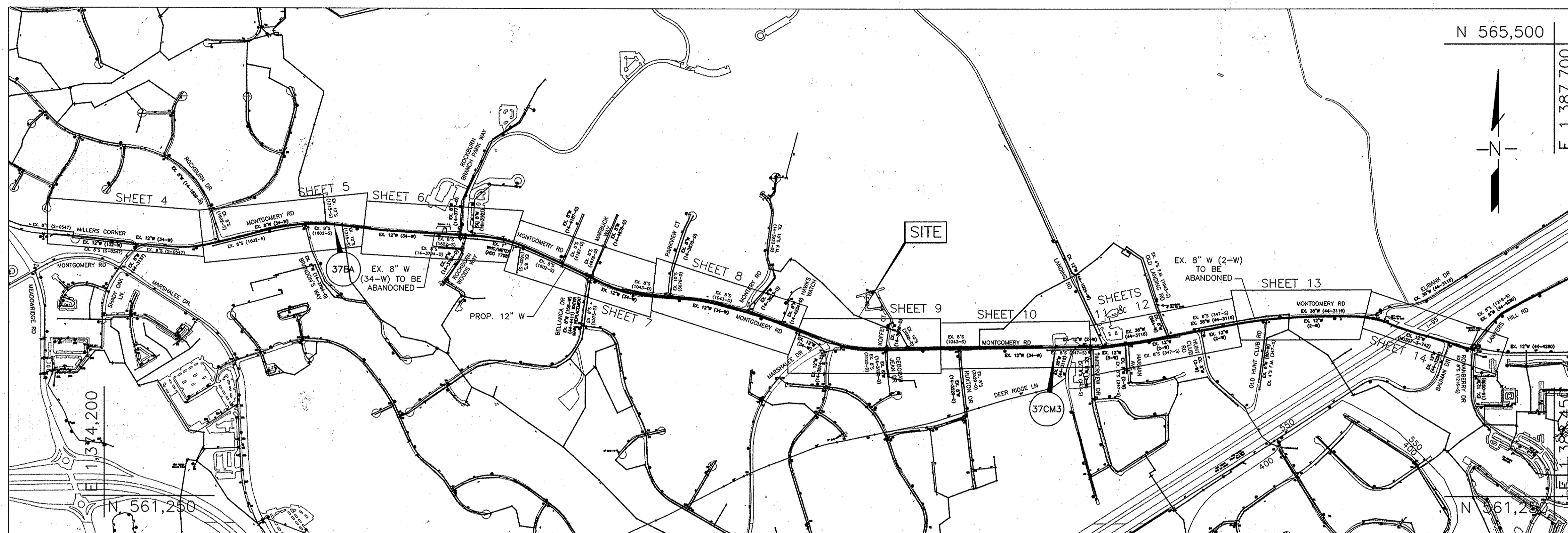
MONTGOMERY ROAD 12-INCH WATER MAIN REPLACEMENT

HOWARD COUNTY, MD
CAPITAL PROJECT NO. W-8318
CONTRACT NO. 44-4843



LOCATION MAP

SCALE: 1"=2000'



VICINITY MAP

SCALE: 1"=600'

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Approved: *[Signature]*
Howard SCD 4/7/16

PRESSURE ZONE: 550 FT. (NAVD 88)
TEST GRADIENT: 700 FT.
WATER CODE: D01
WATER HOUSE CONNECTIONS: 117

QUANTITIES				
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:				
ITEM	UNITS	QUANTITY ESTIMATED	QUANTITY	AS-BUILT MANUFACTURER / SUPPLIER
12" C900 DR-14 PVC WATER MAIN	L.F.	13,380		
12" CURED-IN-PLACE LINER	L.F.	460		
12" VALVE	EA.	36		
8" C900 DR-14 PVC WATER MAIN	L.F.	550		
8" VALVE	EA.	19		
6" C900 DR-14 PVC WATER MAIN & F.H. LEADS	L.F.	490		
6" VALVE	EA.	35		
FIRE HYDRANT	EA.	34		
1" WATER SERVICE	L.F.	2,817		
1.5" WATER SERVICE	L.F.	28		

NOTE:
1. QUANTITIES IN THIS TABLE ARE SOLELY FOR RECORD PURPOSES. CONTRACTOR SHALL NOT RELY ON THE QUANTITIES IN THE TABLE AND SHALL USE HIS/HER OWN TAKEOFF TO ESTABLISH MATERIALS AND QUANTITIES NEED FOR THIS PROJECT.
2. FOR WATER STAKEOUT TABLE, SEE SHEET 22.

OWNER'S / DEVELOPER'S CERTIFICATION:

"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 BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] April 5, 2016
BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS

ENGINEER'S DESIGN CERTIFICATION:

"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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] 4/5/2016
SIGNATURE OF ENGINEER
ERIN A. MCKENNA-STREYLE, P.E.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
[Signature] 4/6/16
DIRECTOR OF PUBLIC WORKS
[Signature] 4/6/16
CHIEF, BUREAU OF UTILITIES

[Signature] 4/5/16
CHIEF, BUREAU OF ENGINEERING
[Signature] 4/5/16
CHIEF, UTILITY DESIGN DIVISION

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 889-3400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 36530
EXPIRATION DATE: 02/27/16
[Signature]
ERIN A. MCKENNA-STREYLE, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

LEGEND:

	EXIST. WATER MAIN / VALVE VAULT		STREAM / WATERWAY EDGE
	EXIST. WATER HOUSE CONNECTION		WATER PRESSURE ZONE BOUNDARY
	PROP. WATER MAIN		SHRUB
	EXIST. ABANDONED 30" WATER MAIN		PROP. VALVE
	TEMP. WATER MAIN		PROP. FIRE HYDRANT
	EXIST. WATER MAIN TO BE ABANDONED		BCE POLE
	EXIST. SEWER MAIN / MANHOLE		STREET SIGN
	EXIST. SEWER HOUSE CONNECTION		BORING LOCATION
	EXIST. STORM DRAIN		TEST PIT LOCATION
	EXIST. GAS		CONTINUITY TEST STATION
	EXIST. GAS SERVICE CONNECTION		SANITARY MANHOLE ID
	EXIST. ELECTRIC - UNDERGROUND		CURB INLET PROTECT
	EXIST. ELECTRIC - OVERHEAD		
	EXIST. FIBER OPTIC		
	EXIST. TELEPHONE - UNDERGROUND		
	EXIST. TELEPHONE - OVERHEAD		
	RIGHT OF WAY		
	GUARDRAIL		
	FENCE		
	PROPERTY LINE		
	SILT FENCE		
	LIMITS OF DISTURBANCE		
	EXIST. E.O.P.		
	TRAVERSE		

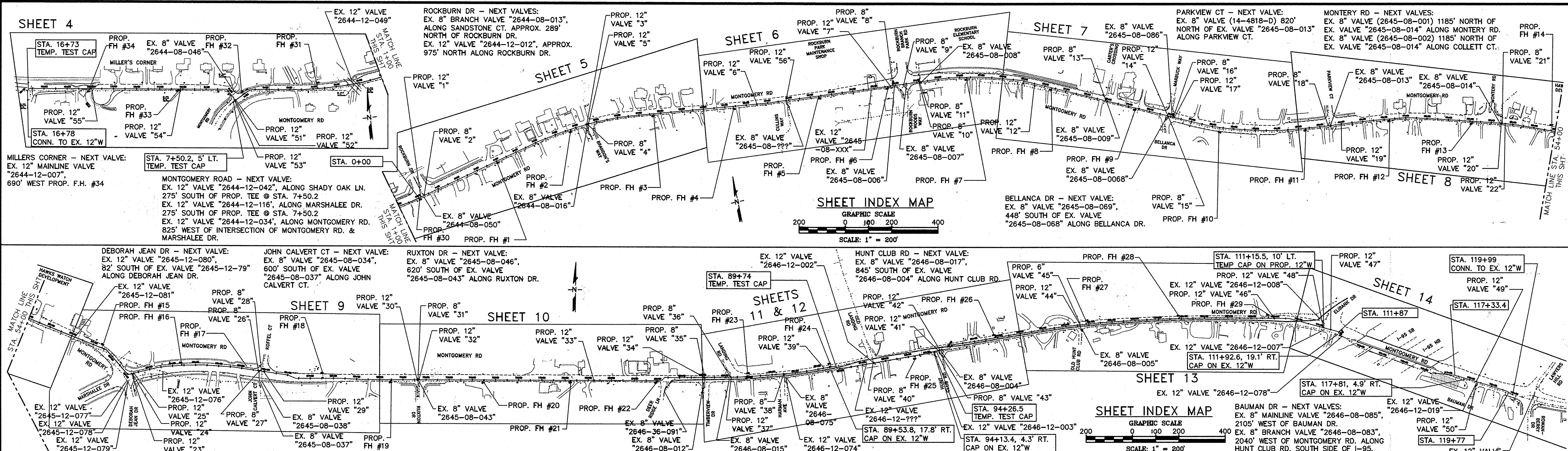
INDEX OF SHEETS

SHEET SET NO.	DESCRIPTION
1	TITLE SHEET
2	SHEET INDEX & SUGGESTED SEQUENCE OF CONSTRUCTION
3	GENERAL NOTES
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5	12" WATER MAIN PLAN & PROFILE
6	12" WATER MAIN PLAN & PROFILE
7	12" WATER MAIN PLAN & PROFILE
8	12" WATER MAIN PLAN & PROFILE
9	12" WATER MAIN PLAN & PROFILE
10	12" WATER MAIN PLAN & PROFILE
11	12" WATER MAIN PLAN & PROFILE
12	12" WATER MAIN SAME TRENCH REPLACEMENT PLAN
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23	FITTING SCHEDULE
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TITLE SHEET

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 1 OF 32



SUGGESTED SEQUENCE OF CONSTRUCTION

THIS SUGGESTED SEQUENCE OF CONSTRUCTION IS WRITTEN IN THE ORDER OF WHICH THE ACTIVITIES MAY BE PERFORMED BY THE CONTRACTOR AND DOES NOT INCLUDE CONCURRENT AND MAINTENANCE CONTROL AND TRAFFIC ACTIVITIES WHICH SHOULD ALSO BE FOLLOWED AS DESCRIBED IN THE CONTRACT DOCUMENTS. THIS SEQUENCE ASSUMES THAT MONTGOMERY ROAD CAN BE BACKFILLED FROM BOTH THE EAST AND WEST SIDES DURING TEMPORARY SHUT DOWNS.

- PHASE I:**
- PROP. 12" WATER MAIN - MONTGOMERY RD. & MILLERS CORNER**
- INSTALL PROP. 12" PVC WATER MAIN FROM STA. 0+00 TO STA. 89+74 AND FROM STA. 94+26.5 TO STA. 111+87 ALONG MONTGOMERY ROAD AND FROM STA. 16+73 TO STA. 0+00 ALONG MILLER'S CORNER INCLUDING ALL PROP. FIRE HYDRANT TEES, VALVES AND HYDRANTS. IN CONJUNCTION WITH THE INSTALLATION OF THE PROP. 12" PVC WATER MAIN, INSTALL ALL PROP. WATER MAIN BRANCH CONNECTIONS OF VARIOUS SIZE PVC WATER MAIN PIPE ALONG THE SIDE STREETS BELOW. THE CONTRACTOR SHALL INSTALL THE SIDE STREET (BRANCH) CONNECTIONS AS FAR ACROSS THE ROAD AS POSSIBLE TO MINIMIZE THE AMOUNT OF TIME TO TIE-IN TO THE PROP. 12" WATER MAIN AND REDUCE TRAFFIC IMPACTS.
 - ROCKBURN DR UP TO AND INCLUDING PROP. VALVE "2"
 - BRANDON'S WAY UP TO AND INCLUDING PROP. VALVE "4"
 - CULLINS WAY UP TO AND INCLUDING PROP. VALVE "5" (SEE NOTE)
 - ROCKBURN BRANCH PARK RD UP TO AND INCLUDING PROP. VALVE "6"
 - ROCKBURN WOODS WAY UP TO AND INCLUDING PROP. VALVE "9"
 - ROCKBURN ELEMENTARY SCHOOL UP TO AND INCLUDING PROP. VALVE "10"
 - CARTER'S CROSSING (MONTGOMERY ROAD) UP TO AND INCLUDING PROP. VALVE "13"
 - BELLANCA DR UP TO AND INCLUDING PROP. VALVE "15"
 - MARBUCK WAY UP TO AND INCLUDING PROP. VALVE "16"
 - PARKVIEW CT UP TO AND INCLUDING PROP. VALVE "18"
 - MONTERY RD UP TO AND INCLUDING PROP. VALVE "21"
 - DEBORAH JEAN DR UP TO AND INCLUDING PROP. VALVE "24"
 - JOHN CALVERT CT UP TO AND INCLUDING PROP. VALVE "27"
 - KOPEL CT UP TO AND INCLUDING PROP. VALVE "28"
 - RUXTON DR UP TO AND INCLUDING PROP. VALVE "31"
 - TIMBERVIEW DR UP TO AND INCLUDING PROP. VALVE "35"
 - LANDING RD UP TO AND INCLUDING PROP. VALVE "36"
 - HARMAN AVE UP TO AND INCLUDING PROP. VALVE "38"
 - HUNT CLUB RD UP TO AND INCLUDING PROP. VALVE "42"
 - OLD HUNT CLUB RD UP TO AND INCLUDING PROP. VALVE "45"
 - EX. 12" INTERCONNECT (ELBANK DR.) UP TO AND INCLUDING PROP. VALVE "48" AND TEMPORARY CAP & BUTTRISS.
 - INSTALL PROP. 12" VALVE "33" AT MILLER'S CORNER AND TEMPORARY TEST CAP & BUTTRISS AT STA. 7+50.2, 5.0' LT.
 - INSTALL PROP. TEMPORARY TEST CAPS & BUTTRISSES AT STA. 16+73 ALONG MILLER'S CORNER AND AT STA. 89+74 ALONG MONTGOMERY ROAD.
 - DISINFECT & PERFORM PRESSURE TEST FOR THE PROPOSED 12" MAIN TO THE SATISFACTION OF THE ENGINEER FOR PUBLIC USE.
- COMPLETE ITEMS 5a TO 5d DURING A TEMPORARY SHUTDOWN:**
- CLOSE EX. 12" VALVE "2644-12-042", ALONG SHADY OAK LN., EX. 12" VALVE "2644-12-116", ALONG MARSHALEE DR. & EX. 12" VALVE "2644-12-034", ALONG MONTGOMERY RD.
 - REMOVE TEMP. CAP AT STA. 7+50.2, 5.0' LT.
 - INSTALL PROP. 12" MAIN FROM STA. 7+50.2, 5.0' LT. TO STA. 7+50.2, 29.7' LT. & CONNECT TO EX. 8" W (3137-0).
 - OPEN EX. VALVES "2644-12-042", "2644-12-116" & "2644-12-034" & RESTORE THE AREA.
- PHASE II:**
- PROP. 8" WATER MAIN - ROCKBURN DR**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "2" AND EX. VALVES "2644-08-008", "2644-08-013" & "2644-12-012".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "2" TO STA. 0+28.5 AND CONNECT TO EX. 8" WATER (14-1839-0).
 - OPEN PROP. VALVE "2", EX. VALVES "2644-08-013" & "2644-12-012" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - BRANDON'S WAY**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "4" AND EX. VALVES "2644-08-008" & "2644-08-013".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "4" TO STA. 0+24 AND CONNECT TO EX. 8" WATER MAIN (14-3794-0).
 - OPEN PROP. VALVE "4" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - CULLINS WAY (SEE NOTE)**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "5" AND EX. VALVE "2645-08-???"
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "5" TO STA. 0+25.3 AND CONNECT TO EX. 8" WATER MAIN (14-4744-0).
 - OPEN PROP. VALVE "5" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - ROCKBURN BRANCH PARK RD**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "6" AND EX. VALVE "2645-08-008".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "6" TO STA. 0+33.4 AND CONNECT TO EX. 8" WATER MAIN (14-3777-0).
 - OPEN PROP. VALVE "6" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - ROCKBURN WOODS WAY**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "9" AND EX. VALVE "2645-08-007".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "9" TO STA. 0+28.7 AND CONNECT TO EX. 8" WATER MAIN (14-3794-0).
 - OPEN PROP. VALVE "9" & RESTORE THE AREA.

- PHASE I (CONTINUED):**
- PROP. 8" WATER MAIN - ROCKBURN ELEMENTARY SCHOOL**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN & DURING NON-OPERATIONAL HOURS OF THE SCHOOL:
- CLOSE PROP. VALVE "10" AND EX. VALVE "2645-08-008".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "10" TO STA. 0+23.1 AND CONNECT TO EX. 8" WATER MAIN (14-3161-0).
 - OPEN PROP. VALVE "10" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - CARTER'S CROSSING**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "13" AND EX. VALVE "2645-08-009".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "13" TO STA. 0+19.9 AND CONNECT TO EX. 8" WATER MAIN (14-4187-0).
 - OPEN PROP. VALVE "13" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - BELLANCA DR**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "15" AND EX. VALVES "2645-08-068" & "2645-08-069".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "15" TO STA. 0+22 AND CONNECT TO EX. 8" WATER MAIN (44-4411-W).
 - OPEN PROP. VALVE "15" & EXISTING VALVE "11" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - MARBUCK WAY**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "16" AND EX. VALVE "2645-08-086".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "16" TO STA. 0+17.8 AND CONNECT TO EX. 8" WATER MAIN (14-4678-0).
 - OPEN PROP. VALVE "16" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - PARKVIEW CT**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "18" AND EX. VALVE "2645-08-086".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "18" TO STA. 0+17.8 AND CONNECT TO EX. 8" WATER MAIN (14-4678-0).
 - OPEN PROP. VALVE "18" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - MONTERY RD**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "21" AND EX. VALVES "2645-08-014", "2645-08-001" & "2645-08-002".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "21" TO STA. 0+23.2 AND CONNECT TO EX. 8" WATER MAIN (14-3923-0).
 - OPEN PROP. VALVE "21", EXISTING VALVES "2645-08-001" & "2645-08-002" & RESTORE THE AREA.
- PROP. 12" WATER MAIN - DEBORAH JEAN DR**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "24" AND EX. VALVES "2645-12-079" & "2645-12-080".
 - INSTALL PROP. 12" PVC WATER MAIN FROM PROP. VALVE "24" TO STA. 0+68.8 AND CONNECT TO EX. 8" WATER MAIN (14-3514-D).
 - OPEN PROP. VALVE "24" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - JOHN CALVERT CT**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVES "27" AND EX. VALVES "2645-08-037" & "2645-08-034".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "27" TO STA. 0+73 AND CONNECT TO EX. 8" WATER MAIN (14-3120-0).
 - OPEN PROP. VALVE "27", EX. VALVE "2645-08-034", AND RESTORE THE AREA.
- PROP. 8" WATER MAIN - KOPEL CT**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "28" AND EX. VALVE "2645-08-038".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "28" TO STA. 0+14.8 AND CONNECT TO EX. 8" WATER MAIN (14-3988-0).
 - OPEN PROP. VALVE "28" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - RUXTON DR**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "31" AND EX. VALVES "2645-08-043" & "2645-08-046".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "31" TO STA. 0+32.5 AND CONNECT TO EX. 8" WATER MAIN (14-3529-D).
 - OPEN PROP. VALVE "31", EX. VALVE "2645-08-046" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - TIMBERVIEW DR**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "35" AND EX. VALVE "2646-08-012".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "35" TO STA. 0+50.7 AND CONNECT TO EX. 8" WATER MAIN (5-W).
 - OPEN PROP. VALVE "35" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - LANDING RD**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "36" AND EX. VALVE "2646-08-015".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "36" TO STA. 0+40.4 AND CONNECT TO EX. 8" WATER MAIN (14-1024-W).
 - OPEN PROP. VALVE "36" & RESTORE THE AREA.
- PROP. 8" WATER MAIN - HARMAN AVE**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "38" AND EX. VALVE "2646-08-075".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "38" TO STA. 0+48 AND CONNECT TO EX. 8" WATER MAIN (2-W).
 - OPEN PROP. VALVE "38" & RESTORE THE AREA.

- PHASE II (CONTINUED):**
- PROP. 12" WATER MAIN - MONTGOMERY RD. EASTERN TIE-IN**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE EX. VALVES "2646-12-003", "2646-12-007", "2646-12-077", "2646-12-078", "2646-12-019" & "2646-12-080".
 - REMOVE THE TEMPORARY CAP AT STA. 111+87.
 - INSTALL THE PROP. 12" WATER MAIN FROM STA. 111+87 TO STA. 111+92.6, 19.1' RT. AND STA. 111+81, 4.9' RT. AND RESTORE THE AREA.
 - INSTALL AND TEST CIPP INSIDE THE EX. 12" W AT STA. 111+87 TO STA. 111+92.6, 19.1' RT. AND STA. 111+81, 4.9' RT.
 - DISINFECT & PERFORM PRESSURE TEST FOR THE PROPOSED 12" MAIN TO THE SATISFACTION OF THE ENGINEER FOR PUBLIC USE.
- PROP. 12" WATER MAIN - MONTGOMERY RD. WESTERN TIE-IN**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE EX. VALVES "2646-12-019" & "2646-12-080".
 - REMOVE THE TEMPORARY CAP AT STA. 111+87.
 - INSTALL THE PROP. 12" WATER MAIN FROM STA. 111+87 TO STA. 111+92.6, 19.1' RT. AND STA. 111+77 ALONG MONTGOMERY ROAD.
 - OPEN EX. VALVES "2646-12-019" & "2646-12-080" AND RESTORE THE AREA.
 - SWITCH OVER WHCS ALONG THE EX. 12" W TO THE PROP. 12" W BETWEEN STA. 94+26.5 TO STA. 111+87 ALONG MONTGOMERY ROAD.
 - THE CONTRACTOR IS TO COORDINATE WITH THE BUREAU OF UTILITIES TO ENSURE THAT THE FEED FROM OLD LAWYER'S HILL ROAD IS OPEN AT RIVER ROAD. THIS IS NORMALLY CLOSED.
- PROP. 12" WATER MAIN - BAUMAN DR**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "40", "49", "50" AND EX. VALVES "2646-12-019", "2646-08-085" & "2646-08-083".
 - REMOVE THE TEMP. 12" CAP. INSTALL PROP. 12" PVC WATER MAIN FROM STA. 0+20 TO STA. 0+24.3 AND CONNECT TO EX. 12" WATER MAIN (44-3298-W).
 - OPEN PROP. VALVES "40", "49", "50" AND EX. VALVES "2646-08-085" & "2646-08-083".
 - RESTORE THE AREA.
- PROP. 8" WATER MAIN - HUNT CLUB RD**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "43" AND EX. VALVE "2646-08-004".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "43" TO STA. 0+31 AND CONNECT TO EX. 8" WATER MAIN (2-W).
 - OPEN PROP. VALVE "43" & RESTORE THE AREA.
- PROP. 6" WATER MAIN - OLD HUNT CLUB RD**
- COMPLETE THE FOLLOWING DURING A TEMPORARY SHUTDOWN:
- CLOSE PROP. VALVE "45" AND EX. VALVE "2646-08-005".
 - INSTALL PROP. 6" PVC WATER MAIN FROM PROP. VALVE "45" TO STA. 0+30.6 AND CONNECT TO EX. 6" WATER MAIN (60-W).
 - OPEN PROP. VALVE "45".
 - RESTORE THE AREA.
- PHASE III - SAME TRENCH REPLACEMENT**
- THE CONTRACTOR IS TO COMPLETE PHASE III ACTIVITIES AFTER PHASES I & II HAVE BEEN COMPLETED TO THE SATISFACTION OF THE ENGINEER.
- INSTALL & CONNECT TEMPORARY WATER SERVICE FOR 5790 HUNT CLUB RD. AND 6738, 6742, 6746 AND 6750 MONTGOMERY RD. USING EX. FIRE HYDRANT AT STA. 89+41.5, 20' RT.
 - INSTALL & CONNECT TEMPORARY WATER SERVICE FOR 6751 & 6755 MONTGOMERY RD. AND 5740, 5741, 5751, 5761 & 5771 OLD LANDING RD. USING PROP. FIRE HYDRANT #24.
- COMPLETE ITEMS 4 TO 7 DURING A TEMPORARY SHUT DOWN:**
- CLOSE EX. VALVES "2646-12-074", "2646-12-002", "2646-12-00X", "2646-08-004" & "2646-12-003".
 - INSTALL 12" CAP & BUTTRISS ON EX. 12" W AT STA. 89+53.5, 17.8' RT.
 - INSTALL 12" CAP & BUTTRISS ON EX. 12" W AT STA. 94+12.4, 13.4' RT.
 - OPEN EX. VALVES "2646-12-074" & "2646-12-002" & RESTORE THE AREA.
 - INSTALL PROP. 12" W FROM STA. 89+82.4 TO STA. 94+04.4 INCLUDING ALL PROP. FIRE HYDRANT TEES, VALVES AND HYDRANTS.
 - DISINFECT & PERFORM PRESSURE TEST FOR THE PROPOSED 12" MAIN TO THE SATISFACTION OF THE ENGINEER FOR PUBLIC USE.
 - REMOVE TEMPORARY SHUTDOWN OF PROP. MAINS WEST OF STA. 89+74 AND EAST OF STA. 94+26.5 AS NECESSARY TO REMOVE CAP AND BUTTRISS AND CONNECT TO PROP. 12" W.
 - REMOVE TEMPORARY WATER SERVICE CONNECTIONS AND RESTORE SERVICES TO AFFECTED HOMES IN ITEMS 1 & 2 ABOVE.

- PHASE III - SAME TRENCH REPLACEMENT (CONTINUED)**
- PROP. 12" WATER MAIN - MILLER'S CORNER/MONTGOMERY RD. WESTERN TIE-IN**
- COMPLETE ITEMS 1 TO 4 DURING A TEMPORARY SHUTDOWN:
- CLOSE EX. VALVES "2644-12-049" & "2644-12-007" & PROP. 12" VALVE "53".
 - CUT & CAP EX. 12" W AND FOUR BUTTRISS PER HOWARD COUNTY STANDARD DETAIL W-2.21 "WATER MAIN BUTTRISS CAP & HORIZONTAL BENCH ALONG MILLER'S CORNER".
 - REMOVE TEMP. CAP. INSTALL PROP. 12" W FROM STA. 16+78 & CONNECT TO EX. 12" W (W-132).
 - OPEN EX. VALVES "2644-12-049" & "2644-12-007" & PROP. 12" VALVE "53" & RESTORE THE AREA.
- PROP. 12" WATER MAIN - EX. 12" INTERCONNECT @ STA. 111+15.5 (ELBANK DR.)**
- COMPLETE ITEMS 1 TO 4 DURING A TEMPORARY SHUTDOWN:
- CLOSE EX. VALVES "2646-12-007" & "2646-12-008" & PROP. 12" VALVE "46".
 - REMOVE THE TEMPORARY CAP AND BUTTRISS AT STA. 0+10 (I.e. STA. 111+15.5, 10' LT.).
 - INSTALL THE PROP. 12" WATER MAIN FROM STA. 0+10 TO STA. 0+32 AND CONNECT TO EX. 12" WATER MAIN INTERCONNECT.
 - OPEN EX. VALVE "2646-12-008" & PROP. VALVE "46" AND RESTORE THE AREA.
 - THE CONTRACTOR IS TO COORDINATE WITH THE BUREAU OF UTILITIES TO ENSURE THAT THE FEED FROM OLD LAWYER'S HILL ROAD IS CLOSED AT RIVER ROAD.
- PHASE IV - BOOSTER PUMPING STATION & VALVE ABANDONMENT**
- ALL PHASE I, II AND III ACTIVITIES SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER PRIOR TO BEGINNING PHASE IV ACTIVITIES. SEE TECHNICAL SPECIFICATION 1022 ABANDONMENT OF BOOSTER PUMPING STATION.
- THE CONTRACTOR IS TO REMOVE THE EXISTING ABOVE GRADE ELECTRICAL CONTROL PANEL, REMOVE THE TOP SLAB, AND FILL THE EXISTING VAULT WITH CR-6 STONE. CONTRACTOR IS TO COORDINATE WITH BGE FOR THE REMOVAL AND DISCONNECT OF THE ELECTRICAL CONTROL PANEL. THE ELECTRICAL CONTROL PANEL AND TOP SLAB SHALL BE REMOVED AND DISPOSED OF IN A SUITABLE LOCATION PER HOWARD COUNTY STANDARD SPECIFICATIONS. THE EXISTING PUMPS MAY BE ABANDONED IN PLACE.
 - INSTALL A MINIMUM OF 6-INCHES OF TOP SOIL ABOVE THE CR-6 STONE TO MEET THE EXISTING GRADE. SEED AND MULCH THE DISTURBED AREA.
 - RESTORE THE AREA.
- NOTES:**
- WATER HOUSE CONNECTIONS:**
 - ALL PROP. WATER HOUSE CONNECTIONS SHALL BE COORDINATED WITH THE HOWARD COUNTY BUREAU OF UTILITIES AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING WORK. A DETAILED PLAN FOR THE SHUTDOWN OF EXISTING WATER MAINS SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE COUNTY. NO HOUSE SHALL BE WITHOUT SERVICE OF ANY KIND, FOR MORE THAN 8-HOURS AT ANY ONE TIME. CONNECT ALL EXISTING WATER HOUSE CONNECTIONS TO THE PROPOSED 12" WATER MAIN AS INDICATED ON THE WATER HOUSE CONNECTION CHART IN THE CONTRACT DOCUMENTS. THE EXISTING 12-INCH WATER MAIN SHALL BE ABANDONED ONLY AFTER ALL SERVICE CONNECTIONS HAVE BEEN TRANSFERRED FROM THE EXISTING 12-INCH WATER MAIN TO THE NEW 12-INCH WATER MAIN.
 - ROCKBURN BRANCH ELEMENTARY SCHOOL:**
 - WATER SERVICE TO ROCKBURN BRANCH ELEMENTARY SCHOOL MAY NOT BE SUSPENDED AT ANY POINT DURING OPERATIONAL HOURS AT THE SCHOOL. THE CONTRACTOR IS TO COORDINATE CONSTRUCTION WORK HOURS WITH THE COUNTY FOR ANY WORK AFFECTING THE SCHOOL'S WATER SERVICE.
 - CULLINS WAY:**
 - THE CONTRACTOR IS TO ASSUME THAT CONTRACT 14-4744-D WILL BE INSTALLED AND CONNECTED TO THE EX. 12" (34-W) PRIOR TO THE INSTALLATION OF THE NEW 12" W. HOWEVER, IF IT HAS NOT BEEN CONSTRUCTED, A 12" W TEE, 8" VALVE AND TEMP. 8" CAP AND THRUST BLOCK SHALL BE INSTALLED FOR THE FUTURE CONNECTION.

EXISTING VALVE LEGEND ON SHEET INDEX MAP (ABOVE):

####-##-### : GRID NO.-SIZE (INCHES)-ASSIGNED NUMBER

EXAMPLE:
GRID NO. 2644, 12 INCH VALVE, NUMBER 116
2644-12-116

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John G. De... 4/6/16
DIRECTOR OF PUBLIC WORKS DATE

Thomas P. Suttler 4/15/16
CHIEF, BUREAU OF ENGINEERING DATE

... 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

... 4/16/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL

MICHAEL BAKER INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 885-3600

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 26230
EXPIRATION DATE: 06/07/16
E. Hu
SRIN A. WODDING-STREBLE, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	600 SCALE MAP NO.

SHEET INDEX & SUGGESTED SEQUENCE OF CONSTRUCTION


MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN

SHEET 2 OF 32

GENERAL NOTES:

PART I

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN MAY 2013 (MONTGOMERY ROAD) & APRIL 2014 (MILLER'S CORNER) BY MERCADO CONSULTANTS, INC. AERIAL PHOTOGRAPHY AND TOPOGRAPHIC MAPPING WAS PROVIDED BY VIRGINIA RESOURCE MAPPING (VRM).
- HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS:
NO. 31EA, N 569841.1675, E 1374816.0130, ELEV. 468.842'
NO. 31EB, N 569733.5569, E 1375273.5569, ELEV. 452.628'
37CM3 & 37BA WERE USED AS BENCHMARKS.
ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE ALUMINUM STAMPED DISCS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED TO THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL  AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1,800.252.1133
BGE (CONSTRUCTION SERVICES)	410.637.8713
BGE (EMERGENCY)	410.685.0123
BUREAU OF UTILITIES	410.313.4900
COLONIAL PIPELINE COMPANY	410.795.1390 OR 410.970.2138
MISS UTILITY	1,800.257.7777
STATE HIGHWAY ADMINISTRATION	410.531.5533
VERIZON	1,800.743.0033
MCI WORLDCOM	1,800.624.9675

- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT 410.313.7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.
- THE CONTRACTOR SHALL COORDINATE ANY DISRUPTION OF TRAFFIC SIGNALS, SENSORS OR WIRING WITH MARYLAND STATE HIGHWAY ADMINISTRATION, OFFICE OF TRAFFIC AND SAFETY FOR WORK AT THE INTERSECTION OF MD- 103 (MONTGOMERY RD.) AND ILCHESTER ROAD.
- WORK HOURS SHALL BE LIMITED TO 9AM TO 3PM. SEE SPECIFICATIONS FOR ACCEPTABLE WORKING DAYS.
- THE CONTRACTOR MUST FOLLOW ALL CONDITIONS AND REQUIREMENTS AS SET FORTH IN THE REQUIRED PERMITS FOR THIS PROJECT.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AS WELL AS ANY EXISTING THRUST RESTRAIN.
- THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN THE MARYLAND HIGH VOLTAGE LINE ACT (HVLA). THE CONTRACTOR MUST NOTIFY BGE AT 800.685.0123 BEFORE ANY WORK BEGINS THAT MAY BRING PEOPLE OR EQUIPMENT WITHIN 10 FEET OF OVERHEAD UTILITY LINES. BGE WILL MAKE THE AREA SAFE FOR THE WORK TO BE DONE. HVLA GUIDELINES APPLY TO BOTH PROFESSIONAL AND NON-PROFESSIONAL WORKERS. NO ONE IS EXEMPT FROM COMPLIANCE.
- THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIRES THAT WHEN USING A CRANE OR DERRICK FROM ALL OVERHEAD POWER LINES UNTIL THE VOLTAGE OF THE OVERHEAD LINE IS IDENTIFIED BY THE UTILITY OWNER. CONTACT BGE FOR ASSISTANCE WHEN USING CRANES OR DERRICKS AT 877.427.2008.
- NO EXCAVATION OR CONSTRUCTION IS PERMITTED OVER COLONIAL'S PIPELINE(S) OR WITHIN ITS ROW WITHOUT A COLONIAL REPRESENTATIVE BEING PRESENT. THE LOCATION OF THE PIPELINE(S) SHALL BE IDENTIFIED PRIOR TO THE BEGINNING OF ANY MECHANICAL EXCAVATION WORK. IF THE LOCATION OF THE PIPELINE(S) IS NOT KNOWN, ONLY HAND EXCAVATION WILL BE ALLOWED. BASED ON CIRCUMSTANCES AT THE ENCROACHMENT SITE, COLONIAL'S REPRESENTATIVE HAS THE AUTHORITY TO DETERMINE THE EXTENT OF HAND EXCAVATION REQUIRED. HOWEVER, ABSENT SPECIAL PERMISSION FROM COLONIAL'S REPRESENTATIVE, NO MECHANIZED DITCHING OR EXCAVATION SHALL BE ALLOWED WITHIN FIVE (5) FEET OF THE EXTREMITIES OF THE PIPELINES. IN ANY EVENT, ALL EXCAVATION WITHIN TWO (2) FEET OF THE PIPELINE(S) MUST BE ACCOMPLISHED BY HAND. WHERE HAND EXCAVATION IS REQUIRED, THE ENCROACHING PARTY MUST PROVIDE ADEQUATE MANPOWER TO PERFORM THAT WORK. SUB-GRADING, GRADING, AND PLACEMENT OF FILL OVER COLONIAL'S PIPELINE(S) WILL REQUIRE THE APPROVAL OF COLONIAL'S FIELD REPRESENTATIVE AS TO METHOD AND EXTENT.
- HEAVY EQUIPMENT SHALL NOT BE PERMITTED TO OPERATE OVER COLONIAL'S PIPELINE(S) UNLESS EARTH PADDING HAS BEEN PROVIDED TO PROTECT THE PIPELINE FROM VIBRATING. TEMPORARY EQUIPMENT CROSSINGS OVER THE PIPELINE(S) ARE PERMITTED WITH SIX (6) VERTICAL FEET OF COVER OVER THE PIPELINE(S) AT SELECTED LOCATIONS AS APPROVED BY COLONIAL'S FIELD REPRESENTATIVE. DEPTH OF PIPE AS DETERMINED BY TEST HOLES WILL DETERMINE AMOUNT OF TEMPORARY FILL REQUIRED. DEPTH OF PIPE AS DETERMINED BY TEST HOLES WILL DETERMINE AMOUNT OF FILL REQUIRED. COLORED SHEETS OF PLASTIC SHALL BE PLACED UNDER THE TEMPORARY FILL AT ORIGINAL GRADE SO THAT ORIGINAL GRADE WILL NOT BE DISTURBED WHEN TEMPORARY FILL AT ORIGINAL GRADE SO THAT ORIGINAL GRADE WILL NOT BE DISTURBED WHEN TEMPORARY FILL IS REMOVED. NO EQUIPMENT OR VEHICLES MAY BE PARKED ON THE ROW. NO MATERIAL MAY BE STORED ON THE ROW.
- IF TEST PITTING IS REQUIRED TO DETERMINE THE EXACT LOCATION AND ELEVATION OF THE PIPELINE(S), THE CONTRACTOR AGREES TO NOTIFY COLONIAL PIPELINE AT LEAST TWO WORKING DAYS IN ADVANCE, SO THAT COLONIAL PIPELINE MAY PROVIDE A FIELD REPRESENTATIVE TO BE AT THE SITE. THIS REPRESENTATIVE MUST BE PRESENT DURING THE TEST PITTING FOR THE PROTECTION OF THE PIPELINE(S), AND FOR THE COMMON VERIFICATION OF ITS LOCATION. ALL COSTS FOR THIS TEST PITTING, AND FOR THE COLONIAL REPRESENTATIVE, WILL BE BORNE BY THE ENCROACHING PARTY. ANY ENGINEERING BASED ON COLONIAL OR OTHER DESIGN CRITERIA STEMMING FROM THE AMOUNT OR LOCATION OF THIS TEST PIT DATA IS THE RESPONSIBILITY OF THE CONTRACTOR.

PART II - WATER

- ALL PROPOSED WATER MAINS SHALL BE C900 PVC DR14 UNLESS OTHERWISE NOTED.
- TOP OF ALL WATER MAINS TO HAVE A MINIMUM OF 4'-0" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF THE PVC PIPE.
- ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTING COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING. PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1/2-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTIFIED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL. FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR 14 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.

GENERAL NOTES (CONTINUED):

PART II - WATER (CONTINUED)

- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTING COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
- EXCEPT AS INDICATED ON THE PLANS, ALL PUBLIC WATER MAINS (INCLUDING HYDRANT AND BLOW-OFF LEADS) SHALL BE POLYVINYL CHLORIDE (PVC) C900 PIPE MEETING THE REQUIREMENTS OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND SUBSEQUENT AMENDMENTS THERETO.
- CONTRACTOR SHALL REPLACE ALL WATER HOUSE CONNECTIONS AS INDICATED IN THE CONTRACT DOCUMENTS. ALL WATER HOUSE CONNECTIONS SHALL BE MADE AT THE EXISTING VALVE BOX (INSIDE METERED LOCATIONS) OR METER VAULTS (OUTSIDE METERED LOCATIONS).
- THE CONTRACTOR SHALL LOCATE ALL WATER AND OR SEWER HOUSE CONNECTIONS, AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THESE EXISTING CONNECTIONS. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. ALL EXISTING CONNECTIONS SHALL BE RECONNECTED UPON COMPLETION OF CONSTRUCTION IN ACCORDANCE WITH COUNTY STANDARDS. TEMPORARY SERVICE SHALL BE PROVIDED FOR ANY SERVICE THAT IS DAMAGED BY THE WORK OF THE CONTRACTOR. HOMEOWNER SHALL BE IMMEDIATELY NOTIFIED OF THE LOSS OF SERVICE.
- PIPE RESTRAINT SYSTEMS SHALL BE PROVIDED IN THE FOLLOWING MANNER USING SYSTEMS MANUFACTURED BY EBAA IRON INC. OR APPROVED EQUAL: 1) ALL DUCTILE IRON MECHANICAL JOINT FITTINGS (INCLUDING MECHANICAL JOINT HYDRANT CONNECTIONS) SHALL BE RESTRAINED USING THE SERIES 2000PV MECHANICAL JOINT FITTING RESTRAINT SYSTEM. 2) HIGH DEFLECTION COUPLINGS AND PUSH-ON BELL OR SPIGOT PIPE JOINTS SHALL BE RESTRAINED (BUT ONLY WHEN LOCATED WITHIN THE RESTRAINED JOINT LIMITS ON THE PROFILES) USING THE SERIES 1500 HARNESSING SYSTEM. BEND HARNESSING RODS TO MATCH THE ANGLE AT HIGH DEFLECTION COUPLINGS. HIGH DEFLECTION COUPLINGS ARE LIMITED TO A MAXIMUM DEFLECTION OF 3 DEGREES AND DO NOT REQUIRE RESTRAINT (UNLESS LOCATED WITHIN RESTRAINED JOINT LIMITS NOTED ON THE PROFILES).
- INSTALL CONCRETE ANCHOR COLLARS WHERE SHOWN, SPECIFIED OR DIRECTED, AND WHEN SUFFICIENT ROOM EXISTS (AS DETERMINED BY THE ENGINEER), INSTALL CONCRETE BUTTRESSING AT ALL TEES, CAPS, AND HORIZONTAL AND VERTICAL BENDS SHOWN WITH OR WITHOUT HARNESSING RESTRAINT UNLESS RESTRAINED JOINTS ARE SPECIFIED ON THE PROFILES. REMOVE PIPING THAT IS TO BE ABANDONED AS NEEDED TO PREVENT CONFLICT WITH THE INSTALLATION OF CONCRETE BUTTRESSING.
- ALL TEES-INS TO EXISTING WATER MAINS SHALL BE COORDINATED WITH THE HOWARD COUNTY BUREAU OF UTILITIES AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING WORK. A DETAILED PLAN FOR THE SHUTDOWN OF EXISTING WATER MAINS SHALL SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE COUNTY.
- MAINLINE VALVES SHALL BE STRAPPED TO ADJOINING TEES OR CROSSES PER HOWARD COUNTY STD. DTL. W-2.13. MAINLINE VALVES THAT ARE NOT SHOWN ADJACENT TO TEES OR CROSSES SHALL BE ANCHORED TO A CONCRETE BLOCK IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- IF ANY FIRE HYDRANT WILL BE PLACED OUT OF SERVICE IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE HOWARD COUNTY FIRE DEPARTMENT (HCFD) DURING CONSTRUCTION CONCERNING FIRE HYDRANTS THAT ARE OUT OF SERVICE. FIRE HYDRANTS THAT ARE OUT OF SERVICE SHALL BE CLEARLY SIGNED "OUT OF SERVICE".
- ALL HYDRANTS, MAINLINE GATE VALVES, WATER SERVICE VALVE AND PIPING, MECHANICAL JOINT RESTRAINT SYSTEMS AND SIMILAR (FOR BOTH PERMANENT AND TEMPORARY INSTALLATIONS) SHALL BE RATED FOR A MINIMUM OPERATING PRESSURE OF 250PSI.
- THE CONTRACTOR SHALL NOTIFY HOWARD COUNTY DPW AS ANY UNKNOWN UTILITY SERVICES ARE ENCOUNTERED. CONTRACTOR SHALL RECONNECT ALL ACTIVE WATER SERVICES ENCOUNTERED.
- THE CONTRACTOR SHALL VERIFY THAT EXISTING WATER LINES AND VALVES ARE RESTRAINED PRIOR TO REMOVAL OF EXISTING WATERLINE, AT CONNECTION LOCATIONS. CONTRACTOR SHALL PROVIDE THRUST BLOCKING AND/OR DEADMAN ANCHORS ON THE EXISTING WATER SYSTEM WHERE THERE IS NO EXISTING THRUST PROTECTION.
- THE CONTRACTOR SHALL ABANDON EXISTING WATER LINE IN PLACE UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL CAP ALL CUT OR OPEN ENDS, REMOVE EXISTING VALVE ROADWAY BOXES AND ABANDON EXISTING VALVES IN PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF EXISTING WATERLINE WHERE INDICATED TO BE REPLACED IN-KIND. EXISTING FIRE HYDRANTS REMOVED, AS PART OF CONSTRUCTION, SHALL BE DELIVERED TO THE BUREAU OF UTILITIES. THE CONTRACTOR SHALL SALVAGE MAJOR WATER ITEMS WHICH CAN BE USED TO SCAVENGE PARTS.
- EXISTING WATER MAINS, INCLUDING PIPE MATERIAL, FITTINGS, VALVES AND APPURTENANCES EXCAVATED OR REMOVED FOR THE CONSTRUCTION OF THE NEW WATER MAIN SHALL BE REMOVED FROM THE WORK SITE AND DISPOSED OF BY THE CONTRACTOR AT AN APPROPRIATE RECEIVING FACILITY (LICENSED FOR SUCH DISPOSAL) AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE DIRECTED BY THE HOWARD COUNTY PROJECT MANAGER.
- THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES, GRADES AND ELEVATIONS OF THE PROPOSED FACILITIES.
- EXISTING WATER MAINS SHALL BE LOCATED BY THE ALIGNMENT MARKED IN THE FIELD BY HOWARD COUNTY PERSONNEL. INSTALL NEW WATER MAINS BASED ON THE ALIGNMENT AND OFFSET DIMENSION SHOWN RELATIVE TO THE EXISTING WATER MAINS. MAINTAIN REQUIRED SEPARATION FROM SANITARY AND STORM SEWER PIPING.
- PIPE TRENCHING AND PAVEMENT REPLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH THE PVC PIPE TRENCH AND PERMANENT PAVING RESTORATION DETAIL AS SHOWN ON SHEET 20.
- WATER MAIN TESTING GRADIENT: 700FT
THE EXISTING STATIC PRESSURE ELEVATION FOR PROPOSED WATER MAIN IS 550FT NAVD 1988.
WATER MAIN SHALL BE FILLED WITH WATER AND BROUGHT TO 150 PSI HYDROSTATIC TEST PRESSURE AT THE LOW POINT FOR TWO HOURS.
- IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, ALL CROSSINGS OF THE NEW WATER MAIN WITH EXISTING SANITARY OR STORM SEWER PIPING (RESULTING IN LESS THAN 18" OF SEPARATION) SHALL BE ACCOMPLISHED BY CENTERING A FULL LENGTH OF THE NEW WATER MAIN PIPING AT THE CROSSING TO MAXIMIZE THE DISTANCE OF ANY WATER MAIN JOINT FROM THE CROSSING.
- THE CONTRACTOR SHALL NOT ENTER UPON PUBLIC OR PRIVATE PROPERTY (OUTSIDE OF THE RIGHT-OF-WAY OR CONSTRUCTION STRIP) FOR ANY PURPOSE WITHOUT OBTAINING PERMISSION AND IT SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY, TREES, MONUMENTS, SIGNS AND MARKERS AND FENCES THEREON, AND SHALL USE EVERY PRECAUTION NECESSARY TO PREVENT DAMAGE OR INJURY THERETO.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER DURING THE EXECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN ITS MANNER OR METHOD OF EXECUTING SAID WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY SHALL NOT BE RELEASED UNTIL THE WORK SHALL HAVE BEEN COMPLETED AND ACCEPTED.
- THE CONTRACTOR SHALL TEST PIT ALL EX. UTILITIES WELL IN ADVANCE OF CONSTRUCTION AT HIS OWN EXPENSE.
- CONTRACTOR SHALL COORDINATE WITH HOWARD COUNTY BUREAU OF UTILITIES TO INTERCONNECT WATER MAINS TO BLOW-OFF VALVES. CARE SHOULD BE TAKEN TO PURGE AIR FROM MAINS USING EXISTING AIR RELEASE VALVES, HYDRANTS TO OPERATE-AIR, AND/OR AIR PURGE DEVICES AT NEW CONNECTION AS NEEDED.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. ... 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. ... 4/15/16
CHIEF, BUREAU OF ENGINEERING DATE

... 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

... 4/15/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL

MICHAEL BAKER INTERNATIONAL, INC.
394 Centaurus Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 688-9400

PROFESSIONAL ENGINEER

STATE OF MARYLAND
BRUN A. MCKENNA-STREBLE, P.E.

