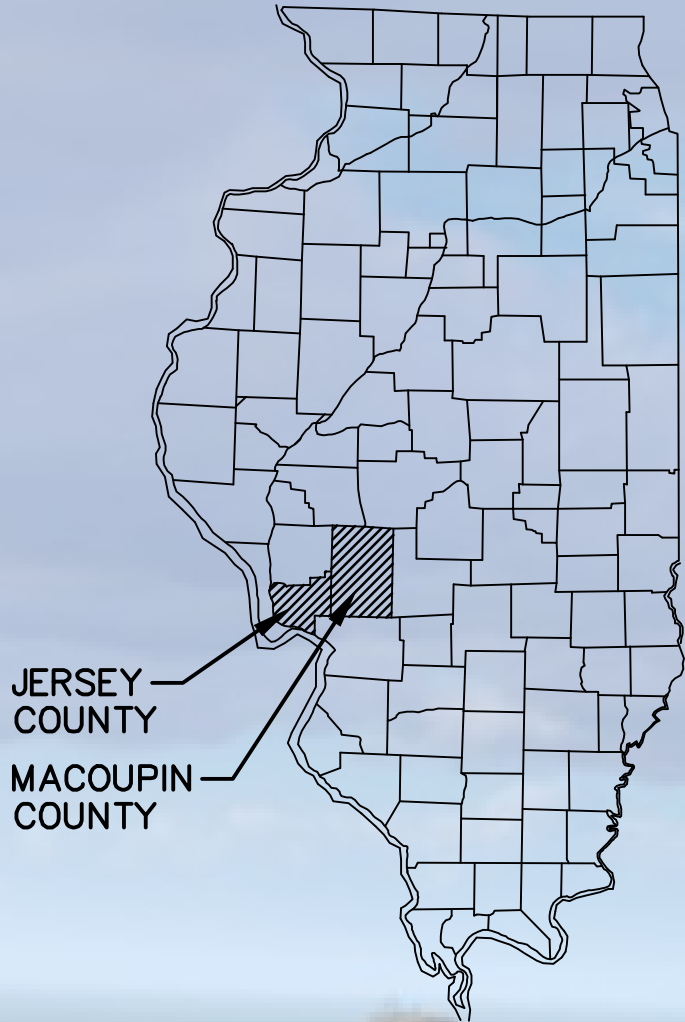
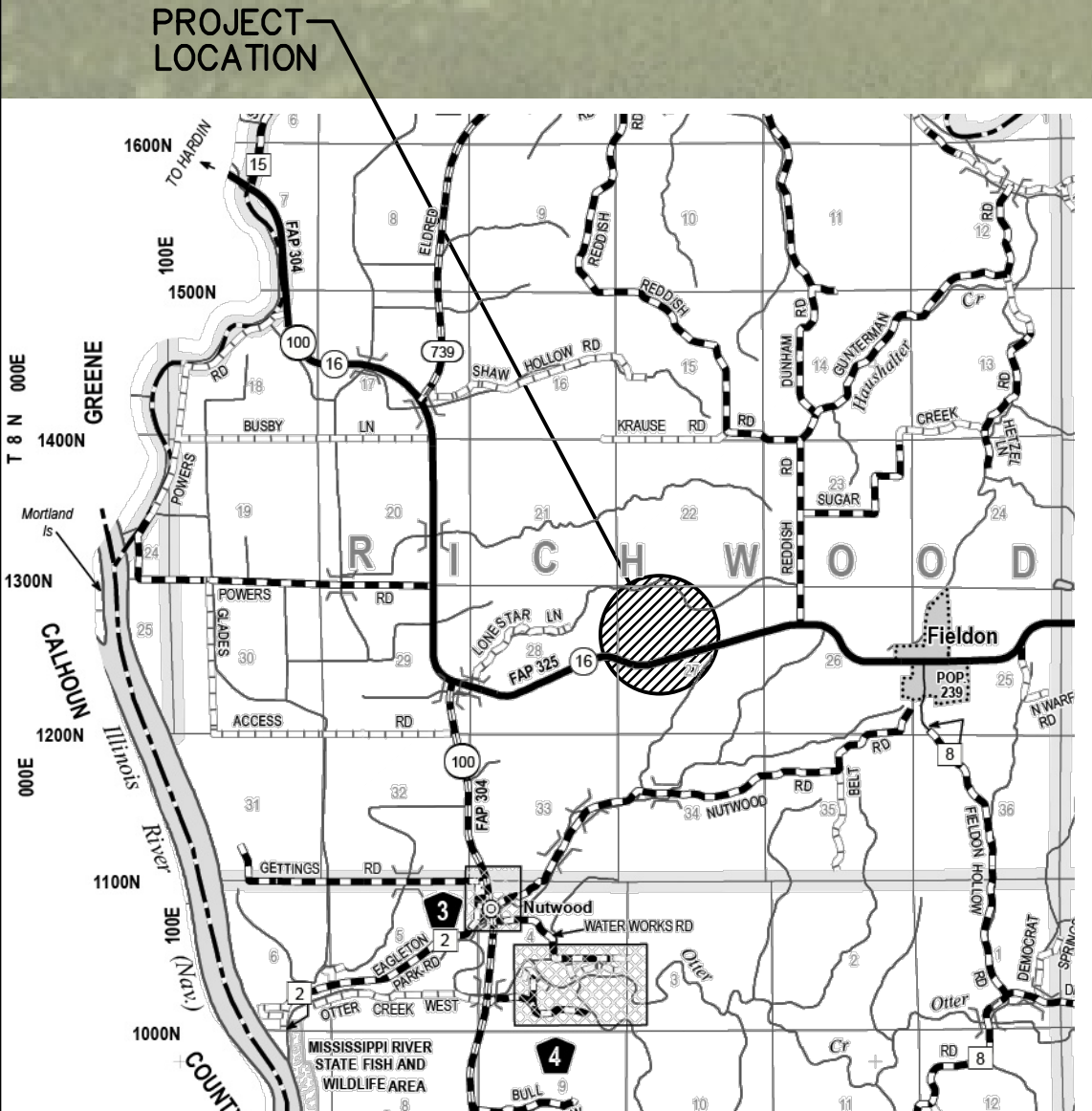


CONSTRUCTION PLANS FOR
CONTRACT "D" (PHASE "1B")
2,000,000 GALLON ELEVATED
STORAGE TANK

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
14500 STATE HIGHWAY 16, FIELDON, ILLINOIS 62031
2026



STATE OF ILLINOIS

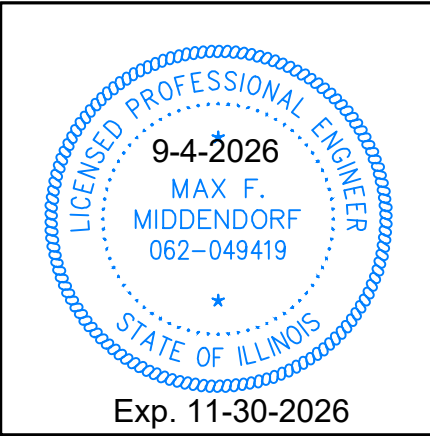


LOCATION MAP

CAUTION:
INFORMATION ON DRAWINGS
CONCERNING TYPE AND LOCATION
OF UNDERGROUND AND OTHER UTILITIES
IS NOT GUARANTEED TO BE ACCURATE
OR ALL INCLUSIVE. THE CONTRACTOR IS
RESPONSIBLE FOR MAKING HIS OWN
DETERMINATION AS TO THE TYPE AND
LOCATION OF UNDERGROUND AND OTHER
UTILITIES AS MAY BE NECESSARY TO
AVOID DAMAGE THERETO.



Know what's below
Call before you dig



PROJECT CONTACT INFORMATION

MAX MIDDENDORF
OFFICE PHONE: (217) 285-2550
EMAIL: mmiddendorf@mecoengineering.com

UTILITY PROVIDER INFORMATION

JERSEY COUNTY RURAL WATER COMPANY (618) 498-9534
MJM ELECTRIC CO-OPERATIVE (217) 707-6156

IARWC BOARD MEMBERS

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

PLANS ACCEPTED BY:

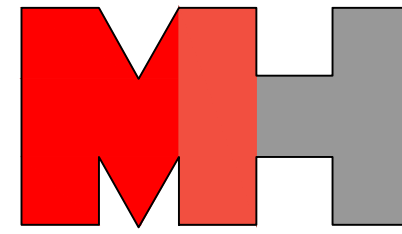
BOARD PRESIDENT: ALLEN DAVENPORT

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

Max Middendorf
MAX F. MIDDENDORF, P.E. # 062-049419 ILL.

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, 2027

400 N. FIFTH STREET
SUITE 107
ST. CHARLES, MO 63301
P: (636) 395-7055

REVISIONS

DATE

NO.

PHASE 1B

CONTRACT "D" - PHASE "1B"
2,000,000 GALLON ELEVATED
STORAGE TANK
COVER SHEET/LOCATION MAP

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: D. MOORE
CHECKED BY: K. GARNETT
APPROVED BY: M. MIDDENDORF
HORIZONTAL SCALE:

N/A

VERTICAL SCALE:

