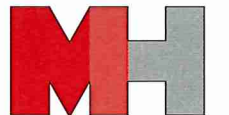


CONSTRUCTION PLANS FOR
CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS
2026
SET NO. _____

MECO-HENEGHAN
ENGINEERS, LLC



www.meco-heneghan.com

DESIGN FIRM NUMBERS:
IL: 184.007845-0010
035.003949
EXPIRES: APRIL 30, 2027
MO: 2018004041
EXPIRES: DECEMBER 31, 2026

900 S. HIGHWAY DR.
SUITE 202
FENTON, MO 63026
P: (636) 395-7055

REVISIONS

DATE

NO.

PROJECT CONTACT INFORMATION

SETH ELLIOTT
OFFICE PHONE: (618) 498-6418
EMAIL: swellott@heneghanassoc.com

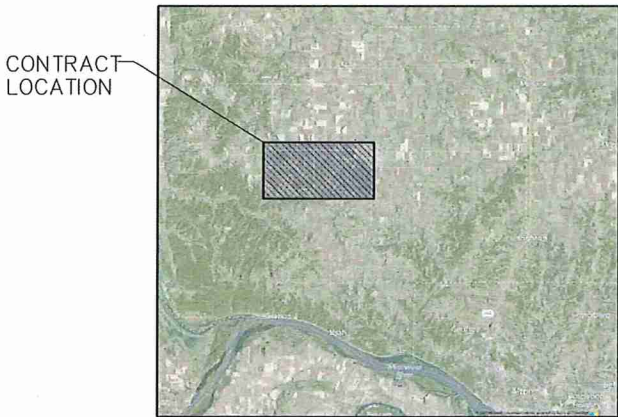
UTILITY PROVIDER INFORMATION

JERSEY COUNTY RURAL WATER COMPANY
MJM ELECTRIC CO-OPERATIVE

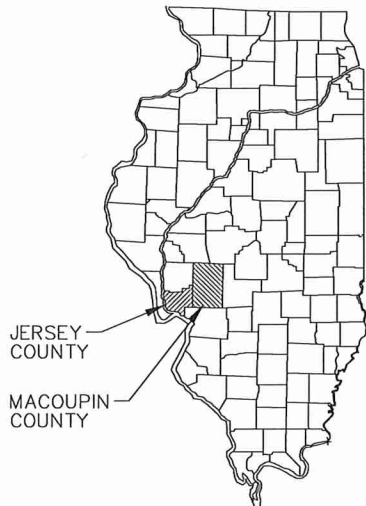
IARWC BOARD MEMBERS

JERSEY COUNTY RURAL WATER: ALLEN DAVENPORT
BUNKER HILL: JOHN CHAPMAN
DORCHESTER: SUE CAMPBELL
CARLINVILLE: SCOTT REICHMANN
FIELDON: JULIA DIXON
CENTRAL MACOUPIN COUNTY
RURAL WATER DISTRICT: RANDY DARR
FOSTERBURG WATER DISTRICT: STEVE RUPPERT

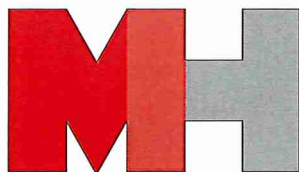
CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
COVER SHEET / LOCATION MAP
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS



VICINITY MAP



STATE OF ILLINOIS

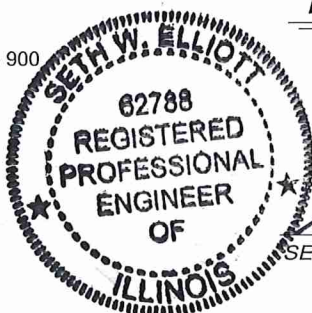


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ENGINEERS, LLC

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DESIGN FIRM NUMBERS:
IL: 184.007845-0010 EXPIRES: APRIL 30, 2025
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MO: 2018004041 EXPIRES: DECEMBER 31, 2026

900 S. Highway Dr., Suite 900
Fenton, MO 63026
P: (636) 395-7055



ENGINEER'S CERTIFICATION

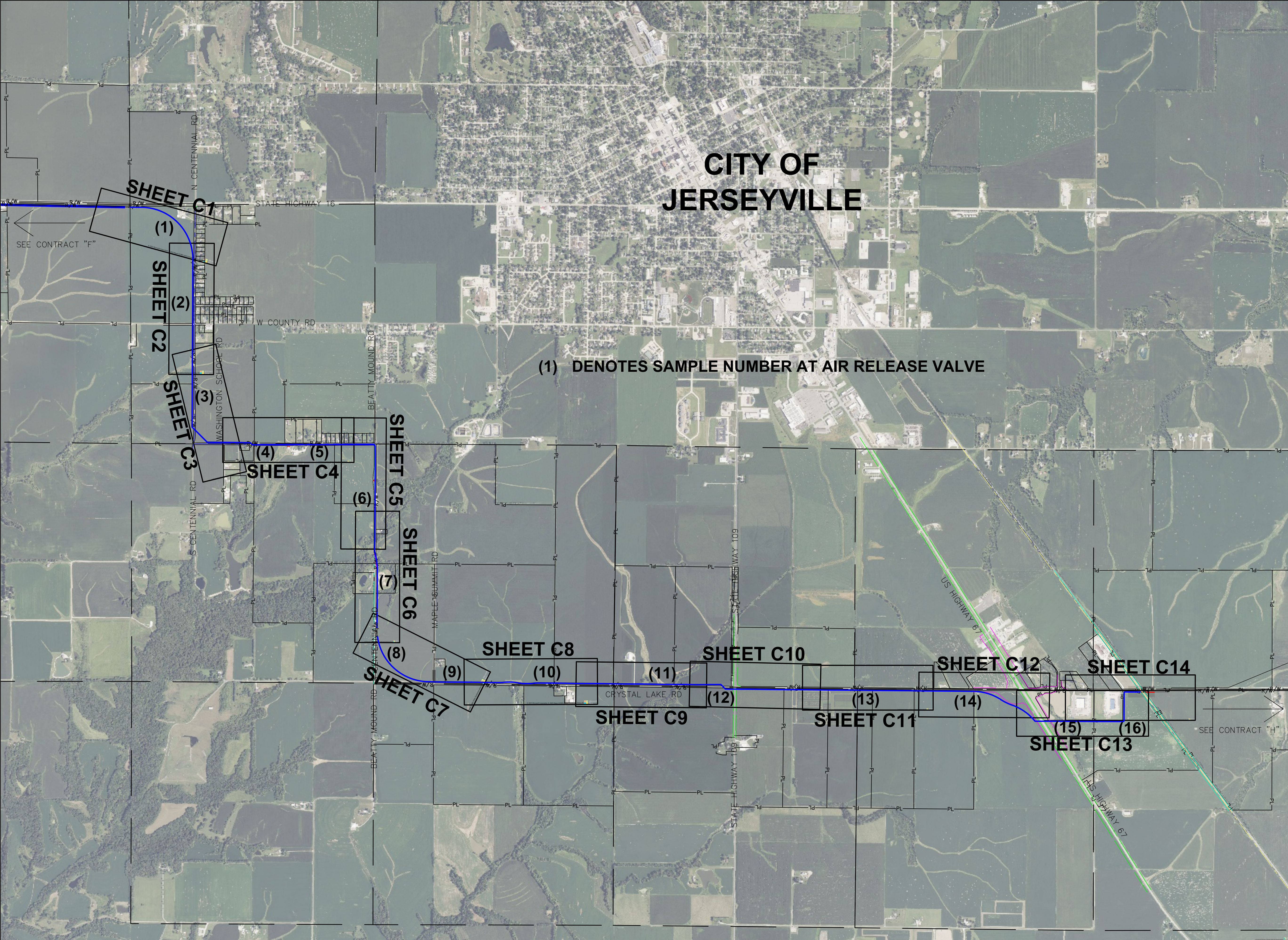
I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED BY ME OR UNDER MY
DIRECT SUPERVISION AND THAT I AM
A DULY REGISTERED PROFESSIONAL
ENGINEER EXISTING UNDER THE LAWS
OF THE STATE OF ILLINOIS.

Seth W. Elliott
SETH W. ELLIOTT, P.E. #62788

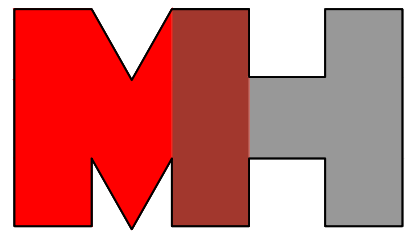
MECO-HENEGHAN
PROJECT NO. 71000-412

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A
PROJECT NO. 71000-412
DATE: 9/4/2026
SHEET NO. G1
1 OF 25 SHEETS

PA\\hwy\\clients\\illinois\\alluvial\\71000-412 - slope 1b\\cud\\contract g - dwg\\sheet index map.dwg
PLOTTED: 9/7/2026 @ 11:27:42 PM BY sebh ellcott



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IL: 184.007845-0010
035.003949
EXPRES: APRIL 30, 2027
MO: 2018004041
EXPIRES: DECEMBER 31, 2026

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SUITE 202
FENTON, MO 63026
P: (636) 395-7055

REVISIONS				
NO.	DATE			

CONTRACT "G"

FINISHED WATER TRANSMISSION

OVERALL MAP / SAMPLE PLAN MAP

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE
HORIZONTAL SCALE:
1"=1000'
VERTICAL SCALE:

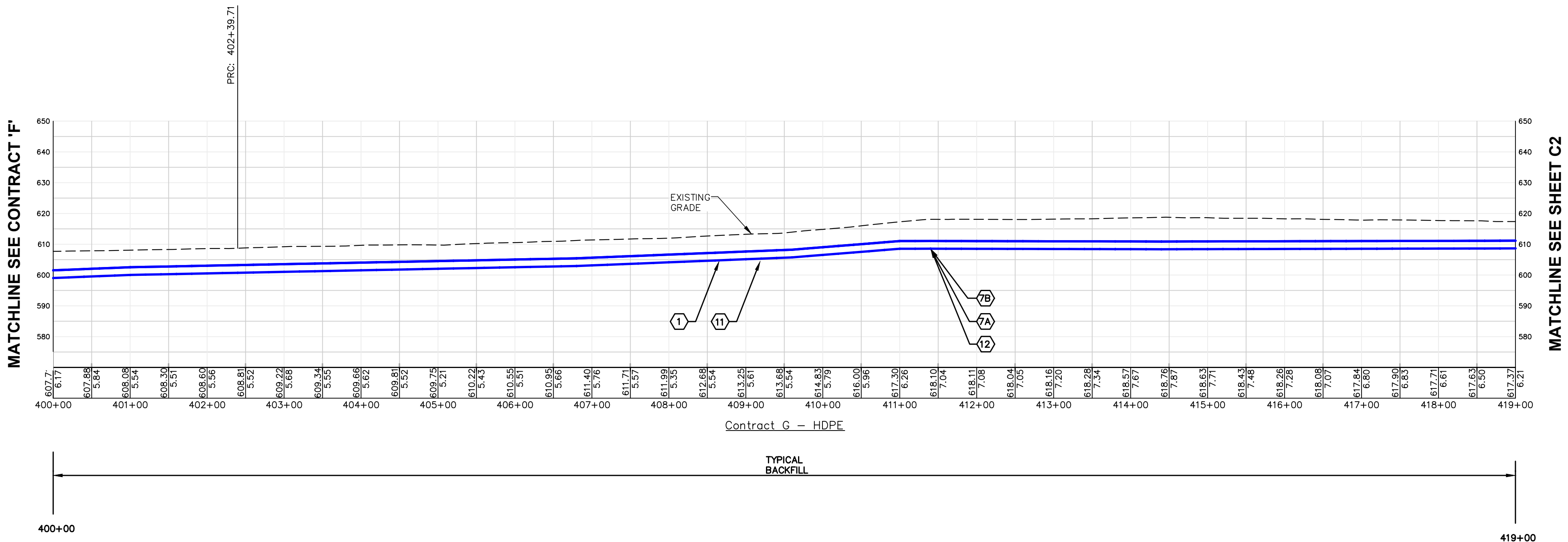
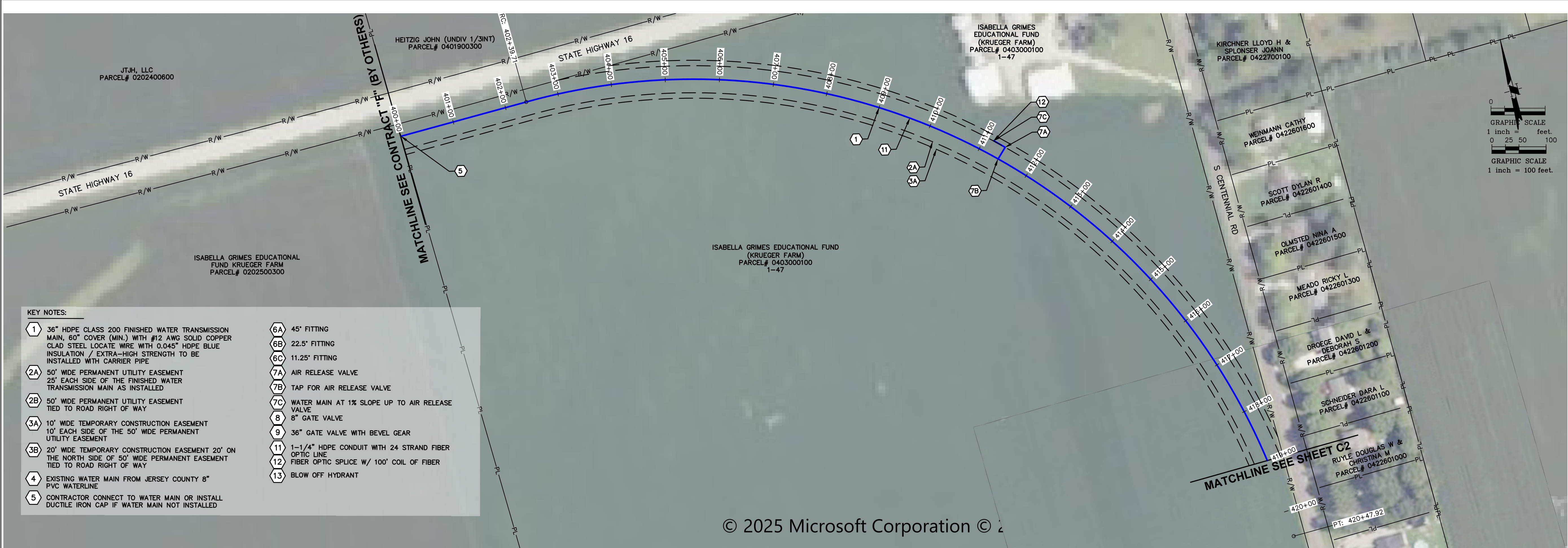
PROJECT NO.
71000-400

DATE:
9/7/2026

SHEET NO.
G3

3 OF 25 SHEETS

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PLOTED: 3/7/2025 @ 11:30:09 PM BY: swh



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IL: 184.007845-0010
035.003949
EXPIRES: APRIL 30, 2027
MO: 2018004041
EXPIRES: DECEMBER 31, 2026

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NO.	DATE	REVISIONS

CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN AERIAL
PLAN AND PROFILE

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

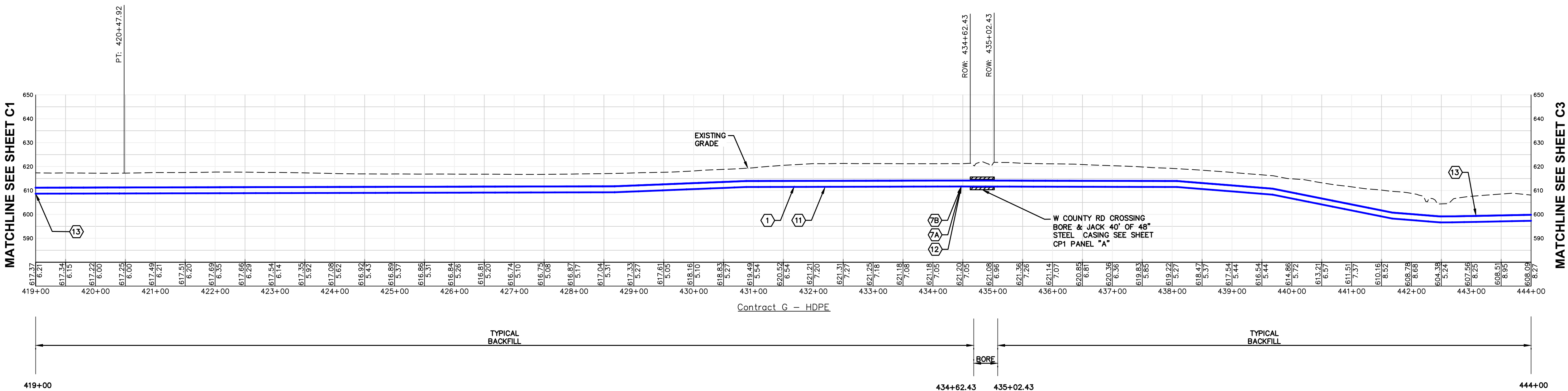
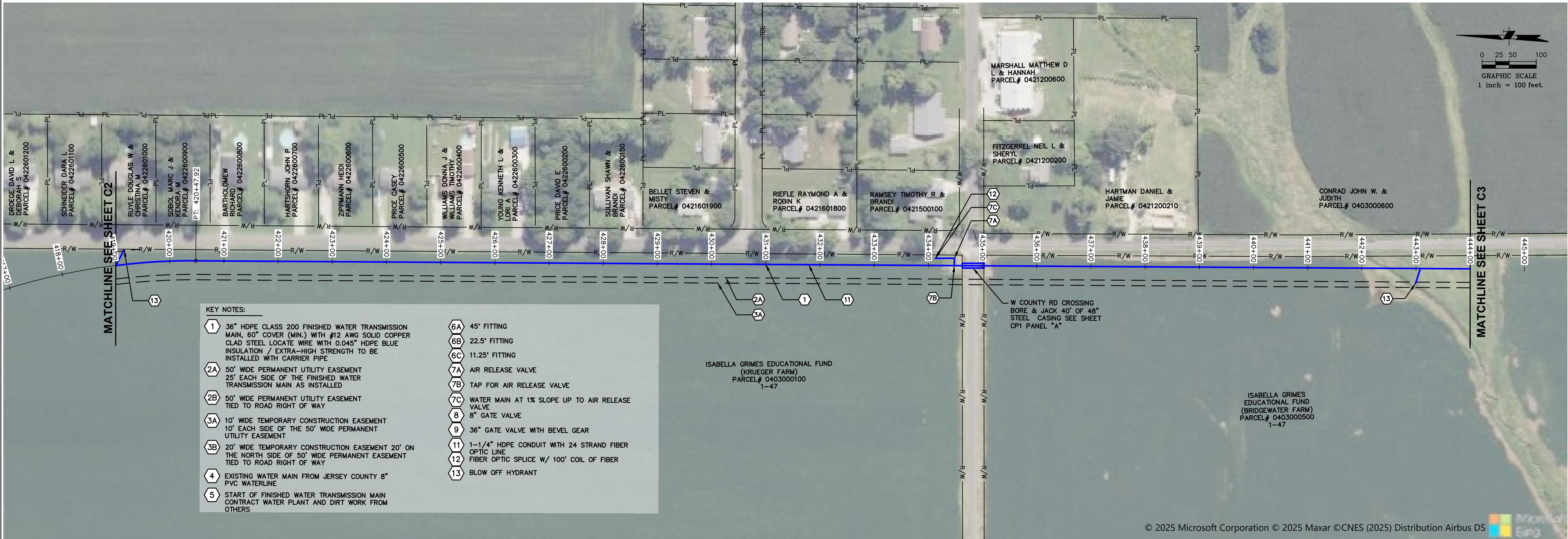
VERTICAL SCALE:
1"=25'

PROJECT NO.
71000-412

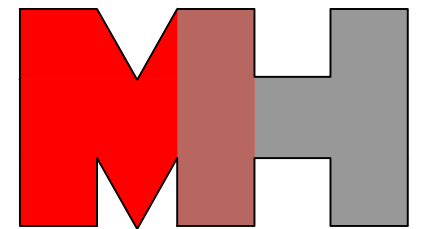
DATE:
9/7/2026

SHEET NO.
C1-HDPE
4 OF 25 SHEETS

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IL: 184.007845-0010
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MO: 2018004041
EXPIRES: DECEMBER 31, 2026

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NO.	DATE	REVISIONS

CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN AERIAL
PLAN AND PROFILE

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

VERTICAL SCALE:
1"=25'

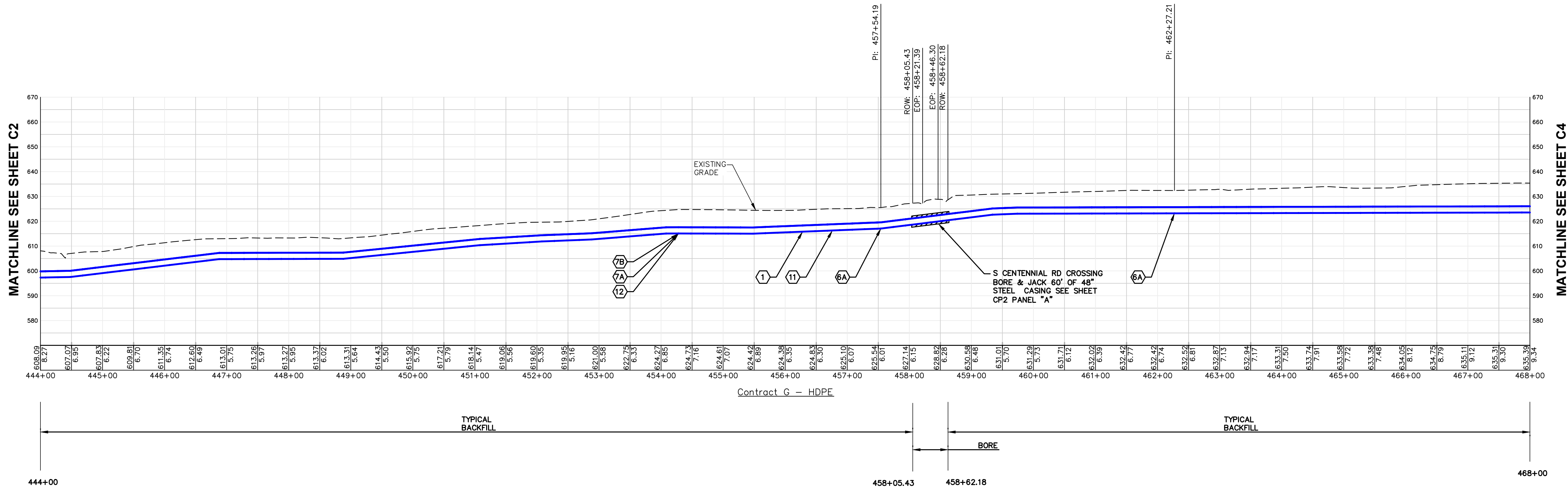
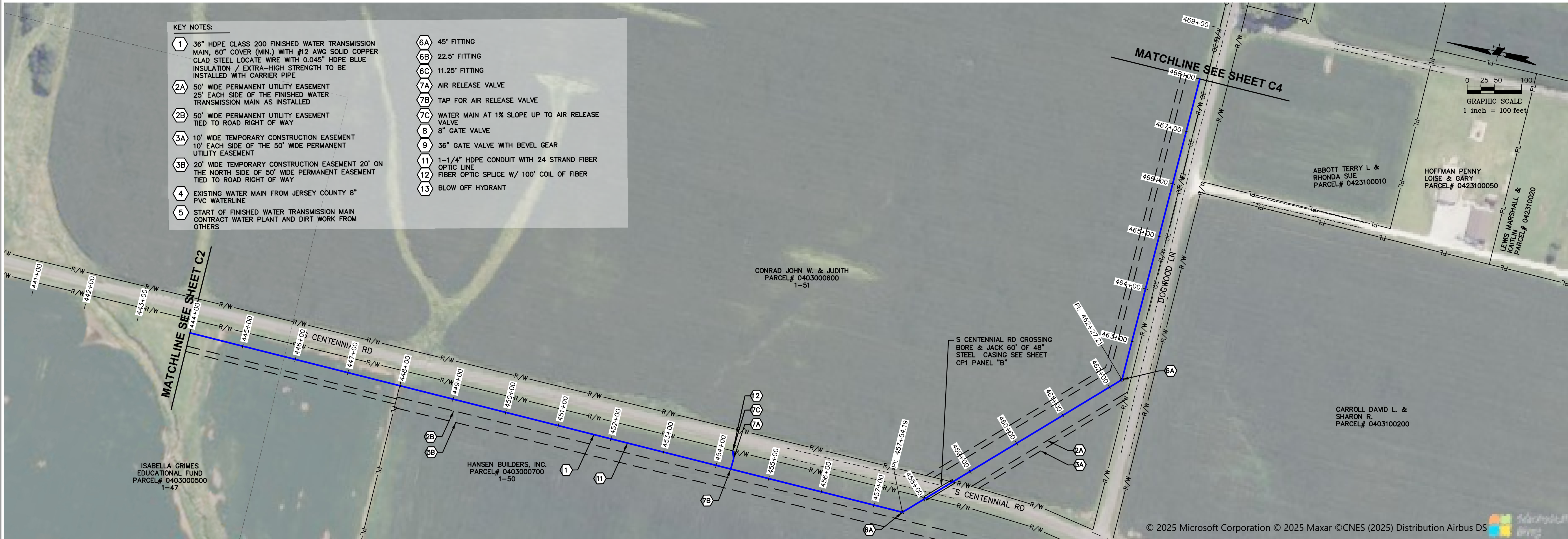
PROJECT NO.
71000-412

DATE:
9/7/2026

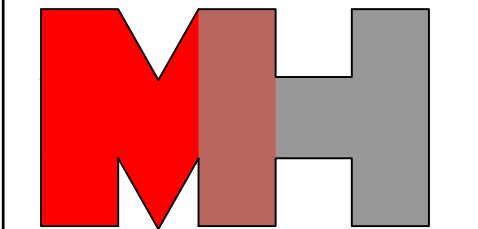
SHEET NO.
C2-HDPE

5 OF 25 SHEETS

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MO: 2018004041
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CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

VERTICAL SCALE:
1"=25'

