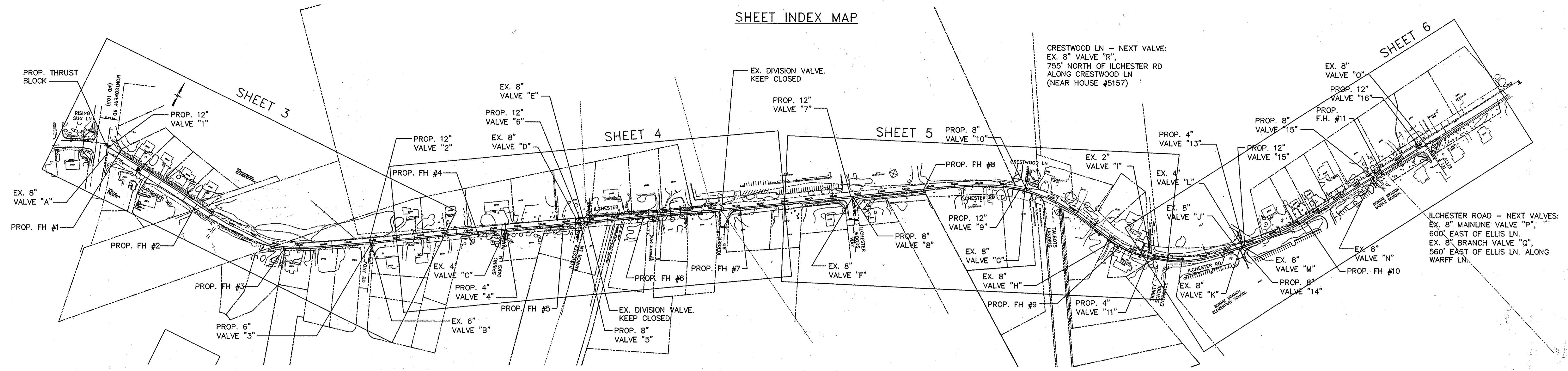


SHEET INDEX MAP



SCALE: 1"=200'

SUGGESTED SEQUENCE OF CONSTRUCTION

PHASE I:

THIS SEQUENCE OF CONSTRUCTION IS WRITTEN IN THE ORDER OF WHICH THE ACTIVITIES SHOULD BE PERFORMED BY THE CONTRACTOR AND DOES NOT INCLUDE CONCURRENT EROSION AND SEDIMENT CONTROL AND MAINTENANCE OF TRAFFIC ACTIVITIES WHICH SHOULD ALSO BE FOLLOWED AS DESCRIBED IN THE CONTRACT DOCUMENTS.

PROP. 12" WATER MAIN - ILCHESTER RD

- INSTALL PROP. 12" PVC WATER MAIN FROM STA. 0+05 TO STA. 57+05, INCLUDING ALL PROP. FIRE HYDRANT TEES, PROP. VALVES AND PROP. FIRE HYDRANTS. INSTALL PROP. FIRE HYDRANT #6 COMPLETE & IN PLACE. 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.
 - FRONT RD UP TO AND INCLUDING PROP. VALVE "3"
 - SPRING OAKS LN UP TO AND INCLUDING PROP. VALVE "4"
 - ILCHESTER MANOR LN UP TO AND INCLUDING PROP. VALVE "5"
 - ILCHESTER WOODS WAY UP TO AND INCLUDING PROP. VALVE "8"
 - CRESTWOOD LN UP TO AND INCLUDING PROP. VALVE "10"
 - CONNECTION AT HOUSE #5060 UP TO AND INCLUDING PROP. VALVE "11"
 - CONNECTION AT BONNIE BRANCH E.S. UP TO AND INCLUDING PROP. VALVE "12"
 - CONNECTION AT CAMP ILCHESTER UP TO AND INCLUDING PROP. VALVE "13"
 - CONNECTION AT BONNIE BRANCH M.S. UP TO AND INCLUDING PROP. VALVE "15"
- PERFORM PRESSURE TEST AND DISINFECT THE 12" MAIN.
- INSTALL PROP. 12"x12" TAPPING SLEEVE AND 12" VALVE (STA. 0+00) AND POUR BUTTRISS PER HOWARD COUNTY STANDARD DETAIL W-2.23 WATER MAIN BUTTRISS FOR TEE.
- CONNECT TO PROP. 12" MAIN (INSTALL PROP. 12" WATER MAIN FROM STA. 0+00 TO STA. 0+05 TO MAKE THE CONNECTION).
- PRESSURIZE THE PROP. 12" MAIN FOR SERVICE.
- RESTORE THE AREA.

PROP. 8" WATER MAIN - FRONT RD

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN:
- CLOSE PROP. VALVE "3" AND EX. VALVE "A".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "3" TO STA. 0+29.3 AND CONNECT TO EX. 6" WATER MAIN (64-W).
 - OPEN PROP. VALVE "3".
 - RESTORE THE AREA.

PROP. 4" WATER MAIN - SPRING OAKS LN

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN:
- CLOSE PROP. VALVE "4" AND EX. VALVE "C".
 - INSTALL PROP. 4" PVC WATER MAIN FROM PROP. VALVE "4" TO STA. 0+21.8 AND CONNECT TO EX. 6" WATER MAIN (1439-33-D).
 - OPEN PROP. VALVE "4".
 - RESTORE THE AREA.

PROP. 8" WATER MAIN - ILCHESTER MANOR LN

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN:
- CLOSE PROP. VALVE "5" AND EX. VALVE "D".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "5" TO STA. 0+16.2 AND CONNECT TO EX. 8" WATER MAIN (14-4171-D).
 - OPEN PROP. VALVE "5".
 - RESTORE THE AREA.

PROP. 8" WATER MAIN - ILCHESTER WOODS WAY

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN:
- CLOSE PROP. VALVE "8" AND EX. VALVE "F".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "8" TO STA. 0+23.7 AND CONNECT TO EX. 8" WATER MAIN (14-1900-D).
 - OPEN PROP. VALVE "8".
 - RESTORE THE AREA.

PROP. 8" WATER MAIN - CRESTWOOD LN

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN:
- CLOSE PROP. VALVE "10" AND EX. VALVES "G" & "R".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "10" TO STA. 0+37.3 AND CONNECT TO EX. 8" WATER MAIN (14-3680-D).
 - OPEN PROP. VALVE "10" AND EX. VALVE "R".
 - RESTORE THE AREA.

PHASE I (CONTINUED):

PROP. 2" WATER MAIN - @ HOUSE #5056

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN:
- CLOSE PROP. VALVE "11" AND EX. VALVES "H" & "J". EX. VALVE "J" SHALL REMAIN OPEN AS THIS WATER MAIN IS NOT BACKED BY A LOOPED WATER SYSTEM.
 - INSTALL PROP. 2" & 4" PVC WATER MAINS FROM PROP. VALVE "11" TO STA. 0+33.4 AND CONNECT TO EX. 2" WATER MAIN (14-3127-D).
 - OPEN PROP. VALVE "11" AND EX. VALVES "H" & "J".
 - ABANDON EX. VALVE "J" IN PLACE IN OPEN POSITION. REMOVE THE VALVE BOX AND COVER.
 - RESTORE THE AREA.

PROP. 8" WATER MAIN - @ BONNIE BRANCH E.S.

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN DURING NON-OPERATIONAL HOURS OF THE SCHOOL:
- CLOSE PROP. VALVE "12" AND EX. VALVE "K".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "12" TO STA. 0+23.9 AND CONNECT TO EX. 8" WATER MAIN (14-3403-D).
 - OPEN PROP. VALVE "12".
 - RESTORE THE AREA.

PROP. 4" WATER MAIN - @ CAMP ILCHESTER

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN:
- CLOSE PROP. VALVE "13" AND EX. VALVE "L".
 - INSTALL PROP. 4" PVC WATER MAIN FROM PROP. VALVE "13" TO STA. 0+26.5 AND CONNECT TO EX. 4" WATER HOUSE CONNECTION.
 - OPEN PROP. VALVE "13".
 - RESTORE THE AREA.

PROP. 8" WATER MAIN - @ BONNIE BRANCH M.S.

- COMPLETE THE FOLLOWING WITHIN AN 8-HOUR SHUTDOWN DURING NON-OPERATIONAL HOURS OF THE SCHOOL:
- CLOSE PROP. VALVE "15" AND EX. VALVE "N".
 - INSTALL PROP. 8" PVC WATER MAIN FROM PROP. VALVE "15" TO STA. 0+18.3 AND CONNECT TO EX. 8" WATER MAIN (44-3665-D).
 - OPEN PROP. VALVE "15".
 - RESTORE THE AREA.

PHASE II:

THE CONTRACTOR IS TO COMPLETE PHASE II ACTIVITIES AFTER PHASE I HAS BEEN COMPLETED TO THE SATISFACTION OF THE ON-SITE INSPECTOR.

WATER HOUSE CONNECTIONS:

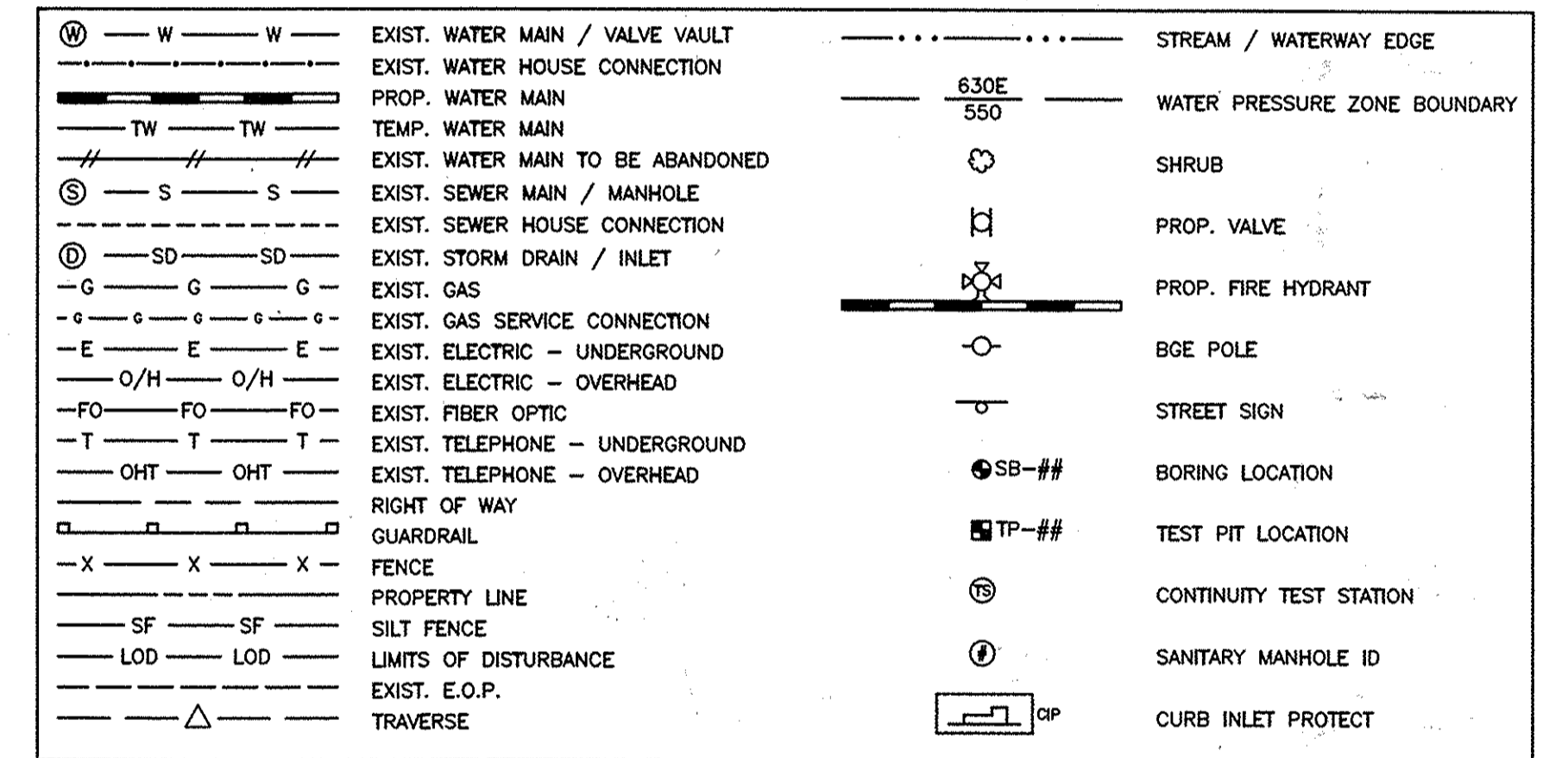
1. ALL PROP. WATER HOUSE CONNECTIONS SHALL BE COORDINATED WITH THE HOWARD COUNTY BUREAU OF UTILITIES AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING WORK. A DETAILED PLAN FOR THE SHUTDOWN OF EXISTING WATER MAINS SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE COUNTY. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHUT-DOWN NOTIFICATIONS TO RESIDENTS AND BUSINESSES. 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 SHOWN IN THE WATER HOUSE CONNECTION CHART IN THE CONTRACT DOCUMENTS.

PROP. 12" WATER MAIN - ILCHESTER RD (CONTINUED):

- COMPLETE THE FOLLOWING WITHIN A 2-HOUR SHUTDOWN:
- CLOSE PROP. VALVE "16" AND EXISTING VALVES "O", "P" & "Q".
 - INSTALL PROP. 12" WATER MAIN FROM STA. 57+05 TO 57+24 AND CONNECT TO EX. 8" WATER MAIN (208-W).
 - OPEN PROP. VALVE "16" AND EXISTING VALVES "O" & "P" & "Q".
 - REMOVE AND SALVAGE ALL EXISTING FIRE HYDRANTS LABELED "TO BE REMOVED" ON THE CONTRACT DOCUMENTS ALONG THE EXISTING 12" WATER MAIN FOR RETURN TO HOWARD COUNTY. REMOVE ALL EXISTING EXTENSION VALVE STEMS AND VALVE BOXES FOR FUTURE PAVING OPERATIONS.
 - ABANDON EXISTING WATER MAIN IN PLACE.
 - RESTORE THE AREA.

NOTE: ROAD RESURFACING TO BE COMPLETED BY OTHERS

LEGEND:



TEST PIT DATA			
NUMBER	UTILITY	MATERIAL	DEPTH
TP-1	12" WATER MAIN	DUCTILE IRON	4.92'
TP-2	8" WATER MAIN	DUCTILE IRON	4.93'
TP-3	8" WATER MAIN	DUCTILE IRON	3.56'
TP-4	8" WATER MAIN	DUCTILE IRON	3.99'
TP-5	8" WATER MAIN	STEEL	4.06'
TP-6	2-2" FIBER OPTIC	PLASTIC CONDUIT	2.95'
TP-7	2" GAS	PLASTIC	4.21'
TP-8	8" WATER MAIN	STEEL	4.32'
TP-9	8" WATER MAIN	STEEL	4.16'
TP-10	8" WATER MAIN	STEEL	4.81'
TP-11	8" WATER MAIN	STEEL	3.90'
TP-12	8" WATER MAIN	STEEL	3.71'
TP-13	8" WATER MAIN	STEEL	4.20'
TP-14	12" WATER MAIN	DUCTILE IRON	4.29'
TP-15	12" WATER MAIN	DUCTILE IRON	3.56'
TP-16	8" WATER MAIN	DUCTILE IRON	4.69'
TP-17	8" GAS	PLASTIC	3.70'
TP-18	8" WATER MAIN	STEEL	4.20'
TP-19	2" SANITARY FORCE MAIN	PLASTIC	3.92'

TEST PIT DATA			
NUMBER	UTILITY	MATERIAL	DEPTH
TP-20	8" WATER MAIN	STEEL	4.36'
TP-21	8" WATER MAIN	STEEL	3.84'
TP-22	2" GAS	PLASTIC	2.25'
TP-23	8" WATER MAIN	STEEL	4.32'
TP-24	8" WATER MAIN	STEEL	4.32'
TP-25	8" WATER MAIN	DUCTILE IRON	4.63'
TP-26	2" GAS	PLASTIC	2.16'
TP-27	8" WATER MAIN	STEEL	4.61'
TP-28	2" WATER MAIN	GALVANIZED STEEL	5.77'
TP-29	8" WATER MAIN	STEEL	5.22'
TP-30	GAS	TEST HOLE CANCELLED	N/A
TP-31	NO UTILITY FOUND	N/A	N/A
TP-32	8" WATER MAIN	CAST IRON	4.16'
TP-33	8" WATER MAIN	CAST IRON	4.57'
TP-34	8" WATER MAIN	DUCTILE IRON	4.04'
TP-35	8" WATER MAIN	DUCTILE IRON	5.02'
TP-36	2" GAS	PLASTIC	3.98'
TP-37	8" WATER MAIN	CAST IRON	4.82'
TP-38	12" WATER MAIN	DUCTILE IRON	5.13'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/30/14
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 9/25/14
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 9/29/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 9/25/14
CHIEF, UTILITY DESIGN DIVISION DATE

Baker

MICHAEL BAKER JR., 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.

EXPIRATION DATE: 08/07/18

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

DESIGN: EAM					
DRAWN: EAM					
CHECKED: SGZ					
DATE: 9/19/2014	NO.	REVISION	DATE	BY	

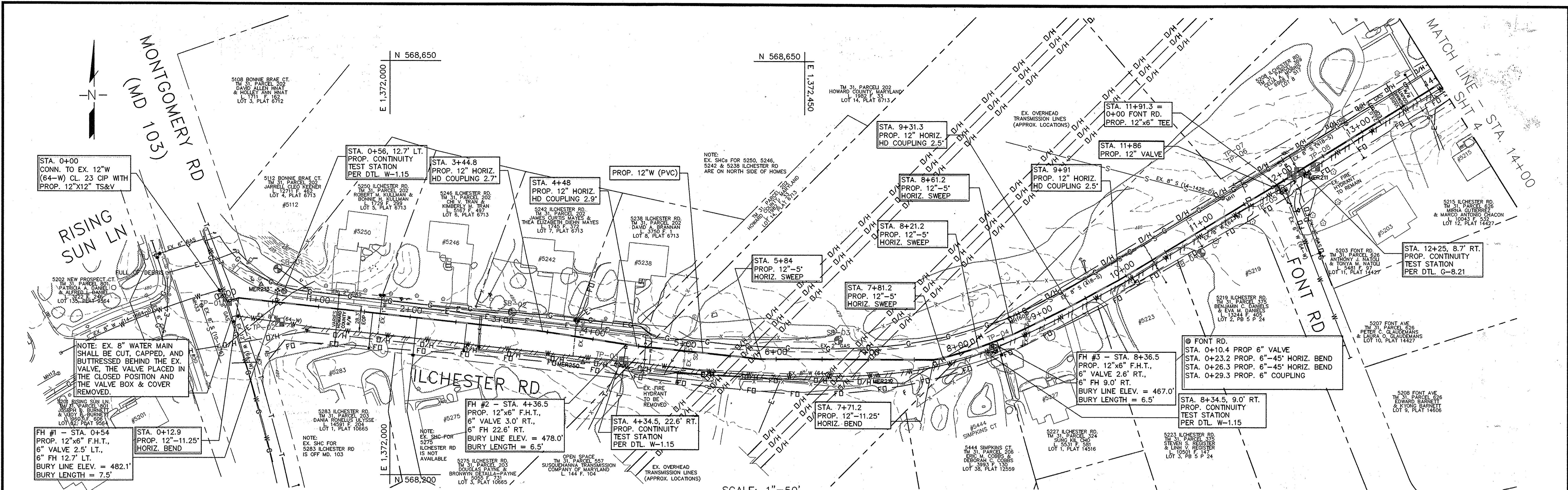
SHEET INDEX &
SUGGESTED SEQUENCE
OF CONSTRUCTION

600 SCALE MAP NO. 31
BLOCK NO. 15

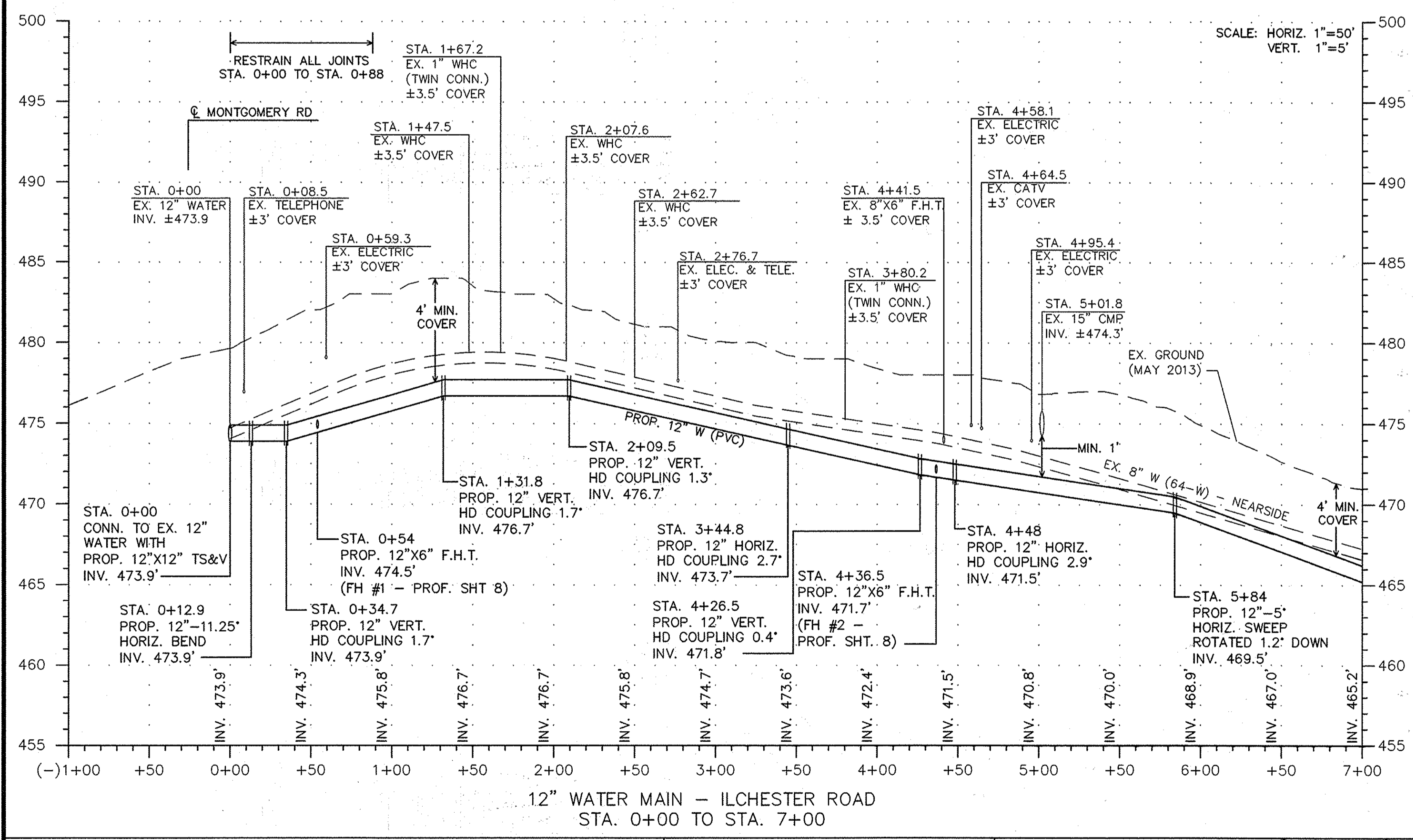
ILCHESTER ROAD 12"
WATER TRANSMISSION MAIN
MONTGOMERY RD TO ELLIS LN
CAPITAL PROJECT NO.: W-8316
CONTRACT NO.: 44-4825
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE
AS SHOWN