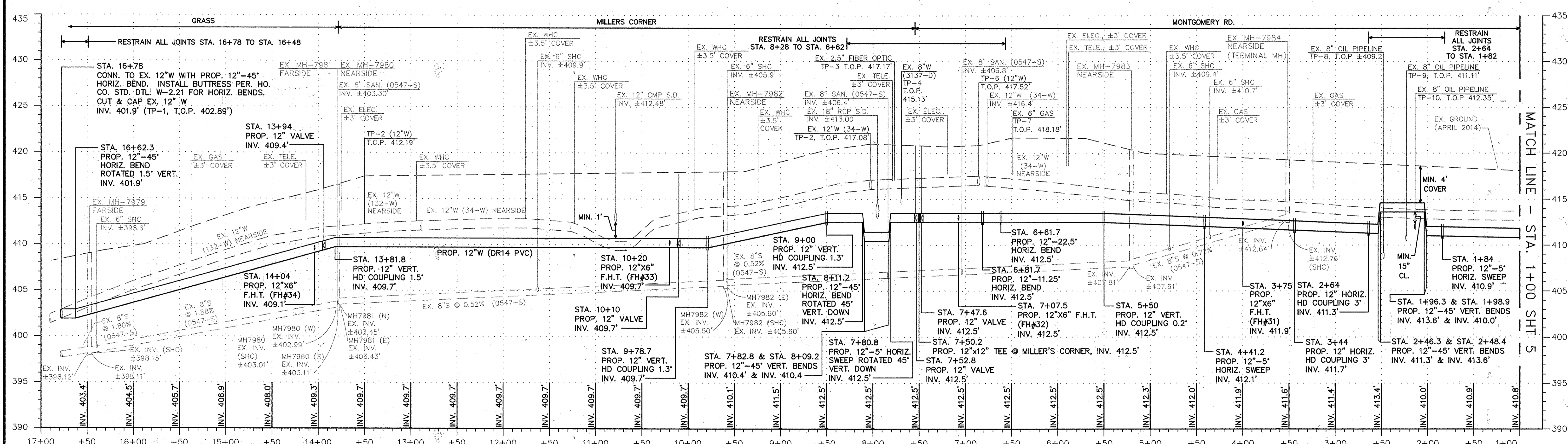
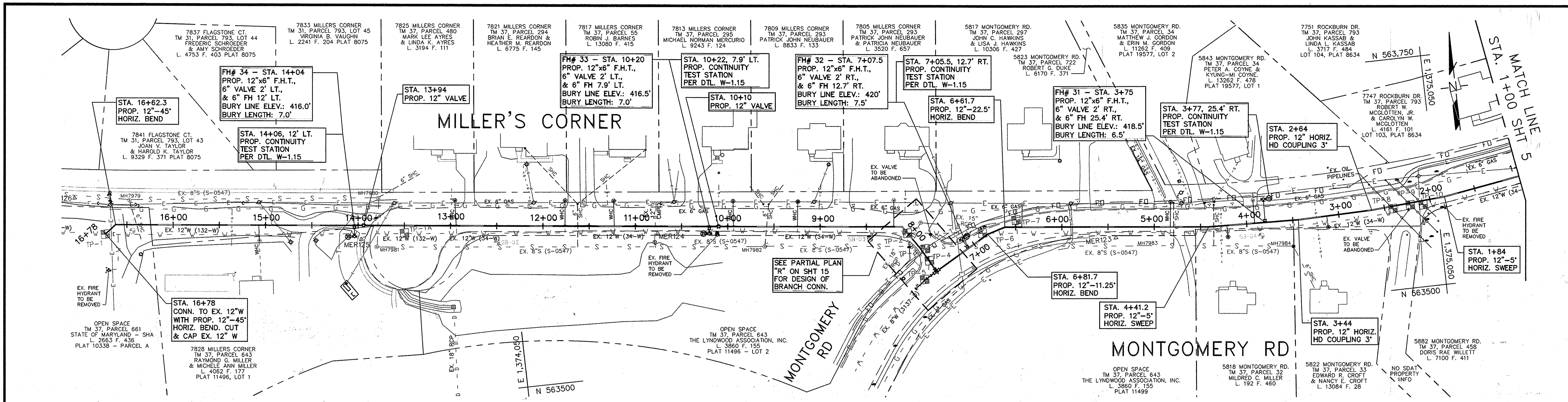
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DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

GENERAL NOTES

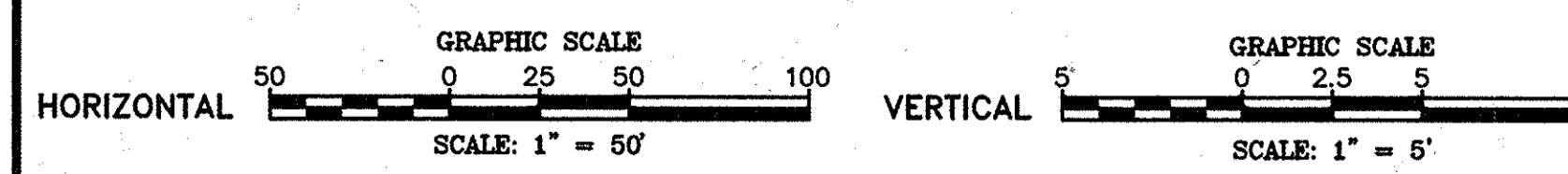
600 SCALE MAP NO. 37 & 38 BLOCK NO. 4,5,6&1

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 3 OF 32



12" WATER MAIN - MILLERS CORNER
STA. 16+78 TO STA. 1+00



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

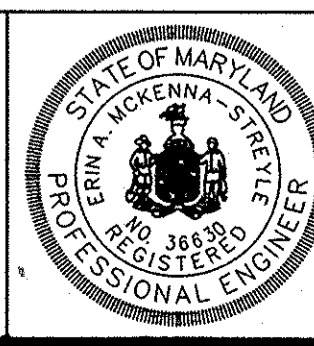
James D. ... 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. ... 4/15/16
CHIEF, BUREAU OF ENGINEERING DATE

... 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

... 4/15/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker International, Inc.
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 885-9600



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20000
EXPIRATION DATE: 06/02/16
BRIAN K. MCKENNA-STEPHENS, P.E.

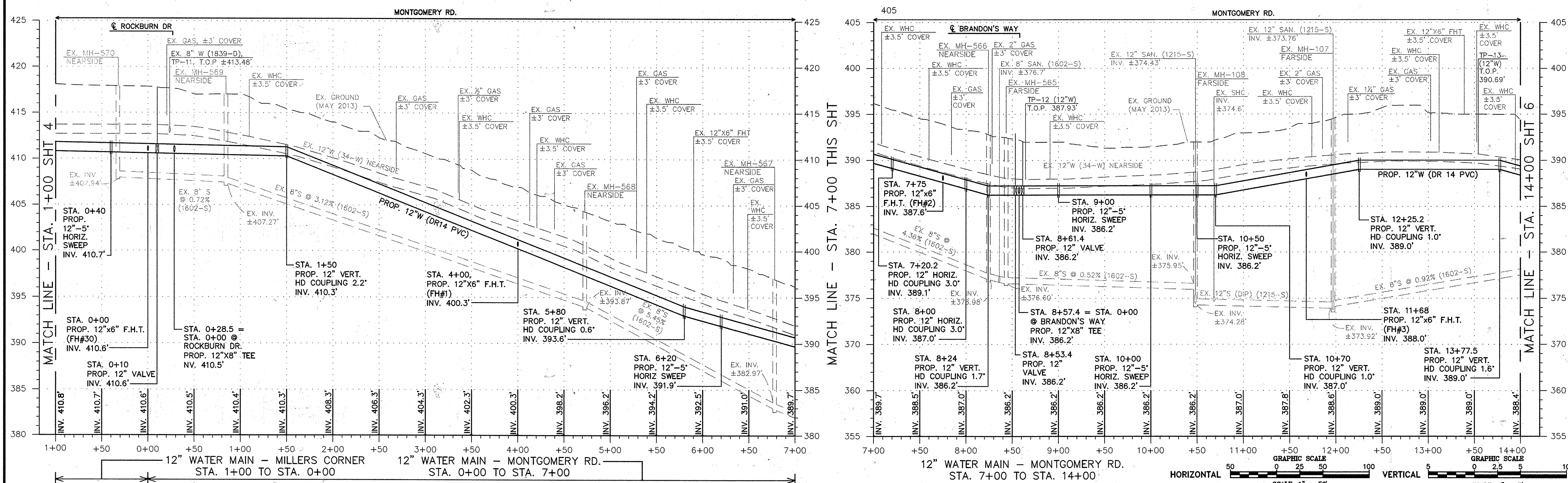
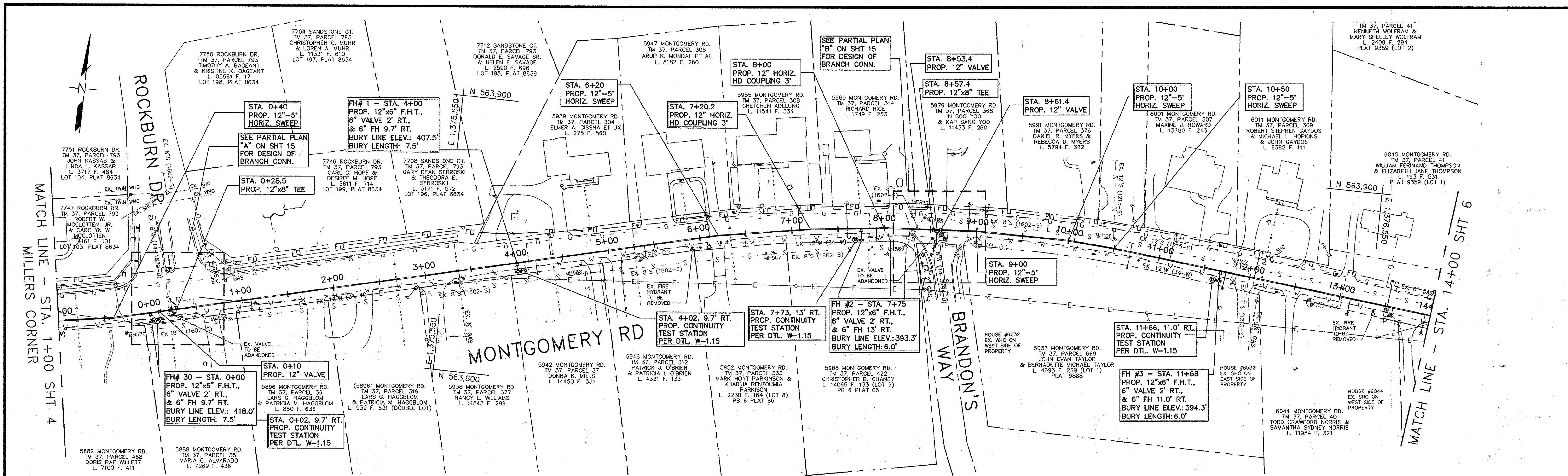
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DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

12" WATER MAIN
PLAN & PROFILE

SCALE AS SHOWN

SHEET 4 OF 32

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

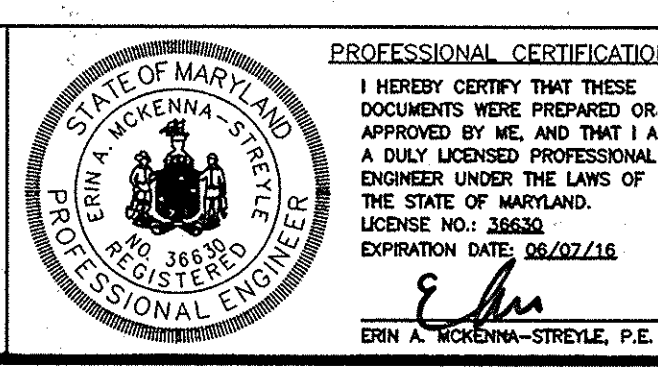
John G. De...
DIRECTOR OF PUBLIC WORKS

Thomas E. Butler 4/5/16
CHIEF, BUREAU OF ENGINEERING

Steve C. Conn 4/16/16
CHIEF, BUREAU OF UTILITIES

...
CHIEF, UTILITY DESIGN DIVISION

Michael Baker International
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 688-3400



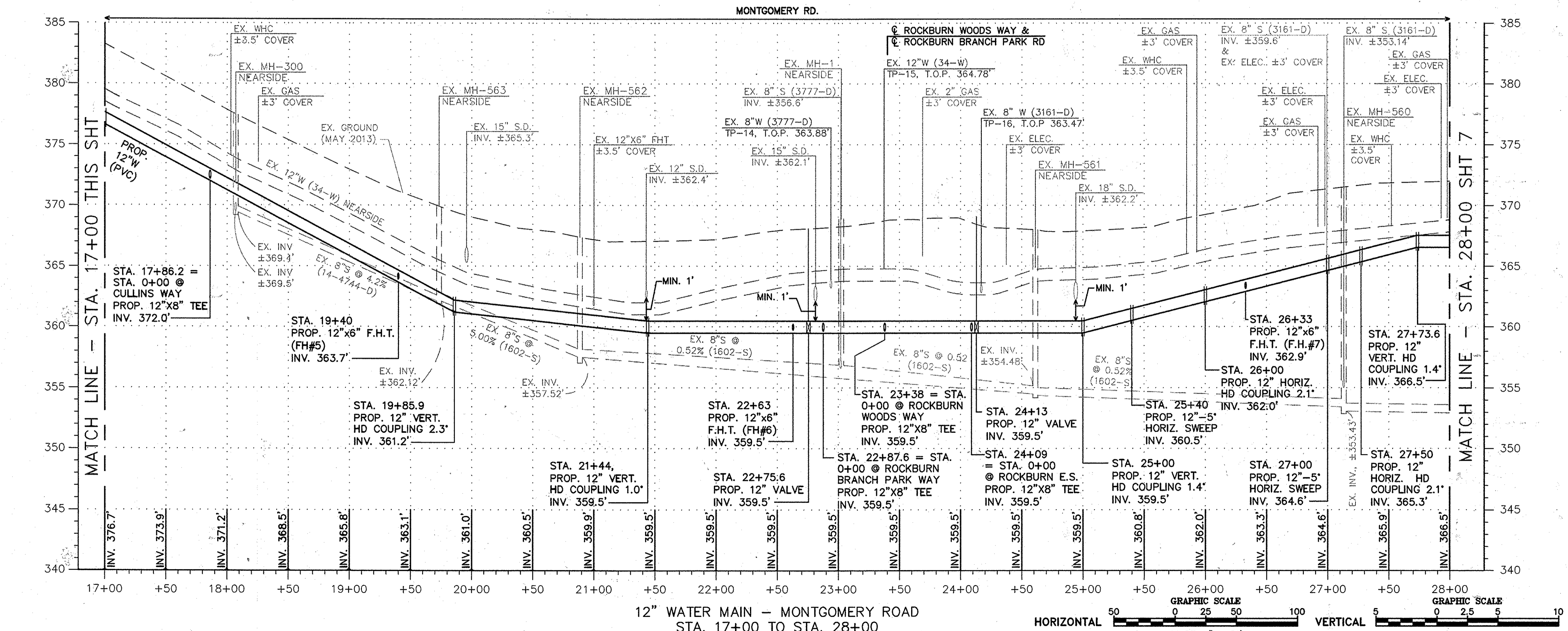
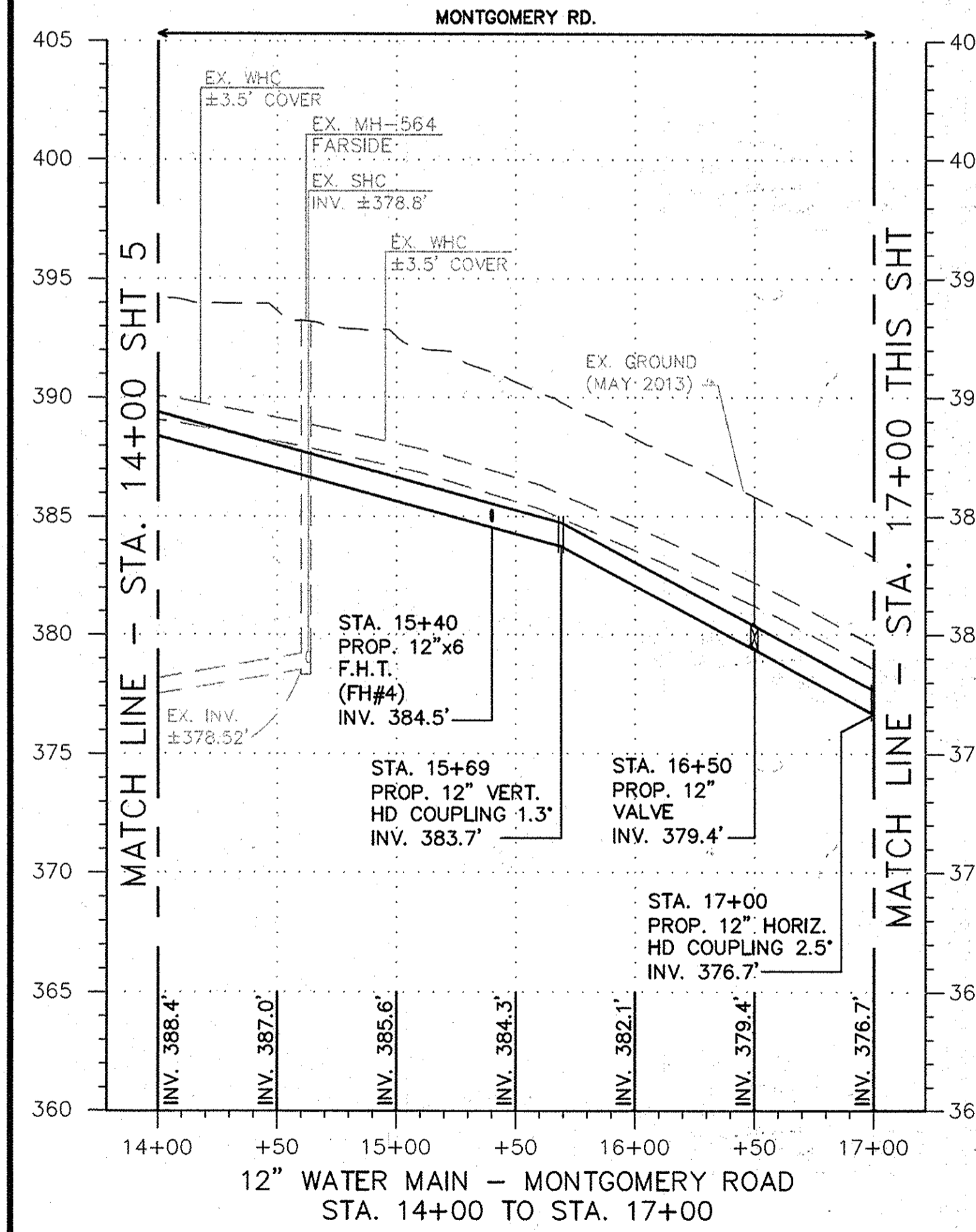
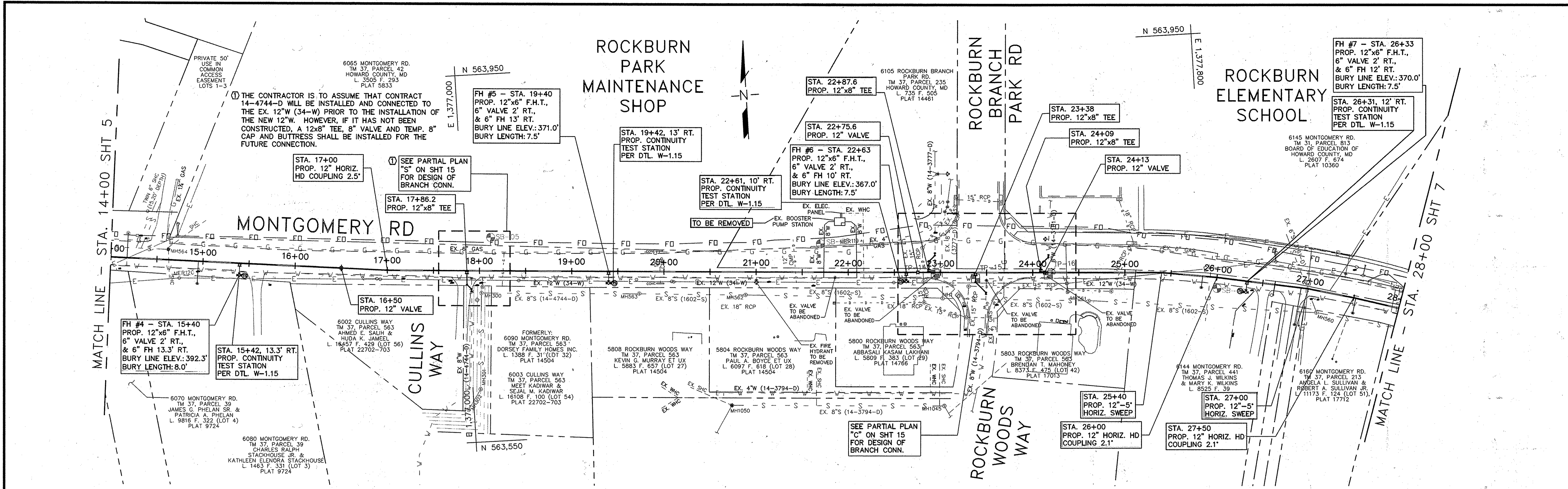
DESIGN: EAM	DATE: 4/5/2016	NO.	REVISION	DATE	BY
DRAWN: EAM					
CHECKED: ERA					

12" WATER MAIN
PLAN & PROFILE

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN

SHEET 5 OF 32



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ... 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

Thomas S. ... 4/15/16
CHIEF, BUREAU OF ENGINEERING DATE

... 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

... 4/15/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 889-3600

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 28533
EXPIRATION DATE: 06/02/16

Erin A. ...
ERIN A. WOODS-STREBLE, P.E.

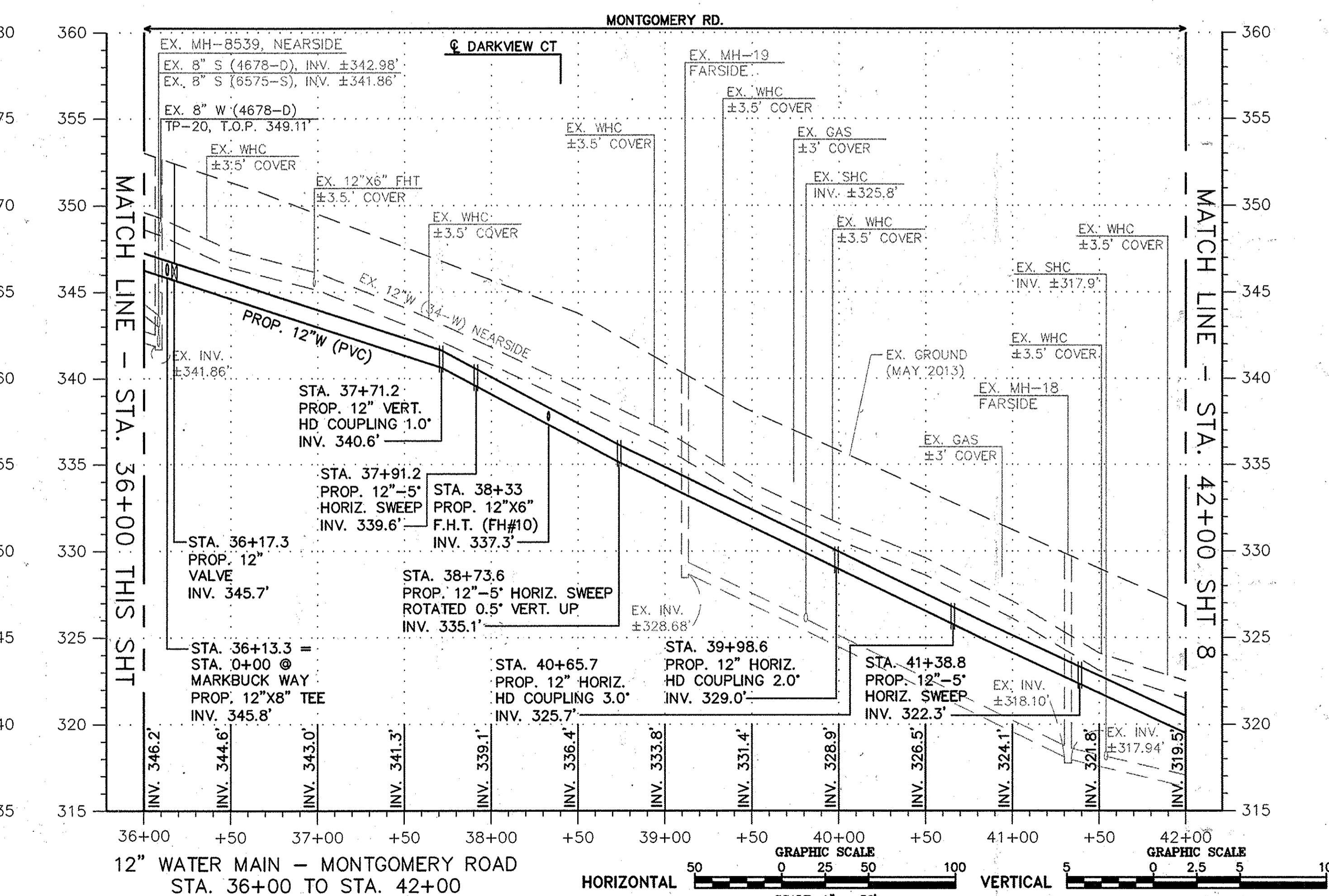
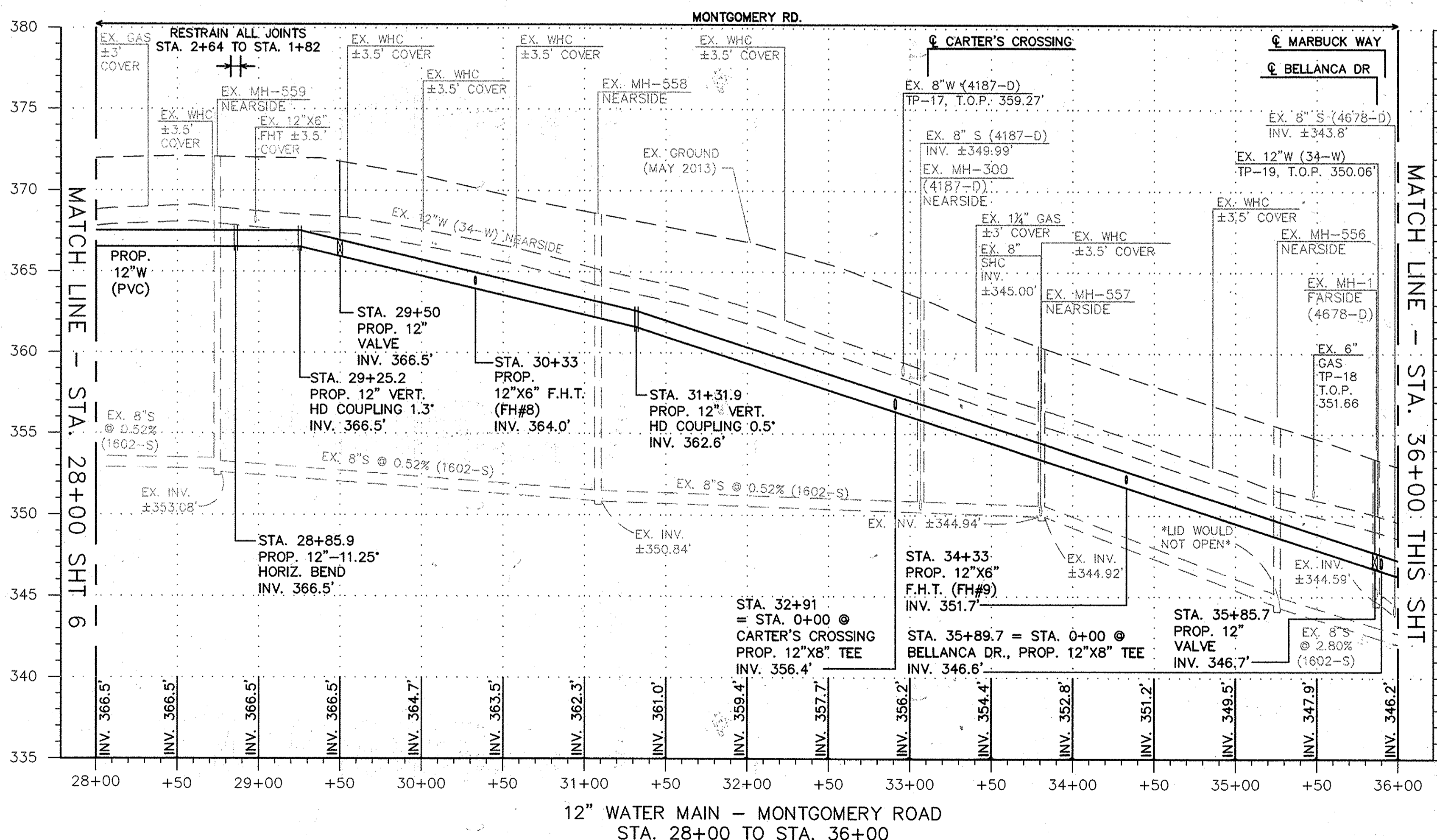
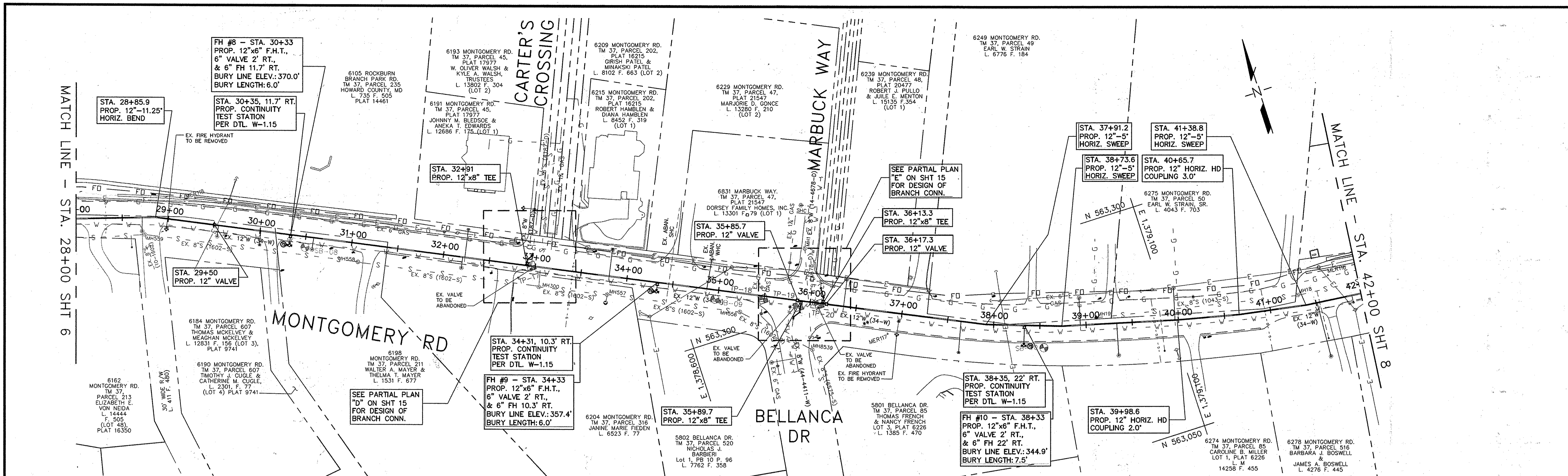
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CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

12" WATER MAIN
PLAN & PROFILE

600 SCALE MAP NO. 37
BLOCK NO. 4

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 6 OF 32



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James A. Helle
DIRECTOR OF PUBLIC WORKS

Thomas P. Sullivan
CHIEF, BUREAU OF ENGINEERING

Michael Baker International
CHIEF, UTILITY DESIGN DIVISION

Michael Baker International
MICHAEL BAKER INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 886-9600

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 2856
EXPIRATION DATE 06/02/16
John E. McGowan-Streible, P.E.

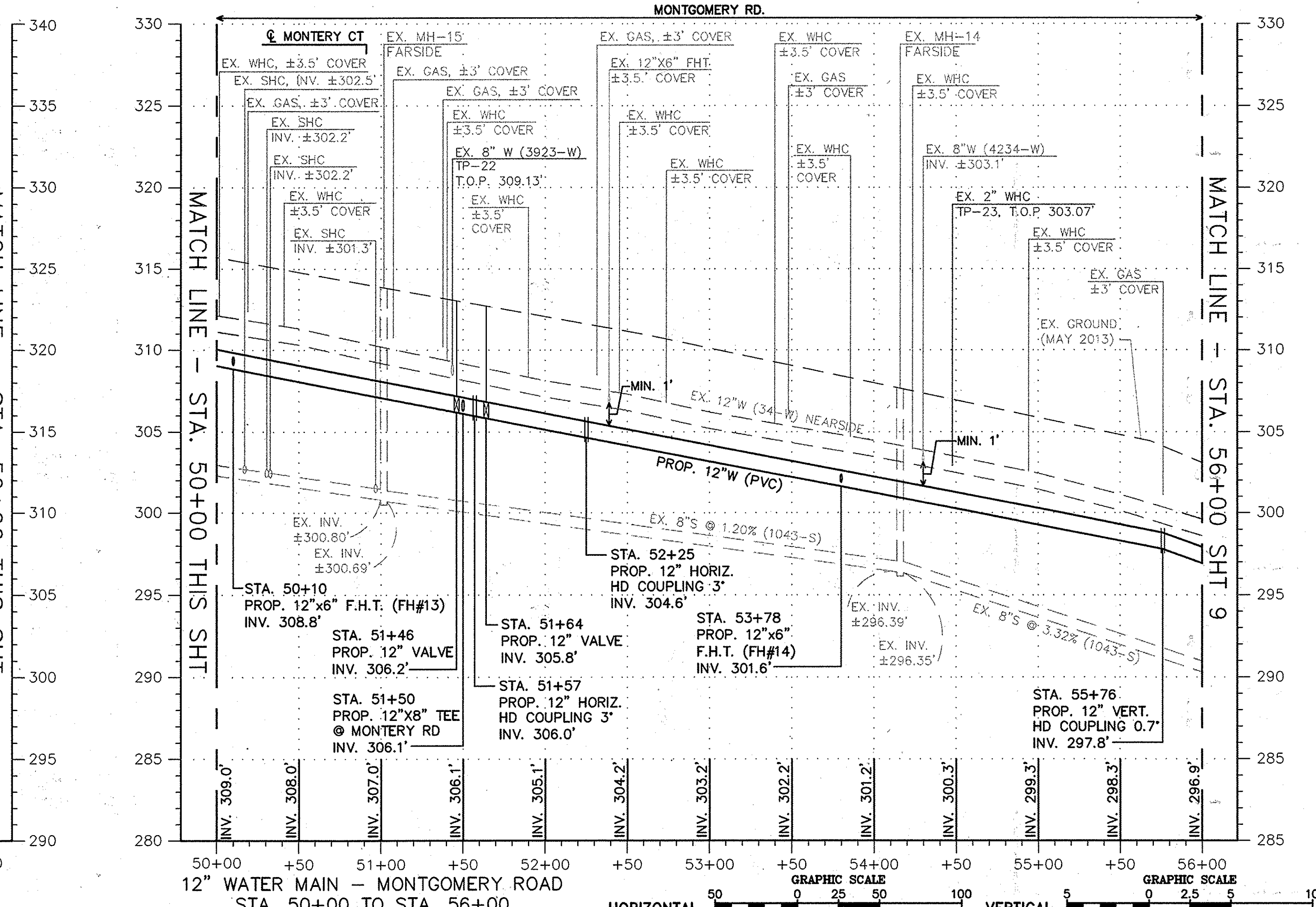
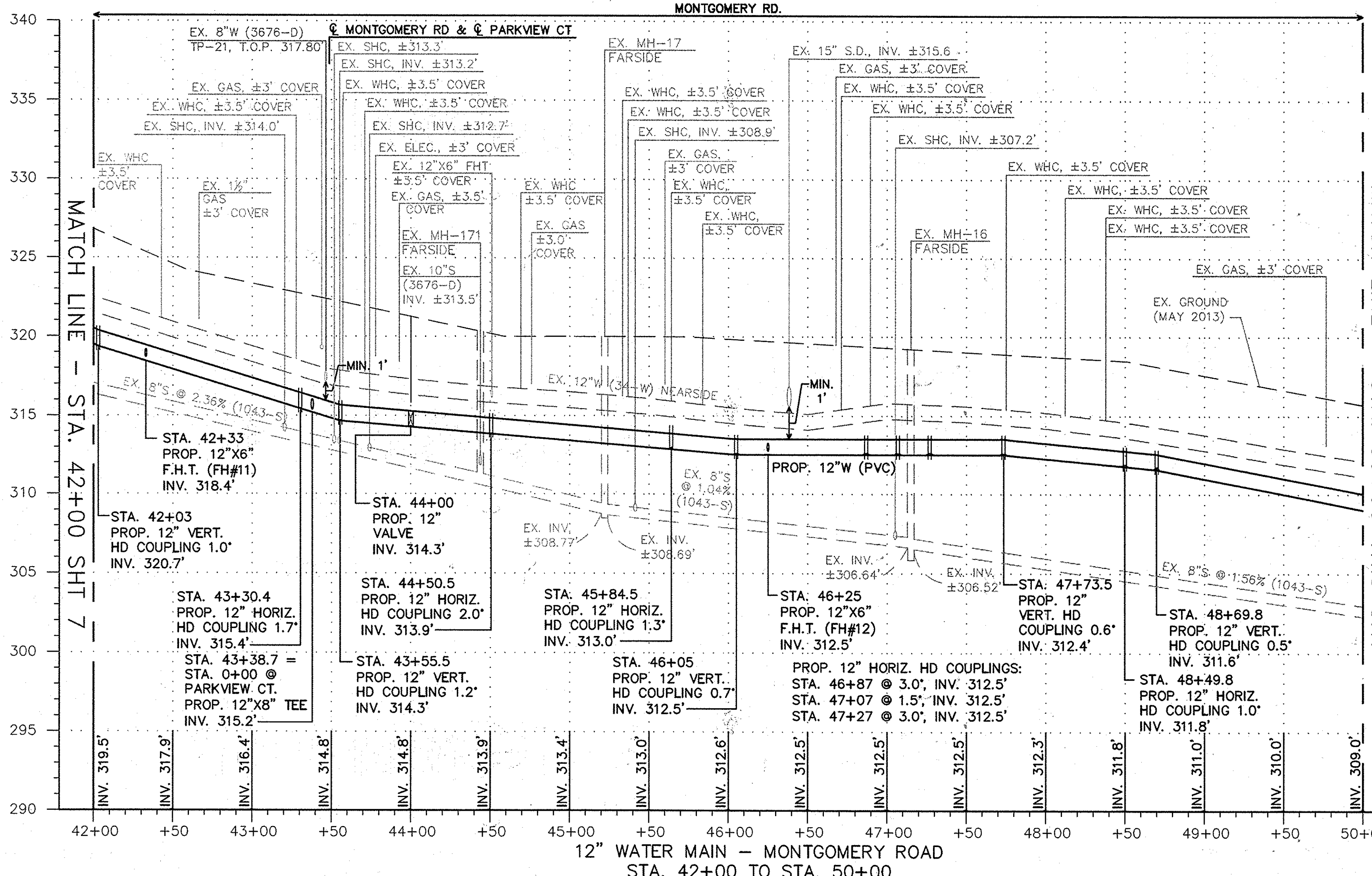
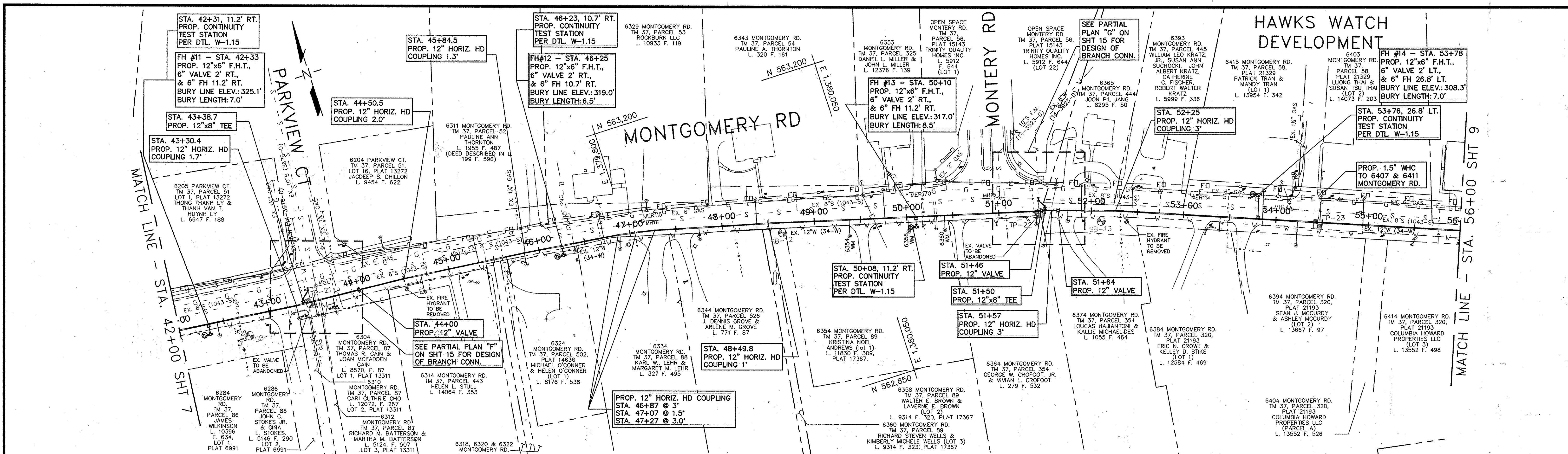
DESIGN: EAM	DATE: 4/5/2016	NO.	REVISION	DATE	BY
DRAWN: EAM					
CHECKED: ERA					

12" WATER MAIN
PLAN & PROFILE

600 SCALE MAP NO. 37
BLOCK NO. 4 & 5

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 7 OF 32



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James G. ... DIRECTOR OF PUBLIC WORKS
Thomas E. ... CHIEF, BUREAU OF ENGINEERING
Steve ... CHIEF, BUREAU OF UTILITIES
David ... CHIEF, UTILITY DESIGN DIVISION

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL, INC.
1204 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 689-3400

PROFESSIONAL ENGINEER
ERIN A. MCKENNA-STRELE, P.E.