N/A

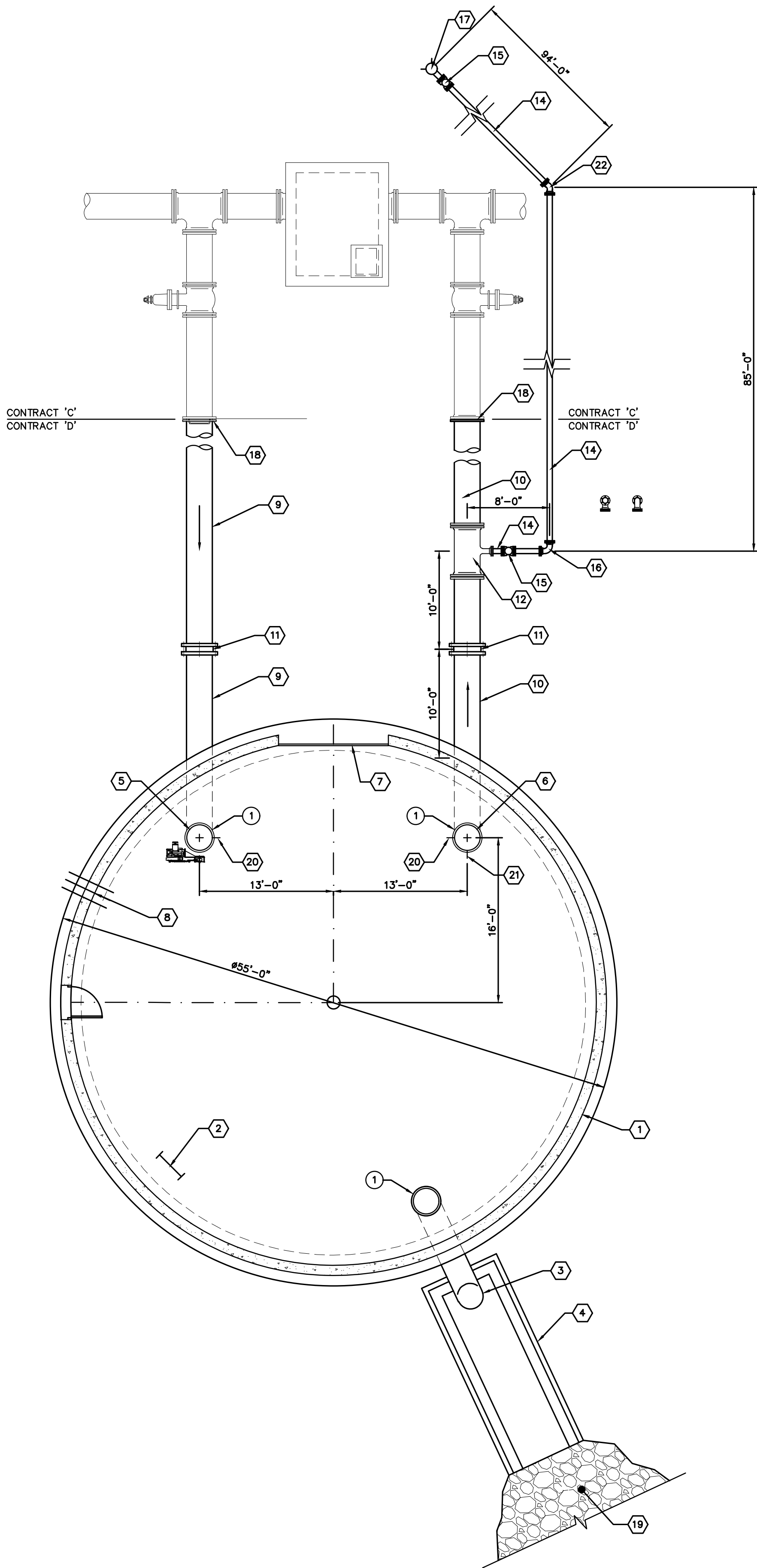
PROJECT NO:
700-003

DATE:
02/14/26

SHEET NO.
G1

1 OF 6 SHEETS

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PLOTED: 9/11/2026 @ 9:05:02 AM BY richard hoyle

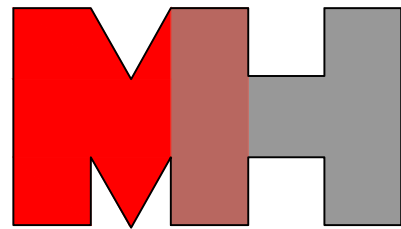


1
C1

SITE PLAN

INDEX OF DRAWINGS	
SHEET NUMBER	SHEET TITLE
G1	COVER SHEET
C1	INDEX OF DRAWINGS / ELEVATED WATER STORAGE TANK SITE PLAN / ELECTRICAL SCHEDULE
C2	ELEVATED WATER STORAGE TANK SECTIONS
C3	ELEVATED WATER STORAGE TANK PIPING / ELECTRICAL SCHEMATIC DETAILS
C4	TYPICAL 30" PIPE VALVE / THRUST BLOCKS AND TRENCHING DETAILS
C5	ELEVATED WATER STORAGE TANK MISCELLANEOUS SITE DETAILS

MECO-HENEGHAN
ENGINEERS, LLC



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400 N. FIFTH STREET
SUITE 107
ST. CHARLES, MO 63301
P: (636) 395-7055

PANEL NAME / NUMBER:		VOLTAGE L-L: 240		PHASE: 1		IER (AMPS): 10kA									
Panel ET		VOLTAGE L-N: 120		WIRE: 3		BUS RATING (AMPS): 60									
		MAIN BREAKER: 100 AMPS		Hz: 60		ENCLOSURE: NEMA 1									
		MAIN LUG ONLY: N/A AMPS				MOUNTING: SURFACE									
CKT NO.	LOAD DESCRIPTION	LOAD CRITERIA		BKR		BKR	LOAD CRITERIA	LOAD DESCRIPTION	CKT NO.						
		DEM	VA	AMPS	P	Ø	AMPS	P	VA	DEM					
1	HEAT TRACING RECEPTACLES	R	500	20	2	L1	20	1	200	C	INTERIOR LIGHTING	2			
3	SPARE			20	1	L2	20	1	200	C	OBSTRUCTION LIGHTING	4			
5	SPARE			20	1	L1	20	1	540	R	CONVENIENCE RECEPTACLES X 3	6			
7	SPARE			20	1	L2	20	1	360	R	CONVENIENCE RECEPTACLES X 2	8			
9	PREPARED SPACE					L1	20				SPARE	10			
11	PREPARED SPACE					L2	20				SPARE	12			
13	PREPARED SPACE					L1	20				SPARE	14			
15	PREPARED SPACE					L2					PREPARED SPACE	16			
17	PREPARED SPACE					L1					PREPARED SPACE	18			
19	PREPARED SPACE					L2					PREPARED SPACE	20			
21	PREPARED SPACE					L1					PREPARED SPACE	22			
23	PREPARED SPACE					L2					PREPARED SPACE	24			
PHASE L1 CONNECTED:		1,240 VA		PHASE L1:		10 AMPS		NOTES: 1.							
PHASE L2 CONNECTED:		560 VA		PHASE L2:		5 AMPS									
TOTAL CONNECTED:		1,800 VA		AT: 240		= 8 AMPS									
CONTINUOUS LOADS (+25%) (PER NEC 210-20a):		100 VA													
LARGEST MOTOR LOAD (+25%) (PER NEC 430-24):		0 VA													
RECEPTACLE LOAD REDUCTION (PER NEC 220-44):		0 VA													
KITCHEN LOAD REDUCTION (PER NEC 220-56):		0 VA													
TOTAL DEMAND:		1,900 VA		AT: 240		= 8 AMPS									

2 ELECTRICAL SCHEDULE

GENERAL NOTE

- 1 ALL EXPOSED PIPING TO AIR INSIDE OF TANK SHALL HAVE FROST JACKETING INSTALLED.

KEY NOTES

- ELEVATED WATER STORAGE TANK CONCRETE BASE WALL
- SUPPORT STRUCTURE LADDER
- 30" DIA. STN. STL. OVERFLOW PIPE
- 20'-0" x 8'-0" SPLASH PAD
- 30" STN. STL. INLET PIPE
- 30" STN. STL. OUTLET PIPE
- 10' WIDE OVERHEAD DOOR ABOVE
- ELECTRICAL ENTRANCE - LOCATION TBD
- 30" DUCTILE IRON INLET PIPE CLASS 250
- 30" DUCTILE IRON OUTLET PIPE CLASS 250
- 30" DUCTILE IRON PIPE COUPLER
- 30"x6" DUCTILE IRON TEE (M.J. x M.J. x M.J.) WITH THRUST BLOCK
- 30" "M&H" B'FLY GATE VALVE (M.J.) (OR EQUAL) WITH ADJUSTABLE VALVE BOX AND THRUST BLOCK
- 6" DUCTILE IRON PIPE CLASS 250
- 6" "M&H" GATE VALVE (OR EQUAL) WITH ADJUSTABLE VALVE BOX AND THRUST BLOCK
- 6" DUCTILE IRON 90° BEND (M.J. x M.J.) WITH THRUST BLOCK
- 6" FLUSH HYDRANT
- PROVIDE TEMPORARY CAP IF PIPING (BY CONTRACT 'C') IS NOT COMPLETE
- 24" THICK RIPRAP AREA
- 3/4" DIAMETER TAP FOR SMOOTH NOSE SAMPLING TAP WITH ISOLATION VALVE
- 3/4" DIAMETER TAP FOR 3/4" HOSE BIBB WITH ISOLATION VALVE
- 6" DUCTILE IRON 45° BEND (M.J. x M.J.) WITH THRUST BLOCK

REVISIONS

DATE

NO.

PHASE 1B

CONTRACT "D" - PHASE 1B
INDEX OF DRAWINGS /
ELEVATED WATER STORAGE
TANK SITE PLAN /
ELECTRICAL SCHEDULE

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: R. H. / J. McNEFF
CHECKED BY: K. GARNETT
APPROVED BY: M. MIDDENDORF
HORIZONTAL SCALE:

1/8" = 1'-0"

VERTICAL SCALE:

PROJECT NO.

700-003

DATE:

09/04/26

SHEET NO.

C1

2 OF 6 SHEETS

NO.	DATE	REVISIONS

PHASE 1B

CONTRACT "D" - PHASE "1B" ELEVATED WATER STORAGE TANK SECTIONS

ILLINOIS ALLUVIAL REGIONAL WATER COMPANIES
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: R.H. / J. McNEFF
CHECKED BY: K. GARNETT
APPROVED BY: M. MIDDENDORF
HORIZONTAL SCALE:

AS SHOWN

VERTICAL SCALE:

PROJECT NO.
700-003

DATE: 09/04/26

SHEET NO. 03

C2

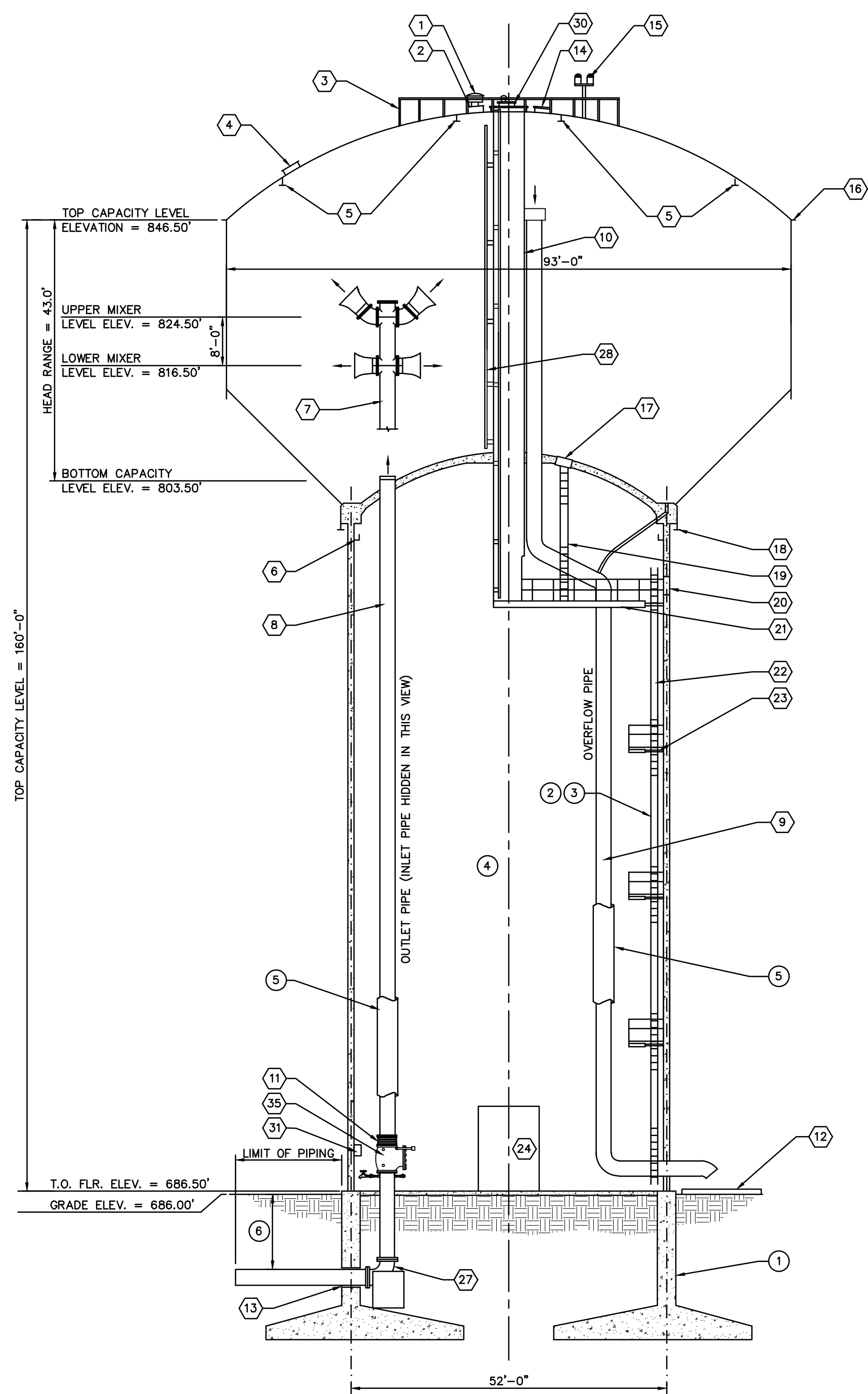
3 OF 5 SHEETS

GENERAL NOTES

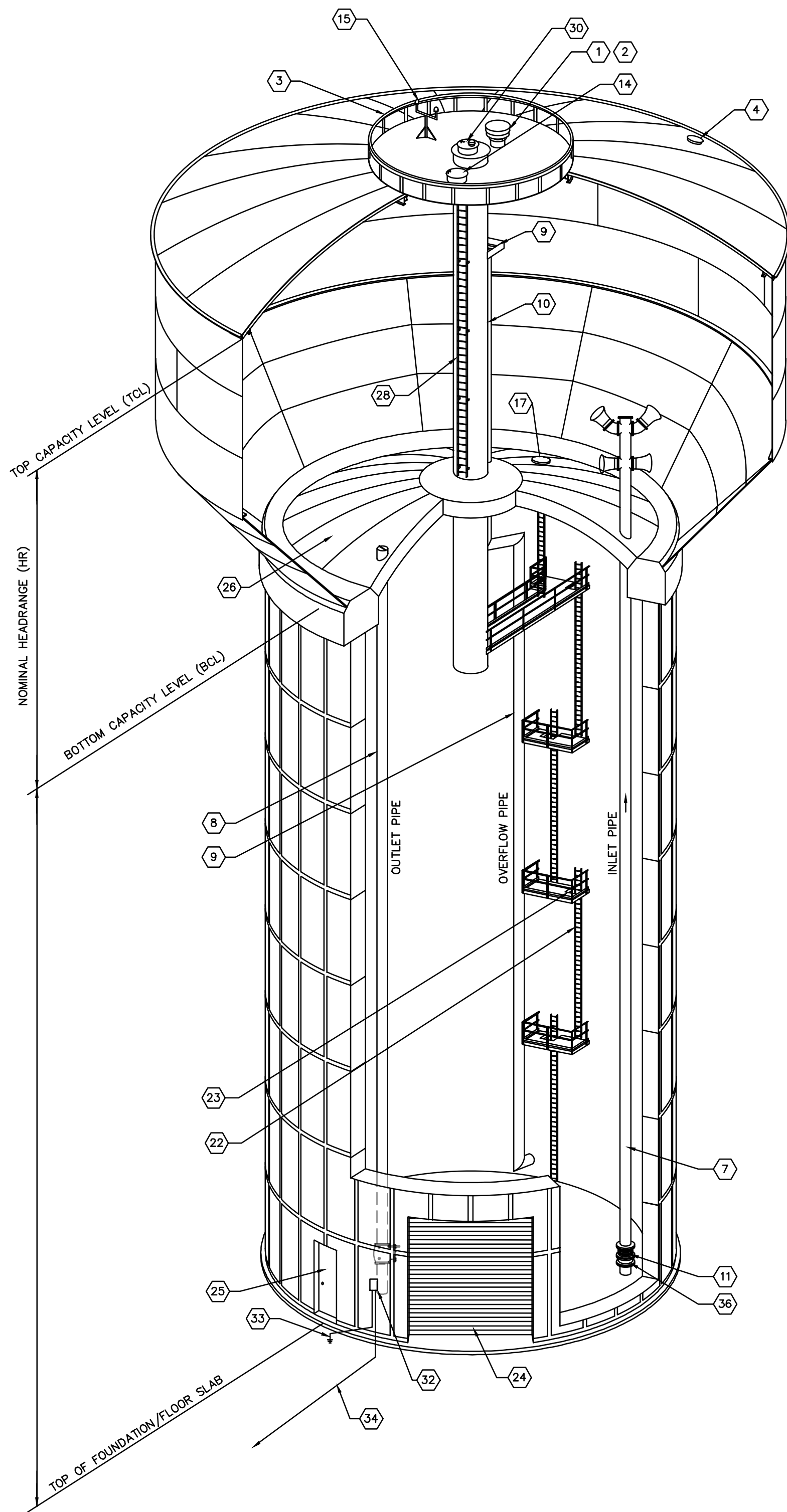
- ① CONCRETE SUPPORT STRUCTURE DIAMETER AND DIMENSIONS OF FOUNDATION SHALL BE DETERMINED BY THE TANK CONTRACTOR BASED UPON THE SOIL BEARING SPECIFIED AND THE RECOMMENDATIONS IN THE SOIL REPORT
- ② A GALVANIZED LADDER SAFETY DEVICE MEETING OSHA STANDARDS SHALL BE PROVIDED.
- ③ ALL LADDERS, LANDINGS, AND ASSOCIATED COMPONENTS INSTALLED INSIDE THE CONCRETE SUPPORT STRUCTURE SHALL BE HOT DIPPED GALVANIZED.
- ④ SECTIONS ON THIS SHEET SHOW GENERAL RELATIONSHIPS OF TANK ELEMENTS AND EQUIPMENT. SEE PLAN FOR ACTUAL LOCATION AND ORIENTATION.
- ⑤ ALL PIPING EXPOSED TO AIR INSIDE OF BASE SHALL HAVE FROST JACKETING INSTALLED.
- ⑥ 6' MIN. COVER OVER PIPE

KEY NOTES

- ALUMINUM PRESSURE – VACUUM VENT
- 24" DIAMETER FLANGED EXHAUST HATCH
- ANTENNA CORRAL
- 24" DIAMETER PAINTER'S ACCESS HATCH
- INTERIOR PAINTER'S RAIL, TYP.
- INSPECTION RAIL
- 30" DIAMETER STN. STL. INLET PIPE
- 30" DIAMETER STN. STL. OUTLET PIPE
- 30" DIAMETER STN. STL. OVERFLOW WITH #4 MESH SCREENED OUTLET
- ACCESS TUBE (ACCESS TO ROOF)
- STAINLESS STEEL EXPANSION JOINT (FLG. x FLG.)
- 20'-0" x 8'-0" CONCRETE SPLASH PAD
- RINGWALL OPENING
- 30" DIAMETER RAINPROOF ROOF HATCH
- OBSTRUCTION LIGHTING
- DRIP RING
- 30" DIAMETER TANK BOTTOM MANHOLE
- EXTERIOR PAINTER'S RAIL
- ACCESS LADDER
- 24" x 36" PAINTER'S ACCESS MANHOLE WITH VENTILATION LOUVER
- WALKWAY
- STRAIGHT LADDER
- PASS-THRU PLATFORMS (MAX. 30' SPACING)
- 10' WIDE x 14' TALL OVERHEAD DOOR
- PERSONNEL DOOR
- CONCRETE DOME WITH STEEL LINER PLATE
- 30" DUCTILE IRON 90° BEND (M.J. x M.J.) WITH THRUST BLOCK
- INSIDE TANK LADDER (NOT RECOMMENDED FOR COLD CLIMATES)
- ACCESS TUBE HATCH
- PROVIDE GFCI RECEPTACLE OR JUNCTION BOX FOR HEAT TRACE
- PROVIDE CIRCUIT BREAKER PANEL WITH FEED FROM THE HIGH SERVICE BUILDING. REFER TO PANEL SCHEDULE FOR ADDITIONAL INFORMATION LOCATION IN FIELD.
- 3/4" x 10' COPPERCLAD GROUND ROD WITH #8 COPPER CADWELDED TO IT
- #2. (1) #8 GROUND, 2" PVC UNDERGROUND FEEDER FROM HIGH SERVICE BUILDING
- 30" M&H HORIZONTAL SWING CHECK VALVE (FLG. x FLG.) WITH OUTSIDE WEIGHT & LEVER (INSTALLED IN VERTICAL PIPE)
- 30" DIAMETER FULL BODY BUTTERFLY VALVE (FLG. x FLG.) WITH MOTORIZED ACTUATOR, SEE PLAN FOR ORIENTATION