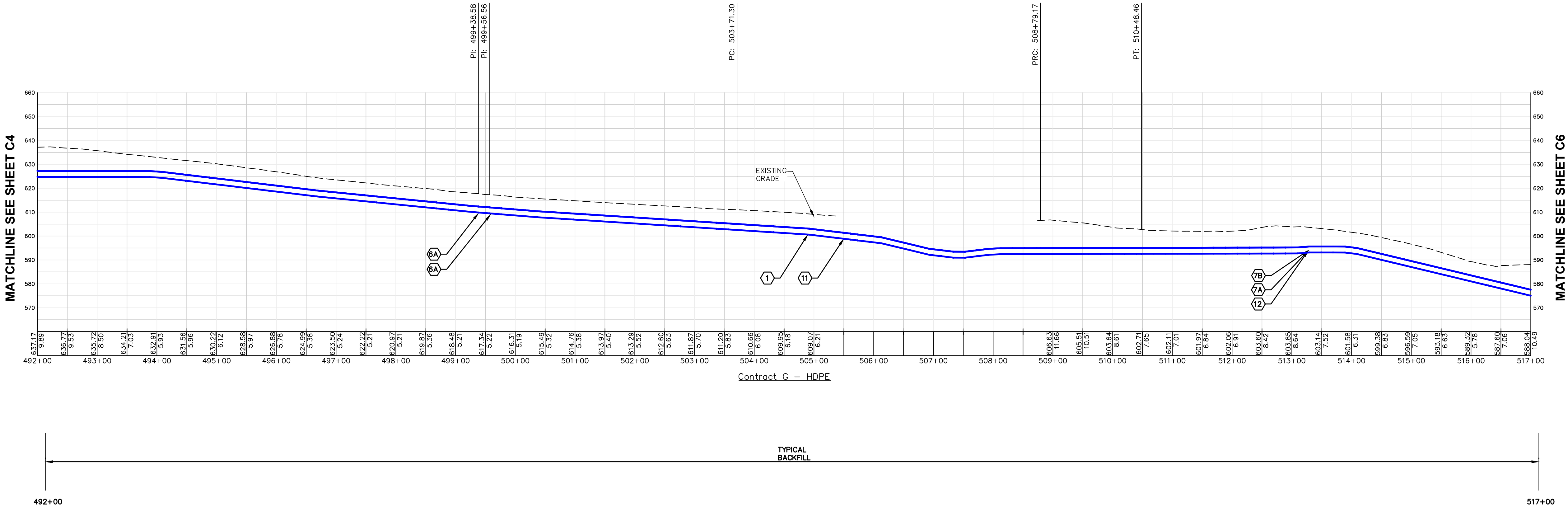
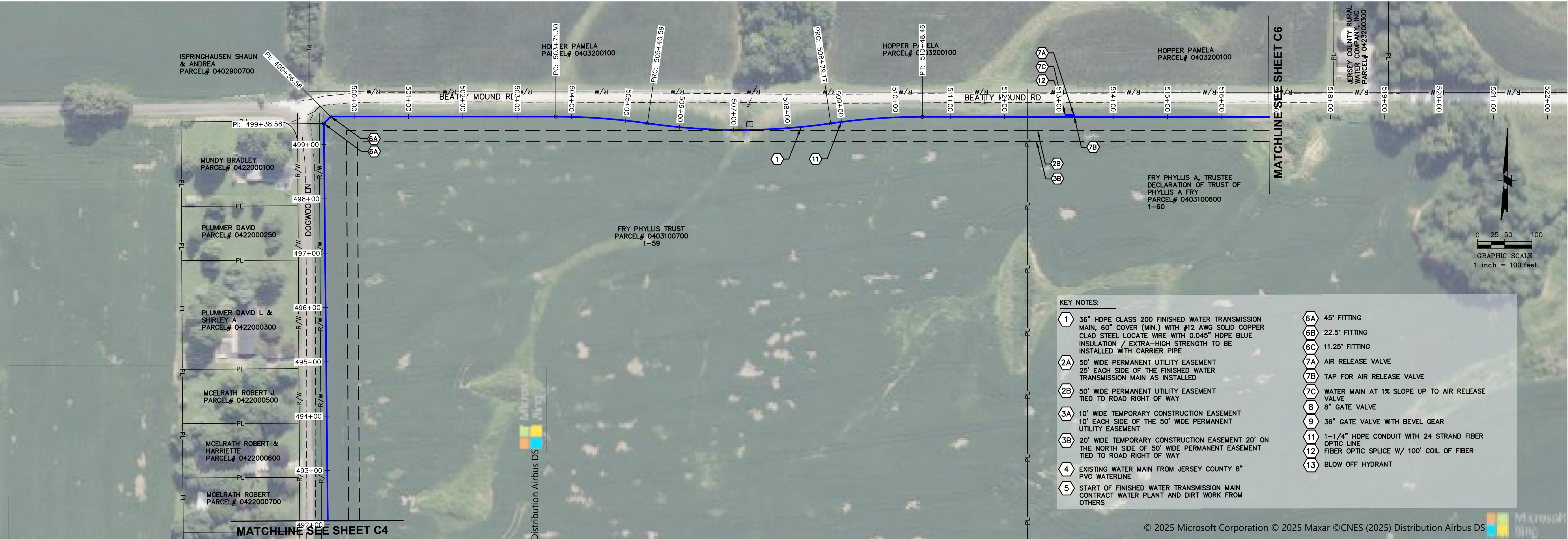
PROJECT NO.
71000-412

DATE:
9/7/2026

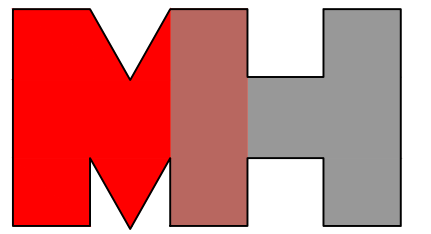
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C3-HDPE

6 OF 25 SHEETS

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MO: 2018004041
EXPIRES: DECEMBER 31, 2026

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REVISIONS

DATE

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CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

VERTICAL SCALE:
1"=25'

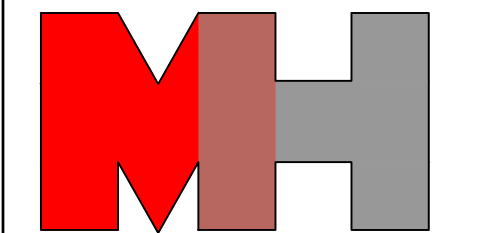
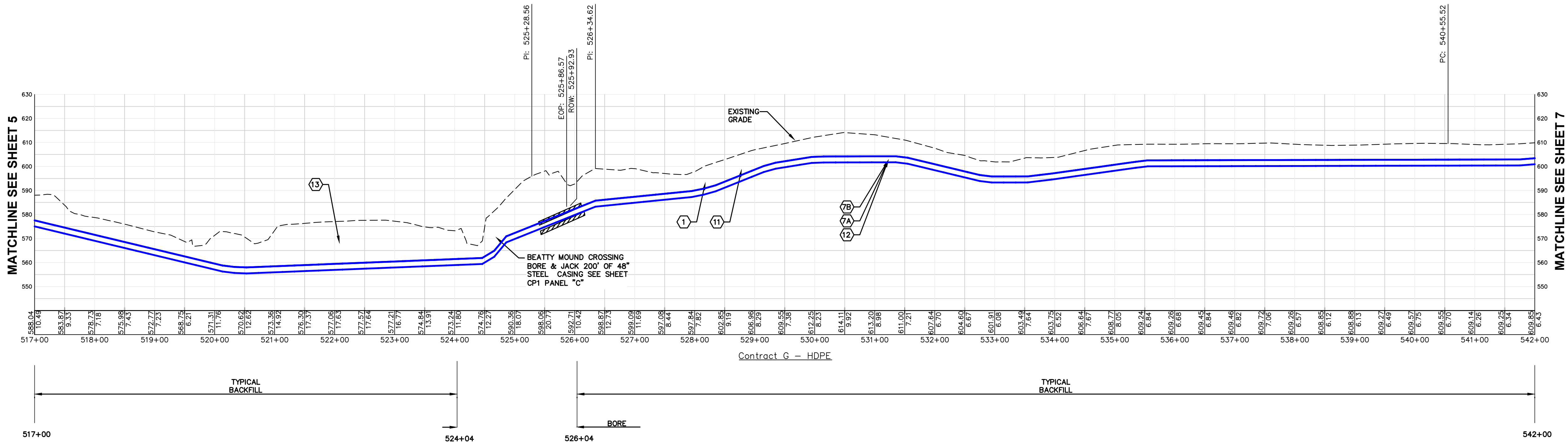
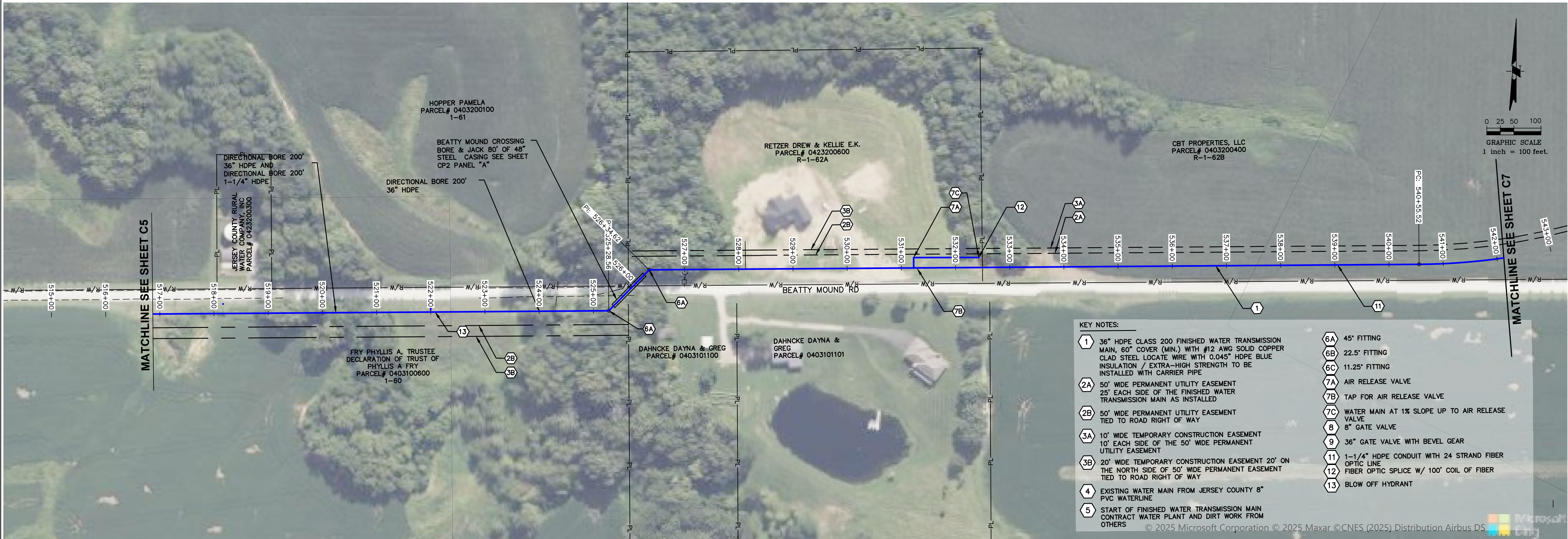
PROJECT NO.
71000-412

DATE:
9/8/2026

SHEET NO.
C5-HDPE

8 OF 25 SHEETS

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DESIGN FIRM NUMBERS:
IL: 184.007845-0010
035.003949
EXPIRES: APRIL 30, 2027
MO: 2018004041
EXPIRES: DECEMBER 31, 2026

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SUITE 202
FENTON, MO 63026
P: (636) 395-7055

NO.	DATE	REVISIONS

CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
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ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

VERTICAL SCALE:
1"=25'

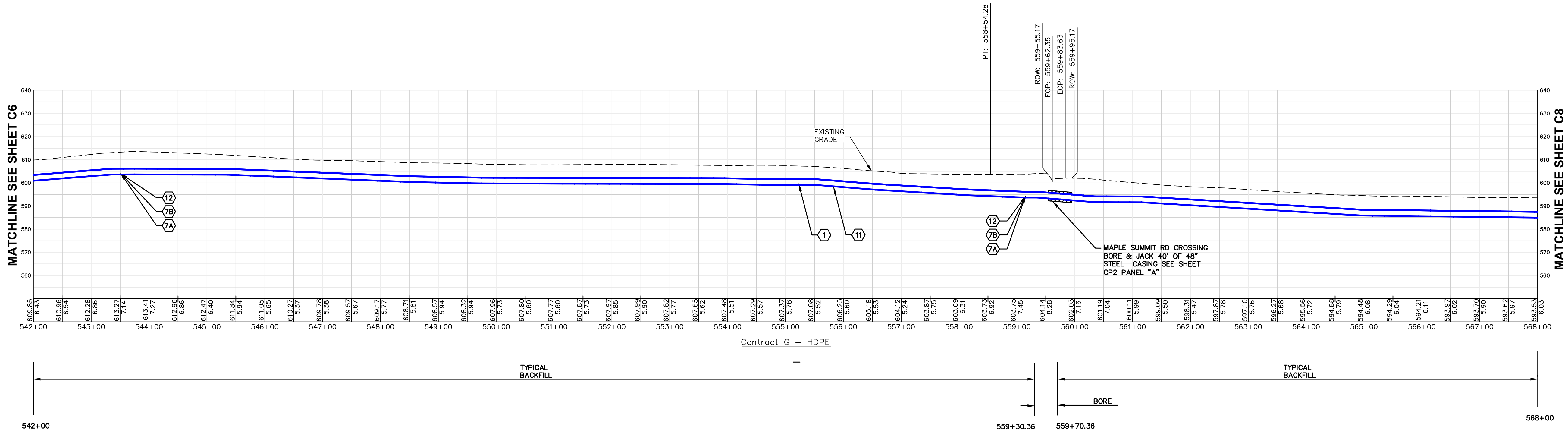
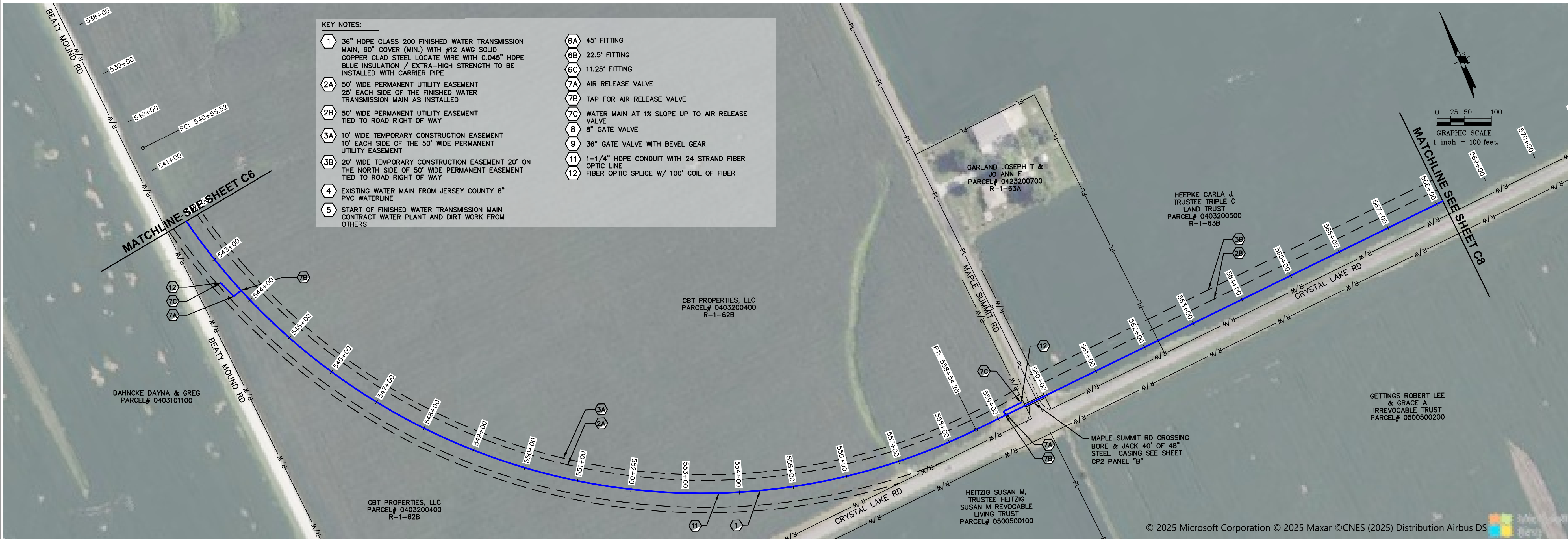
PROJECT NO.
71000-412

DATE:
9/8/2026

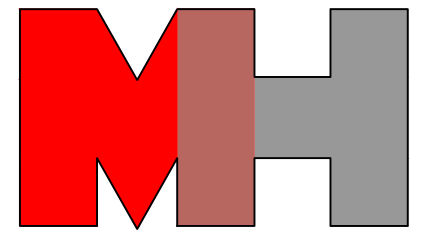
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C6-HDPE

9 OF 25 SHEETS

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CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

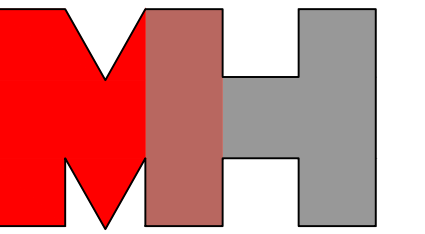
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1"=100'

VERTICAL SCALE:
1"=25'

PROJECT NO.
71000-412

DATE:
9/7/2026

SHEET NO.
C7-HDPE
10 OF 25 SHEETS



SIGN FIRM NUMBERS:
184.007845-0010
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D: 2018004041
PIRES: DECEMBER 31, 2026

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[illegible]

CONTRACT "G"
FINISHED WATER TRANSMISSION
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ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

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APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

VERTICAL SCALE:
1"=25'

PROJECT NO.
71000-412

DATE: 9/7/2026

SHEET NO. C8-HDPE

1 OF 25 SHEETS

NO.	DATE	REVISIONS

CONTRACT "G"
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AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY:	MNM
CHECKED BY:	TAM
APPROVED BY:	SWE

HORIZONTAL SCALE:

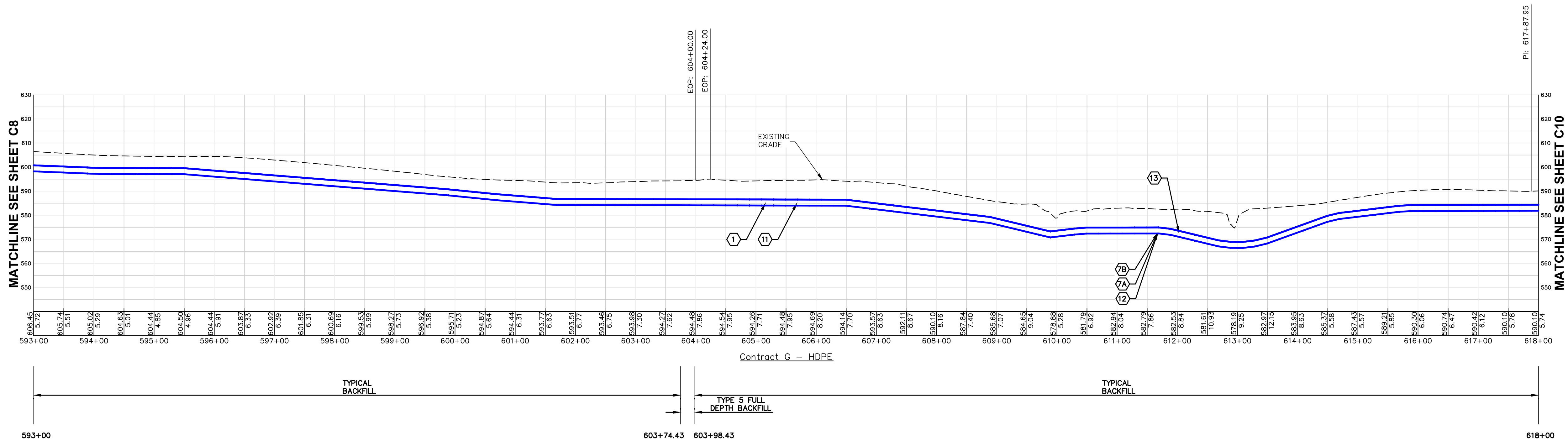
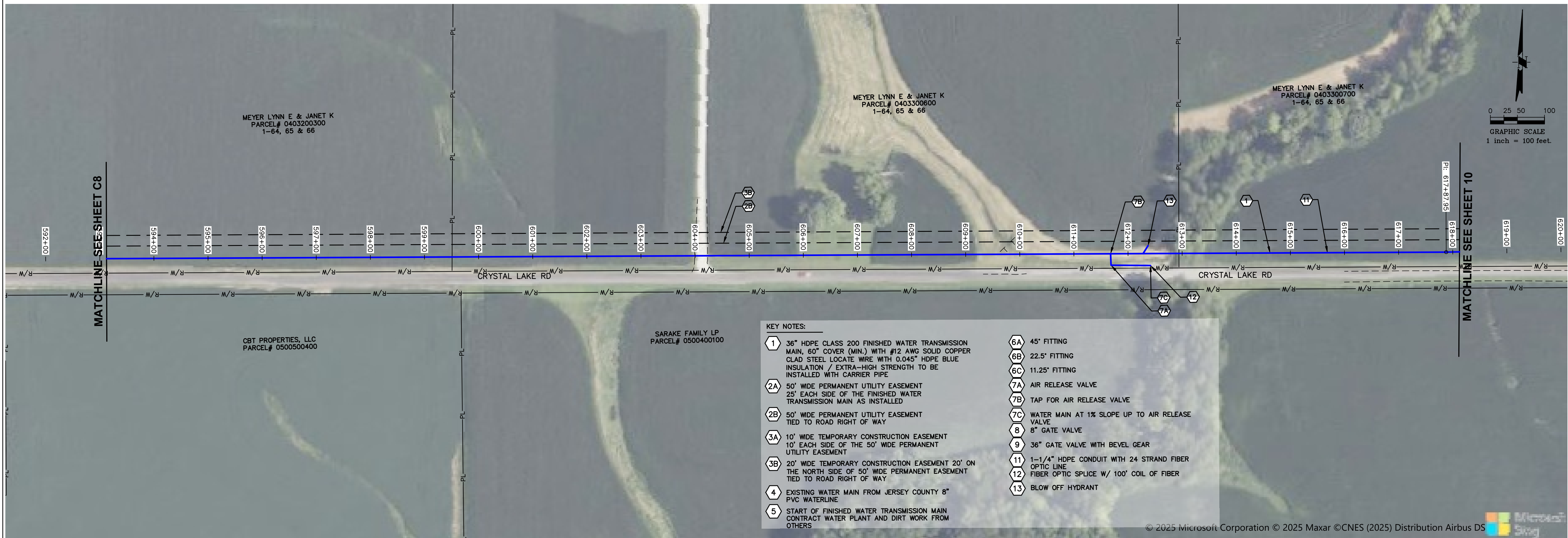
VERTICAL SCALE:

PROJECT NO.
71000-412

DATE: 9/7/2026

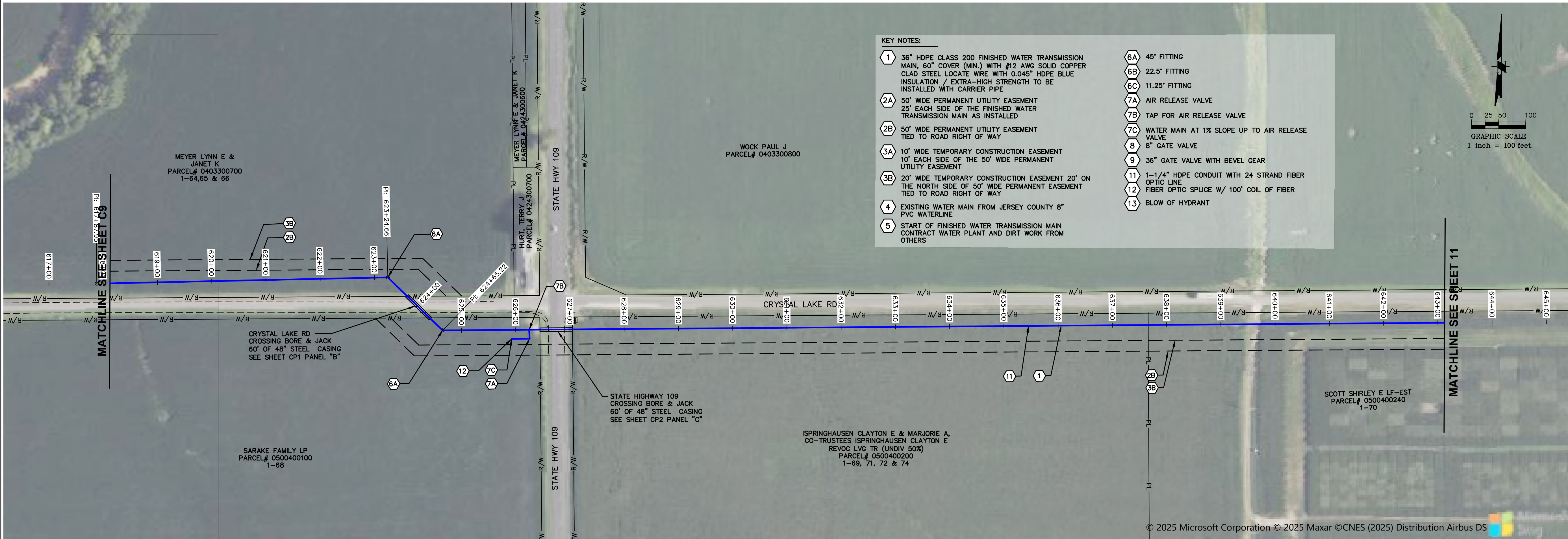
SHEET NO.
C9-HDPE

12 OF 25 SHEETS

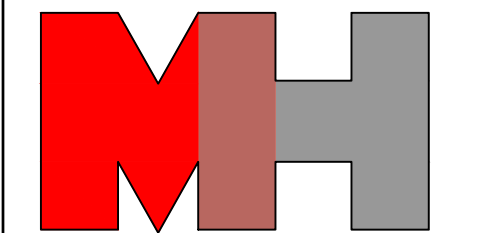


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 DATE/TIME: 9/7/2026 @ 11:35:29 PM BY seth elliot

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MO: 2618004041
EXPIRES: DECEMBER 31, 2026

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REVISIONS

DATE

NO.

CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

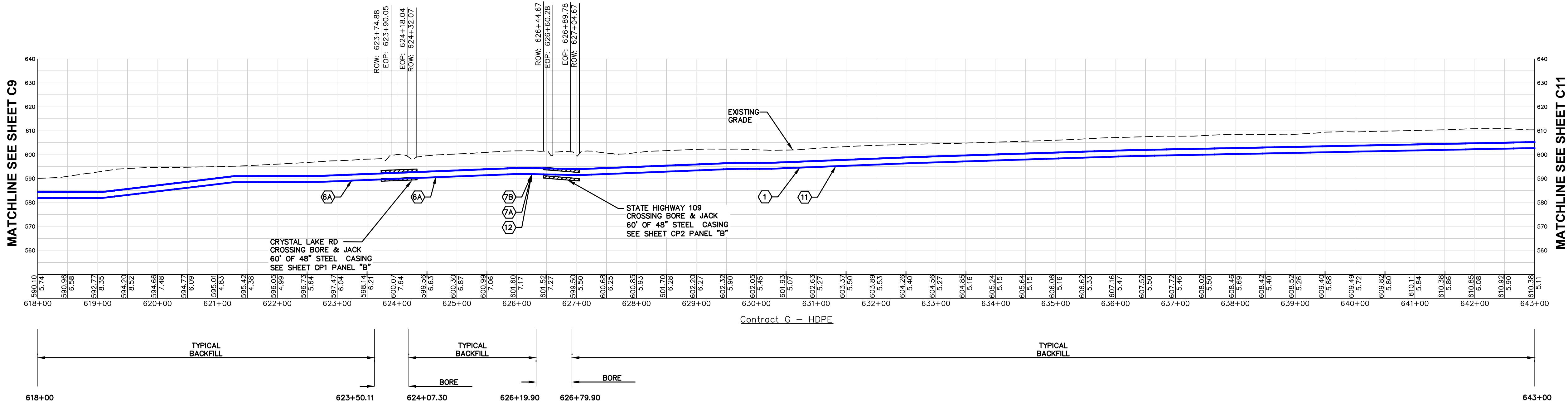
VERTICAL SCALE:
1"=25'

PROJECT NO.
71000-412

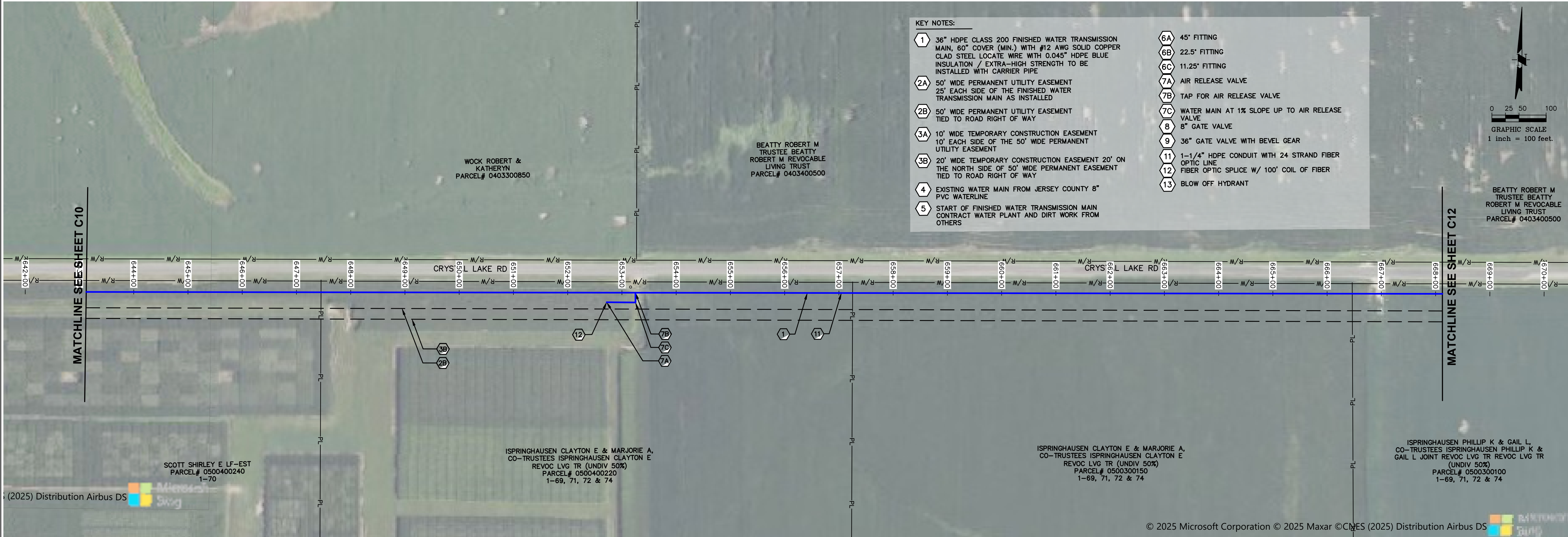
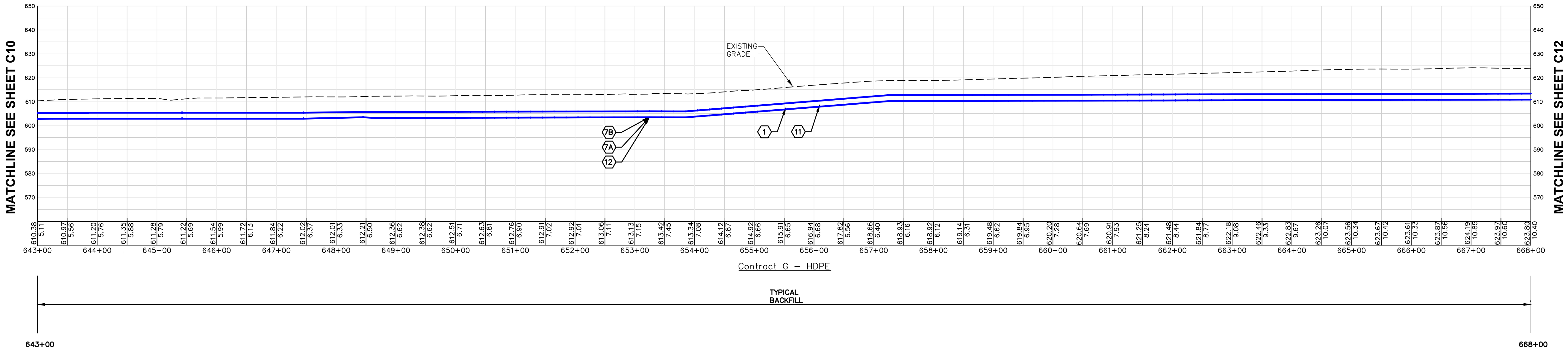
DATE:
9/7/2026

SHEET NO.
C10-HDPE

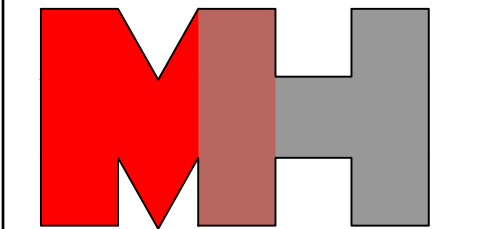
13 OF 25 SHEETS



PATH=c:\clients\illinois alluvial\71000-412 - stage 1b\cac\contract g - dwgs\g - finished sheets\dwgrecover_recover.dwg
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MO: 2019004041
EXPIRES: DECEMBER 31, 2026

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REVISIONS

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CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

VERTICAL SCALE:
1"=25'

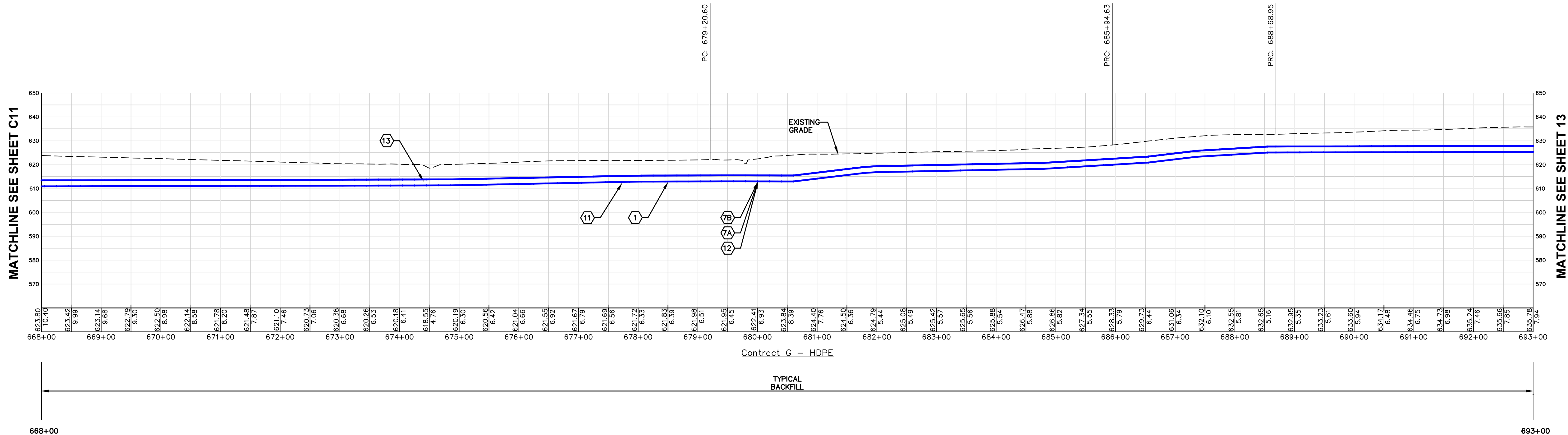
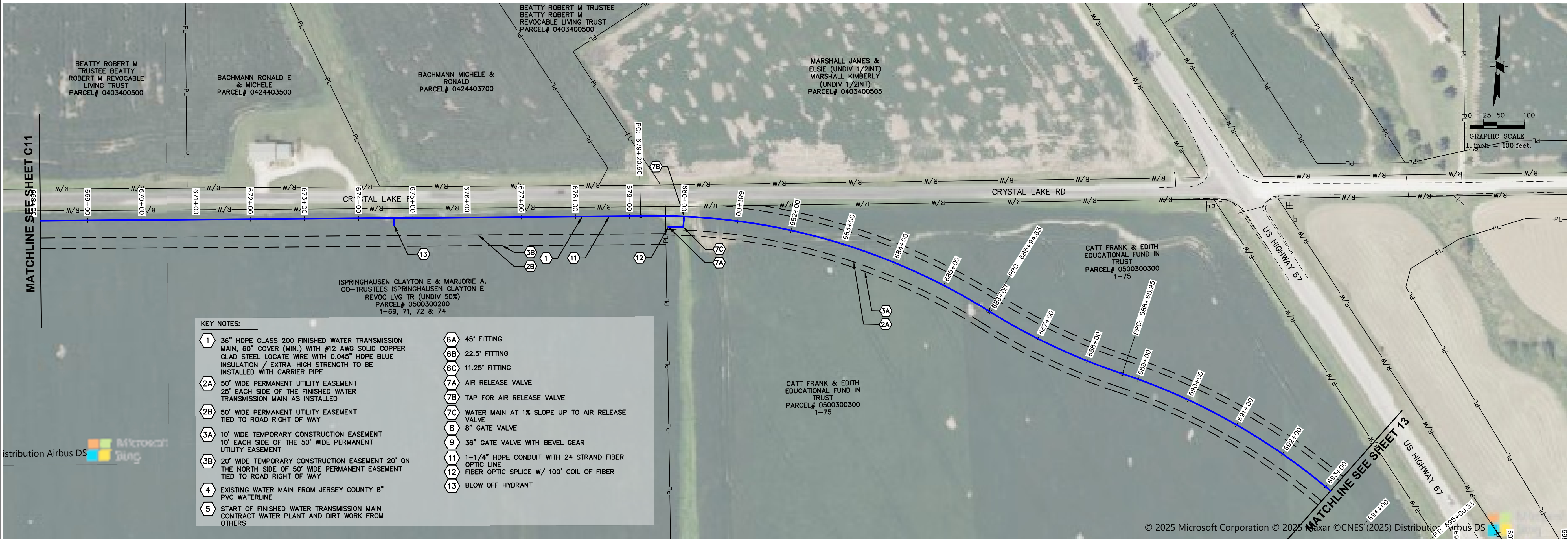
PROJECT NO.
71000-412

DATE:
9/8/2026

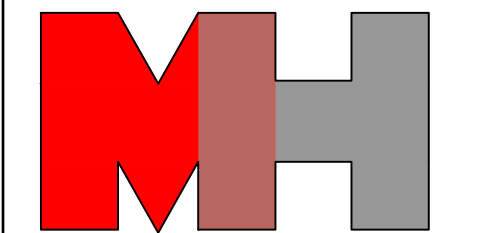
SHEET NO.
C11-HDPE

14 OF 25 SHEETS

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EXPIRES: DECEMBER 31, 2026

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SUITE 202
FENTON, MO 63026
P: (636) 395-7055

NO.	DATE	REVISIONS					

CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

VERTICAL SCALE:
1"=25'

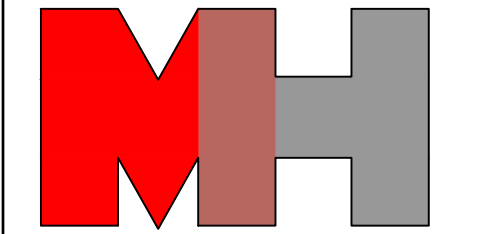
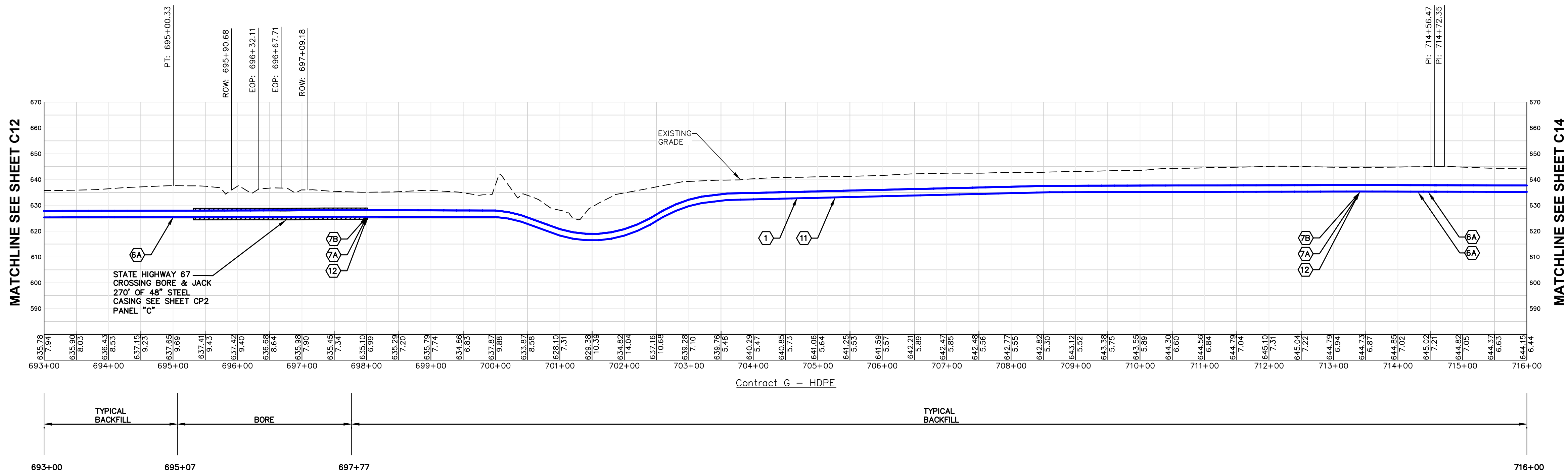
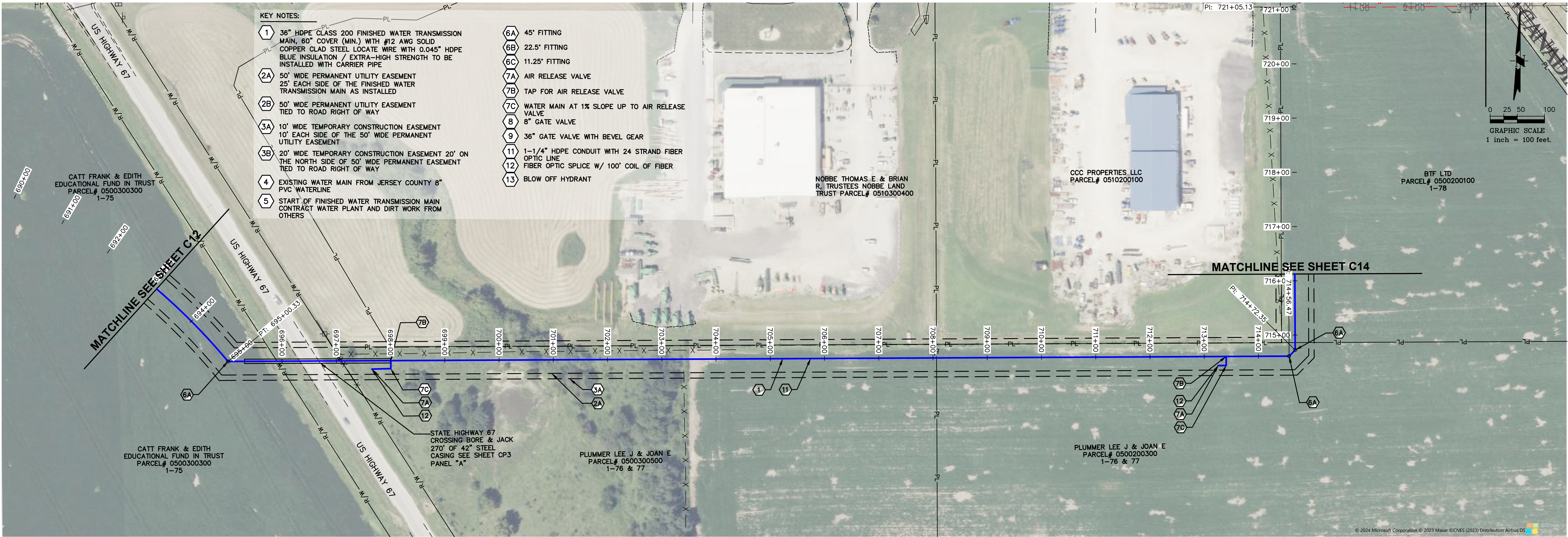
PROJECT NO.
71000-412

DATE:
9/8/2026

SHEET NO.
C12-HDPE

15 OF 25 SHEETS

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NO.	DATE	REVISIONS

CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
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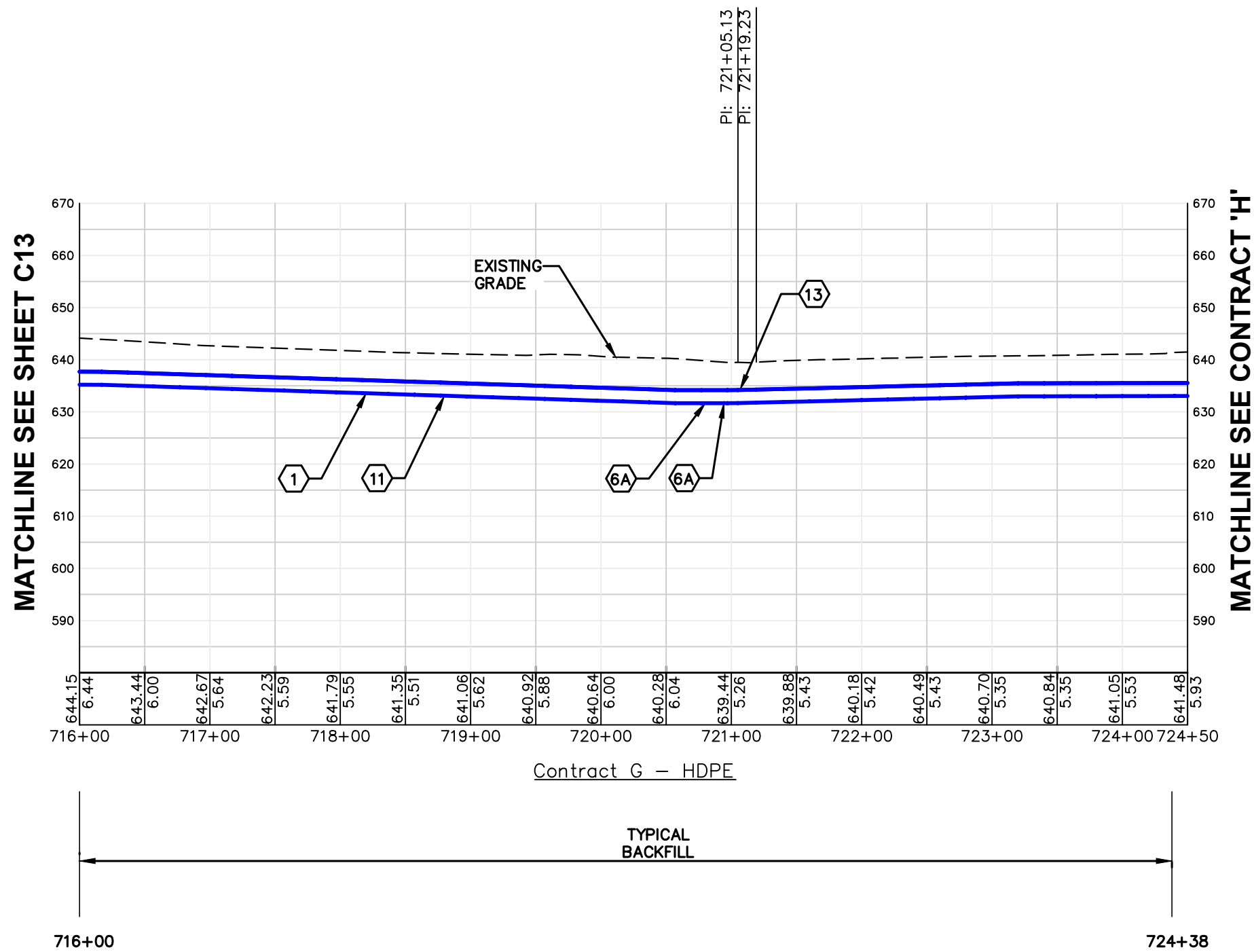
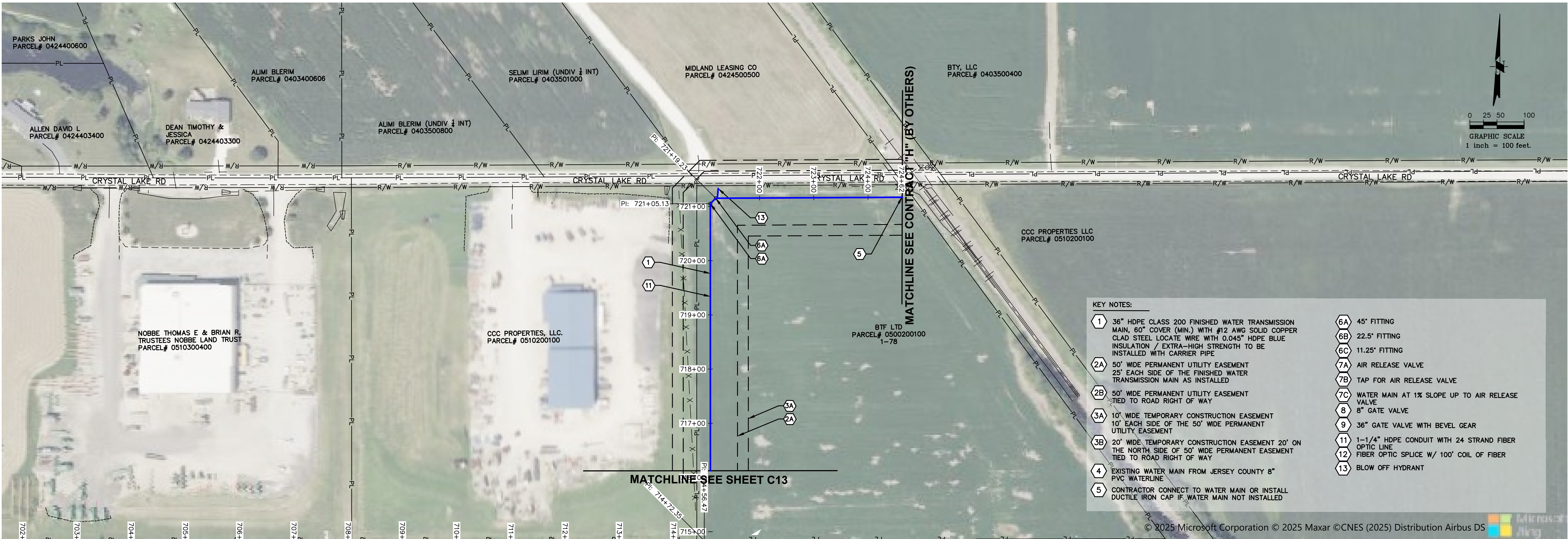
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PROJECT NO.
71000-412

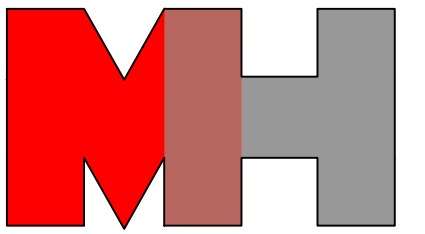
DATE:
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C13-HDPE

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ENGINEERS, LLC



www.meco-heneghan.com

DESIGN FIRM NUMBERS:
IL: 184.007845-0010
035.003949
EXPIRES: APRIL 30, 2027
MO: 2618004041
EXPIRES: DECEMBER 31, 2026

900 S. HIGHWAY DR.
SUITE 202
FENTON, MO 63026
P: (636) 395-7055

REVISIONS

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CONTRACT "G"
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JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=100'

VERTICAL SCALE:
1"=25'