DESIGN: EAM	DATE: 4/5/2016	NO.	REVISION	DATE	BY
DRAWN: EAM					
CHECKED: ERA					

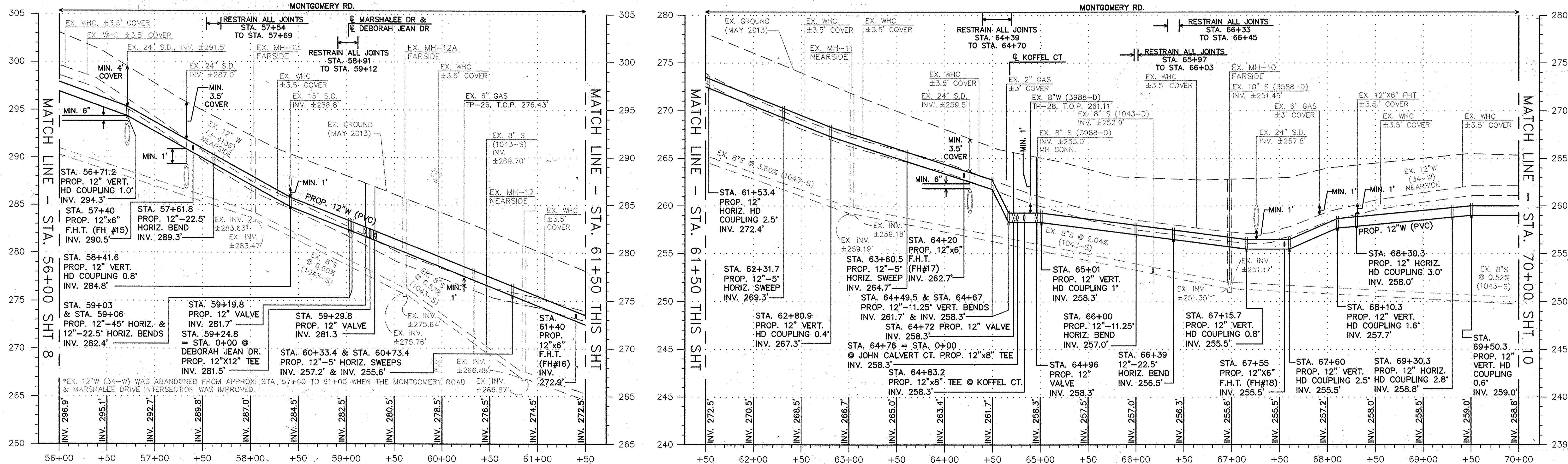
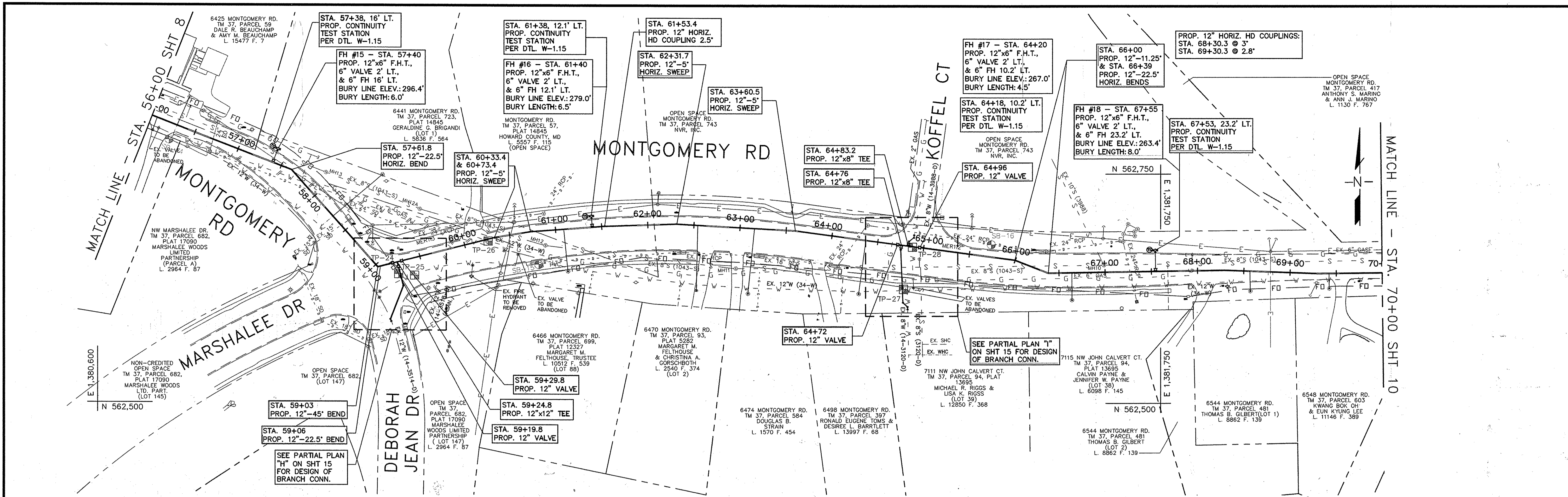
12" WATER MAIN
PLAN & PROFILE

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

600 SCALE MAP NO. 37
BLOCK NO. 5

MONTGOMERY ROAD 12"
WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 8 OF 32



12" WATER MAIN - MONTGOMERY ROAD STA. 56+00 TO STA. 61+00
 12" WATER MAIN - MONTGOMERY ROAD STA. 61+00 TO STA. 70+00

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

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature]
 DIRECTOR OF PUBLIC WORKS
 DATE

[Signature]
 CHIEF, BUREAU OF UTILITIES
 DATE

[Signature]
 CHIEF, BUREAU OF ENGINEERING
 DATE

[Signature]
 CHIEF, UTILITY DESIGN DIVISION
 DATE

Michael Baker INTERNATIONAL
 MICHAEL BAKER INTERNATIONAL, INC.
 1304 Concourse Drive, Suite 200
 Linthicum, MD 21090-1014
 Phone: (410) 688-9400

[Professional Engineer Seal]
 ERIN A. MCKENNA-STREY, P.E.
 PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 36888
 EXPIRATION DATE 09/07/16

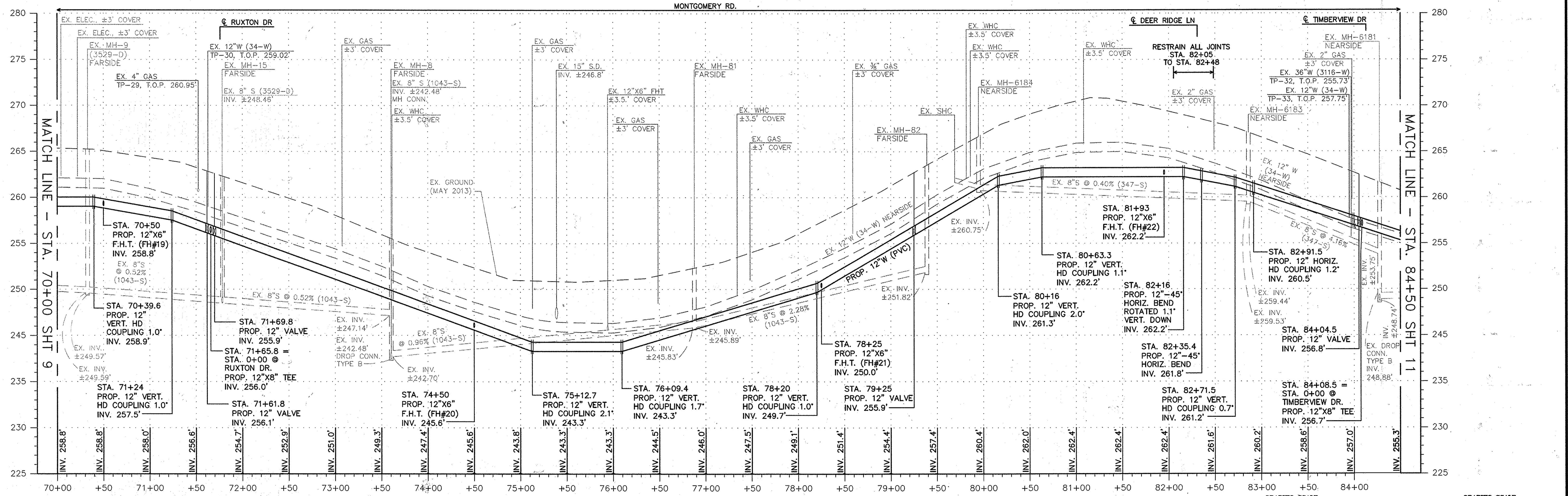
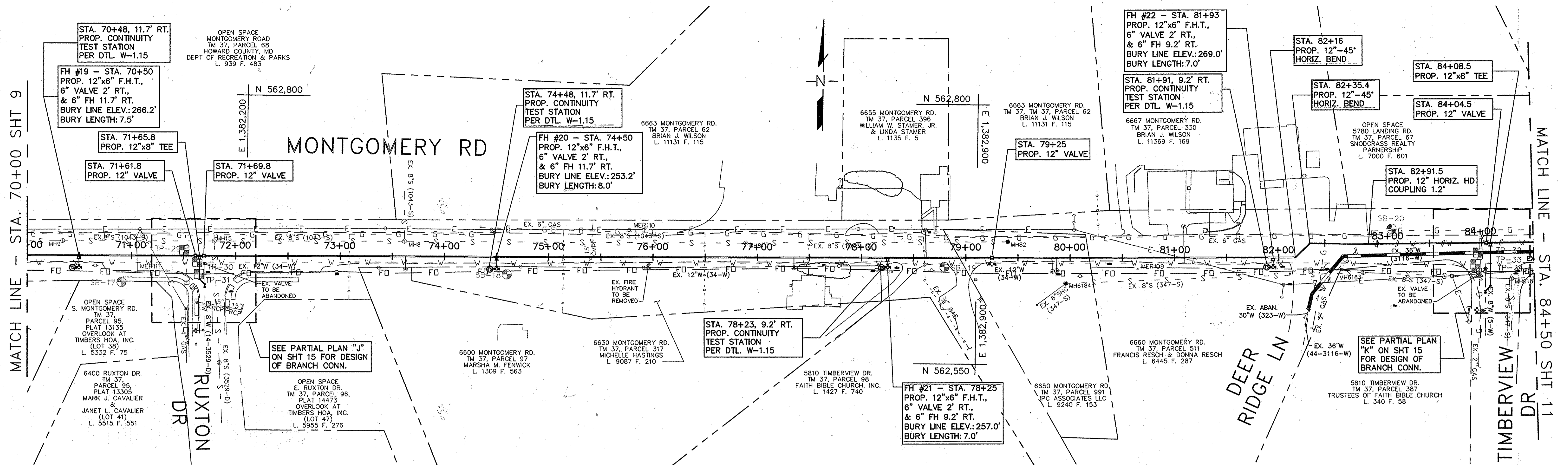
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DRAWN: EAM					
CHECKED: ERA					

600 SCALE MAP NO. 37
 BLOCK NO. 5 & 6

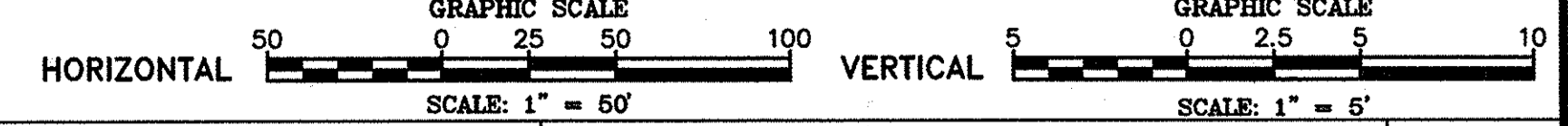
12" WATER MAIN PLAN & PROFILE

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
 MILLER'S CORNER TO LAWYERS HILL RD
 CAPITAL PROJECT NO.: W-8318
 CONTRACT NO.: 44-4843
 1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
 SHEET 9 OF 32



12" WATER MAIN - MONTGOMERY ROAD
STA. 70+00 TO STA. 84+00



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DIRECTOR OF PUBLIC WORKS
[Signature] CHIEF, BUREAU OF UTILITIES

[Signature] CHIEF, BUREAU OF ENGINEERING
[Signature] CHIEF, UTILITY DESIGN DIVISION

DATE: 4/15/16
DATE: 4/15/16

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 689-3400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 36262
EXPIRATION DATE: 06/01/18

[Signature]
ERIN K. MCKENNA-STREY, P.E.

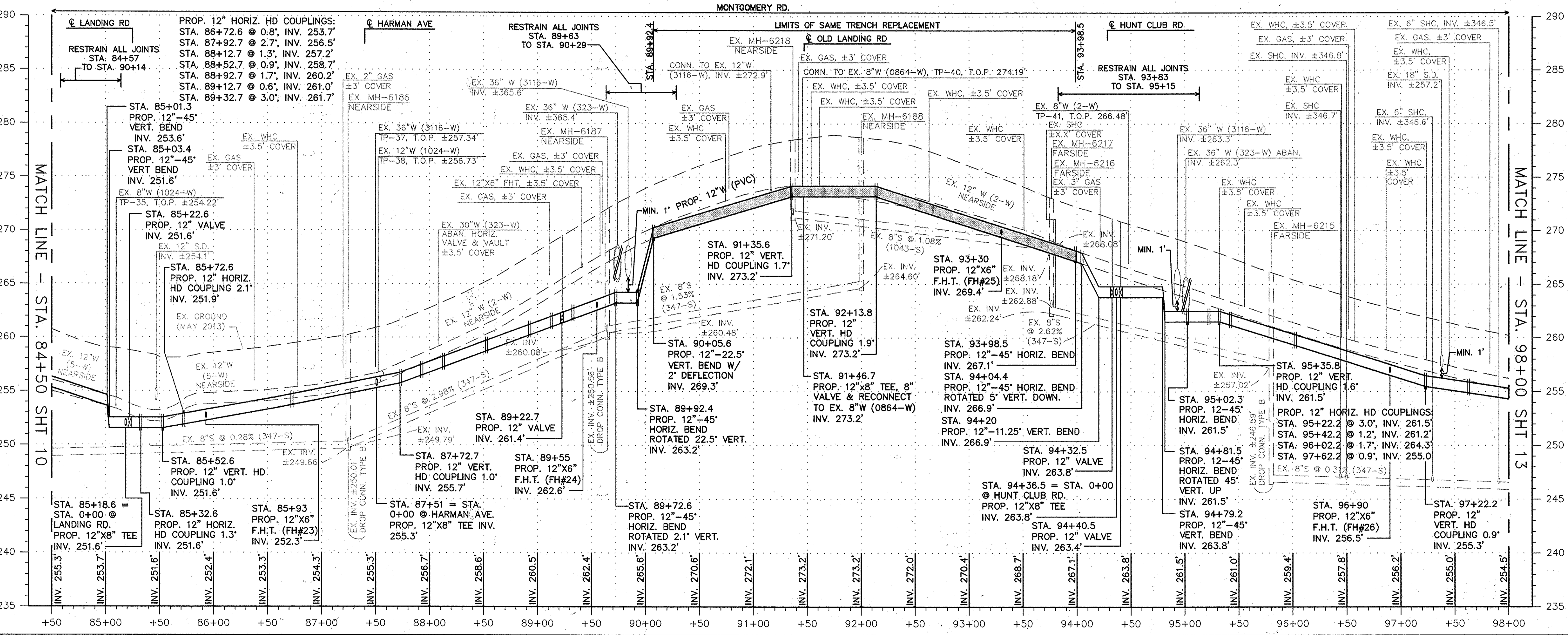
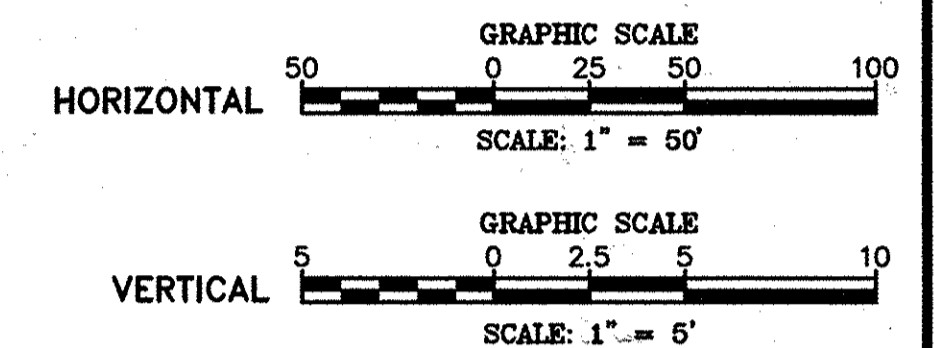
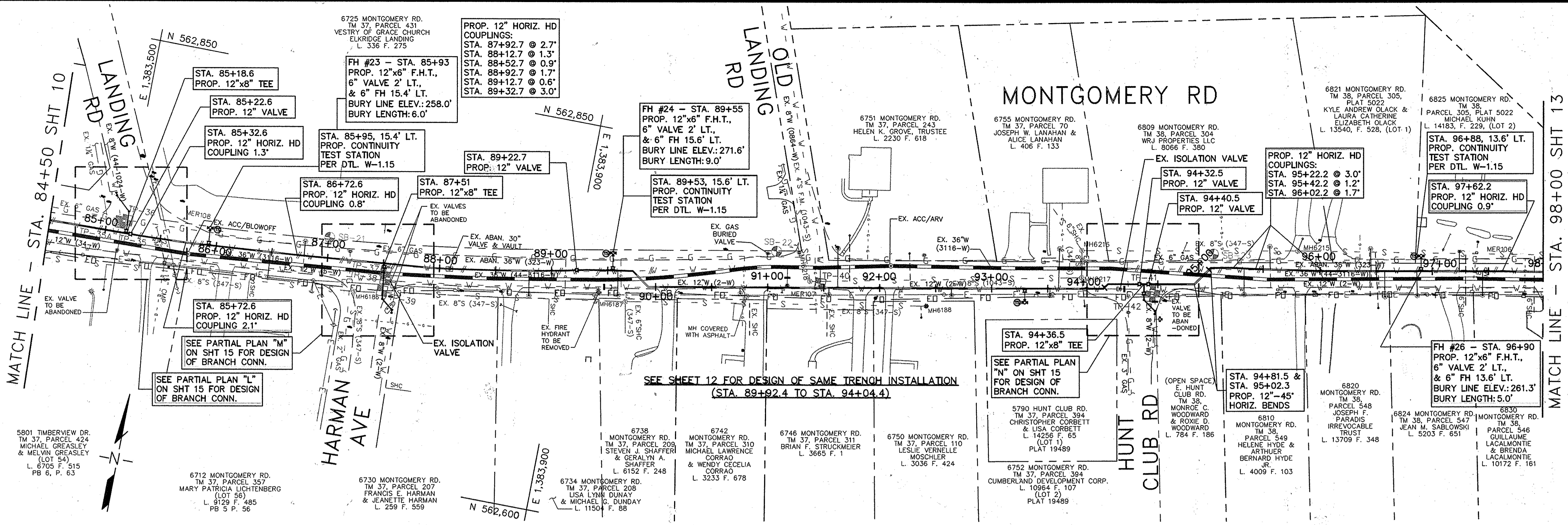
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DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

12" WATER MAIN
PLAN & PROFILE

600 SCALE MAP NO. 37
BLOCK NO. 6

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 10 OF 32



12" WATER MAIN
MONTGOMERY ROAD
STA. 84+00
TO STA. 98+00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/16/16
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/16/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL, INC.
1304 Conover Drive, Suite 200
Linthicum, MD 21090-1016
Phone: (410) 689-3400

PROFESSIONAL ENGINEER
ERIN A. MCKENNA-STREY, P.E.

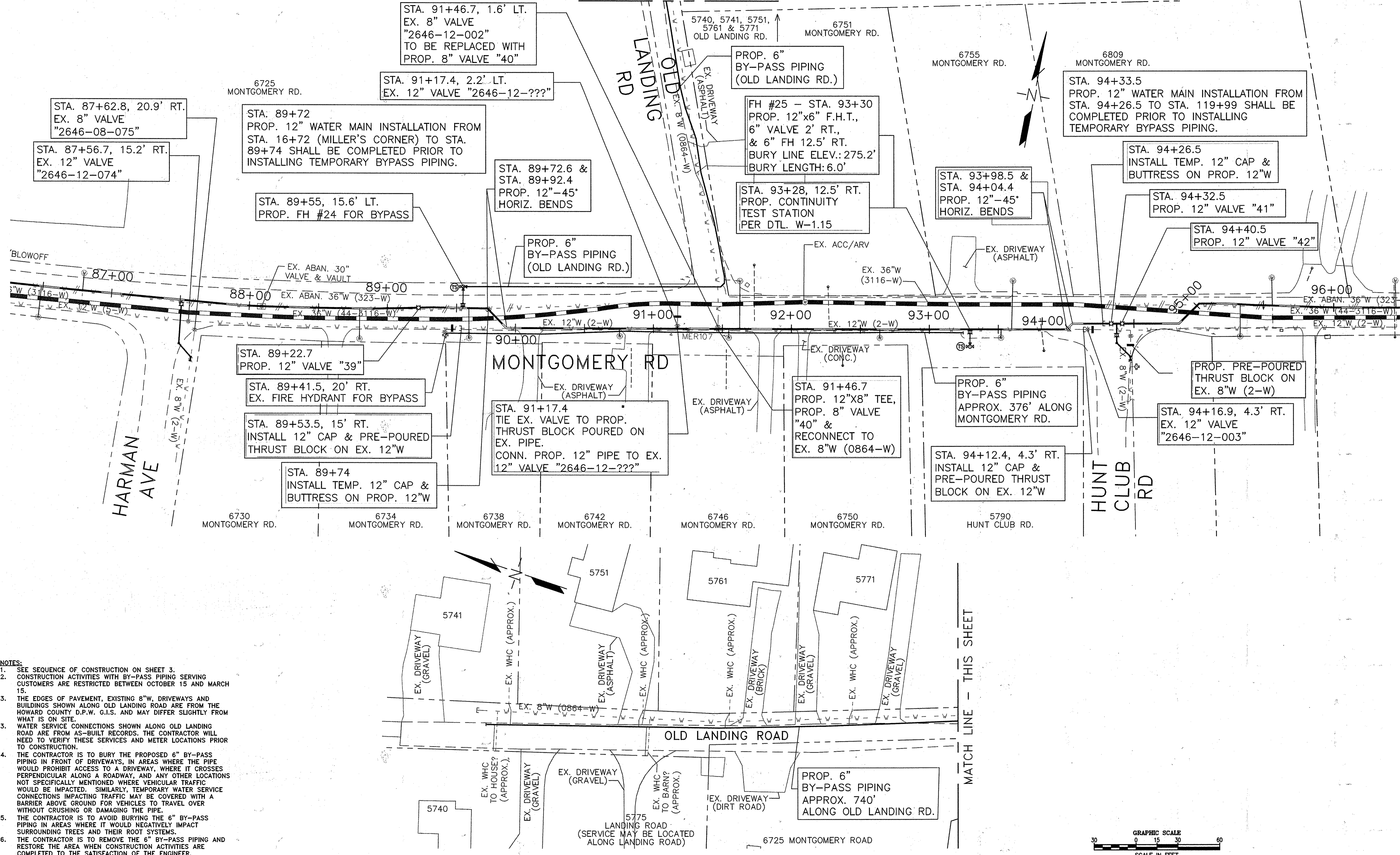
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DRAWN: EAM
CHECKED: ERA
DATE: 4/5/2016

NO.	REVISION	DATE	BY
600	SCALE MAP NO. 37 & 38		
	BLOCK NO. 6 & 1		

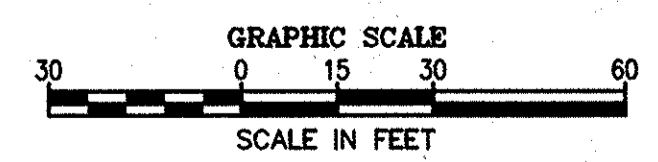
MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 11 OF 32

MATCH LINE - THIS SHEET



- NOTES:**
- SEE SEQUENCE OF CONSTRUCTION ON SHEET 3.
 - CONSTRUCTION ACTIVITIES WITH BY-PASS PIPING SERVING CUSTOMERS ARE RESTRICTED BETWEEN OCTOBER 15 AND MARCH 15.
 - THE EDGES OF PAVEMENT, EXISTING 8"W, DRIVEWAYS AND BUILDINGS SHOWN ALONG OLD LANDING ROAD ARE FROM THE HOWARD COUNTY D.P.W. G.I.S. AND MAY DIFFER SLIGHTLY FROM WHAT IS ON SITE.
 - WATER SERVICE CONNECTIONS SHOWN ALONG OLD LANDING ROAD ARE FROM AS-BUILT RECORDS. THE CONTRACTOR WILL NEED TO VERIFY THESE SERVICES AND METER LOCATIONS PRIOR TO CONSTRUCTION.
 - THE CONTRACTOR IS TO BURY THE PROPOSED 6" BY-PASS PIPING IN FRONT OF DRIVEWAYS, IN AREAS WHERE THE PIPE WOULD PROHIBIT ACCESS TO A DRIVEWAY, WHERE IT CROSSES PERPENDICULAR ALONG A ROADWAY, AND ANY OTHER LOCATIONS NOT SPECIFICALLY MENTIONED WHERE VEHICULAR TRAFFIC WOULD BE IMPACTED. SIMILARLY, TEMPORARY WATER SERVICE CONNECTIONS IMPACTING TRAFFIC MAY BE COVERED WITH A BARRIER ABOVE GROUND FOR VEHICLES TO TRAVEL OVER WITHOUT CRUSHING OR DAMAGING THE PIPE.
 - THE CONTRACTOR IS TO AVOID BURYING THE 6" BY-PASS PIPING IN AREAS WHERE IT WOULD NEGATIVELY IMPACT SURROUNDING TREES AND THEIR ROOT SYSTEMS.
 - THE CONTRACTOR IS TO REMOVE THE 6" BY-PASS PIPING AND RESTORE THE AREA WHEN CONSTRUCTION ACTIVITIES ARE COMPLETED TO THE SATISFACTION OF THE ENGINEER.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DATE
DIRECTOR OF PUBLIC WORKS

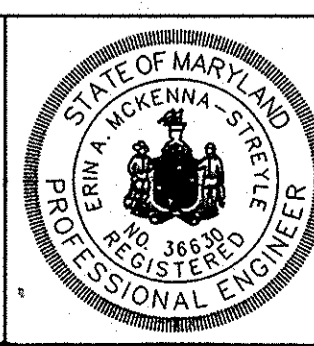
[Signature] DATE
CHIEF, BUREAU OF ENGINEERING

[Signature] DATE
CHIEF, BUREAU OF UTILITIES

[Signature] DATE
CHIEF, UTILITY DESIGN DIVISION

Michael Baker INTERNATIONAL

MICHAEL BAKER INTERNATIONAL, INC.
134 Centenary Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 988-9400



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 36538
EXPIRATION DATE 02/02/16

[Signature]
ERIN A. MCKENNA-STREY, P.E.

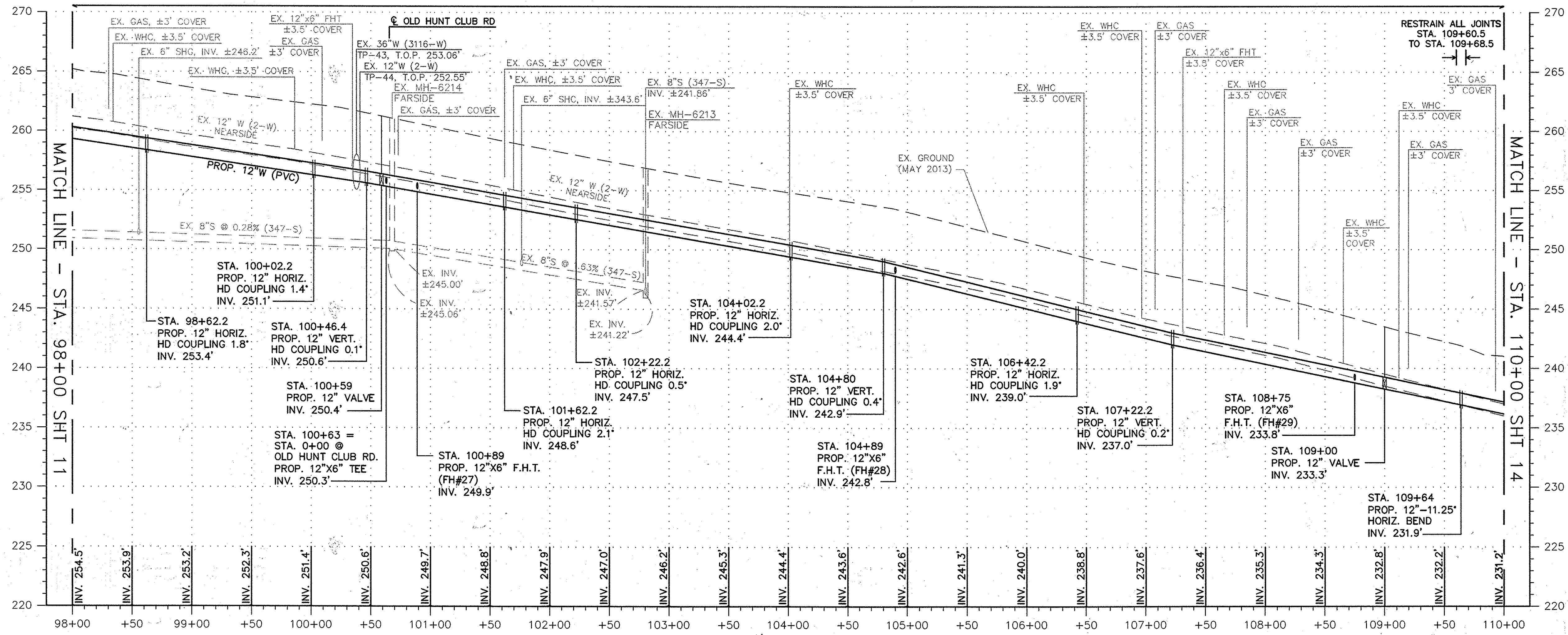
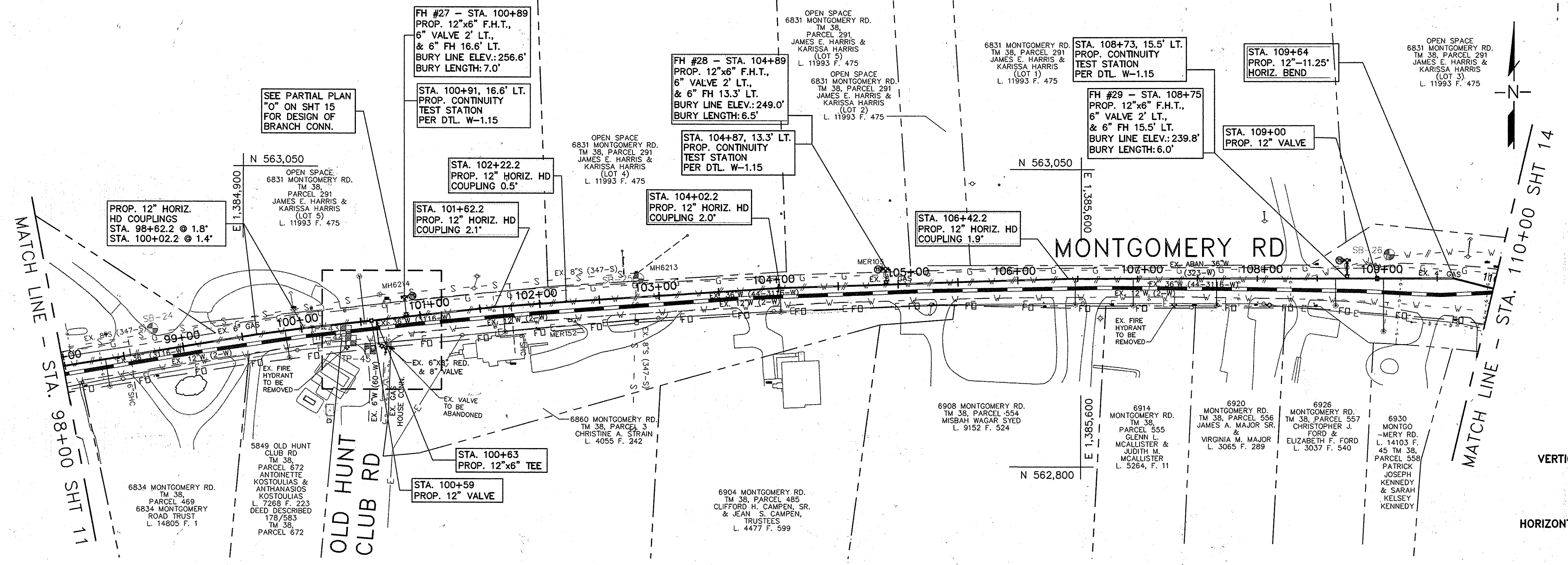
DESIGN: EAM				
DRAWN: EAM				
CHECKED: ERA				
DATE: 4/5/2016	NO.	REVISION	DATE	BY

12" WATER MAIN
SAME TRENCH
REPLACEMENT
PLAN

600 SCALE MAP NO. 37 & 38 BLOCK NO. 6 & 1

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 12 OF 32



12" WATER MAIN - MONTGOMERY ROAD
STA. 98+00 TO STA. 110+00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

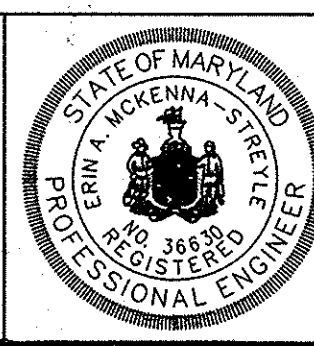
[Signature] 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/16/16
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/16/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL, INC.
1504 Centaurus Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 588-9600



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 36898
EXPIRATION DATE: 06/07/16
Erin A. McKenna-Stevle, P.E.

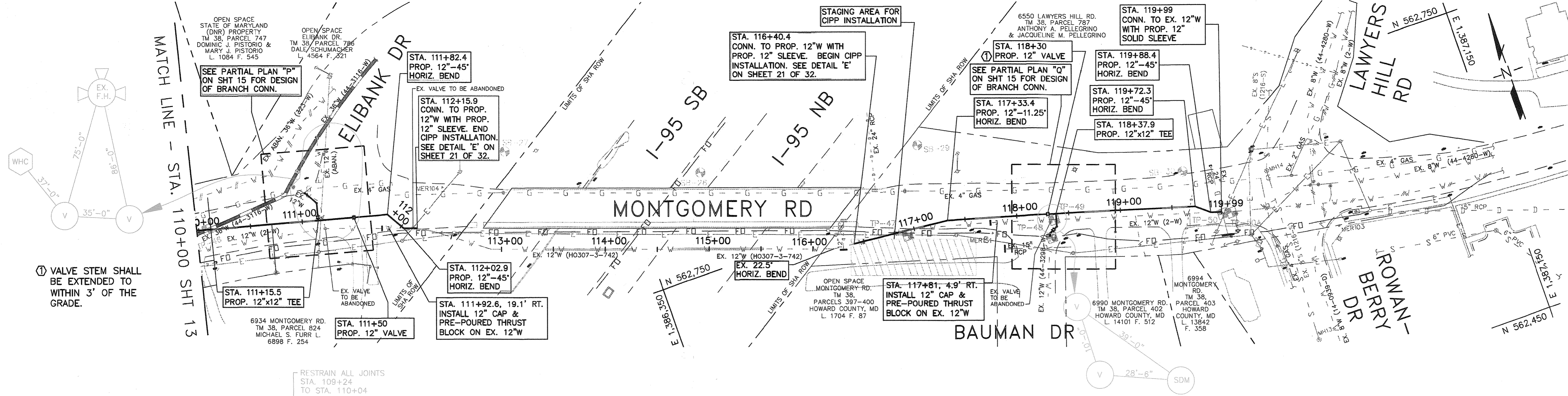
DESIGN: EAM	DATE: 4/5/2016	NO.	REVISION	DATE	BY
DRAWN: EAM					
CHECKED: ERA					

12" WATER MAIN
PLAN & PROFILE

600 SCALE MAP NO. 38
BLOCK NO. 1

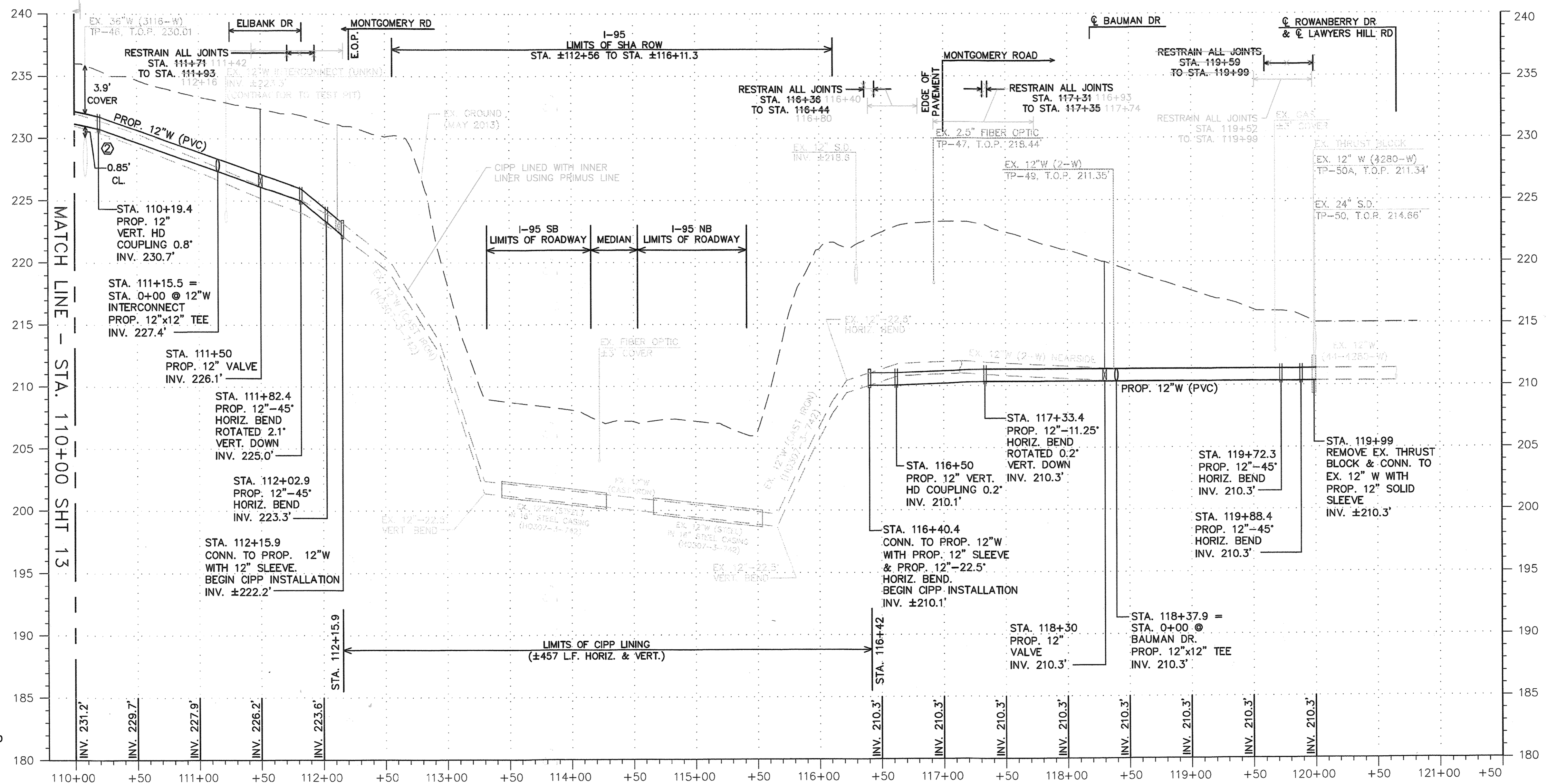
MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 13 OF 32

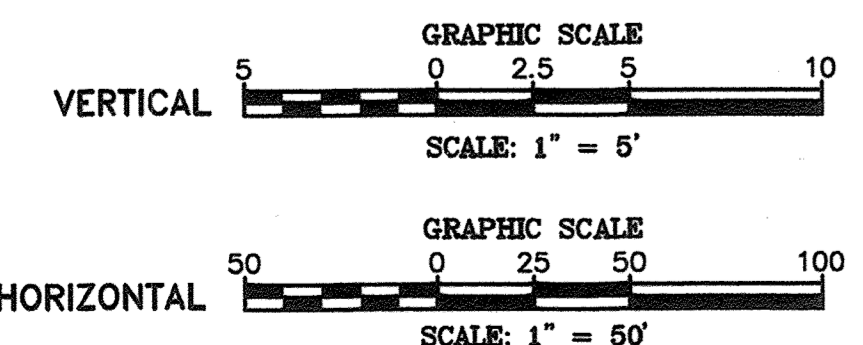


① VALVE STEM SHALL BE EXTENDED TO WITHIN 3' OF THE GRADE.

② USE CAUTION WHEN LOCATING BOTTOM OF EX. 36" W. HAND DIG AS NECESSARY



LEGEND	
V	VALVE
SDM	STORM DRAIN MANHOLE
EX. F.H.	EXISTING FIRE HYDRANT
WHC	WATER HOUSE CONNECTION



12" WATER MAIN MONTGOMERY ROAD
STA. 110+00 TO STA. 120+00.3

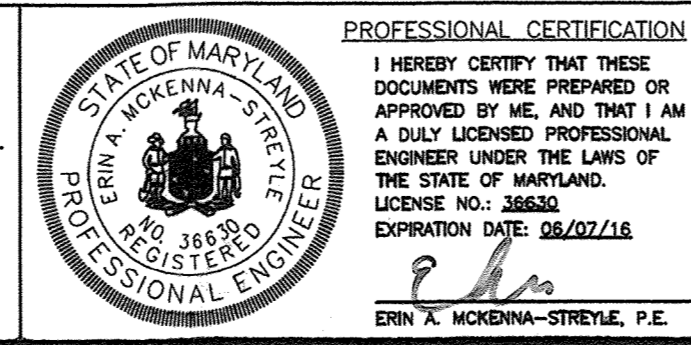
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]*
Date: _____

Chief, Bureau of Engineering: *[Signature]*
Date: _____

Chief, Bureau of Utilities: *[Signature]*
Date: _____

Michael Baker International
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 688-3400



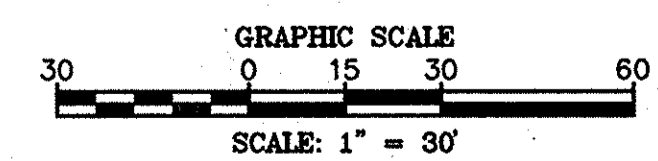
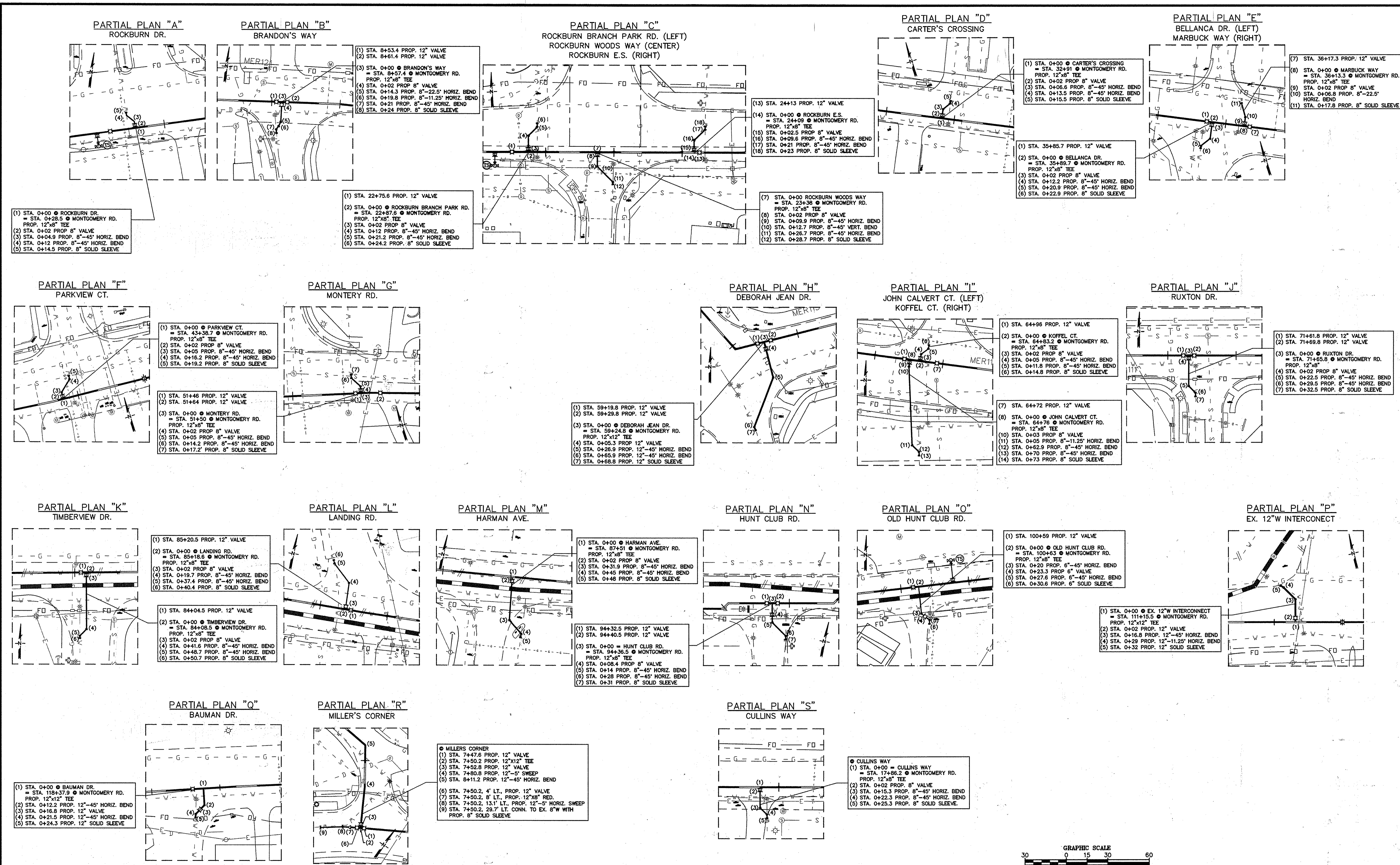
DESIGN:	AS-BUILTS	DATE:	BY:	
EAM	AS-BUILTS	07/17/19	DK	
EAM	ADD PRIMUS LINER	12/11/19	FF	
ERA				
ERA				
DATE:	NO.	REVISION	DATE	BY
4/5/2016				

12" WATER MAIN
PLAN & PROFILE

600 SCALE MAP NO. 38
BLOCK NO. 1

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 14 OF 32



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/15/16
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/15/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 688-9400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: 36560
EXPIRATION DATE: 08/07/16
[Signature]
ERIN MCKENNA-STREILE, P.E.