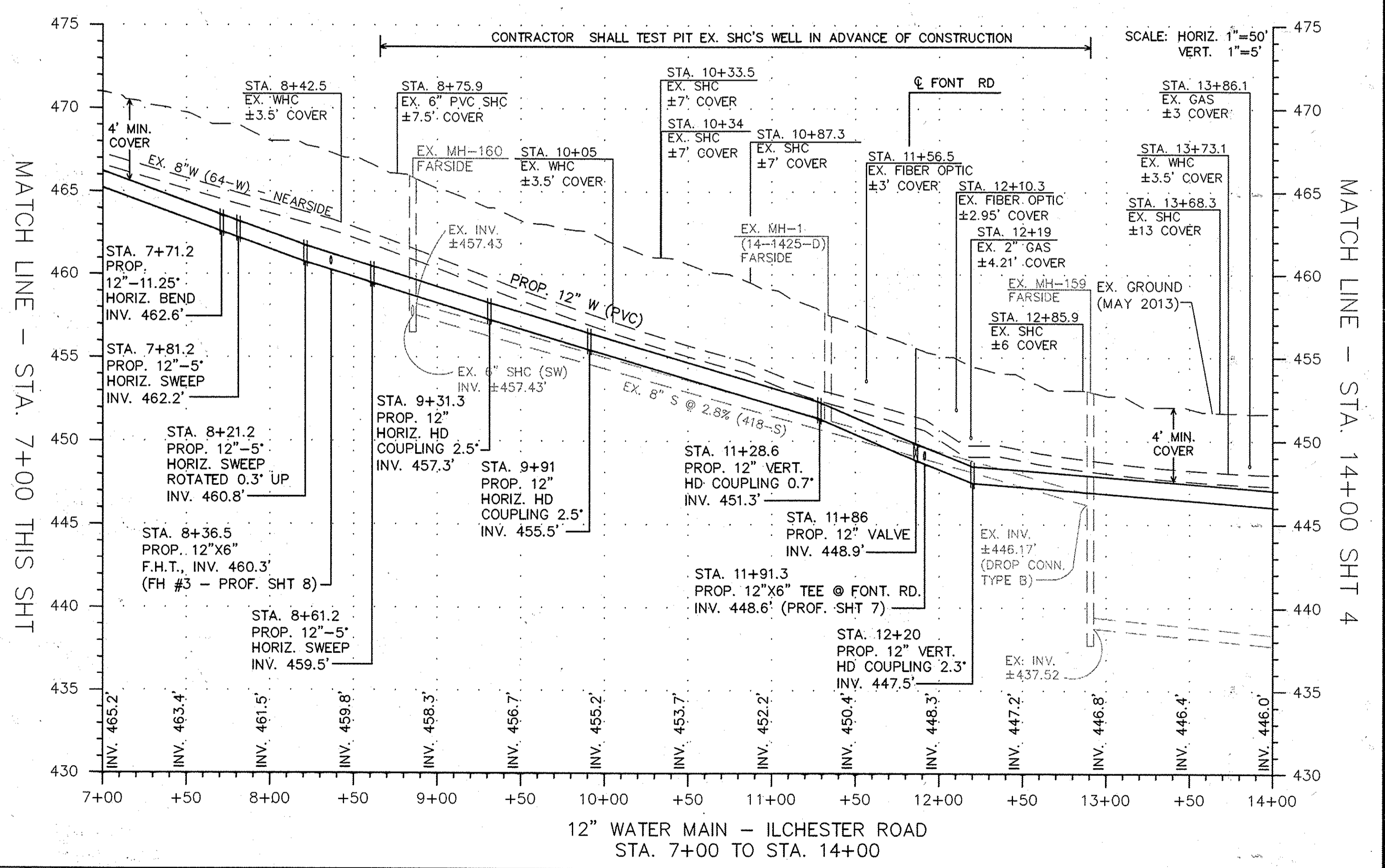
SHEET
2 OF 15



SCALE: 1"=50'



12" WATER MAIN - ILCHESTER ROAD
STA. 0+00 TO STA. 7+00



12" WATER MAIN - ILCHESTER ROAD
STA. 7+00 TO STA. 14+00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John R. ... 9/10/14
DIRECTOR OF PUBLIC WORKS DATE

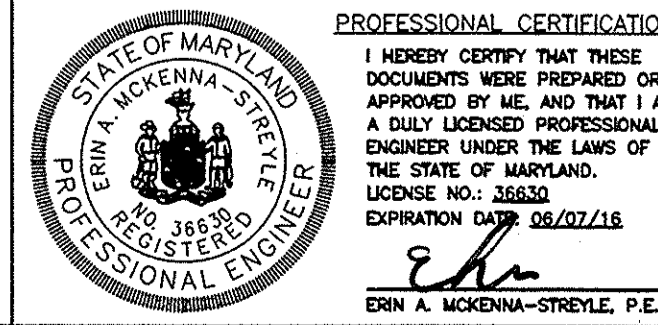
Mona E. Butler 9/29/14
CHIEF, BUREAU OF ENGINEERING DATE

Steve C. ... 9/25/14
CHIEF, BUREAU OF UTILITIES DATE

... 9/25/14
CHIEF, UTILITY DESIGN DIVISION DATE

Baker

MICHAEL BAKER JR., INC.
1304 Concourse Drive, Suite 300
Linthicum, MD 21090-1014
Phone: (410) 689-3400



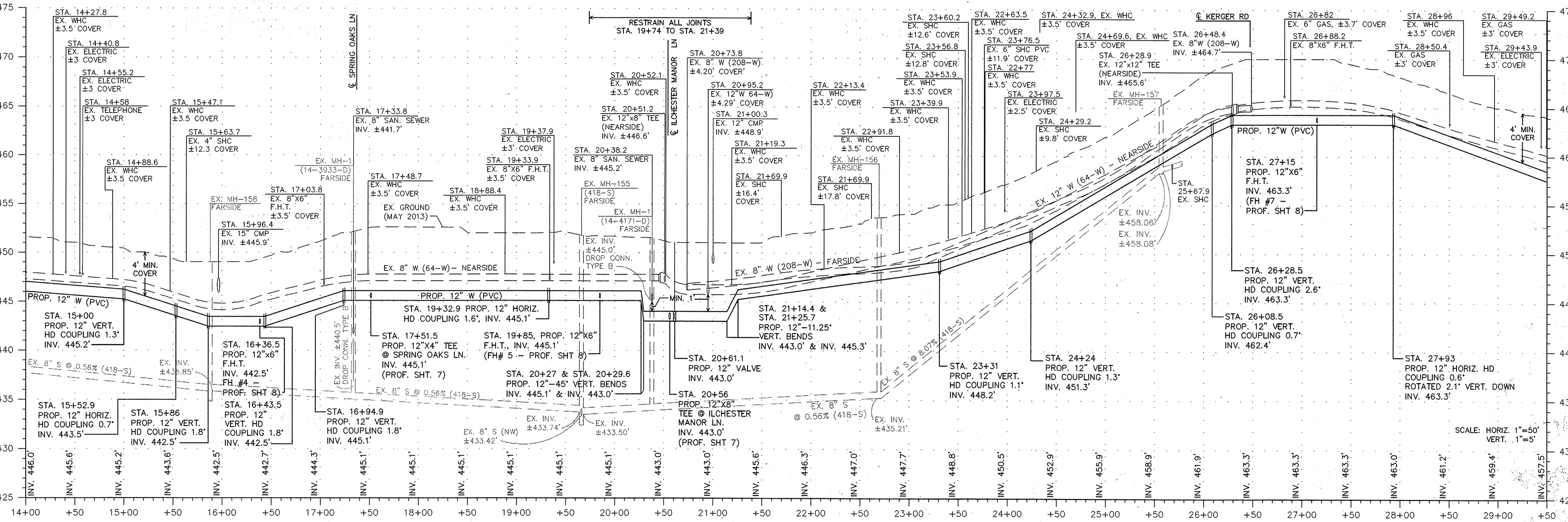
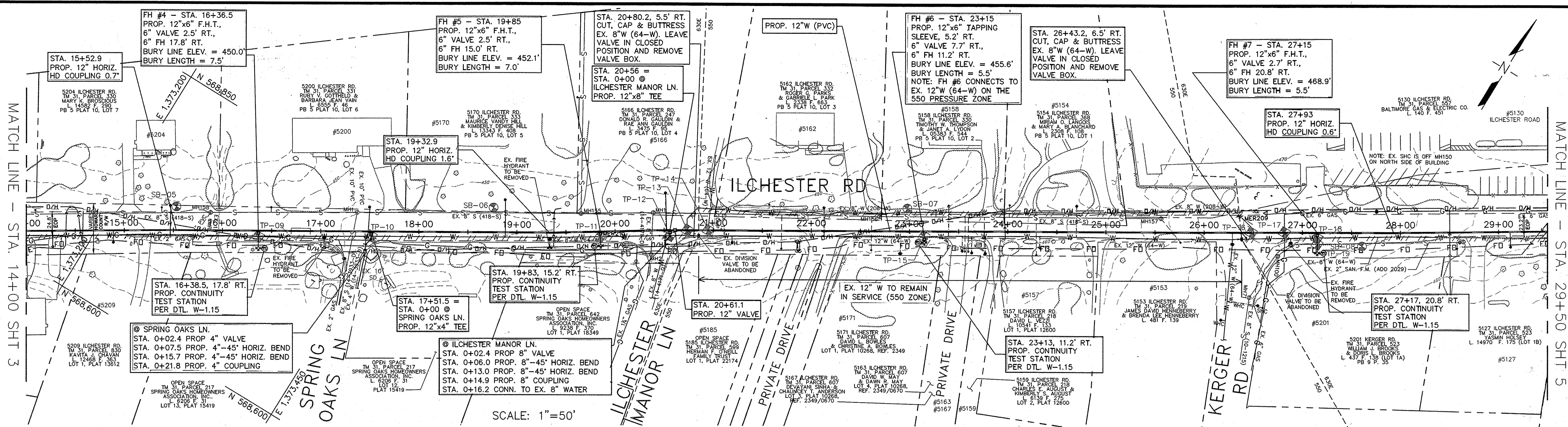
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DRAWN: EAM					
CHECKED: SGZ					
DATE: 9/19/2014	NO.	REVISION	DATE	BY	

PROP. 12" WATER MAIN PLAN & PROFILE

ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
MONTGOMERY RD TO ELLIS LN
CAPITAL PROJECT NO.: W-8316
CONTRACT NO.: 44-4825
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 3 OF 15



12" WATER MAIN - ILCHESTER ROAD
STA. 14+00 TO STA. 29+50

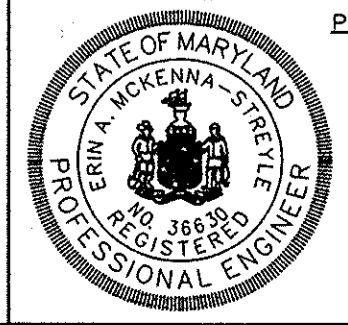
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/26/14
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 9/29/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 9/25/14
CHIEF, UTILITY DESIGN DIVISION DATE

Baker
MICHAEL BAKER JR., INC.
1304 Concourse Drive, Suite 200
Linthicum, MD 21080-1014
Phone: (410) 689-5400



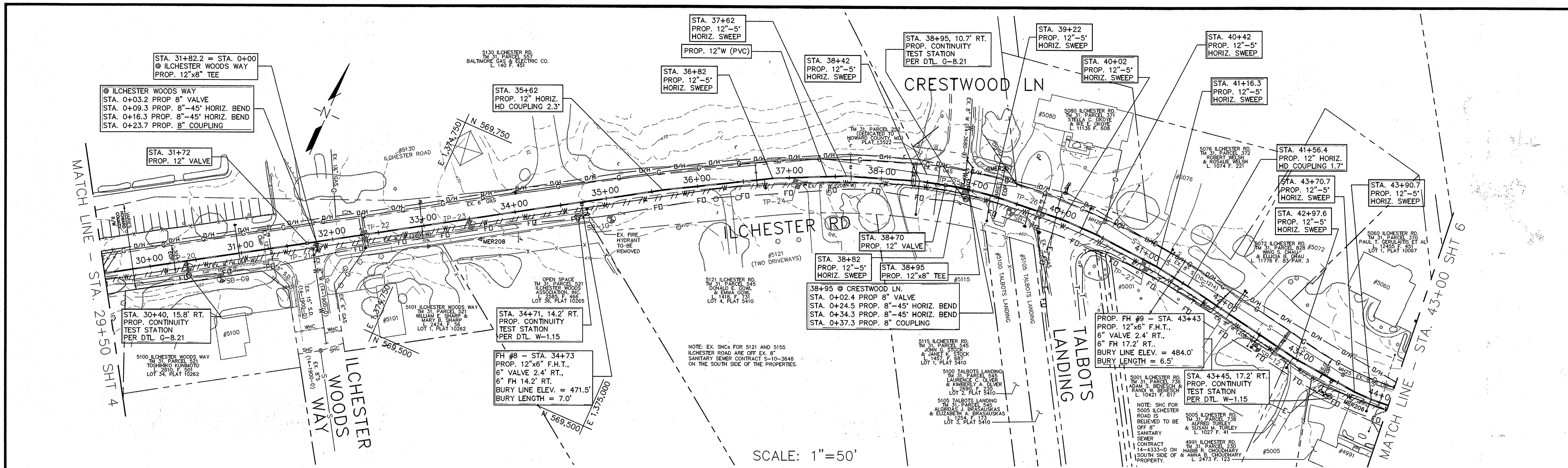
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 32833
EXPIRATION DATE: 02/28/16
ERIN A. MCKENNA-STREILE, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: SGZ					
DATE: 9/19/2014	NO.	REVISION	DATE	BY	

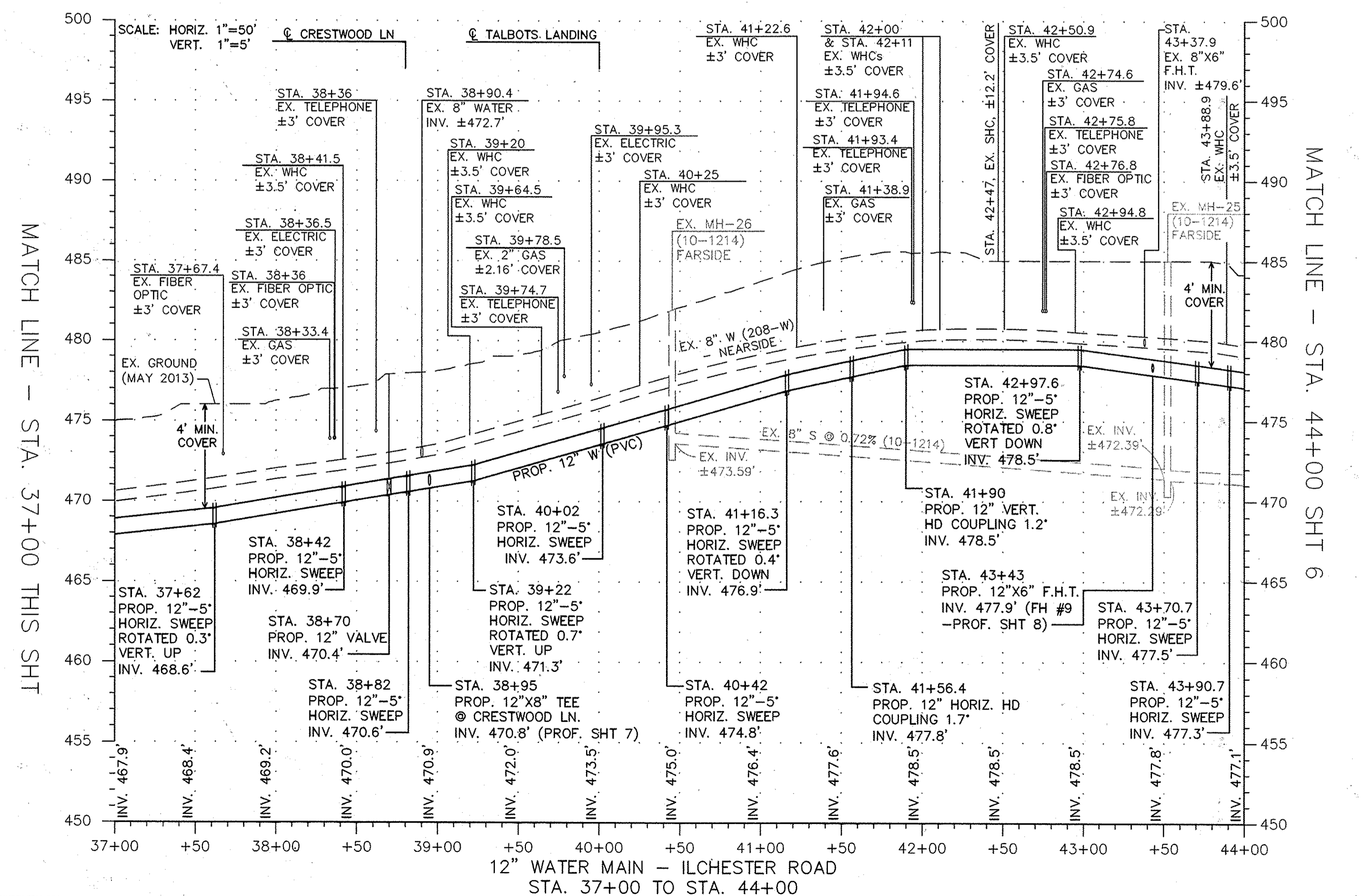
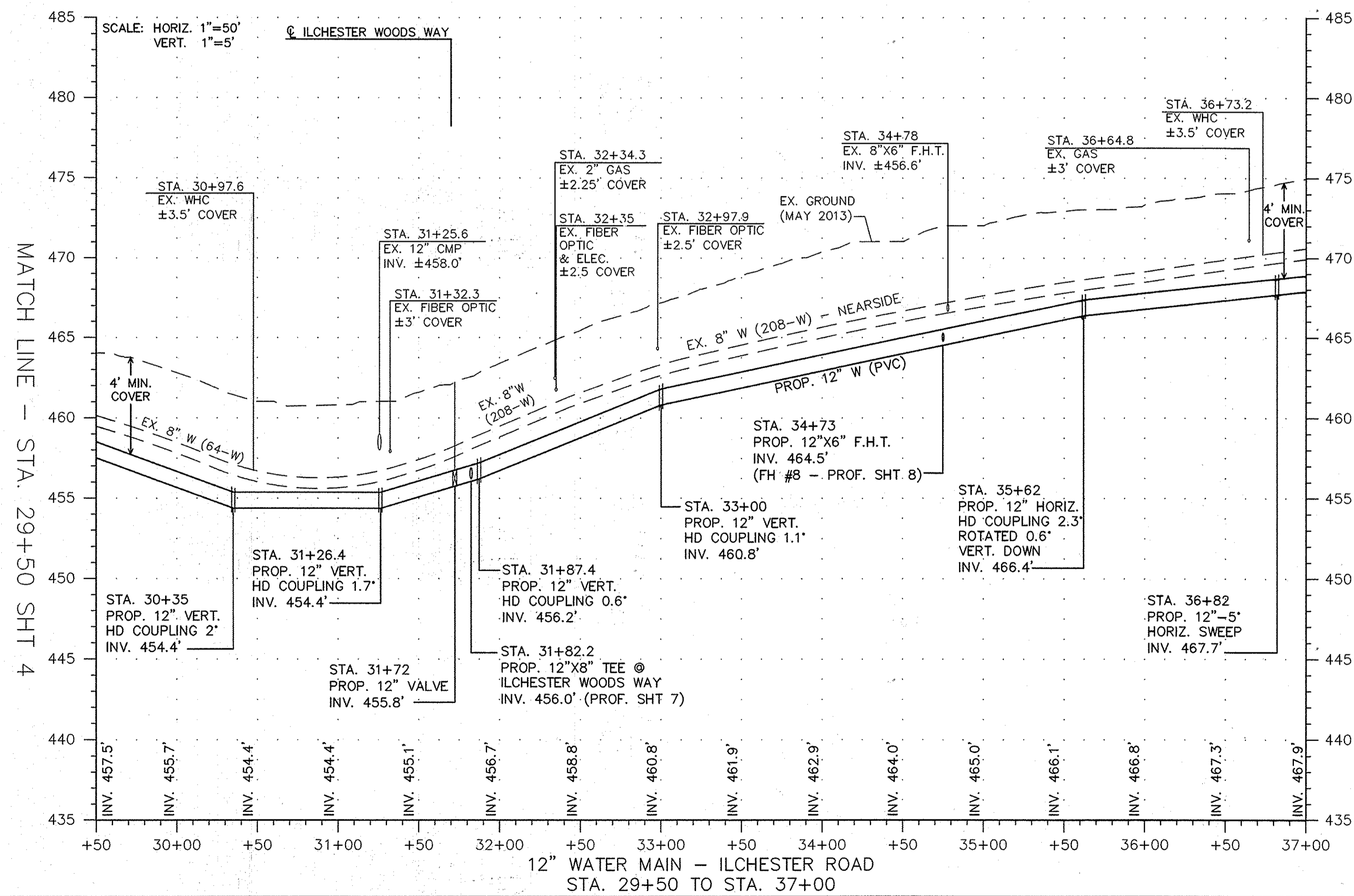
PROP. 12" WATER MAIN
PLAN & PROFILE

ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
MONTGOMERY RD TO ELLIS LN
CAPITAL PROJECT NO.: W-8316
CONTRACT NO.: 44-4825
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 15



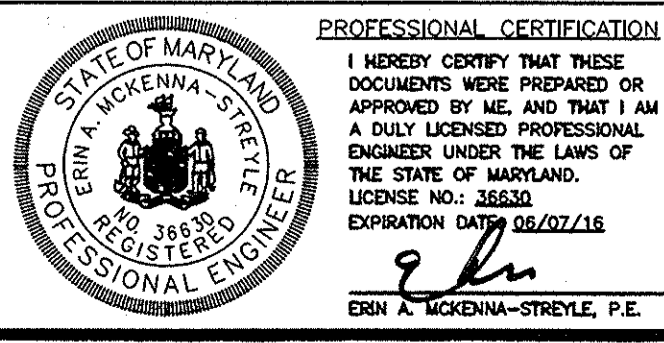
SCALE: 1"=50'



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 9/20/14
Chief, Bureau of Engineering: *[Signature]* 9/20/14
Chief, Utility Design Division: *[Signature]* 9/20/14

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



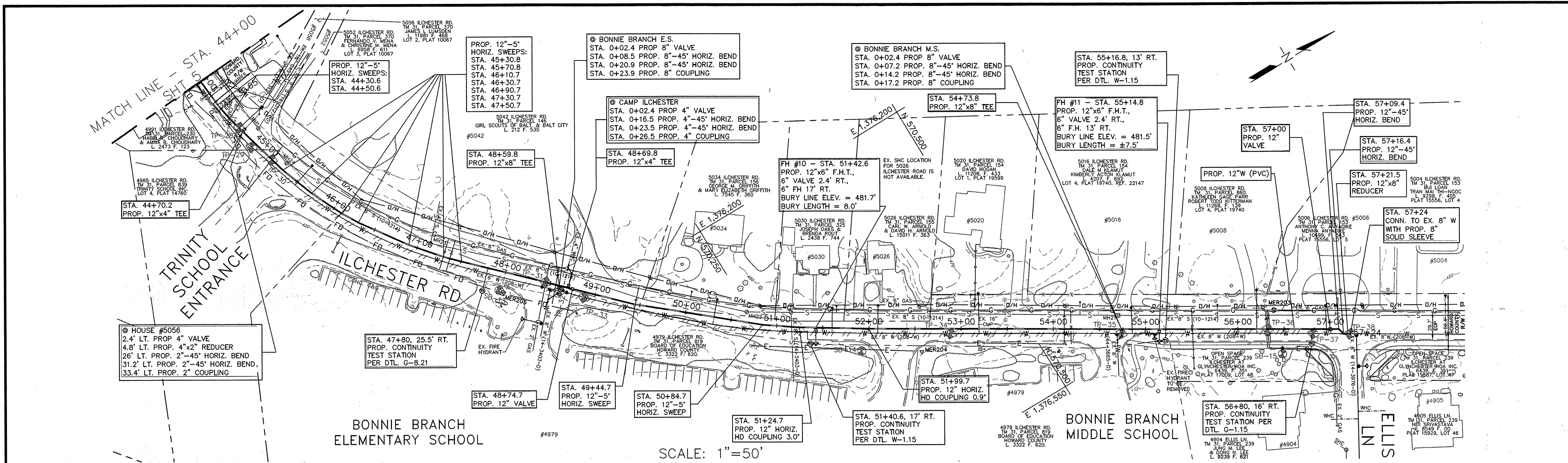
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PROP. 12" WATER MAIN PLAN & PROFILE