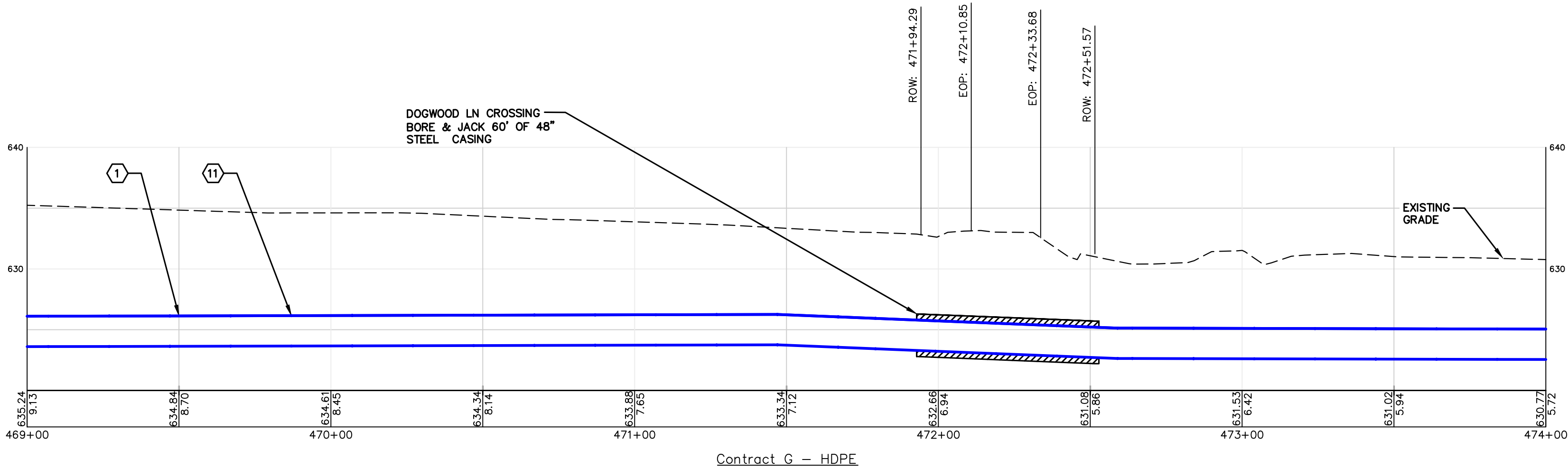
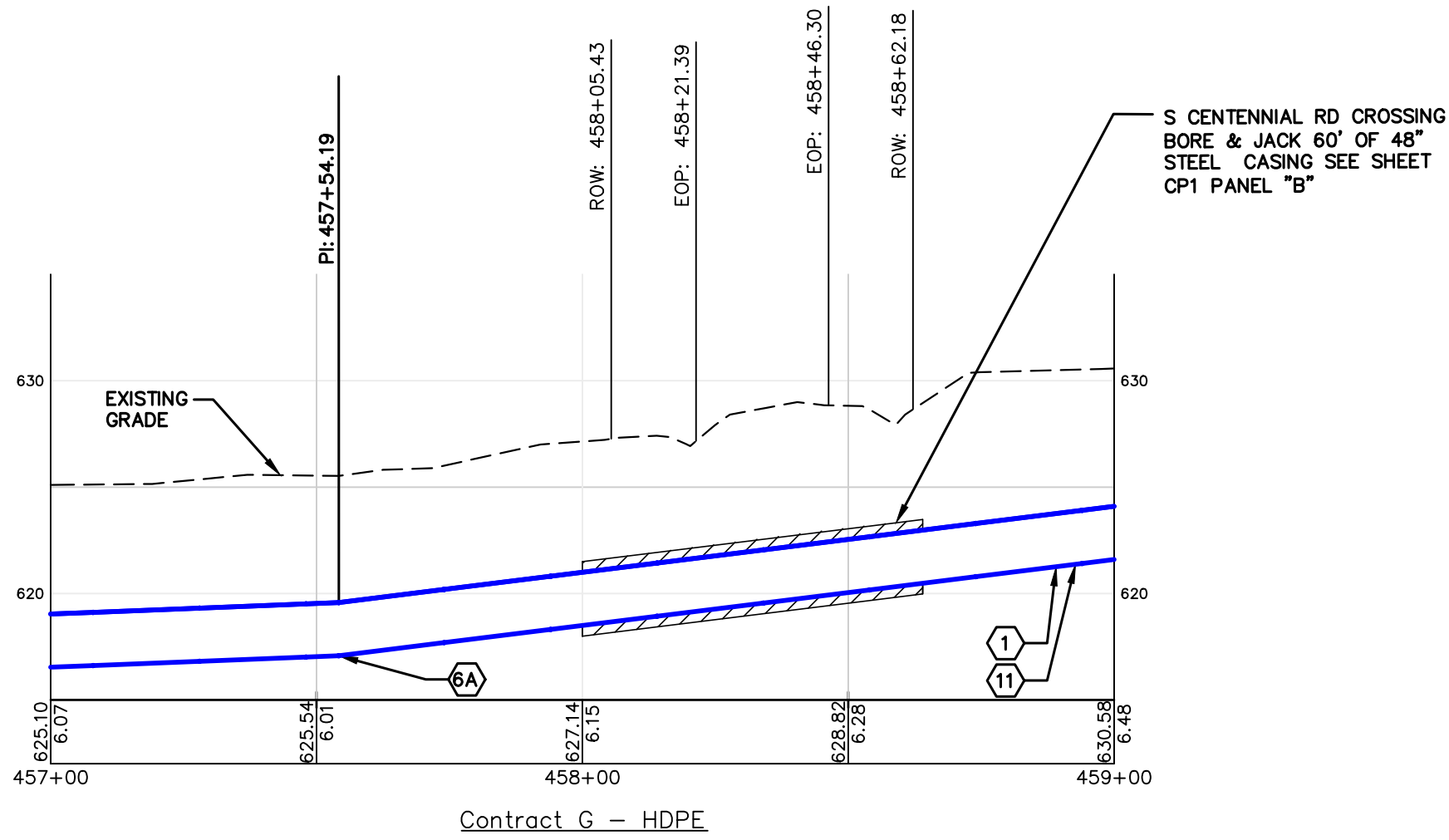
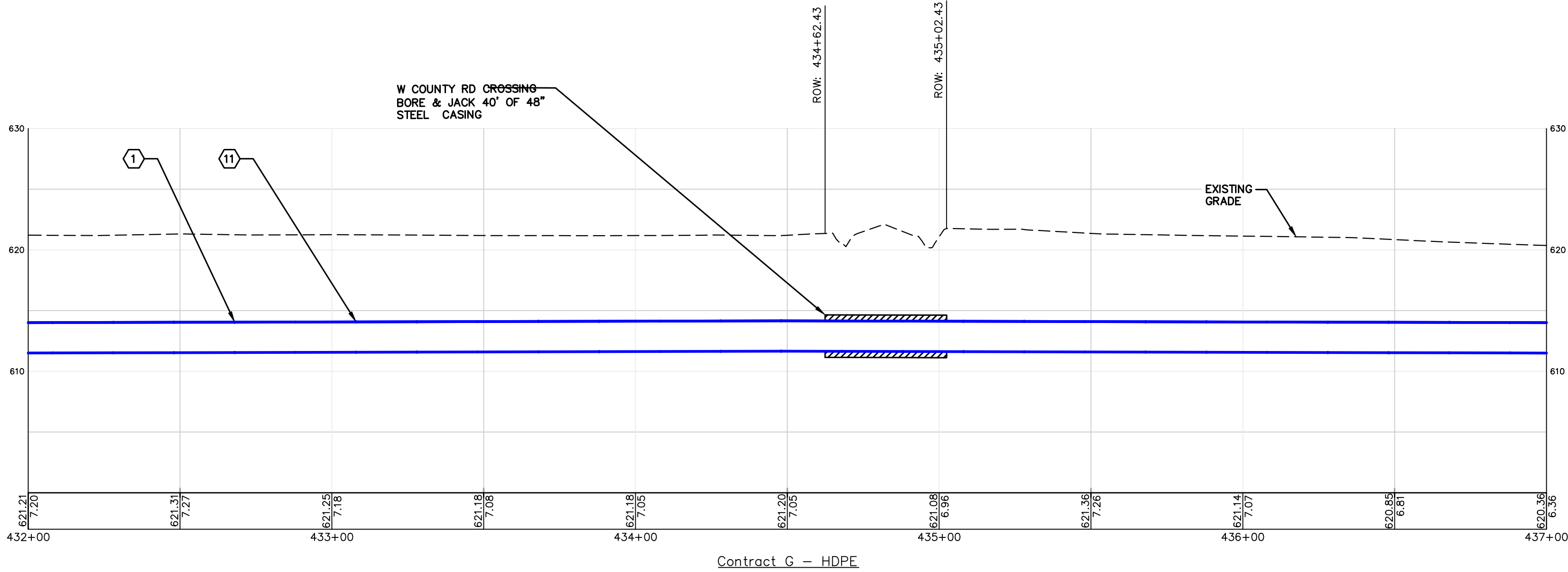
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71000-412

DATE:
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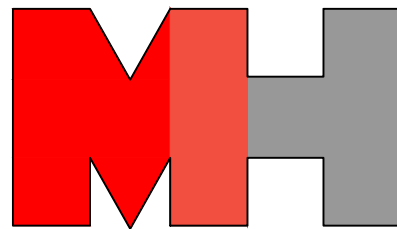
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EXPIRES: DECEMBER 31, 2026

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CONTRACT "G"
FINISHED WATER TRANSMISSION
MAIN
ROAD CROSSING PROFILES
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

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CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=30'

VERTICAL SCALE:
1"=5'

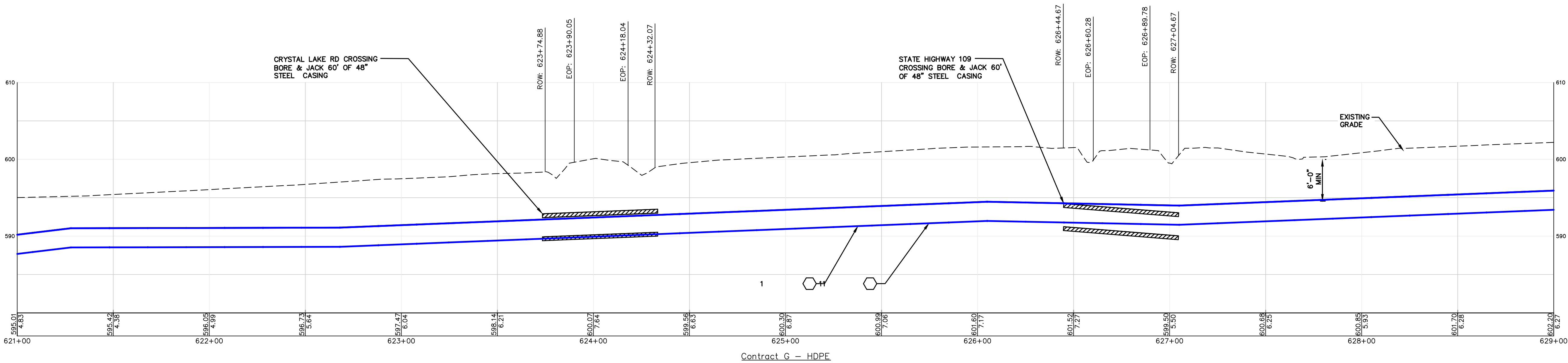
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71000-412

DATE:
9/7/2026

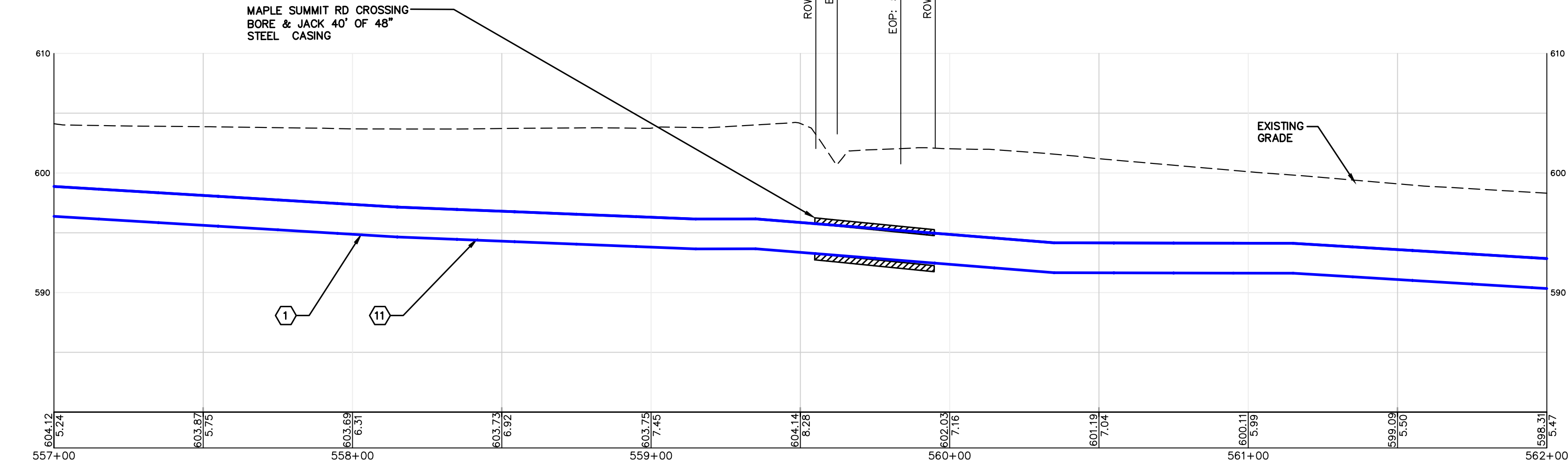
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CP1-HDPE

18 OF 25 SHEETS

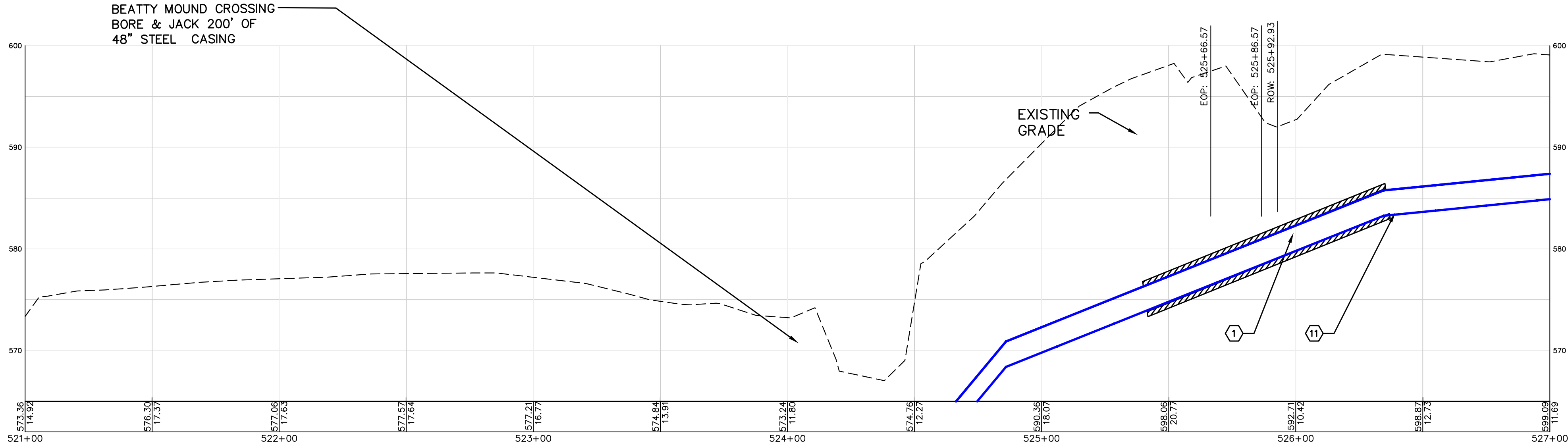
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Contract G - HDPE

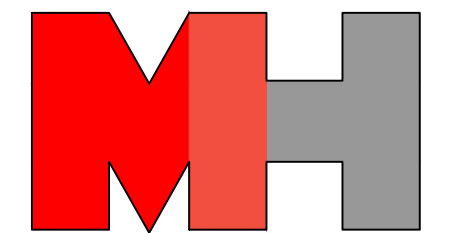


Contract G - HDPE



Contract G - HDPE

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ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=30'

VERTICAL SCALE:
1"=5'

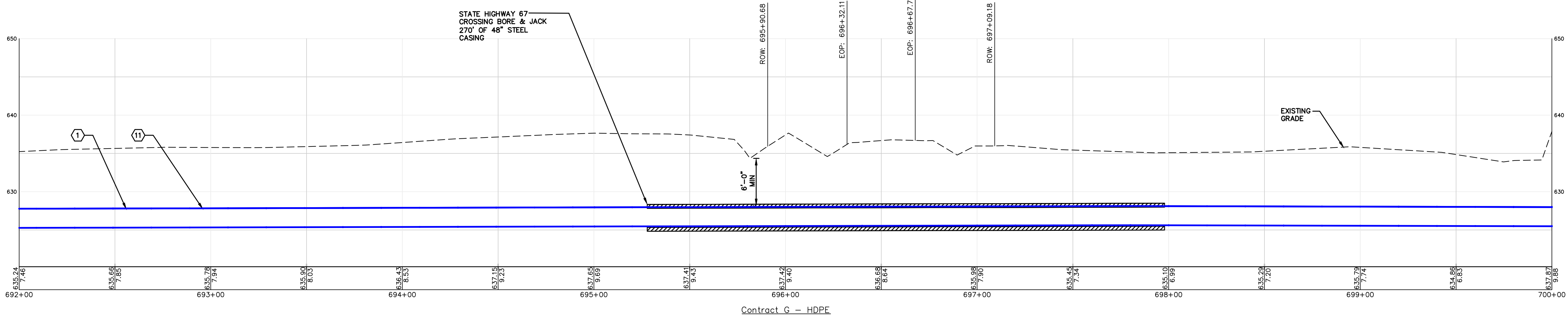
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71000-412

DATE:
9/7/2026

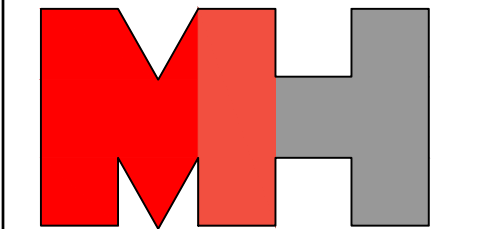
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CP2-HDPE

19 OF 25 SHEETS

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ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: TAM
APPROVED BY: SWE

HORIZONTAL SCALE:
1"=30'

VERTICAL SCALE:
1"=5'

PROJECT NO.
71000-412

DATE:
9/7/2026

SHEET NO.
CP3-HDPE

20 OF 25 SHEETS

NO.	DATE	REVISIONS

CONTRACT "F"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERREY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: MNM
CHECKED BY: B. MARTIN
APPROVED BY: M. MIDDENDORF
HORIZONTAL SCALE:

AS SHOWN

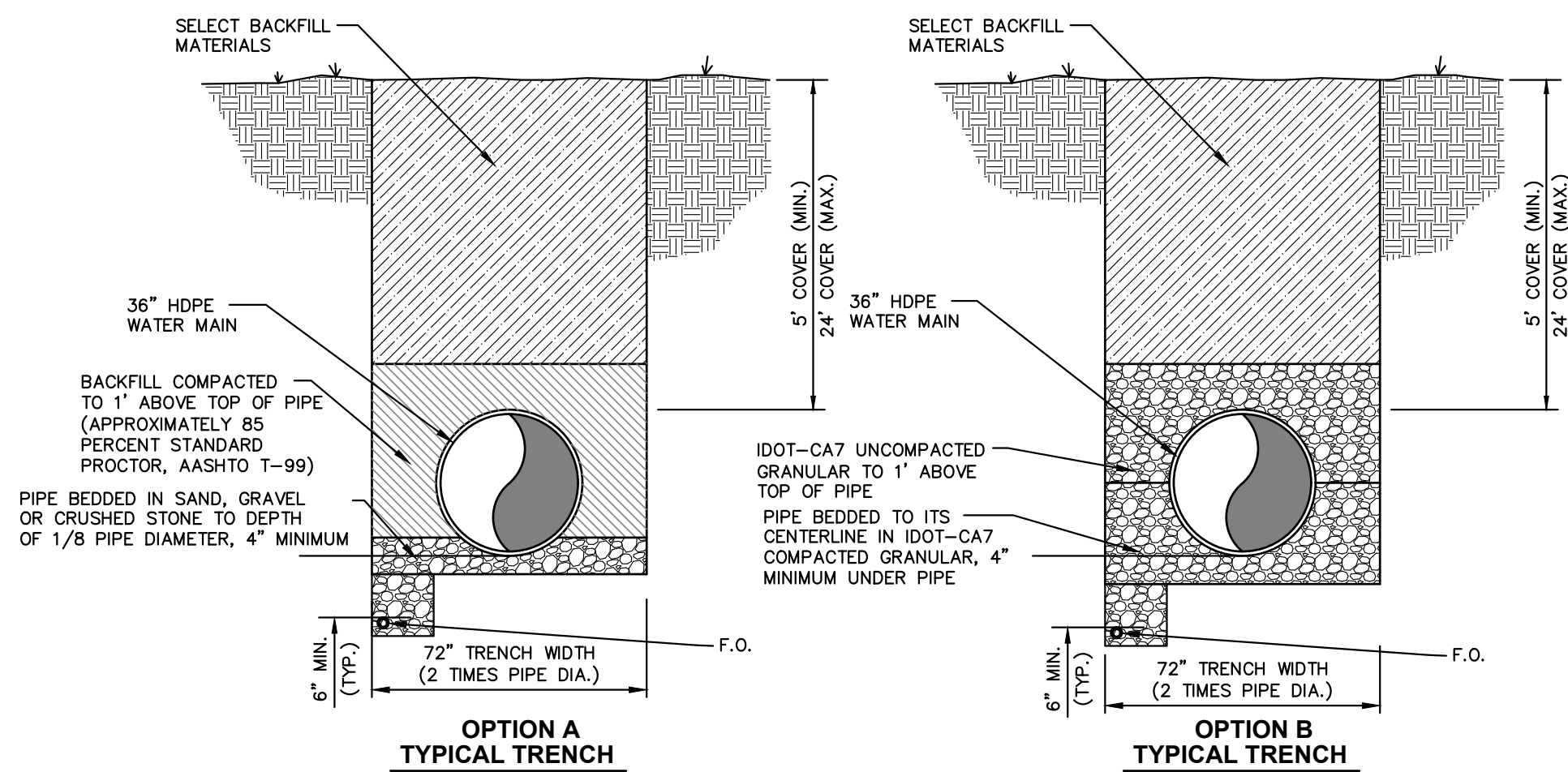
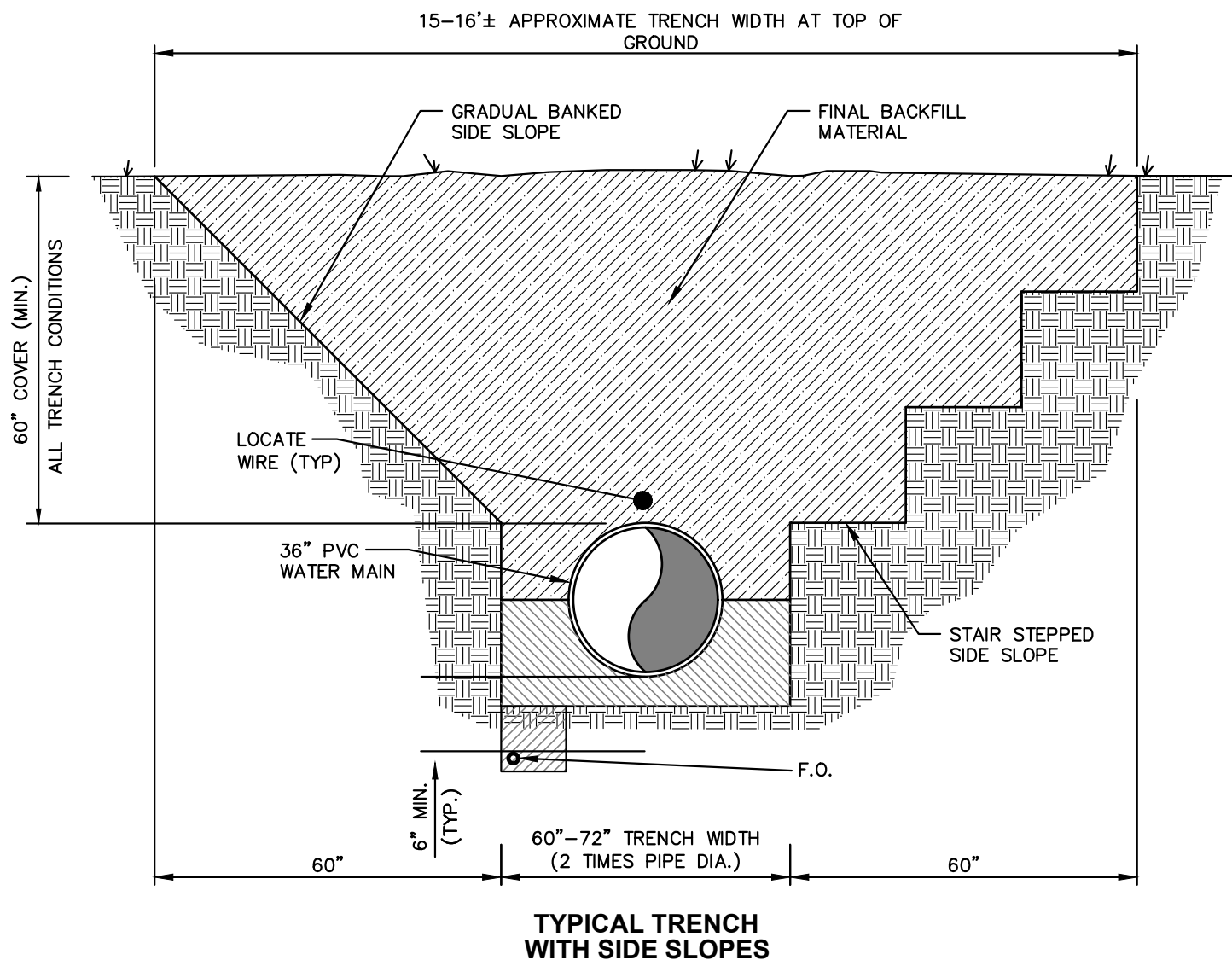
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PROJECT NO.
71000-412