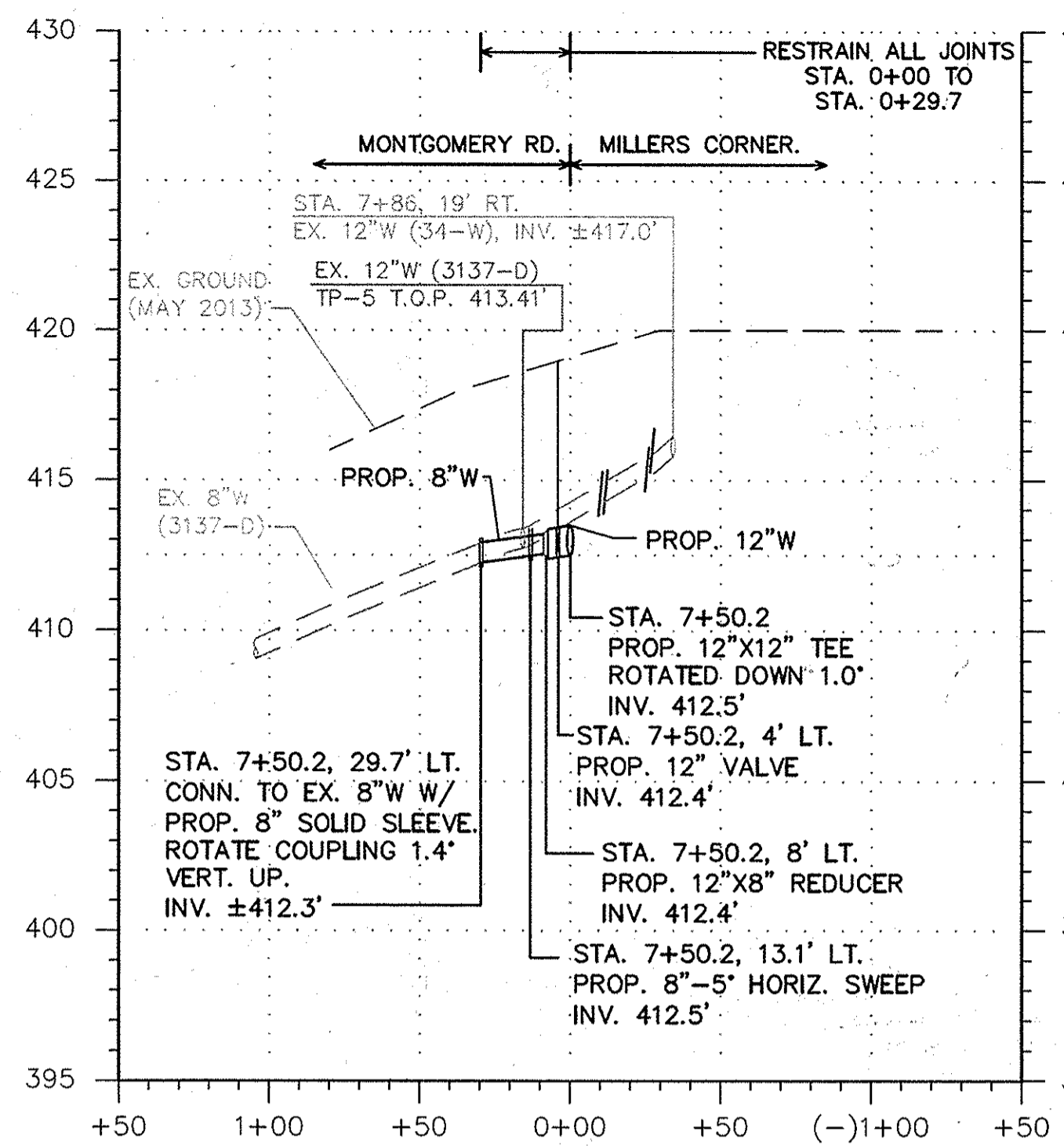
DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

12" WATER MAIN
PARTIAL PLAN
ENLARGEMENTS

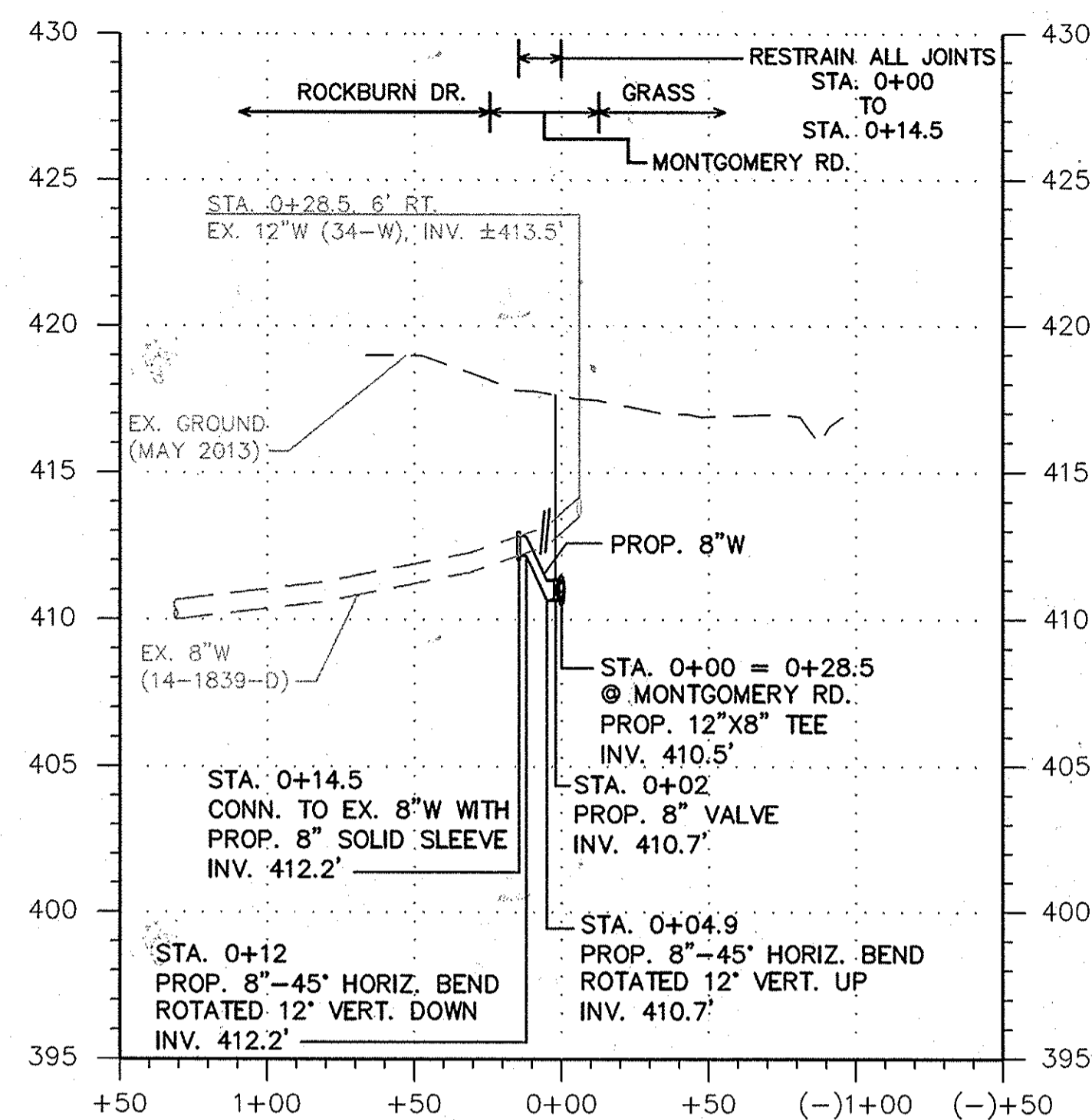
600 SCALE MAP NO. _____
BLOCK NO. _____

MONTGOMERY ROAD 12"
WATER TRANSMISSION HILL RD.
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

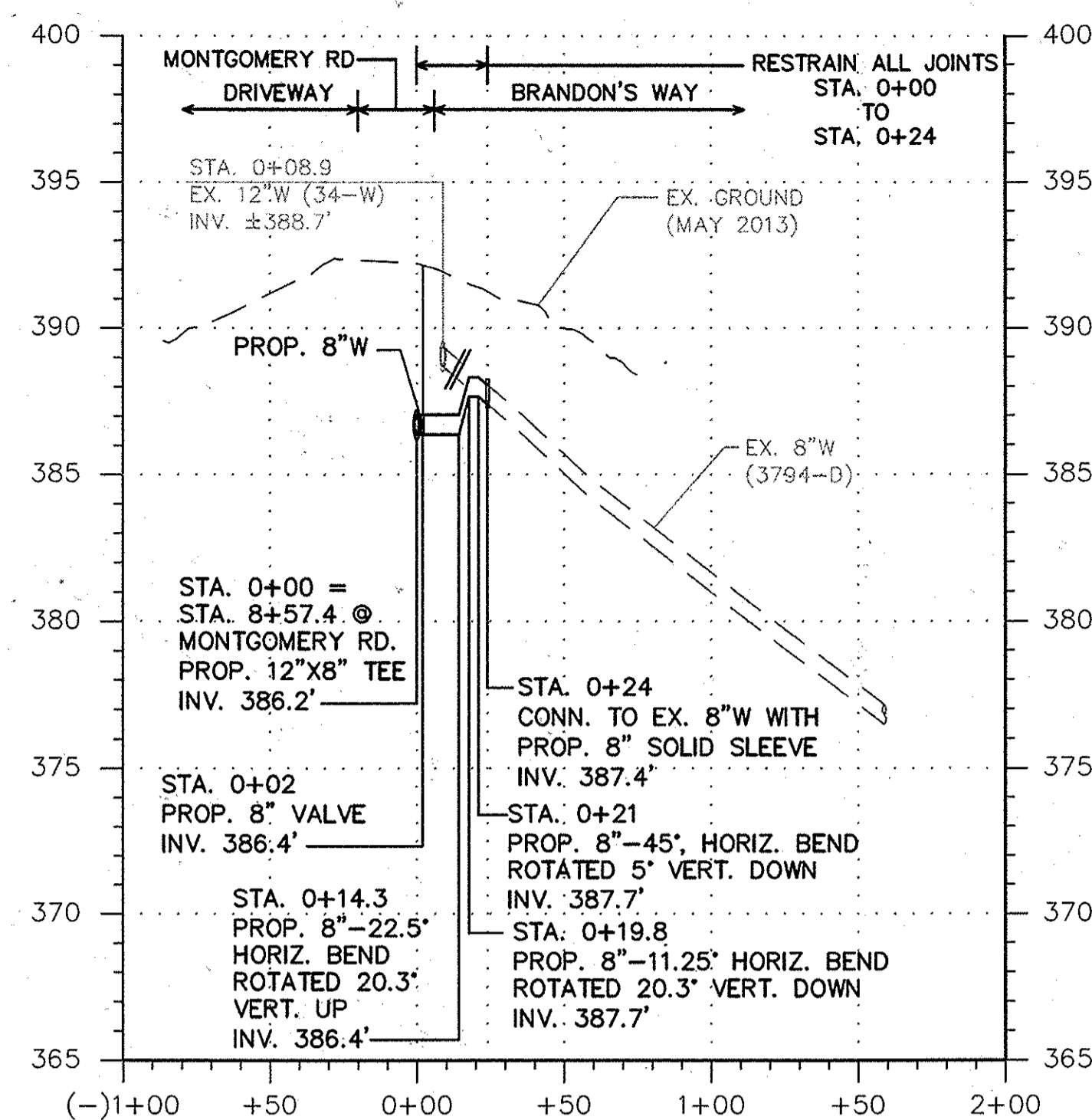
SCALE AS SHOWN
SHEET 15 OF 32



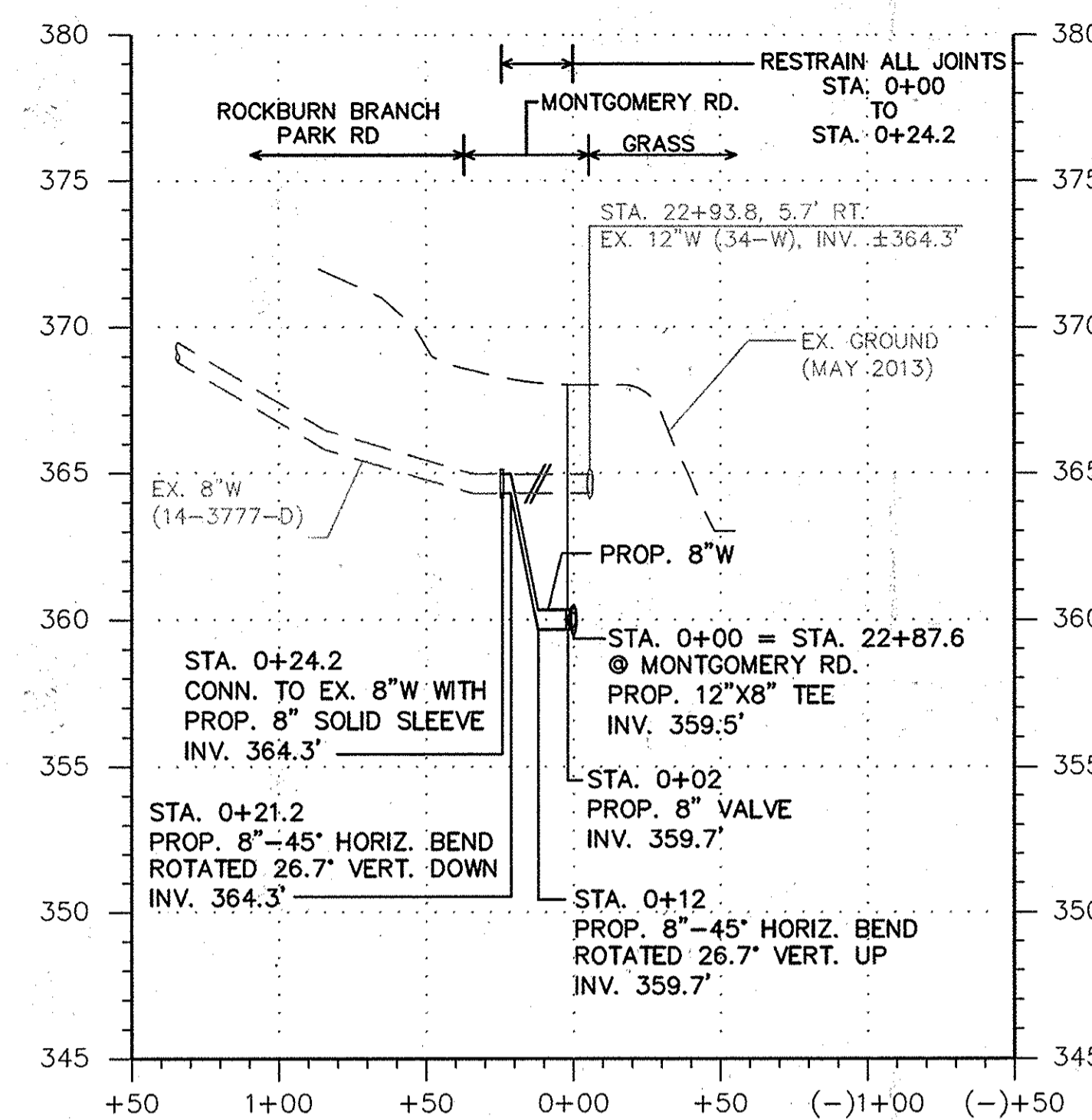
8" WATER MAIN - MILLER'S CORNER



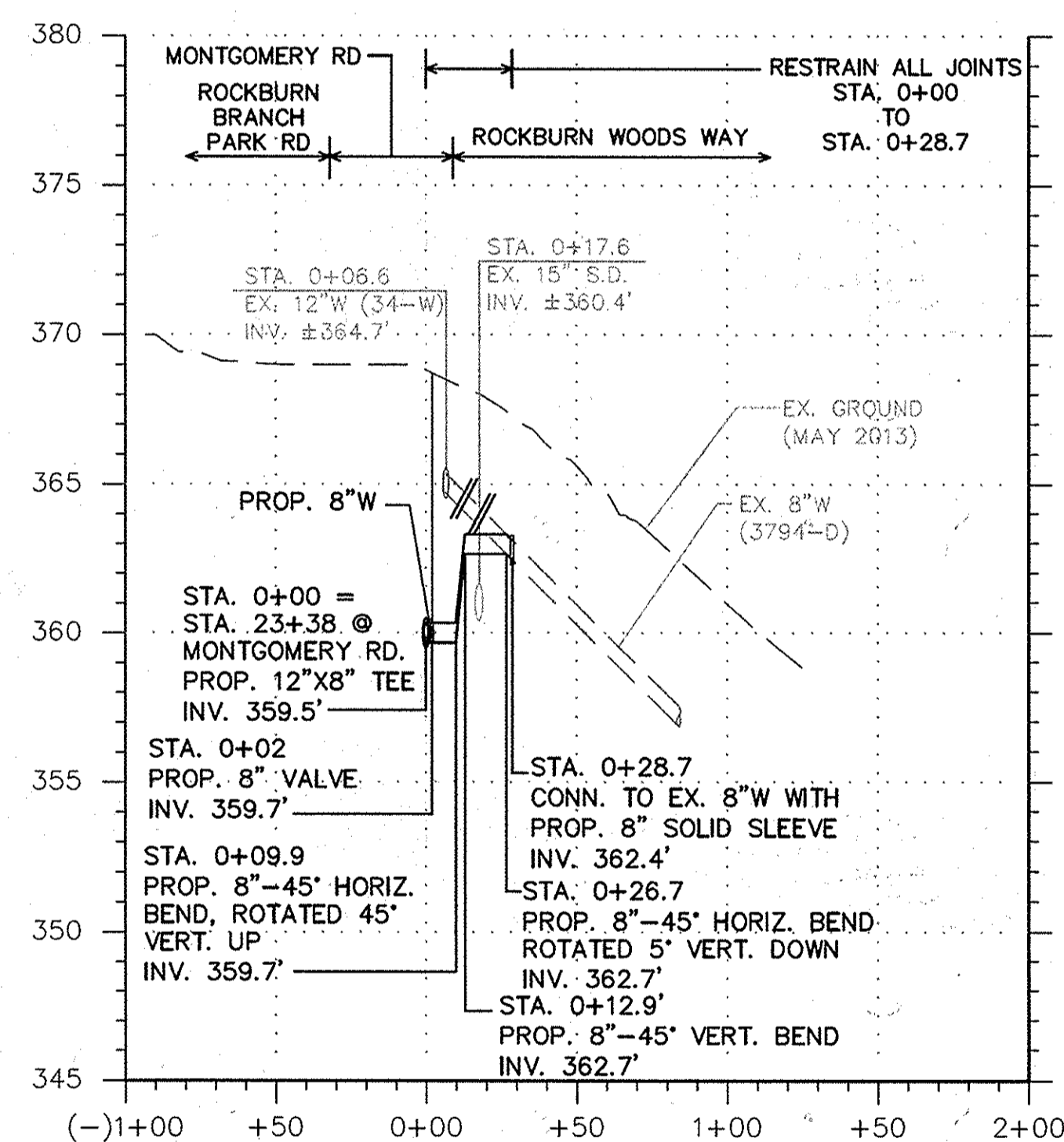
8" WATER MAIN - ROCKBURN DR



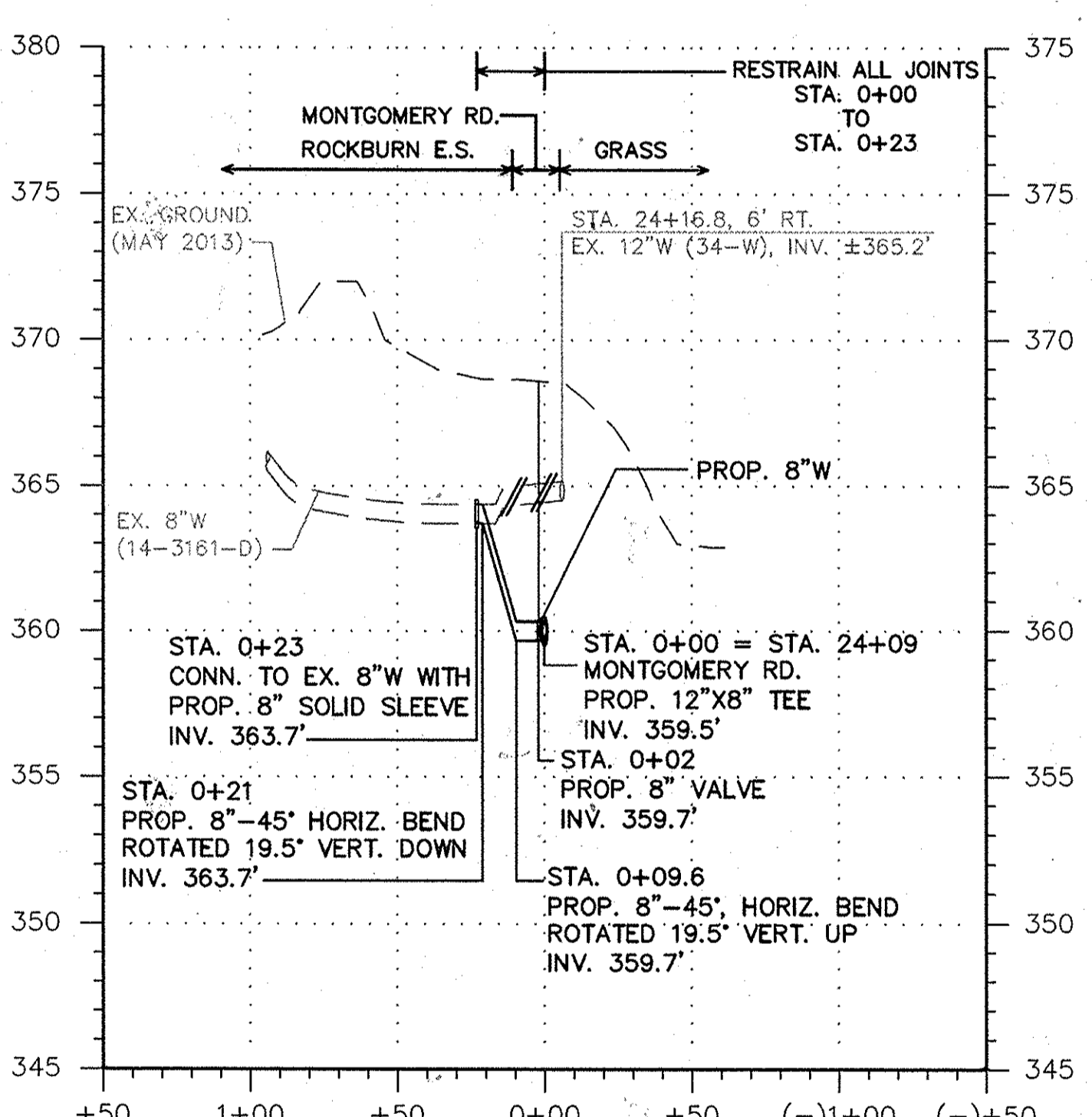
8" WATER MAIN - BRANDON'S WAY



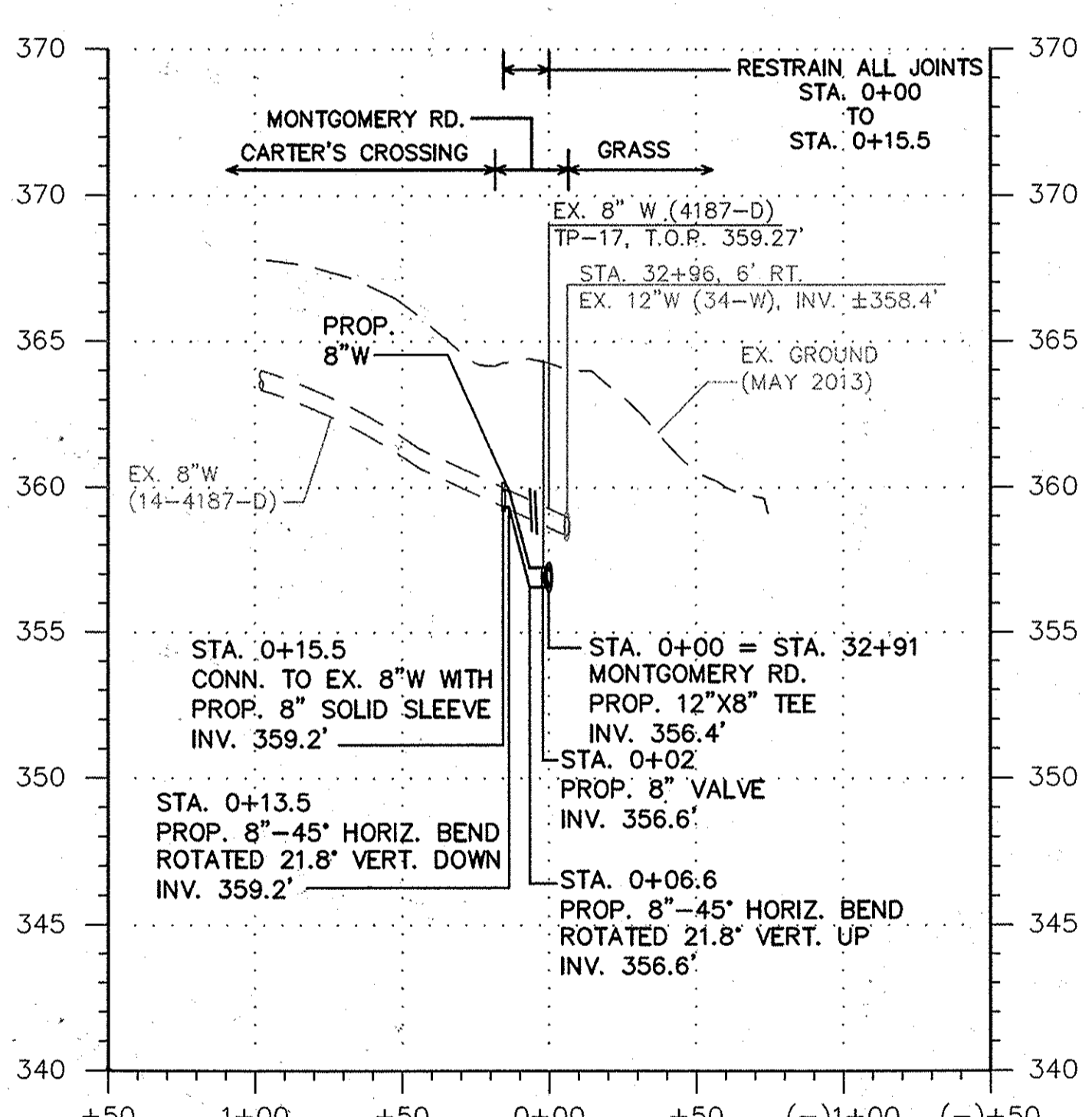
8" WATER MAIN - ROCKBURN BRANCH PARK RD.



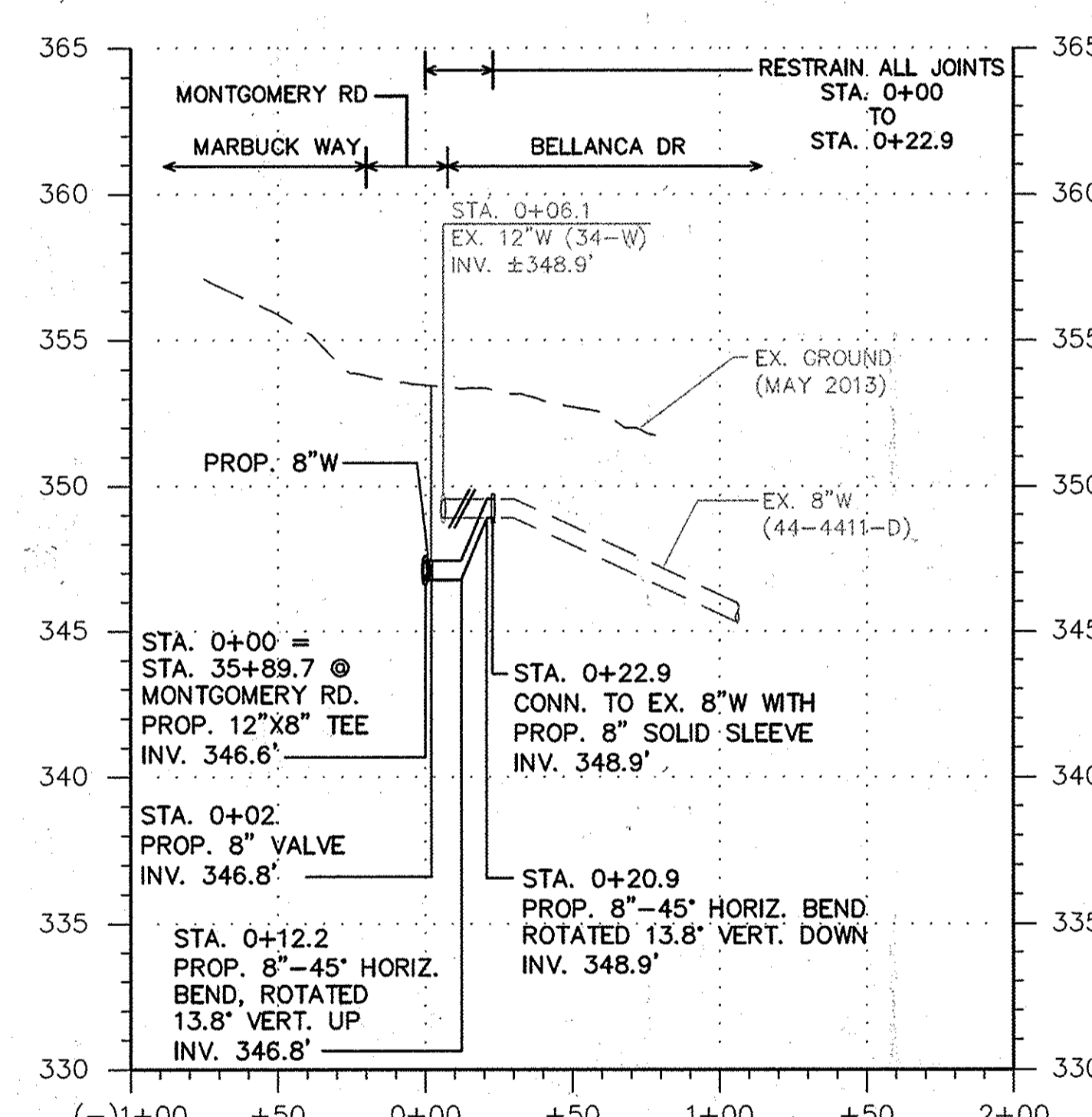
8" WATER MAIN - ROCKBURN WOODS WAY



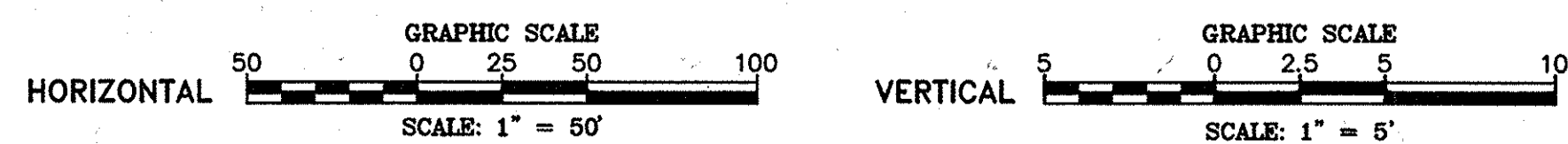
8" WATER MAIN - ROCKBURN ELEMENTARY SCHOOL



8" WATER MAIN - CARTER'S CROSSING



8" WATER MAIN - BELLANCA DR.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

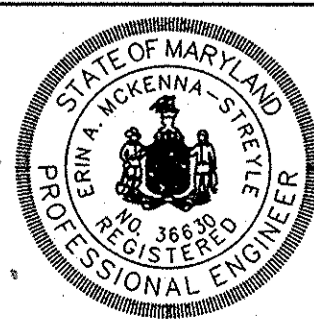
[Signature] DATE *[Date]*
DIRECTOR OF PUBLIC WORKS

[Signature] DATE *[Date]*
CHIEF, BUREAU OF ENGINEERING

[Signature] DATE *[Date]*
CHIEF, UTILITY DESIGN DIVISION

[Signature] DATE *[Date]*
CHIEF, BUREAU OF UTILITIES

Michael Baker INTERNATIONAL
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 889-9400



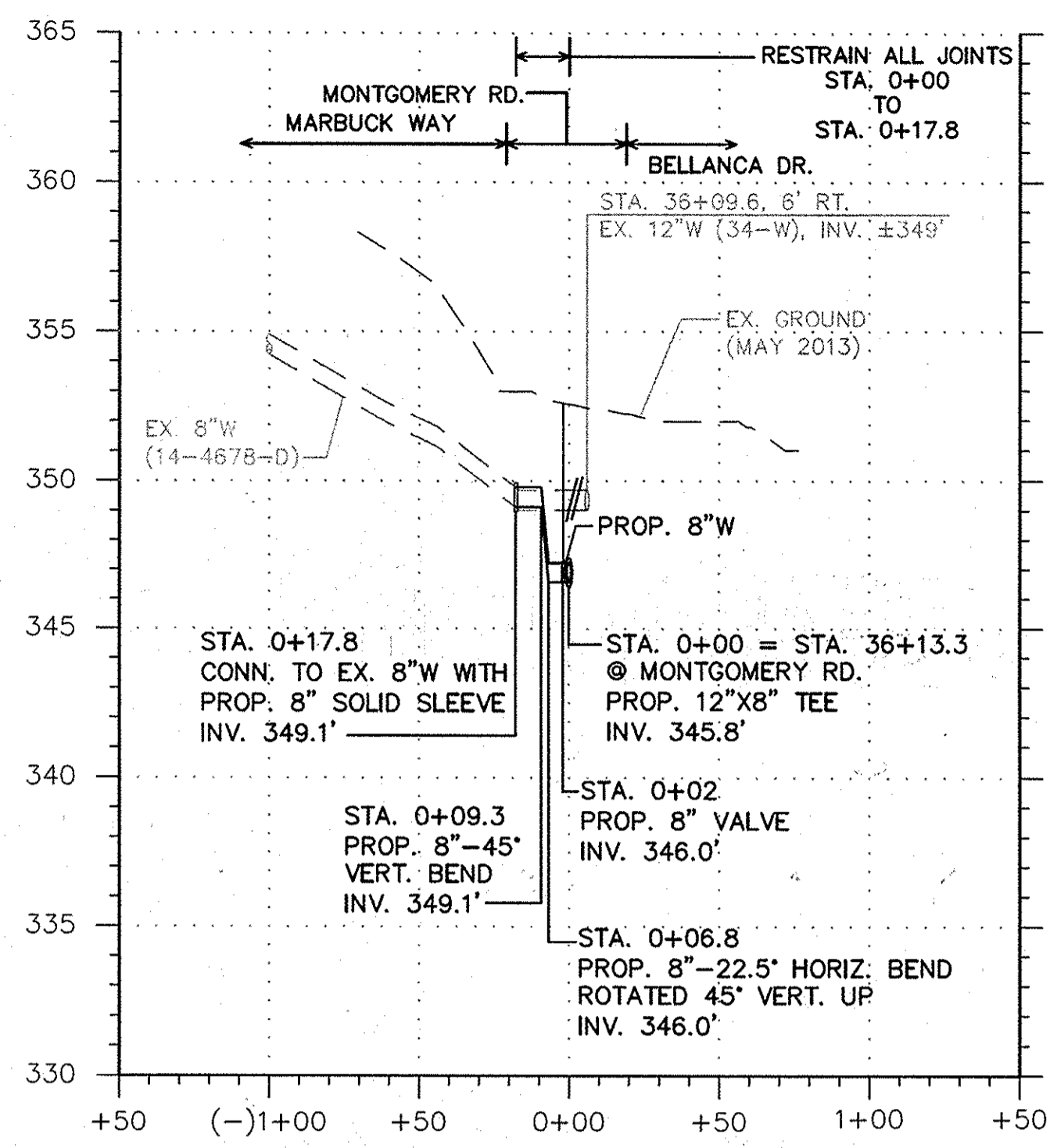
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 36638
EXPIRATION DATE: 06/02/16
Erin K. McKenna-Streble, P.E.

DESIGN: EAM				
DRAWN: EAM				
CHECKED: ERA				
DATE: 4/5/2016	NO.	REVISION	DATE	BY

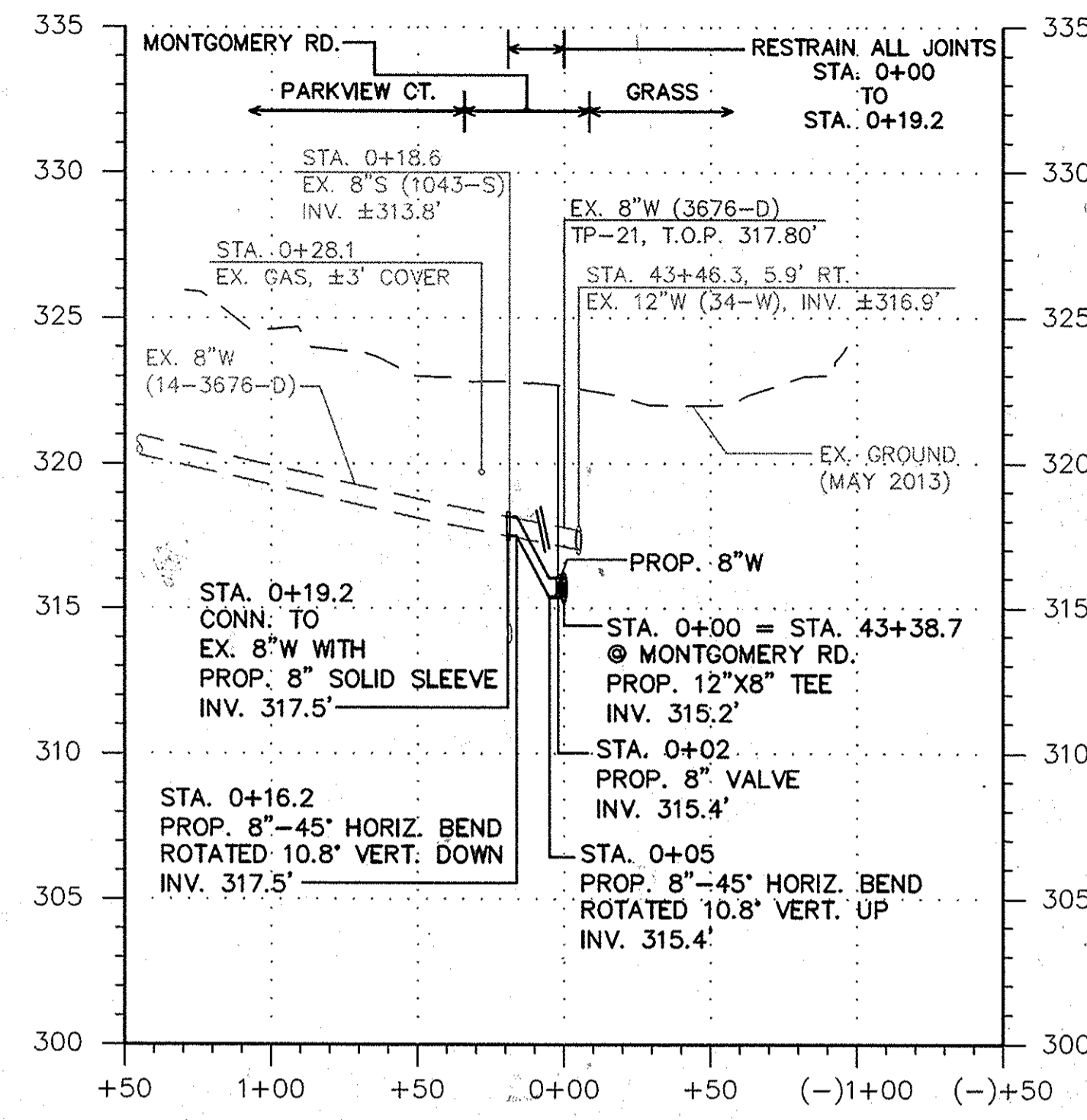
12" WATER MAIN
BRANCH CONNECTION
PROFILES

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

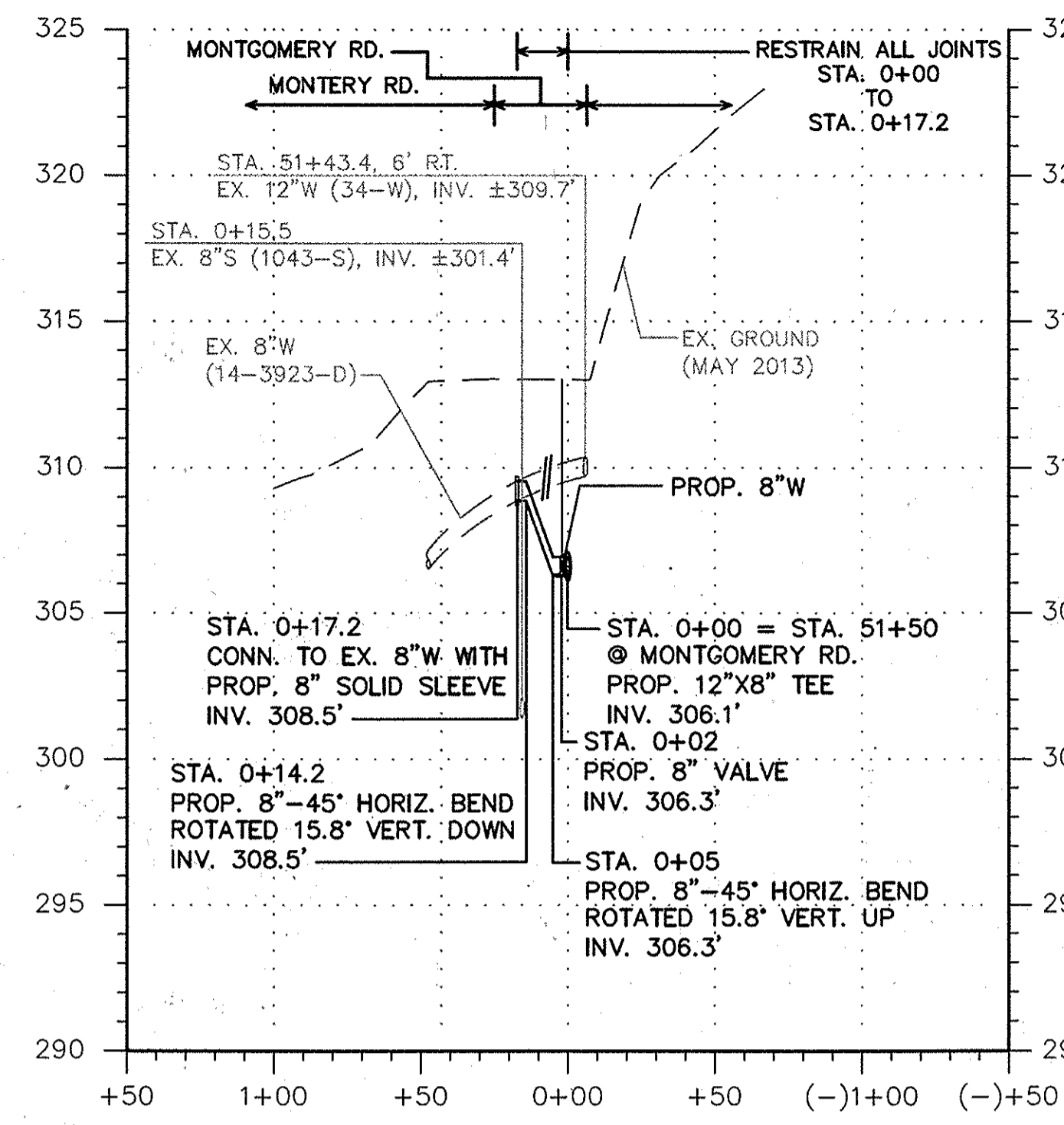
SCALE AS SHOWN
SHEET 16 OF 32



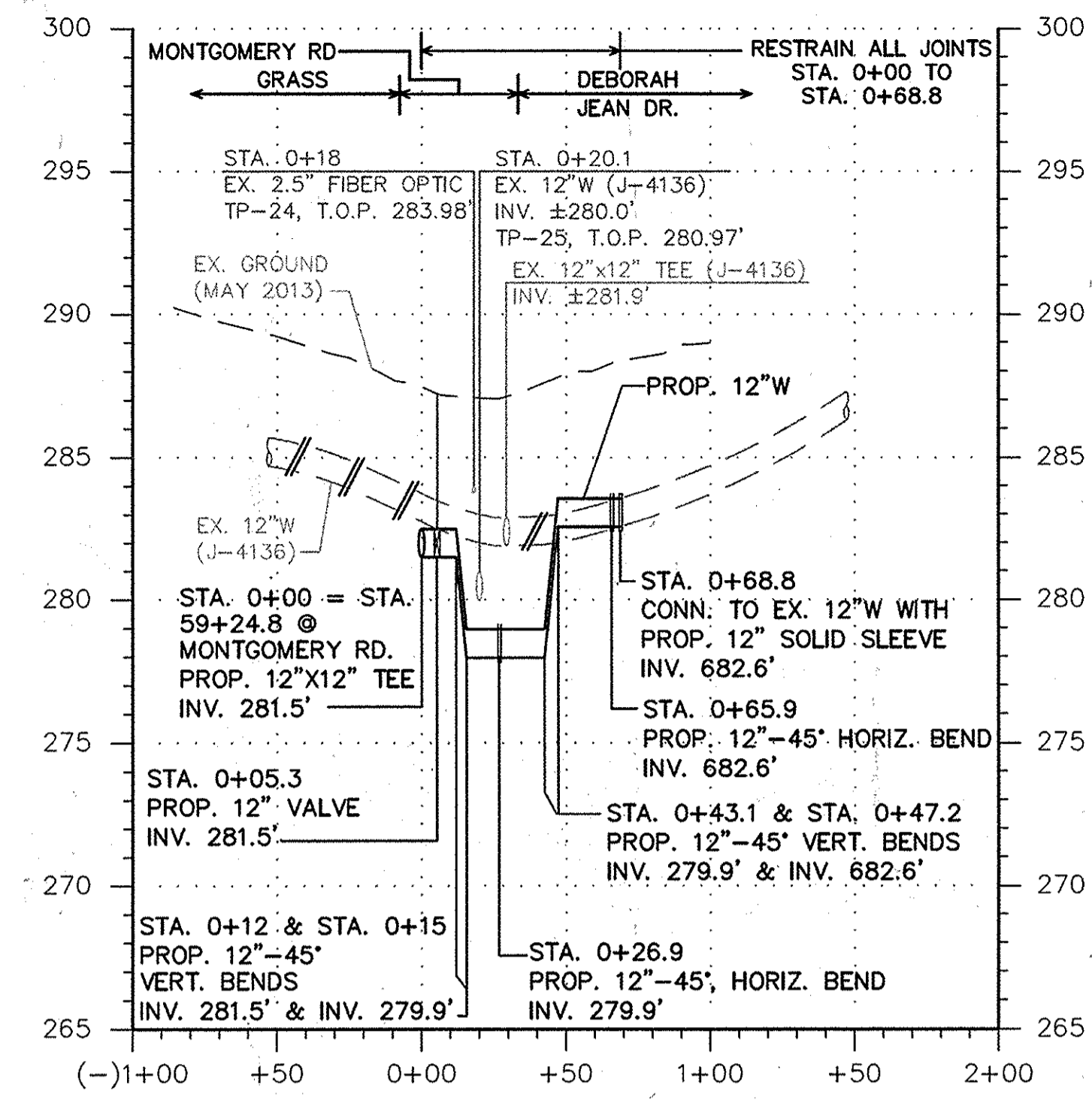
8" WATER MAIN - MARBUCK WAY



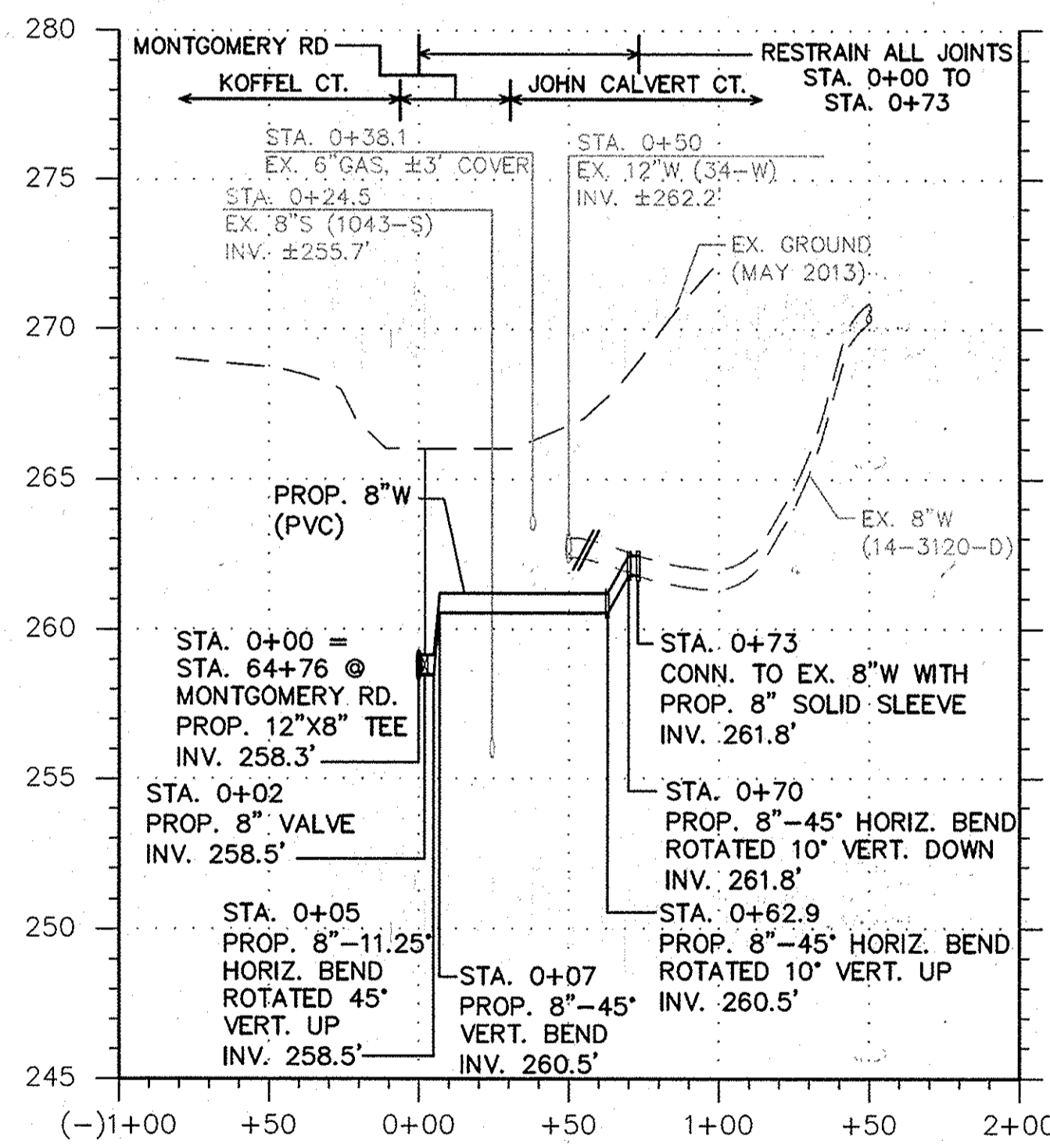
8" WATER MAIN - PARKVIEW CT.