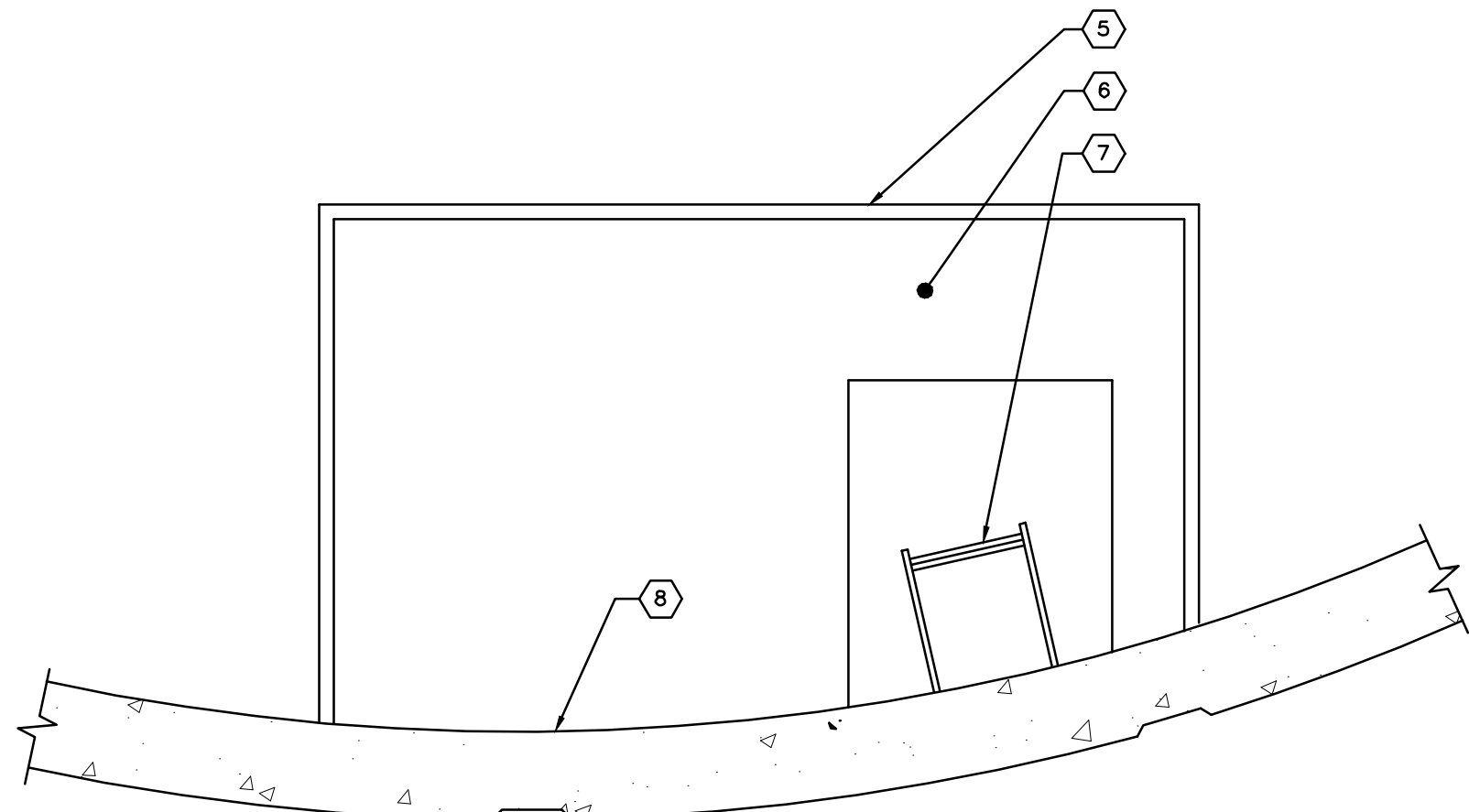


1
C2 **SECTION**
SCALE: 1/16" = 1'-0"

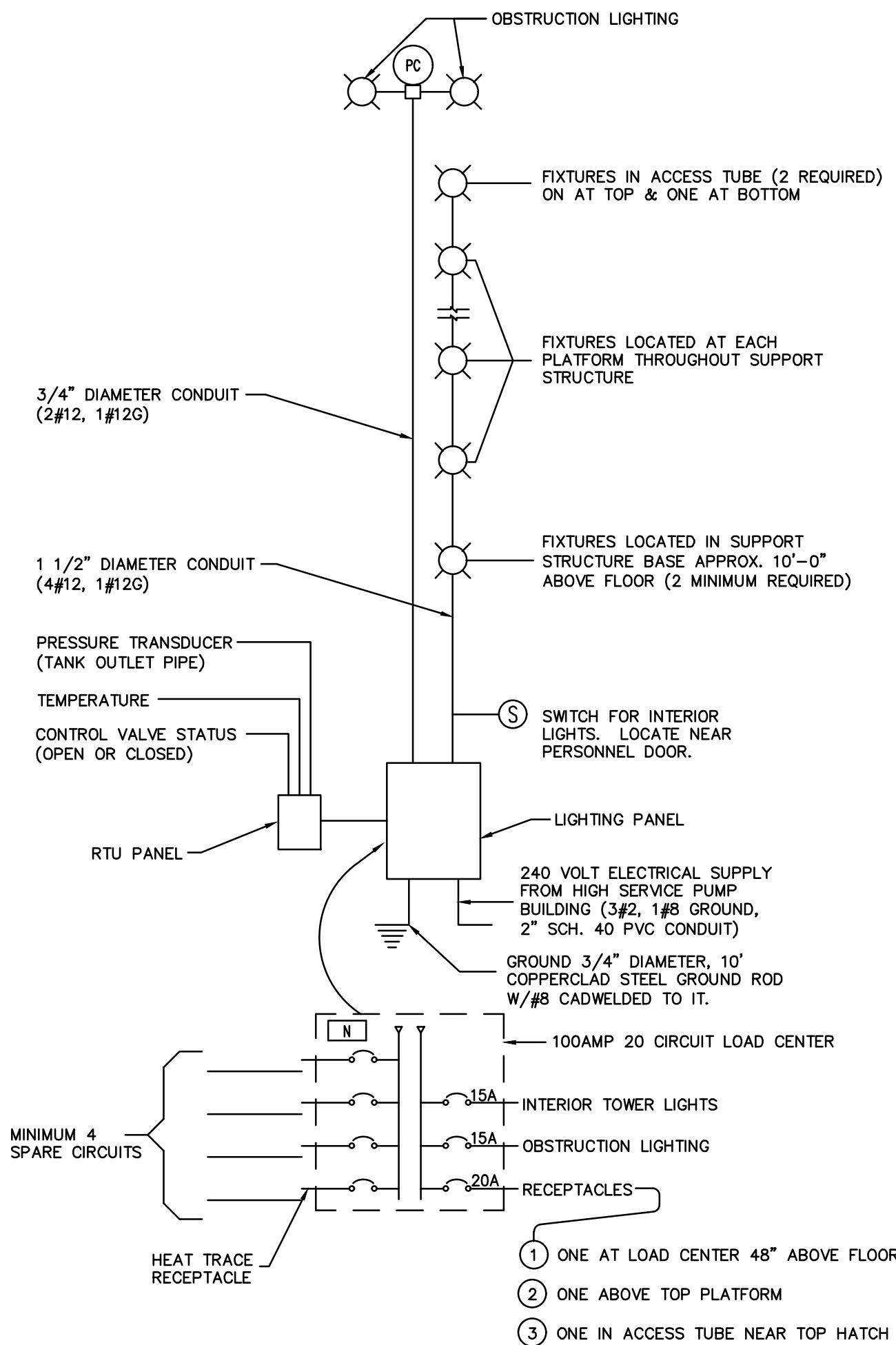


2 **3-D SECTION**
C2 N.T.S.

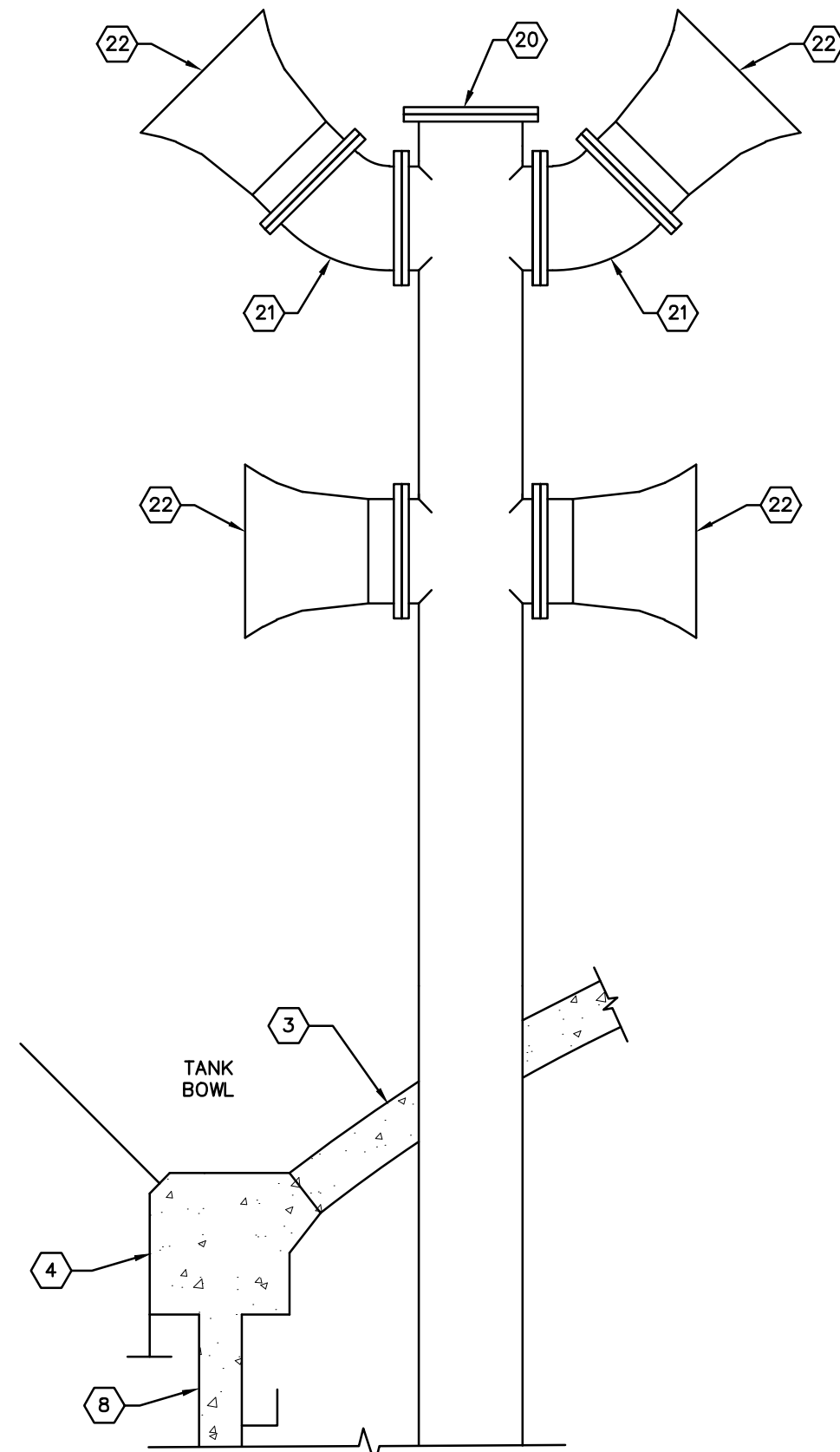
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PLOTED: 9/14/2026 @ 9:05:07 AM BY richard hoyle