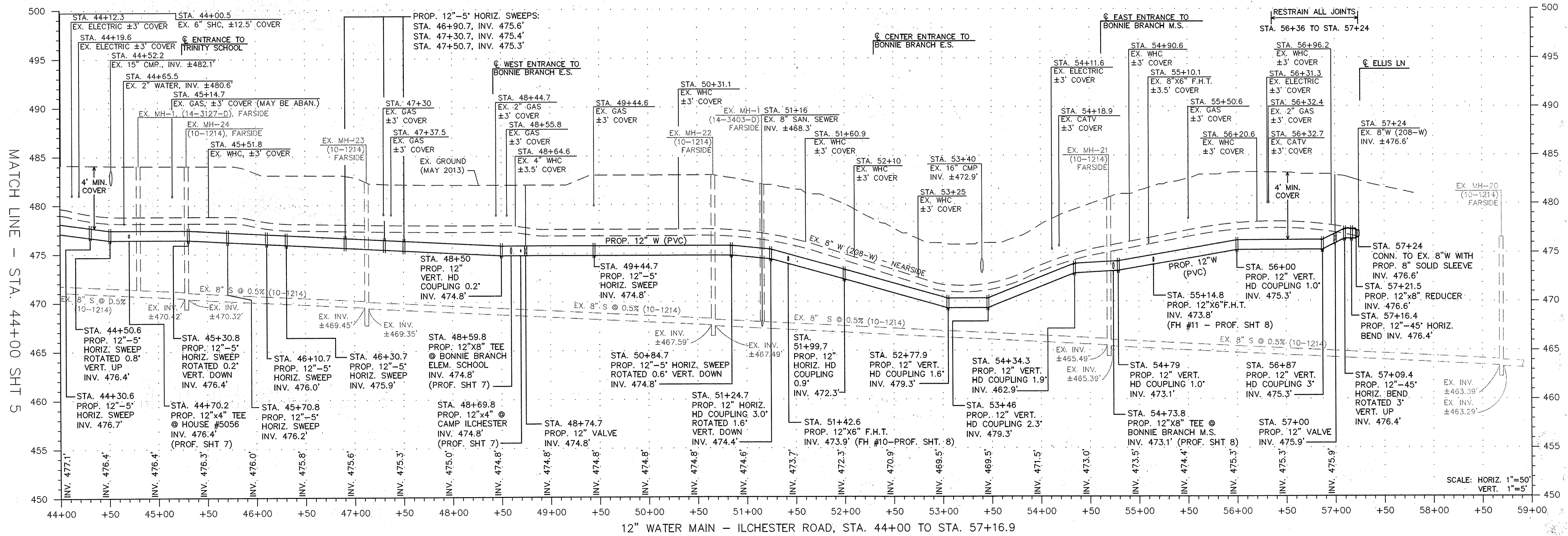
600 SCALE MAP NO. 31 BLOCK NO. 15

ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
MONTGOMERY RD TO ELLIS LN
CAPITAL PROJECT NO.: W-8316
CONTRACT NO.: 44-4825
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 15



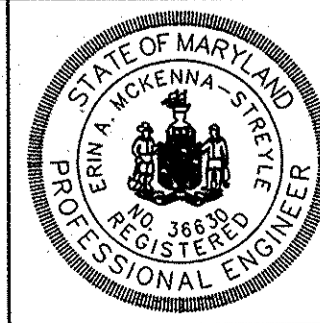
SCALE: 1"=50'



12" WATER MAIN - ILCHESTER ROAD, STA. 44+00 TO STA. 57+16.9

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DATE: 9/29/14
 DATE: 9/25/14
 DATE: 9/25/14

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

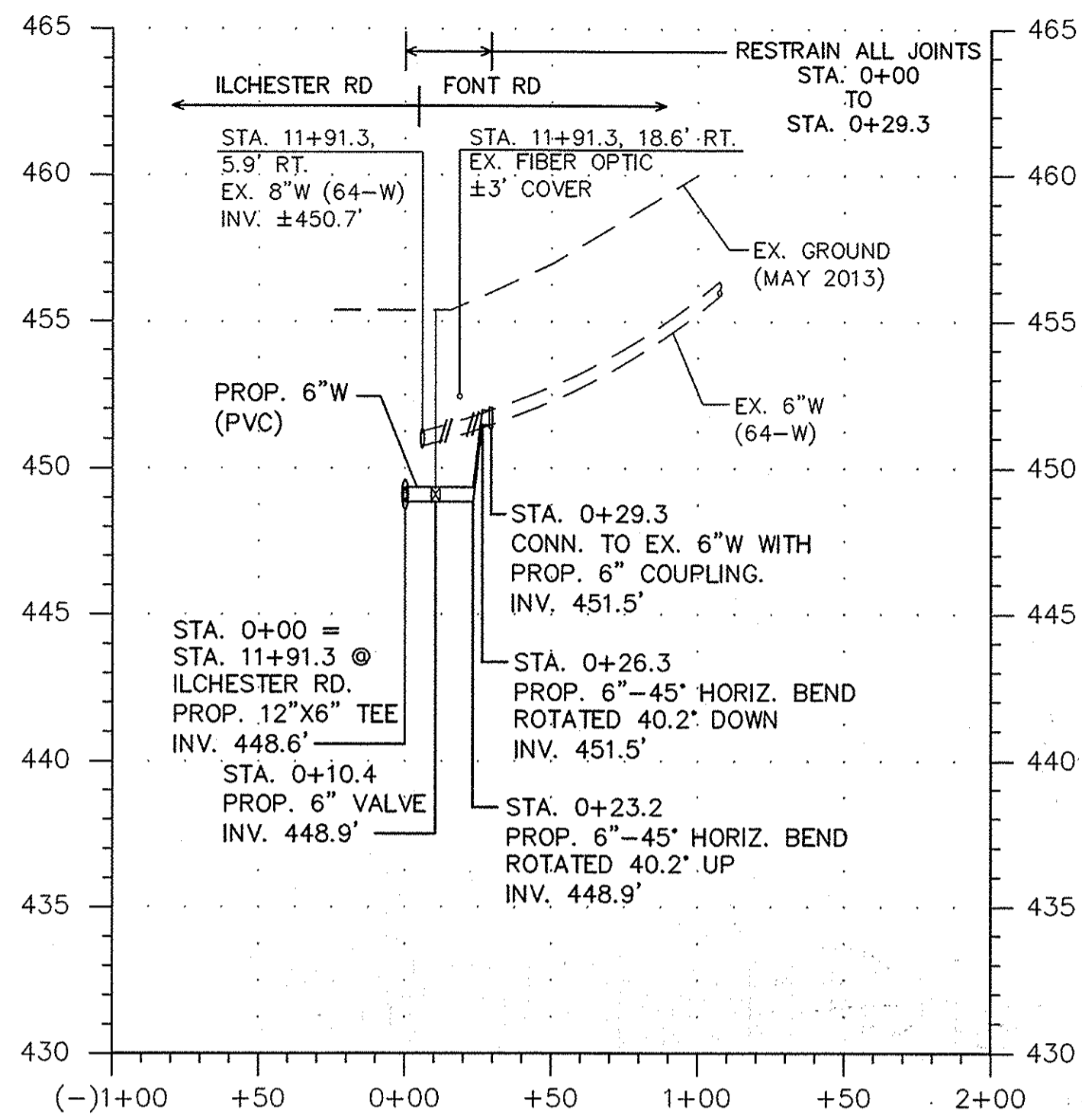


PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 38530
 EXPIRATION DATE: 08/07/18
 E.M. WOODMAN-STREBLE, P.E.

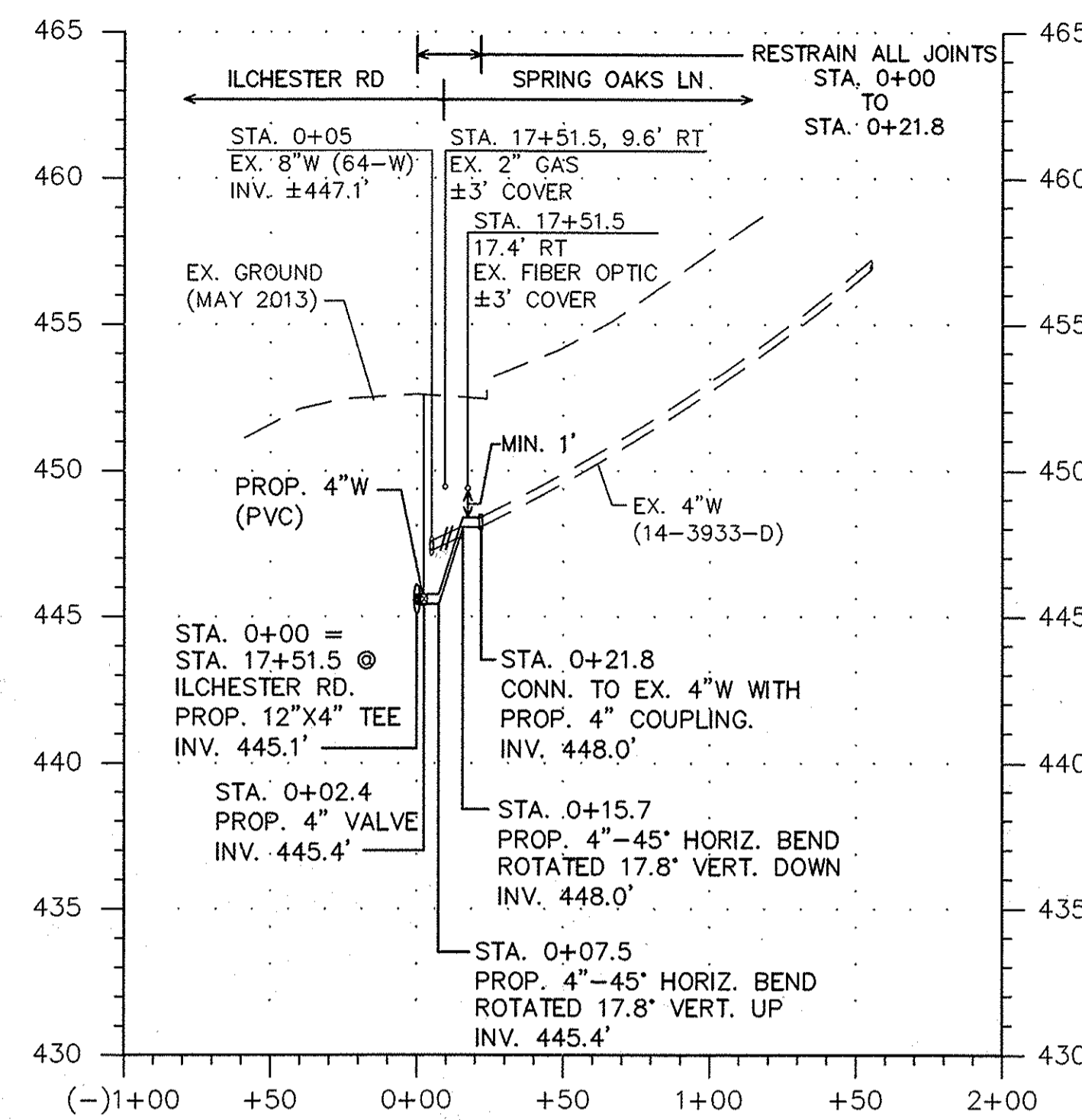
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PROP. 12" WATER MAIN PLAN & PROFILE
 600 SCALE MAP NO. 31
 BLOCK NO. 15

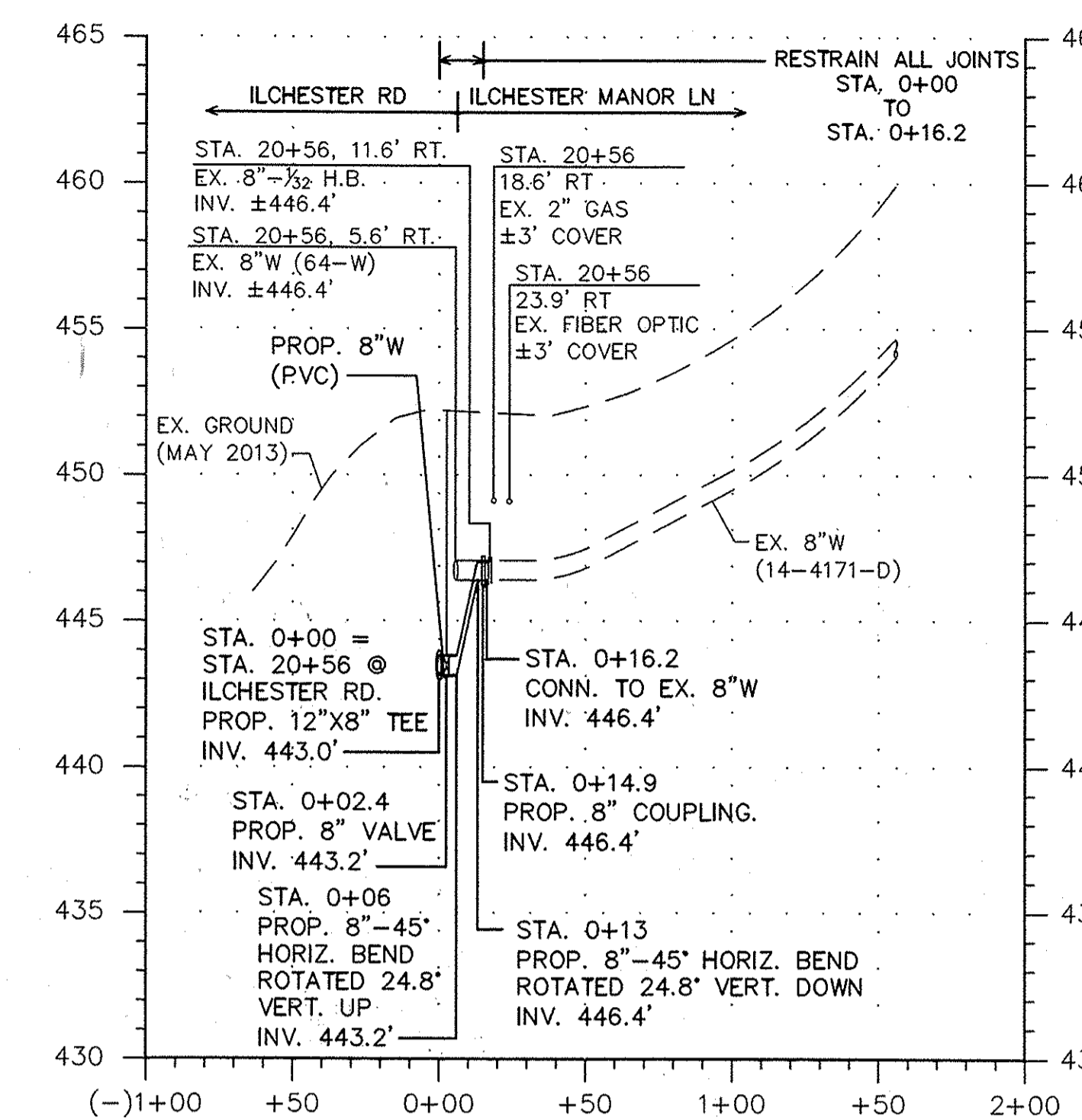
ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
 MONTGOMERY RD TO ELLIS LN
 CAPITAL PROJECT NO.: W-8316
 CONTRACT NO.: 44-4825
 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN
 SHEET 6 OF 15



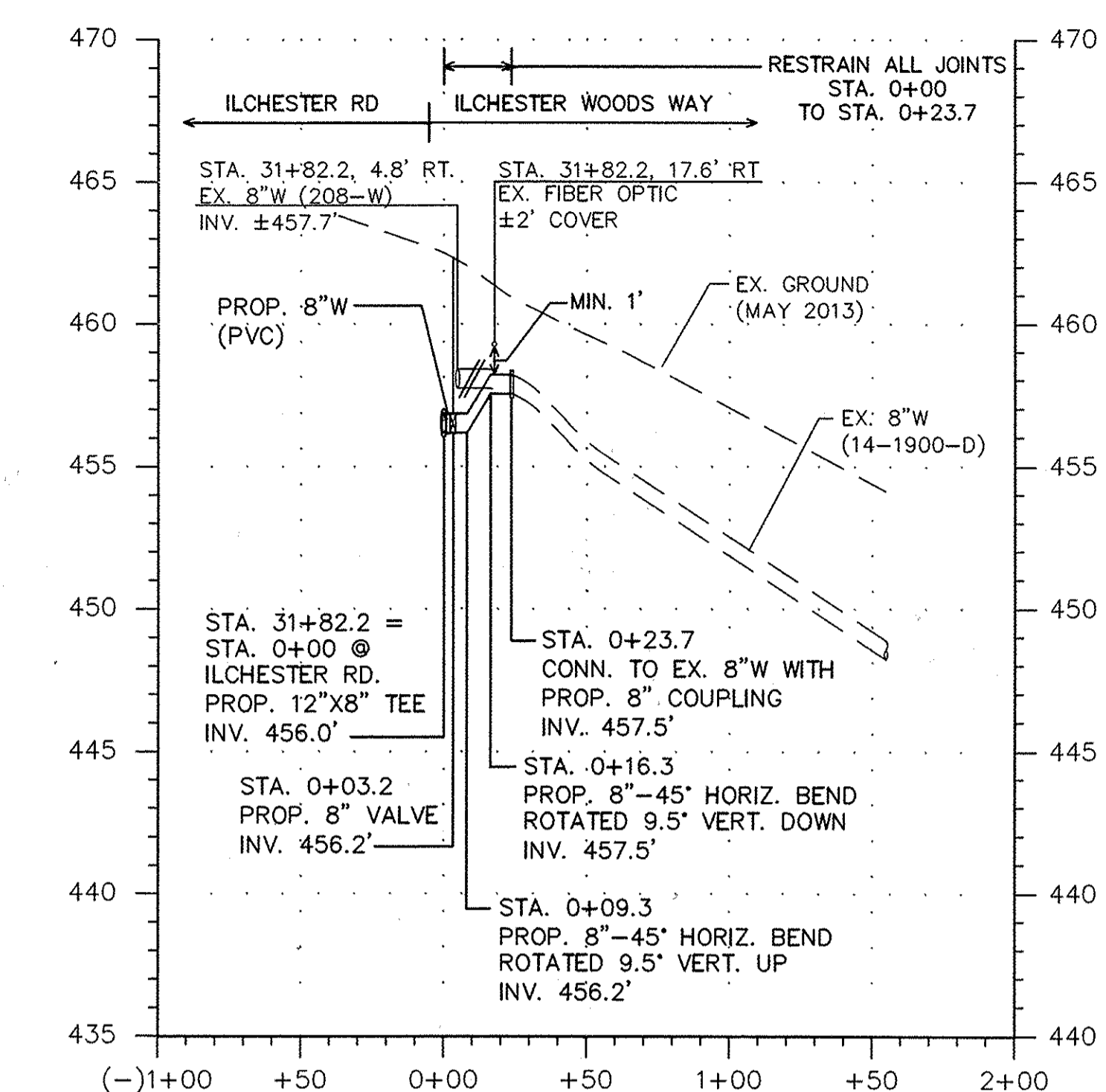
6" WATER MAIN - FONT RD
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



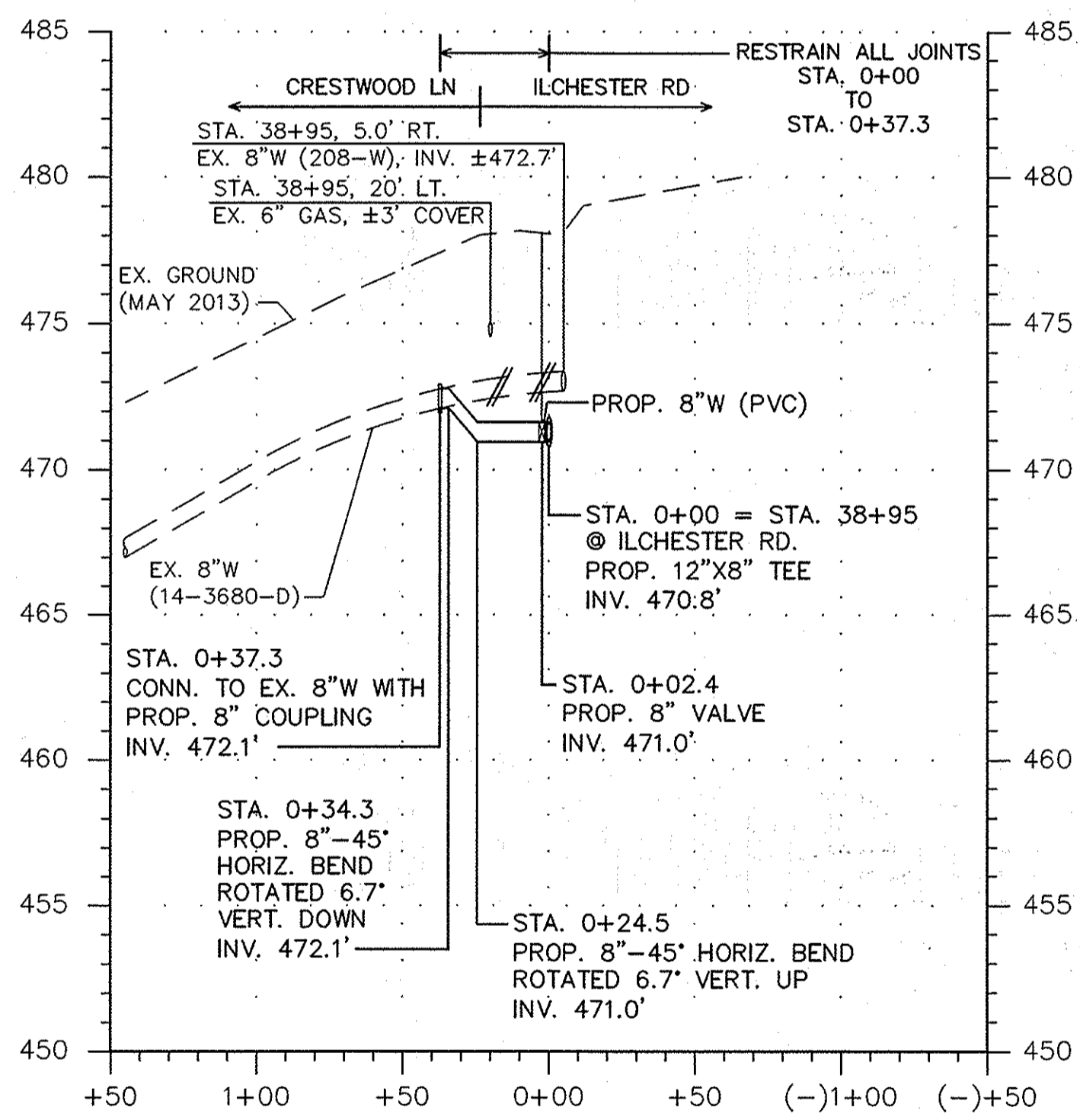
4" WATER MAIN - SPRING OAKS LN
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



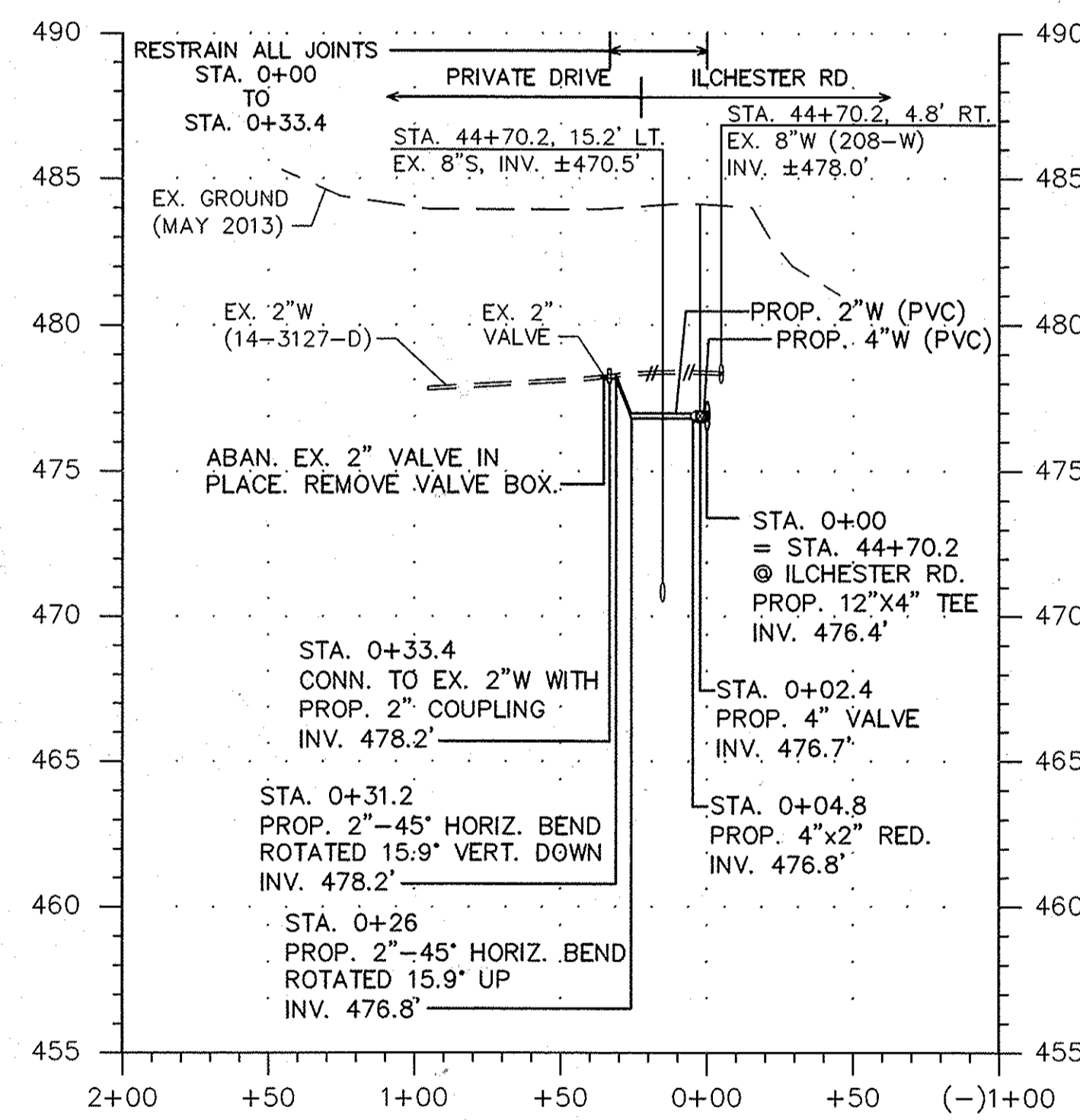
8" WATER MAIN - ILCHESTER MANOR LN
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