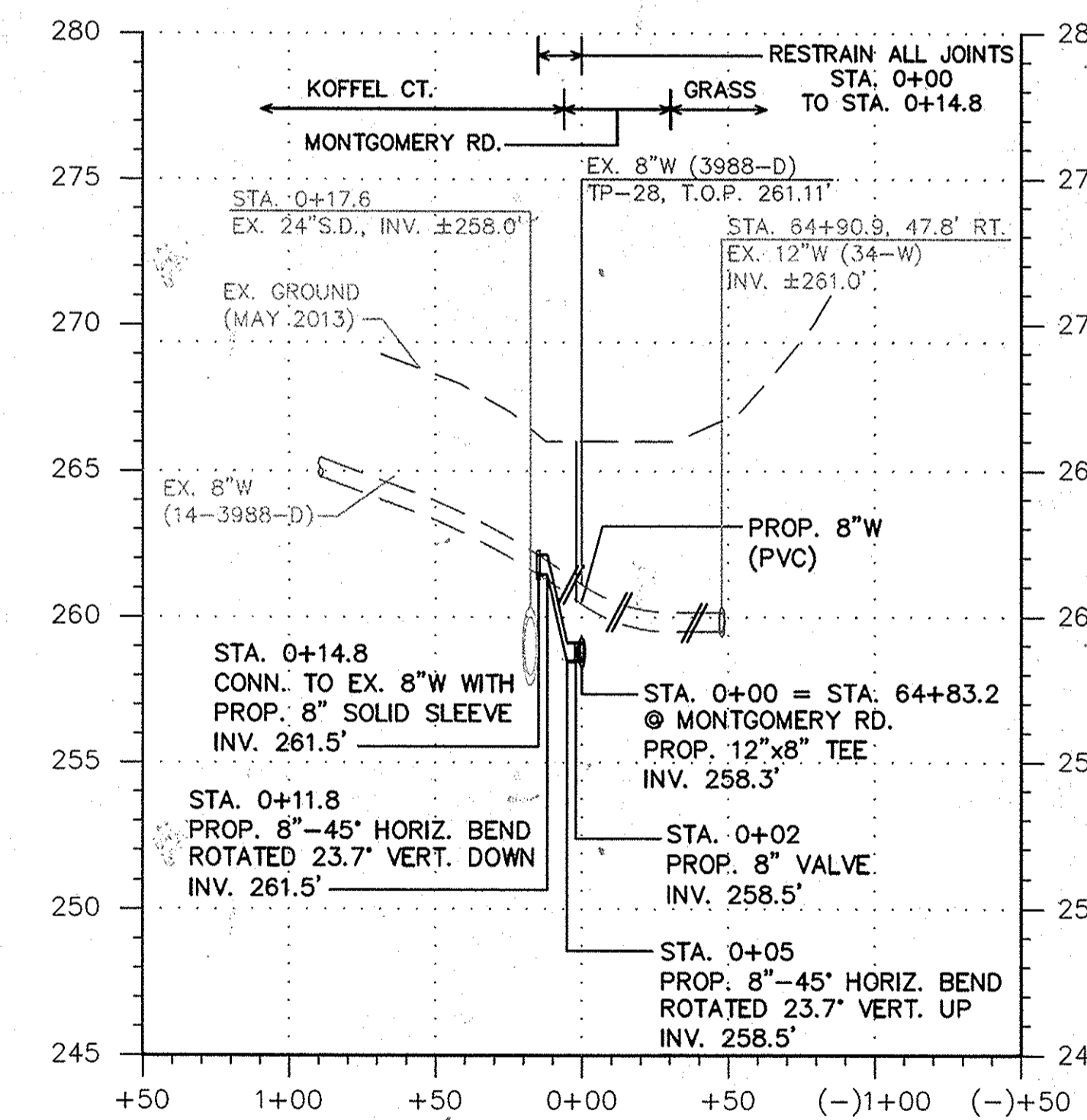
8" WATER MAIN - MONTEREY RD.



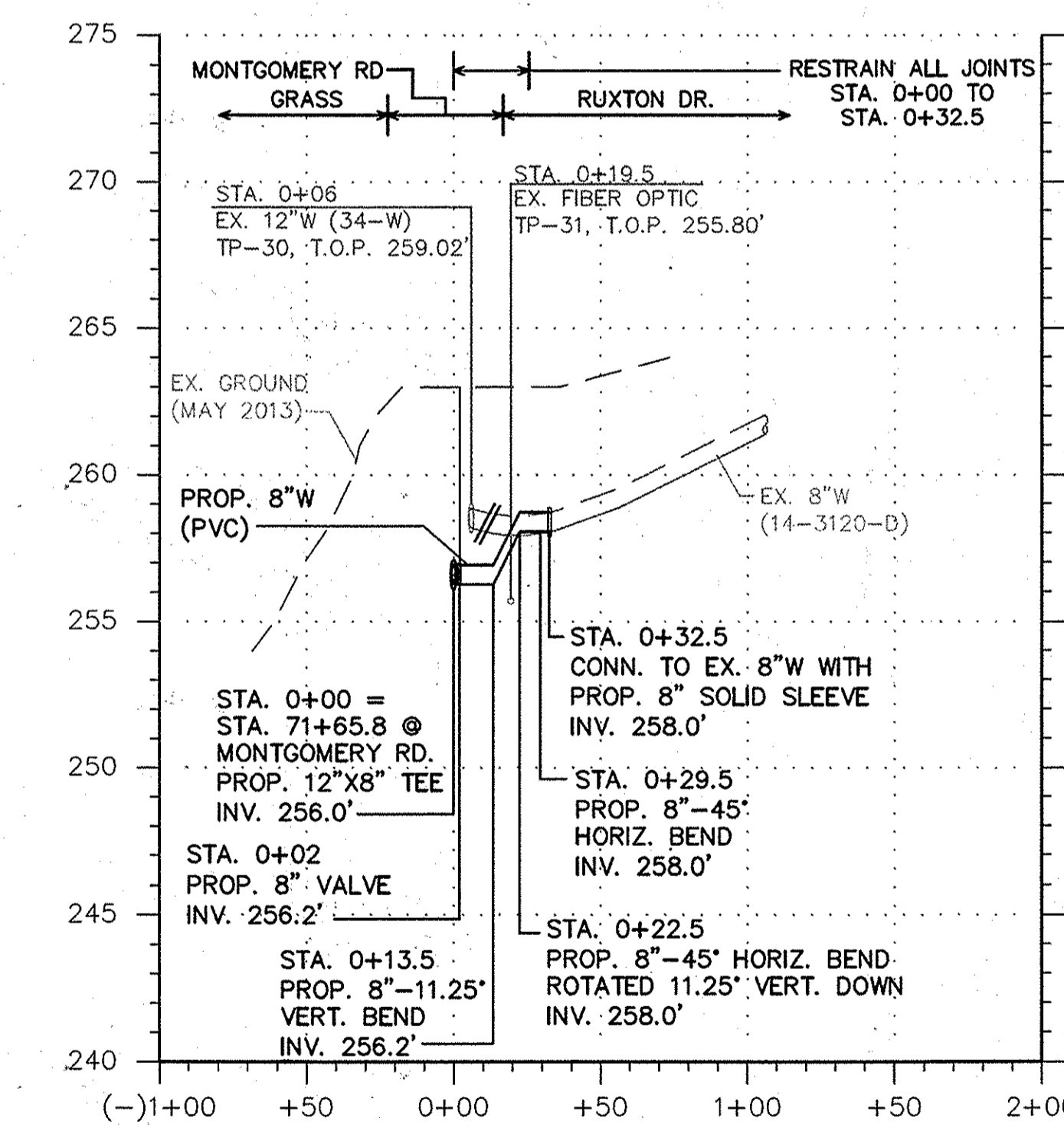
12" WATER MAIN - DEBORAH JEAN DR.



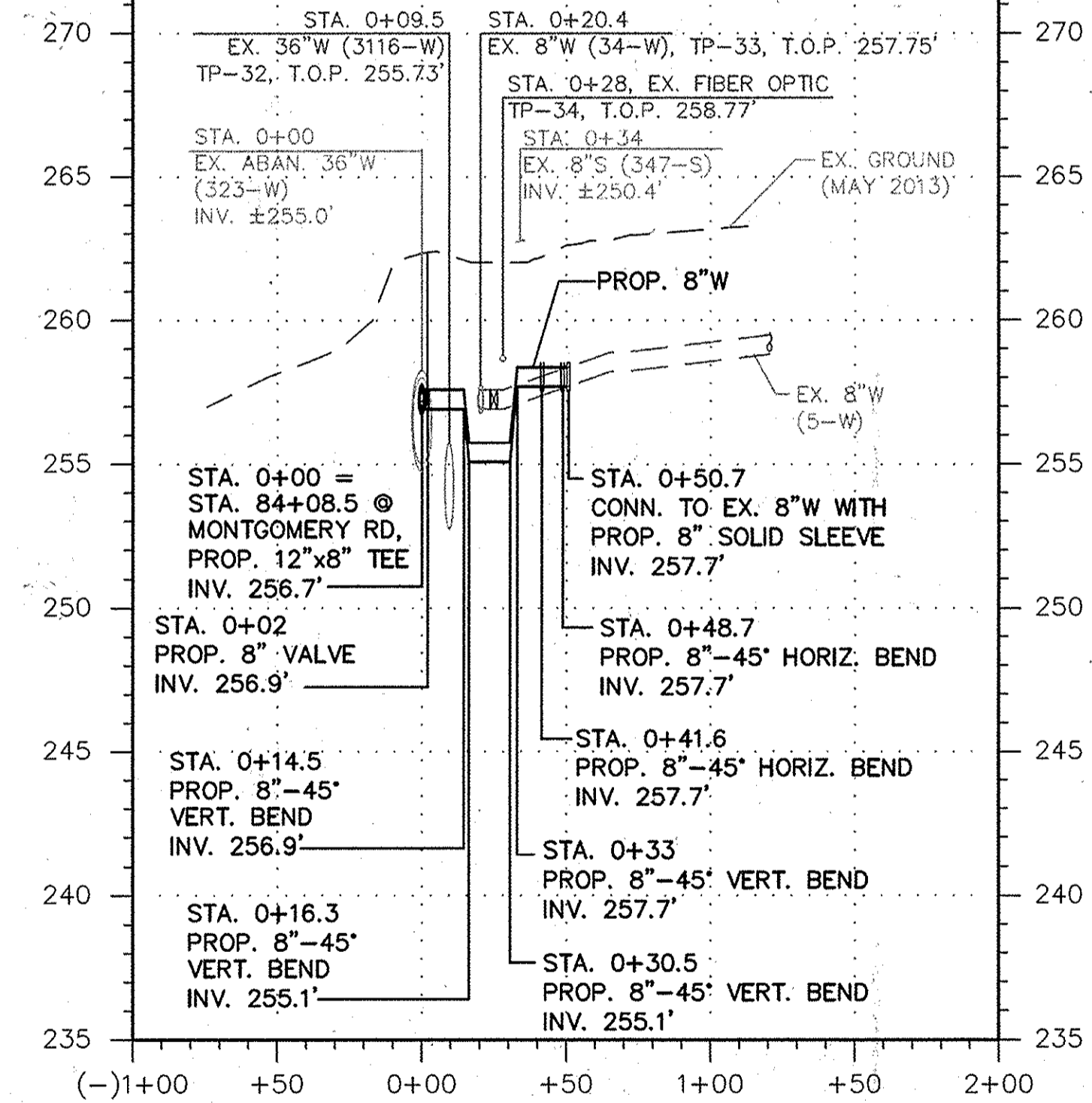
8" WATER MAIN - JOHN CALVERT CT.



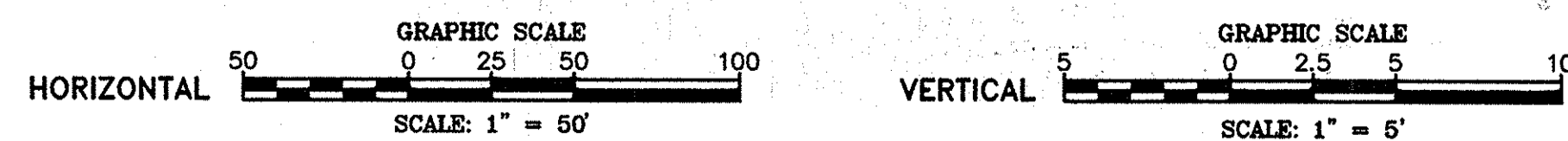
8" WATER MAIN - KOFFEL CT.



8" WATER MAIN - RUXTON DR.



8" WATER MAIN - TIMBERVIEW DR.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John J. De... DATE: 4/5/16
DIRECTOR OF PUBLIC WORKS

Thomas P. Smith DATE: 4/5/16
CHIEF, BUREAU OF ENGINEERING

... DATE: 4/5/16
CHIEF, UTILITY DESIGN DIVISION

... DATE: 4/5/16
CHIEF, BUREAU OF UTILITIES

Michael Baker INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 885-9400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 36530
EXPIRATION DATE: 06/02/18
E. J. ... P.E.

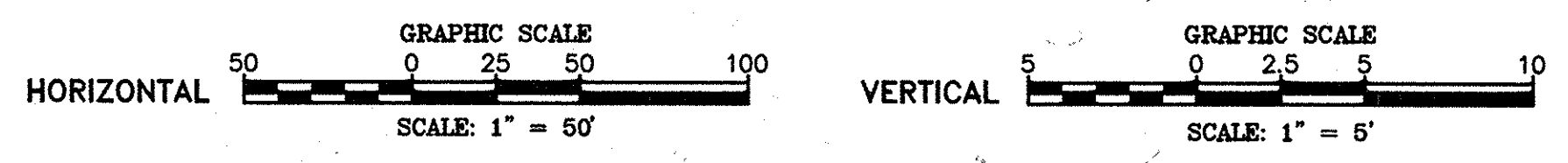
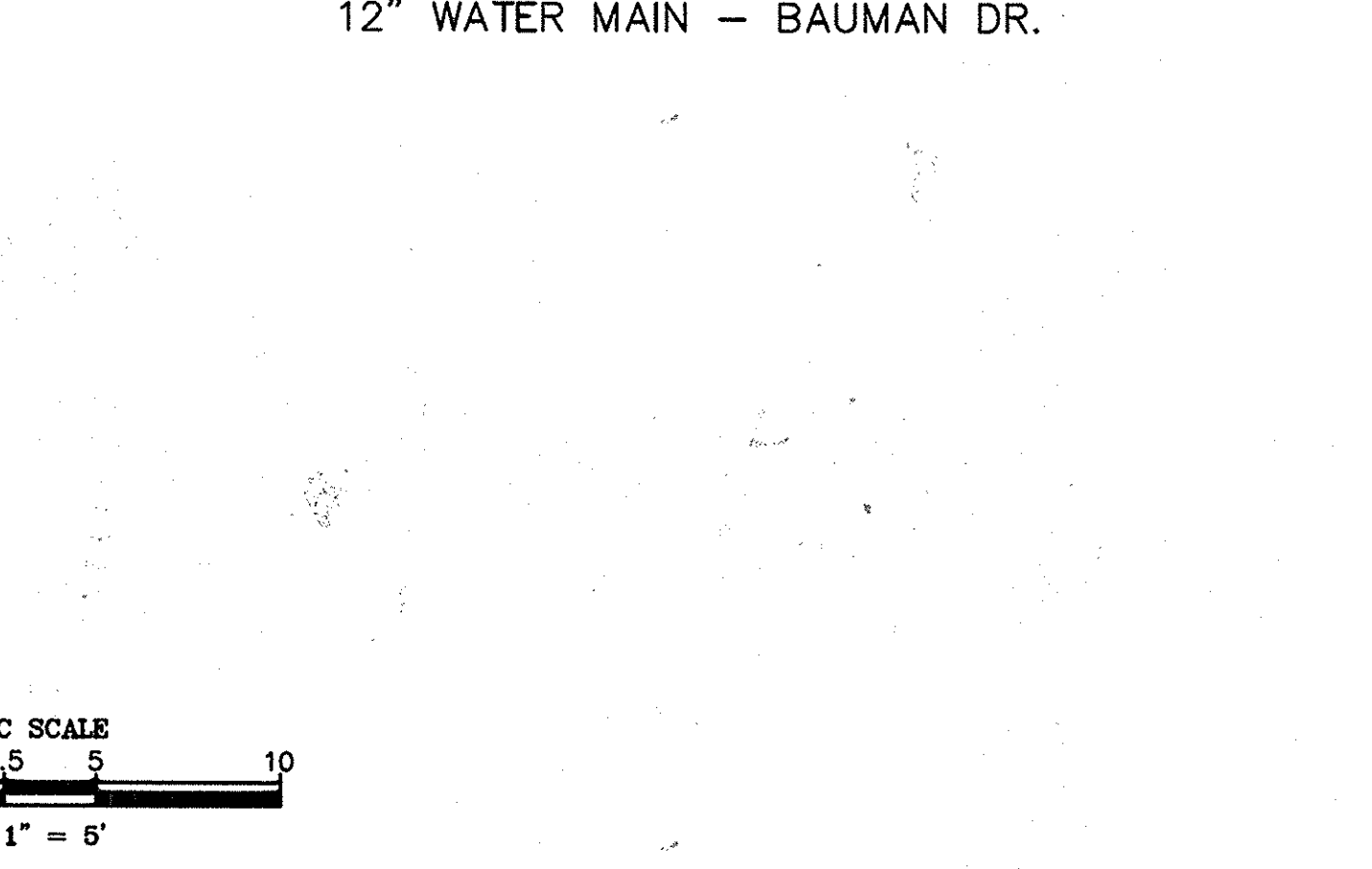
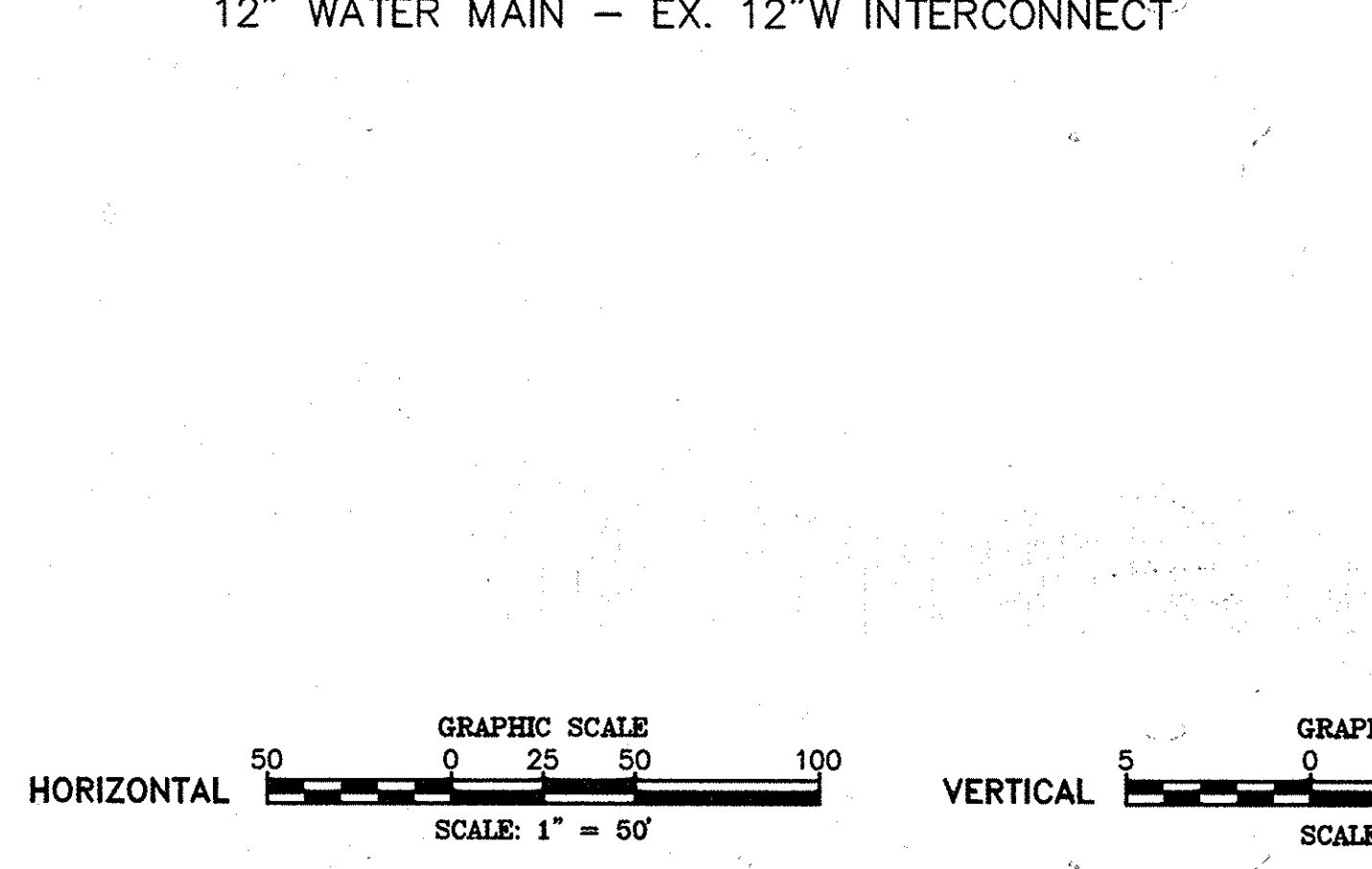
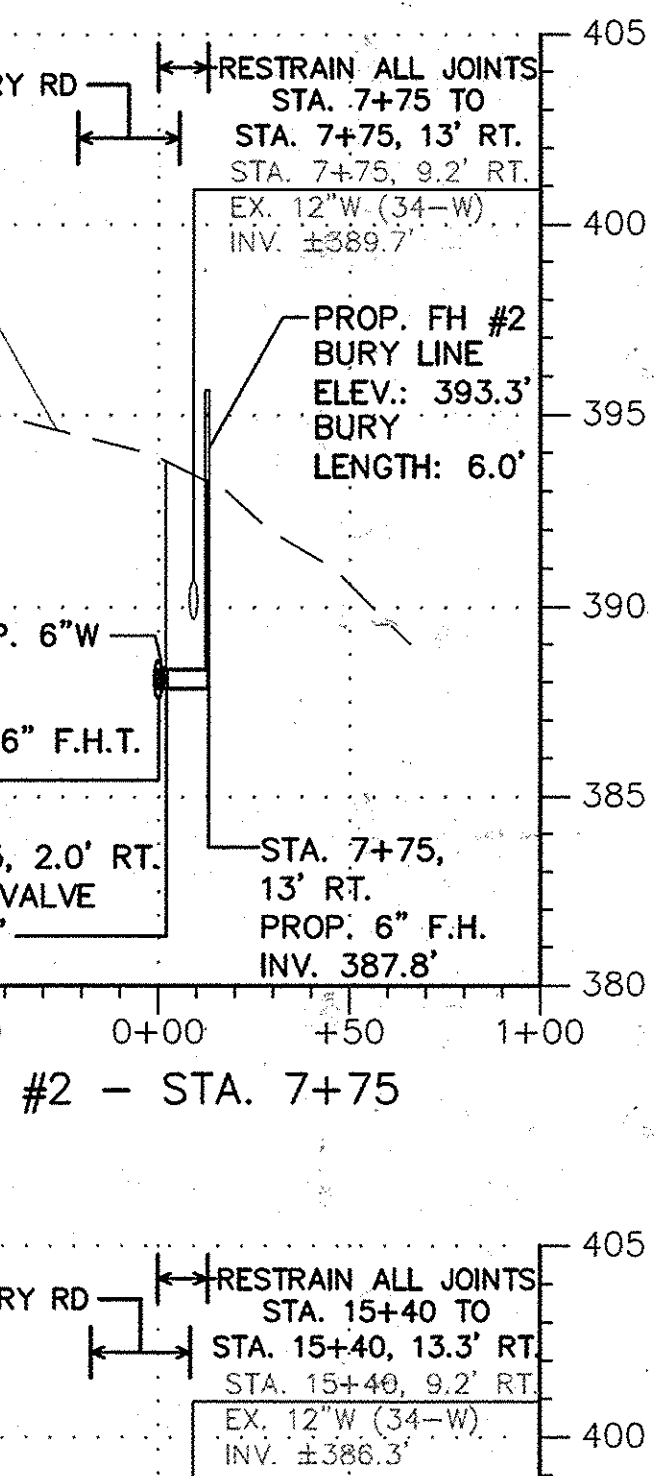
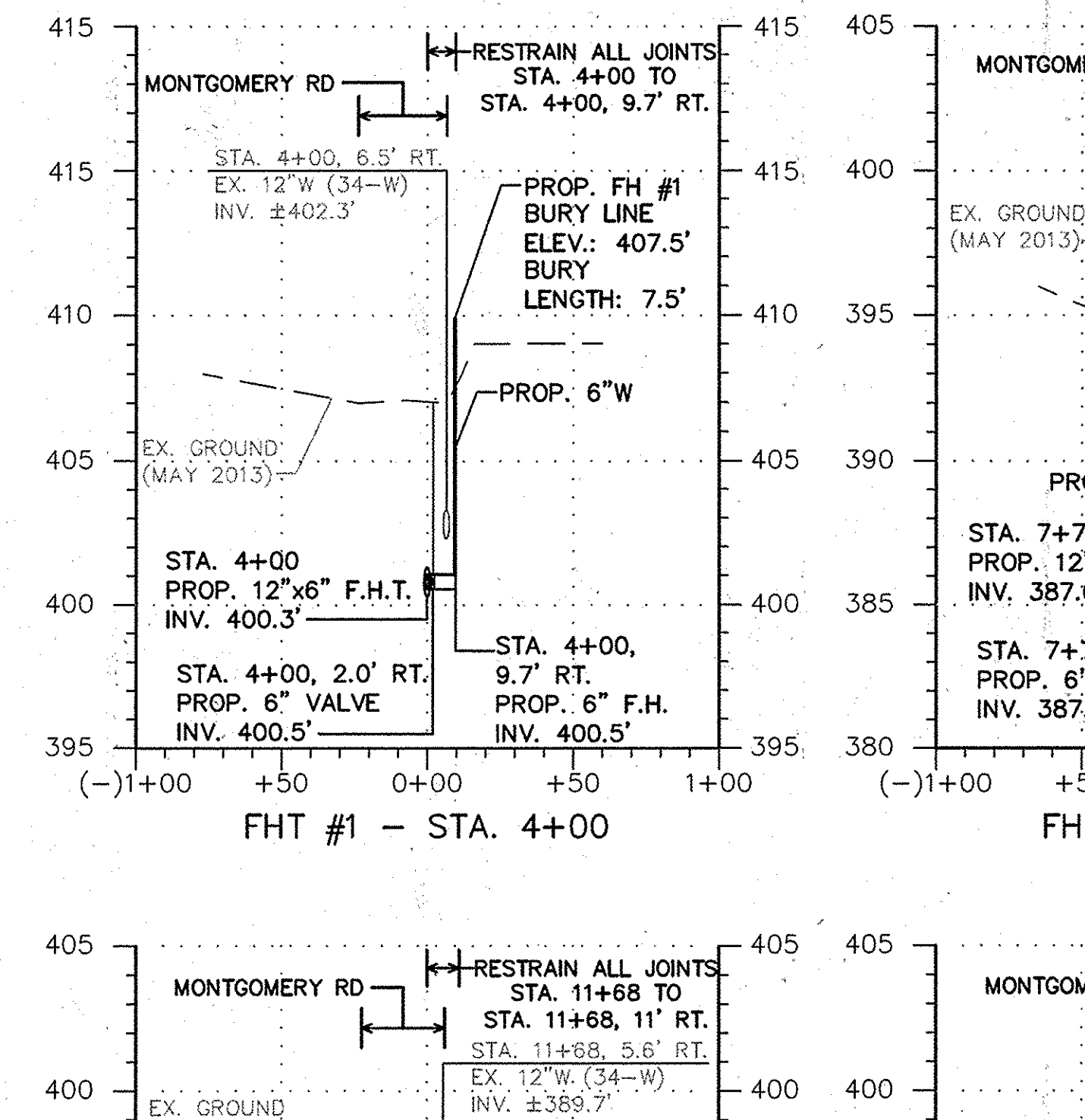
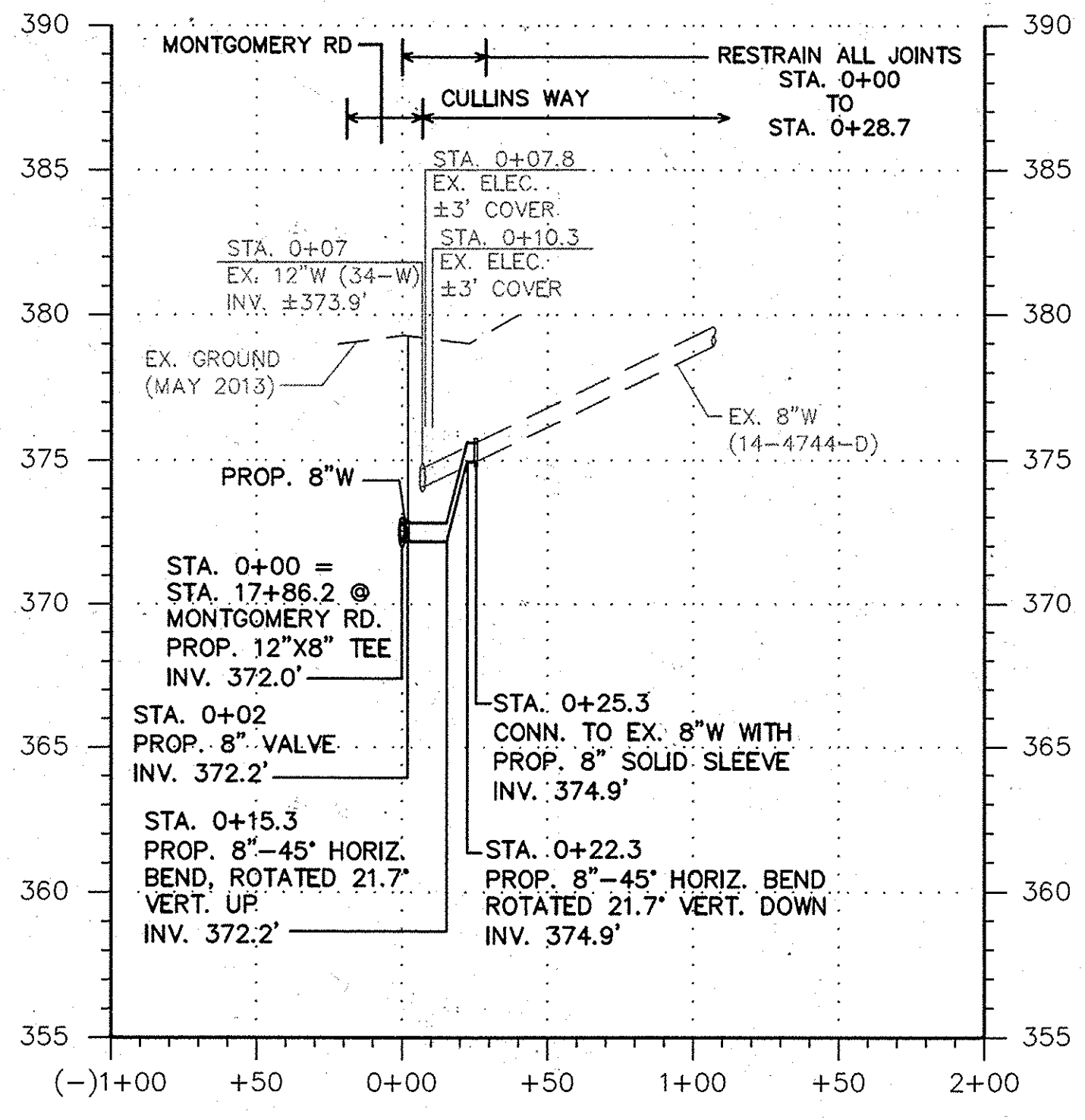
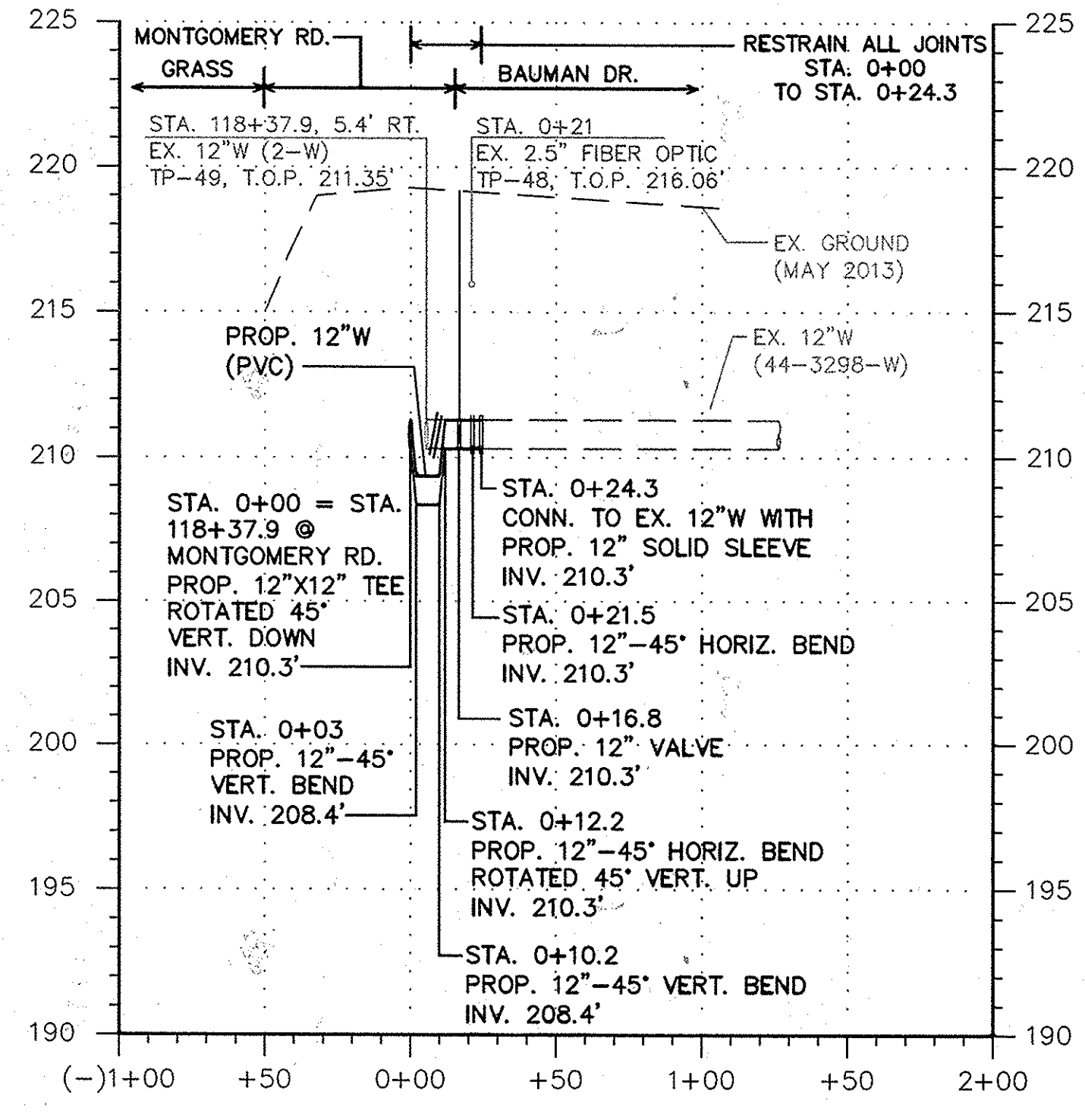
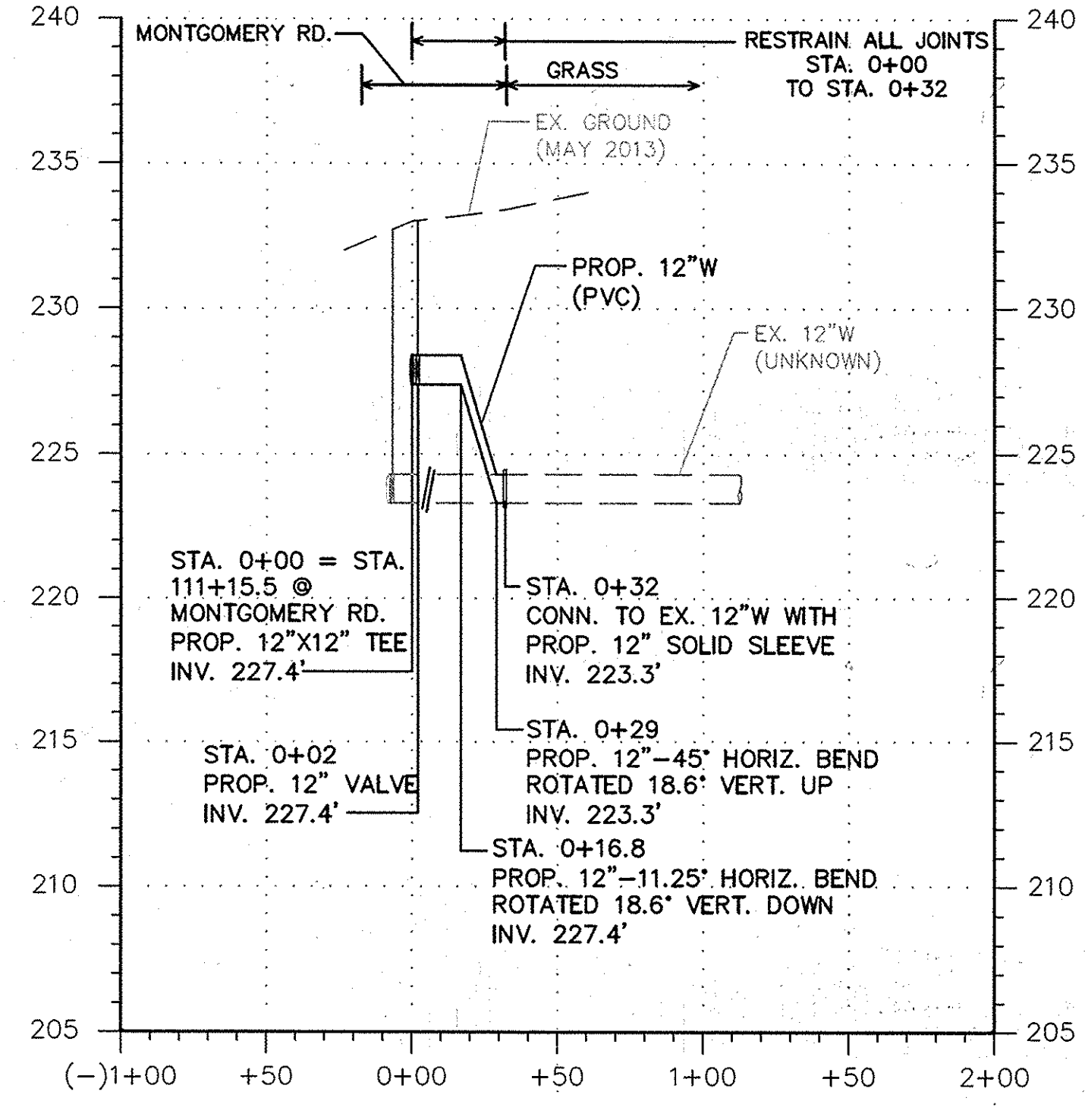
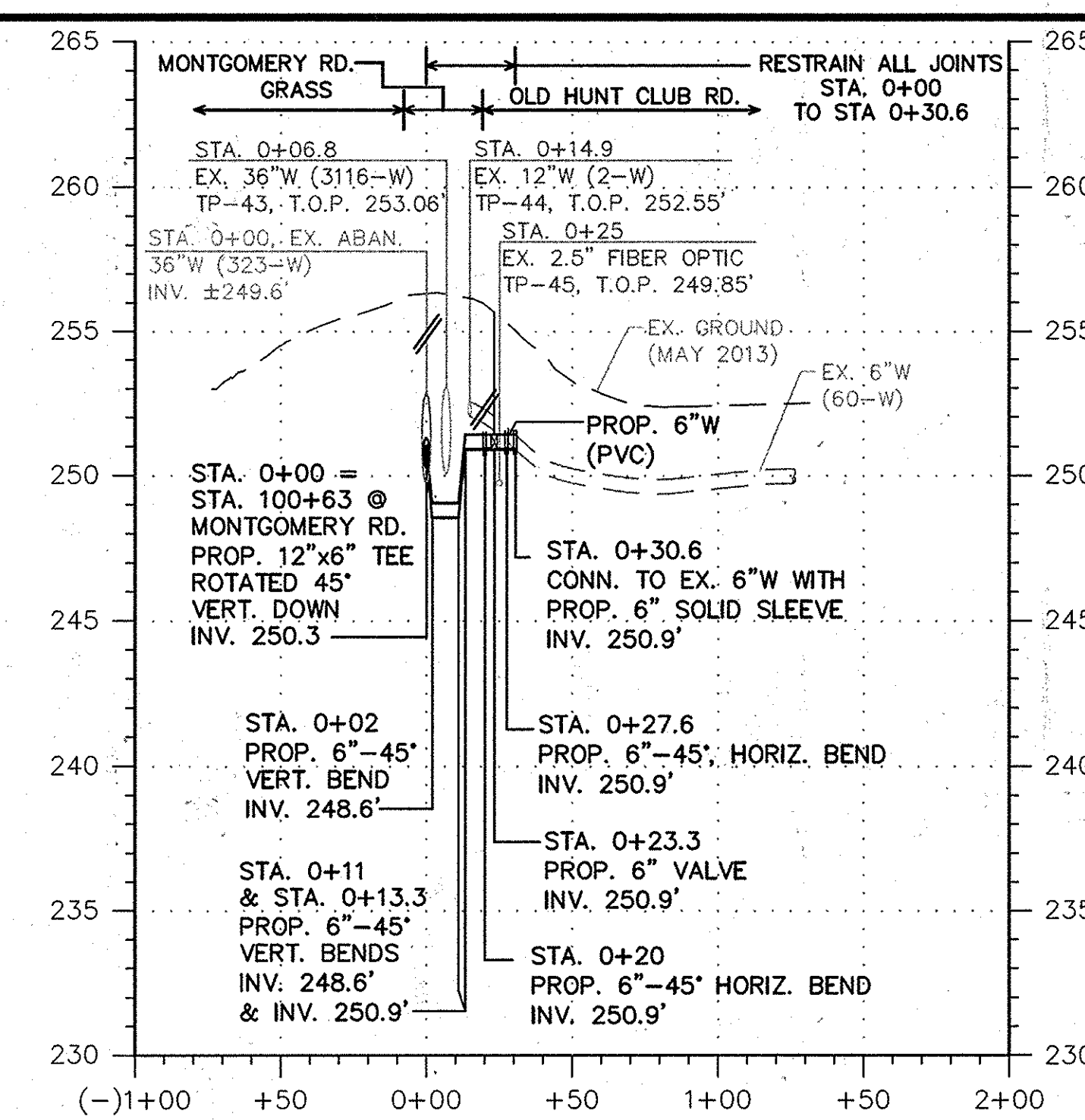
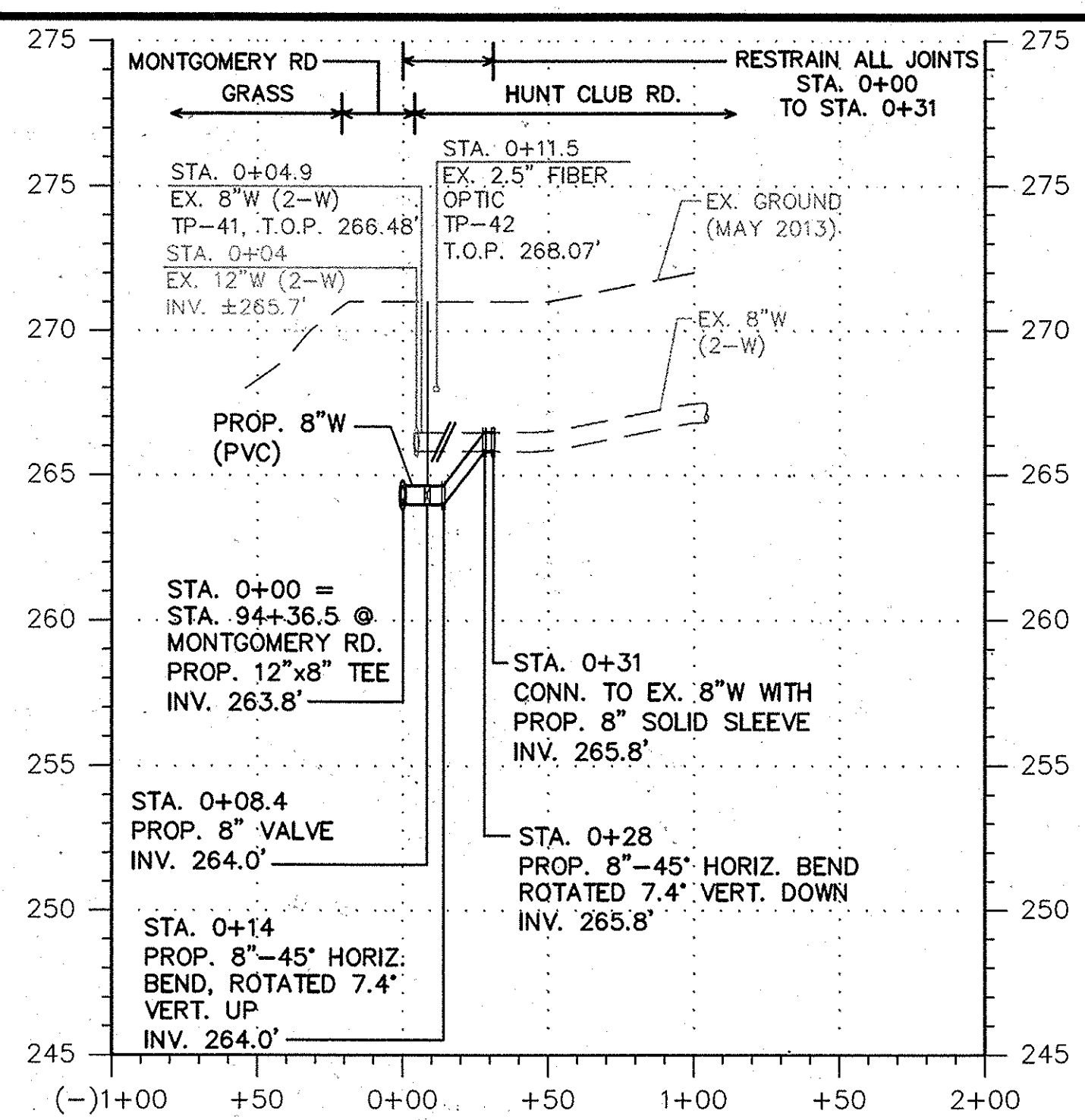
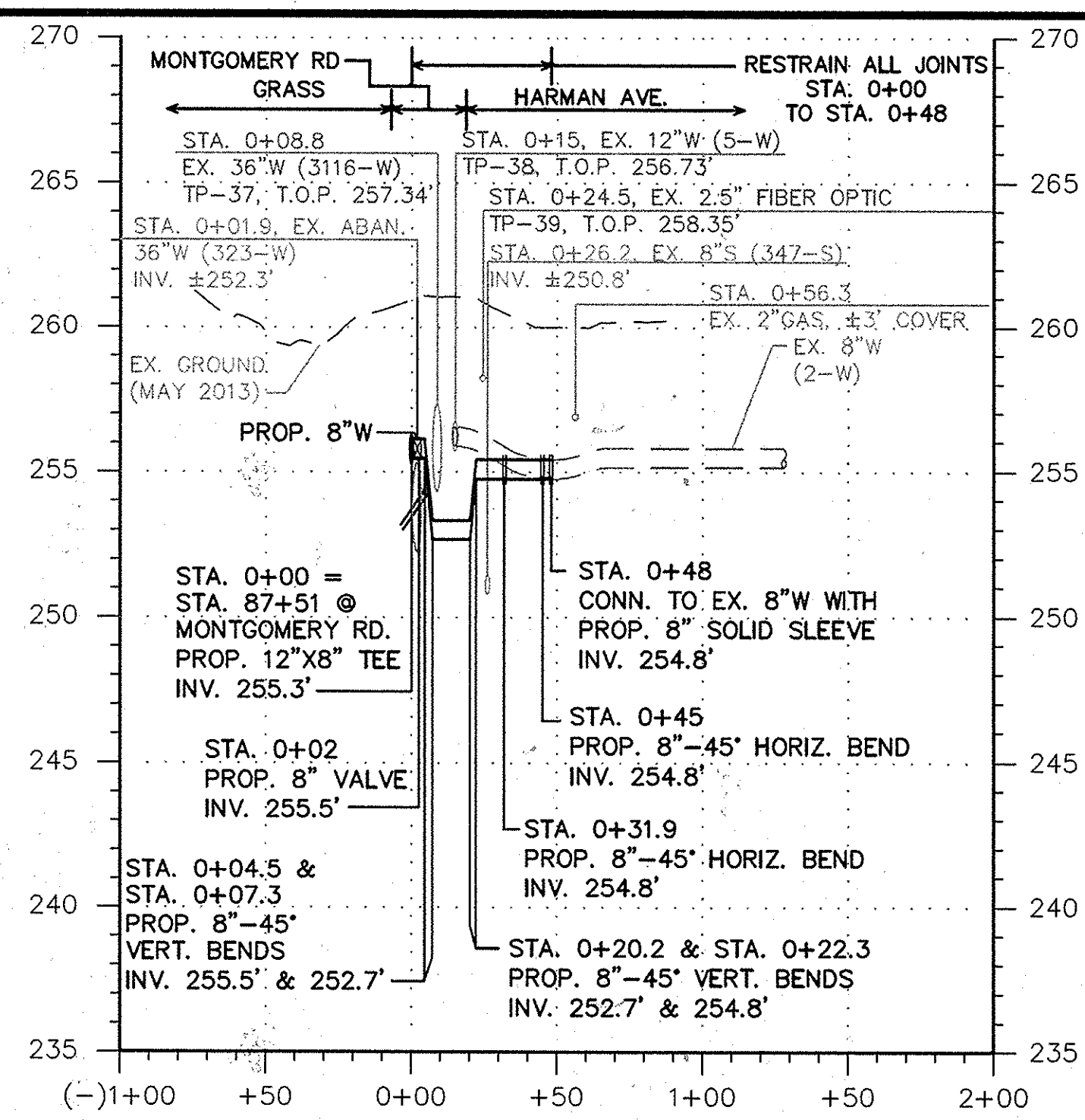
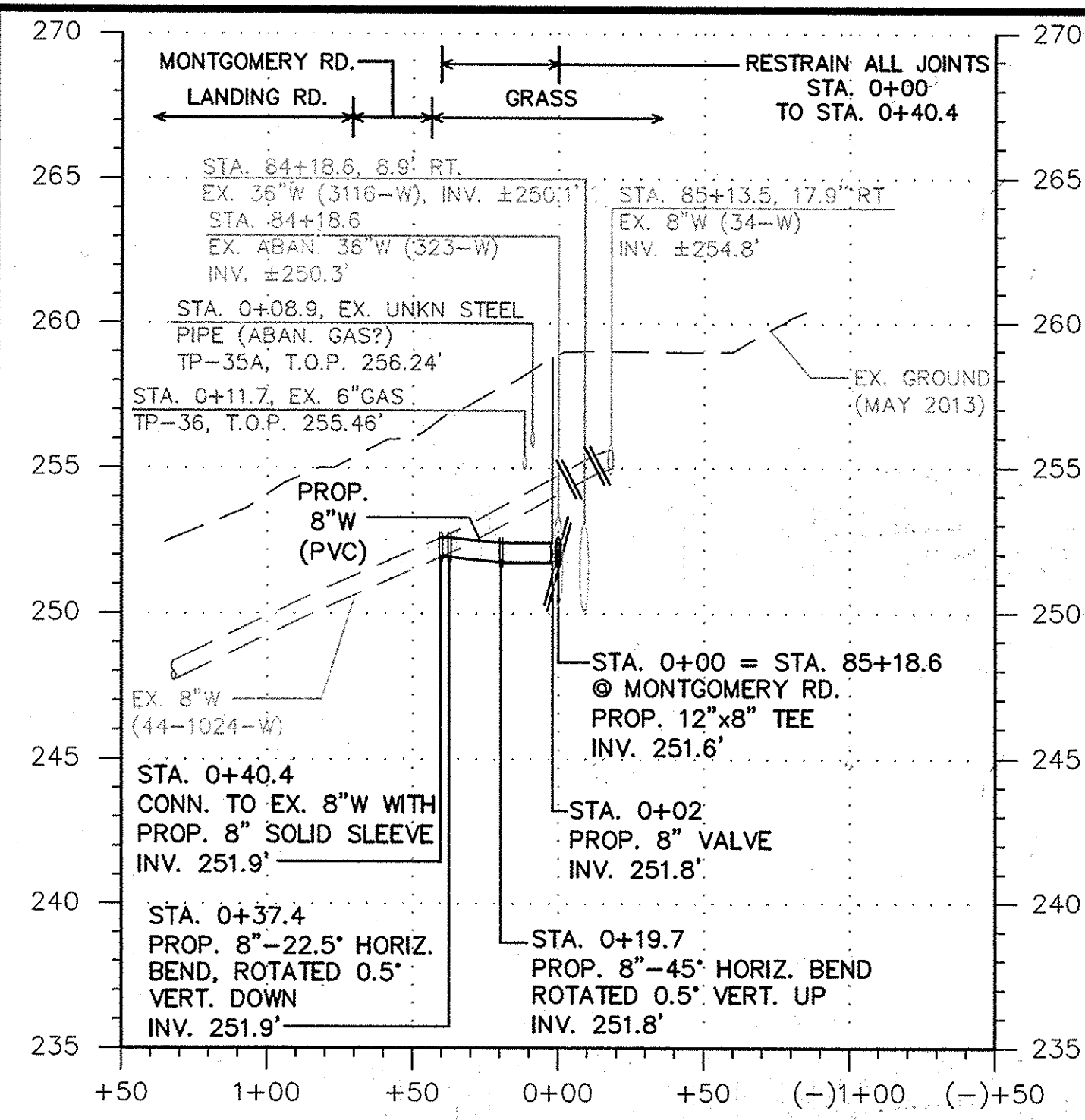
DESIGN: EAM				
DRAWN: EAM				
CHECKED: ERA				
DATE: 4/5/2016	NO.	REVISION	DATE	BY