DATE: 2/19/2026

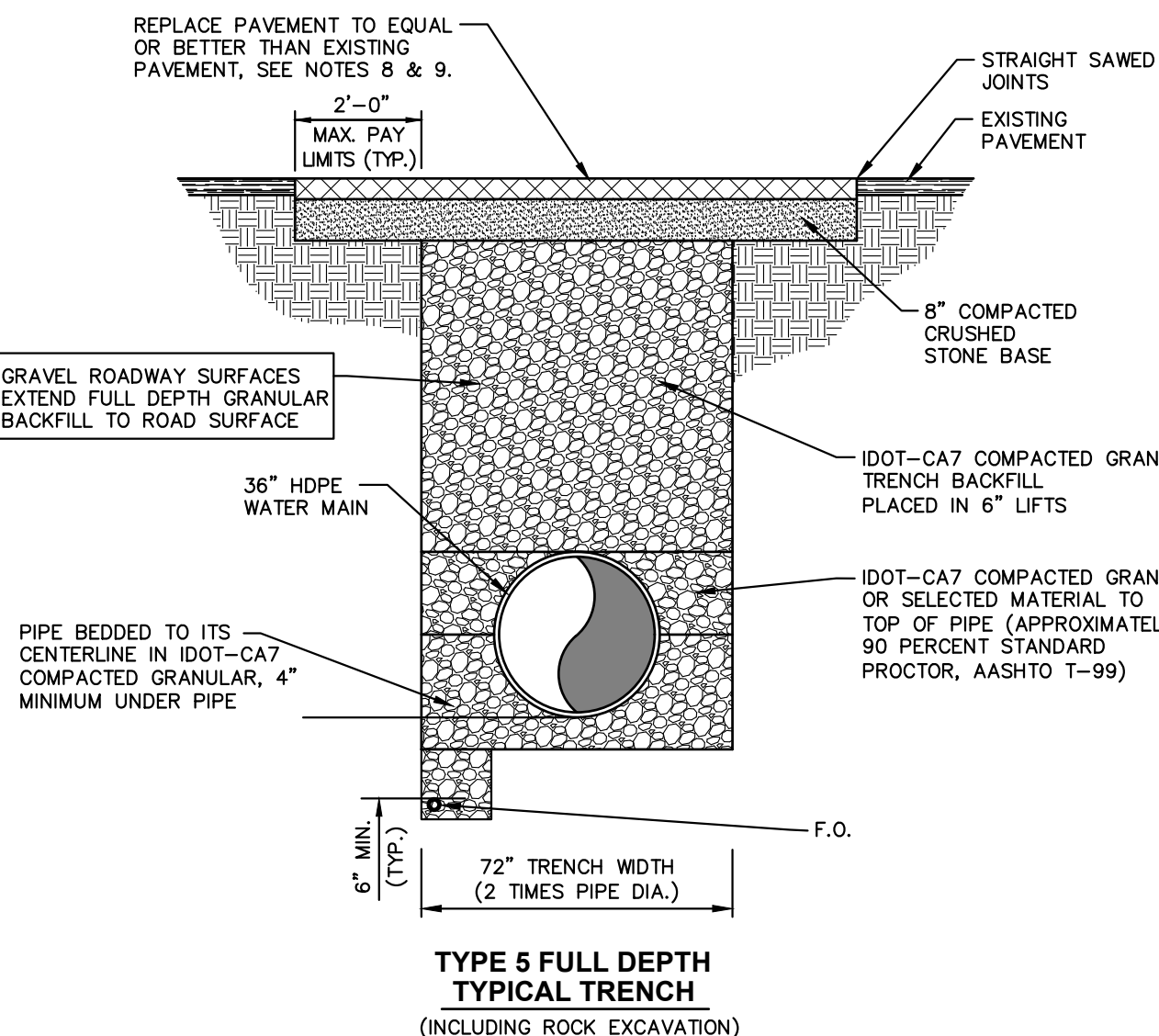
SHEET NO. **CD1**

21 OF 25 SHEETS



NOTE: USE OPTION A OR B TRENCH FOR ALL LOCATIONS WHERE TYPE 5 FULL DEPTH IS NOT REQUIRED.

3 HDPE PIPE TRENCH CONDITIONS
CD1 NO SCALE



**TYPE 5 FULL DEPTH
TYPICAL TRENCH**
(INCLUDING ROCK EXCAVATION)

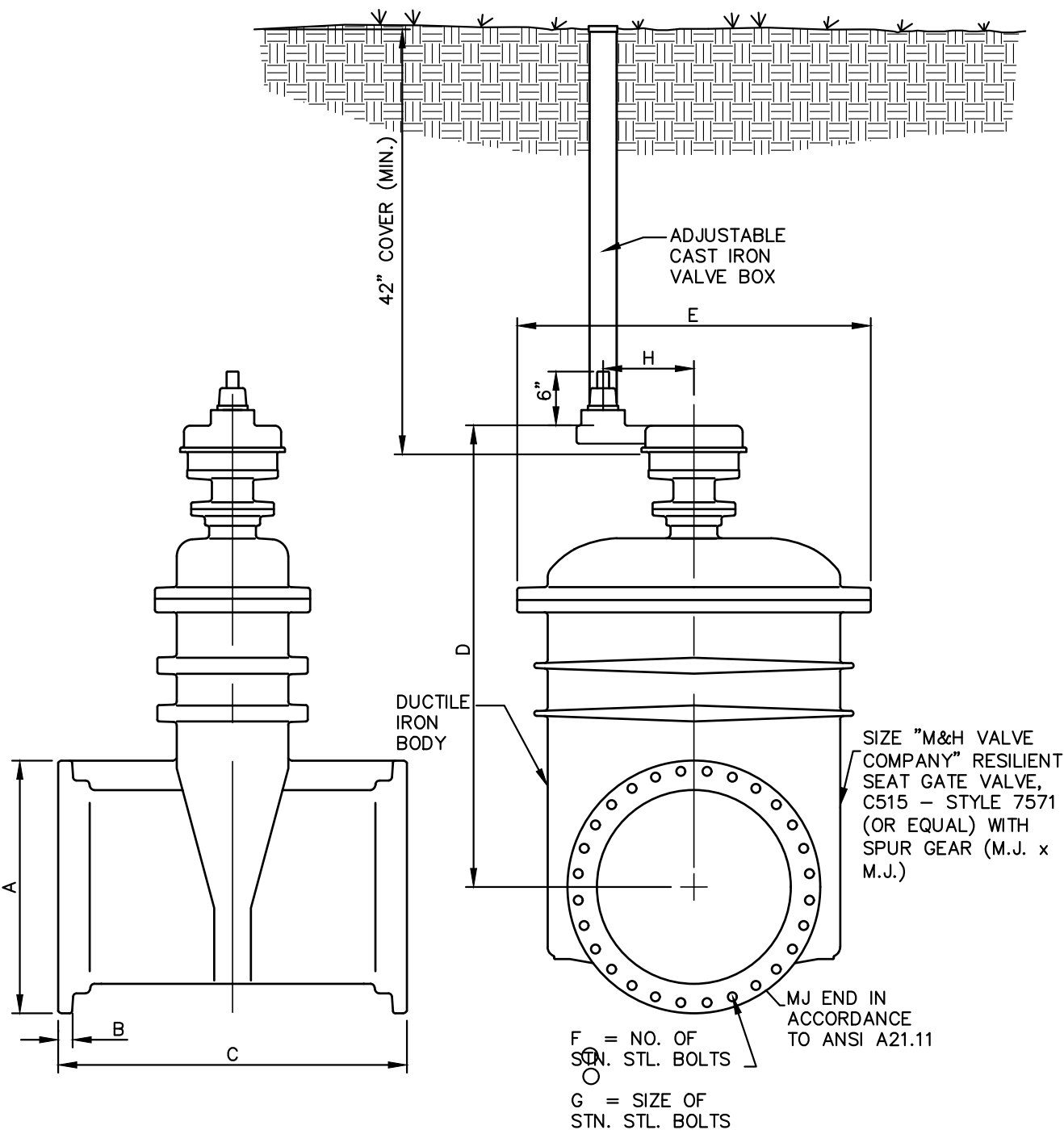
- | GENERAL NOTES: | | | |
|--|--|--|--|
| 1. MINIMUM TRENCH WIDTH SHALL BE MAINTAINED FROM 6" BELOW PIPE TO 12" ABOVE THE TOP OF PIPE. | 4. FLOWABLE FILL MIX SHALL BE AS FOLLOWS UNLESS OTHERWISE APPROVED BY THE ENGINEER. | 8. PAVEMENT REPLACEMENT TO CONSIST OF THE FOLLOWING:
ASPHALT
MATERIAL: HOT MIX ASPHALT
THICKNESS: MATCH EXISTING, BUT NOT LESS THAN 4" COMPACTED IN PLACE | |
| 2. PIPE BEDDING NOTE BELOW IS MINIMUM STANDARD, HOWEVER ANY MORE STRINGENT REQUIREMENTS SET BY PIPE SUPPLIER SHALL SUPERSEDE THE REQUIREMENTS SHOWN. | MATERIAL
CEMENT
FLY ASH
FINE AGGREGATE
WATER | QUANTITY/CU YD
70 POUNDS
300 POUNDS
2600 POUNDS
50 GALLON | |
| 3. GRANULAR BEDDING GRADUATION SHALL BE AS FOLLOWS UNLESS REQUIRED BY THE PIPE MANUFACTURER OR APPROVED BY THE ENGINEER. | 5. UNSUITABLE BACKFILL MATERIAL SHALL BE DISPOSED OF BY CONTRACTOR AT HIS EXPENSE AND SUITABLE REPLACEMENT MATERIAL PROVIDED AT NO ADDITIONAL COST TO OWNER. | CONCRETE
MATERIAL: PORTLAND CEMENT CONCRETE
4,000 PSI @ 28 DAYS
DOWEL W/4x24" @ 24" O.C.
THICKNESS: MATCH EXISTING (NOT LESS THAN 6")
NOTE: DELETE C.S. BASE FOR FLOWABLE FILL | |
| SIZE/ SIZE
1/2" 100
3/8" 80-100
#4 5-80
#10 0-5 | 6. ALL TRENCHES SHALL MEET O.S.H.A. REQUIREMENTS. | | |
| | 7. ROADWAY RESURFACING SHALL BE REPLACED AS SHOWN IN ACCORDANCE WITH PROJECT SPECIFICATIONS OR CURRENT REQUIREMENTS OF THE CONTROLLING AUTHORITY, WHICH EVER IS MORE STRINGENT AS DEFINED BY THE ENGINEER. | | |

<u>SIEVE SIZE</u>	<u>PERCENT PASSING</u>
1/2"	100
3/8"	80-100
#4	5-80
#10	0-5

4 **GENERAL TRENCH DETAILS**
CD1 NO SCALE

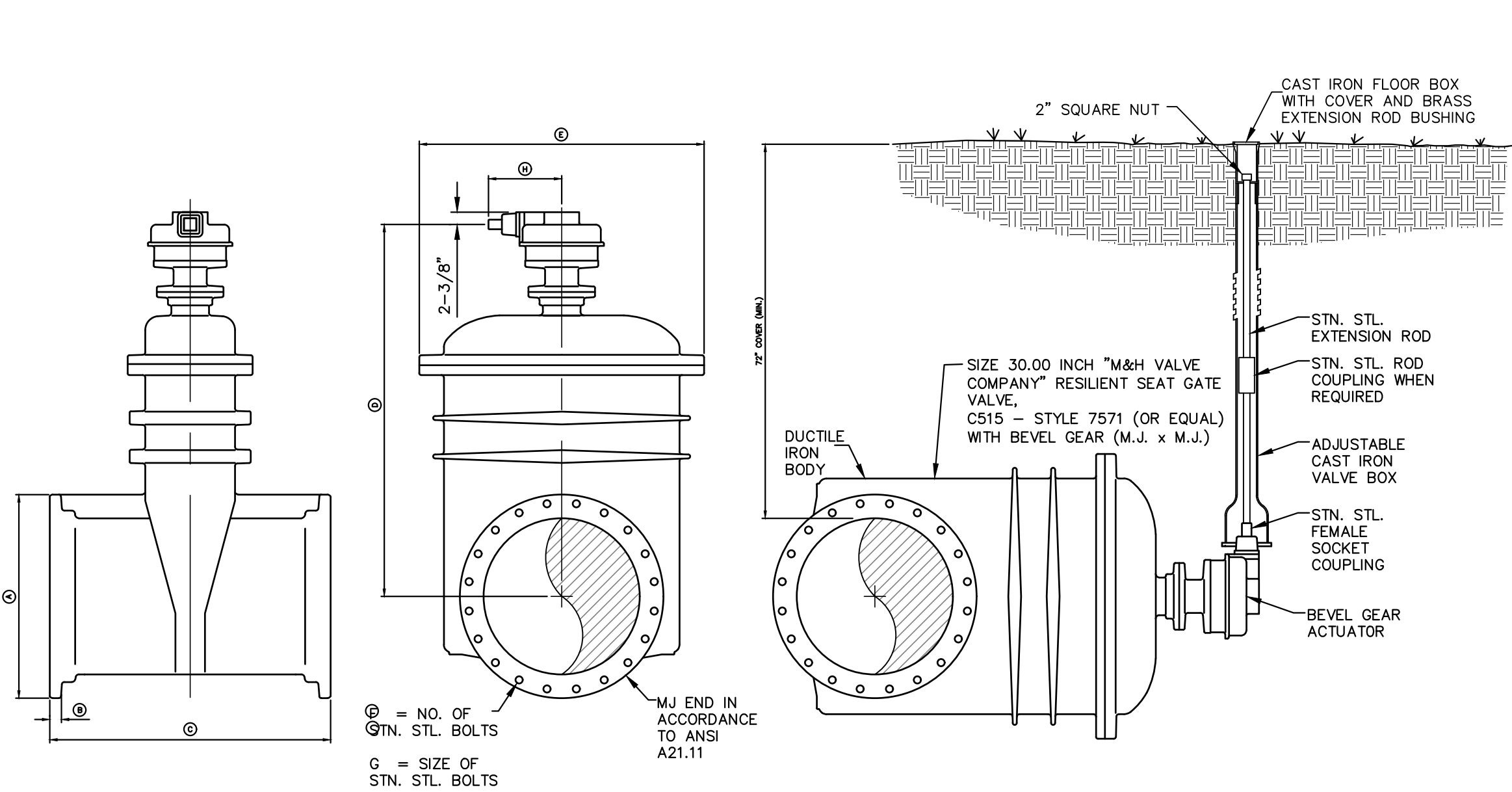
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PLOTED: 3/7/2026 @ 11:41:40 PM BY: sesh. elliot



VALVE SIZE	A	B	C	D	E	F	G	H
30"	39-1/2"	1-11/16"	35-1/2"	74"	54-3/4"	20	1"	14"
36"	46-1/2"	2"	38-3/4"	83-11/16"	58-7/8"	24	1"	14"

1 30" AND LARGER GATE VALVE WITH SPUR GEARING
CD2 NO SCALE

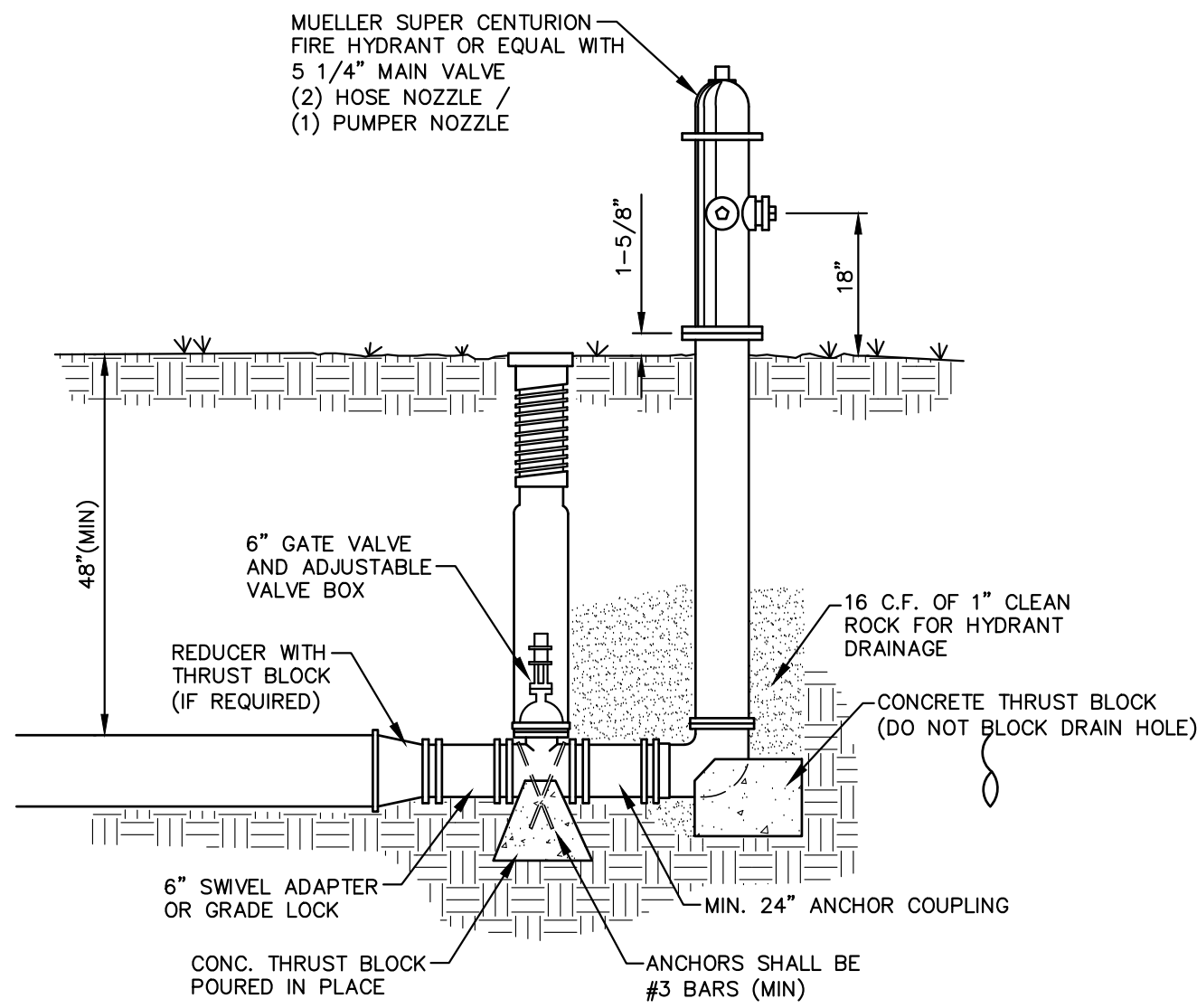


VALVE SIZE	A	B	C	D	E	F	G	H
30"	39-1/2"	1-11/16"	35-1/2"	71-3/8"	54-3/4"	20	1"	14-7/8"
36"	46-1/2"	2"	38-3/4"	81-1/16"	58-7/8"	24	1"	14-7/8"

3 30" AND LARGER GATE VALVE WITH BEVEL GEARING
CD2 NO SCALE

AIR VALVE TABLE		
ARV SIZE	MANHOLE DIA.	BRANCH WM SIZE
6"	6'	6"

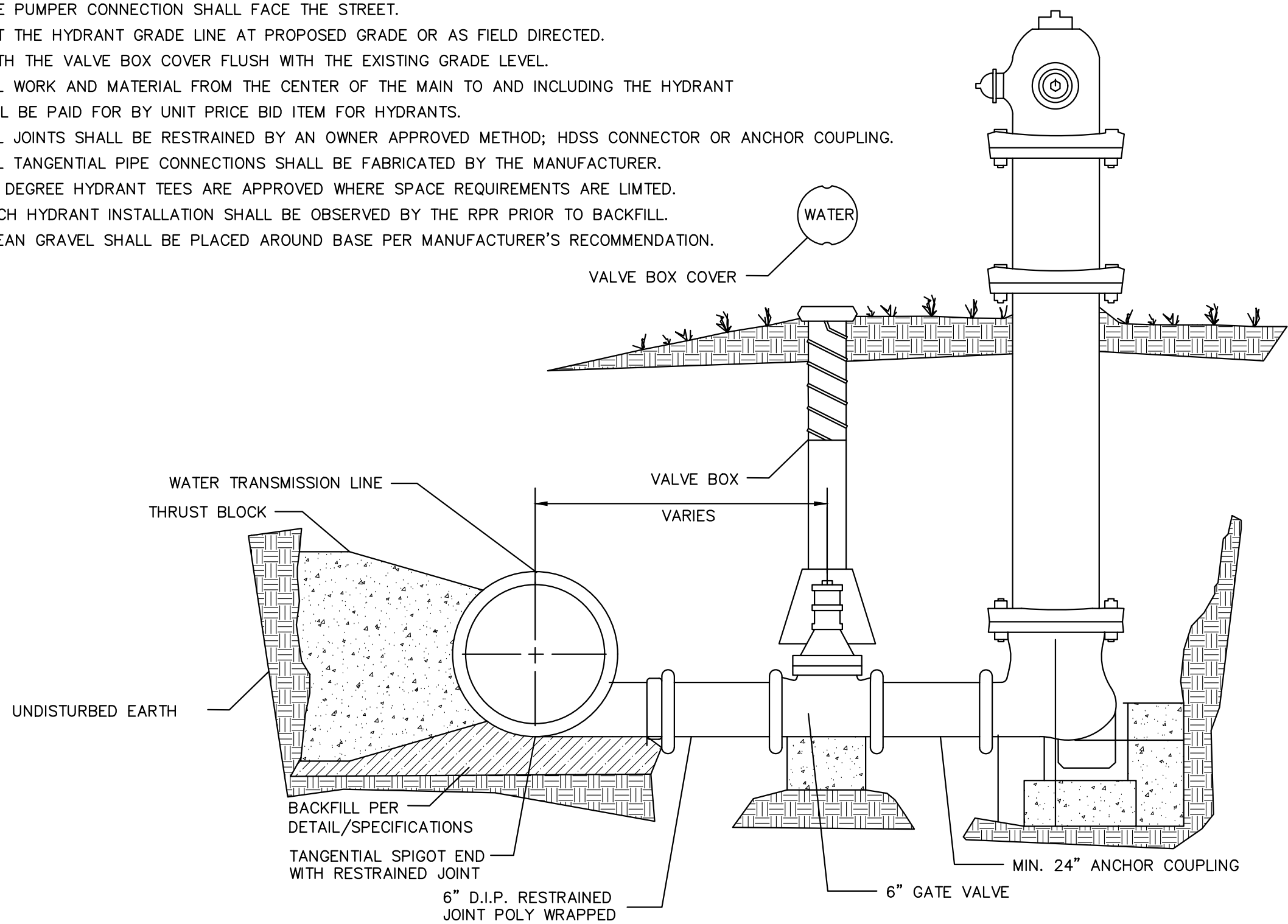
NOTES
1. INSTALL BOLLARD ON THE FIELD SIDE OF THE VENT RISER OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE
2. SLOPE GROUND AWAY FROM MANHOLE IN ALL DIRECTIONS TO CREATE POSITIVE DRAINAGE



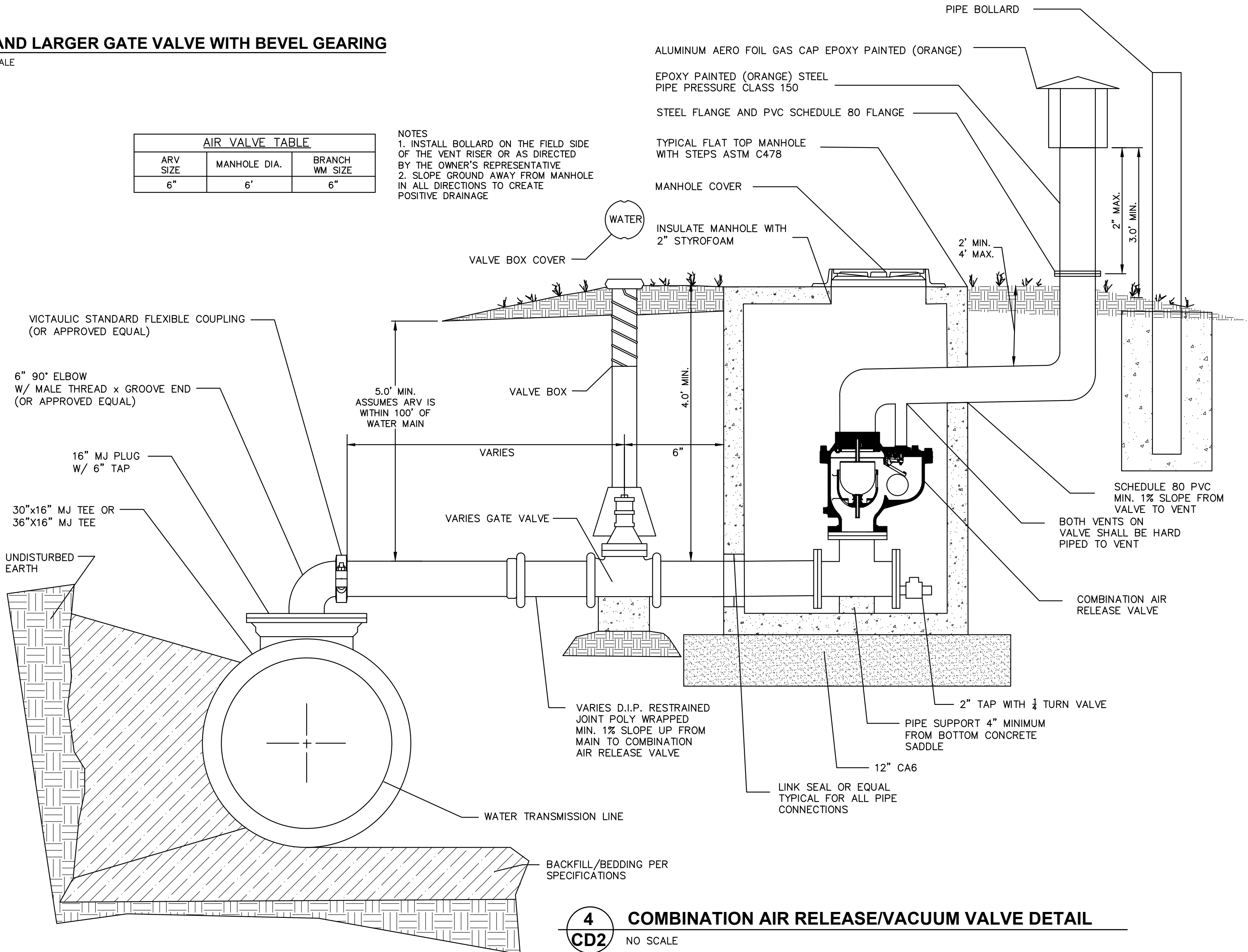
5 FIRE HYDRANT ASSEMBLY
CD2 NO SCALE

NOTES:

1. THE PUMPER CONNECTION SHALL FACE THE STREET.
2. SET THE HYDRANT GRADE LINE AT PROPOSED GRADE OR AS FIELD DIRECTED.
3. SETH THE VALVE BOX COVER FLUSH WITH THE EXISTING GRADE LEVEL.
4. ALL WORK AND MATERIAL FROM THE CENTER OF THE MAIN TO AND INCLUDING THE HYDRANT WILL BE PAID FOR BY UNIT PRICE BID ITEM FOR HYDRANTS.
5. ALL JOINTS SHALL BE RESTRAINED BY AN OWNER APPROVED METHOD; HDSS CONNECTOR OR ANCHOR COUPLING.
6. ALL TANGENTIAL PIPE CONNECTIONS SHALL BE FABRICATED BY THE MANUFACTURER.
7. 90 DEGREE HYDRANT TEES ARE APPROVED WHERE SPACE REQUIREMENTS ARE LIMITED.
8. EACH HYDRANT INSTALLATION SHALL BE OBSERVED BY THE RPR PRIOR TO BACKFILL.
9. CLEAN GRAVEL SHALL BE PLACED AROUND BASE PER MANUFACTURER'S RECOMMENDATION.