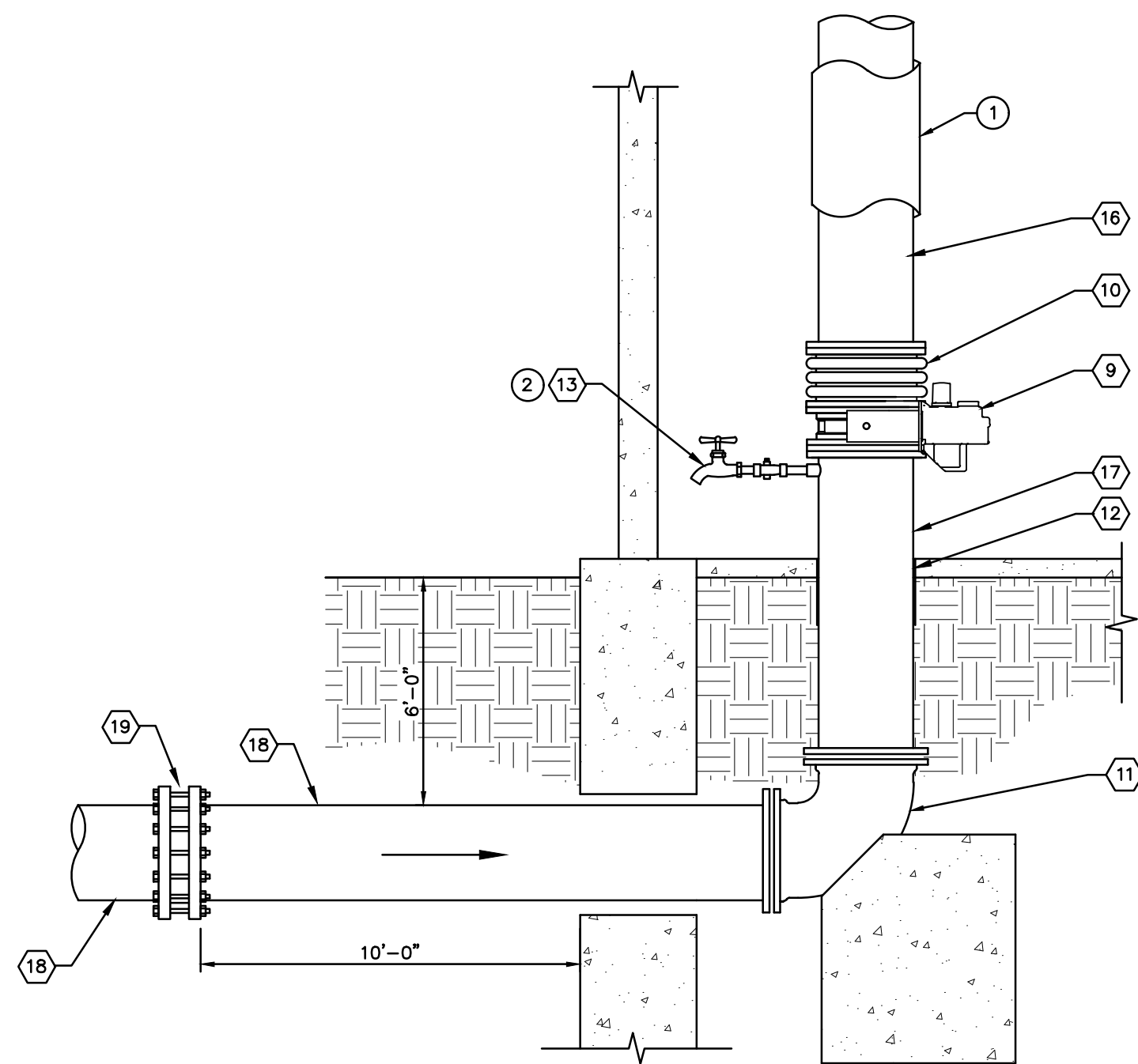
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C3 **INTERMEDIATE PLATFORM PLAN**
SCALE: 1/2" = 1'-0"



1
C3 **ELECTRICAL SCHEMATIC**
N.T.S.



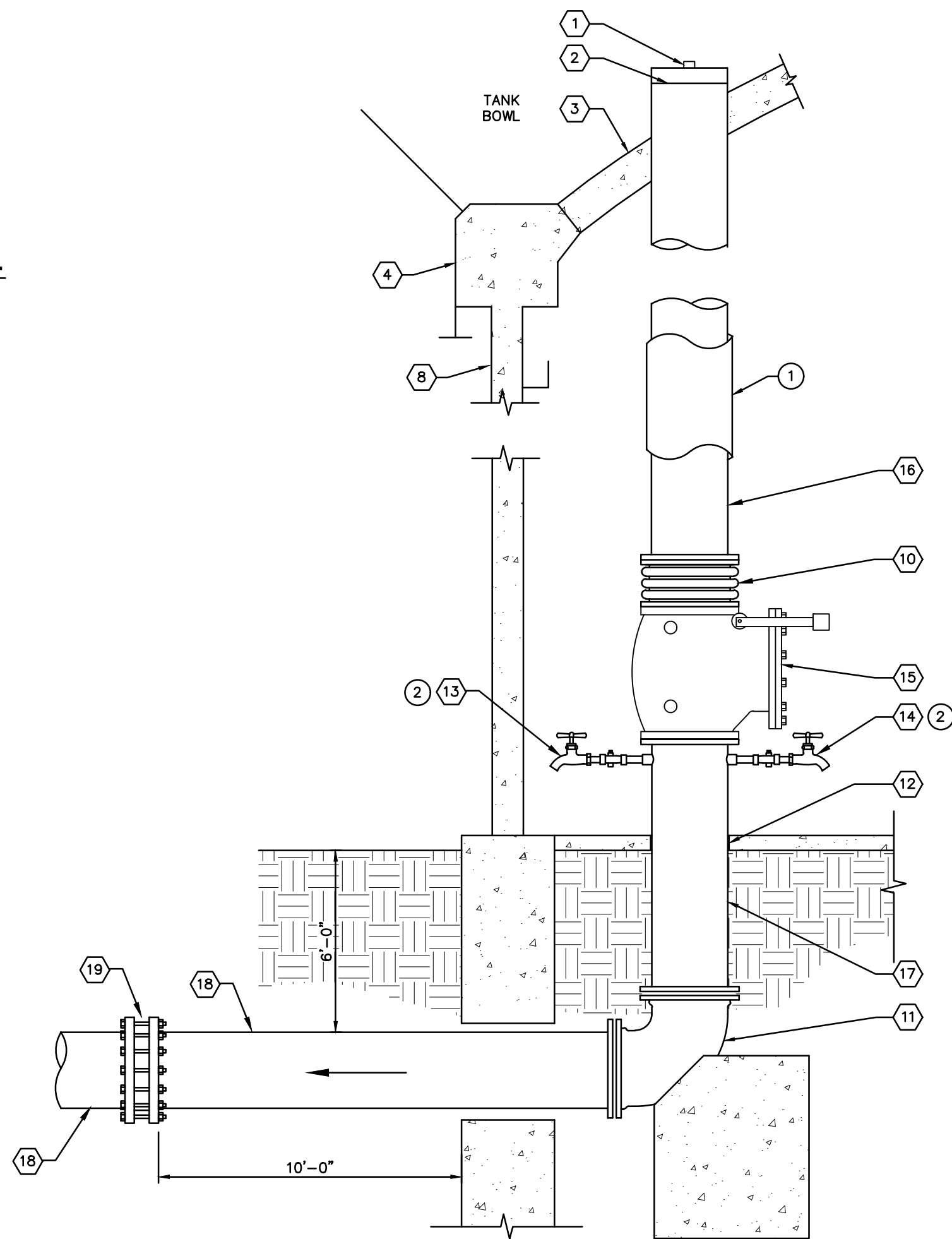
4
C3 **TANK MIXING PIPING DETAIL**
SCALE: 1/4" = 1'-0"



3
C3 **TANK MIXING PIPING DETAIL**
SCALE: 1/4" = 1'-0"



6
C3 **TANK LOGO ELEVATION (OPTIONAL)**
SCALE: 1/16" = 1'-0"



5
C3 **OUTLET PIPING DETAIL**
SCALE: 1/4" = 1'-0"

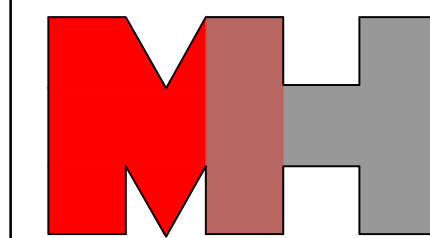
GENERAL NOTE

- 1 ALL PIPING EXPOSED TO AIR INSIDE OF BASE SHALL HAVE FROST JACKETING INSTALLED.
- 2 INSTALL FROST JACKETING AND HEAT TRACE AROUND SAMPLE TAP AND HOSE BIBB.

KEY NOTES

- 1 BAR OVER OUTLET PIPE
- 2 REMOVABLE SILT STOP
- 3 CONCRETE DOME WITH 1/4" STEEL LINER PLATE
- 4 CONCRETE RINGBEAM
- 5 HANDRAIL
- 6 PASS-THRU PLATFORM
- 7 LADDER
- 8 ELEVATED WATER STORAGE TANK CONCRETE SUPPORT STRUCTURE
- 9 30" DIAMETER FULL BODY BUTTERFLY VALVE (FLG. x FLG.) WITH MOTORIZED ACTUATOR, SEE PLAN FOR ORIENTATION
- 10 30" STAINLESS STEEL EXPANSION JOINT (FLG. x FLG.)
- 11 30" DIAMETER 90° BEND (M.J. x M.J.) WITH RETAINER GLANDS AND THRUST BLOCK
- 12 1/2" EXPANSION JOINT MATERIAL
- 13 3/4" DIAMETER TAP FOR SMOOTH NOSE SAMPLING TAP WITH ISOLATION VALVE
- 14 3/4" DIAMETER TAP FOR 3/4" HOSE BIBB WITH ISOLATION VALVE
- 15 30" M&H HORIZONTAL SWING CHECK VALVE (FLG. x FLG.) WITH OUTSIDE WEIGHT & LEVER (INSTALLED IN VERTICAL PIPE)
- 16 30" DIAMETER STAINLESS STEEL PIPE
- 17 30" DIAMETER DUCTILE IRON PIPE SPOOL PIECE CLASS 250 (FLG. x P.E.)
- 18 30" DUCTILE IRON PIPE CLASS 250 (P.E. x P.E.)
- 19 30" DUCTILE IRON PIPE COUPLING
- 20 30" STN. STL. BLIND FLANGE
- 21 30" STN. STL. 45° BEND (FLG. x FLG.)
- 22 30" "TIDEFLEX" SERIES 35 (OR EQUAL) WITH STN. STL. MOUNTING RING FLANGE

**MECO-HENEGHAN
ENGINEERS, LLC**



www.meco-heneghan.com

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SUITE 107
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P: (636) 395-7055

REVISIONS

DATE

NO.