12" WATER MAIN BRANCH CONNECTION PROFILES

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN

SHEET 17 OF 32



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature]
Chief, Bureau of Utilities: [Signature]

Chief, Bureau of Engineering: [Signature]
Chief, Utility Design Division: [Signature]

Michael Baker International
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 888-9400

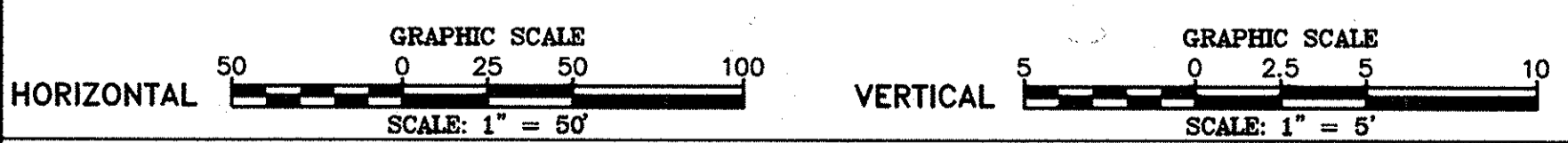
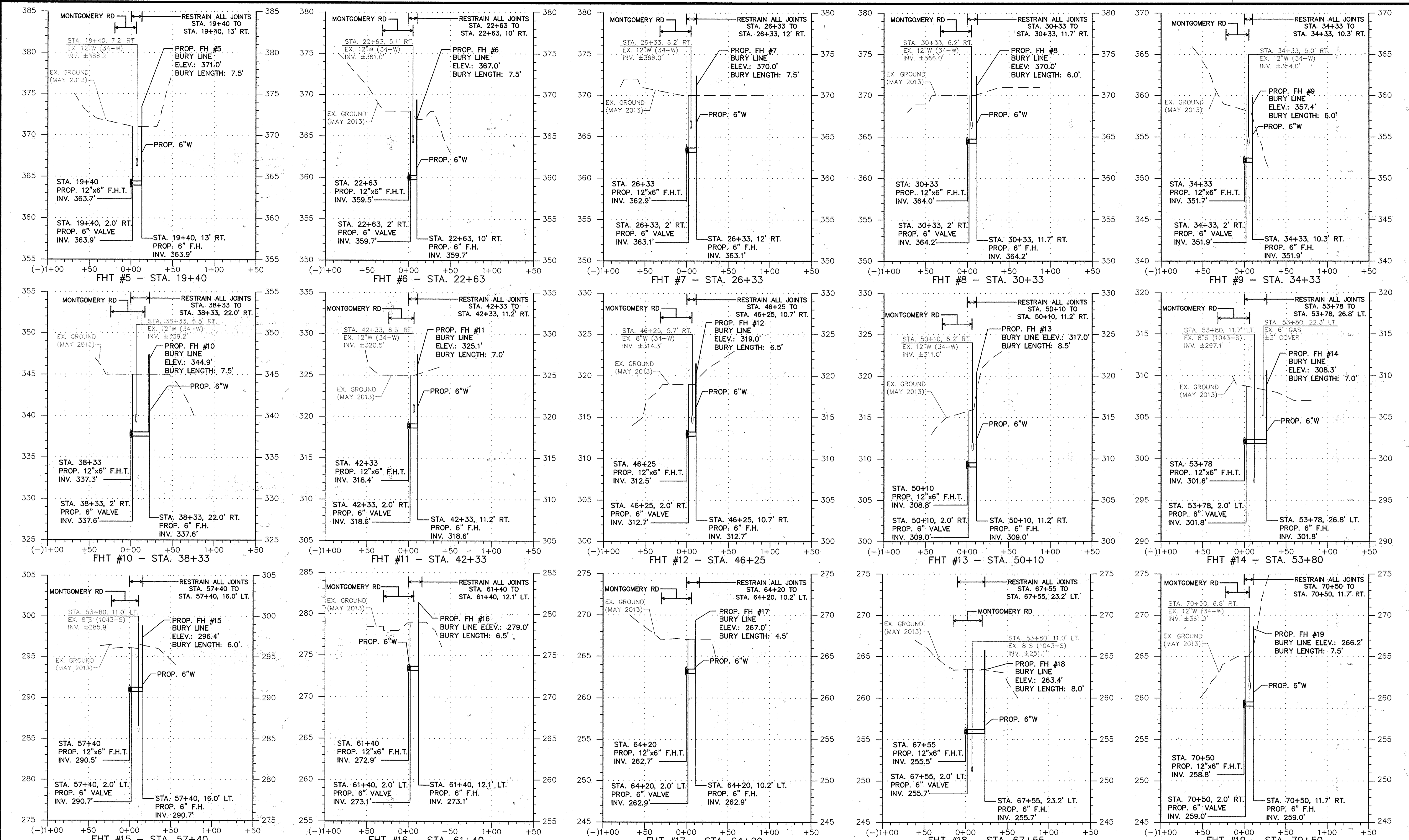
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 36633
EXPIRATION DATE: 06/07/16

DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

12" WATER MAIN BRANCH CONNECTION PROFILES & FIRE HYDRANT PROFILES

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 18 OF 32



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

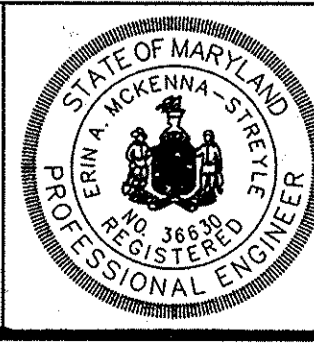
James E. Miller 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. Butler 4/16/16
CHIEF, BUREAU OF ENGINEERING DATE

John C. Coan 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/16/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 688-9400

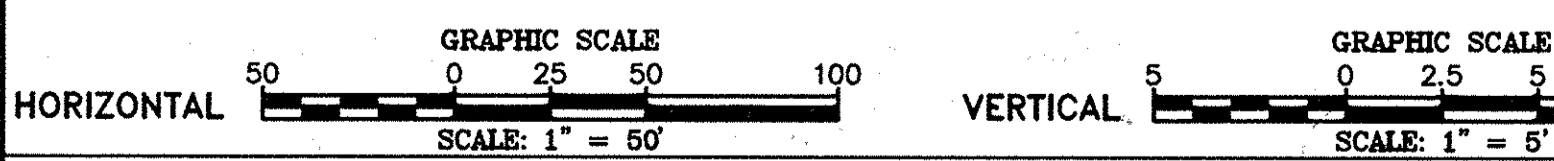
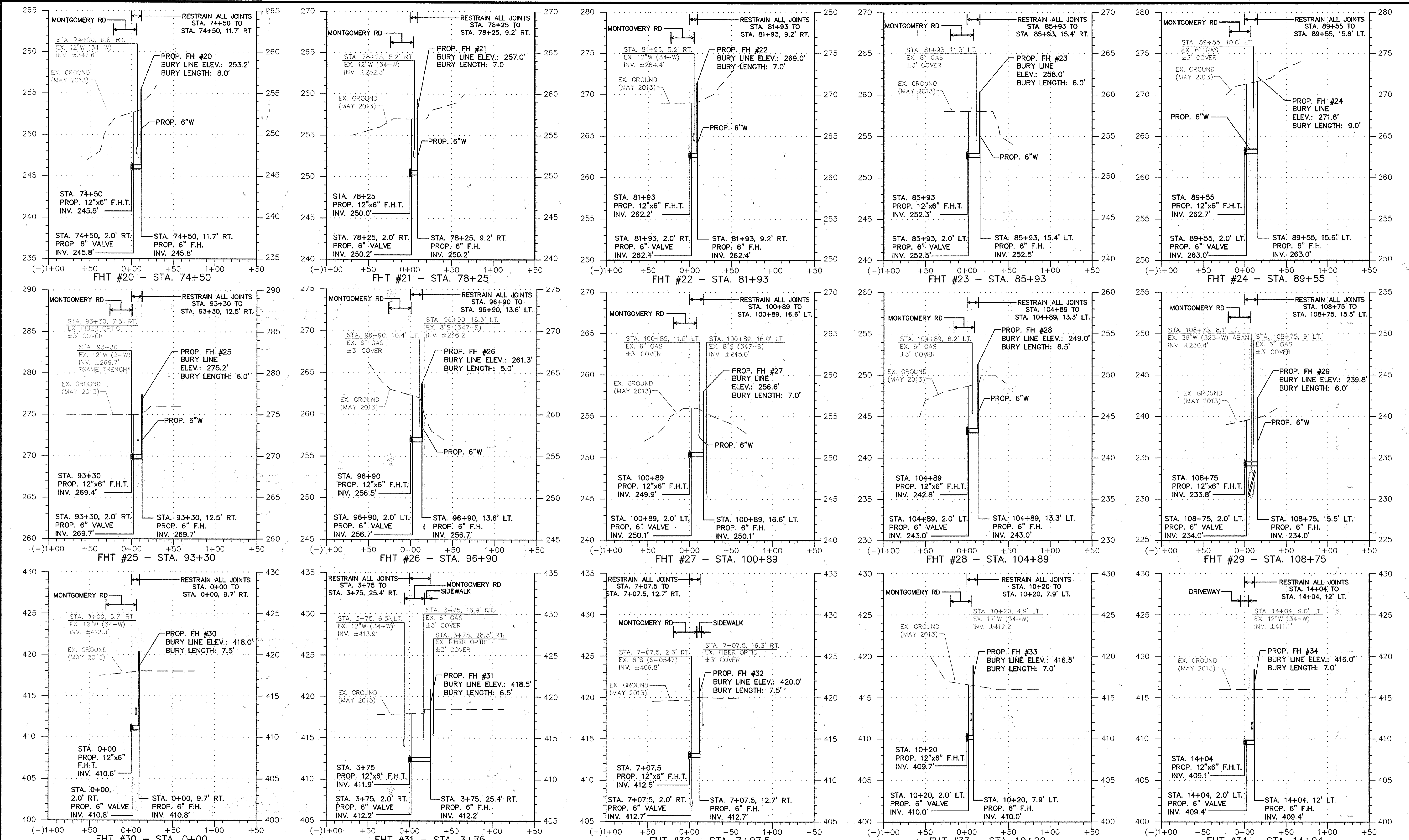


PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 36653
EXPIRATION DATE: 06/02/18
Erik P. McGowan-Strey, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	600 SCALE MAP NO.
					BLOCK NO.

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 19 OF 32



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

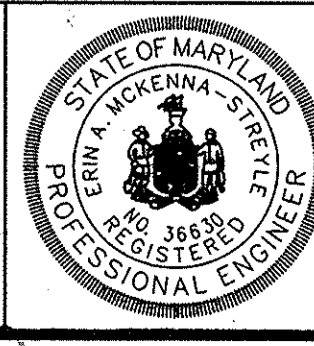
Janet A. Allen 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

Thomas S. Butler 4/16/16
CHIEF, BUREAU OF ENGINEERING DATE

Steve C. Cunniff 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

David J. Davis 4/16/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
1394 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 689-3400



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 36630
EXPIRATION DATE: 06/07/16
E. A. M. STRELE, P.E.

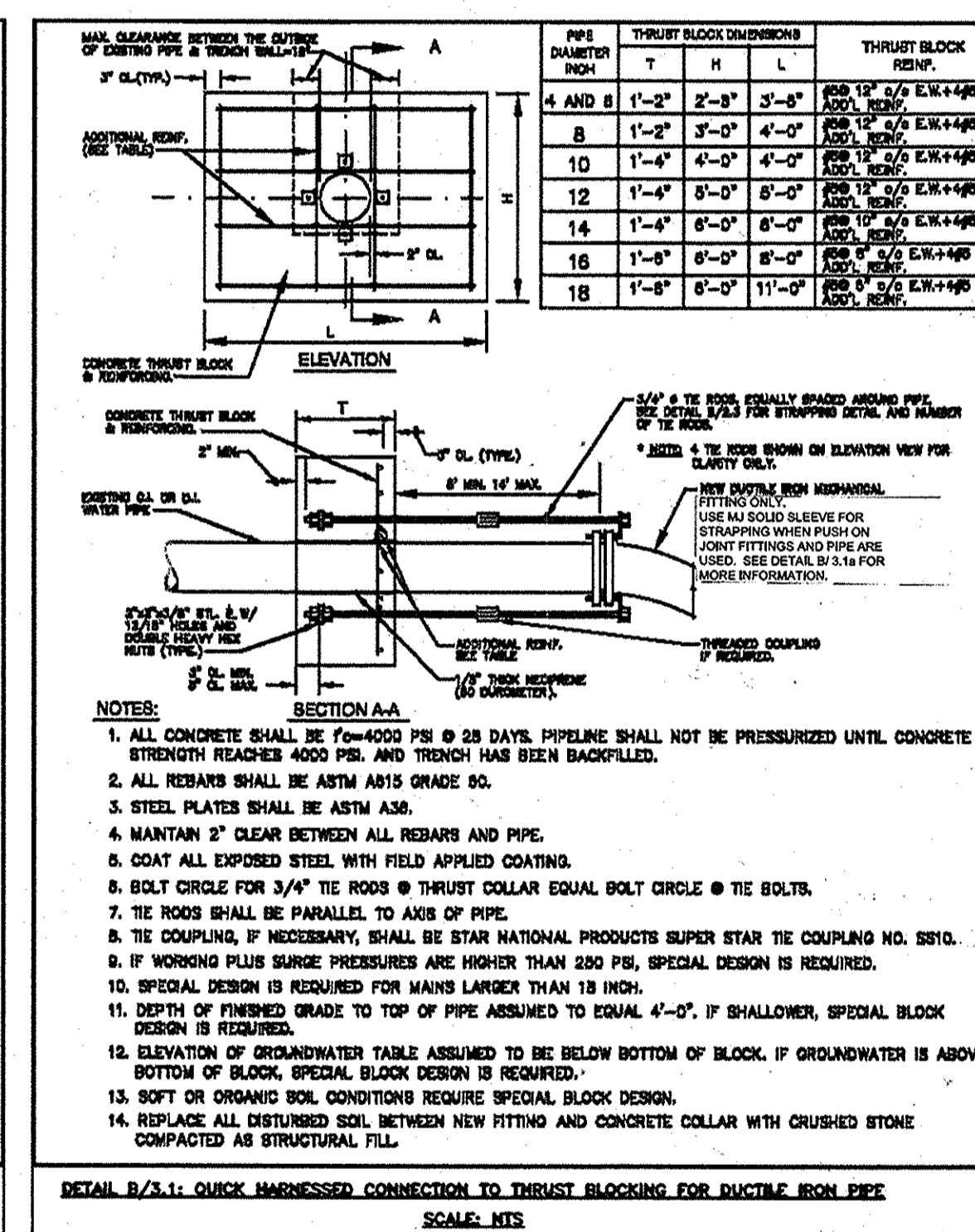
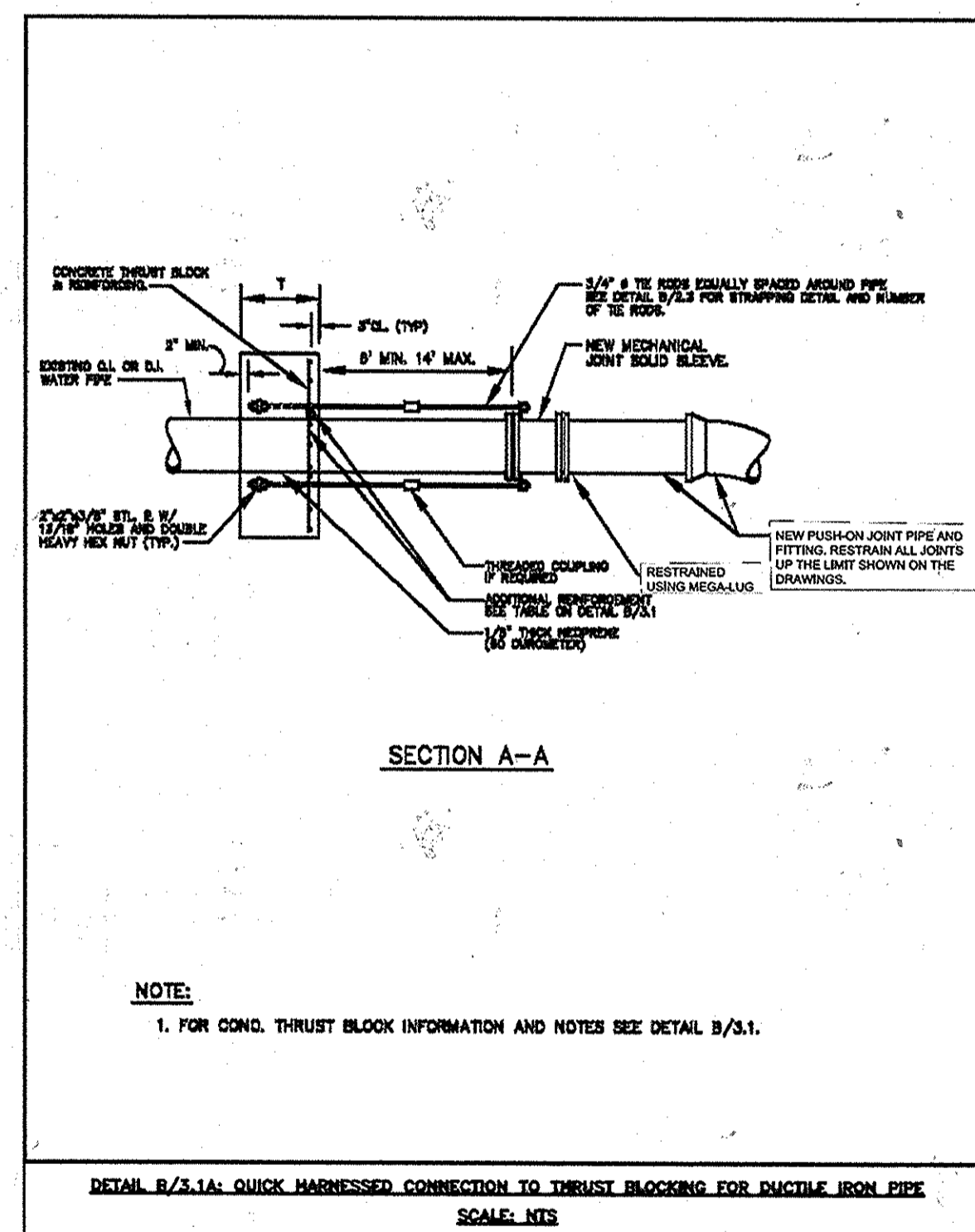
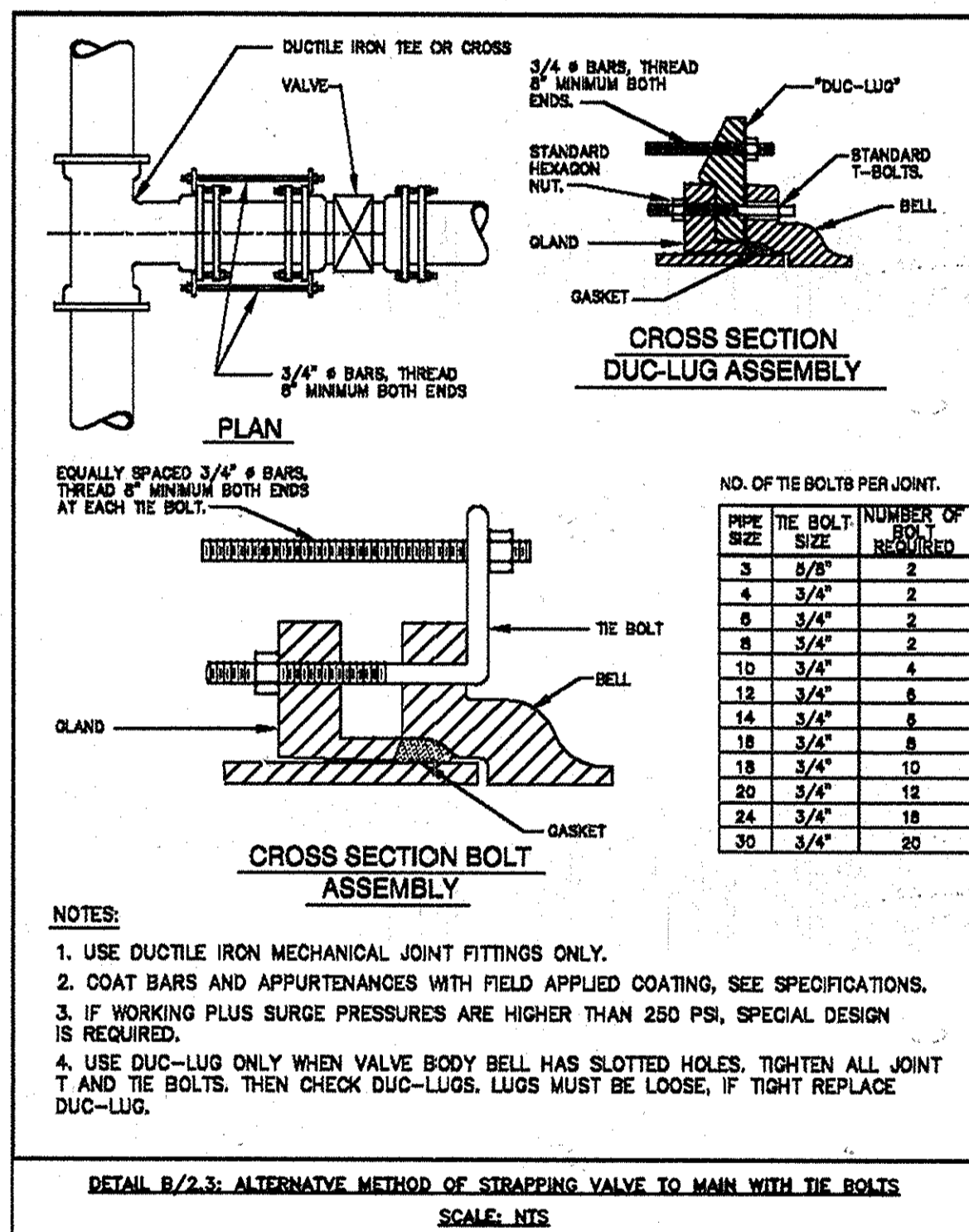
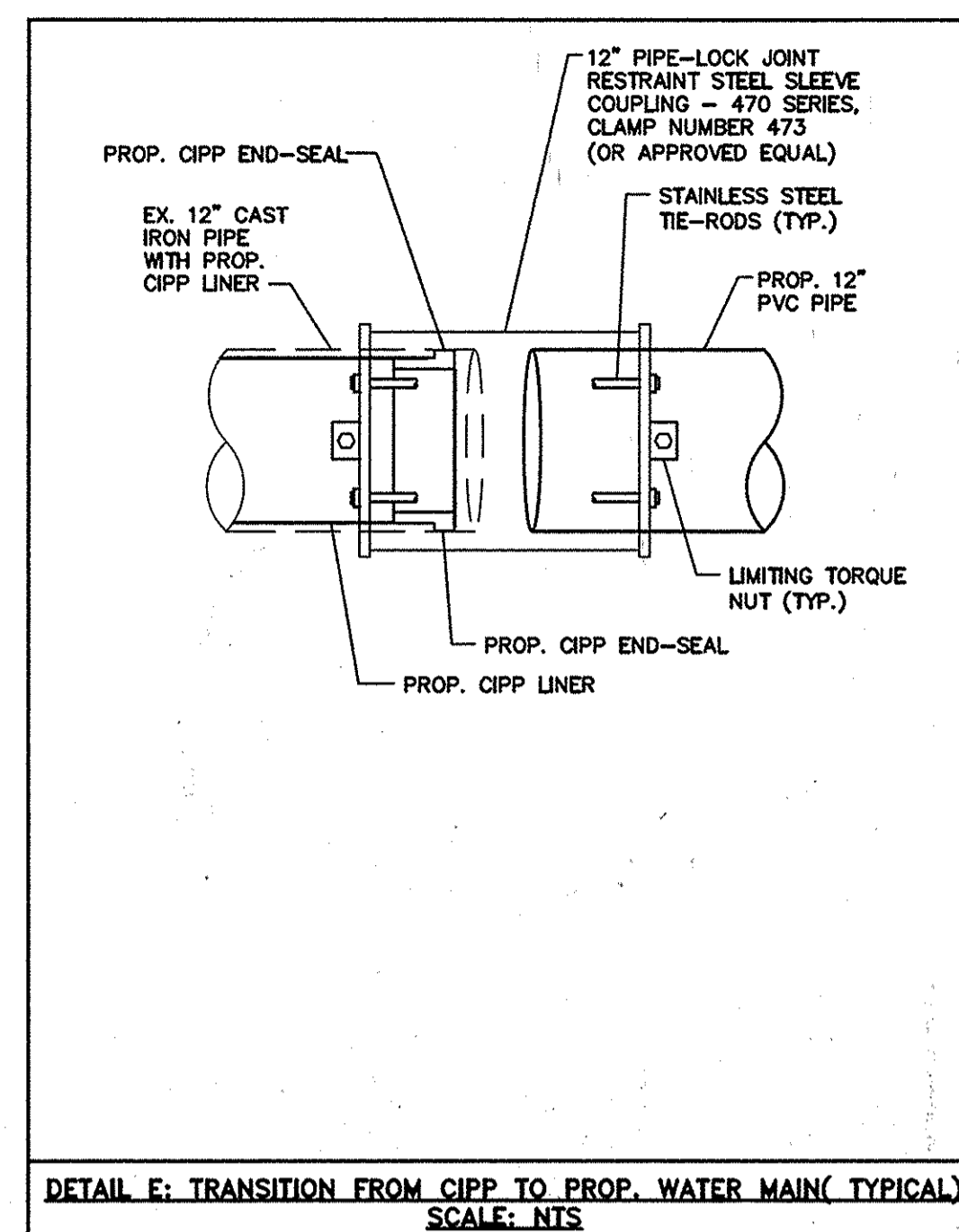
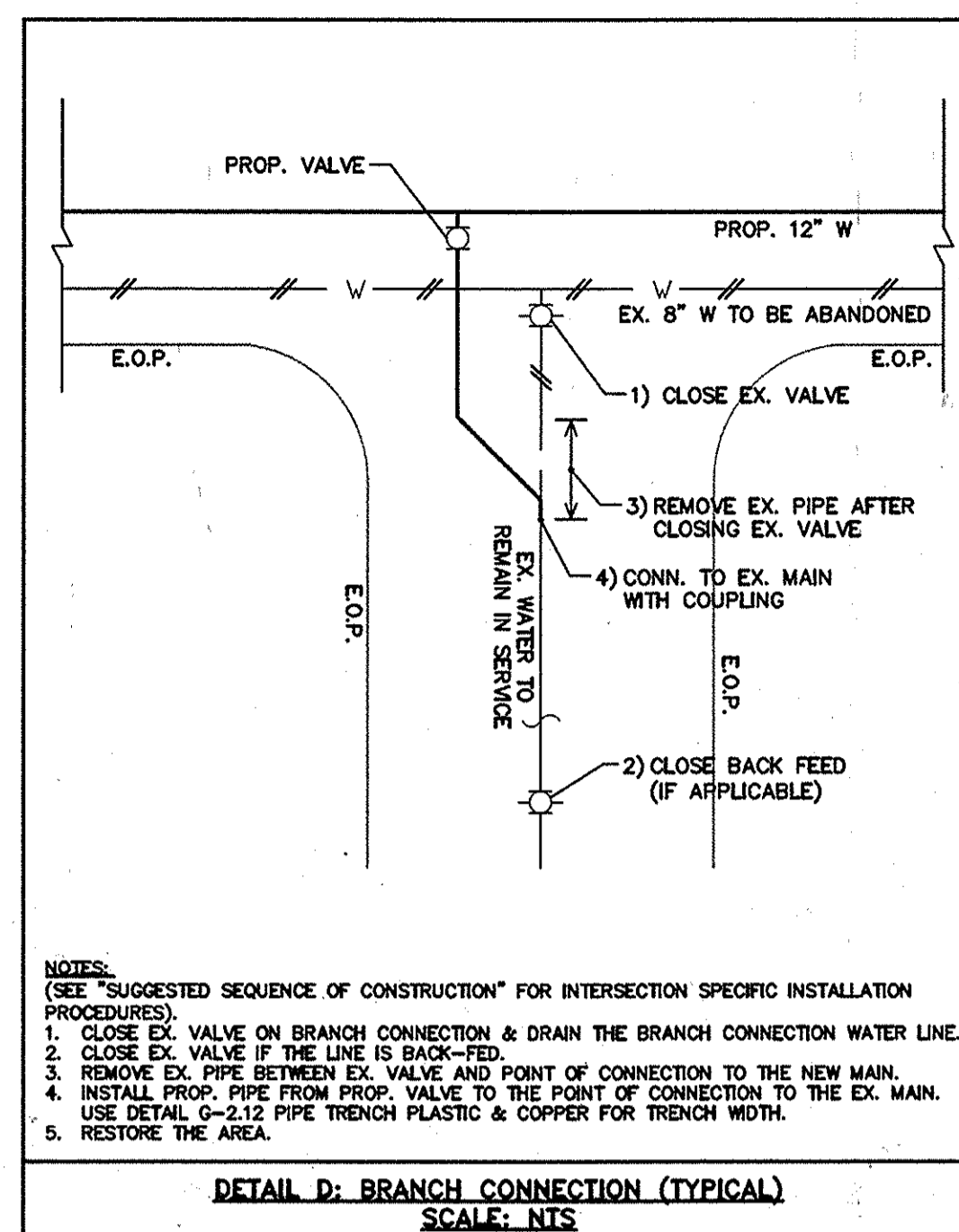
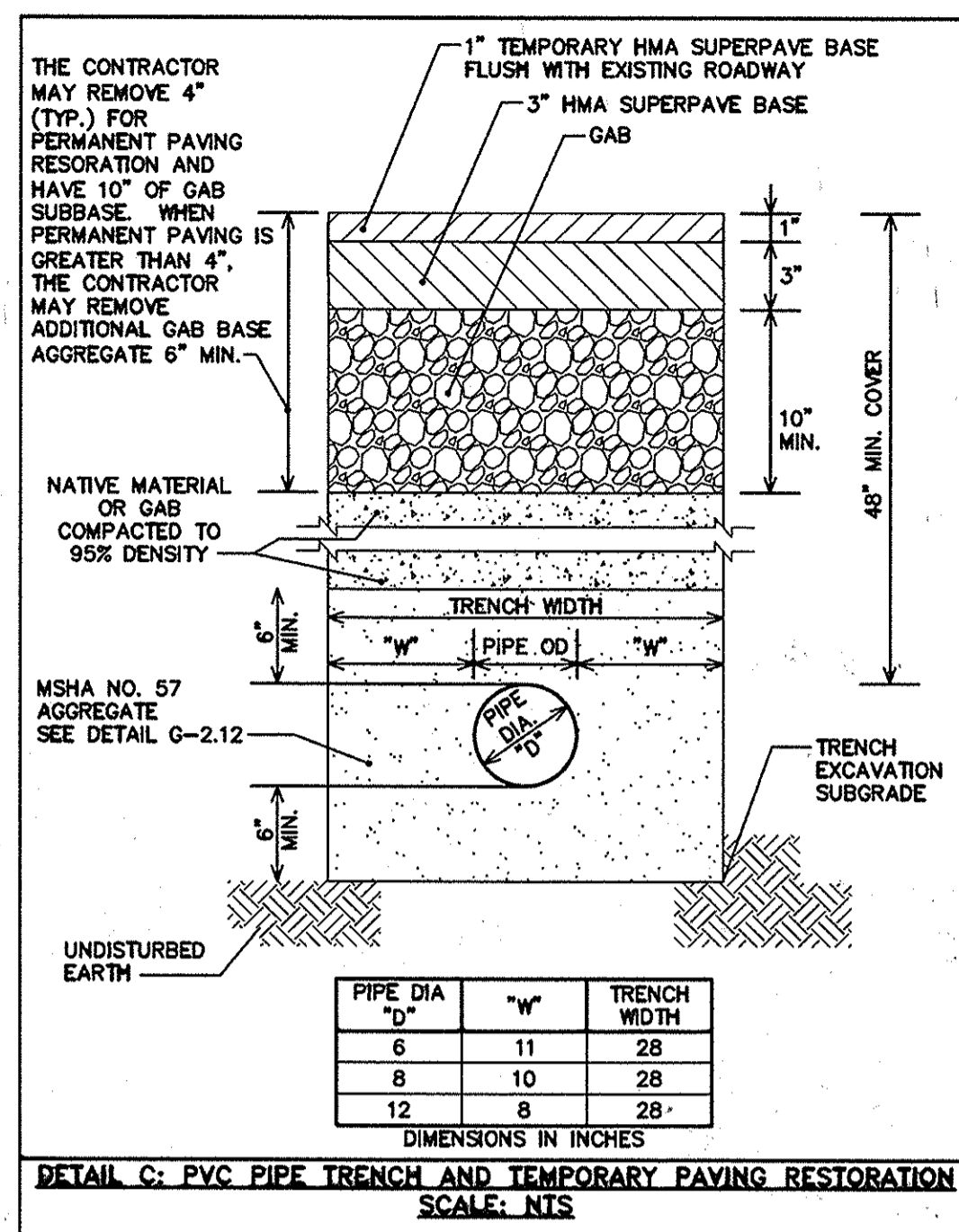
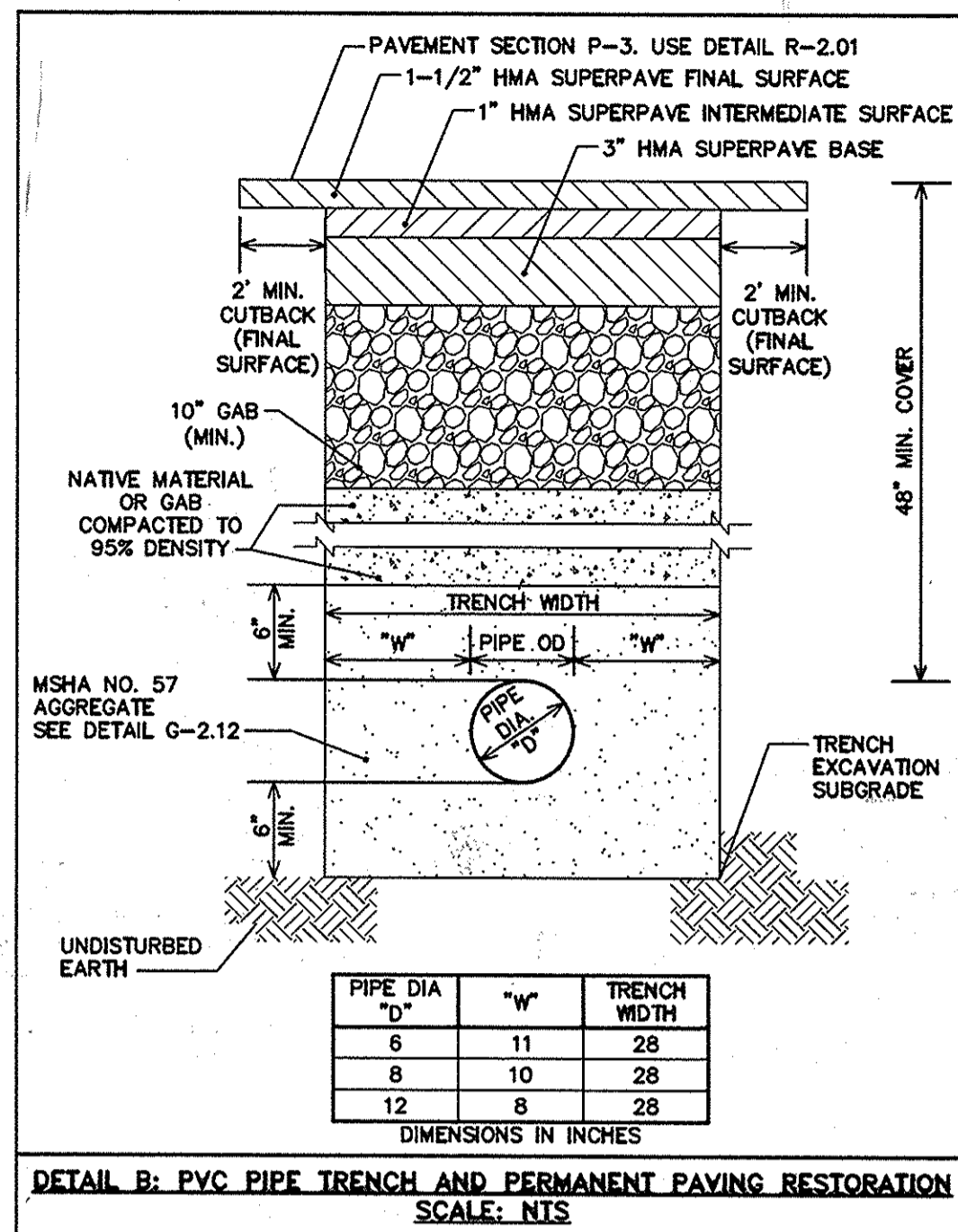
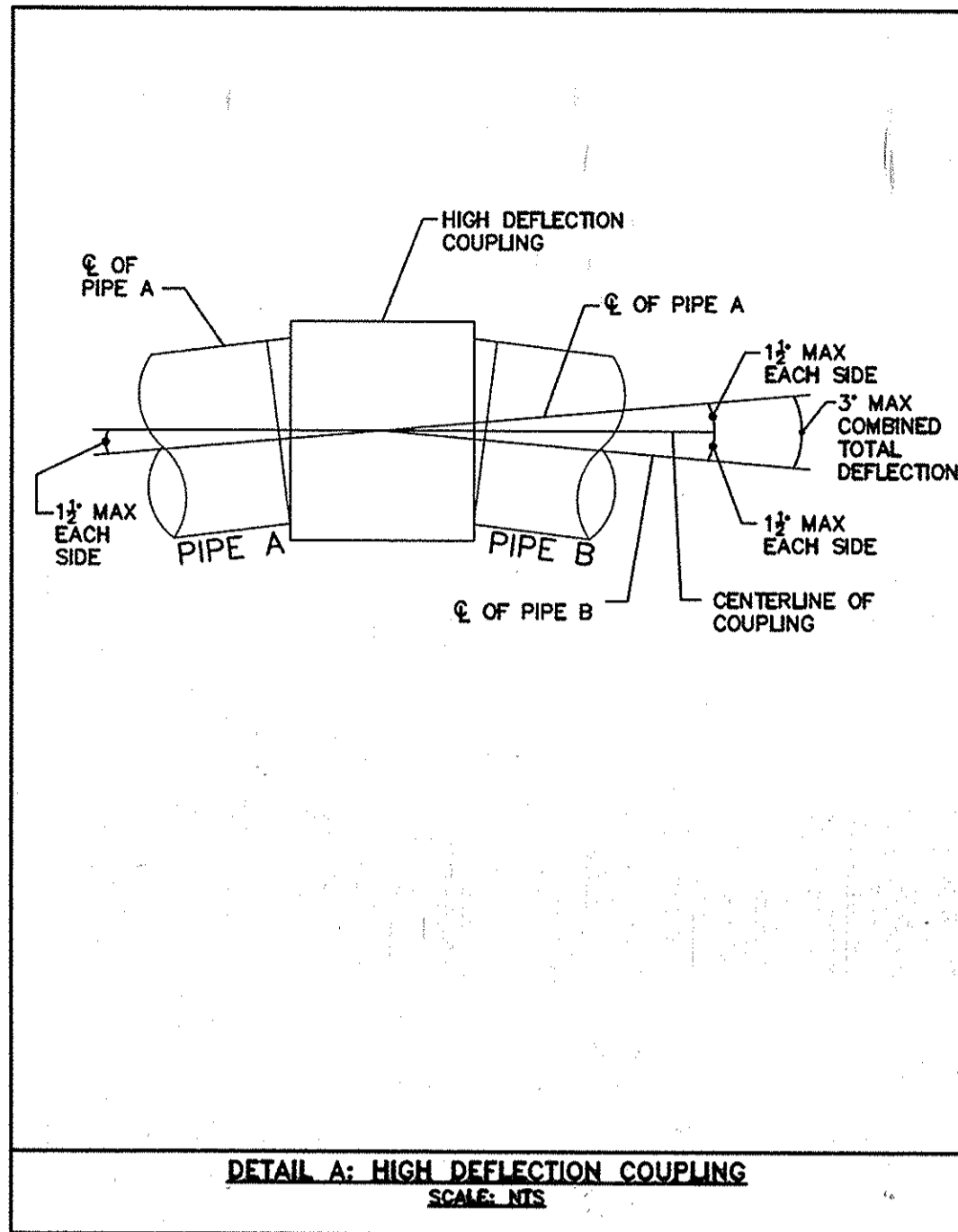
DESIGN: EAM				
DRAWN: EAM				
CHECKED: ERA				
DATE: 4/5/2016	NO.	REVISION	DATE	BY

FIRE HYDRANT PROFILES

600 SCALE MAP NO. BLOCK NO.

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 20 OF 32



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James A. ... 4/6/16
DIRECTOR OF PUBLIC WORKS DATE

Manas P. ... 4/5/16
CHIEF, BUREAU OF ENGINEERING DATE

... 4/6/16
CHIEF, BUREAU OF UTILITIES DATE

... 4/6/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL, INC.
1304 Centerville Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 688-3400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 36538
EXPIRATION DATE: 02/07/16
Erin A. McKenna-Streyle, P.E.