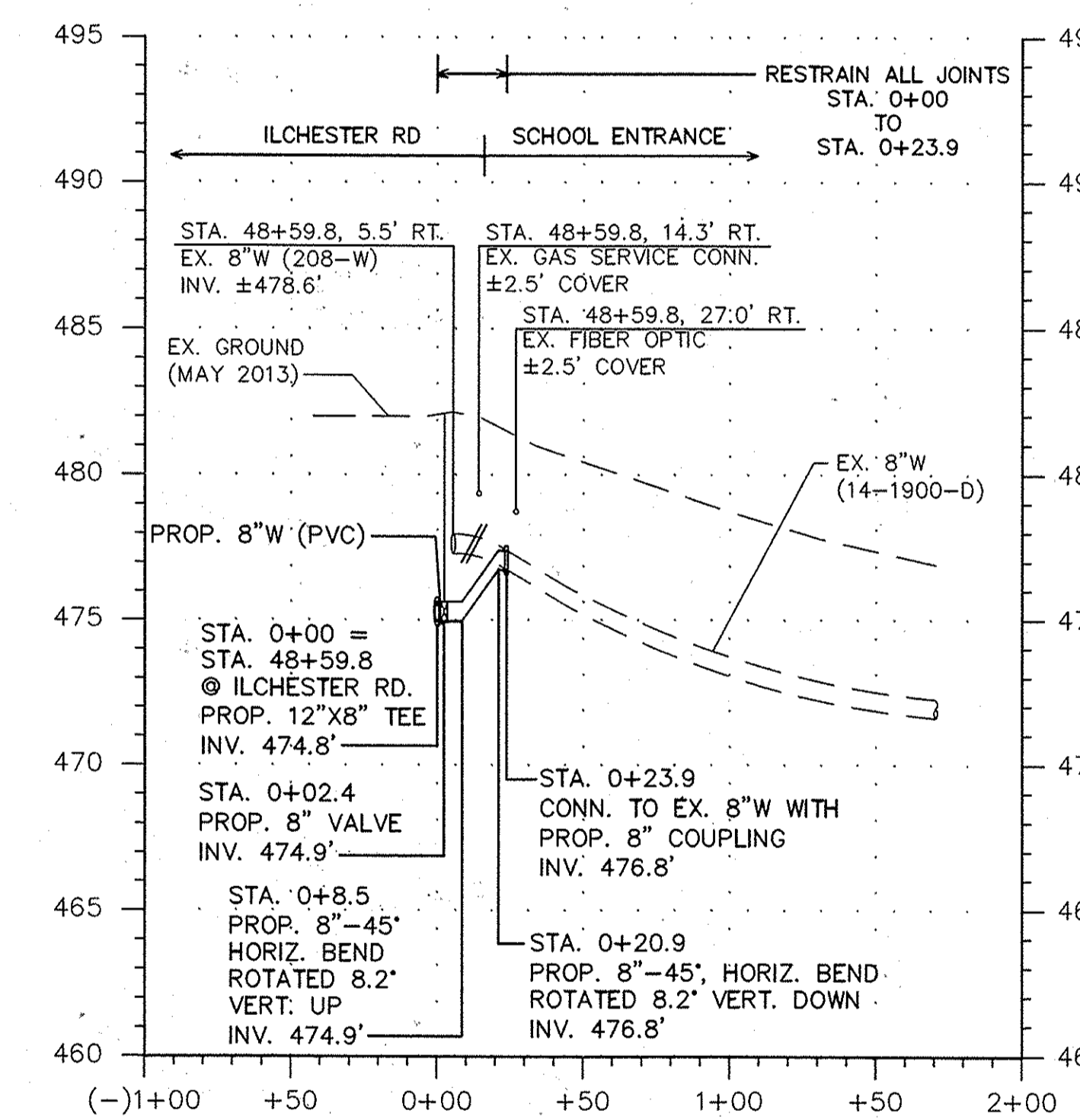
8" WATER MAIN - ILCHESTER WOODS WAY
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



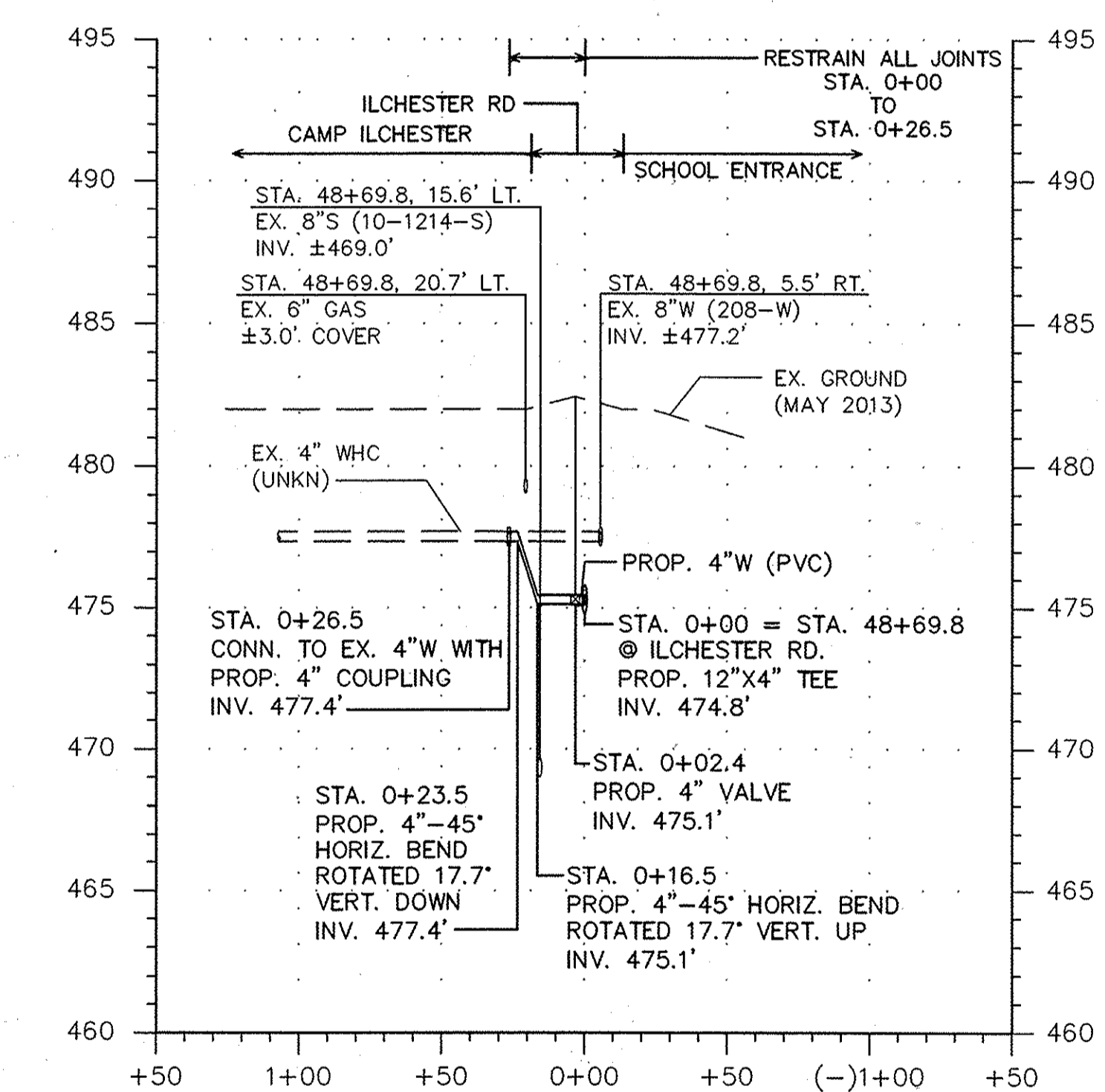
8" WATER MAIN - CRESTWOOD LN
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



2" WATER MAIN - HOUSE #5056
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



8" WATER MAIN - BONNIE BRANCH E.S.
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



4" WMC - CAMP ILCHESTER
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
9/30/14
10/29/14
9/25/14