PHASE 1B

CONTRACT "D" - PHASE "1B"
ELEVATED WATER STORAGE
TANK PIPING / ELECTRICAL
SCHEMATIC DETAILS

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: R.H. / J. McNEFF
CHECKED BY: K. GARNETT
APPROVED BY: M. MIDDENDORF
HORIZONTAL SCALE:

AS SHOWN

VERTICAL SCALE:

PROJECT NO.

700-003

DATE:

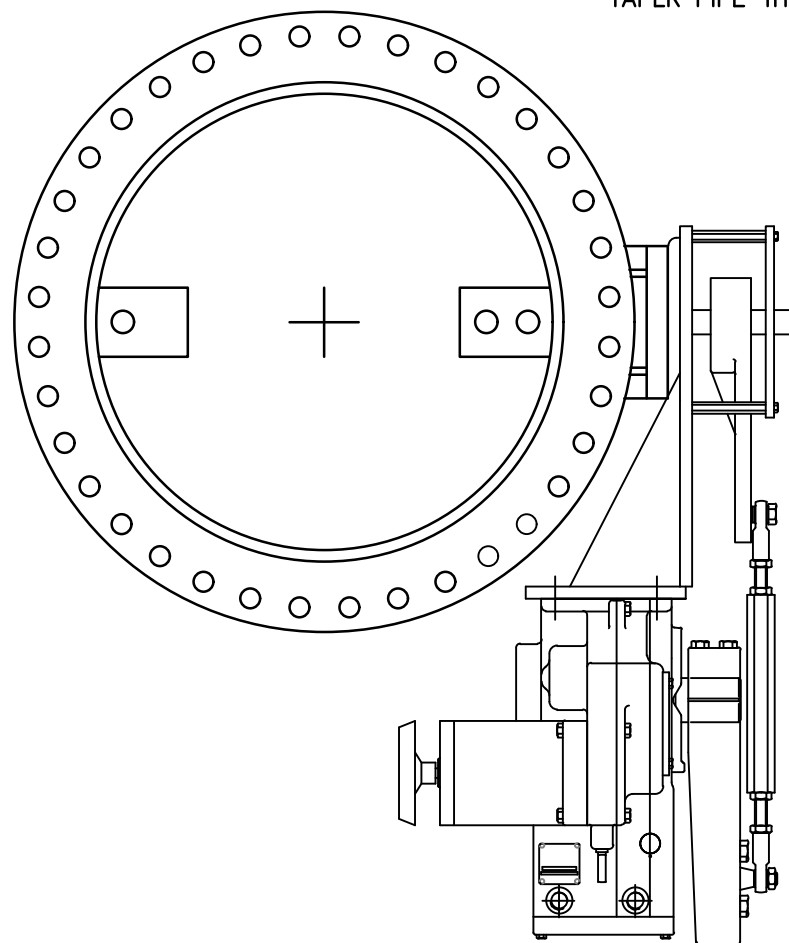
09/04/26

SHEET NO.

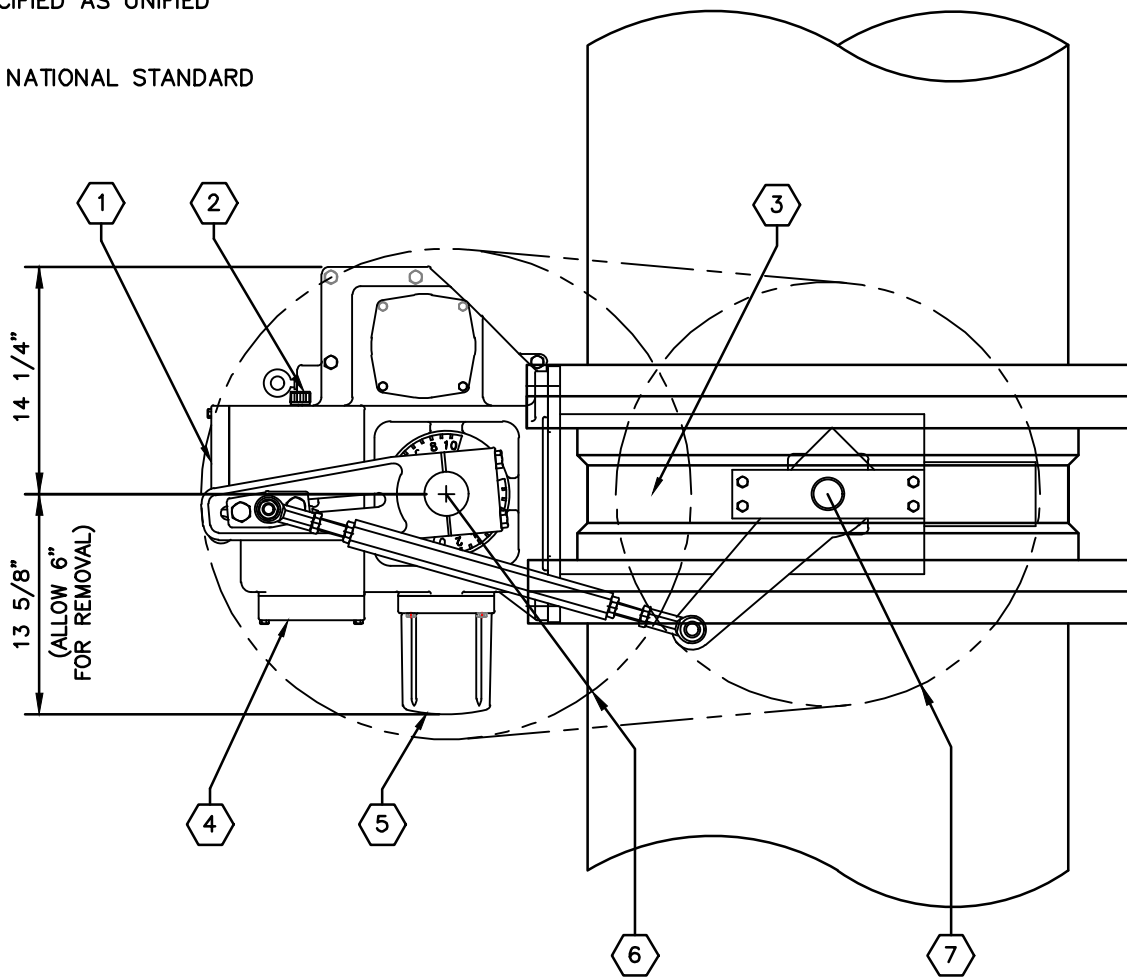
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4 OF 6 SHEETS

PATH=\\i:\projects\700\700 illinois alluvial regional water company\003 larwc basic services\contract d - elevated storage tank\700003 c1-c5 elev tank.dwg
PLOTED: 9/11/2026 @ 9:05:09 AM BY richard.hoyes



PLAN



ELEV.

NOTES:

1. ALL DIMENSIONS ARE TYPICAL.
2. TOLERANCES: $\pm 1/4"$.
3. IF SPECIFIC DIMENSIONS ARE REQUIRED, PLEASE CONTACT "D" FACTORY REPRESENTATIVE
4. SCREW TORQUES FOR MOUNTING HARDWARE WILL BE SUPPLIED WITH SPECIFIC VMS.
5. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
6. THREADS AND TAPPED HOLES ARE SPECIFIED AS UNIFIED THREAD SIZES ONLY.
7. CONDUIT PIPE THREADS PER AMERICAN NATIONAL STANDARD TAPER PIPE THREADS (N.P.T.)

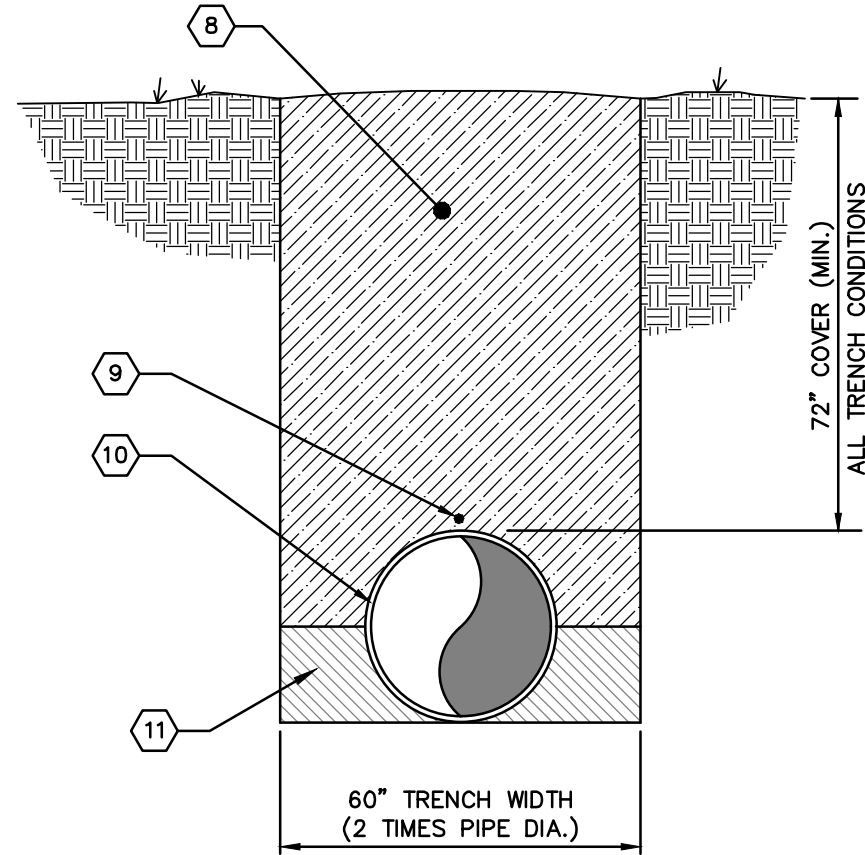


1
C4 **INLET VALVE DETAILS**

SCALE: 1" = 1'-0"