DESIGN: EAM				
DRAWN: EAM				
CHECKED: ERA				
DATE: 4/5/2016	NO.	REVISION	DATE	BY

DETAILS

600 SCALE MAP NO. BLOCK NO.

MONTGOMERY ROAD 12"
WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 21 OF 32

WATER HOUSE CONNECTIONS				
ADDRESS	APPROX. LENGTH OF EX. WHC (LF)	APPROX. LENGTH OF PROP. WHC (LF)	REMARKS/NOTES:	BALL VALVE THROWS
7746 ROCKBURN DRIVE			EX. WHC OFF ROCKBURN DR. DO NOT REPLACE.	
7747 ROCKBURN DRIVE			EX. WHC OFF ROCKBURN DR. DO NOT REPLACE.	
5896 MONTGOMERY RD.	3.5	10		
5888 MONTGOMERY RD.			PER BUREAU OF UTILITIES, THIS ADDRESS DOES NOT HAVE A WHC.	
5938 MONTGOMERY RD.	6	13.5		
5939 MONTGOMERY RD.		25.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
5942 MONTGOMERY RD.	7.5	13.5		
5946 MONTGOMERY RD.	7	13		
5947 MONTGOMERY RD.		24.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
5952 MONTGOMERY RD.	2	10.5		
5955 MONTGOMERY RD.	34.5	25		
5968 MONTGOMERY RD.		11.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
5969 MONTGOMERY RD.	36.5	27.5		
5979 MONTGOMERY RD.	36.5	29		
5991 MONTGOMERY RD.		27	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
6001 MONTGOMERY RD.		27.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
6011 MONTGOMERY RD.	37	31.5		
6032 MONTGOMERY RD.	12	18.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
6044 MONTGOMERY RD.	11	16.5		
6045 MONTGOMERY RD.	34.5	29		
6049 MONTGOMERY RD.	35	27.5		
6065 MONTGOMERY RD.			OPEN SPACE; NO WHC	
6070 MONTGOMERY RD.	13.5	20		
6080 MONTGOMERY RD.	15.5	24.5		
6105 ROCKBURN B. P. RD.			EX. WHC OFF ROCKBURN BRANCH PARK RD.; DO NOT REPLACE	
6090 MONTGOMERY RD.	10	17	PENDING THE EXISTING/FUTURE 8" WATER MAIN (14-4744-D) ALONG CULLINS WAY, THIS CONNECTION MAY NOT NEED TO BE REPLACED.	
5808 ROCKBURN WOODS WAY			EX. WHC OFF ROCKBURN WOODS WAY; DO NOT REPLACE	
5804 ROCKBURN WOODS WAY			EX. WHC OFF ROCKBURN WOODS WAY; DO NOT REPLACE	
5800 ROCKBURN WOODS WAY			EX. WHC OFF ROCKBURN WOODS WAY; DO NOT REPLACE	
5803 ROCKBURN WOODS WAY			EX. WHC OFF ROCKBURN WOODS WAY; DO NOT REPLACE	
6144 MONTGOMERY RD.	6.5	12.5		
6145 MONTGOMERY RD.			EX. WHC IS 8" W (3161-D); SEE BRANCH CONNECTION PROFILES	
6152 MONTGOMERY RD.			EX. METER IS SHARED FOR 6152 & 6156 MONTGOMERY RD.	
6156 MONTGOMERY RD.	34	40	EX. METER IS SHARED FOR 6152 & 6156 MONTGOMERY RD.	
6160 MONTGOMERY RD.	10.5	16.5		
6162 MONTGOMERY RD.	7	14		
6184 MONTGOMERY RD.	5.5	11.5		
6190 MONTGOMERY RD.	9.0	15		
6191 MONTGOMERY RD.	34.5	30		
6198 MONTGOMERY RD.	6.5	13		
6204 MONTGOMERY RD.		12	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
6215 MONTGOMERY RD.	34.5	29		
6831 MARBUCK WAY			EX. WHC OFF MARBUCK WAY; DO NOT REPLACE	
6239 MONTGOMERY RD.	36	30		
5801 BELLANCA DR.	26	33		
5802 BELLANCA DR.			EX. WHC OFF BELLANCA DR.; DO NOT REPLACE	
6249 MONTGOMERY RD.	36	30		
6274 MONTGOMERY RD.	29	35		
6275 MONTGOMERY RD.	41	35		
6278 MONTGOMERY RD.	53.5	60		
6284 MONTGOMERY RD.	8.5	14		
6286 MONTGOMERY RD.	7.5	13.5		
6304 MONTGOMERY RD.	11.5	18		
6310 MONTGOMERY RD.	9.5	15.5		
6311 MONTGOMERY RD.	9.5	27		
6312 MONTGOMERY RD.	9.5	17		
6314 MONTGOMERY RD.	12.5	19		
6318 MONTGOMERY RD.			EX. METER IS SHARED FOR 6318, 6320 & 6322 MONTGOMERY RD.	
6320 MONTGOMERY RD.	12.5	18.5	EX. METER IS SHARED FOR 6318, 6320 & 6322 MONTGOMERY RD.	
6322 MONTGOMERY RD.			EX. METER IS SHARED FOR 6318, 6320 & 6322 MONTGOMERY RD.	
6324 MONTGOMERY RD.	7.5	13		
6204 PARKVIEW CT.			EX. WHC (& SHC) OFF PARKVIEW CT.; DO NOT REPLACE	
6205 PARKVIEW CT.			EX. WHC (& SHC) OFF PARKVIEW CT.; DO NOT REPLACE	
6329 MONTGOMERY RD.	32	26		
6334 MONTGOMERY RD.	9.5	15.5		
6343 MONTGOMERY RD.	32.5	26.5		
6344 MONTGOMERY RD.	6.5	12.5		
6353 MONTGOMERY RD.	37	30.5		
6354 MONTGOMERY RD.	9.5	18		
6358 MONTGOMERY RD.	8.5	14.5	EX. METER IS LOCATED ON 6354 MONTGOMERY ROAD	
6360 MONTGOMERY RD.	11.5	15.5	EX. METER IS LOCATED ON 6354 MONTGOMERY ROAD	
6364 MONTGOMERY RD.	7.5	14.5		
6365 MONTGOMERY RD.	34.5	28		
6374 MONTGOMERY RD.		11	PER BUREAU OF UTILITIES, THIS LOCATION HAS A CURB STOP BOX.	
6384 MONTGOMERY RD.	8.5	14.5		
6393 MONTGOMERY RD.	32	26.5		
6394 MONTGOMERY RD.	17.5	26		
6403 MONTGOMERY RD.	39	29.5		
6404 MONTGOMERY RD.			OPEN SPACE; NO WHC	
6407 MONTGOMERY RD.			1.5" WHC SERVING BOTH PROPERTIES.	
6411 MONTGOMERY RD.				
6414 MONTGOMERY RD.	6	13.5		
6415 MONTGOMERY RD.	37.5	30.5		
6425 MONTGOMERY RD.	45	33.5		
6441 MONTGOMERY RD.	88	68.5		
6466 MONTGOMERY RD.	4	47.5		
6470 MONTGOMERY RD.	6.5	74		
6474 MONTGOMERY RD.	6.5	74.5		
6498 MONTGOMERY RD.	3	59.5		

WATER HOUSE CONNECTIONS				
ADDRESS	APPROX. LENGTH OF EX. WHC (LF)	APPROX. LENGTH OF PROP. WHC (LF)	REMARKS/NOTES:	BALL VALVE THROWS
7111 NW JOHN CALVERT CT.			EX. WHC (& SHC) ON CONTRACT (3120-D); DO NOT REPLACE	
7115 NW JOHN CALVERT CT.	14	30		
6544 MONTGOMERY RD.	11.5	23		
6548 MONTGOMERY RD.	10	17		
6600 MONTGOMERY RD.	7	12.5		
6630 MONTGOMERY RD.	4.5	10		
6655 MONTGOMERY RD.		26.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
6663 MONTGOMERY RD.			METER NOT SURVEYED; NO STRUCTURES ON PROPERTY. SEE 6667 MONTGOMERY ROAD.	
5810 TIMBERVIEW DR.			METER NOT SURVEYED; WHC OFF TIMBERVIEW DR. DO NOT REPLACE.	
6667 MONTGOMERY RD.	36	30.5	NO ACCOUNT INFORMATION FROM BUREAU OF UTILITIES FOR THIS ADDRESS. THIS PROPERTY IS FOUND ON MD. REAL PROPERTY AS 6663 MONTGOMERY ROAD.	
6712 MONTGOMERY RD.		23	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION.	
5801 TIMBERVIEW DR.			METER NOT SURVEYED; WHC OFF TIMBERVIEW DR. DO NOT REPLACE.	
5780 LANDING RD.			OPEN SPACE	
6725 MONTGOMERY RD.	27.5	10.5		
6730 MONTGOMERY RD.			METER NOT SURVEYED; WHC OFF HARMAN AVE. DO NOT REPLACE.	
6734 MONTGOMERY RD.		22.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION.	
6738 MONTGOMERY RD.	7	24.5		
6742 MONTGOMERY RD.	5.5	5.5		
6746 MONTGOMERY RD.	5	6.5		
6750 MONTGOMERY RD.	5.5	6.5		
5790 HUNT CLUB RD.	6.5	6.5		
6752 MONTGOMERY RD.			METER NOT SURVEYED; NO ACCOUNT INFORMATION FROM BUREAU OF UTILITIES FOR THIS ADDRESS.	
E. HUNT CLUB RD.			OPEN SPACE	
6751 MONTGOMERY RD.	17	36		
6755 MONTGOMERY RD.	35.5	36		
6809 MONTGOMERY RD.	37	19		
6810 MONTGOMERY RD.	6	24		
6820 MONTGOMERY RD.	9	26		
6821 MONTGOMERY RD.	34.5	17.5		
6824 MONTGOMERY RD.	6.5	25		
6825 MONTGOMERY RD.	33	15.5		
6830 MONTGOMERY RD.	6.5	24		
6831 MONTGOMERY RD.		38.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION.	
6834 MONTGOMERY RD.	9	26.5		
6849 MONTGOMERY RD.	9	27.5		
6860 MONTGOMERY RD.	7.5	25		
6904 MONTGOMERY RD.	5.5	21.5		
6908 MONTGOMERY RD.	6	22		
6914 MONTGOMERY RD.	7.5	23		
6920 MONTGOMERY RD.	6.5	23.5		
6926 MONTGOMERY RD.	5	24.5		
6930 MONTGOMERY RD.	25	46.5		
6934 MONTGOMERY RD.	33.5	49		
6990 MONTGOMERY RD.			METER NOT SURVEYED; NO WHC TO THIS PROPERTY.	
6994 MONTGOMERY RD.			METER NOT SURVEYED; NO WHC TO THIS PROPERTY.	
6550 LAWYERS HILL RD.			METER NOT SURVEYED; WHC OFF LAWYERS HILL RD. DO NOT REPLACE.	
5822 MONTGOMERY RD.	5	12		
5818 MONTGOMERY RD.	6	12		
5843 MONTGOMERY RD.		25	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
5823 MONTGOMERY RD.	33	27		
5817 MONTGOMERY RD.		24.5	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
7805 MILLERS CORNER		30	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
7809 MILLERS CORNER	33	27.5		
7813 MILLERS CORNER	32.5	27.5		
7817 MILLERS CORNER	33	27.5		
7821 MILLERS CORNER	33	28		
7825 MILLERS CORNER	36	28		
7828 MILLERS CORNER		17	METER NOT SURVEYED; SHOWN ON PLANS FROM BUREAU OF UTILITIES INFORMATION	
TOTAL LENGTH		2,845		

- NOTES:
1. CONTRACTOR IS TO REPLACE WATER SERVICE CONNECTIONS IN KIND WITH THE SAME SIZE SERVICE CONNECTION AS EXISTING. THE METER VAULT AND SETTING SHALL BE REPLACED BY THE CONTRACTOR TO ACCEPT THE EXISTING SIZE METER.
2. THE PROPOSED WATER HOUSE CONNECTION (WHC) REPLACEMENT LENGTH FOR WATER METERS THAT WERE NOT SURVEYED HAS BEEN ESTIMATED FROM INFORMATION PROVIDED BY THE BUREAU OF UTILITIES.

TEST PIT DATA			
NUMBER	UTILITY	MATERIAL	DEPTH
TP-1	12"W (132-W)	CAST IRON	6.17'
TP-1A	12"W (132-W)	CAST IRON	5.22'
TP-2	12"W (34-W)	CAST IRON	3.95'
TP-3	2.5" FIBER OPTIC	PLASTIC CONDUIT	2.66'
TP-4	8"W (3137-W)	CAST IRON	4.25'
TP-5	8"W (3137-W)	CAST IRON	5.47'
TP-6	12"W (34-W)	CAST IRON	3.34'
TP-7	6" GAS	PLASTIC	3.52'
TP-8	OIL LINE	N/A	±9.0'
TP-9	8" OIL LINE	STEEL	7.09'
TP-10	8" OIL LINE	STEEL	5.93'
TP-11	8"W (14-1839-D)	CAST IRON	3.99'
TP-12	8"W (14-3794-D)	CAST IRON	4.03'
TP-13	12"W (34-W)	CAST IRON	4.07'
TP-14	8"W (14-3777-D)	DUCTILE IRON	4.42'
TP-15	12"W (34-W)	DUCTILE IRON	3.86'
TP-16	8"W (14-3161-D)	DUCTILE IRON	5.03'
TP-17	8"W (14-4187-D)	DUCTILE IRON	4.69'
TP-18	6" GAS	PLASTIC	2.09'
TP-19	12"W (34-W)	CAST IRON	3.21'
TP-20	8"W (14-4678-D)	PLASTIC	3.54'
TP-21	8"W (14-3676-D)	DUCTILE IRON	4.51'
TP-22	8"W (14-3923-D)	N/A	±3.74'
TP-23	2"W (WHC?)	COPPER	3.98'
TP-24	2.5" FIBER OPTIC	PLASTIC CONDUIT	3.20'
TP-25	12"W (14-3514-D)	DUCTILE IRON	5.31'
TP-26	6" GAS	PLASTIC	6.52'
TP-27	8"W (14-3120-D)	N/A	±2.0'
TP-28	8"W (14-3988-D)	CAST IRON	4.29'
TP-29	4" GAS	PLASTIC	2.44'
TP-30	12"W (34-W)	CAST IRON	4.03'
TP-31	FIBER OPTIC	PLASTIC CONDUIT	6.95'
TP-32	36"W (3116-W)	N/A	6.91'
TP-33	12"W (34-W)	CAST IRON	4.61'
TP-34	2.5" FIBER OPTIC	PLASTIC CONDUIT	3.52'
TP-35	12"W (34-W)	CAST IRON	5.77'
TP-35A	4" GAS (ABANDONED?)	STEEL	2.55'
TP-36	6" GAS	PLASTIC	3.07'
TP-37	36"W (3116-W)	CAST IRON	4.05'
TP-38	12"W (5-W)	CAST IRON	4.73'
TP-39	2.5" FIBER OPTIC	PLASTIC CONDUIT	2.81'
TP-40	8"W (0864-W)	CAST IRON	4.44'
TP-41	12"W (2-W)	CAST IRON	3.98'
TP-42	2.5" FIBER OPTIC	PLASTIC CONDUIT	2.58'
TP-43	36"W (3116-W)	CAST IRON	4.18'
TP-44	12"W (2-W)	CAST IRON	4.16'
TP-45	2.5" FIBER OPTIC	PLASTIC CONDUIT	5.46'
TP-46	36"W (3116-W)	DUCTILE IRON	6.04'
TP-47	2.5" FIBER OPTIC	PLASTIC CONDUIT	4.19'
TP-48	2.5" FIBER OPTIC	PLASTIC CONDUIT	3.46'
TP-49	12"W (2-W)	CAST IRON	8.36'
TP-50	24" S.D.	CONCRETE	1.21'
TP-50A	12"W (2-W)	CAST IRON	4.42'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

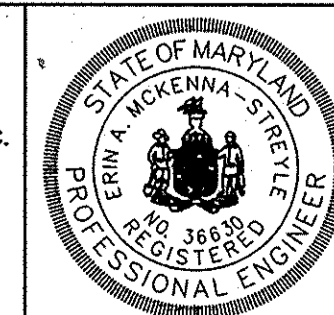
James J. ... 4/6/16
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. Butler 4/5/16
CHIEF, BUREAU OF ENGINEERING DATE

... 4/6/16
CHIEF, BUREAU OF UTILITIES DATE

... 4/6/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Lithium, MD 21086-1014
Phone: (410) 869-3400



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 36830
EXPIRATION DATE: 06/02/16
Erin A. Woodman-Streble, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	600 SCALE MAP NO.

WATER HOUSE CONNECTIONS & TEST PIT DATA

MONTGOMERY ROAD 12"
WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 22 OF 32

FITTING SCHEDULE - 12" W MONTGOMERY ROAD

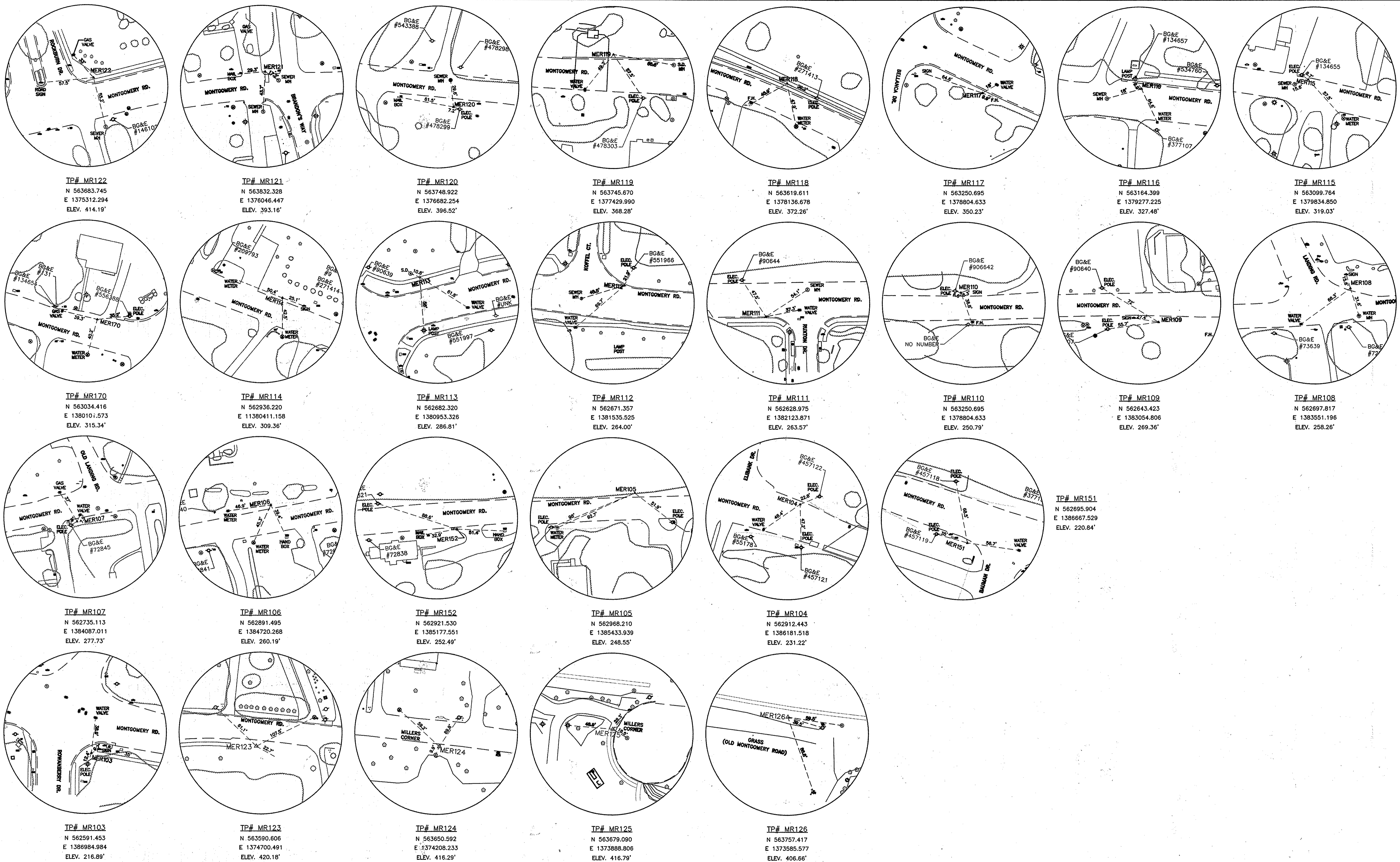
STATION	FITTING	NORTHING	EASTING
0+10	12" VALVE	1,375,249.098	563,629.813
0+28.5=0+00	12"x8" TEE @ ROCKBURN DR.	1,375,267.080	563,634.323
1+50	12" VERT. HD COUPLING 2.2'	1,375,384.892	563,663.872
4+00	12"x6" F.H.T.	1,375,627.380	563,724.695
	6" VALVE, 2.0' RT.	1,375,627.900	563,722.761
	6" FH, 9.2' RT.	1,375,629.820	563,715.335
5+80	12" VERT. HD COUPLING 0.6'	1,375,801.842	563,768.991
6+20	12"-5" HORIZ. SWEEP	1,375,840.798	563,778.462
7+20.2	12" HORIZ. HD COUPLING 3.0'	1,375,939.349	563,795.754
7+75	12"x6" F.H.T.	1,375,993.761	563,802.602
	6" VALVE, 2.0' RT.	1,375,993.998	563,800.975
	6" FH, 13.0' RT.	1,375,995.469	563,790.008
8+00	12" HORIZ. HD COUPLING 3.0'	1,376,018.560	563,805.731
8+24	12" VERT. HD COUPLING 1.7'	1,376,042.406	563,808.270
8+53.4	12" VALVE	1,376,071.839	563,809.645
8+57.4=0+00	12"x8" TEE @ BRANDON'S WAY	1,376,075.816	563,809.908
8+61.4	12" VALVE	1,376,079.817	563,810.227
9+00	12"-5" HORIZ. SWEEP	1,376,118.240	563,813.212
10+00	12"-5" HORIZ. SWEEP	1,376,218.269	563,813.306
10+50	12"-5" HORIZ. SWEEP	1,376,391.581	563,990.959
10+70	12" VERT. HD COUPLING 1.0'	1,376,297.963	563,806.857
11+68	12"x6" F.H.T.	1,376,385.541	563,797.712
	6" VALVE, 2.0' RT.	1,376,385.328	563,795.724
	6" FH, 11' RT.	1,376,384.377	563,786.816
12+25.2	12" VERT. HD COUPLING 1.0'	1,376,442.320	563,791.229
13+77.5	12" VERT. HD COUPLING 1.6'	1,376,593.856	563,775.961
15+40	12"x6" F.H.T.	1,376,554.474	563,758.086
	6" VALVE, 2.0' RT.	1,376,555.242	563,757.097
	6" FH, 13.3' RT.	1,376,554.064	563,745.884
15+69	12" VERT. HD COUPLING 1.3'	1,376,784.315	563,756.074
16+50	12" VALVE	1,376,865.014	563,747.682
17+00	12" HORIZ. HD COUPLING 2.5'	1,376,988.916	563,738.362
17+86.2	12"x8" TEE @ CULLINS WAY	1,377,000.771	563,737.231
19+40	12"x6" F.H.T.	1,377,154.197	563,728.017
	6" VALVE, 2.0' RT.	1,377,154.084	563,726.018
	6" FH, 13.0' RT.	1,377,153.392	563,715.130
19+85.9	12" VERT. HD COUPLING 2.3'	1,377,200.009	563,725.252
21+44	12" VERT. HD COUPLING 1.0'	1,377,357.822	563,715.732
22+63	12"x6" F.H.T.	1,377,476.593	563,708.567
	6" VALVE, 2.0' RT.	1,377,476.485	563,706.570
	6" FH, 10.0' RT.	1,377,479.966	563,697.977
22+75.6	12" VALVE	1,377,489.082	563,707.845
22+87.6=0+00	12"x8" TEE @ ROCKBURN BRANCH PARK RD.	1,377,501.059	563,707.991
23+39=0+00	12"x8" TEE @ ROCKBURN WOODS WAY	1,377,551.504	563,703.997
24+09=0+00	12"x8" TEE @ ROCKBURN E.S.	1,377,622.248	563,699.780
24+13	12" VALVE	1,377,626.239	563,699.572
25+00	12" VERT. HD COUPLING 1.4'	1,377,713.177	563,694.295
25+40	12"-5" HORIZ. SWEEP	1,377,753.195	563,691.874
26+00	12" HORIZ. HD COUPLING 2.1'	1,377,812.564	563,683.049
26+33	12"x6" F.H.T.	1,377,845.005	563,676.995
	6" VALVE, 2.0' RT.	1,377,844.641	563,675.028
	6" FH, 12' RT.	1,377,842.810	563,665.113
27+00	12"-5" HORIZ. SWEEP	1,377,910.632	563,663.507
27+50	12" HORIZ. HD COUPLING 2.1'	1,377,959.151	563,652.103
27+73.6	12" VERT. HD COUPLING 1.4'	1,377,981.832	563,644.916
28+85.9	12"-11.25" HORIZ. BEND	1,378,029.528	563,612.996
29+25.2	12" VERT. HD COUPLING 1.3'	1,378,125.296	563,596.175
29+50	12" VALVE	1,378,147.414	563,584.930
30+33	12"x6" F.H.T.	1,378,222.840	563,550.300
	6" VALVE, 2.0' RT.	1,378,221.992	563,548.488
	6" FH, 11.7' RT.	1,378,217.841	563,539.703
31+31.9	12" VERT. HD COUPLING 0.5'	1,378,312.344	563,508.206
32+91=0+00	12"x8" TEE @ CARTER'S CROSSING	1,378,455.969	563,440.649
34+33	12"x6" F.H.T.	1,378,584.814	563,380.063
	6" VALVE, 2.0' RT.	1,378,583.959	563,378.255
	6" FH, 10.3' RT.	1,378,580.422	563,370.697
35+85.7	12" VALVE	1,378,722.995	563,315.124
35+89.7=0+00	12"x8" TEE @ BELLANA DR.	1,378,726.597	563,313.382

FITTING SCHEDULE - 12" W MONTGOMERY ROAD (CONTINUED)

STATION	FITTING	NORTHING	EASTING
36+13.3=0+00	12"x8" TEE @ MARBUCK WAY	1,378,748.007	563,303.300
36+17.3	12" VALVE	1,378,751.650	563,301.648
37+71.2	12" VERT. HD COUPLING 1.0'	1,378,890.588	563,236.130
37+91.2	12"-5" HORIZ. SWEEP	1,378,908.973	563,227.611
38+33	12"x6" F.H.T.	1,378,948.360	563,213.852
	6" VALVE, 2.0' RT.	1,378,947.689	563,211.968
	6" FH, 22' RT.	1,378,940.953	563,193.052
38+73.8	12"-5" HORIZ. SWEEP	1,378,986.548	563,200.512
39+98.6	12" HORIZ. HD COUPLING 2.0'	1,379,107.293	563,168.293
40+65.7	12" HORIZ. HD COUPLING 3.0'	1,379,172.722	563,153.273
41+38.8	12"-5" HORIZ. SWEEP	1,379,244.681	563,140.689
42+03	12" VERT. HD COUPLING 1.0'	1,379,308.582	563,134.111
42+33	12"x6" F.H.T.	1,379,338.424	563,131.040
	6" VALVE, 2.0' RT.	1,379,338.212	563,129.051
	6" FH, 11.2' RT.	1,379,337.280	563,119.924
43+30.4	12" HORIZ. HD COUPLING 1.7'	1,379,435.329	563,121.064
43+36.7=0+00	12"x8" TEE @ PARKVIEW CT.	1,379,443.431	563,120.544
43+55.5	12" VERT. HD COUPLING 1.2'	1,379,460.287	563,119.466
44+00	12" VALVE	1,379,504.654	563,116.713
44+50.5	12" HORIZ. HD COUPLING 2.0'	1,379,555.166	563,113.487
45+84.5	12" HORIZ. HD COUPLING 1.3'	1,379,668.014	563,102.945
46+05	12" VERT. HD COUPLING 0.7'	1,379,723.704	563,096.255
46+25	12"x6" F.H.T.	1,379,728.684	563,095.859
	6" VALVE, 2.0' RT.	1,379,728.418	563,093.675
	6" FH, 10.7' RT.	1,379,727.393	563,085.058
46+87	12" HORIZ. HD COUPLING 3.0'	1,379,790.699	563,088.259
47+07	12" HORIZ. HD COUPLING 1.5'	1,379,809.972	563,084.839
47+27	12" HORIZ. HD COUPLING 3.0'	1,379,829.581	563,080.903
47+73.5	12" VERT. HD COUPLING 0.6'	1,379,874.670	563,069.631
48+49.8	12" HORIZ. HD COUPLING 1.0'	1,379,948.543	563,050.602
48+69.8	12" VERT. HD COUPLING 0.5'	1,380,064.334	563,018.933
50+10	12"x6" F.H.T.	1,380,103.111	563,000.328
	6" VALVE, 2.0' RT.	1,380,102.575	563,006.401
	6" FH, 11.2' RT.	1,380,100.161	562,997.543
51+46	12" VALVE	1,380,234.099	562,972.503
51+50=0+00	12"x8" TEE @ MONTEREY RD.	1,380,237.965	562,971.448
51+57	12" HORIZ. HD COUPLING 3.0'	1,380,244.886	562,969.553
51+64	12" VALVE	1,380,251.569	562,967.378
52+25	12" HORIZ. HD COUPLING 3.0'	1,380,310.510	562,947.784
53+78	12"x6" F.H.T.	1,380,454.285	562,891.812
	6" VALVE, 2.0' RT.	1,380,454.963	562,893.694
	6" FH, 26.8' RT.	1,380,463.396	562,916.968
55+76	12" VERT. HD COUPLING 0.7'	1,380,635.550	562,802.852
56+71.2	12" VERT. HD COUPLING 1.0'	1,380,725.264	562,786.313
57+40	12"x6" F.H.T.	1,380,789.377	562,761.353
	6" VALVE, 2.0' LT.	1,380,790.104	562,763.216
	6" FH, 16.0' LT.	1,380,795.213	562,776.344
57+61.8	12"-22.5" HORIZ. BEND	1,380,809.664	562,753.455
58+41.6	12" VERT. HD COUPLING 0.8'	1,380,862.383	562,675.628
59+03	12"-45" HORIZ. BEND	1,380,903.006	562,647.526
59+06	12"-22.5" HORIZ. BEND	1,380,905.871	562,648.232
59+19.8	12" VALVE	1,380,919.208	562,651.696
59+24.8=0+00	12"x12" TEE @ DEBORAH JEAN DR.	1,380,924.088	562,652.911
59+29.8	12" VALVE	1,380,928.896	562,654.181
60+33.4	12"-5" HORIZ. SWEEP	1,381,028.255	562,679.820
60+73.0	12"-5" HORIZ. SWEEP	1,381,068.655	562,686.642
61+40	12"x6" F.H.T.	1,381,135.107	562,691.280
	6" VALVE, 2.0' LT.	1,381,134.920	562,693.272
	6" FH, 12.1' LT.	1,381,133.940	562,703.310
61+53.4	12" HORIZ. HD COUPLING 2.5'	1,381,148.345	562,692.284
62+31.7	12"-5" HORIZ. SWEEP	1,381,226.588	562,694.811
62+80.9	12" VERT. HD COUPLING 0.4'	1,381,275.746	562,695.048
63+60.5	12"-5" HORIZ. SWEEP	1,381,354.915	562,687.733
64+20	12"x6" F.H.T.	1,381,413.953	562,679.890
	6" VALVE, 2.0' LT.	1,381,414.256	562,682.118
	6" FH, 10.2' LT.	1,381,415.324	562,690.068
64+49.5	12" VERT. HD COUPLING 1.2'	1,381,443.594	562,675.930
64+67	12"-11.25" VERT. BEND	1,381,460.937	562,673.589

FITTING SCHEDULE - 12" W MONTGOMERY ROAD (CONTINUED)

STATION	FITTING	NORTHING	EASTING
64+72	12" VALVE	1,381,465.637	562,673.041
64+76=0+00	12"x8" TEE @ JOHN CALVERT CT.	1,381,469.598	562,672.480
64+83.2=0+00	12"x8" TEE @ KOFFEL CT.	1,381,477.044	562,671.481
64+96	12" VALVE	1,381,489.419	562,669.878
65+01	12" VERT. HD COUPLING 1.0'	1,381,494.645	562,669.140
66+00	12"-11.25" HORIZ. BEND	1,381,592.382	562,656.152
66+39	12"-22.5" HORIZ. BEND	1,381,628.618	562,641.805
67+15.7	12" VERT. HD COUPLING 0.8'	1,381,705.364	562,643.017
67+55	12"x6" F.H.T.	1,381,744.667	562,643.637
	6" VALVE, 2.0' LT.	1,381,744.624	562,645.636
	6" FH, 23.2' LT.	1,381,744.296	562,666.789
67+60	12" VERT. HD COUPLING 2.5'	1,381,749.659	562,643.715
68+10.3	12" VERT. HD COUPLING 1.6'	1,381,799.953	562,644.509
68+30.3	12" HORIZ. HD COUPLING 3.0'	1,381,819.950	562,644.825
68+30.3	12" HORIZ. HD COUPLING 2.8'	1,381,819.852	562,641.169
69+35.3	12" VERT. HD COUPLING 1.6'	1,381,924.165	562,641.227
70+39.6	12" VERT. HD COUPLING 0.8'	1,382,029.849	562,642.438
70+50	12"x6" F.H.T.	1,382,039.542	562,642.559
	6" VALVE, 2.0' RT.	1,382,039.591	562,640.560
	6" FH, 11.7' RT.	1,382,039.749	562,630.874
71+24	12" VERT. HD COUPLING 1.0'	1,382,113.543	562,643.419
71+61.8	12" VALVE	1,382,151.342	562,643.888
71+65.8=0+00	12"x8" TEE @ RUXTON DR.	1,382,155.348	562,643.921
71+69.8	12" VALVE	1,382,159.342	562,643.981
74+50	12"x6" F.H.T.	1,382,439.521	562,647.208
	6" VALVE, 2.0' RT.	1,382,439.511	562,645.207
	6" FH, 11.7' RT.	1,382,439.646	562,637.448
75+12.7	12" VERT. HD COUPLING 2.1'	1,382,502.217	562,647.937
76+09.4	12" VERT. HD COUPLING 1.7'	1,382,598.910	562,649.060
78+20	12" VERT. HD COUPLING 1.0'	1,382,809.498	562,651.507
78+25	12"x6" F.H.T.	1,382,814.496	562,651.565
	6" VALVE, 2.0' RT.	1,382,814.484	562,649.565
	6" FH, 9.2' RT.	1,382,814.603	562,642.357
79+25	12" VALVE	1,382,914.483	562,652.727
80+16	12" VERT. HD COUPLING 2.0'	1,383,005.489	562,653.785
80+63.3	12" VERT. HD COUPLING 1.1'	1,383,052.779	562,654.334
81+93	12"x6" F.H.T.	1,383,184.490	562,655.865
	6" VALVE, 2.0' RT.	1,383,184.478	562,653.865
	6" FH, 9.2' RT.	1,383,184.597	562,646.657
82+16	12"-45" HORIZ. BEND	1,383,205.827	562,656.076
82+35.4	12"-45" HORIZ. BEND	1,383,219.410	562,669.979
82+71.5	12" VERT. HD COUPLING 0.7'	1,383,255.485	562,669.979
82+91.5	12" HORIZ. HD COUPLING 1.2'	1,383,275.508	562,669.979
84+04.5	12" VALVE	1,383,388.432	562,672.432
84+08.5=0+00	12"x8" TEE @ TIMBERVIEW DR.	1,383,392.418	562,672.498
85+01.3	12"-45" VERT. BEND	1,383,419.752	562,674.324
85+03.4	12"-45" VERT. BEND	1,383,484.425	562,676.770
85+18.6=0+00	12"x8" TEE @ LANDING RD.	1,383,502.580	562,674.944
85+22.6	12" VALVE	1,383,506.579	562,675.036
85+32.6	12" HORIZ. HD COUPLING 1.3'	1,383,516.540	562,675.253
85+52.6	12" VERT. HD COUPLING 1.0'	1,383,536.185	562,676.142
85+72.6	12" HORIZ. HD COUPLING 2.1'	1,383,556.516	562,677.063
85+93	12"x6" F.H.T.	1,383,576.817	562,678.377
	6" VALVE, 2.0' LT.	1,383,576.653	562,680.730
	6" FH, 15.4' LT.	1,383,575.552	562,



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 4/6/16
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/15/16
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/16/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker International
MICHAEL BAKER INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 885-3400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 36530
EXPIRATION DATE: 08/02/18
[Signature]
DIN W. STEIN-STRUBLE, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

SURVEY CONTROL DATA

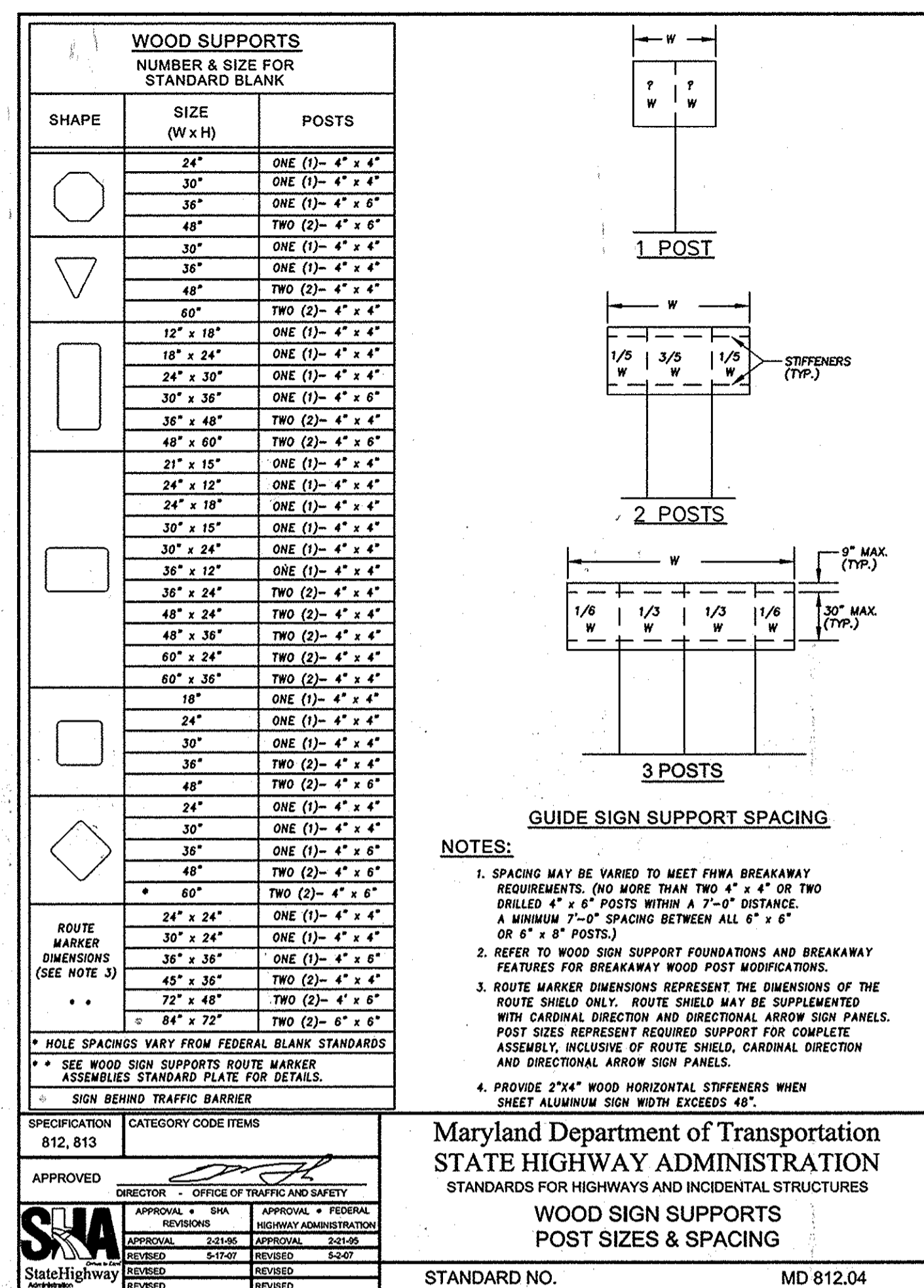
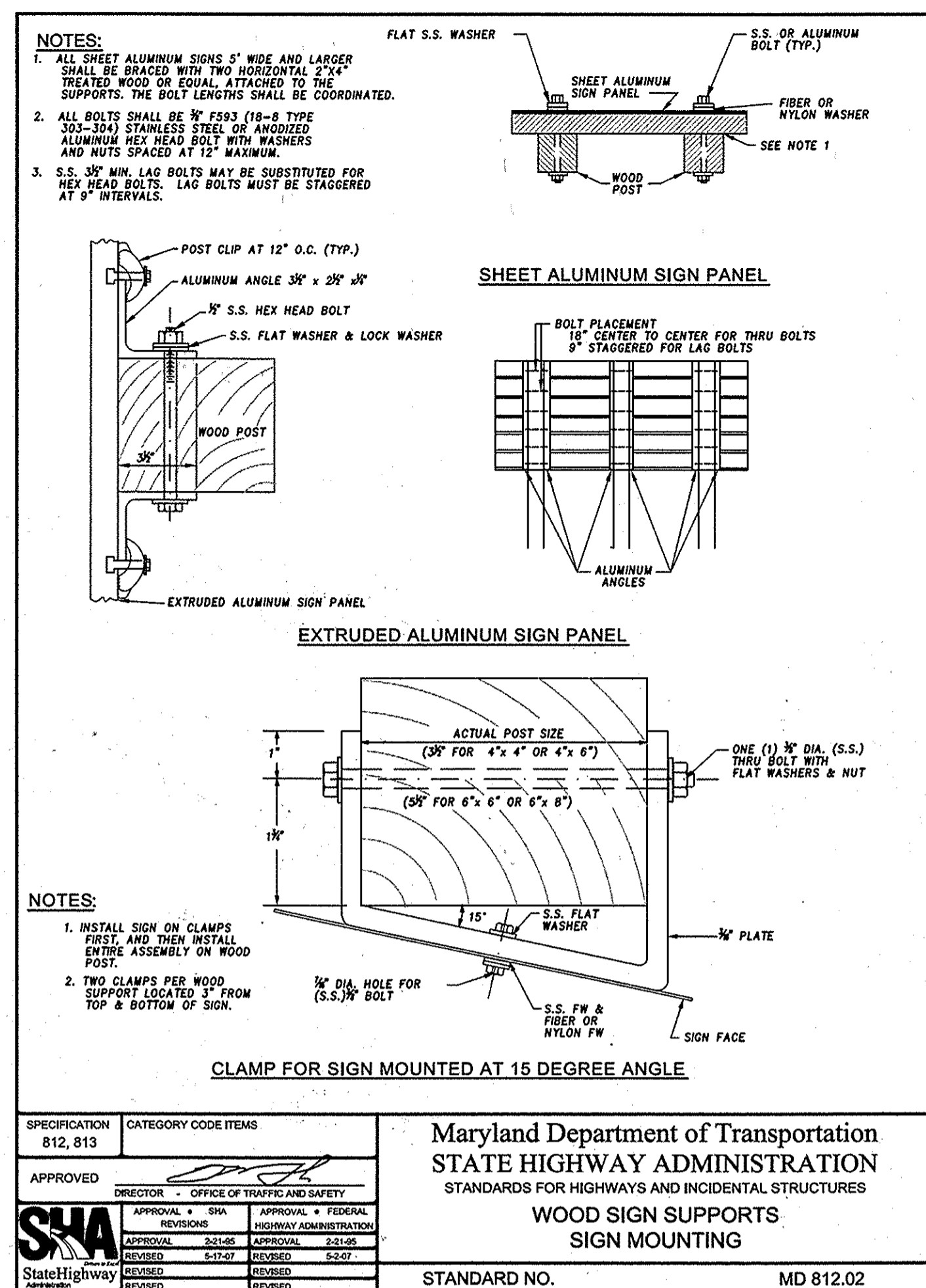
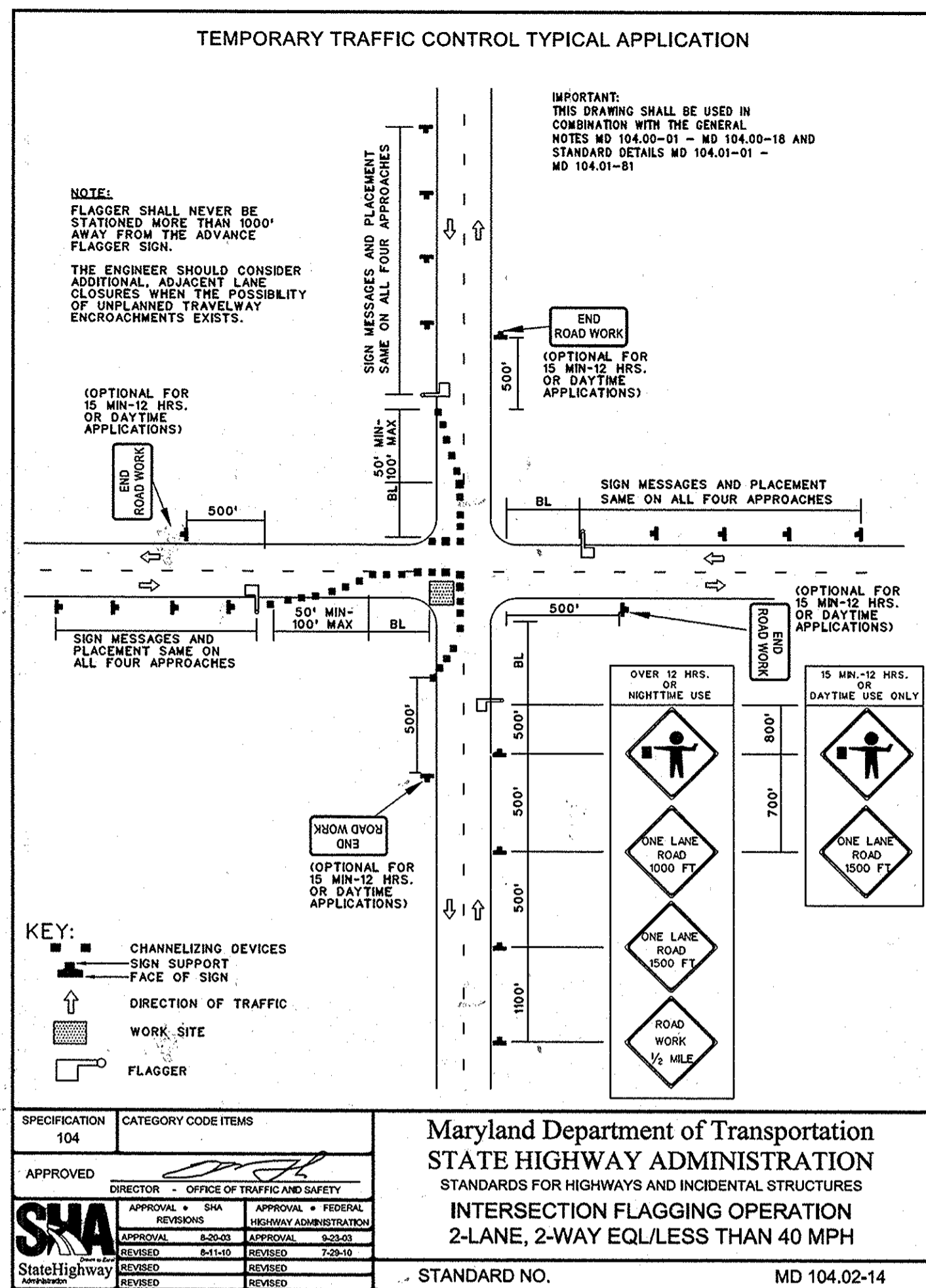
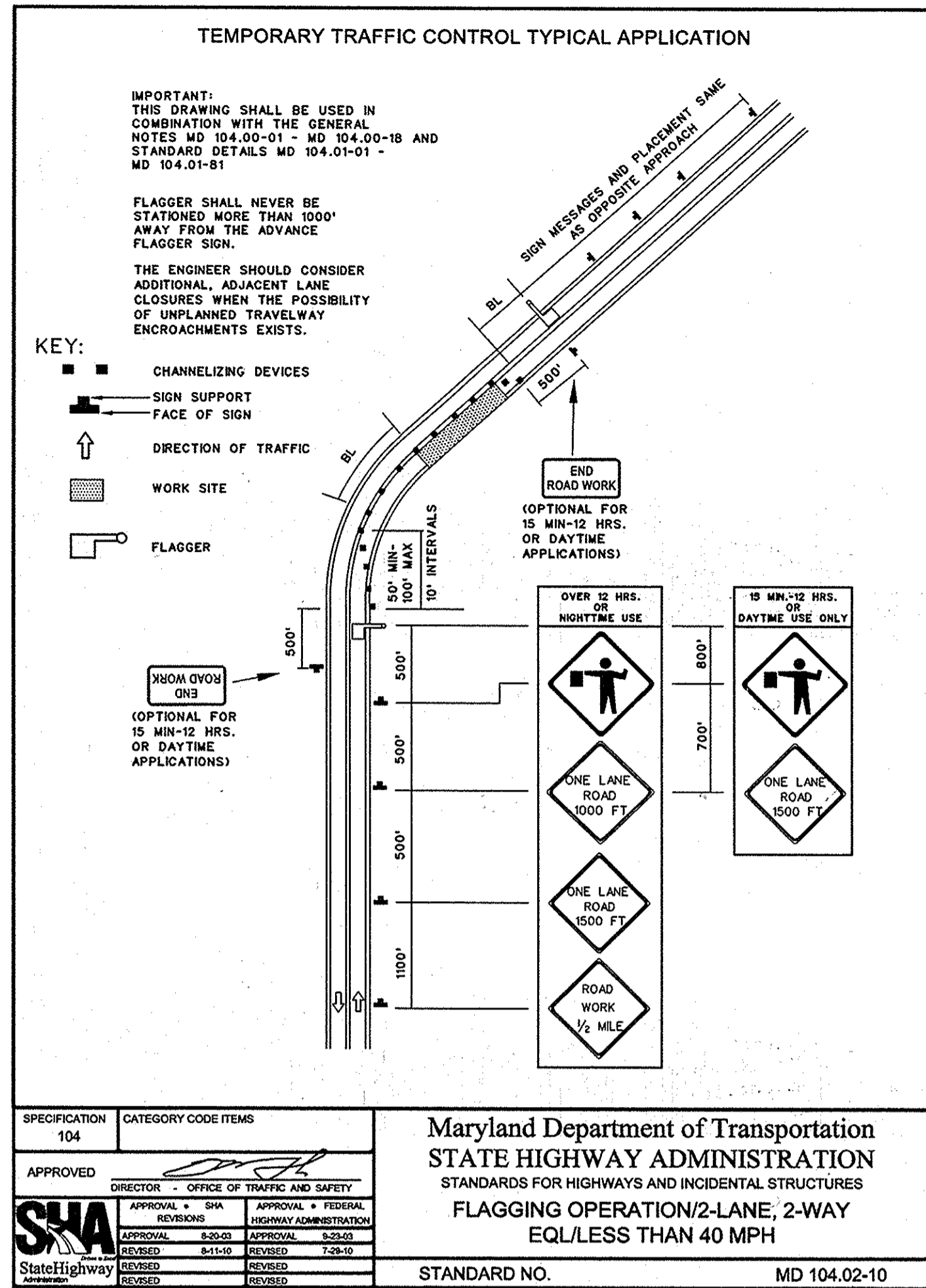
600 SCALE MAP NO. _____