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

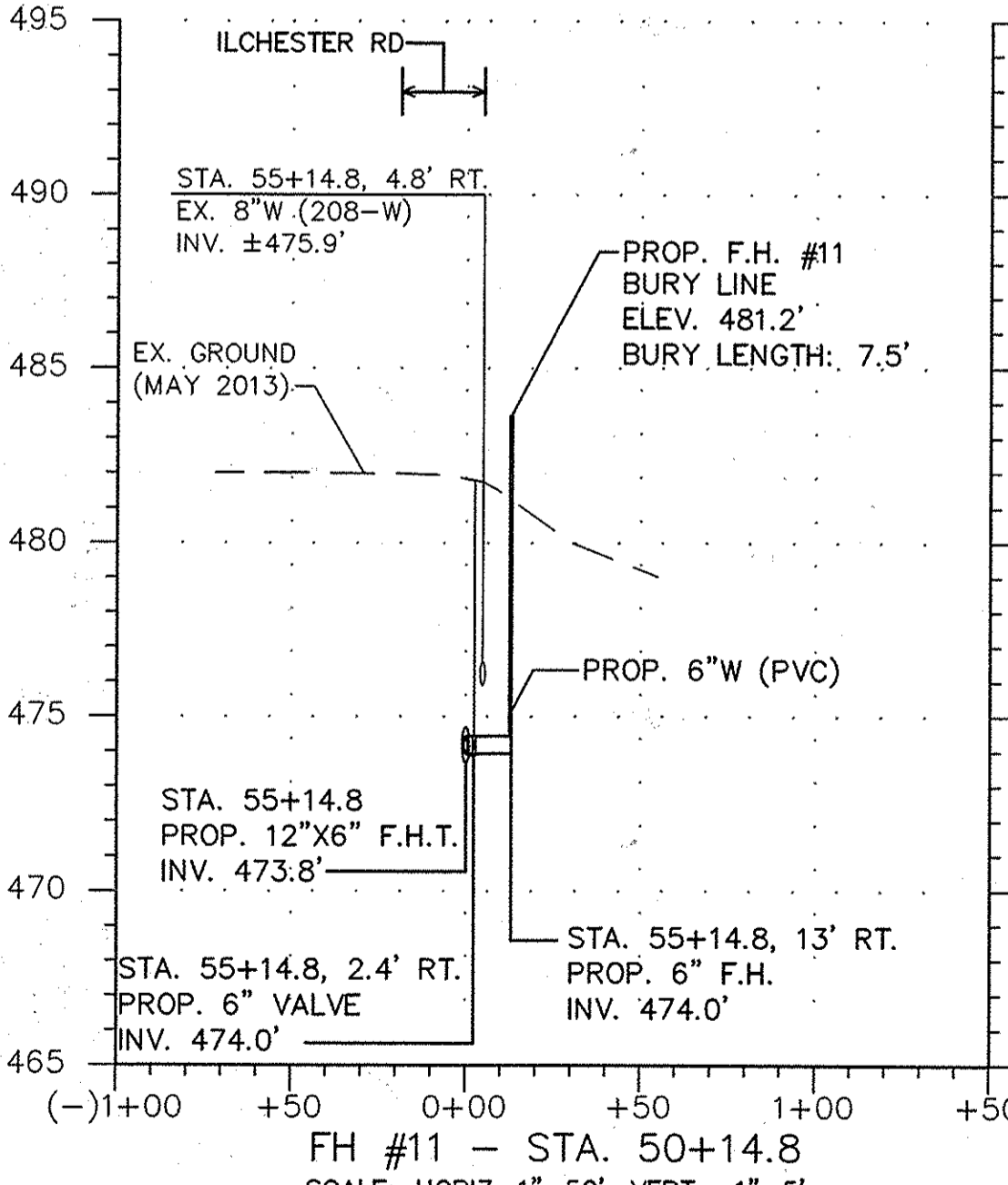
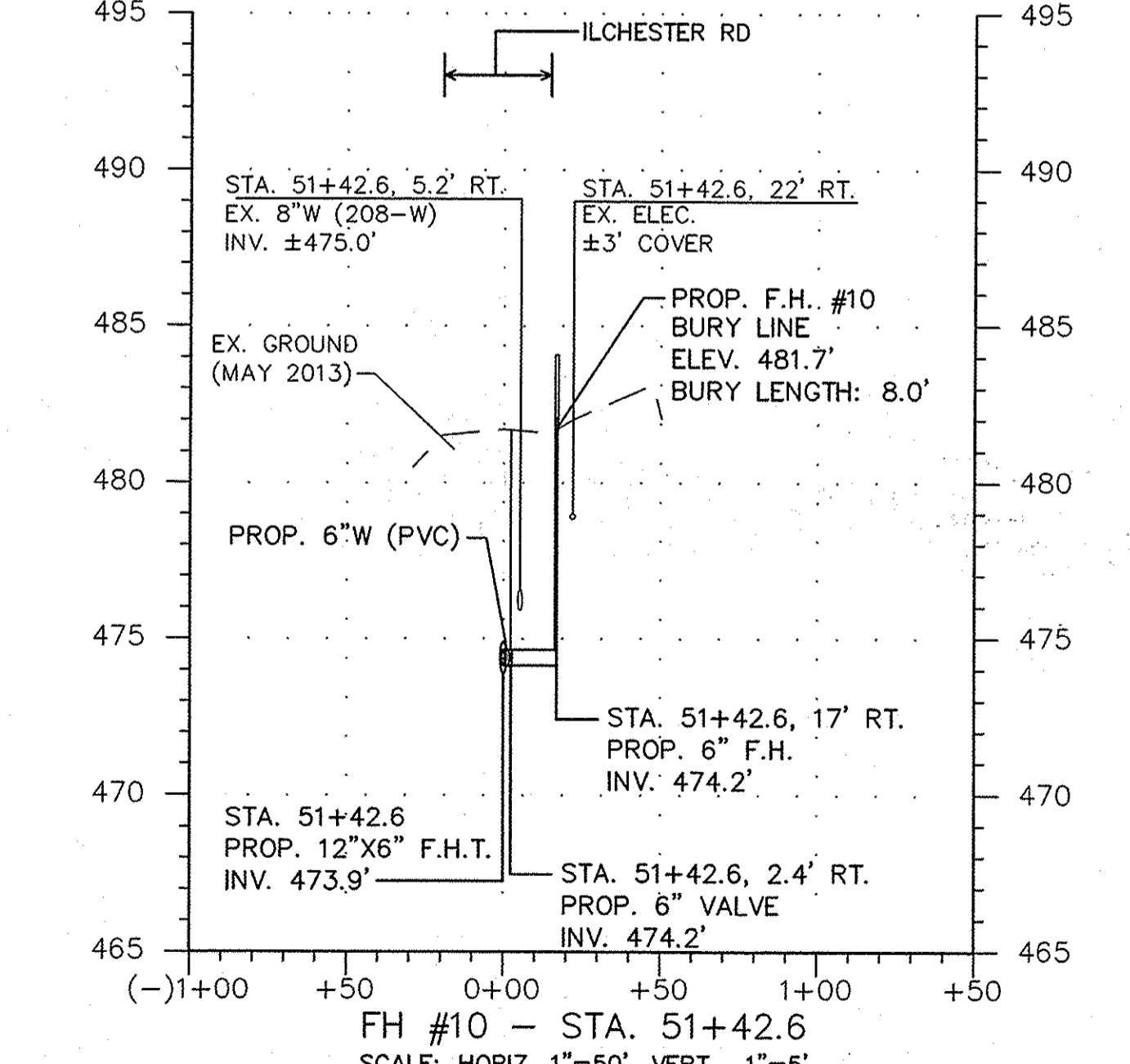
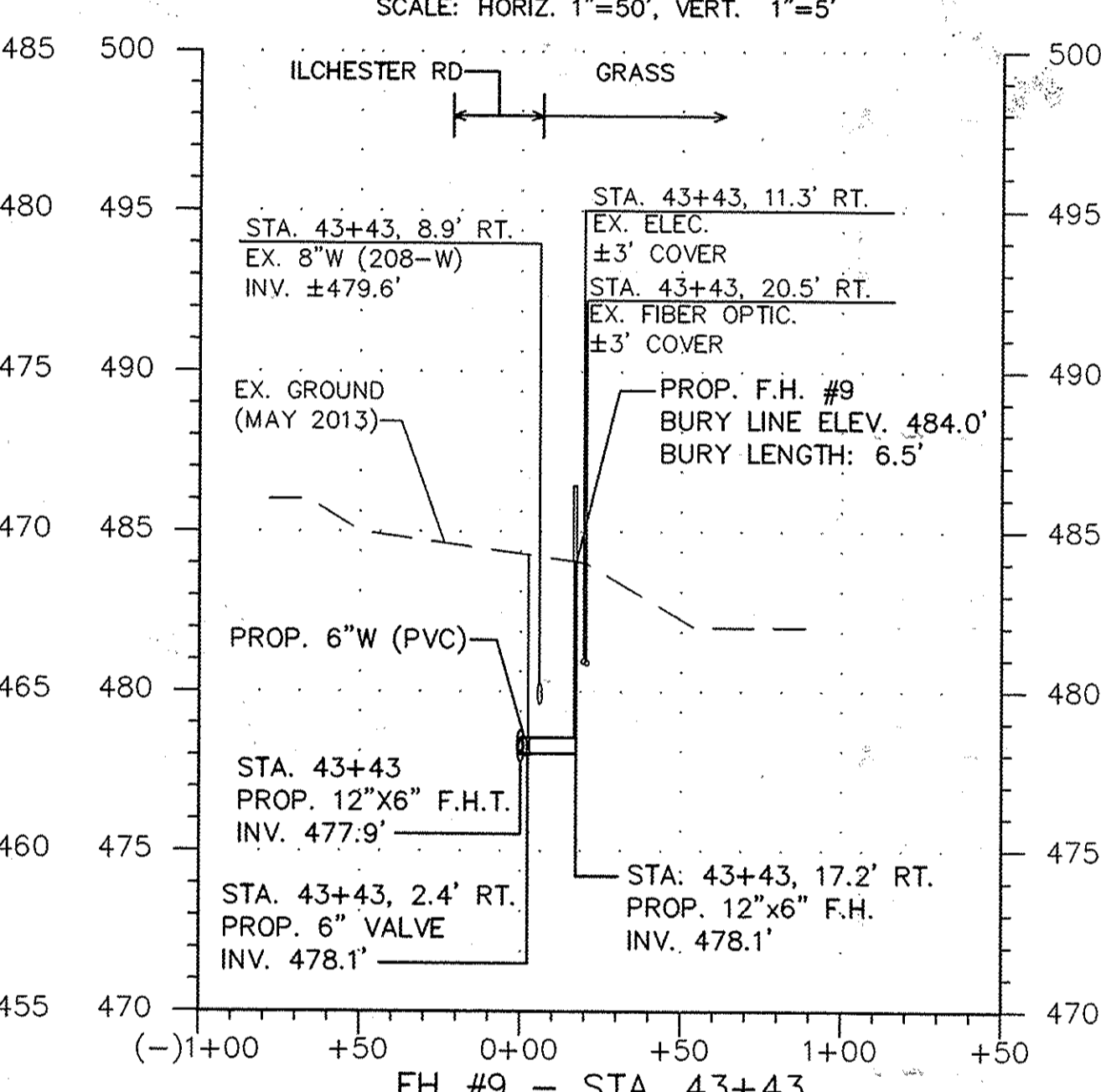
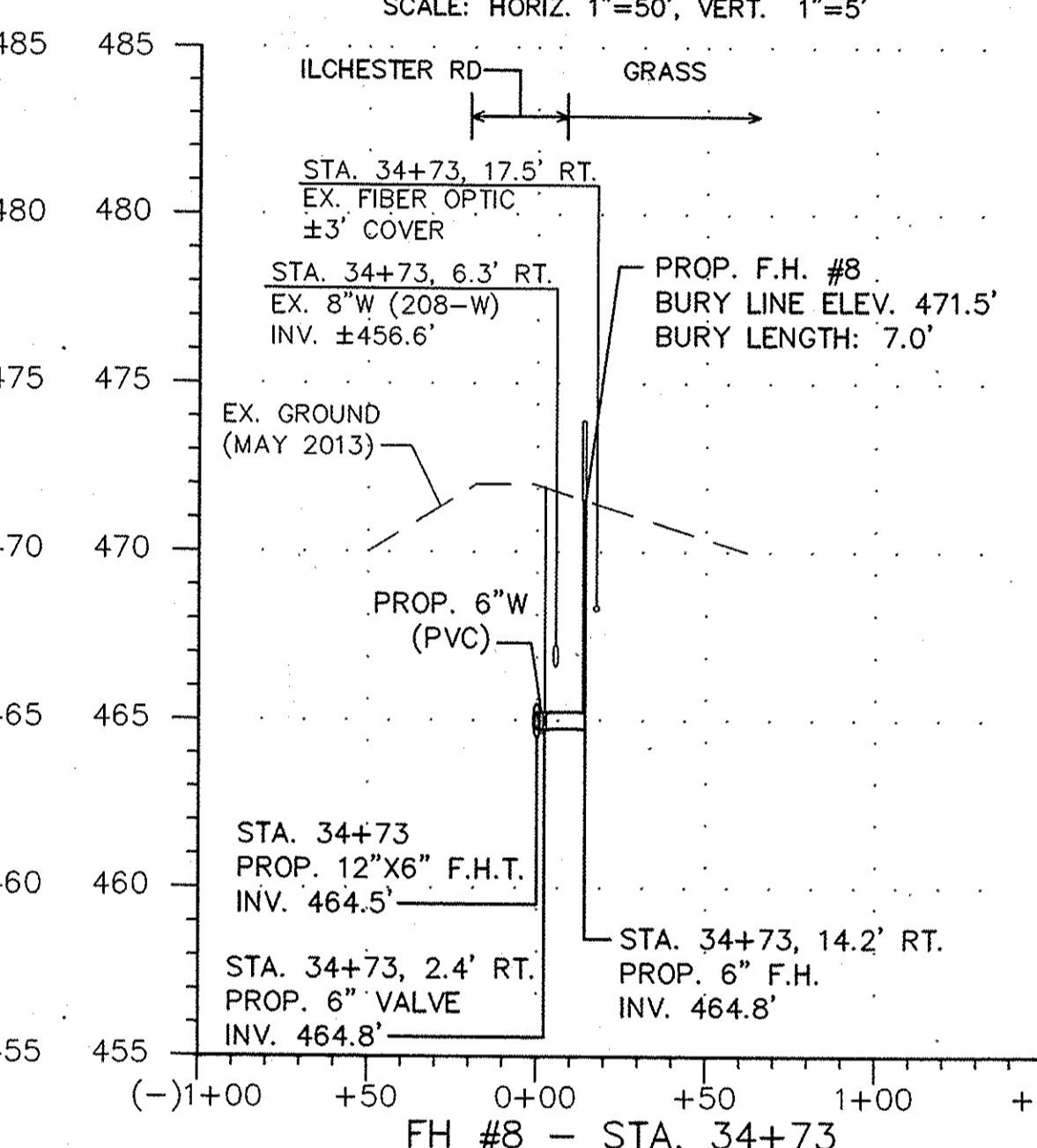
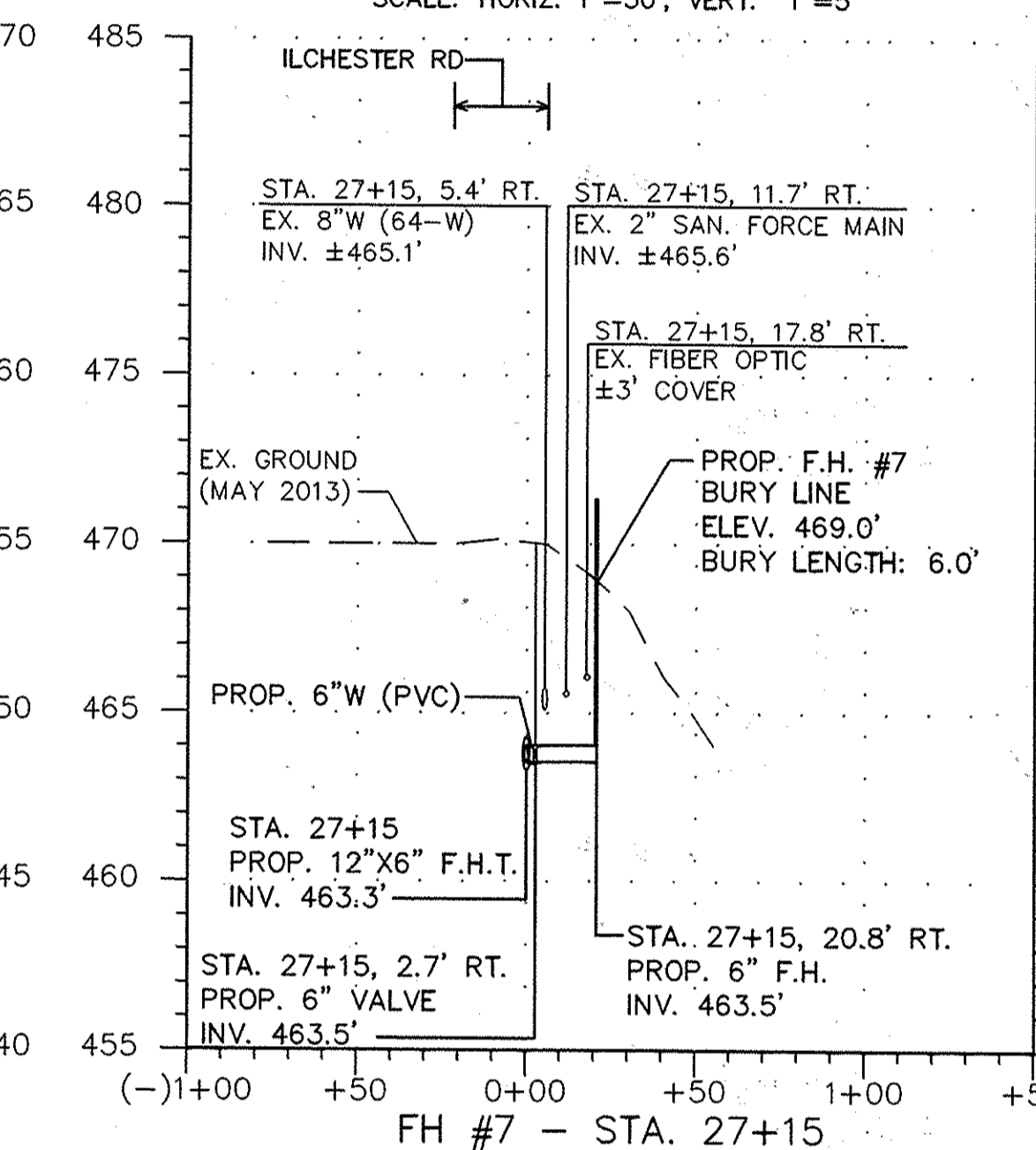
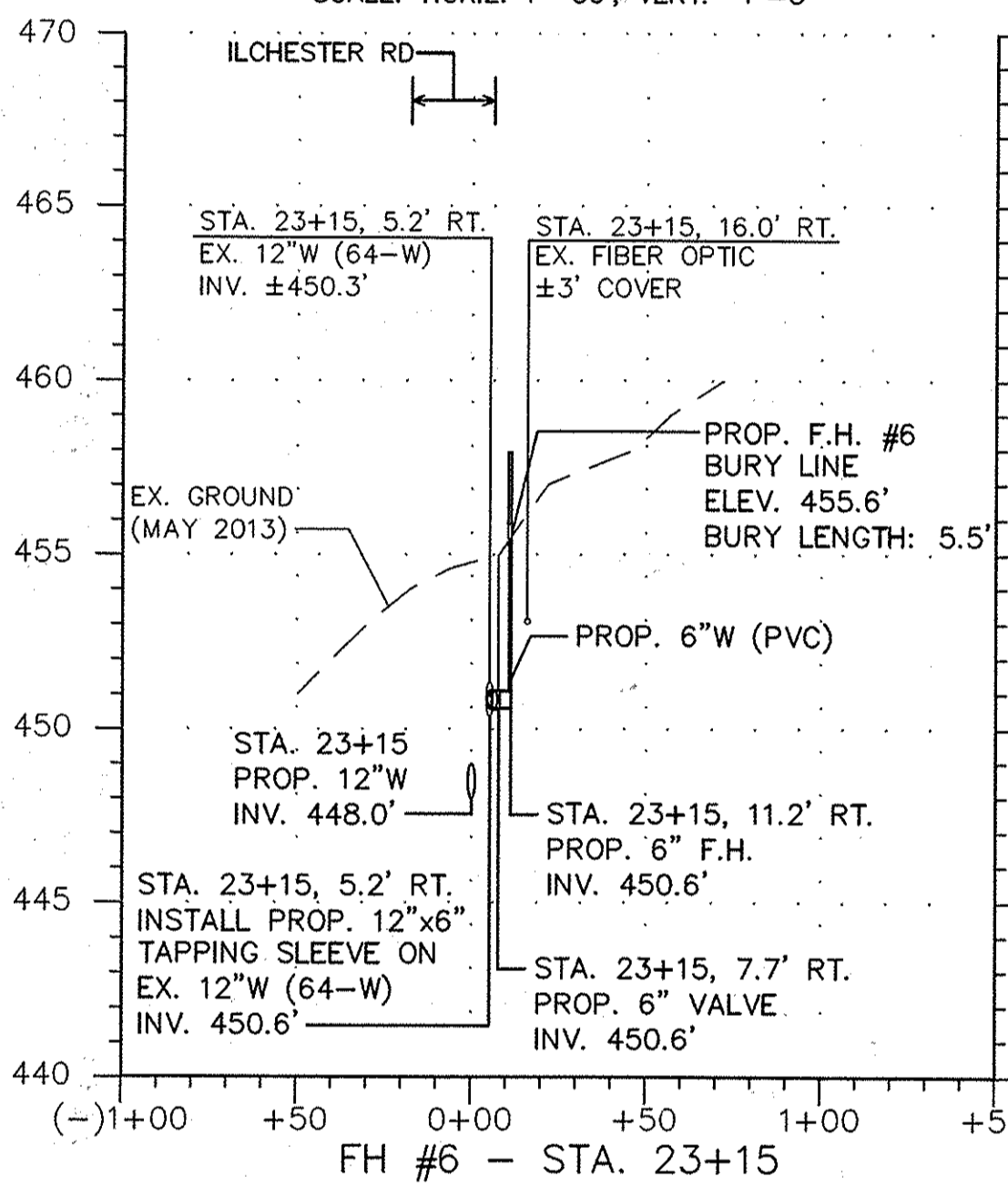
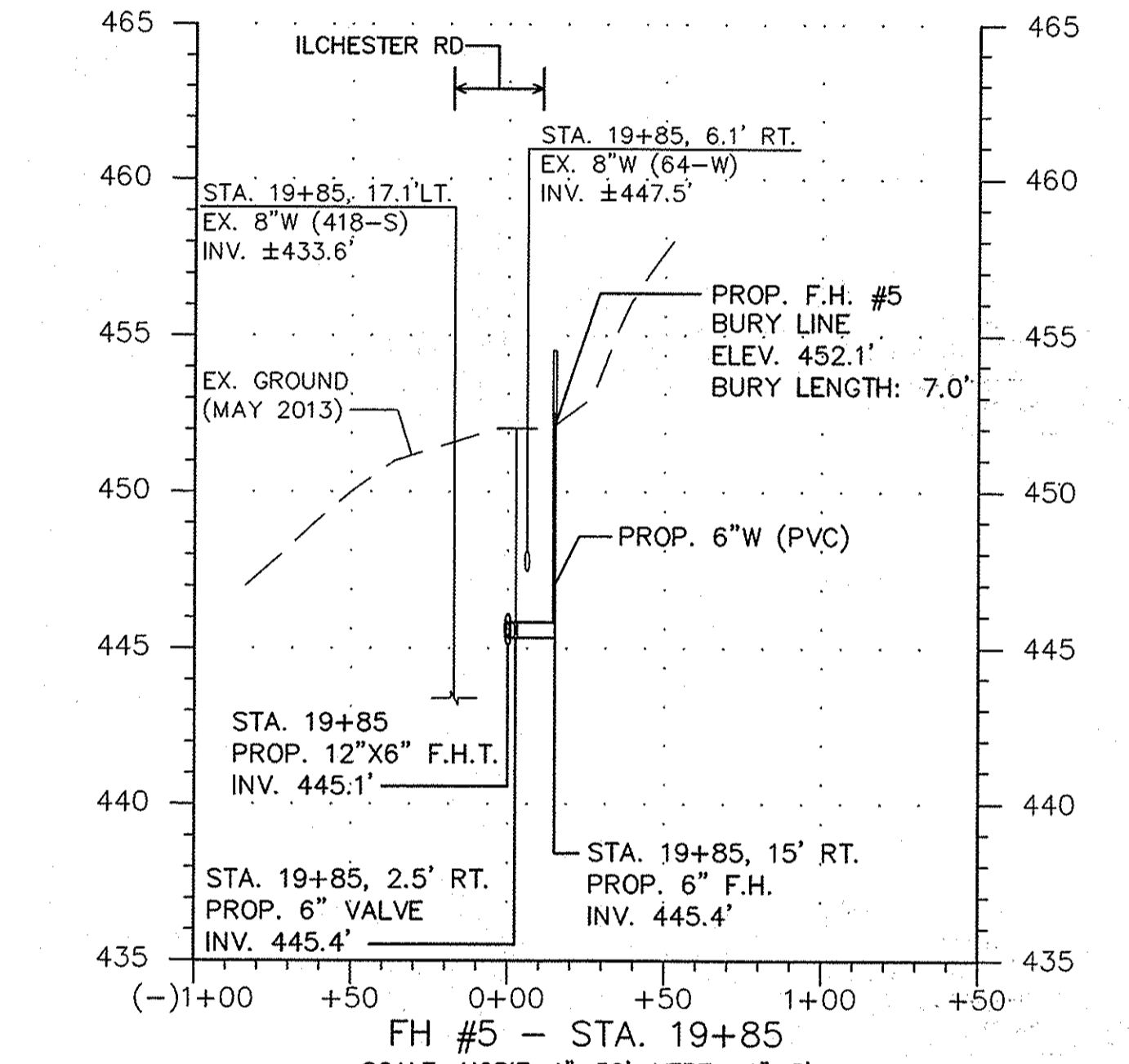
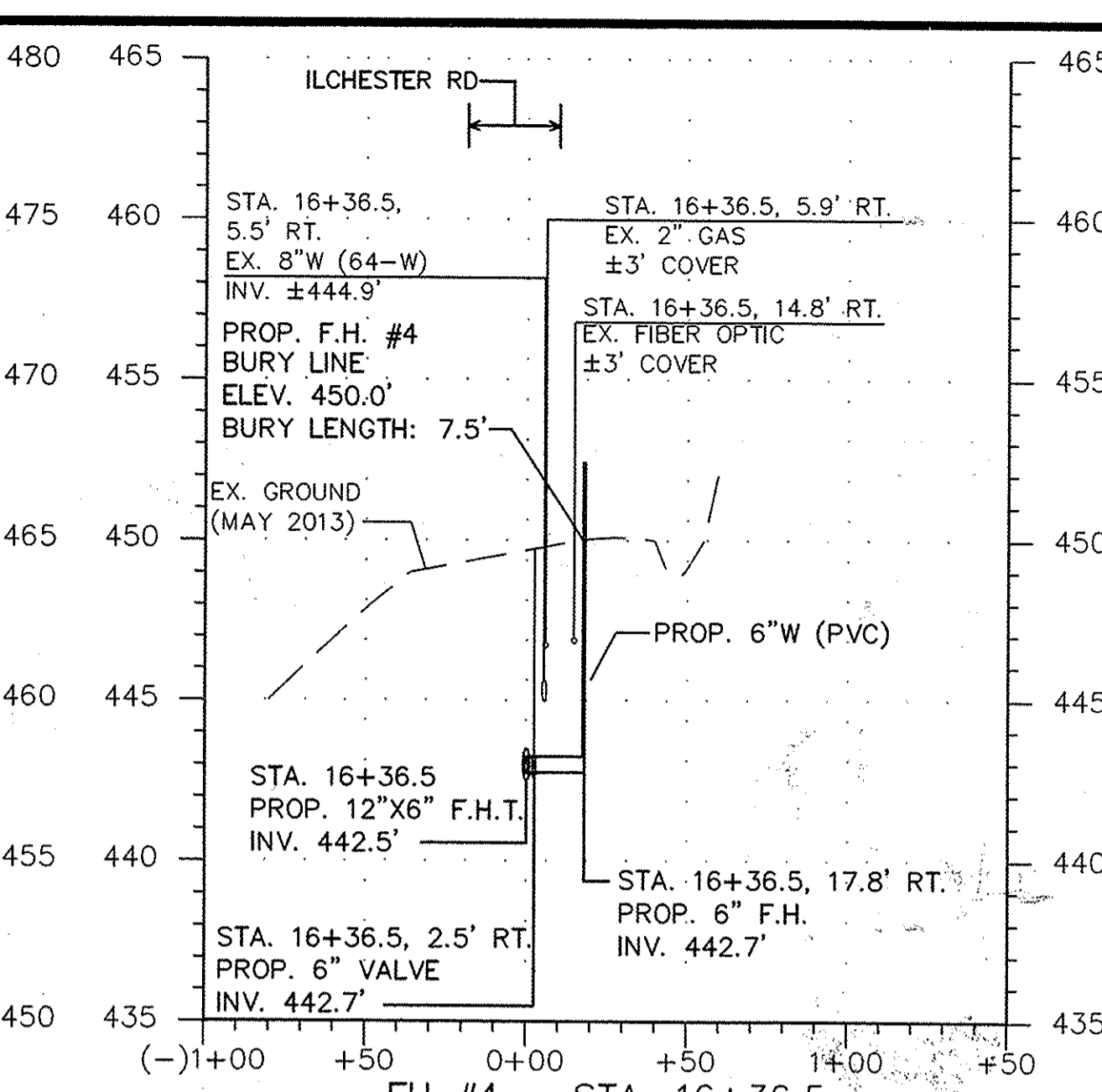
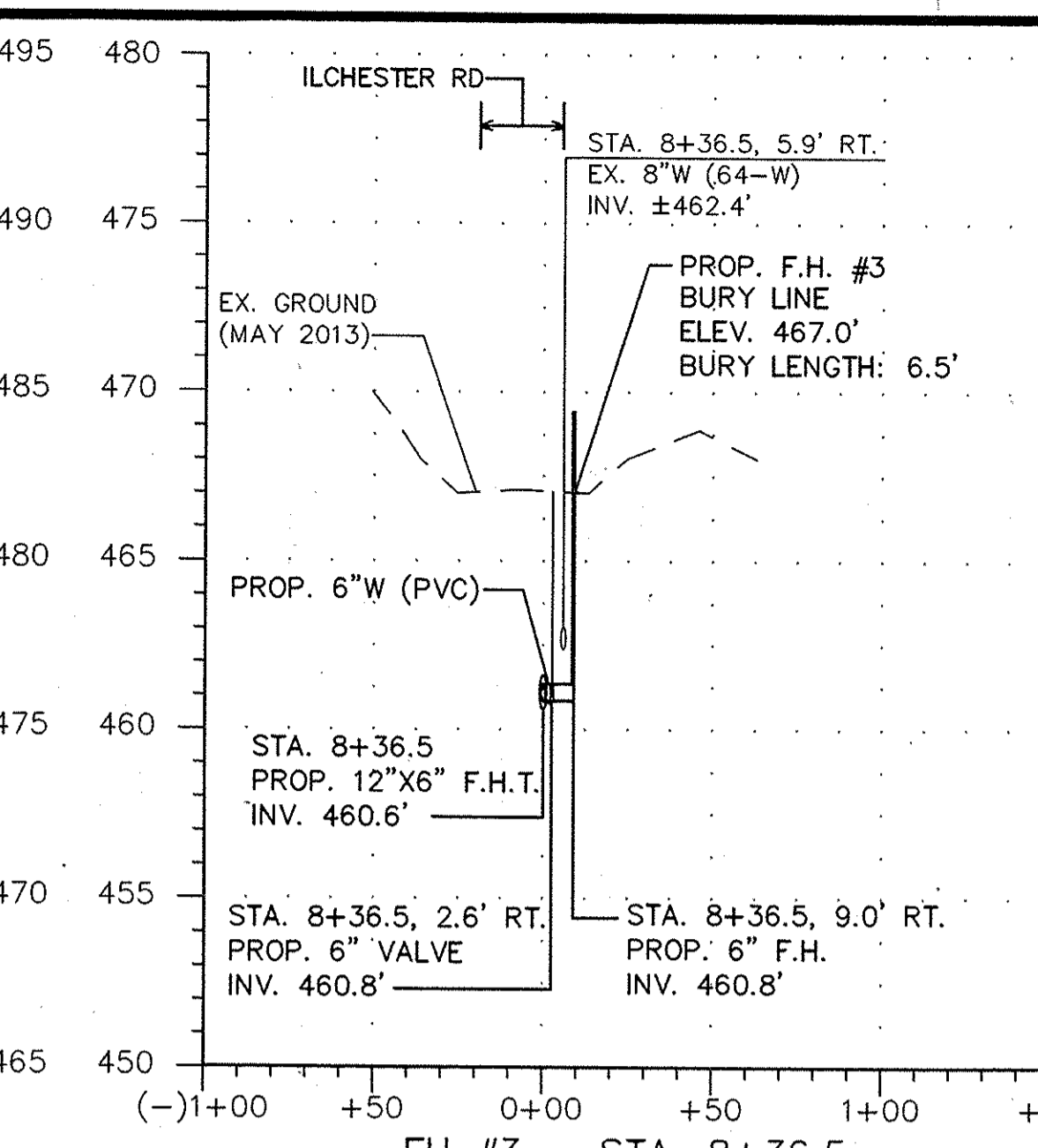
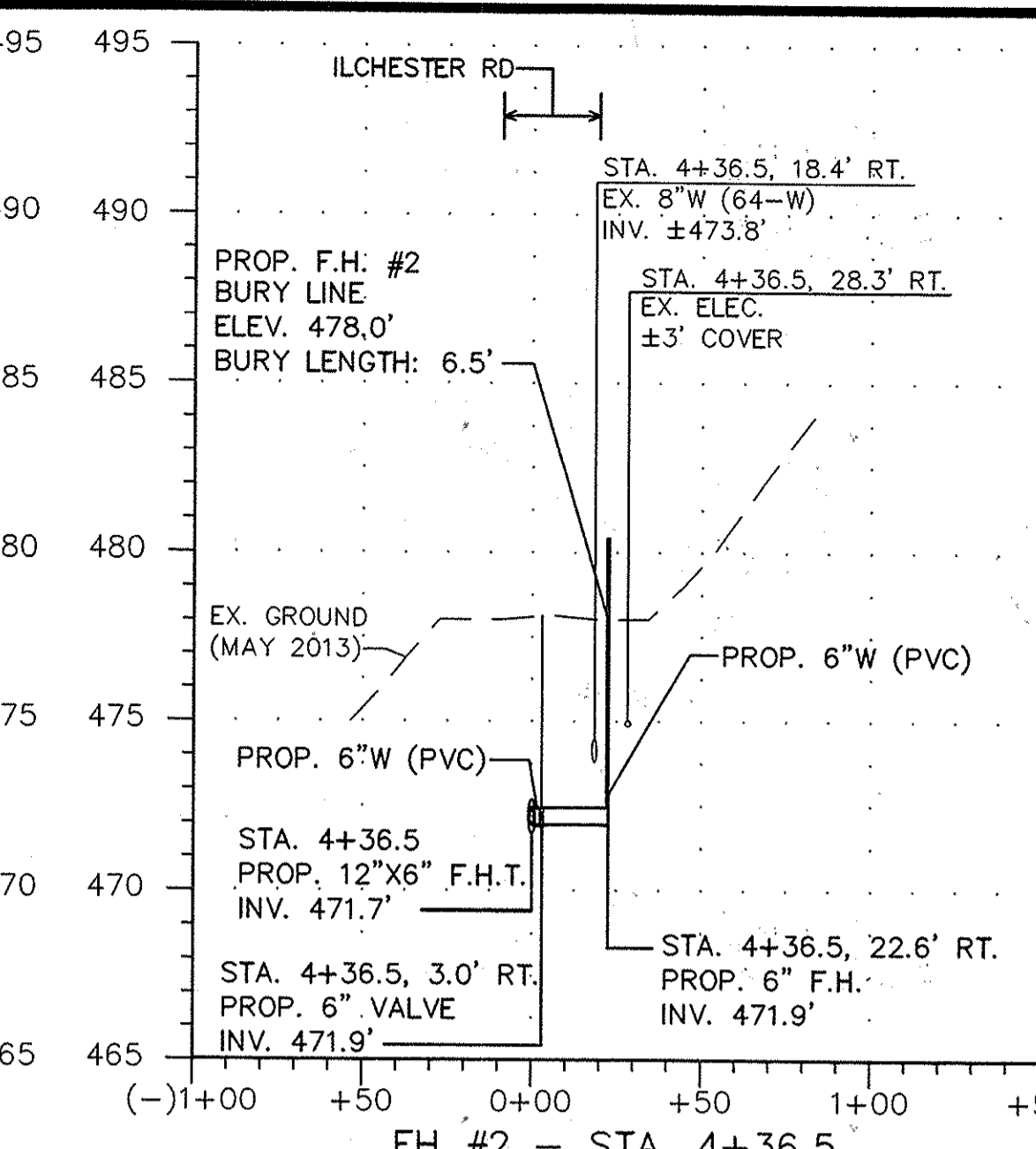
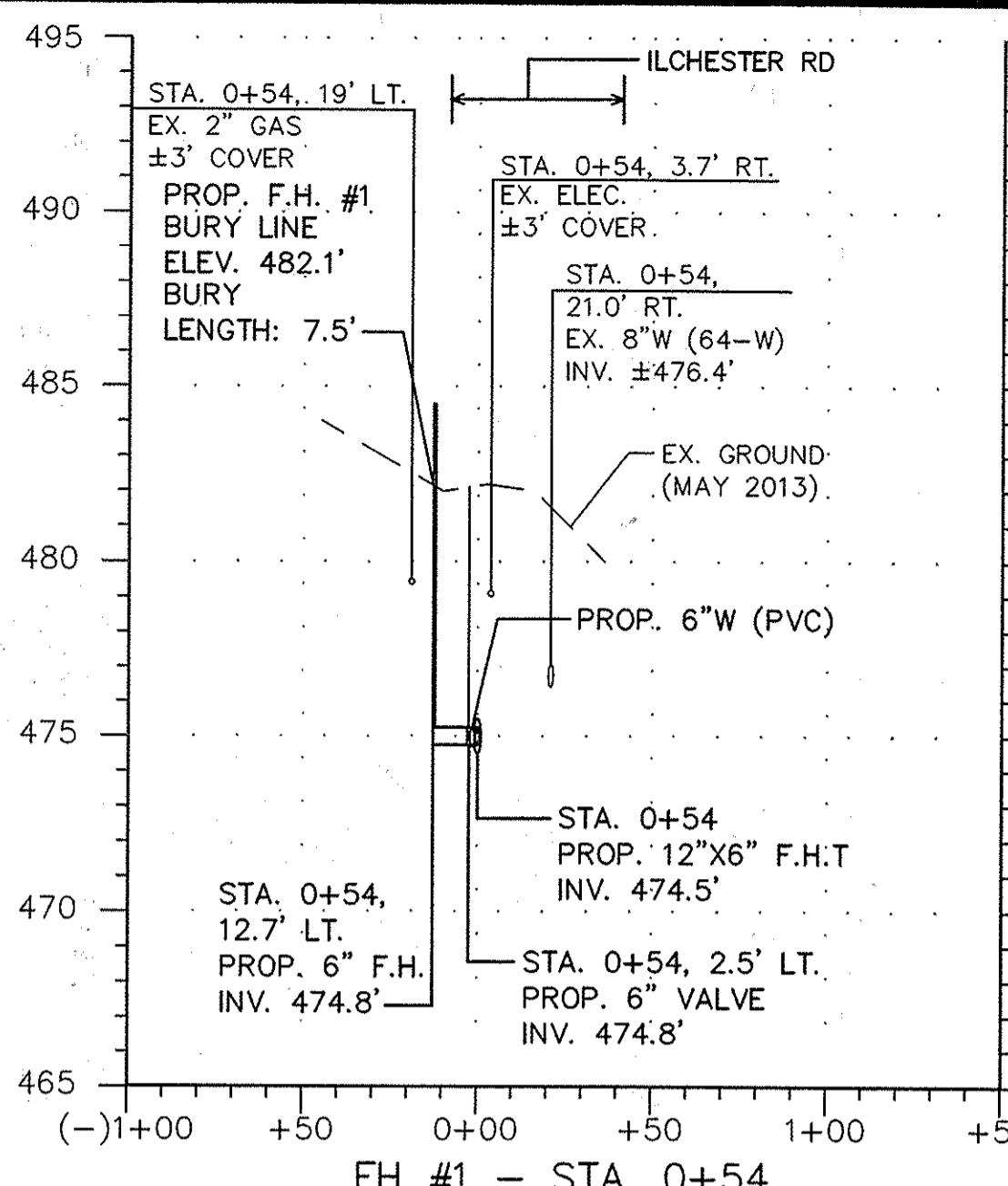
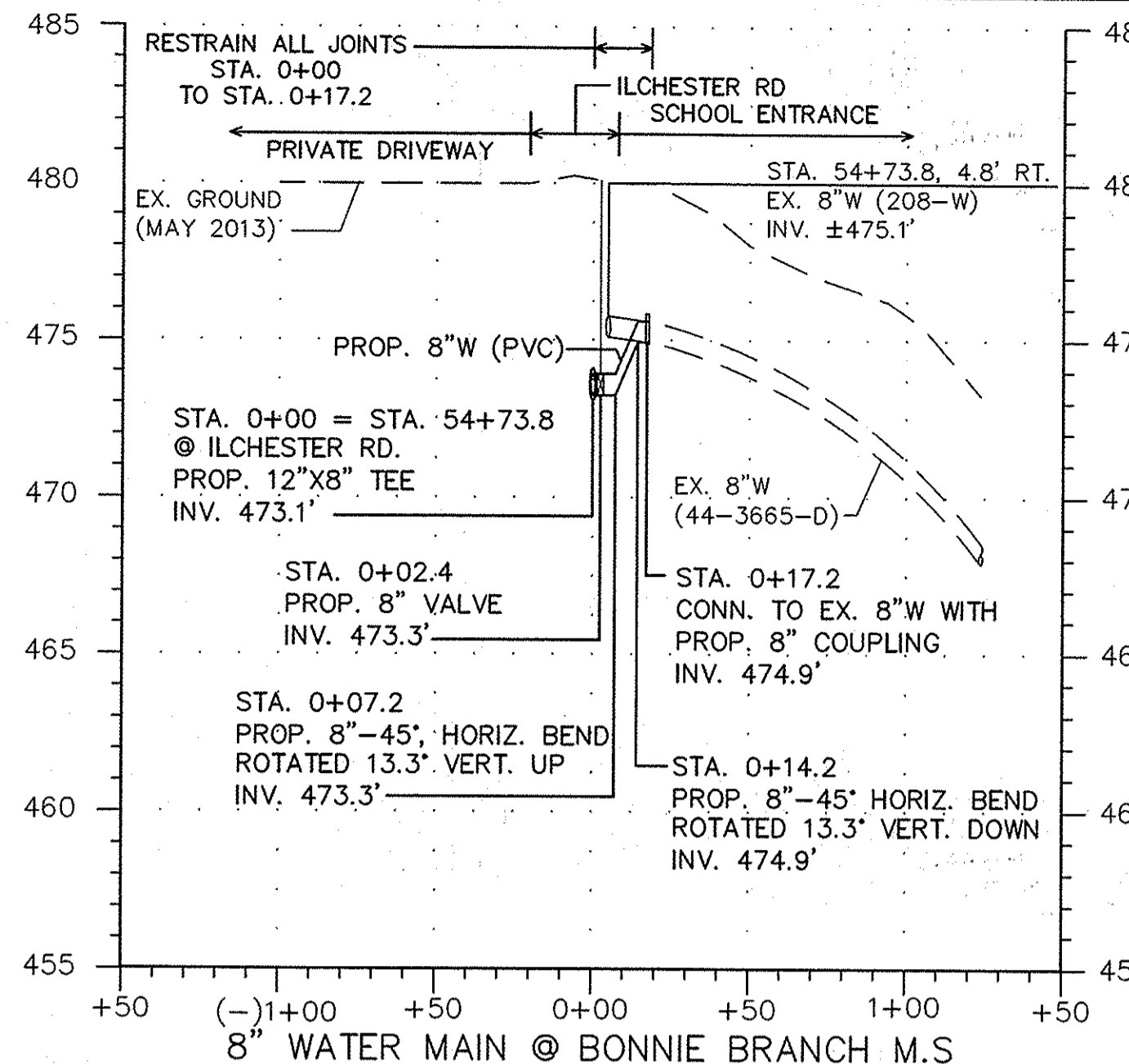
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 26822
EXPIRATION DATE: 02/02/16
EDN A. MCKENNA-STREY, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: SGZ					
DATE: 9/19/2014	NO.	REVISION	DATE	BY	