KEY NOTES

- 1 EXTERNAL WIRING
- 2 HANDSWITCH
- 3 CENTERLINE OF SHAFTS
- 4 COVER ELECTRONIC SIGNAL RECEIVER
- 5 COVER POSITION SENSING DEVICES
- 6 15 3/8" [391] R. MIN. RECOMMENDED CRANKARM SWING CLEARANCE
- 7 13 1/4" [337] R. MIN. RECOMMENDED LEVER ARM SWING CLEARANCE
- 8 FINAL BACKFILL MATERIAL
- 9 LOCATE WIRE
- 10 30" D.I.P. RAW WATER MAIN
- 11 BACKFILL LIGHTLY CONSOLIDATED TO CENTERLINE OF PIPE
- 12 REINFORCING BARS
- 13 GROUND
- 14 REINFORCING BARS #4 @ 12" CENTERS. FOR PIPE SIZES GREATER THAN 12" REINFORCING SHALL BE AS SPECIFIED BY ENGINEER.
- 15 ASSUMED HORIZONTAL
- 16 VERTICAL COMPONENT OF THRUST = TABULATED VALUE

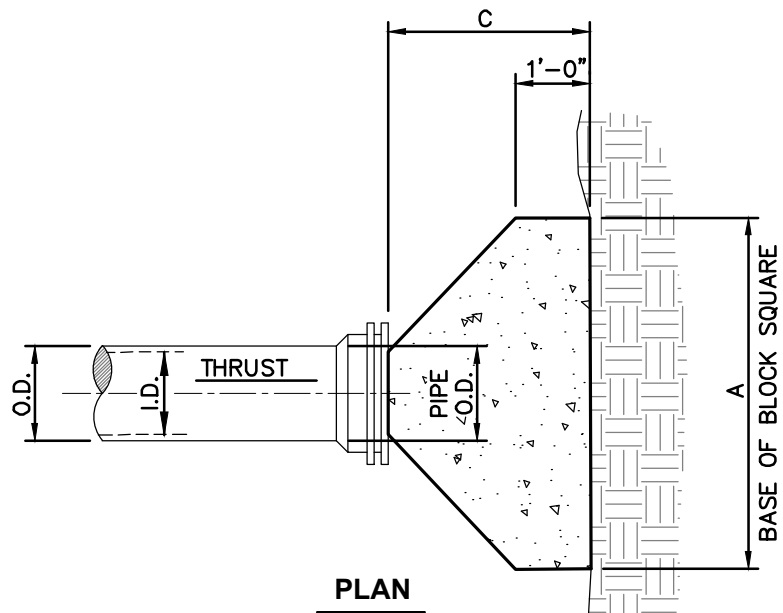


3
C4 **TYPE 2 TYPICAL TRENCH DETAIL @ 30" PIPE**

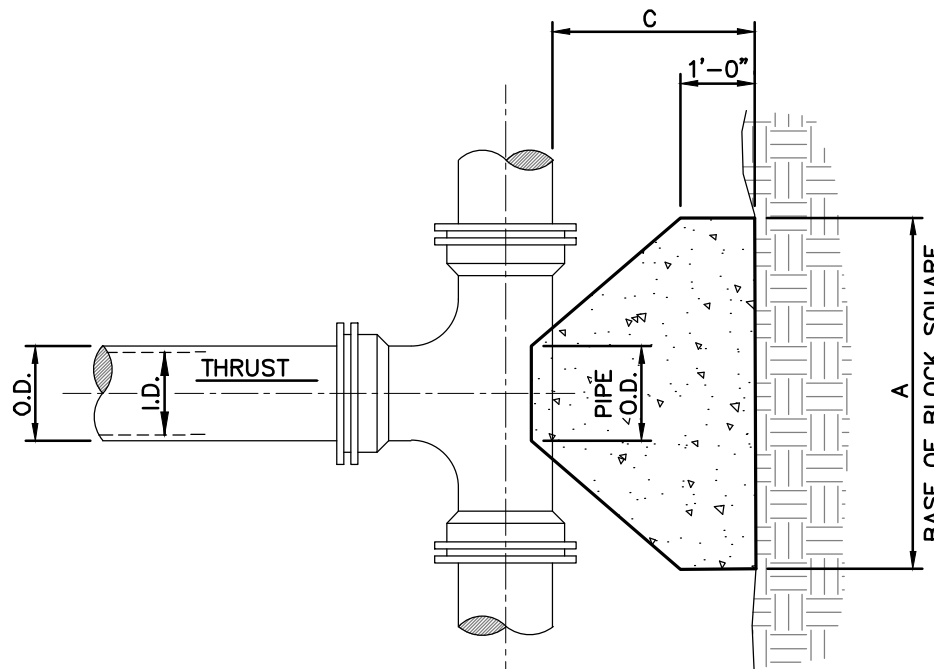
SCALE: 3/8" = 1'-0"

GENERAL NOTES FOR ALL THRUST BLOCKS

1. CONCRETE FOR BLOCKING SHALL BE CLASS "B" (SEE NCTCOG 702.2.4.2)
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 250 PSI.
3. VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS "B") IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THE THRUST ON THE VERTICAL BEND.
4. WALL THICKNESS T (SEE TABLE) ASSUMED FOR ESTIMATING PURPOSES ONLY.
5. POUR CONCRETE FOR THRUST BLOCKS AGAINST UNDISTURBED EARTH.
6. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER / INSPECTOR. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN IN TABLES.
7. THE CALCULATIONS ARE BASED ON BEARING PRESSURES EQUAL TO 1,000 lbs/sf IN SOIL AND 2,000 lbs/sf IN ROCK.
8. USE POLYETHYLENE WRAP BETWEEN CONCRETE BLOCKING AND BENDS, TEES AND CAPS TO PREVENT THE CONCRETE FROM STICKING TO FITTINGS.
9. CONCRETE SHALL NOT EXTEND BEYOND JOINTS.



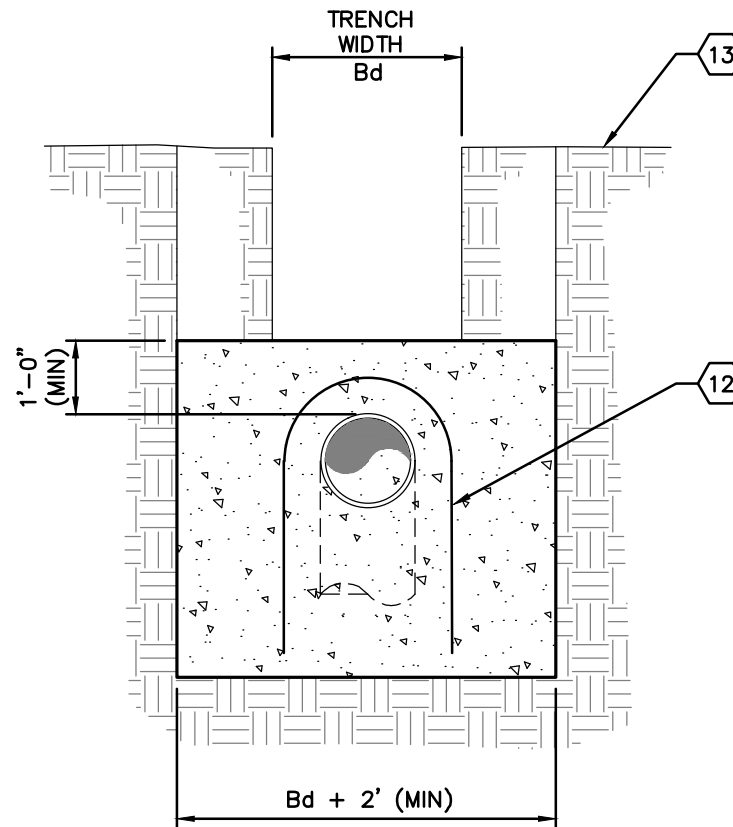
PLAN



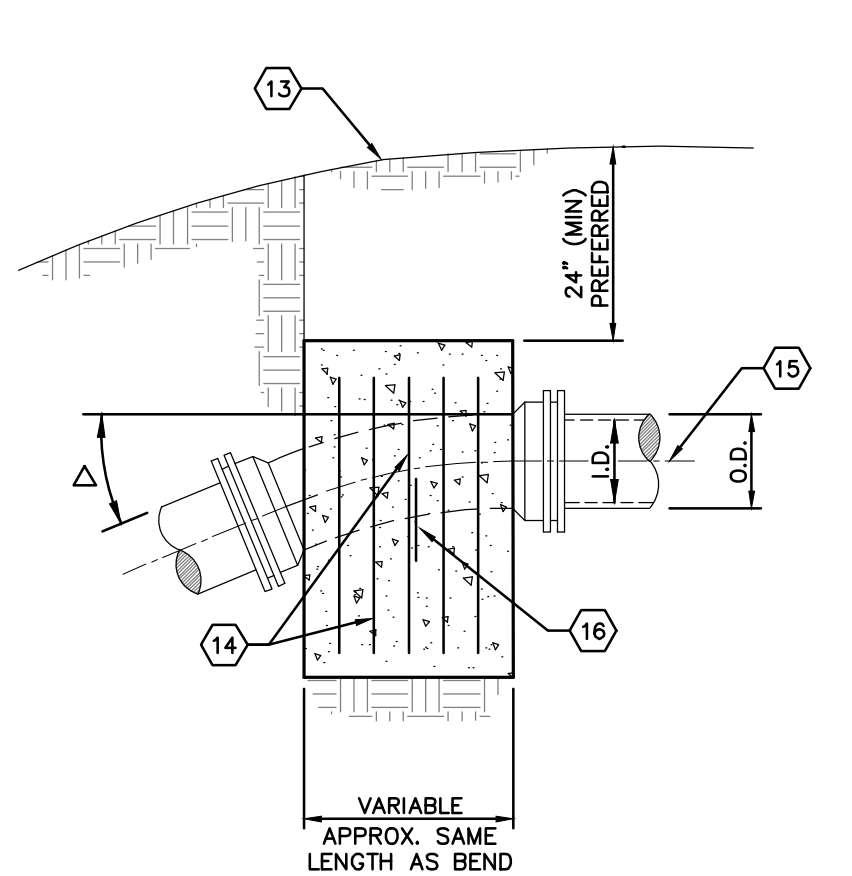
PLAN

I.D. (IN.)	THRUST (TONS)	C (FT.)	EARTH		ROCK		I.D. (IN.)
			A (FT.)	VOL. (C.Y.)	A (FT.)	VOL. (C.Y.)	
30"	53.0	3.0	7.25	4.1	5.5	2.4	30"