BLOCK NO. _____

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

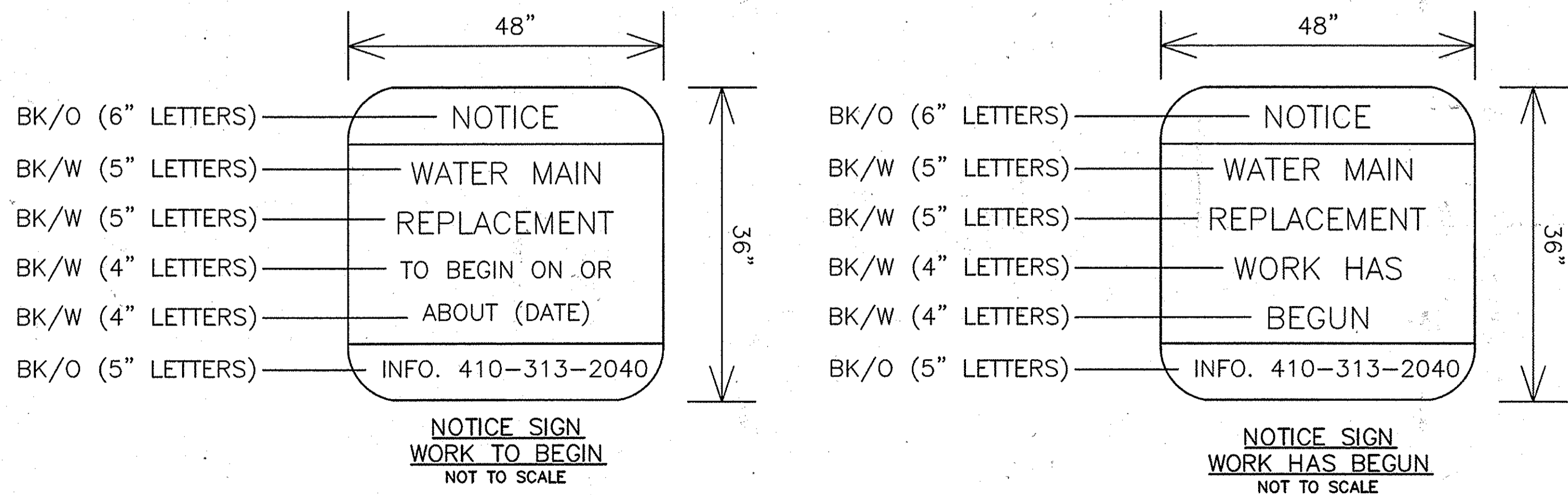
SCALE AS SHOWN

SHEET 24 OF 32



TRAFFIC CONTROL NOTES:

- THE CONTRACTOR IS TO USE DETAIL MD 104.02-14 AT THE FOLLOWING INTERSECTIONS:
 - A. ROCKBURN DRIVE AND MONTGOMERY ROAD
 - B. BRANDON'S WAY AND MONTGOMERY ROAD
 - C. ROCKBURN BRANCH PARK ROAD AND MONTGOMERY ROAD
 - D. ROCKBURN WOODS WAY AND MONTGOMERY ROAD
 - E. 6191 MONTGOMERY ROAD AND MONTGOMERY ROAD
 - F. MARBUCK WAY AND MONTGOMERY ROAD
 - G. BELLANCA DRIVE AND MONTGOMERY ROAD
 - H. DARVIEW COURT AND MONTGOMERY ROAD
 - I. PARKVIEW COURT AND MONTGOMERY ROAD
 - J. MONTEREY ROAD AND MONTGOMERY ROAD
 - K. HAWKS WATCH DEVELOPMENT AND MONTGOMERY ROAD
 - L. DEBORAH JEAN DRIVE AND MONTGOMERY ROAD
 - M. KOFFEL COURT AND MONTGOMERY ROAD
 - N. RUXTON DRIVE AND MONTGOMERY ROAD
 - O. TIMBERVIEW DRIVE AND MONTGOMERY ROAD
 - P. LANDING ROAD AND MONTGOMERY ROAD
 - Q. HARMAN AVENUE AND MONTGOMERY ROAD
 - R. OLD LANDING ROAD AND MONTGOMERY ROAD
 - S. HUNT CLUB ROAD AND MONTGOMERY ROAD
 - T. OLD HUNT CLUB ROAD AND MONTGOMERY ROAD
 - U. ELIBANK DRIVE AND MONTGOMERY ROAD
 - V. BAUMAN DRIVE AND MONTGOMERY ROAD
 - W. MILLERS CORNER AND MONTGOMERY ROAD
- THE CONTRACTOR IS TO USE DETAIL MD 104.02-10 ALONG MONTGOMERY ROAD AND MILLERS CORNER EXCEPT AT INTERSECTIONS.
- 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 FOR TO FOLLOW ALL STANDARDS FOUND IN THIS BOOK OF STANDARDS.
- THE CONTRACTOR SHALL CONTINUOUSLY PROVIDE ACCESS TO ALL EXITS, INTERSECTING ROADS, DRIVEWAYS AND ENTRANCES ALONG MONTGOMERY ROAD DURING THE COURSE OF THIS PROJECT.
- THE CONTRACTOR SHALL BACKFILL THE TRENCH IMMEDIATELY AFTER THE INSTALLATION OF A SECTION OF PIPE. THE CONTRACTOR SHALL NOT LEAVE AN OPEN TRENCH UNATTENDED.
- 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 STANDARDS.
- THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL ACCIDENTS AND/OR DAMAGE TO PERSONS AND/OR PROPERTY DAMAGE RESULTING FROM HIS OPERATIONS.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DATE 4/16/16
DIRECTOR OF PUBLIC WORKS

[Signature] DATE 4/16/16
CHIEF, BUREAU OF UTILITIES

[Signature] DATE 4/16/16
CHIEF, BUREAU OF ENGINEERING

[Signature] DATE 4/16/16
CHIEF, UTILITY DESIGN DIVISION

MICHAEL BAKER INTERNATIONAL, INC.
1304 Cottingham Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 688-5600

MICHAEL BAKER INTERNATIONAL

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 13658
EXPIRATION DATE: 06/07/16
[Signature]
ERIK X. MCKENNA-STREY, P.E.

DESIGN: EAM

DRAWN: EAM

CHECKED: ERA

DATE: 4/5/2016 NO. REVISION DATE BY

600 SCALE MAP NO. BLOCK NO.

TRAFFIC CONTROL DETAILS

MONTGOMERY ROAD 12"
WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN

SHEET 25 OF 32

TEMPORARY SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT.)

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.07 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT OR HIGHER, USE 348 GAL PER ACRE SPREADER MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

PERMANENT SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS OF BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED** - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT.).
- ACCEPTABLE** - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY, OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING FOR SITE STABILIZATION

HARDINESS ZONE (FROM FIGURE B.3): 6b SEED MIXTURE (FROM TABLE B.1): SEE BELOW					
PLANT SPECIES	SEEDING RATE ^{1/} (LB/AC)	SEEDING DATES ^{2/}	SEEDING DEPTH ^{3/} (INCHES)	FERTILIZER RATE (10-20-20)	LIME RATE
COOL-SEASON GRASSES					
NO. ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MULTIFLORUM)	40	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	0.5	438 LB/AC (10 LB./1000 SF)	2 TONS/AC (90 LB./1000 SF)
BARLEY (HORDEUM VULGARE)	96	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	1.0		
OATS (Avena SATIVA)	72	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	1.0		
WHEAT (TRITICUM AESTIVUM)	120	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	1.0		
CEREAL RYE (SECALE CEREALE)	112	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	1.0		
WARM-SEASON GRASSES					
FOXTAIL MILLET (SETARIA ITALICA)	30	MAY 16 TO JUL. 31	0.5		
PEARL MILLET (PENNISETUM GLAUCUM)	20	MAY 16 TO JUL. 31	0.5		

- NOTES:
- SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES.
 - SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS. WHEN PLANTED ALONE, WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN SIX (6) TIMES (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE.
 - OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.
 - FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
 - THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

PERMANENT SEEDING FOR SITE STABILIZATION

HARDINESS ZONE (FROM FIGURE B.3): 6b SEED MIXTURE (FROM TABLE B.1): SEE BELOW					FERTILIZER RATE (10-20-20)			LIME RATE
WARM-SEASON/COOL-SEASON GRASS MIXES					N	P ₂ O ₅	K ₂ O	
NO.	PLANT SPECIES	SEEDING RATE ^{1/} (LB/AC)	SEEDING DATES	SEEDING DEPTH (INCHES)				
1	SWITCH GRASS (Panicum VIRGATUM)	10	MAY 16 TO JUL. 31	1/4"-1/2"	45 LB/AC (1 LB./1000 SF)	90 LB/AC (2 LB./1000 SF)	90 LB/AC (2 LB./1000 SF)	2 TONS/AC (90 LB./1000 SF)
	CREEPING RED FESCUE (FESTUCA RUBRA VAR. RUBRA)	15	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	1/4"-1/2"				
	PARTRIDGE PEA (HAMAMECRISTA FASCICULATE)	4	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	1/4"-1/2"				

- NOTES:
- SEEDING RATES: SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES MUST BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES, LEGUMES, OR WILDFLOWERS. ALL LEGUME SEEDS MUST BE INOCULATED BEFORE PLANTING WITH THE APPROPRIATE RHIZOBIUM BACTERIA. WHEN FEASIBLE, HARD-SEEDED LEGUMES SHOULD BE SCARIFIED TO IMPROVE GERMINATION.

THIS DEVELOPMENT PLAN
IS APPROVED FOR SOIL
EROSION AND SEDIMENT
CONTROL BY THE HOWARD
SOIL CONSERVATION
DISTRICT
Approved: *[Signature]*
Howard SCD
4/7/16

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 4/5/16
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/5/16
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/5/16
CHIEF, UTILITY DESIGN DIVISION DATE

[Signature] 4/5/16
CHIEF, BUREAU OF UTILITIES DATE

Michael Baker INTERNATIONAL

MICHAEL BAKER INTERNATIONAL, INC.
1304 Centocore Drive, Suite 200
Linthicum, MD 21090-1014
Phone: (410) 688-5400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

EXPIRATION DATE: 05/07/16

[Signature]
ERIN MCKENNA-STREBLE, P.E.

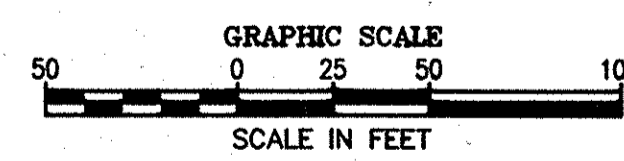
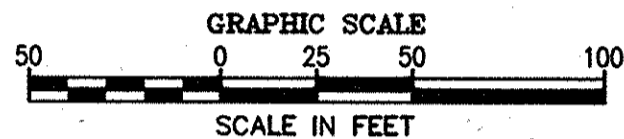
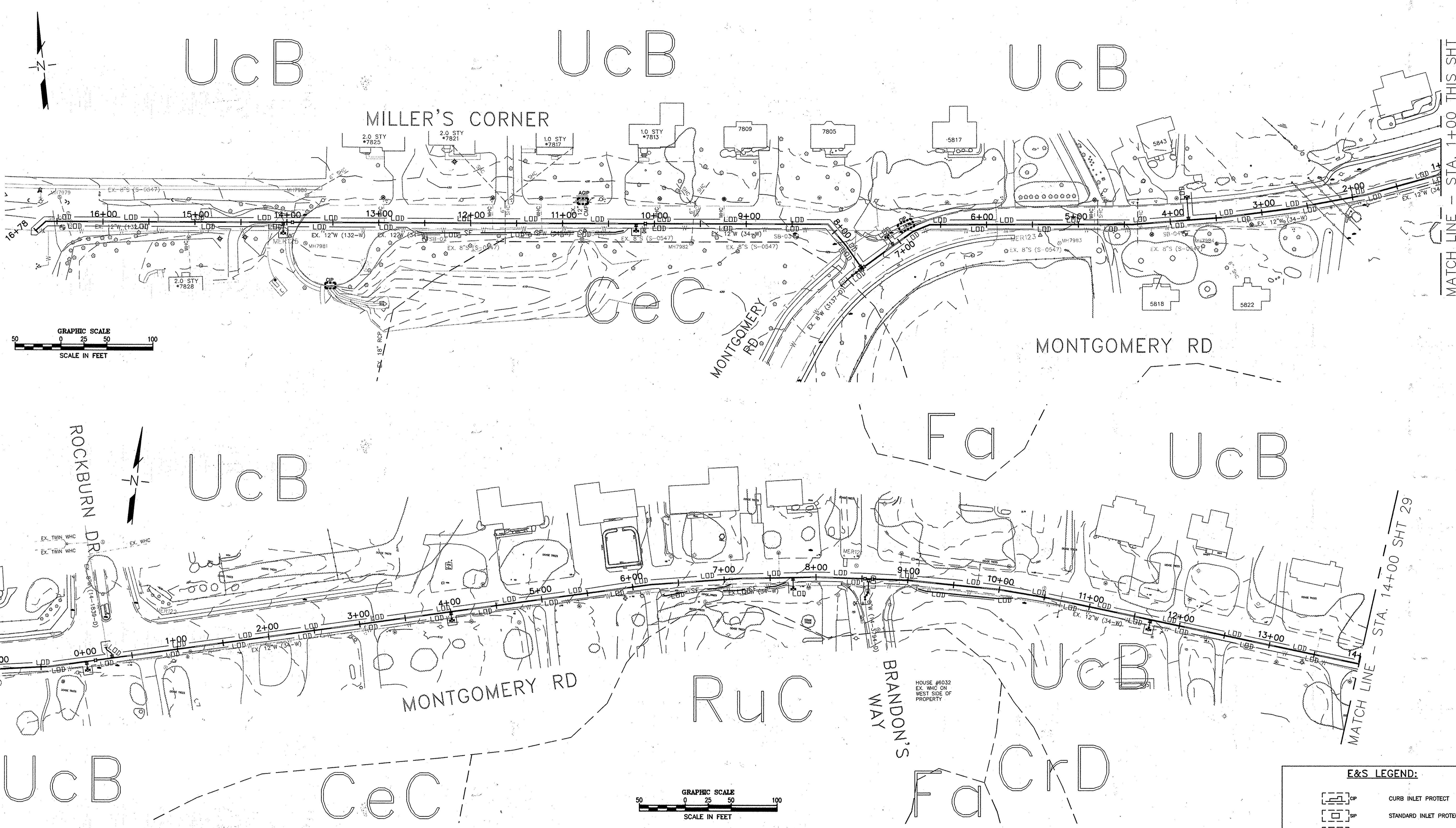
DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

EROSION & SEDIMENT
CONTROL NOTES & DETAILS

MONTGOMERY ROAD 12"
WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE
AS SHOWN

SHEET
22 OF 32



- NOTES:
- SOIL DATA IS BASED ON THE WEB SOIL SURVEY WEBSITE BY THE USDA NATURAL RESOURCES CONSERVATION SERVICE.
 CeC: CHILLUM LOAM, 2 TO 5 PERCENT SLOPES
 CrD: CROOM AND EVESBORO SOILS, 10 TO 15 PERCENT SLOPES
 Fa: FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
 RuC: RUSSETT AND BELTSVILLE SOILS, 5 TO 10 PERCENT SLOPES
 SFB: SASSAFRAS GRAVELLY SANDY LOAM, 2 TO 5 PERCENT SLOPES
 UcB: URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES
 UoB: URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX, 0 TO 15 PERCENT SLOPES
 UoD: URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX, 5 TO 15 PERCENT SLOPES
 WoB: WOODSTOWN SANDY LOAM, 2 TO 5 PERCENT SLOPES
 - TOP SOIL SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF THE SHA STANDARD SPECIFICATION OF CONSTRUCTION AND MATERIALS, SECTION 920-LANDSCAPING MATERIALS.

E&S LEGEND:

	CP	CURB INLET PROTECT
	SP	STANDARD INLET PROTECTION
	AGP	AT GRADE INLET PROTECTION
	LOD	LIMIT OF DISTURBANCE
		SOIL BOUNDARY
	ABC	SOIL TYPE
	SF	SILT FENCE
	SSF	SUPER SILT FENCE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John J. ... 4/6/16
 DIRECTOR OF PUBLIC WORKS DATE

Thomas E. Butler 4/15/16
 CHIEF, BUREAU OF ENGINEERING DATE

... 4/6/16
 CHIEF, BUREAU OF UTILITIES DATE

... 4/6/16
 CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
 MICHAEL BAKER INTERNATIONAL, INC.
 1504 Concourse Drive, Suite 200
 Linthicum, MD 21090-1014
 Phone: (410) 688-9400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO.: 36580
 EXPIRATION DATE: 08/07/16
 ERIN A. MCKENNA-STREYLE, P.E.

DESIGN: EAM				
DRAWN: EAM				
CHECKED: ERA				
DATE: 4/5/2016	NO.	REVISION	DATE	BY

EROSION & SEDIMENT CONTROL PLAN

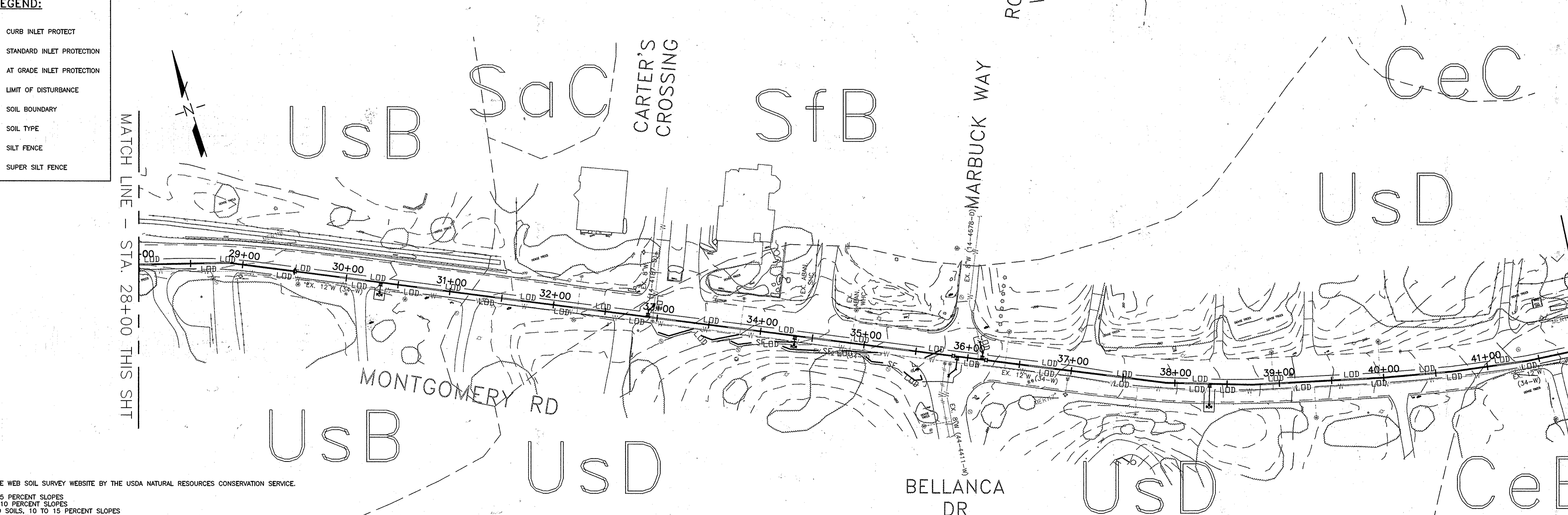
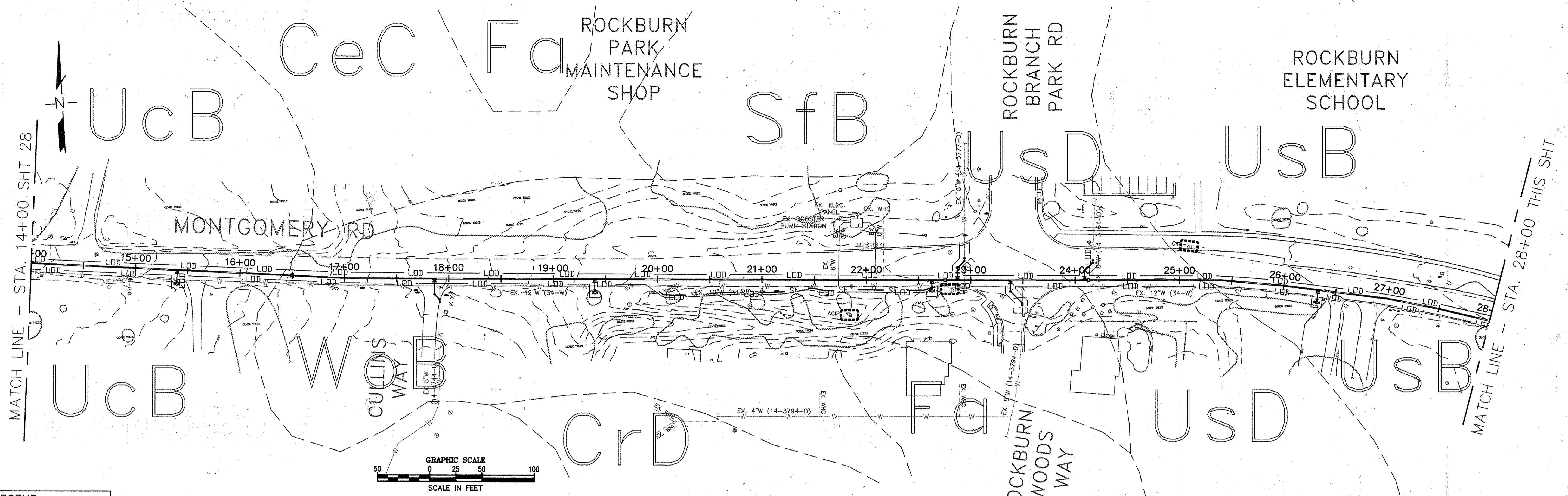
600 SCALE MAP NO. _____

BLOCK NO. _____

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
 MILLER'S CORNER TO LAWYERS HILL RD
 CAPITAL PROJECT NO.: W-8318
 CONTRACT NO.: 44-4843
 1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE: AS SHOWN

SHEET 28 OF 32



E&S LEGEND:

	CURB INLET PROTECT
	STANDARD INLET PROTECTION
	AT GRADE INLET PROTECTION
	LIMIT OF DISTURBANCE
	SOIL BOUNDARY
	SOIL TYPE
	SILT FENCE
	SUPER SILT FENCE

- NOTES:**
- SOIL DATA IS BASED ON THE WEB SOIL SURVEY WEBSITE, BY THE USDA NATURAL RESOURCES CONSERVATION SERVICE.
 - CeB: CHILLUM LOAM, 2 TO 5 PERCENT SLOPES
 - CeC: CHILLUM LOAM, 5 TO 10 PERCENT SLOPES
 - CrD: CROOM AND EVESBORO SOILS, 10 TO 15 PERCENT SLOPES
 - Fa: FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
 - SaC: SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES
 - SfB: SASSAFRAS GRAVELLY SANDY LOAM, 2 TO 5 PERCENT SLOPES
 - UsB: URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES
 - UsD: URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX, 0 TO 15 PERCENT SLOPES
 - UsB: URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX, 5 TO 15 PERCENT SLOPES
 - UsD: URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX, 5 TO 15 PERCENT SLOPES
 - WoB: WOODSTOWN SANDY LOAM, 2 TO 5 PERCENT SLOPES
 - TOP SOIL SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF THE SHA STANDARD SPECIFICATION OF CONSTRUCTION AND MATERIALS, SECTION 920-LANDSCAPING MATERIALS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 4/16/16
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/15/16
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/16/16
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/16/16
CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL

MICHAEL BAKER INTERNATIONAL, INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21086-1014
Phone: (410) 689-3400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 36530 EXPIRATION DATE: 06/22/16

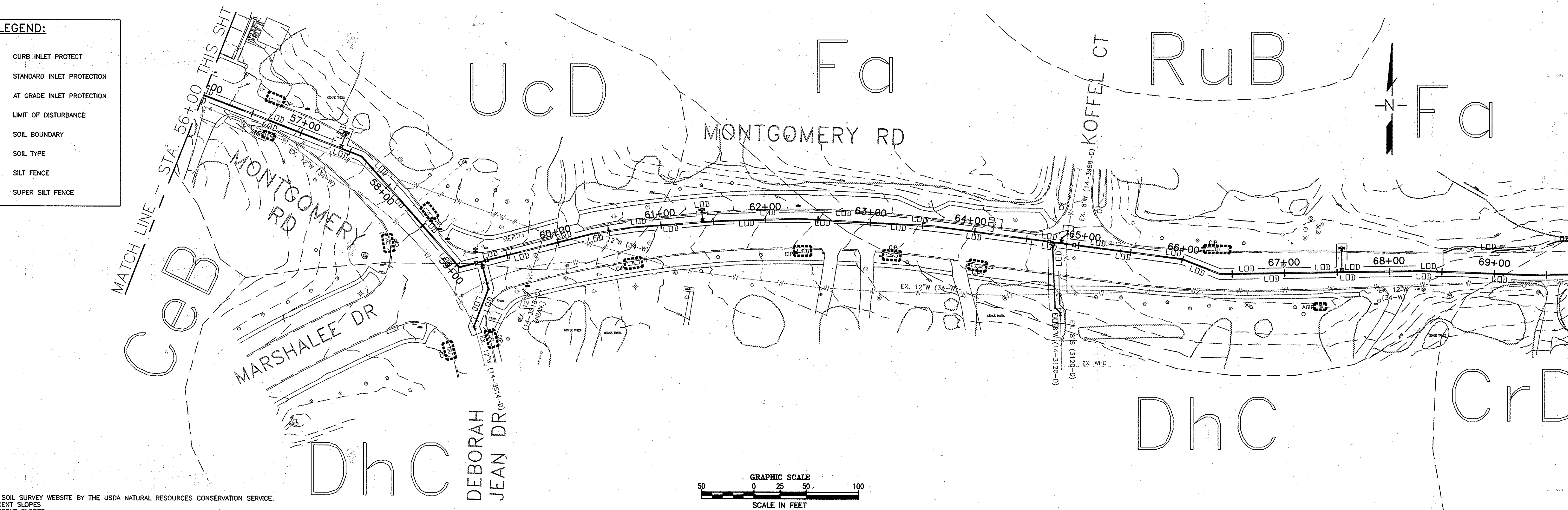
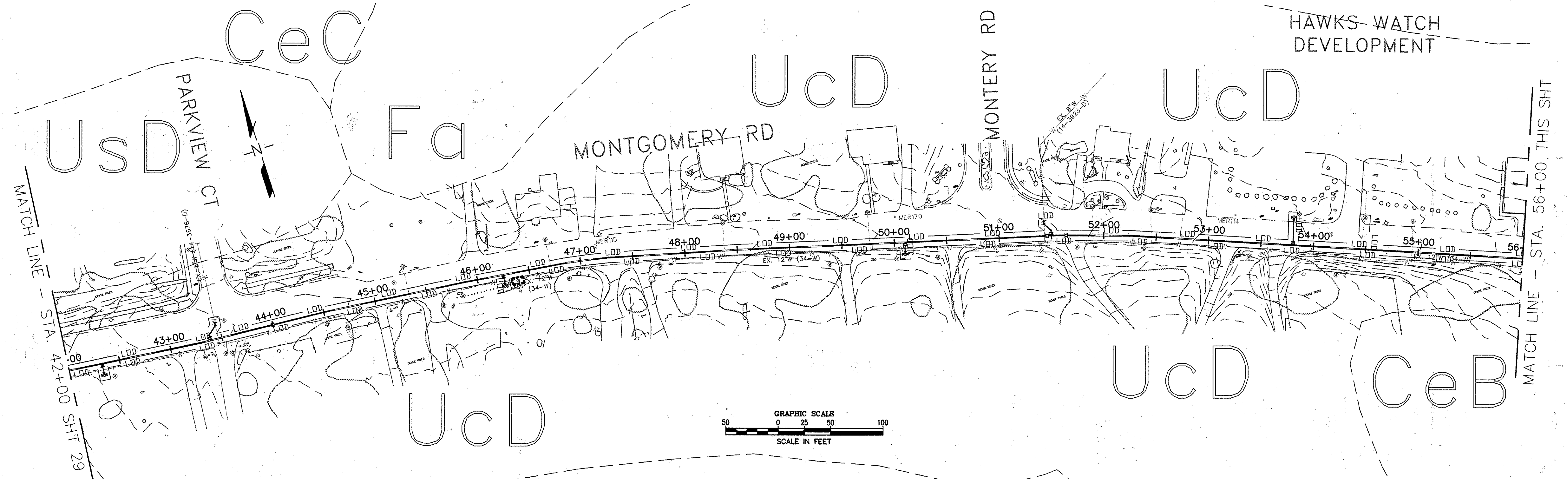
[Signature]
ERIN A. MCKENNA-STREY, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	600 SCALE MAP NO.

EROSION & SEDIMENT CONTROL PLAN

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
MILLER'S CORNER TO LAWYERS HILL RD
CAPITAL PROJECT NO.: W-8318
CONTRACT NO.: 44-4843
1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 29 OF 32



E&S LEGEND:

	CURB INLET PROTECT
	STANDARD INLET PROTECTION
	AT GRADE INLET PROTECTION
	LIMIT OF DISTURBANCE
	SOIL BOUNDARY
	SOIL TYPE
	SILT FENCE
	SUPER SILT FENCE

NOTES:

- SOIL DATA IS BASED ON THE WEB SOIL SURVEY WEBSITE BY THE USDA NATURAL RESOURCES CONSERVATION SERVICE.
 CeC: CHILLUM LOAM, 5 TO 10 PERCENT SLOPES
 UcD: CHILLUM LOAM, 2 TO 5 PERCENT SLOPES
 Fa: FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
 RuB: RUSSETT AND BELTSVILLE SOILS, 2 TO 5 PERCENT SLOPES
 DhC: DOWNER-HAMMONTON SANDY LOAMS, 2 TO 5 PERCENT SLOPES
 CrD: CROOM AND EVESBORO SOILS, 10 TO 15 PERCENT SLOPES
 URB: URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 5 TO 15 PERCENT SLOPES
 URB: URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES
- TOP SOIL SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF THE SHA STANDARD SPECIFICATION OF CONSTRUCTION AND MATERIALS, SECTION 920-LANDSCAPING MATERIALS.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 4/16/16
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/15/16
 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/16/16
 CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/16/16
 CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
 MICHAEL BAKER INTERNATIONAL, INC.
 1204 Concourse Drive, Suite 200
 Linthicum, MD 21090-1014
 Phone: (410) 685-9400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO.: 36830
 EXPIRATION DATE: 06/07/16
[Signature]
 ERIN A. WICKENHA-STRYLE, P.E.

DESIGN: EAM				
DRAWN: EAM				
CHECKED: ERA				
DATE: 4/5/2016	NO.	REVISION	DATE	BY

EROSION & SEDIMENT CONTROL PLAN

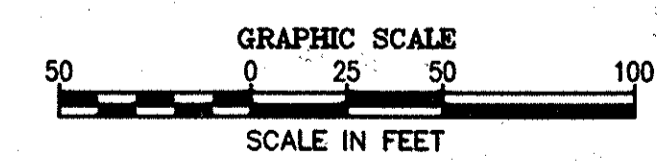
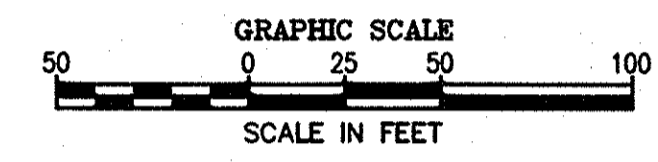
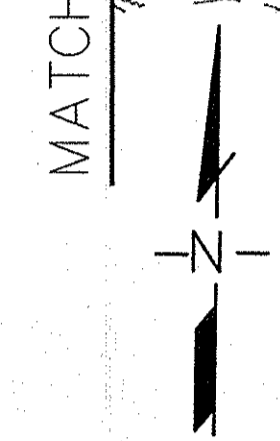
600 SCALE MAP NO. _____
 BLOCK NO. _____

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
 MILLER'S CORNER TO LAWYERS HILL RD
 CAPITAL PROJECT NO.: W-8318
 CONTRACT NO.: 44-4843
 1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
 SHEET 30 OF 32

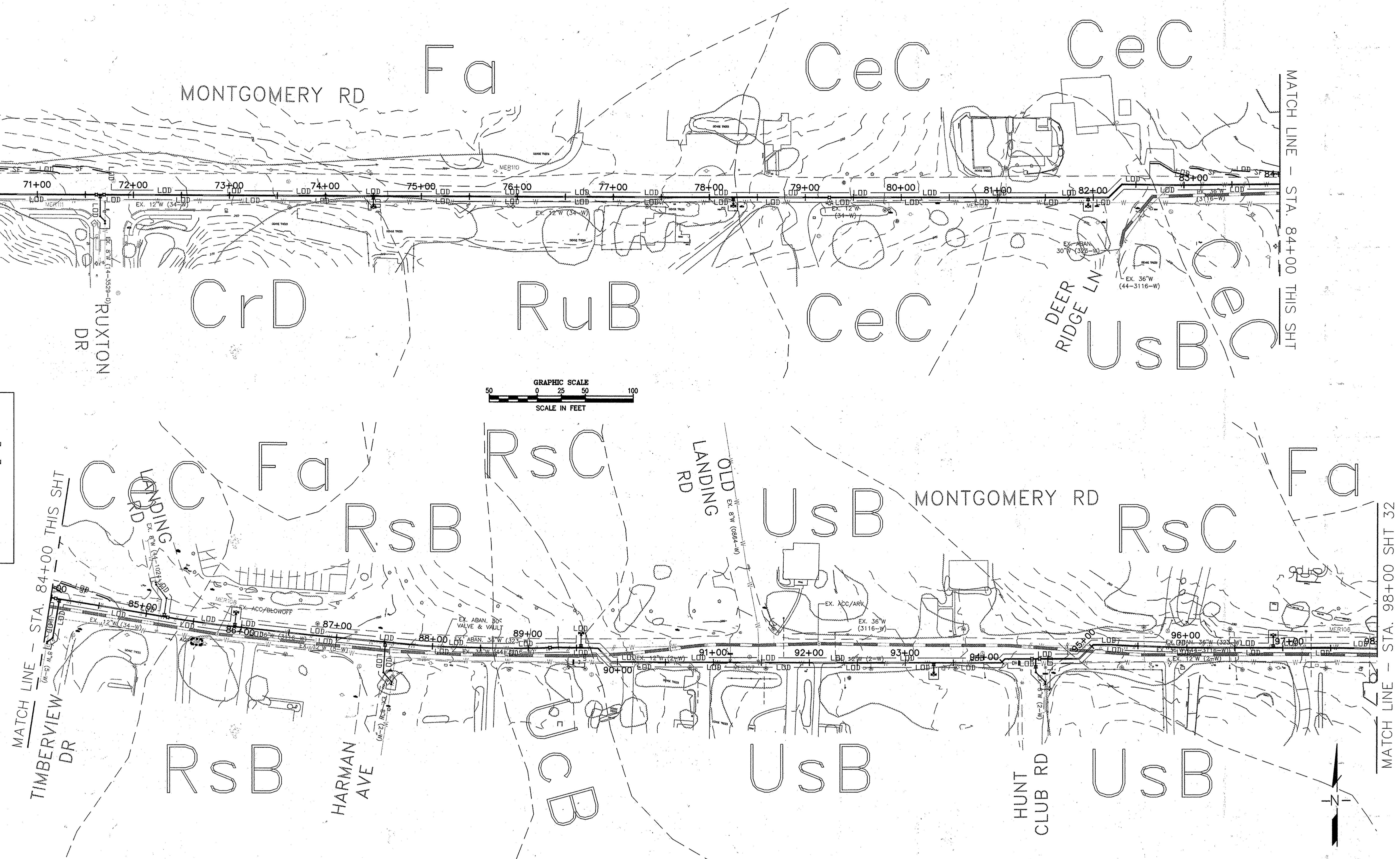
MATCH LINE - STA. 70+00 SHT 30

MATCH LINE - STA. 84+00 THIS SHT



E&S LEGEND:

	CURB INLET PROTECT
	STANDARD INLET PROTECTION
	AT GRADE INLET PROTECTION
	LIMIT OF DISTURBANCE
	SOIL BOUNDARY
	SOIL TYPE
	SILT FENCE
	SUPER SILT FENCE



MATCH LINE - STA. 84+00 THIS SHT

MATCH LINE - STA. 98+00 SHT 32

NOTES:

- SOIL DATA IS BASED ON THE WEB SOIL SURVEY WEBSITE BY THE USDA NATURAL RESOURCES CONSERVATION SERVICE.
 CeC: CHILLUM LOAM, 5 TO 10 PERCENT SLOPES
 CrD: CROOM AND EVESBORO SOILS, 10 TO 15 PERCENT SLOPES
 Fa: FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
 Rsb: RUSSETT FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
 Rsc: RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES
 Rub: RUSSETT AND BELTSVILLE SOILS, 2 TO 5 PERCENT SLOPES
 Ucb: URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES
 Ubs: URBAN LAND-SASSAFRAS-BELTSVILLE-COMPLEX, 0 TO 5 PERCENT SLOPES
- TOP SOIL SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF THE SHA STANDARD SPECIFICATION OF CONSTRUCTION AND MATERIALS, SECTION 920-LANDSCAPING MATERIALS.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

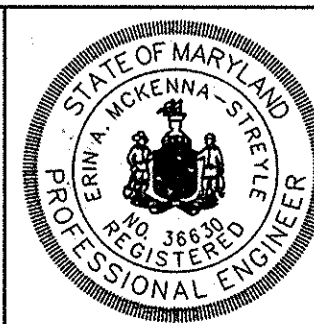
[Signature] 4/16/16
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/16/16
 CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/16/16
 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/16/16
 CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
 MICHAEL BAKER INTERNATIONAL, INC.
 1304 Concourse Drive, Suite 200
 Beltsville, MD 21050-7014
 Phone: (410) 889-9600



PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 366580
 EXPIRATION DATE: 06/02/16
 ERIN M. MCKENNA-STREBLE, P.E.

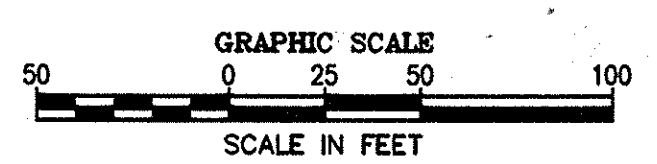
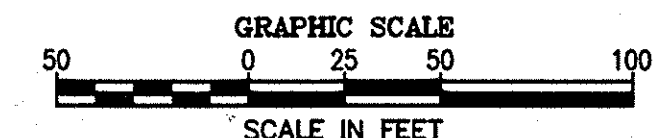
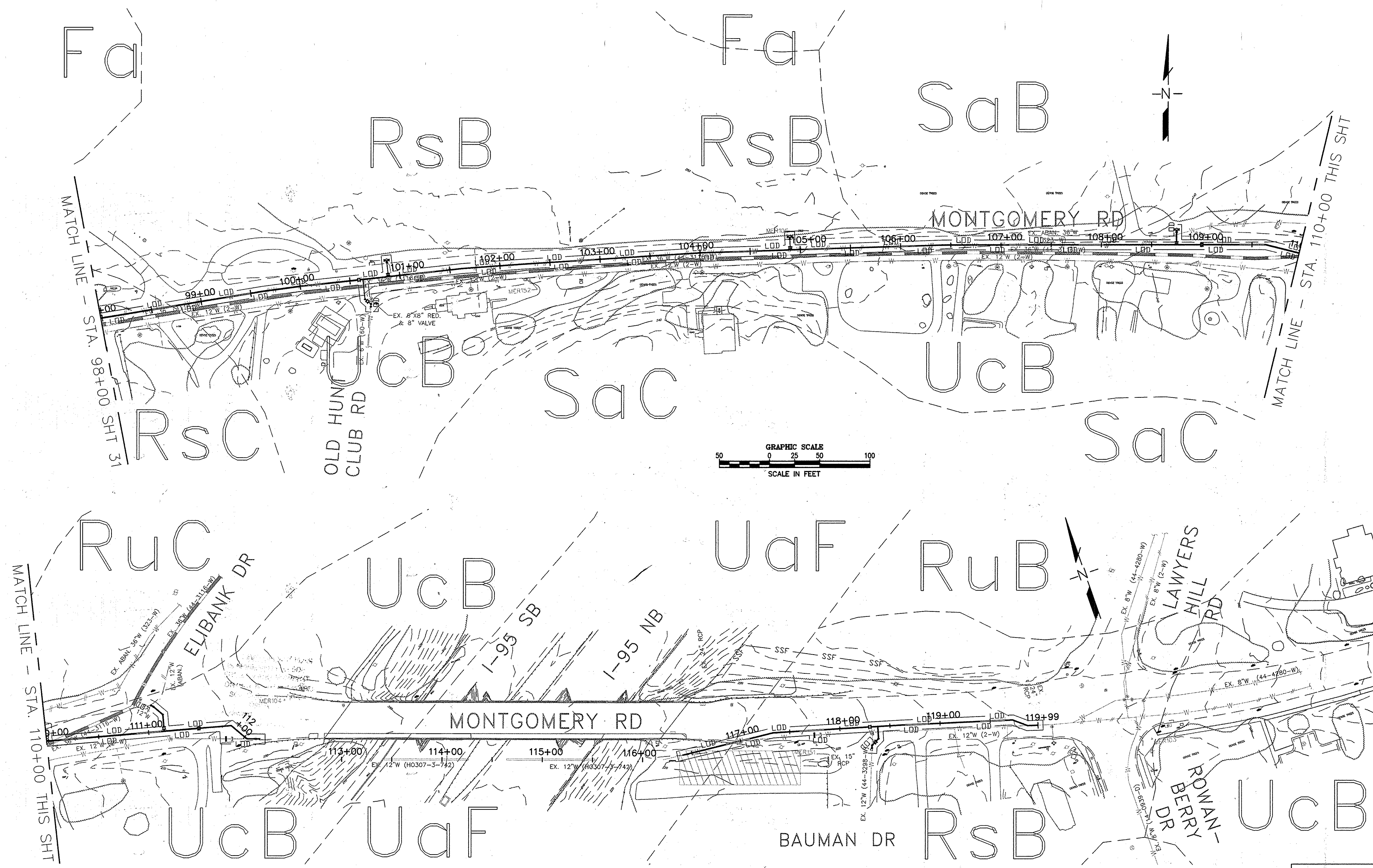
DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

EROSION & SEDIMENT CONTROL PLAN

600 SCALE MAP NO. BLOCK NO.

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
 MILLER'S CORNER TO LAWYERS HILL RD
 CAPITAL PROJECT NO.: W-8318
 CONTRACT NO.: 44-4843
 1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
 SHEET 31 OF 32



E&S LEGEND:

	CIP	CURB INLET PROTECT
	SP	STANDARD INLET PROTECTION
	AGIP	AT GRADE INLET PROTECTION
	LOD	LIMIT OF DISTURBANCE
		SOIL BOUNDARY
	AbC	SOIL TYPE
	SF	SILT FENCE
	SSF	SUPER SILT FENCE

NOTES:

- SOIL DATA IS BASED ON THE WEB SOIL SURVEY WEBSITE BY THE USDA NATURAL RESOURCES CONSERVATION SERVICE.
 Fa: FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
 Rsb: RUSSETT FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
 Rsc: RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES
 Rub: RUSSETT AND BELTSVILLE SOILS, 2 TO 5 PERCENT SLOPES
 Ruc: RUSSETT AND BELTSVILLE SOILS, 5 TO 10 PERCENT SLOPES
 Uaf: UDORHTENTS, HIGHWAY, 0 TO 65 PERCENT SLOPES
 Ucb: URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES
- TOP SOIL SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF THE SHA STANDARD SPECIFICATION OF CONSTRUCTION AND MATERIALS, SECTION 920-LANDSCAPING MATERIALS.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

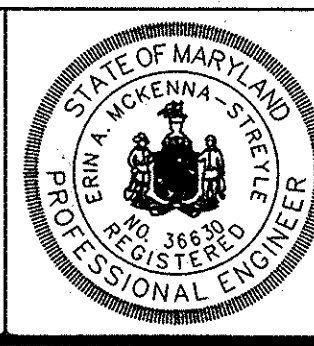
James J. ... 4/6/16
 DIRECTOR OF PUBLIC WORKS DATE

Thomas E. Butler 4/5/16
 CHIEF, BUREAU OF ENGINEERING DATE

Steve ... 4/6/16
 CHIEF, BUREAU OF UTILITIES DATE

... 4/6/16
 CHIEF, UTILITY DESIGN DIVISION DATE

Michael Baker INTERNATIONAL
 MICHAEL BAKER INTERNATIONAL, INC.
 1304 Concourse Drive, Suite 200
 Linthicum, MD 21090-1014
 Phone: (410) 889-3400



PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO.: 36628
 EXPIRATION DATE: 06/02/16
 Erin A. Kennedy-Streble, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: ERA					
DATE: 4/5/2016	NO.	REVISION	DATE	BY	

EROSION & SEDIMENT CONTROL PLAN

600 SCALE MAP NO. _____
 BLOCK NO. _____

MONTGOMERY ROAD 12" WATER TRANSMISSION MAIN
 MILLER'S CORNER TO LAWYERS HILL RD
 CAPITAL PROJECT NO.: W-8318
 CONTRACT NO.: 44-4843
 1ST ELECTION DISTRICT, HOWARD COUNTY, MD

SCALE AS SHOWN
 SHEET 32 OF 32