2 BLOW-OFF HYDRANT DETAIL
CD2 NO SCALE



4 COMBINATION AIR RELEASE/VACUUM VALVE DETAIL
CD2 NO SCALE

GENERAL NOTES:

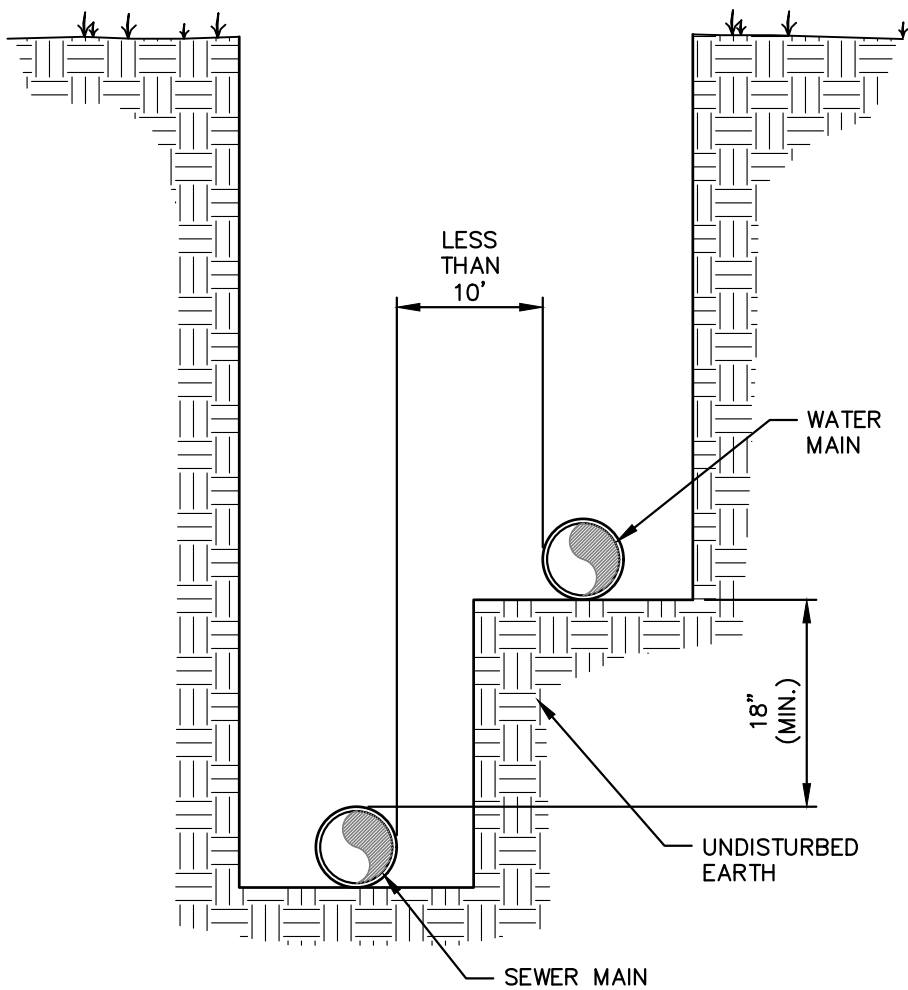
41-2.01B HORIZONTAL SEPARATION - WATER MAINS AND SEWERS

- (1) WATER MAINS SHALL BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED DRAIN, STORM SEWER, SANITARY SEWER, COMBINED SEWER OR SEWER SERVICE CONNECTION.
- (2) WATER MAINS MAY BE LOCATED CLOSER THAN TEN (10) FEET TO A SEWER LINE WHEN:
 - (A) LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF TEN (10) FEET; AND
 - (B) THE WATER MAIN INVERT IS AT LEAST EIGHTEEN (18) INCHES ABOVE THE CROWN OF THE SEWER; AND
 - (C) THE WATER MAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER.
- (3) WHEN IT IS IMPOSSIBLE TO MEET (1) OR (2) ABOVE, BOTH THE WATER MAIN AND DRAIN OR SEWER SHALL BE CONSTRUCTED OF SLIP-ON OR MECHANICAL JOINT CAST OR DUCTILE IRON PIPE, PRESTRESSED CONCRETE PIPE, OR PVC PIPE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION. THE DRAIN OR SEWER SHALL BE PRESSURE TESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACKFILLING.

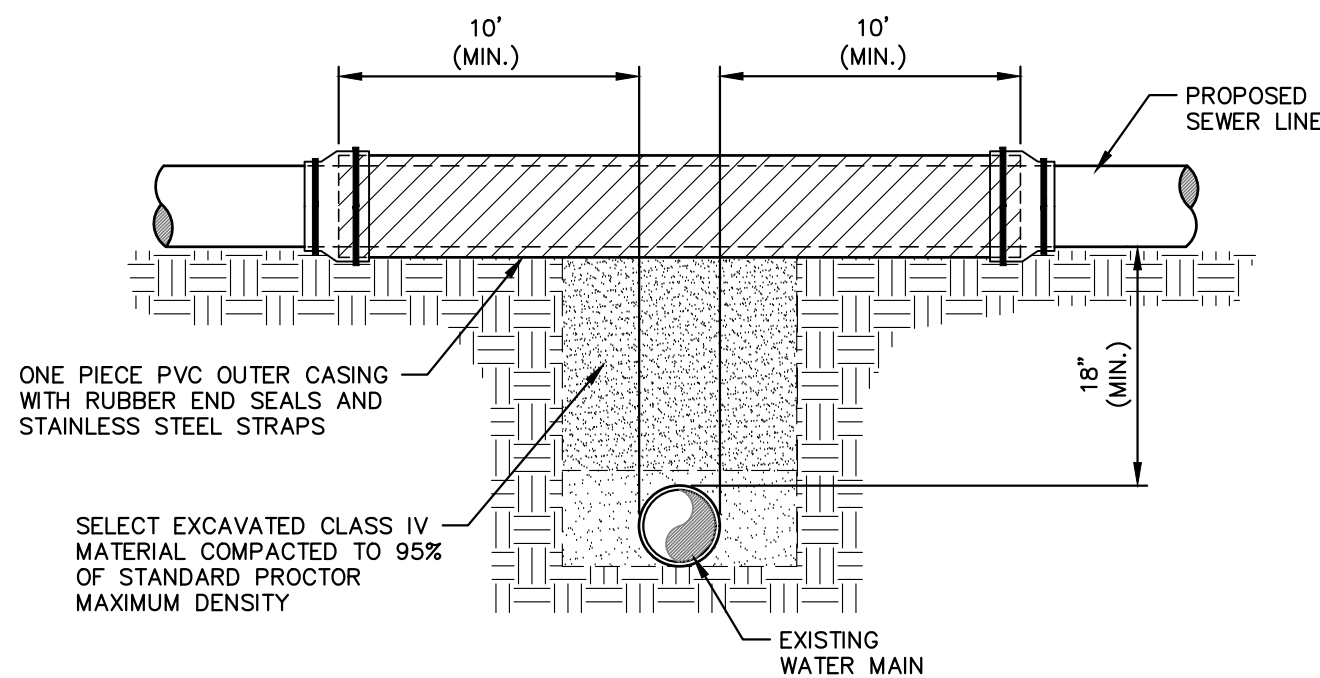
41-2.01C VERTICAL SEPARATION – WATER MAINS AND SEWERS

- (1) A WATER MAIN SHALL BE SEPARATED FROM A SEWER SO THAT ITS INVERT IS A MINIMUM OF EIGHTEEN (18) INCHES ABOVE THE CROWN OF THE DRAIN OR SEWER WHENEVER WATER MAINS CROSS STORM SEWERS, SANITARY SEWERS OR SEWER SERVICE CONNECTIONS. THE VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATER MAIN LOCATED WITHIN TEN (10) FEET OF THE CROWN OF ANY SEWER OR DRAIN CROSSING. A LENGTH OF WATER MAIN PIPE SHALL BE CENTERED OVER THE SEWER TO BE CROSSED WITH JOINTS EQUIDISTANT FROM THE SEWER OR DRAIN.
- (2) BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF SLIP-ON OR MECHANICAL JOINT CAST OR DUCTILE IRON PIPE, PRESTRESSED CONCRETE PIPE, OR PVC PIPE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION WHEN:
 - (A) IT IS IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION AS DESCRIBED IN (1) ABOVE; OR
 - (B) THE WATER MAIN PASSES UNDER A SEWER OR DRAIN.
- (3) A VERTICAL SEPARATION OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE SEWER OR DRAIN AND THE CROWN OF THE WATER MAIN SHALL BE MAINTAINED WHERE A WATER MAIN CROSSES UNDER A SEWER. SUPPORT THE SEWER OR DRAIN LINES TO PREVENT SETTLING AND BREAKING THE WATER MAIN, AS SHOWN ON THE PLANS AS APPROVED BY THE ENGINEER.
- (4) CONSTRUCTION SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE PERPENDICULAR DISTANCE FROM THE WATER MAIN TO THE SEWER OR DRAIN LINE IS AT LEAST TEN (10) FEET.

NOTE: SHOULD LOCAL CONDITIONS EXIST WHICH WOULD PREVENT A LATERAL SEPARATION OF 10 FEET, A SEWER MAY BE CLOSER THAN 10 FEET TO A WATER MAIN PROVIDED THAT THE WATER MAIN INVERT IS AT LEAST 18 INCHES ABOVE THE CROWN OF THE SEWER, AND IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER.

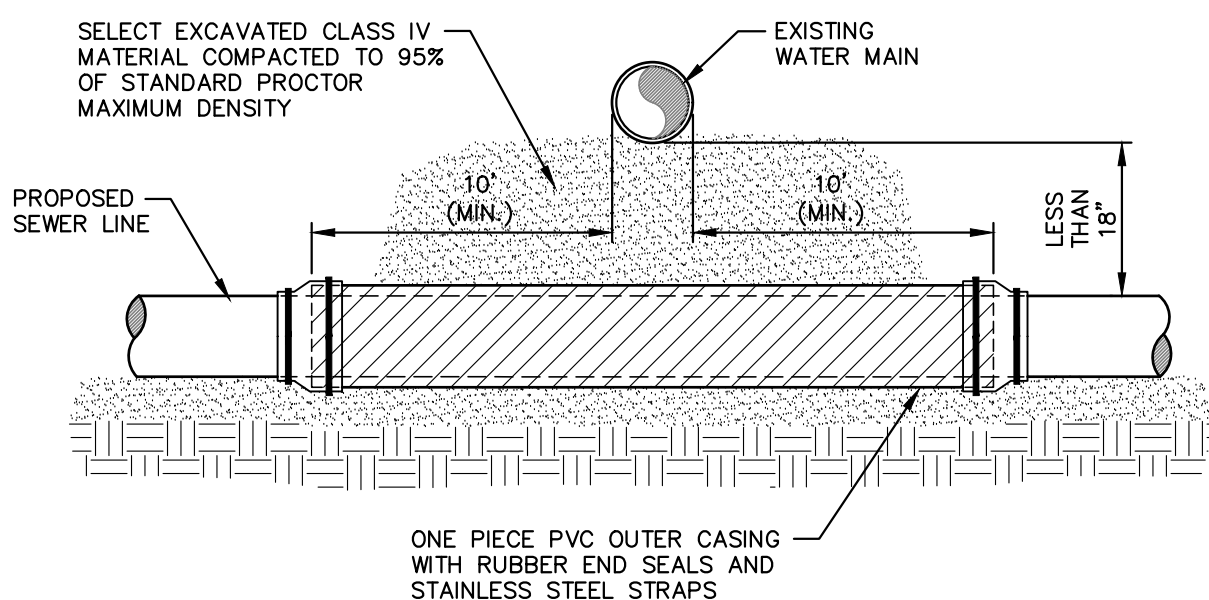


WATER AND SEWER MAINS HORIZONTAL AND VERTICAL SEPARATION DETAIL

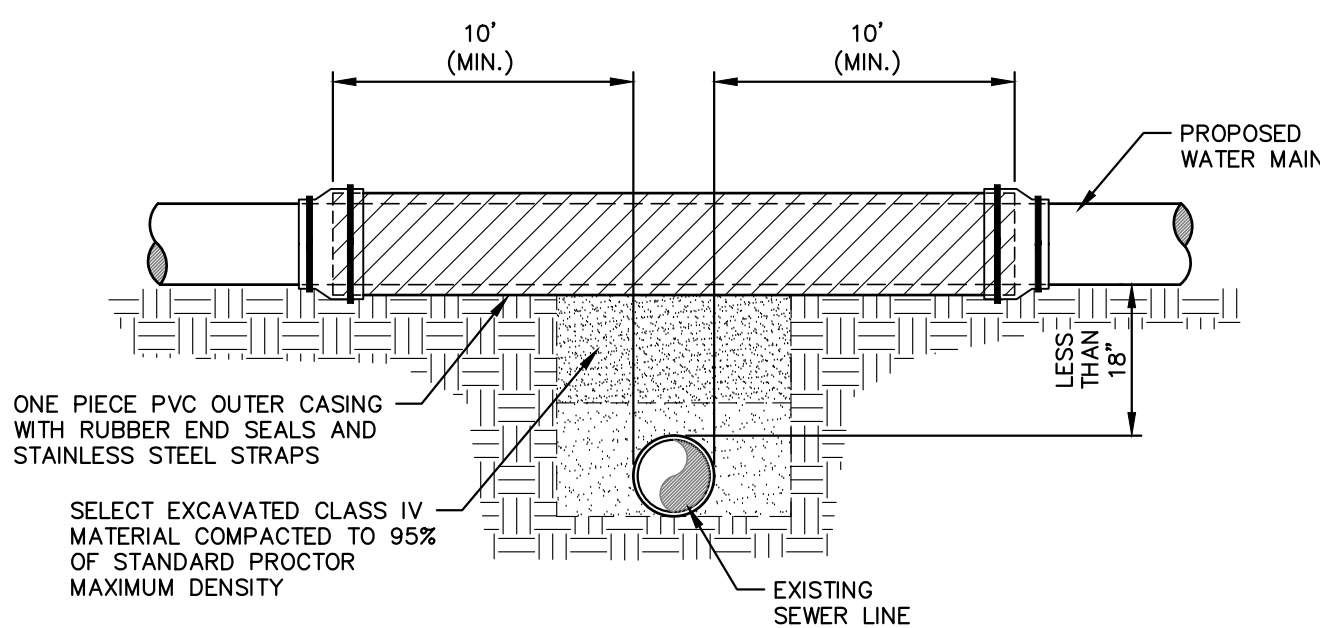


**PROPOSED SEWER LINE CROSSING
ABOVE EXISTING WATER MAIN**

NO SCALE

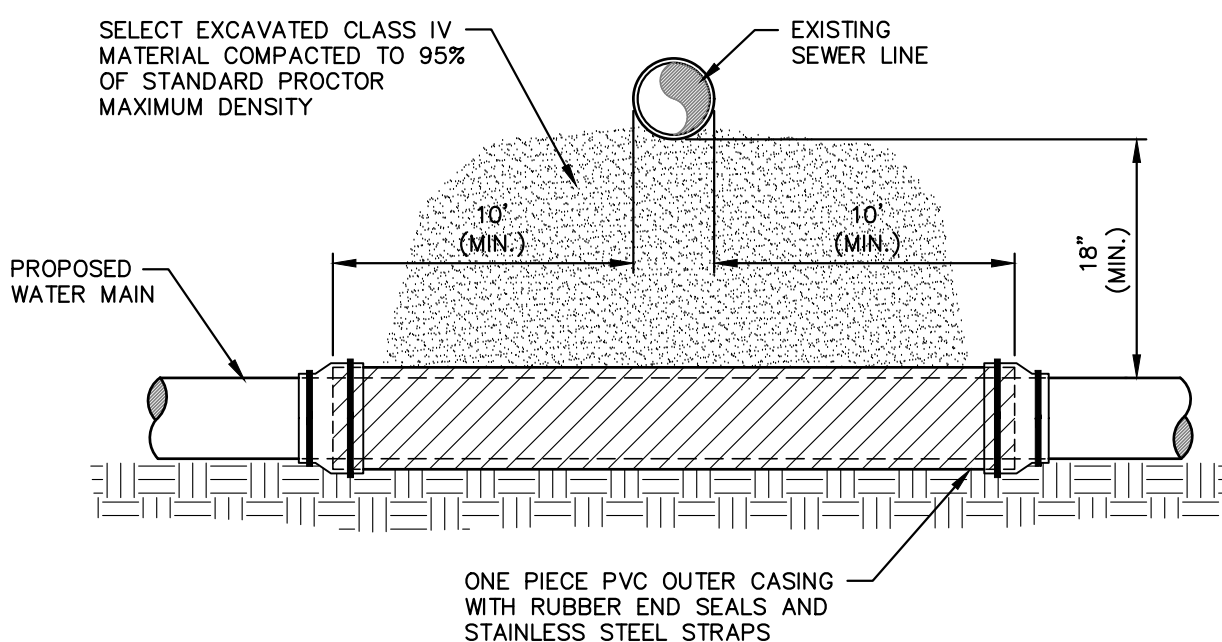


**PROPOSED SEWER LINE CROSSING
BELOW EXISTING WATER MAIN**



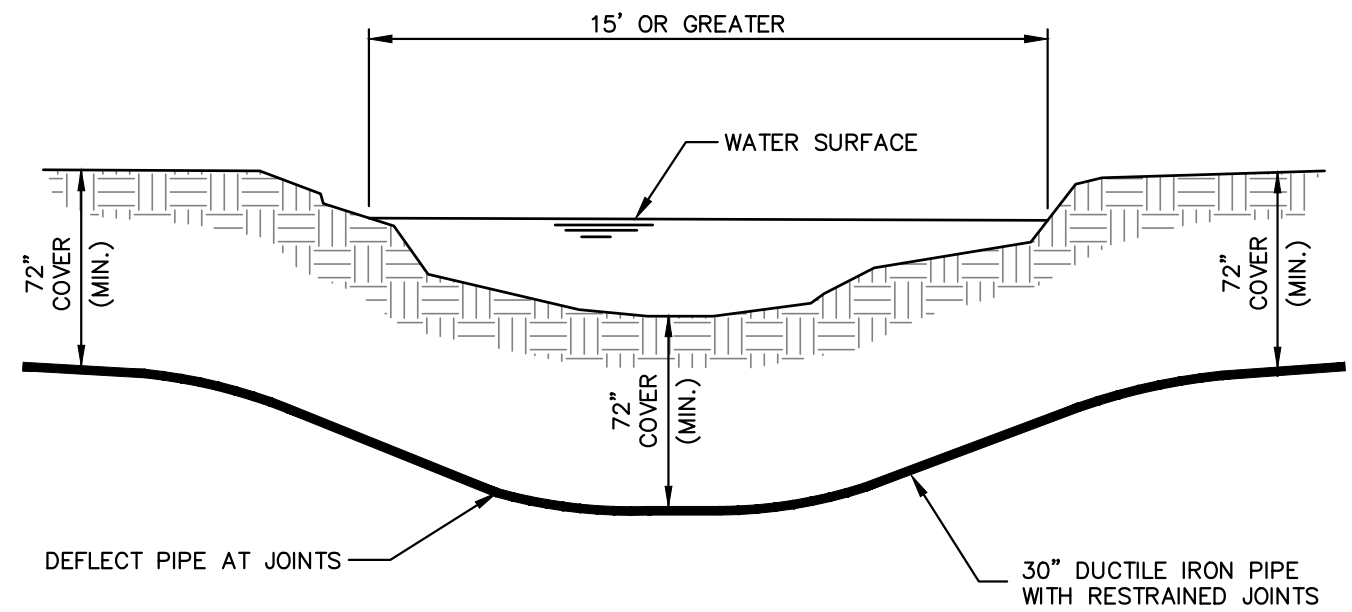
**PROPOSED WATER MAIN CROSSING
ABOVE EXISTING SEWER LINE**

NO SCALE

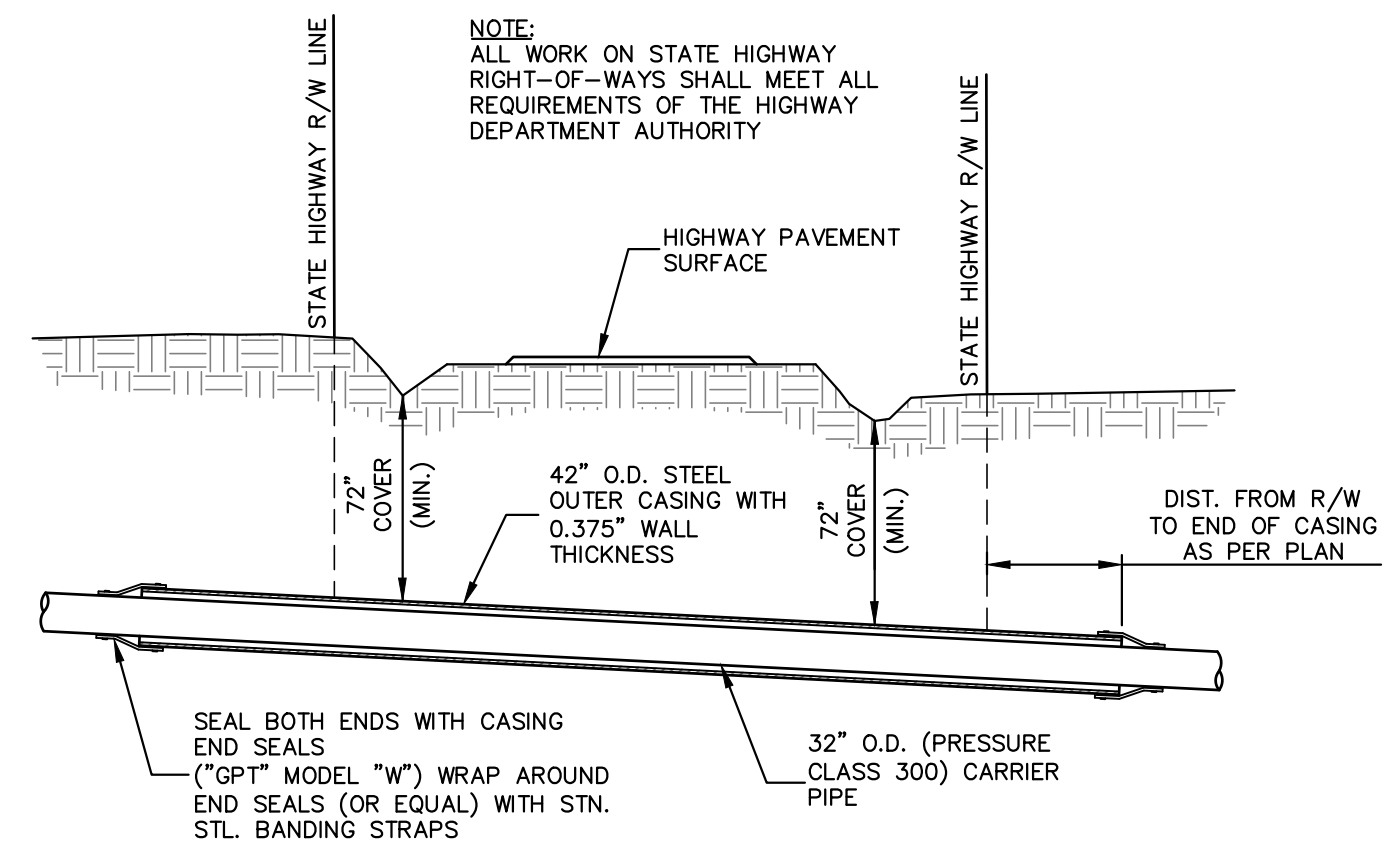


**PROPOSED WATER MAIN CROSSING
BELOW EXISTING SEWER LINE**

NO SCALE

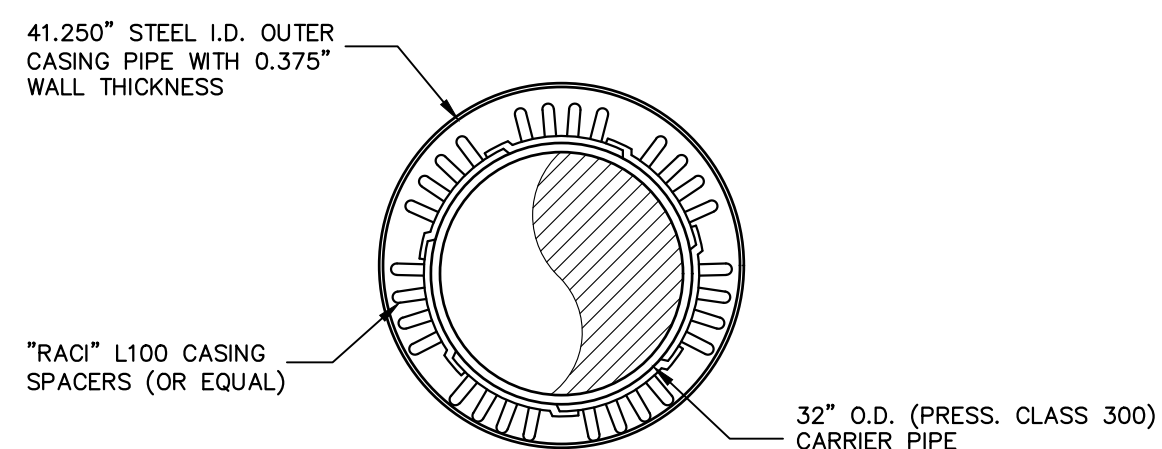


6 TYPICAL CREEK CROSSING - DIRECTIONAL BORE (NO CASING)
CD3 NO SCALE



7 TYPICAL SECTION THRU STATE HIGHWAY BORE
CD3 NO SCALE

- NOTES:
1. CASING SPACERS SHALL BE INSTALLED AT INTERVALS NOT TO EXCEED MANUFACTURER'S SPECIFICATIONS OR 6' O.C. WHICHEVER IS LESS.
 2. DOUBLE SPACERS SHALL BE INSTALLED ONE FOOT FROM EACH END OF THE CASING.
 3. ONE CASING SPACER MUST BE WITHIN 2' OF EACH SIDE OF A PIPE JOINT.
 4. SPACERS SHALL HAVE A MINIMUM HEIGHT THAT EXCEEDS THE PIPE BELL HEIGHT.
 5. CASING SPACERS SHALL BE "RACI" L100 (OR EQUAL) POLYETHYLENE WITH STAINLESS STEEL BOLTS AND NUTS.