PROP. 12" WATER MAIN
BRANCH CONNECTION
PROFILES
600 SCALE MAP NO. 31
BLOCK NO. 15

ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
MONTGOMERY RD TO ELLIS LN
CAPITAL PROJECT NO.: W-8316
CONTRACT NO.: 44-4825
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 15



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. Davis 9/30/14
DIRECTOR OF PUBLIC WORKS DATE

Thomas S. Sadler 9/25/14
CHIEF, BUREAU OF ENGINEERING DATE

John A. Davis 9/25/14
CHIEF, BUREAU OF UTILITIES DATE

John A. Davis 9/25/14
CHIEF, UTILITY DESIGN DIVISION DATE

Baker

MICHAEL BAKER JR., 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.: 36230
EXPIRATION DATE: 02/07/16

John A. Davis
JOHN A. DAVIS, P.E.

DESIGN: EAM			
DRAWN: EAM			
CHECKED: SGZ			
DATE: 9/19/2014	NO.	REVISION	DATE BY

PROP. 12" WATER MAIN BRANCH CONNECTION & FIRE HYDRANT PROFILES		600 SCALE MAP NO. 31		BLOCK NO. 15	
ILCHESTER ROAD 12" WATER TRANSMISSION MAIN				SCALE AS SHOWN	
MONTGOMERY RD TO ELLIS LN				SHEET 8 OF 15	
CAPITAL PROJECT NO.: W-8316					
CONTRACT NO.: 44-4825					
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND					

WATER HOUSE CONNECTIONS table with columns: ADDRESS, EX. WHC SIZE, EX. WHC MATERIAL, EX. METER LOCATION, EX. METER SIZE, APPROX. LENGTH OF EX. WHC (LF), APPROX. LENGTH OF PROP. WHC (LF), REMARKS/NOTES.

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 OR COULD NOT BE LOCATED IN THE FIELD HAVE BEEN ESTIMATED FROM THE PROPERTY LINE TO THE PROPOSED WATER MAIN.

FITTING SCHEDULE - 6" W FRONT RD. (STA. 0+00 = 11+91.3 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 8" W ILCHESTER MANOR LN. (STA. 0+00 = 20+50 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 8" W CRESTWOOD LN. (STA. 0+00 = 38+95 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 8" W BONNIE BRANCH E.S. (STA. 0+00 = 48+59.8 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 8" W BONNIE BRANCH M.S. (STA. 0+00 = STA. 54+73.8 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 4" W SPRING OAKS LN. (STA. 0+00 = 17+51.5 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 8" W ILCHESTER WOODS WAY (STA. 0+00 = 31+82.2 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 2" W 4" @ HOUSE #5060 (STA. 0+00 = 44+70.2 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 4" W CAMP ILCHESTER (STA. 0+00 = STA. 48+69.8 ILCHESTER RD.) table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 12" W ILCHESTER ROAD table with columns: STATION, FITTING, NORTHING, EASTING.

FITTING SCHEDULE - 12" W ILCHESTER ROAD (CONTINUED) table with columns: STATION, FITTING, NORTHING, EASTING.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. Includes signatures and dates for Director of Public Works, Chief, Bureau of Engineering, and Chief, Utility Design Division.

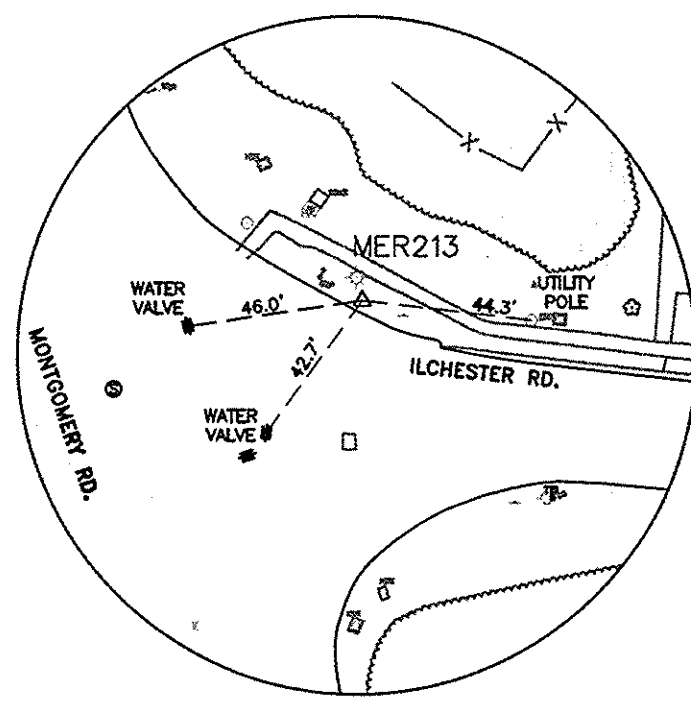
Baker logo and contact information for Michael Baker Jr., Inc. at 1304 Concourse Drive, Suite 200, Linthicum, MD 21090-1014.

PROFESSIONAL CERTIFICATION section for Michael A. McGinnis, P.E., License No. 28552, Expiration Date 08/02/18.

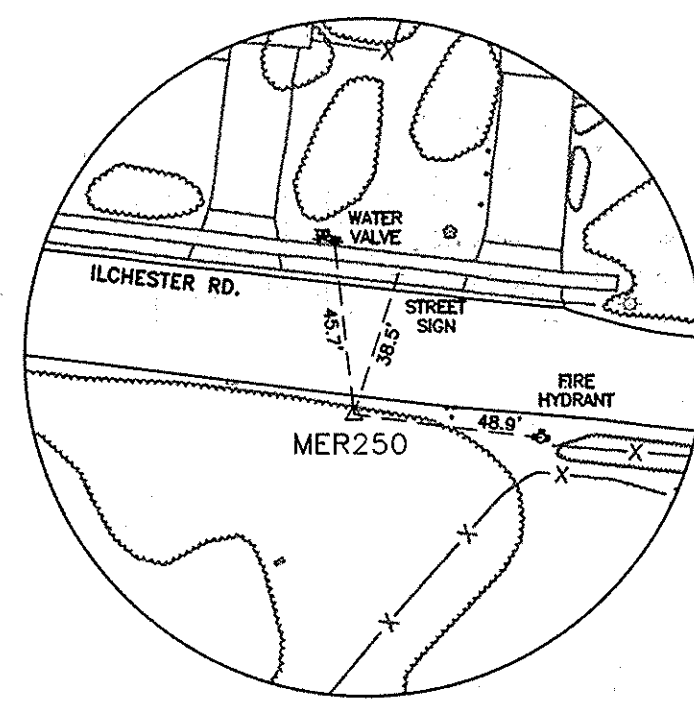
DESIGN: EAM, DRAWN: EAM, CHECKED: SGZ, DATE: 9/19/2014, NO., REVISION, DATE, BY.

PROPOSED WATER MAIN FITTING SCHEDULE & WHC CHART. Includes scale (800 SCALE MAP NO. 31) and block information.

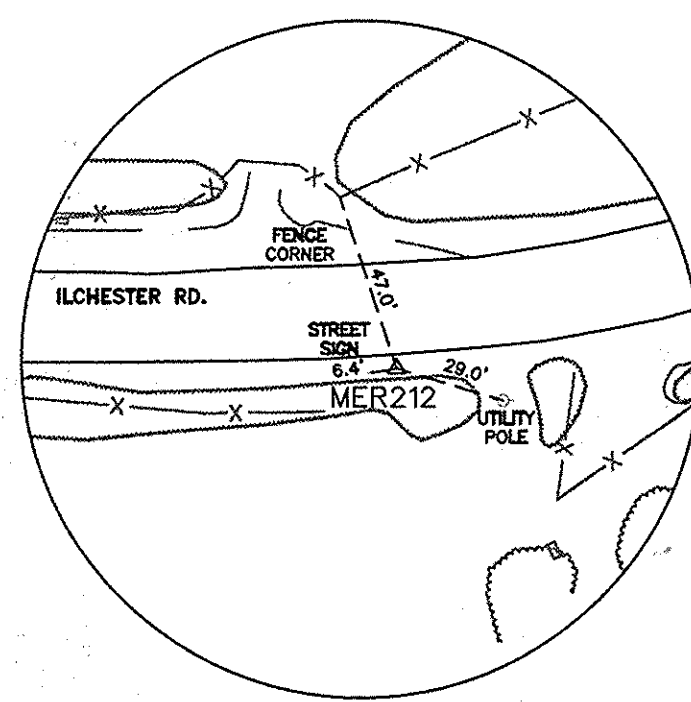
ILCHESTER ROAD 12" WATER TRANSMISSION MAIN. Includes project location (MONTGOMERY RD TO ELLIS LN), contract number (44-4825), and sheet information (1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND).



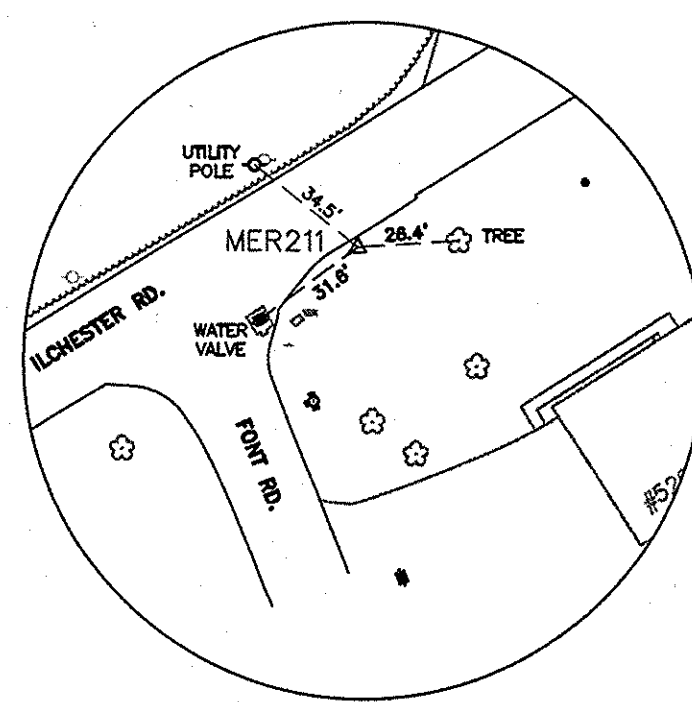
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ELEV. 481.88'