8 **SECTION THRU BORED STEEL CASING PIPE**
CD3 NO SCALE

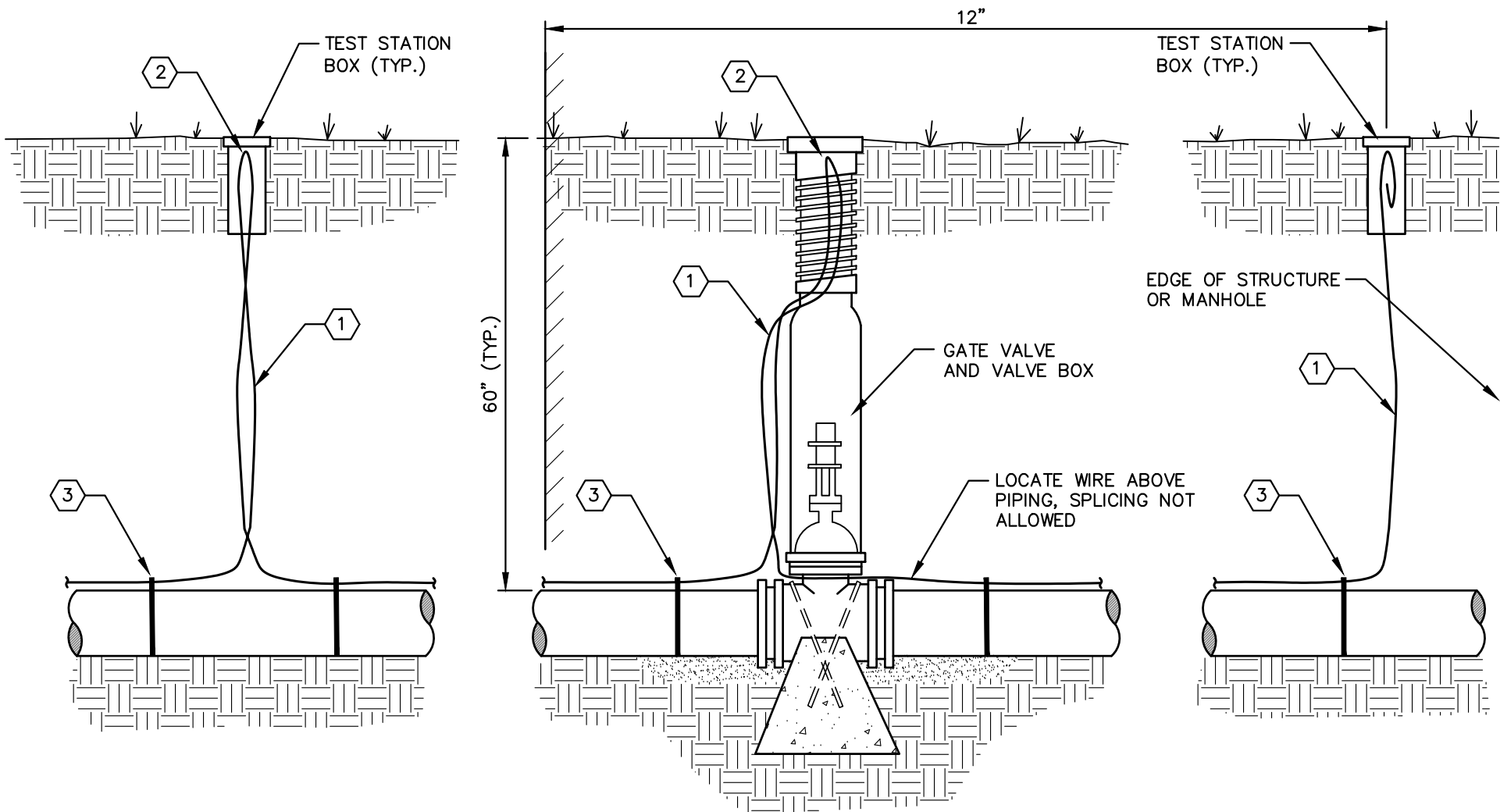
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KEY NOTES:

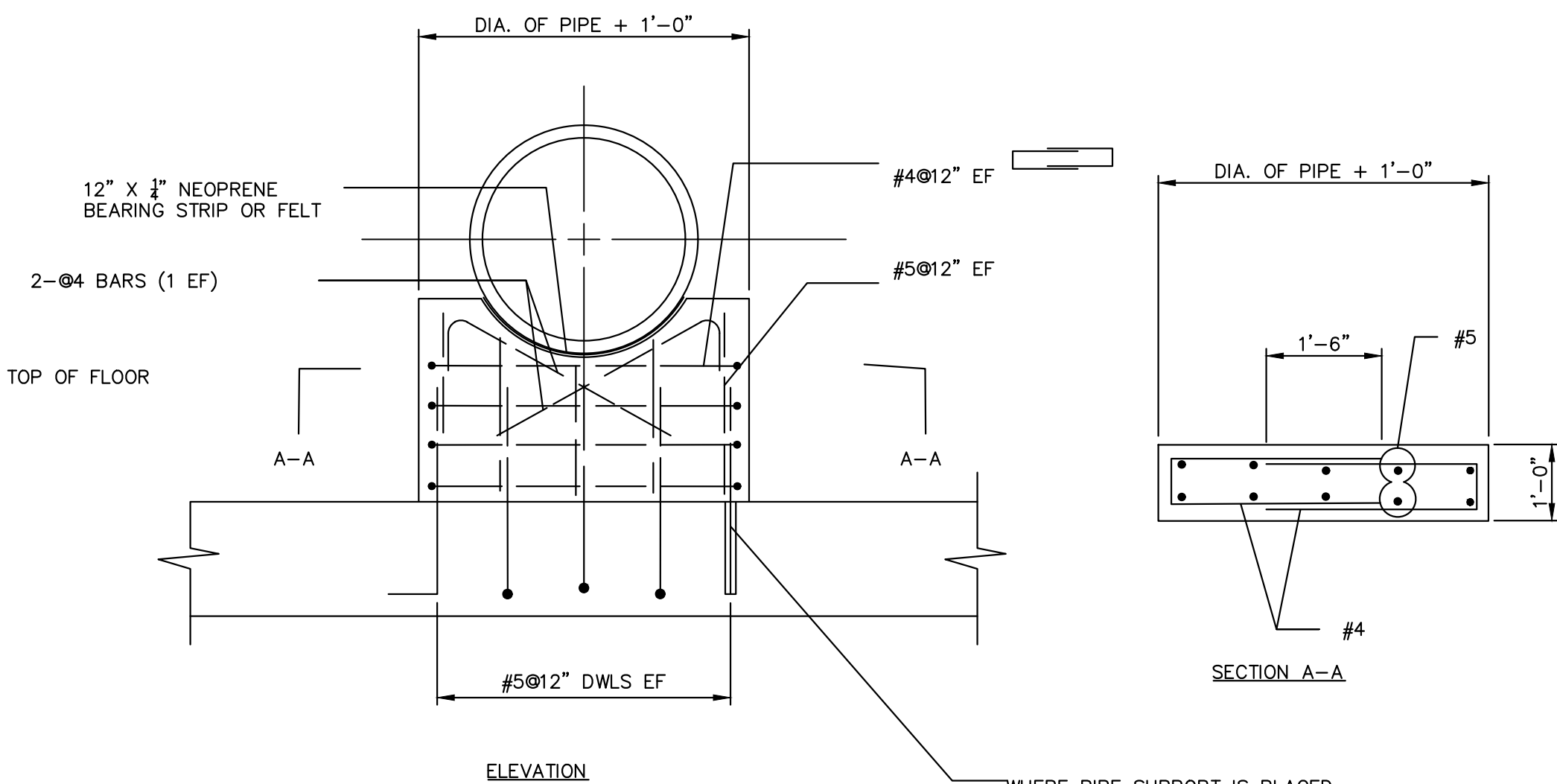
- #12 AWG SOLID COPPER CLAD STEEL LOCATE WIRE WITH 0.045" HDPE BLUE INSULATION / EXTRA-HIGH STRENGTH TO BE INSTALLED WITH CARRIER PIPE (TYPICAL)
- DO NOT CUT LOCATE WIRE IN TEST STATION OR VALVE BOX IF WIRE CAN BE RUN CONTINUOUS, LEAVE 24" (MIN.) SLACK LOOP
- SECURE LOCATE WIRE TO TOP OF PIPE WITH TAPE OR PLASTIC TIE NEAR ALL VALVES AND FITTINGS AND BELOW TEST STATIONS

GENERAL NOTES:

- LOCATE WIRE SHALL BE COPPER-CLAD STEEL
- LOCATE WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL IN-LINE VALVE BOXES, BY FIRE HYDRANTS OR INSTALLED TEST STATIONS
- LEAVE A 24" (MIN.) SLACK LOOP OF WIRE IN VALVE BOXES, TEST STATIONS OR WITHIN (2) FEET OF FIRE HYDRANTS
- LOCATE WIRE SHALL BE INSTALLED OVER ALL WATERLINES, WATER SERVICE LINES AND SEWER FORCEMAINS
- A CONDUCTIVITY TEST SHALL BE PERFORMED ON ALL LOCATE WIRES
- TEST STATION BOX SHALL BE CAST IRON
- LOCATE WIRE CONNECTION SHALL BE MADE WITH A DRYCONN DIRECT BURY LUG

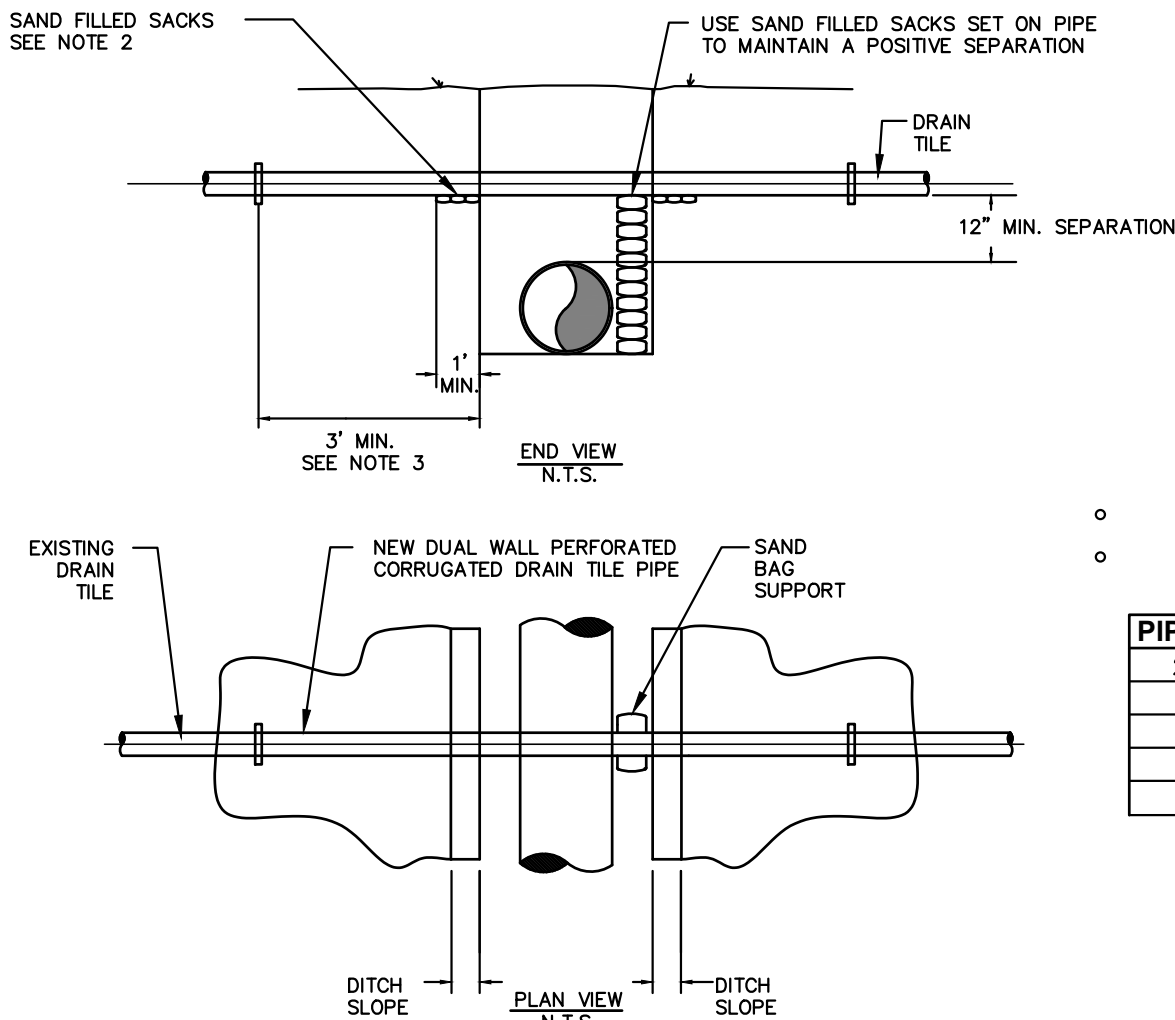


1
CD4
TYPICAL LOCATE WIRE DETAILS
NO SCALE



2
CD4
CONCRETE SADDLE
NO SCALE

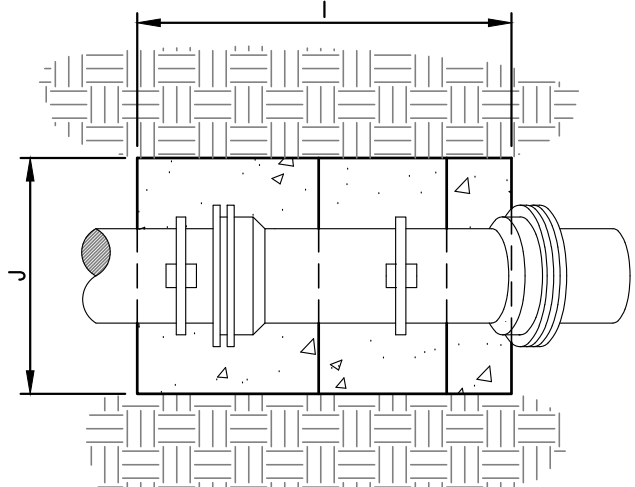
WHERE PIPE SUPPORT IS PLACED ON EXISTING CONCRETE FLOOR, DRILL AND GROUP #5@12" DOWELS IN 1" DIA. X 5" DEEP HOLES. CLEAN AND ROUGHEN EXISTING CONCRETE SURFACE AND APPLY A CEMENT SLURRY PRIOR TO PLACING NEW CONCRETE.



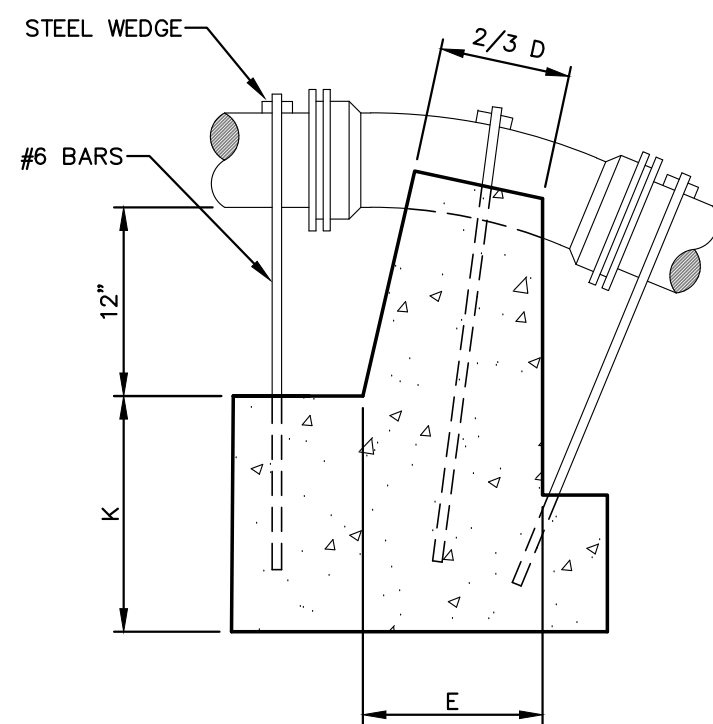
NOTE:

- TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE. IF THE TILE NEEDS TO BE RELOCATED, THE INSTALLATION ANGLE MAY VARY DUE TO SITE SPECIFIC CONDITIONS AND LANDOWNER RECOMMENDATIONS.
- 1'-0" MINIMUM LENGTH OF CHANNEL OR RIGID PIPE (OPEN OR SLOTTED CORRUGATED GALVANIZED, PVC OR ALUMINUM CRADLE) SHALL BE SUPPORTED BY UNDISTURBED SOIL, OR IF CROSSING IS NOT AT RIGHT ANGLES TO PIPELINE, EQUIVALENT LENGTH PERPENDICULAR TO TRENCH. SHIM WITH SAND BAGS TO UNDISTURBED SOIL FOR SUPPORT AND DRAINAGE GRADIENT MAINTENANCE (TYPICAL BOTH SIDES).
- DRAIN TILES WILL BE PERMANENTLY CONNECTED EXISTING DRAIN TILES A MINIMUM OF THREE FEET OUTSIDE OF EXCAVATED TRENCH LINE USING INDUSTRY STANDARDS TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES INCLUDING SLIP COUPLINGS.
- DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF THE RIGID PIPE.
- OTHER METHODS OF SUPPORTING DRAIN TILE MAY BE USED IF ALTERNATE PROPOSED IS EQUIVALENT IN STRENGTH TO THE CHANNEL/PIPE SECTIONS SHOWN AND IF APPROVED BY COMPANY REPRESENTATIVES AND LANDOWNER IN ADVANCE. SITE SPECIFIC ALTERNATE SUPPORT SYSTEM TO BE DEVELOPED BY COMPANY REPRESENTATIVES AND FURNISHED TO CONTRACTOR FOR SPANS IN EXCESS OF 20', TILE GREATER THEN 10' DIAMETER, AND FOR "HEADER" SYSTEMS.
- ALL MATERIAL TO BE FURNISHED BY CONTRACTOR.
- PRIOR TO REPAIRING TILE, CONTRACTOR SHALL PROBE Laterally INTO THE EXISTING TILE TO FULL WIDTH OF THE RIGHTS OF WAY TO DETERMINE IF ADDITIONAL DAMAGE HAS OCCURRED. ALL DAMAGE/DISTURBED TILE SHALL BE REPAIRED AS NEAR AS PRACTICABLE TO ITS ORIGINAL OR BETTER CONDITIONS.

3
CD4
FIELD TILE CROSSING DETAIL
NO SCALE

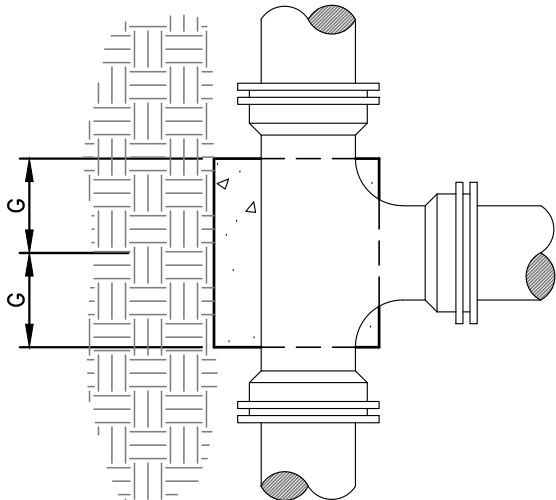


PLAN

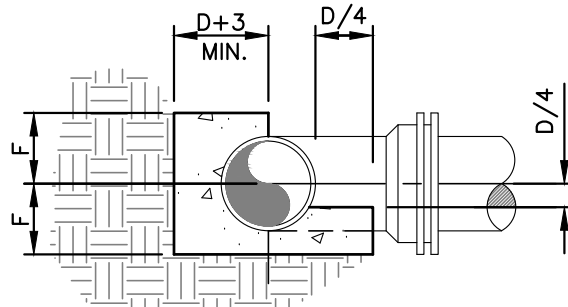


SECTION

THRUST BLOCKS FOR
1/16 AND 1/8 BENDS

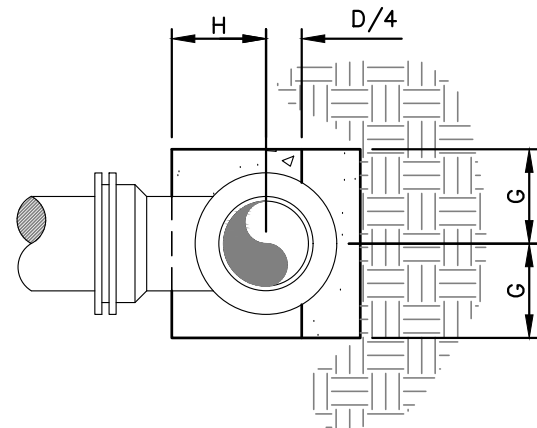


PLAN

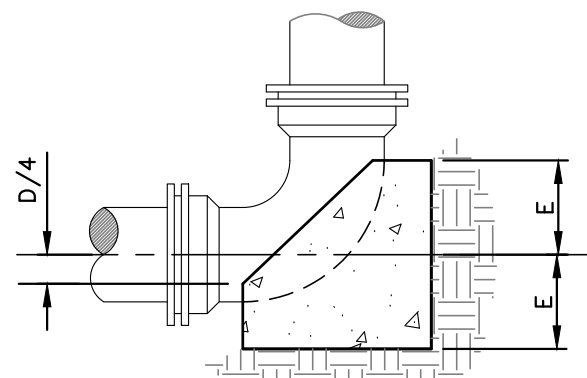


SECTION

THRUST BLOCK
FOR TEES

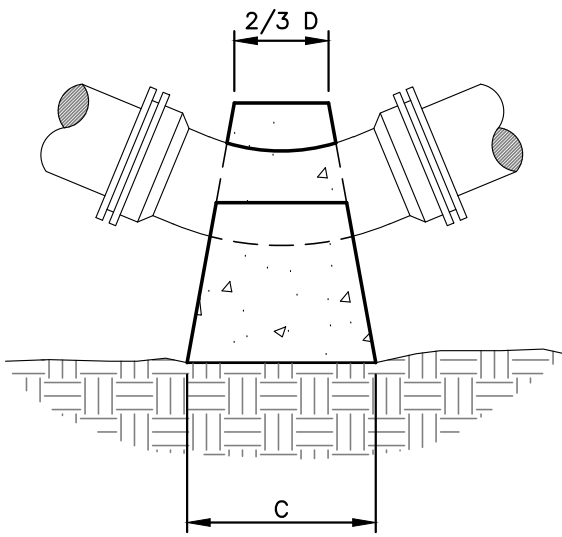


PLAN

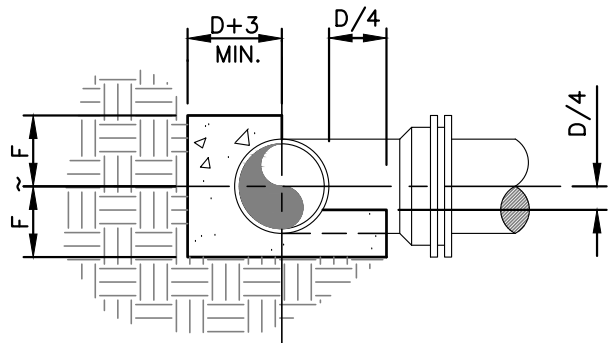


SECTION

THRUST BLOCK
FOR VERTICAL BENDS

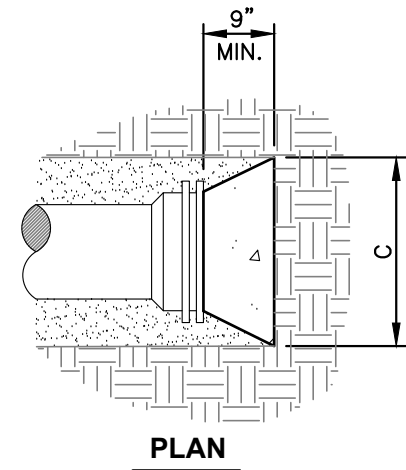


PLAN

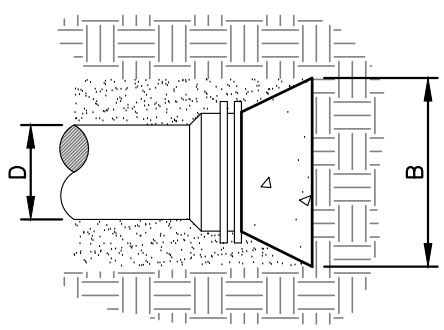


SECTION

THRUST BLOCK FOR
HORIZONTAL BENDS



PLAN



SECTION

THRUST BLOCK
FOR CAPS

REVISIONS

DATE

NO.