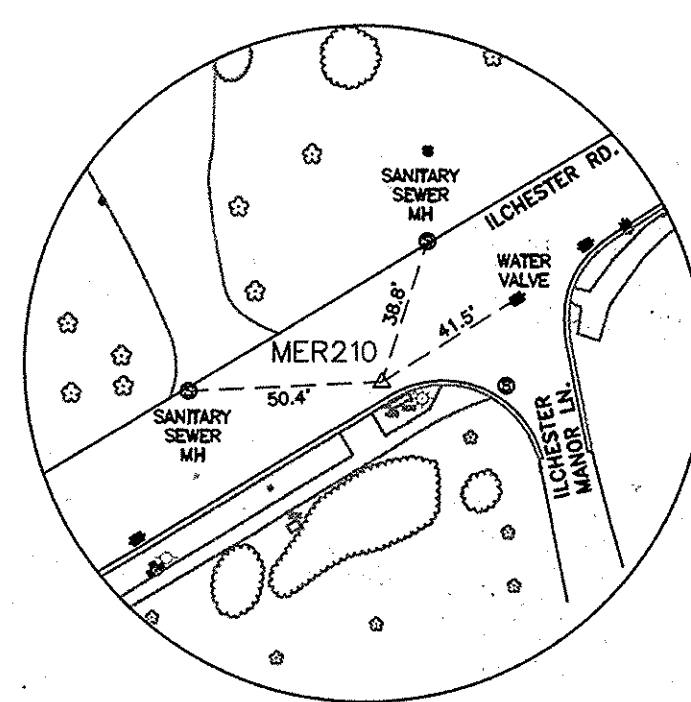
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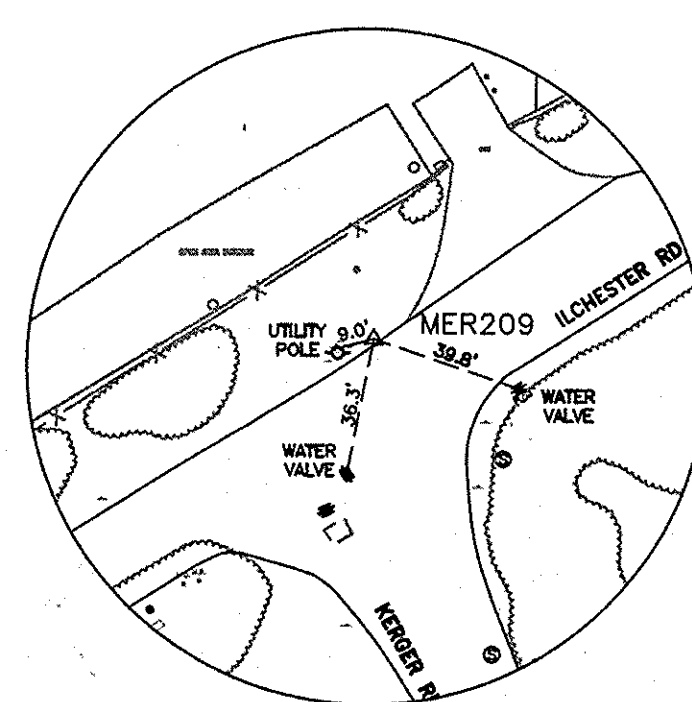
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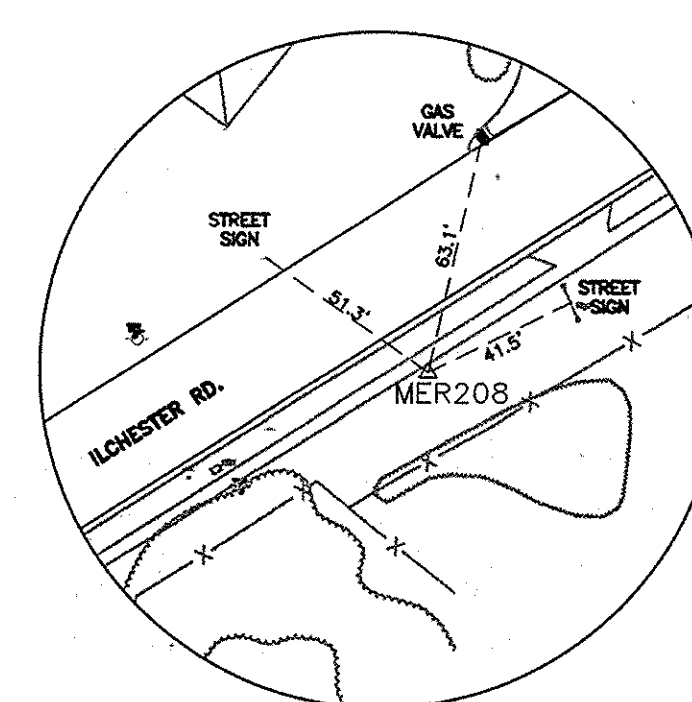
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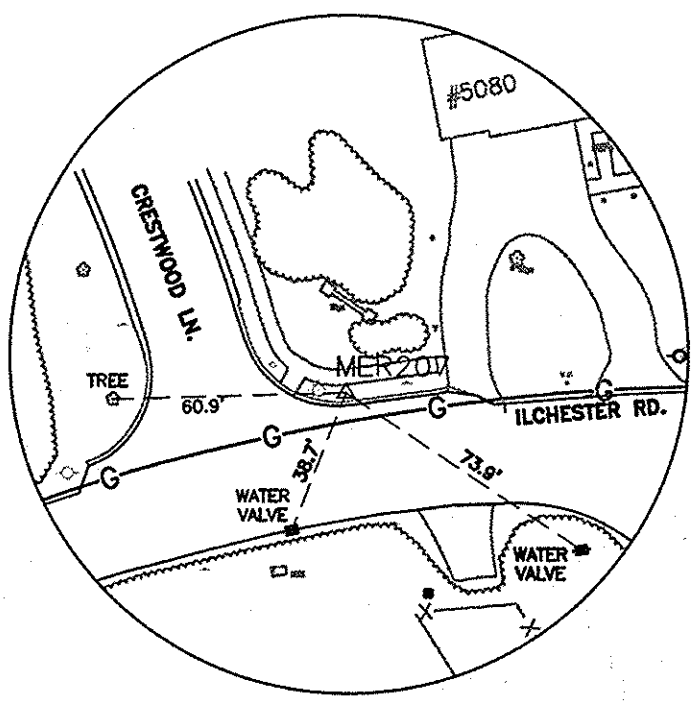
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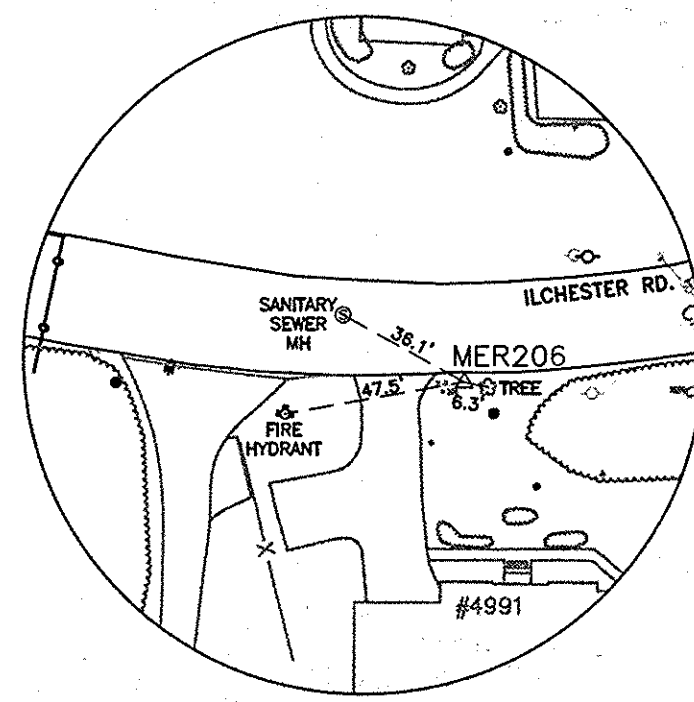
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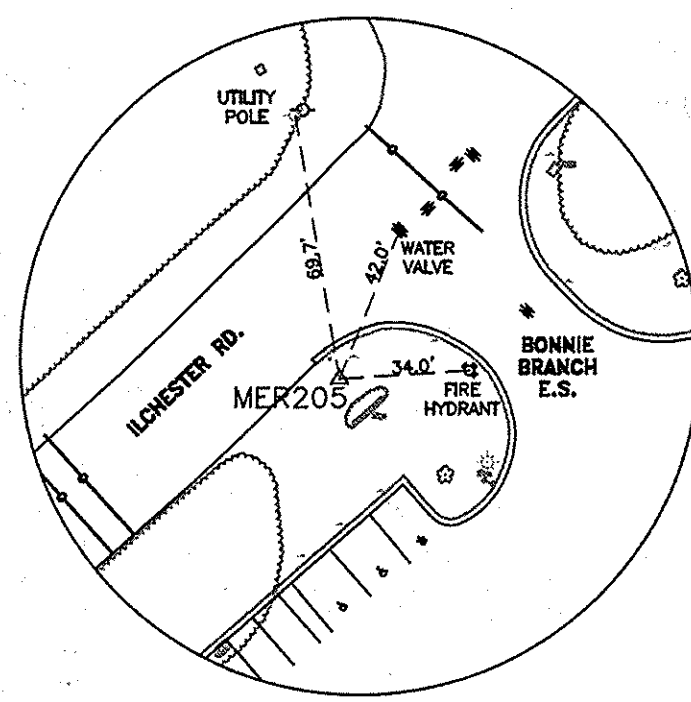
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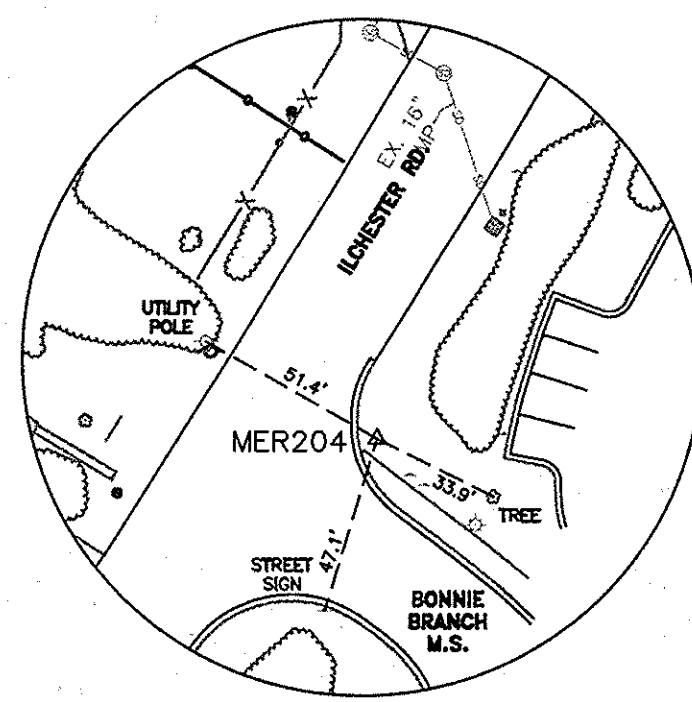
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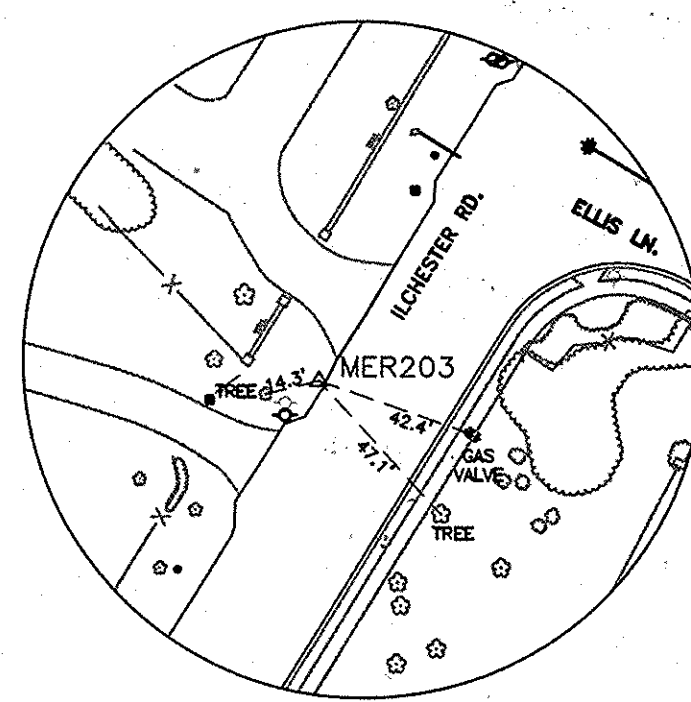
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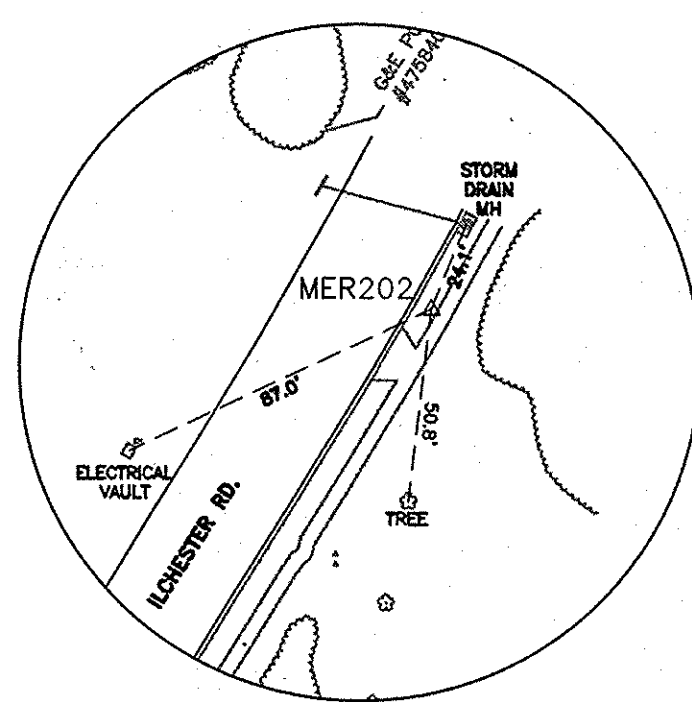
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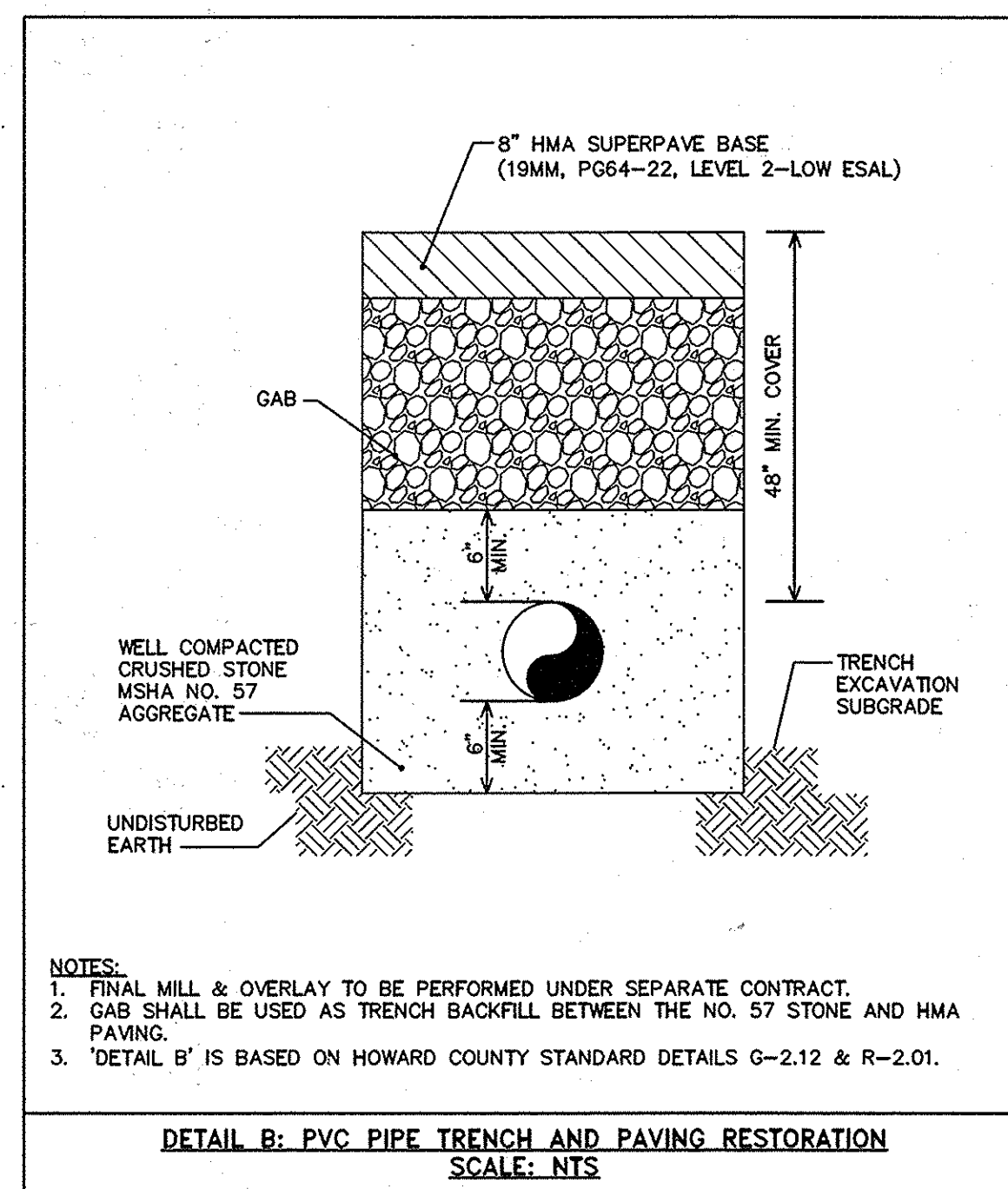
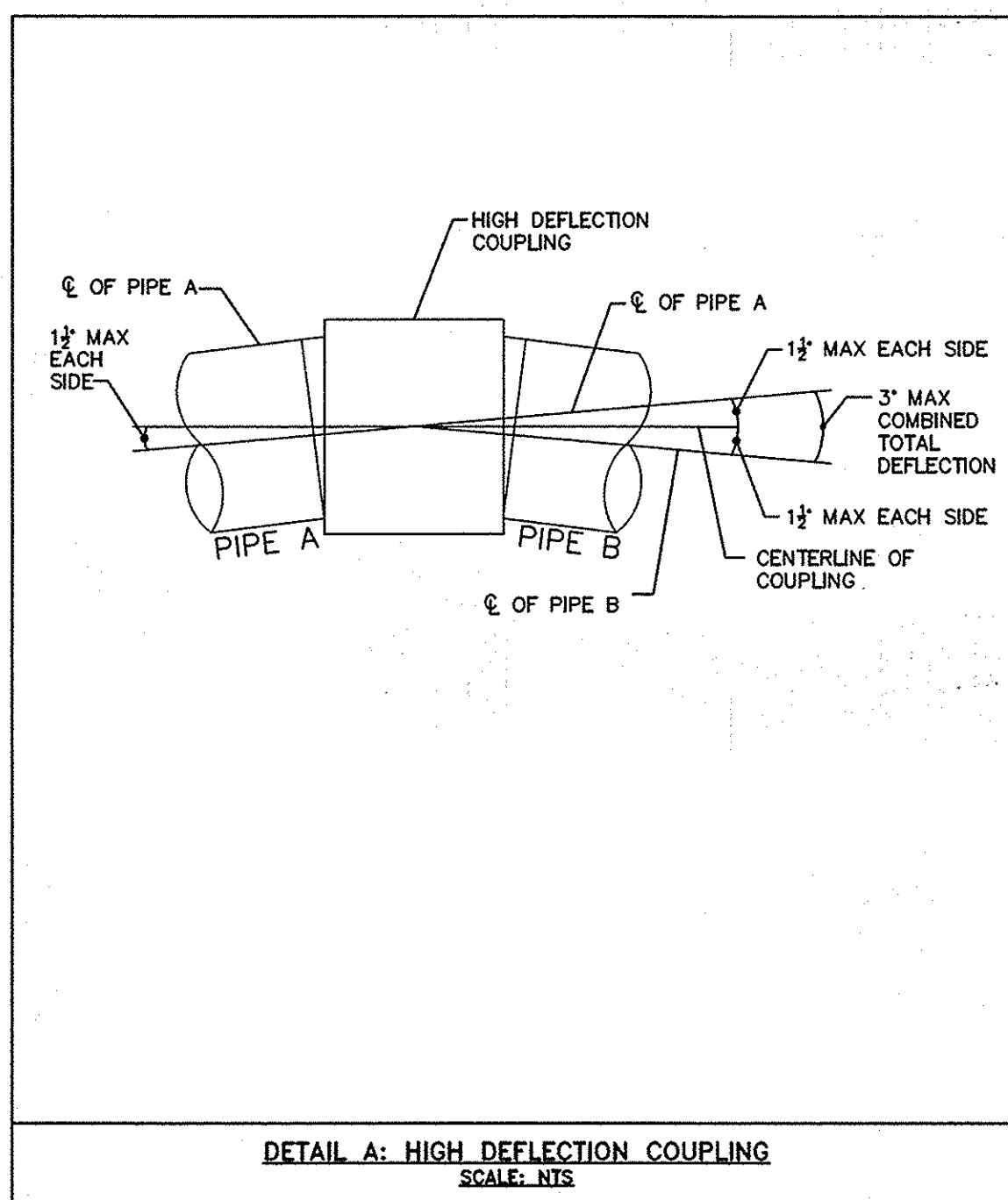
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ELEV. 477.73'



TP# MR203
N 570387.046
E 1376596.721
ELEV. 483.54'



TP# MR202
N 571107.785
E 1376867.170
ELEV. 469.47'



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* Date: 9/23/14
Chief, Bureau of Utilities: *[Signature]* Date: 9/23/14

Chief, Bureau of Engineering: *[Signature]* Date: 9/23/14
Chief, Utility Design Division: *[Signature]* Date: 9/23/14

Baker
MICHAEL BAKER JR., 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.: 26360
EXPIRATION DATE: 06/07/16
ERIN A. MCKENNA-STREYLE, P.E.

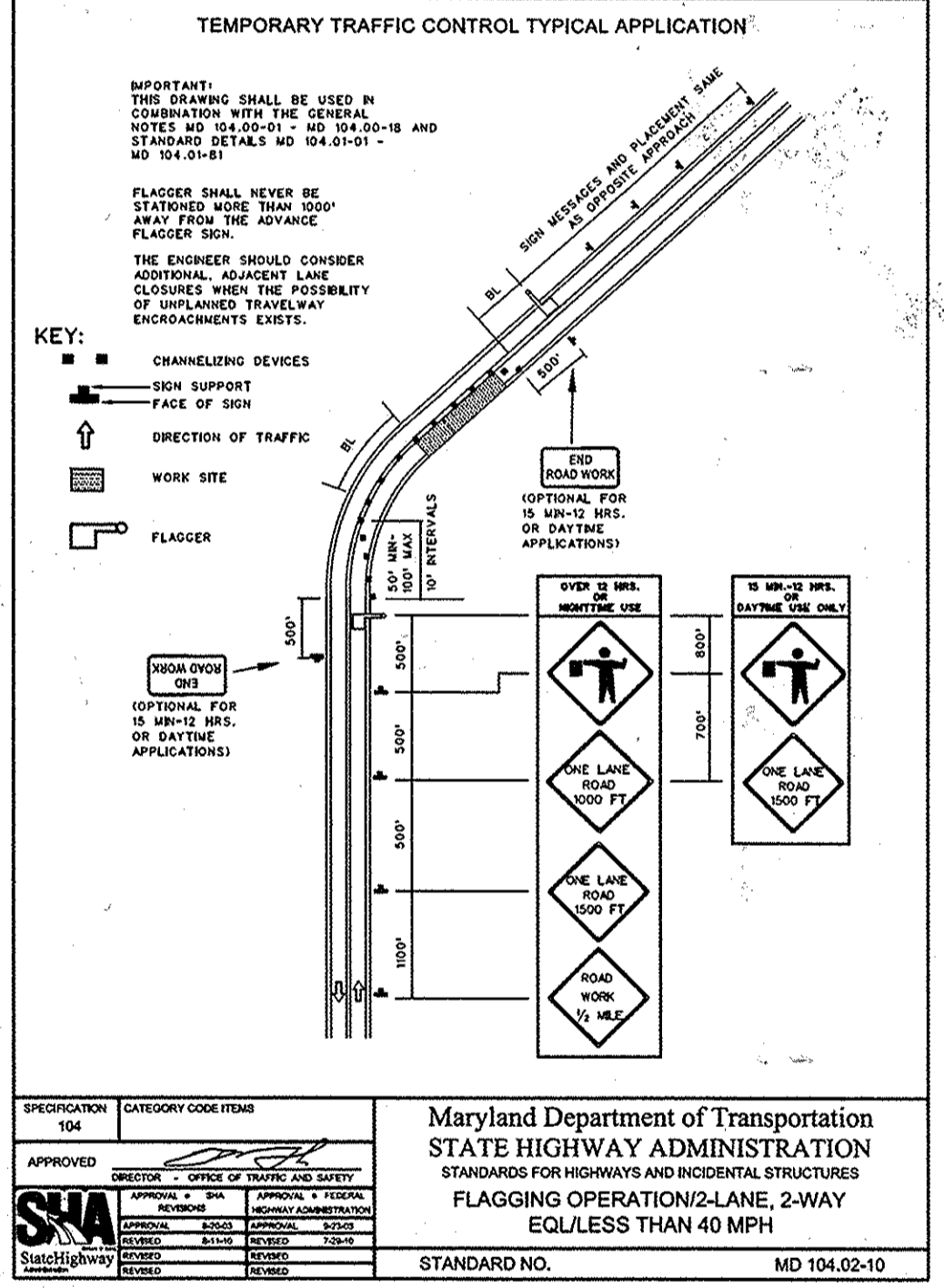
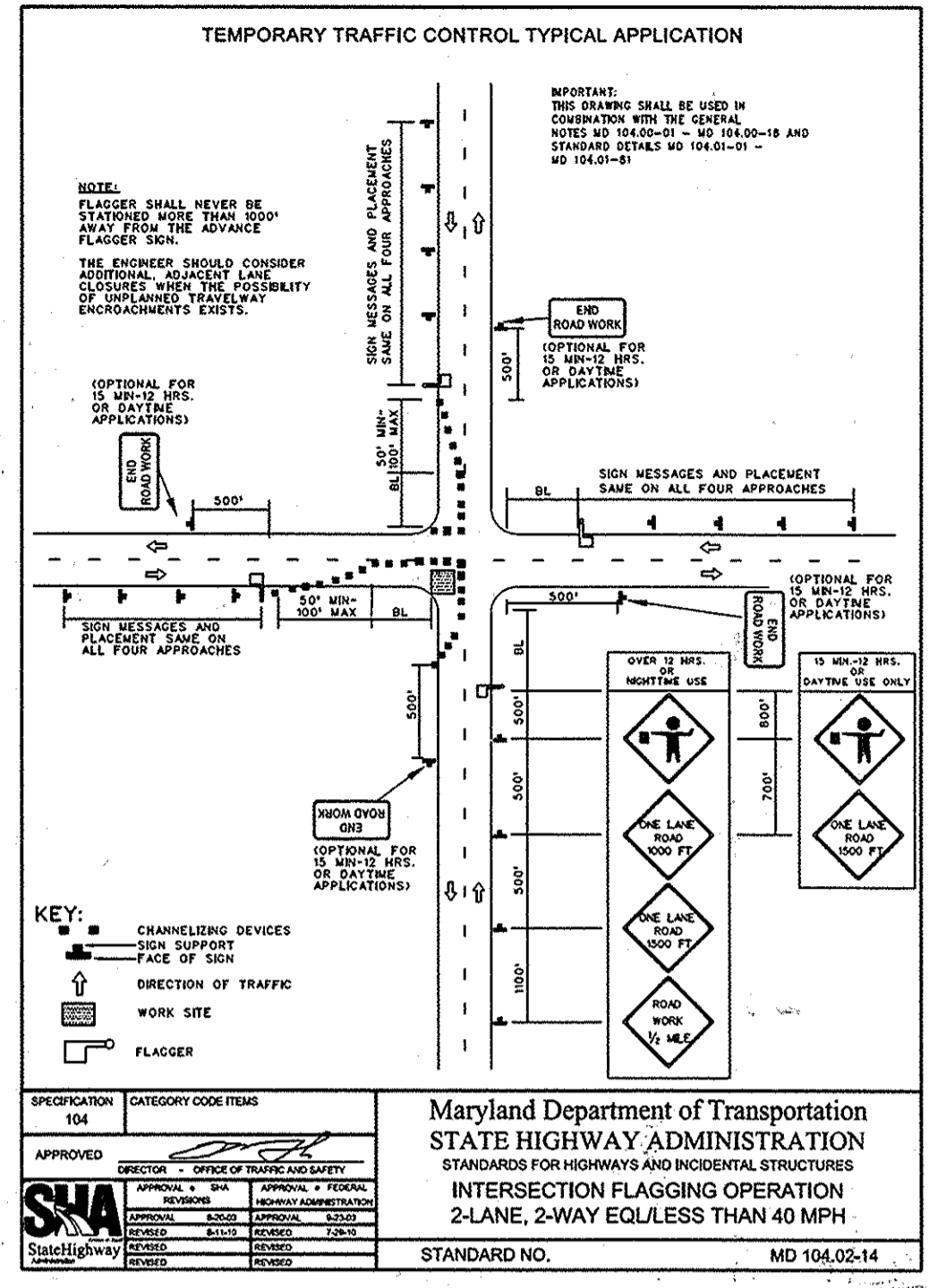
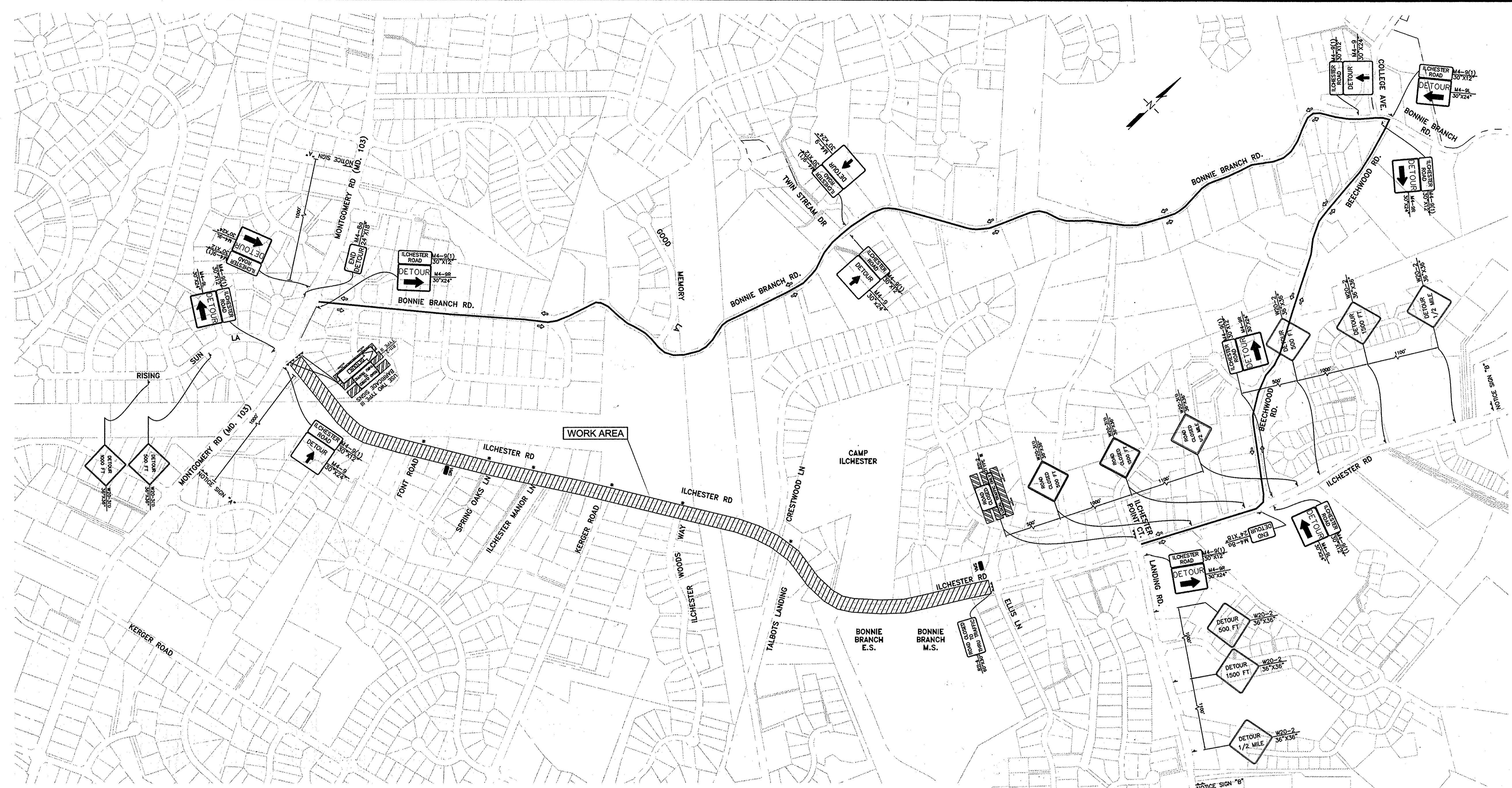
DESIGN: EAM					
DRAWN: EAM					
CHECKED: SGZ					
DATE: 9/19/2014	NO.	REVISION	DATE	BY	

SURVEY CONTROL DATA & DETAILS

600 SCALE MAP NO. 31
BLOCK NO. 15

ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
MONTGOMERY RD TO ELLIS LN
CAPITAL PROJECT NO.: W-8316
CONTRACT NO.: 44-4825
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 10 OF 15



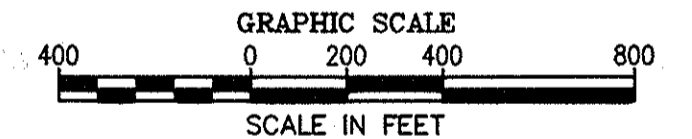
TRAFFIC CONTROL NOTES:

- HOWARD COUNTY TRAFFIC DIVISION SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK IN ORDER TO SCHEDULE A FIELD MEETING TO PRE-SPOT LOCATIONS OF THE TRAFFIC CONTROL DEVICES. CALL 410-313-2430.
- ALL CONSTRUCTION AND MATERIALS FOR THE TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE STANDARDS CONTAINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL CONTINUOUSLY PROVIDE ACCESS TO ALL EXITS, INTERSECTING ROADS, DRIVEWAYS AND ENTRANCES ALONG ILCHESTER 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. APPROPRIATE SIGNING WILL BE REQUIRED AND THE PLATES WILL BE PINNED AND RAMPED.
- IF A DROP OFF MEASURES GREATER THAN 2", A BARRIER OR 2:1 SLOPE OF COMPACTED CRUSHER-RUN GRAVEL WILL BE REQUIRED.
- ALL DETOUR SIGNS WILL BE EITHER REMOVED OR COVERED WHEN DETOUR IS NOT IN OPERATION.
- IF TEMPORARY PARKING RESTRICTIONS WILL BE REQUIRED, THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING SIGNS AND FOR NOTIFYING AT LEAST ONE DAY IN ADVANCE ALL AFFECTED RESIDENTS. THE CONTRACTOR MUST CONTACT TRAFFIC ENGINEERING BEFORE ANY PARKING RESTRICTIONS ARE ENACTED.
- CONSTRUCTION AND WORKMAN'S VEHICLES SHALL NOT BE PARKED IN A MANNER THAT WILL IMPEDE TRAFFIC OR IMPAIR SIGHT DISTANCE. THESE VEHICLES SHOULD BE PARKED OFF-STREET ON THE CONSTRUCTION SITE OR ON A SIDE STREET NOT UNDER CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS, AND PAYING ANY ASSOCIATED FEES NECESSARY TO GAIN TRAFFIC CONTROL APPROVALS FROM AFFECTED AGENCIES.
- CONTRACTOR IS TO USE DETAIL MD 104.02-14 AT THE INTERSECTIONS OF MONTGOMERY ROAD AND ILCHESTER ROAD, AND ELLIS LANE AND ILCHESTER ROAD WHEN WATER TIE-INS ARE PERFORMED.
- DEPENDING ON STAGE OF WORK, PROVIDE LEFT OR RIGHT TURN DETOUR SIGNS ACROSS FROM ALL SIDE STREETS.
- ILCHESTER ROAD MAY ONLY BE CLOSED WHEN SCHOOL IS OUT. PLEASE REFER TO THE CONTRACT SPECIFICATIONS.

ROADWAY CLOSURE NOTES:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES AT LEAST 4 WEEKS IN ADVANCE:

- HOWARD COUNTY DPW - TRAFFIC DIVISION 410-313-2430
- HOWARD COUNTY PUBLIC SCHOOLS/TRANSPORTATION DIVISION 410-313-6728 (IF DURING SCHOOL TIMES)
- HOWARD COUNTY TRANSIT SERVICES 240-581-5800
- HOWARD COUNTY BUREAU OF ENVIRONMENTAL SERVICES 410-313-6470
- HOWARD COUNTY EMERGENCY COMMUNICATIONS/911 CENTER 410-313-2300



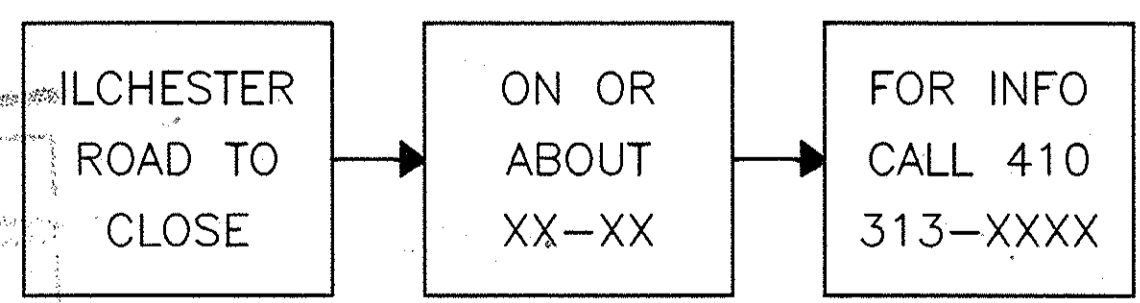
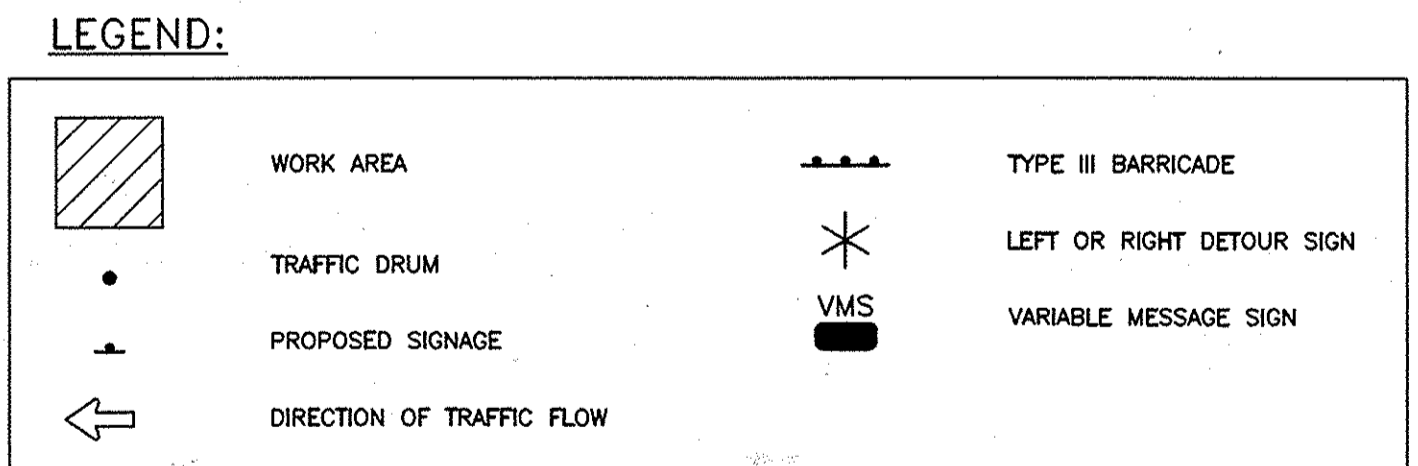
APPROXIMATE DURATION
130 WORKING DAYS

WORK HOURS
IN ACCORDANCE WITH PERMIT

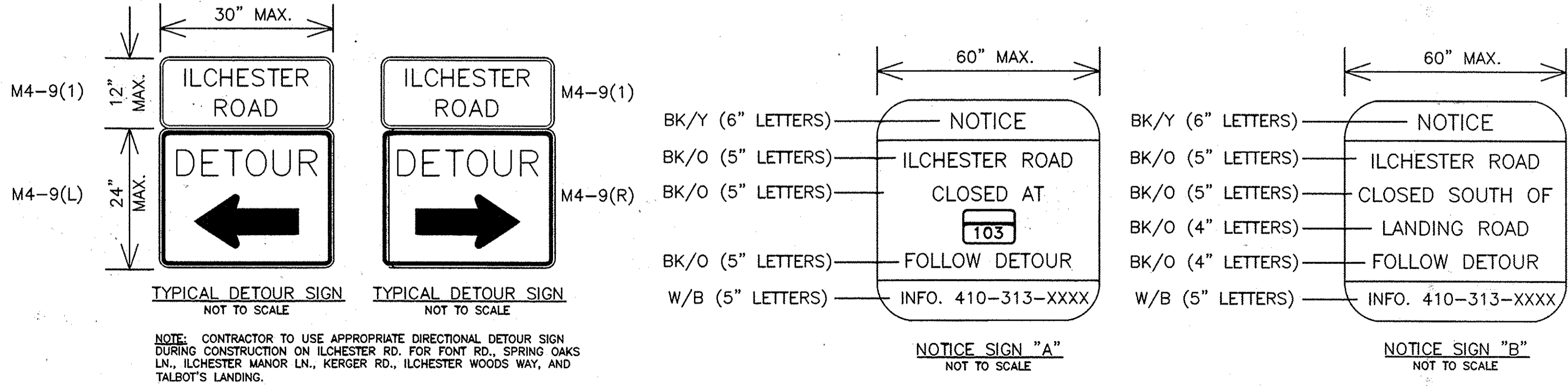
WORK AREA
WATERLINE STATION 0+00 TO 57+24

TRAFFIC IMPACTS
ILCHESTER ROAD TO BE CLOSED FROM MONTGOMERY ROAD TO WEST OF ELLIS LANE.

- SEQUENCE OF CONSTRUCTION**
- INSTALL TEMPORARY SIGNAGE AS SHOWN.
 - INSTALL WATER MAIN, FIRE HYDRANTS AND ASSOCIATED APPURTENANCES.
 - RESTORE PAVEMENT TO ORIGINAL CONDITION.
 - REMOVE TEMPORARY SIGNAGE. RE-STRIPES AS REQUIRED TO RESTORE ORIGINAL CONDITION.



VMS MESSAGES
TWO WEEKS BEFORE CLOSURE
NOT TO SCALE



NOTE: CONTRACTOR TO USE APPROPRIATE DIRECTIONAL DETOUR SIGN DURING CONSTRUCTION ON ILCHESTER RD. FOR FONT RD., SPRING OAKS LN., ILCHESTER MANOR LN., KERGER RD., ILCHESTER WOODS WAY, AND TALBOT'S LANDING.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature]

Chief, Bureau of Engineering: [Signature]

Chief, Bureau of Utilities: [Signature]

Baker

MICHAEL BAKER JR., 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.: 36630
Expiration Date: 08/02/18

ERIN A. MCKENNA-STREYLE, P.E.

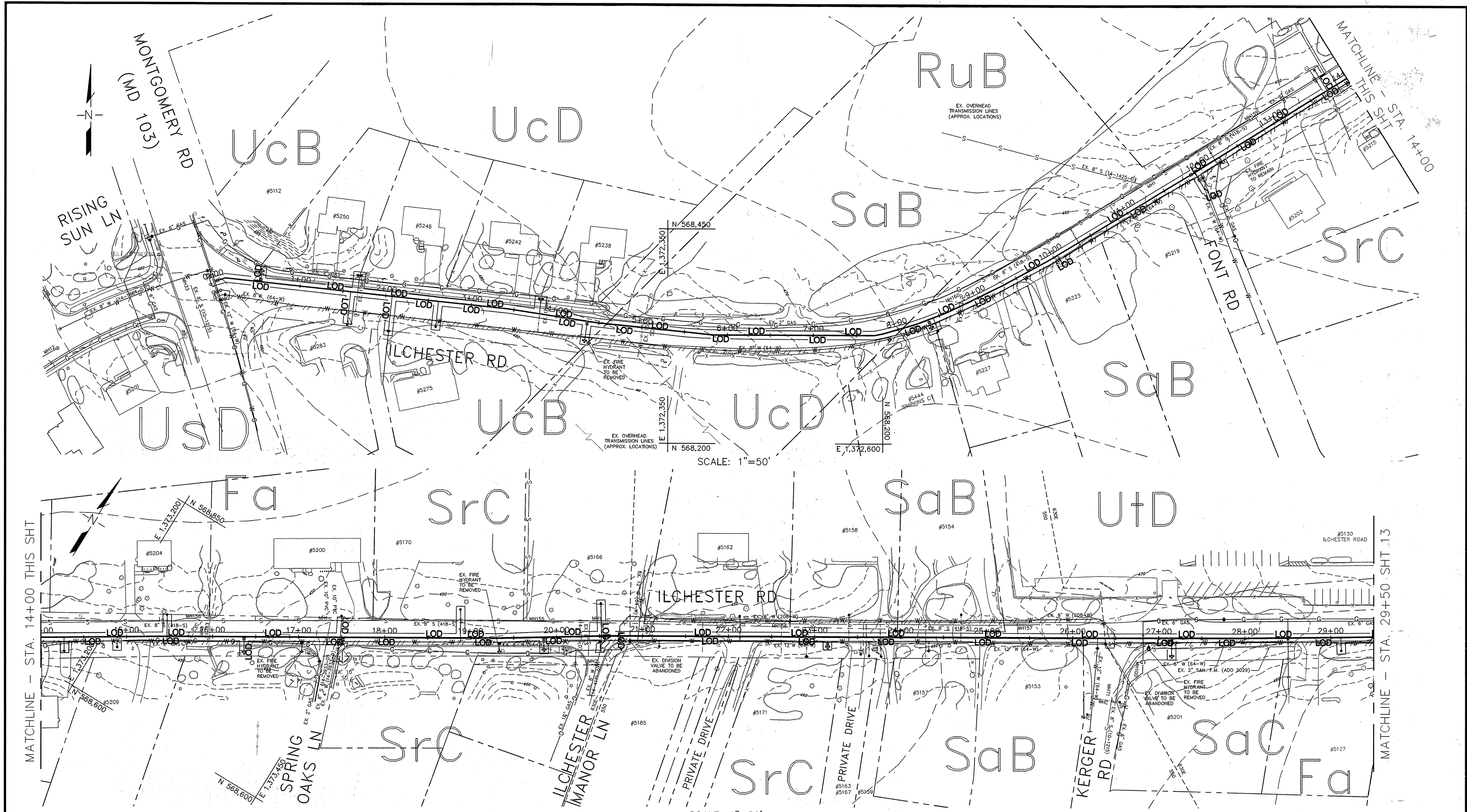
DESIGN: EAM					
DRAWN: EAM					
CHECKED: SGZ					
DATE: 9/19/2014	NO.	REVISION	DATE	BY	

TRAFFIC CONTROL PLAN & DETAILS

600 SCALE MAP NO. 31
BLOCK NO. 15

ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
MONTGOMERY RD TO ELLIS LN
CAPITAL PROJECT NO.: W-8316
CONTRACT NO.: 44-4825
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 11 OF 15



MATCHLINE - STA. 14+00 THIS SHT

MATCHLINE - STA. 29+50 SHT 13

- 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
 RuB: RUSSETT AND BELTSVILLE SOILS, 2 TO 5 PERCENT SLOPES
 SaB: SASSAFRAS LOAM, 0 TO 2 PERCENT SLOPES
 SaC: SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES
 SraC: SASSAFRAS AND CROOM SOILS, 5 TO 10 PERCENT SLOPES
 UcB: URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES
 UcD: URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 5 TO 15 PERCENT SLOPES
 Ud: URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX, 5 TO 15 PERCENT SLOPES
 Ud: URBAN LAND-UDORTMENTS COMPLEX, 0 TO 15 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.

APPROVED PLAN DESIGNER
 J. M. Butler 7/25/14
 Technical Review Date

E&S LEGEND:		
— LOD — LOD —	LIMIT OF DISTURBANCE	
---	SOIL BOUNDARY	
abc	SOIL TYPE	

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 9/30/14
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 9/25/14
 CHIEF, BUREAU OF UTILITIES DATE

[Signature] 9/25/14
 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 9/25/14
 CHIEF, UTILITY DESIGN DIVISION DATE

Baker

MICHAEL BAKER JR., INC.
 1304 Concourse Drive, Suite 200
 Luthicum, 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 FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO.: 36830
 EXPIRATION DATE: 06/30/16
 ERN A. MCKENNA-STREYLE, P.E.

DESIGN:	DATE:	NO.	REVISION:	DATE:	BY:
EAM	9/19/2014				
EAM					
SGZ					

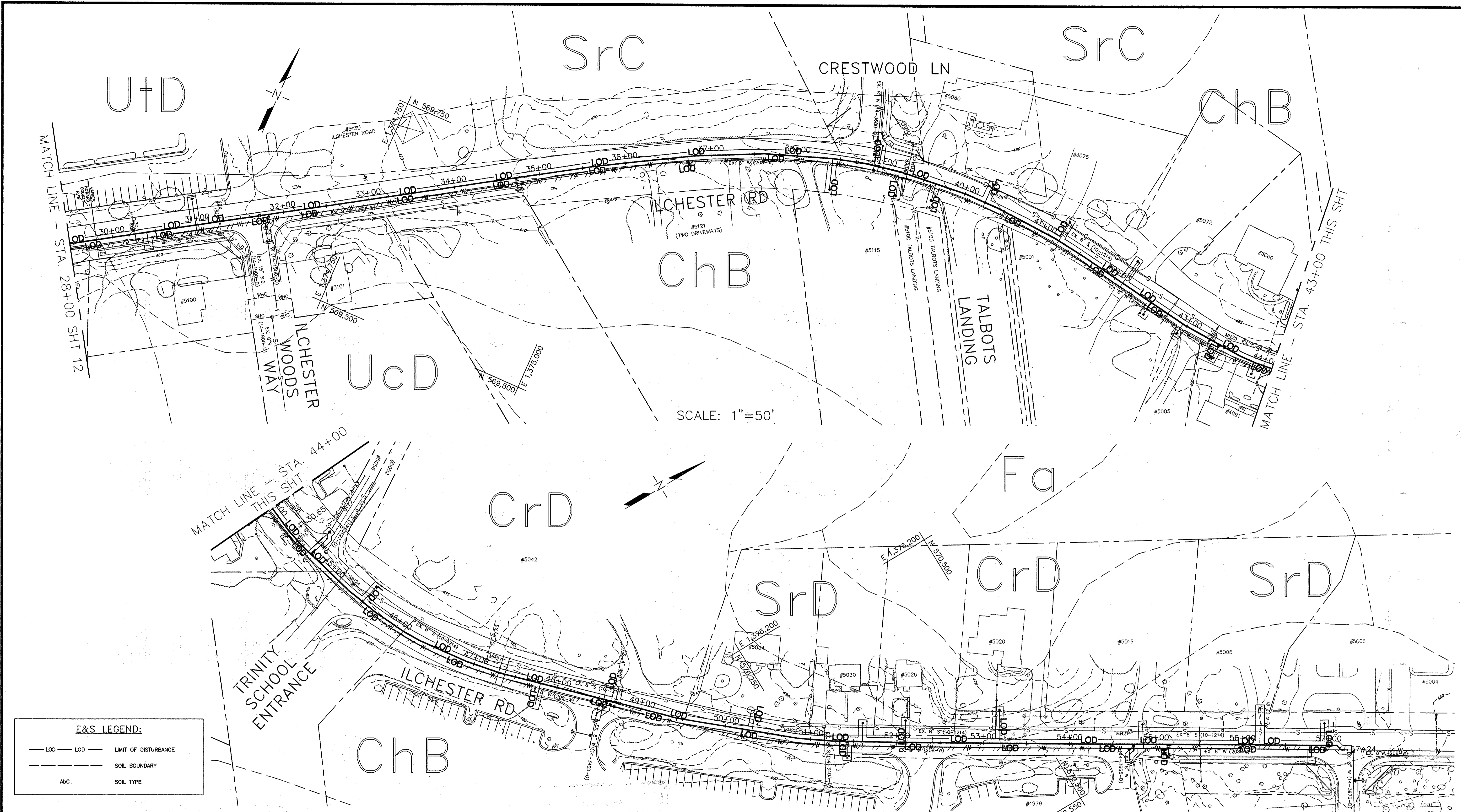
EROSION & SEDIMENT CONTROL PLAN

600 SCALE MAP NO. 31 BLOCK NO. 15

ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
 MONTGOMERY RD TO ELLIS LN
 CAPITAL PROJECT NO.: W-8316
 CONTRACT NO.: 44-4825
 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 12 OF 15



SCALE: 1"=50'

SCALE: 1"=50'

E&S LEGEND:

- LOD — LOD — LIMIT OF DISTURBANCE
- SOIL BOUNDARY
- AbC SOIL TYPE

NOTES:

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

BONNIE BRANCH
ELEMENTARY SCHOOL

BONNIE BRANCH
MIDDLE SCHOOL

John R. Butler 9/29/14
 Technical Review
 Date

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

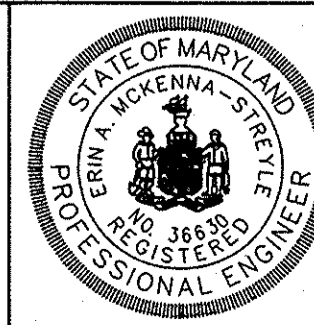
John R. Butler 9/29/14
 DIRECTOR OF PUBLIC WORKS DATE

Manuel S. Butler 9/29/14
 CHIEF, BUREAU OF ENGINEERING DATE

Steve Clark 9/29/14
 CHIEF, BUREAU OF UTILITIES DATE

[Signature] 9/29/14
 CHIEF, UTILITY DESIGN DIVISION DATE

Baker
 MICHAEL BAKER JR., 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 FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO.: 36630
 EXPIRATION DATE: 06/07/18
John R. Butler
 JOHN R. BUTLER, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: SGZ					
DATE: 9/19/2014	NO.	REVISION	DATE	BY	

EROSION & SEDIMENT CONTROL PLAN

600 SCALE MAP NO. 31

BLOCK NO. 15

ILCHESTER ROAD 12" WATER TRANSMISSION MAIN
 MONTGOMERY RD TO ELLIS LN
 CAPITAL PROJECT NO.: W-8316
 CONTRACT NO.: 44-4825
 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 13 OF 13

TEMPORARY SEEDING NOTES:

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

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

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.

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

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						
NO.	PLANT SPECIES	SEEDING RATE ^{1/} (LB/AC)	SEEDING DATES ^{2/}	SEEDING DEPTH ^{3/} (INCHES)	FERTILIZER RATE (10-20-20)	LIME RATE
COOL-SEASON GRASSES						
	ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MULTIFLORUM)	40	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	0.5	436 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 GLAUCCUM)	20	MAY 16 TO JUL. 31	0.5		

NOTES:
1/ 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 5% (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.

2/ FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.

3/ 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 (HAMAMESTRIS FASCICULATE)	4	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	1/4"-1/2"				

NOTES:
1/ 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.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/23/14
DIRECTOR OF PUBLIC WORKS DATE

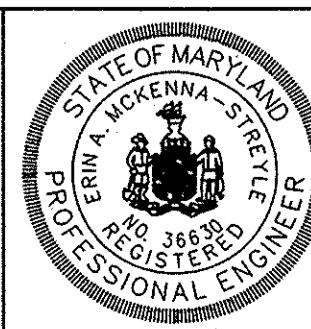
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Baker

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Ellicottville, MD 21090-1014
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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: 09/27/18
[Signature]
ERIN A. MCKENNA-STREYLE, P.E.

DESIGN: EAM					
DRAWN: EAM					
CHECKED: SGZ					
DATE: 9/19/2014	NO.	REVISION	DATE	BY	

EROSION & SEDIMENT CONTROL NOTES & DETAILS

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WATER TRANSMISSION MAIN
MONTGOMERY RD TO ELLIS LN
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