CONTRACT "F"
FINISHED WATER TRANSMISSION
MAIN
AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: B.FOHEY / R.HAYES
CHECKED BY: B. MARTIN
APPROVED BY: M. MIDDENDORF

HORIZONTAL SCALE:

NO SCALE

VERTICAL SCALE:

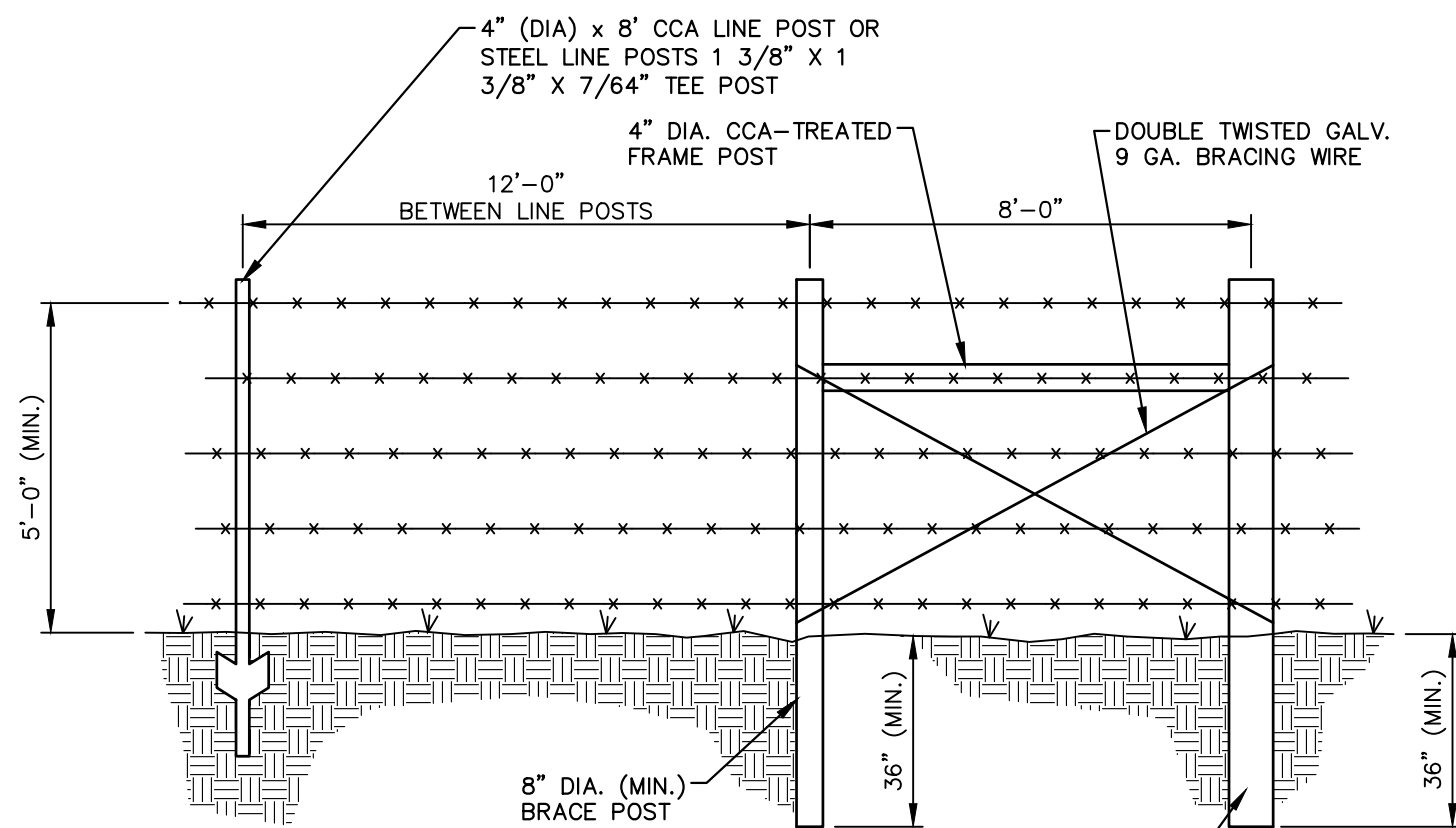
PROJECT NO.
71000-412

DATE:
2/19/2026

SHEET NO.
CD4

24 OF 25 SHEETS

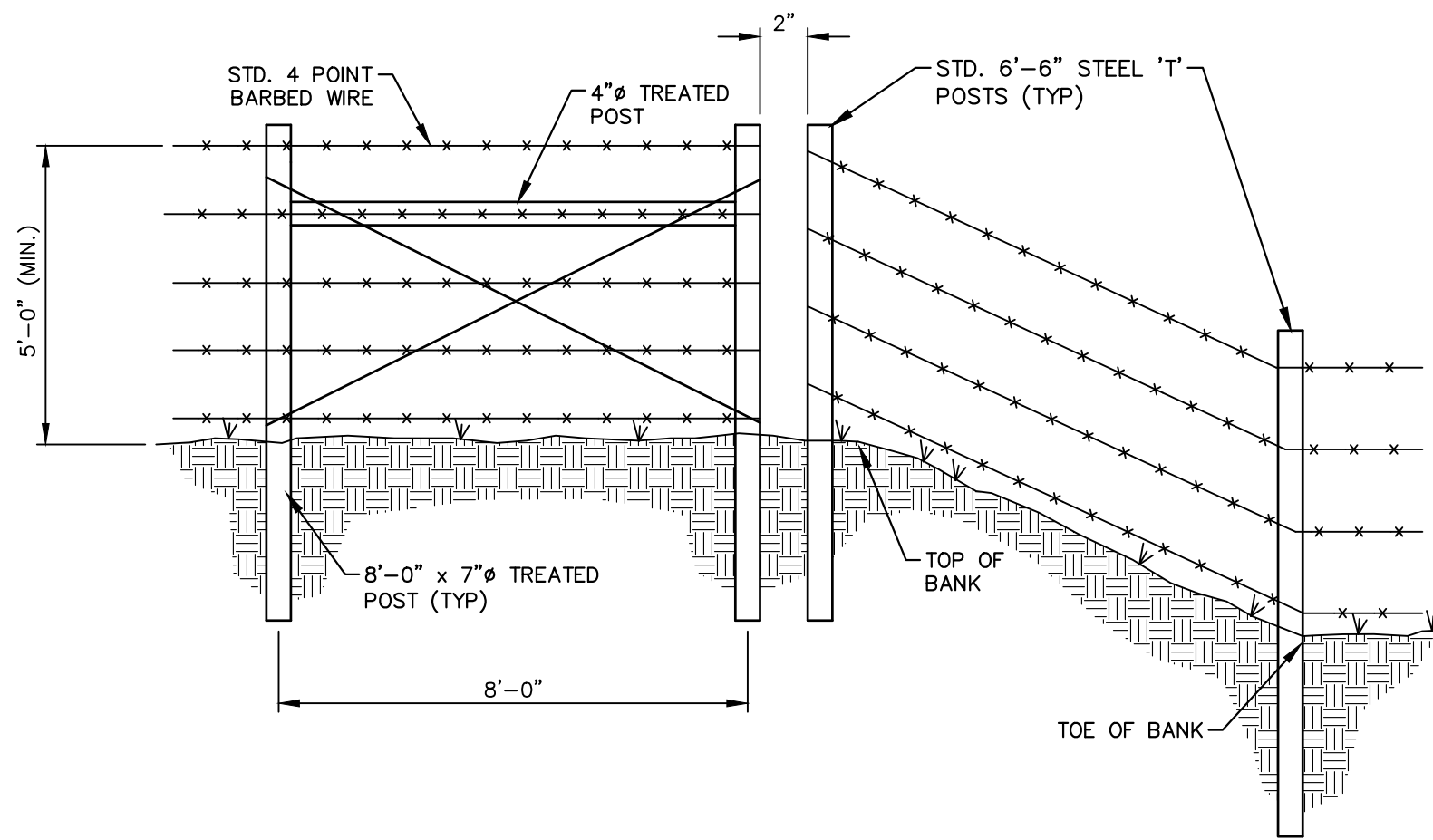
PA:\new\clients\illinois alluvial\71000-412 - design\contract g - dwgs\typical details.dwg
PLOTED: 9/7/2026 @ 11:41:42 PM BY seih aliott



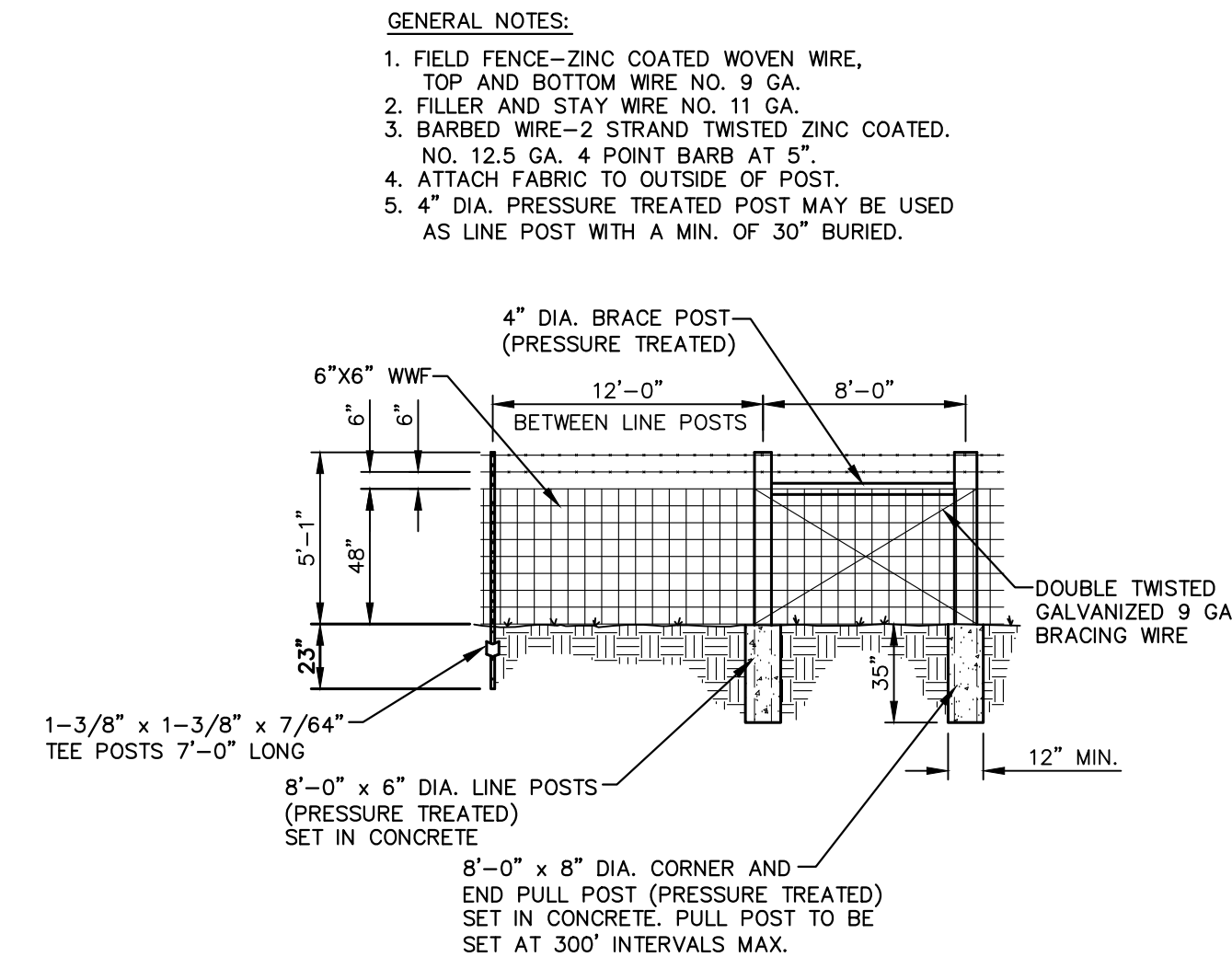
GENERAL NOTES:

- 5 STRANDS OF BARBED WIRE TO OUTSIDE OF POSTS.
 - BARBED WIRE - 2 STRAND TWISTED, ZINC COATED, 12 1/2 GA., 4 POINT BARB @ 5" O.C.
 - PULL POST AT 500' INTERVALS OR MIDWAY WHEN DISTANCE IS GREATER THAN 500' BUT LESS THAN 1000'.
- 8'-0" x 8" DIA. CORNER, END, PULL AND GATE POSTS (PRESSURE TREATED) AUGER AND TAMP CORNER POST TO BE BRACED BOTH DIRECTIONS.

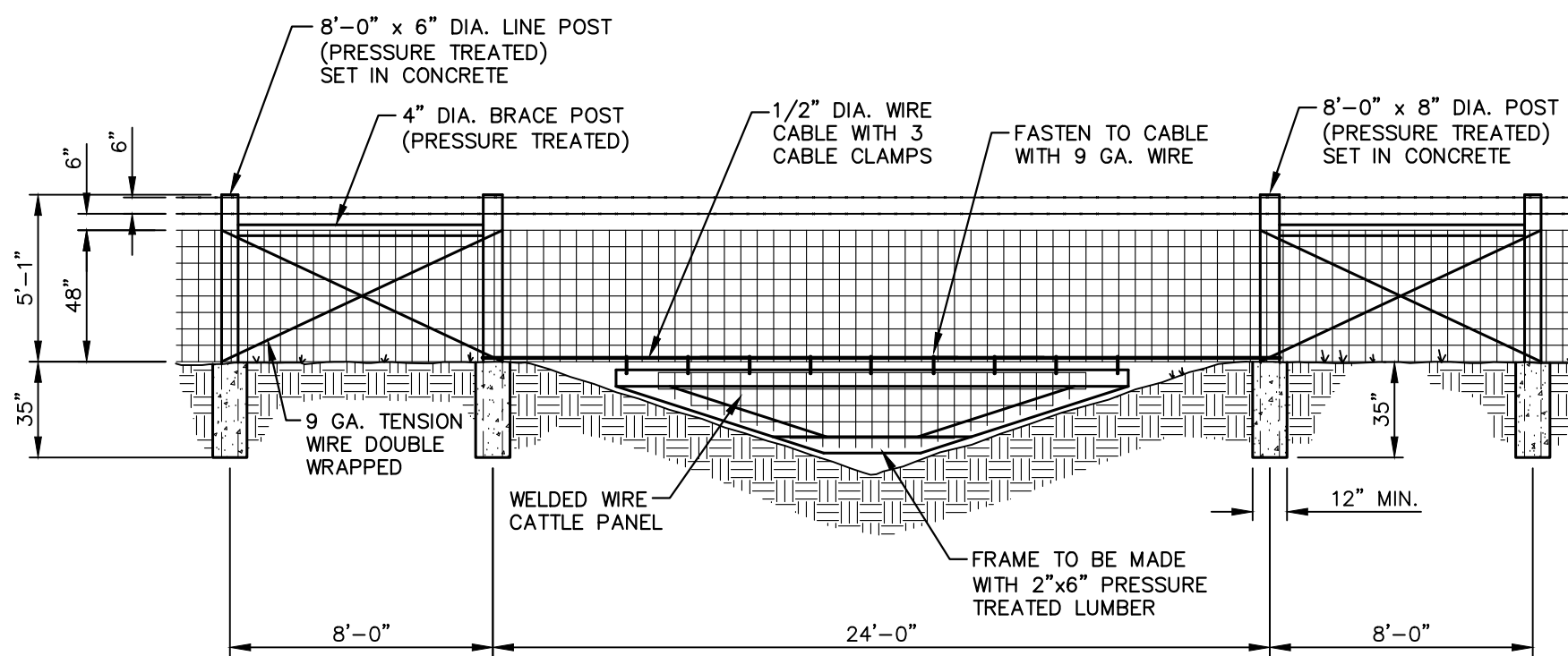
1 BARBED WIRE FENCE DETAIL
CD5 NO SCALE



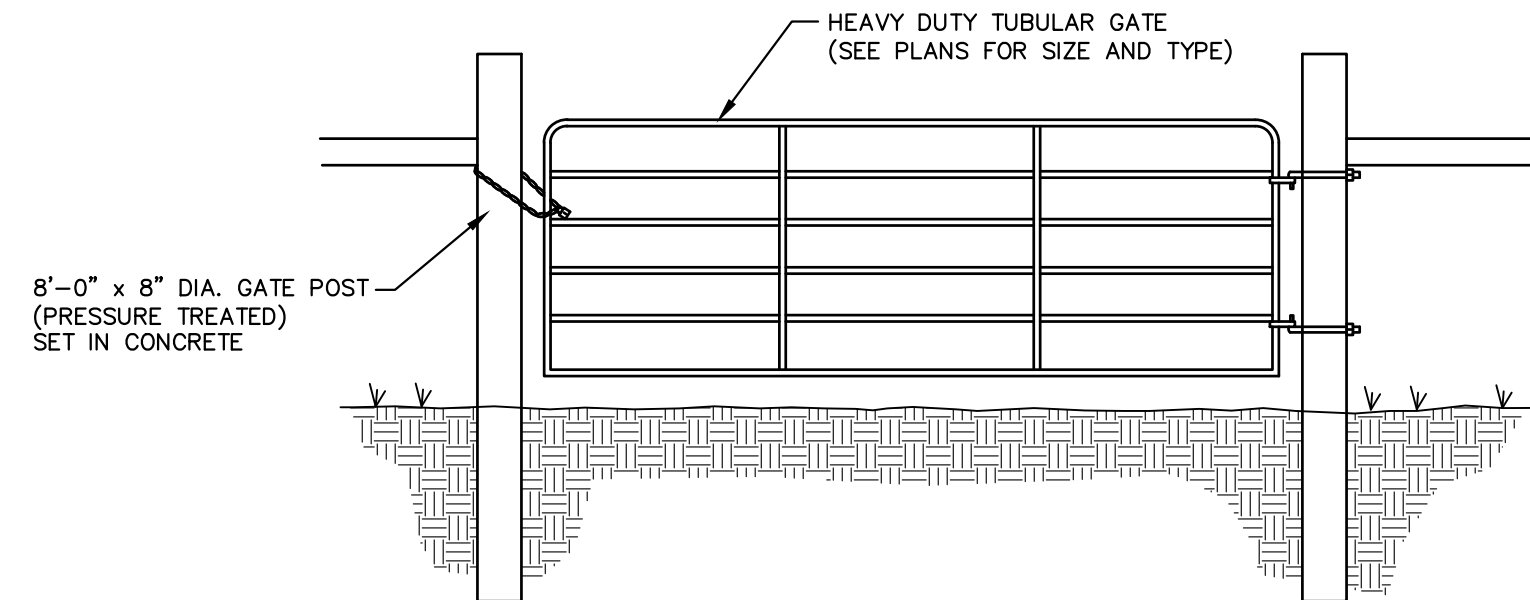
2 BREAKAWY WATER GAP FOR BARBED WIRE FENCE
CD5 NO SCALE



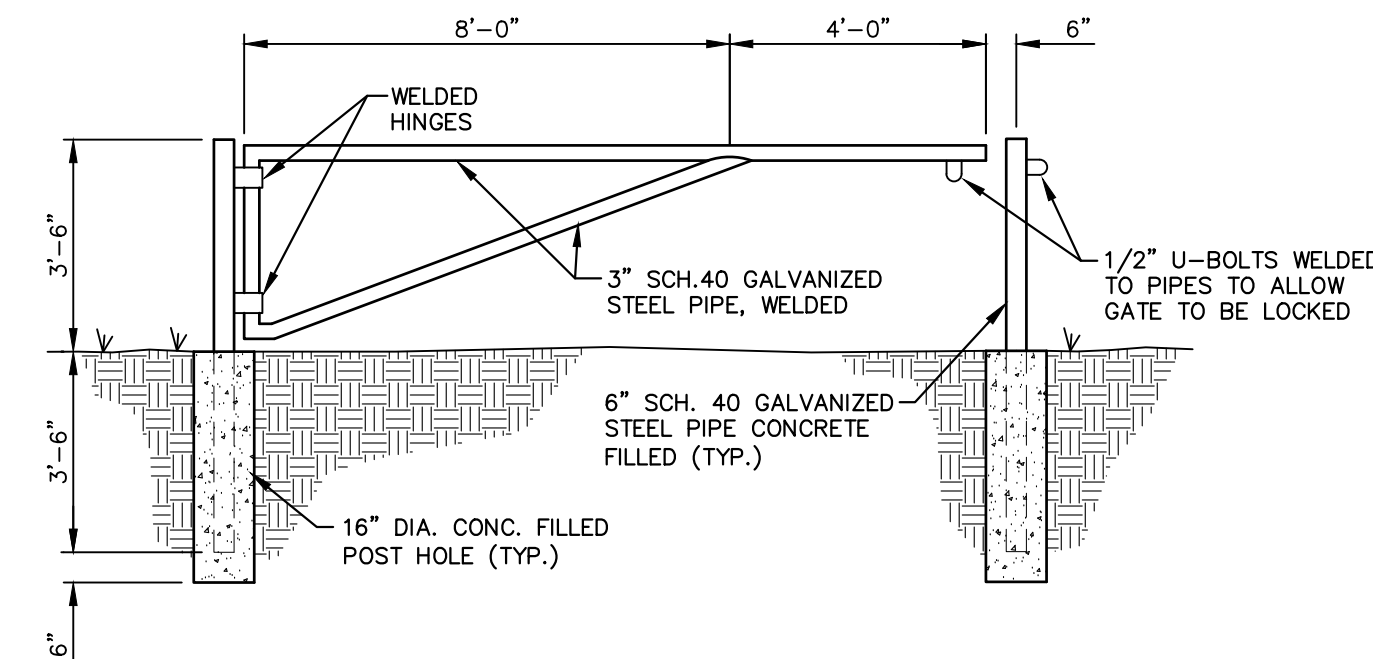
3 WOVEN WIRE FENCE DETAIL
CD5 NO SCALE



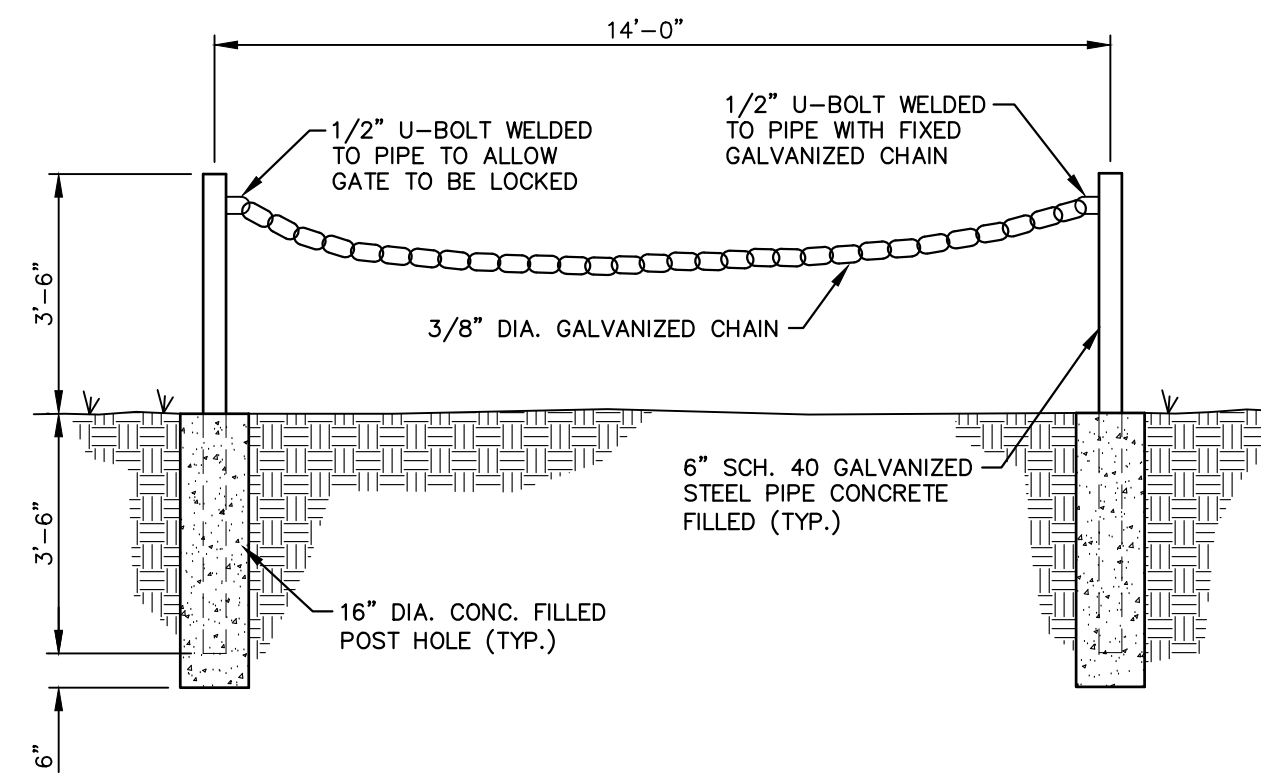
4 WATER GAP AT STREAM CROSSING DETAIL
CD5 NO SCALE



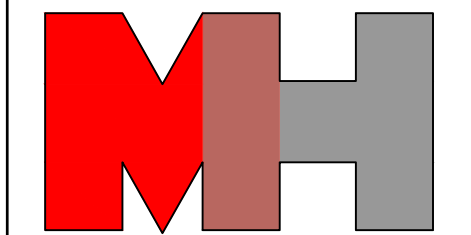
5 STEEL TUBULAR GATE DETAIL
CD5 NO SCALE



6 PIPE GATE DETAIL
CD5 NO SCALE



7 CHAIN GATE DETAIL
CD5 NO SCALE



REVISIONS	DATE	NO.

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CONTRACT "F"	FINISHED WATER TRANSMISSION
MAIN	AERIAL PLAN AND PROFILE
ILLINOIS ALLUVIAL REGIONAL WATER COMPANY	JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: R.HAYES	CHECKED BY: B. MARTIN	APPROVED BY: M. MIDDENDORF
HORIZONTAL SCALE:	AS SHOWN	VERTICAL SCALE:
PROJECT NO.	71000-412	DATE:
2/19/2026		SHEET NO.
CD5		25 OF 25 SHEETS