HORIZONTAL THRUST BLOCK AT TEES AND CAPS



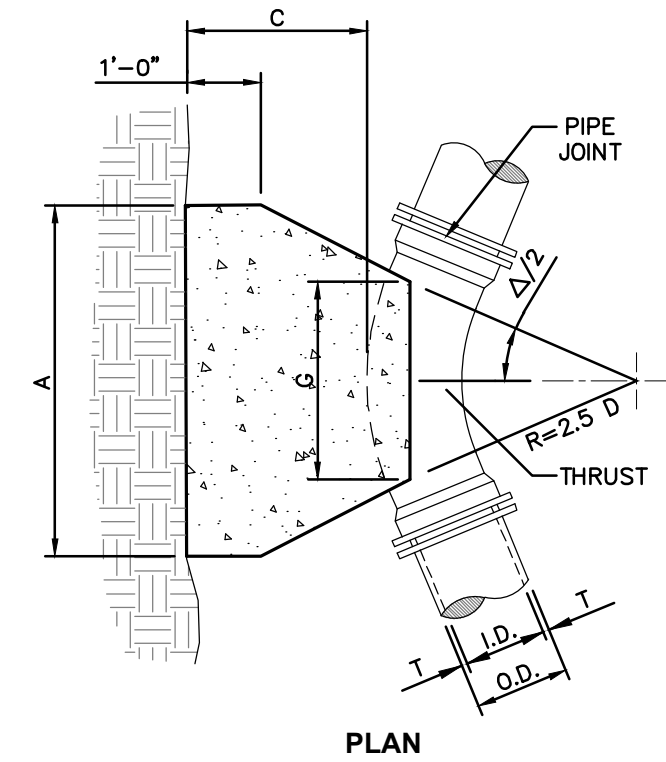
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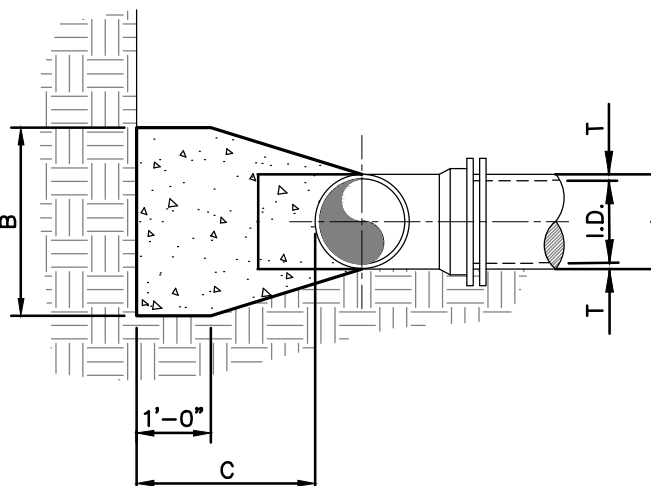
SECTION

Δ	11.25°	22.5°	45°	90°	Δ
I.D. (IN.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)
30"	10.5	5.2	20.3	10.1	37.5
					18.8
					53.1
					26.5
					30"

VERTICAL THRUST BLOCK AT PIPE BEND



PLAN



SECTION

I.D. (IN.)	T (IN.)	C Δ = 11.25° (FT.)	C Δ = 22.5° (FT.)	E (FT.)
30"	0.42	1.5	1.9	2.5

Δ = 11.25°									
I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	
30"	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4	30"

Δ = 22.5°									
I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	
30"	2.7	20.7	5.0	4.5	1.5	3.0	4.0	0.8	30"

Δ = 45°									
I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	
30"	5.4	40.5	8.5	5.0	3.2	5.5	4.0	1.6	30"

Δ = 90°									
I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	
30"	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3	30"

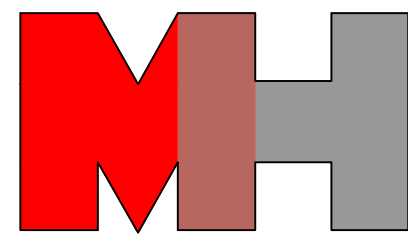
HORIZONTAL THRUST BLOCK AT PIPE BENDS



2
C4 **THRUST BLOCK DETAILS**

NO SCALE

MECO-HENEGHAN ENGINEERS, LLC



www.meco-heneghan.com

DESIGN FIRM NUMBERS:
IL: 164.007845-0010
035.003949
EXPIRES: APRIL 30, 2027
MO: 2018004041
EXPIRES: DECEMBER 31, 2027

400 N. FIFTH STREET
SUITE 107
ST. CHARLES, MO 63301
P: (636) 395-7055

REVISIONS

DATE

NO.

PHASE 1B

CONTRACT "D" - PHASE "1B"
TYPICAL 30" PIPE VALVE /
THRUST BLOCKS AND
TRENCHING DETAILS

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: R.H. / J. McNEFF
CHECKED BY: K. GARNETT
APPROVED BY: M. MIDDENDORF
HORIZONTAL SCALE:

AS SHOWN

VERTICAL SCALE:

PROJECT NO.

700-003

DATE:

09/04/26

SHEET NO.

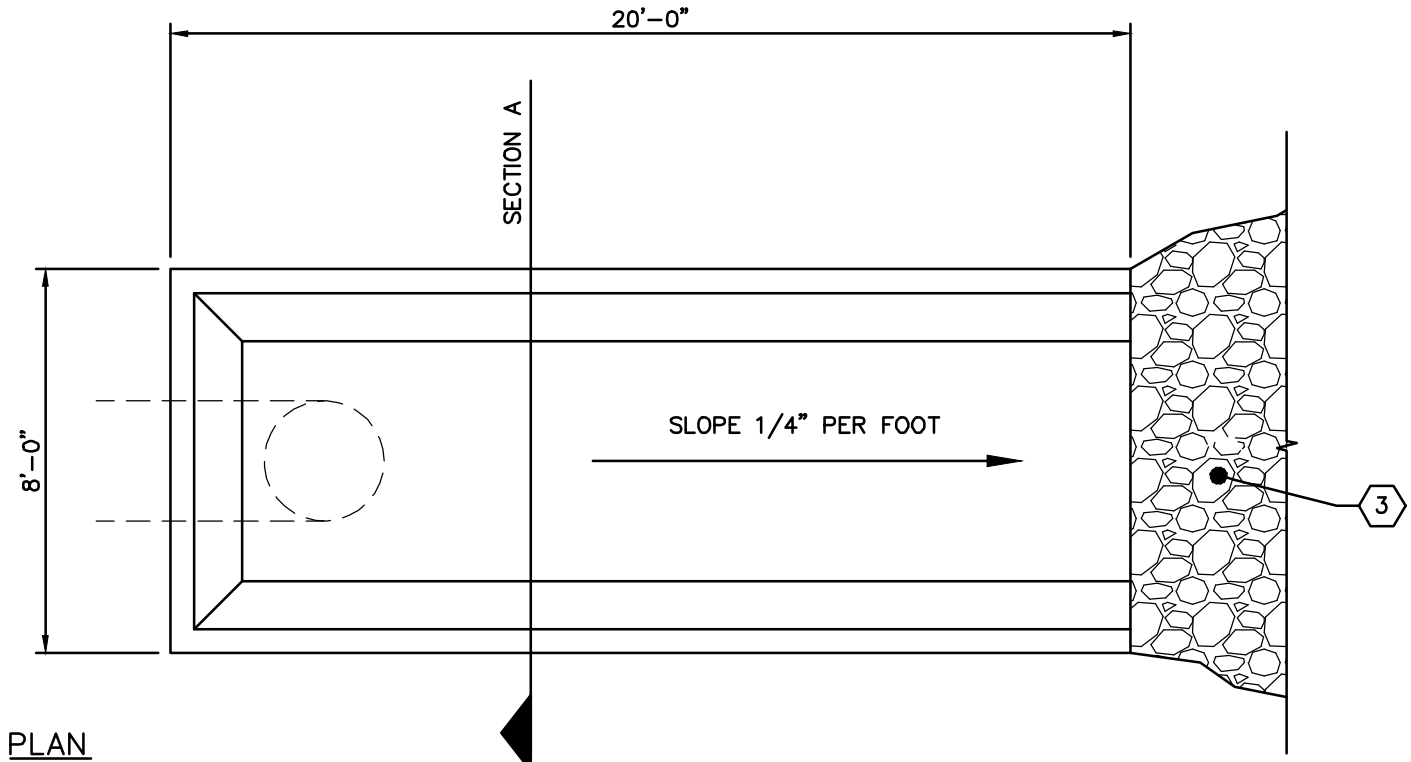
C4

5 OF 6 SHEETS

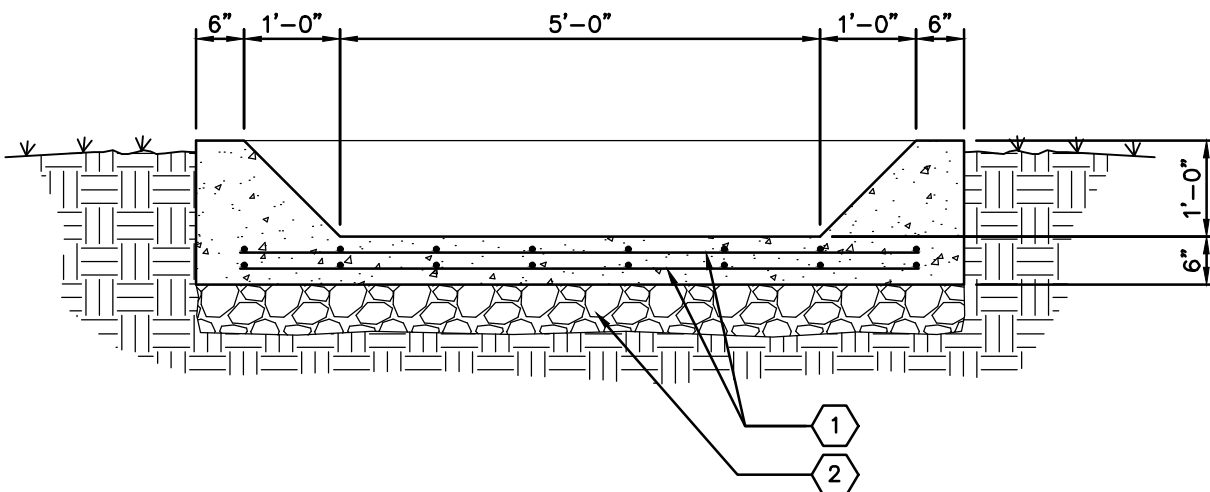
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PLOTED: 9/4/2026 @ 9:05:11 AM BY richard hoyes

KEY NOTES

- 2 MATS OF #4 REBAR @ 12"O.C.
- 6" COMPACTED GRANULAR BASE
- 24" THICK RIPRAP
- FINAL BACKFILL MATERIALS
- CONTINUOUS #12 AWG LOCATOR WIRE W/ THWN BLUE INSULATION
- 8" COMPACTED CRUSHED STONE BASE
- FLOWABLE FILL OR COMPACTED GRANULAR TRENCH BACKFILL PLACED IN 6" LIFTS, AS REQ'D. ON DRAWINGS OR IN THE CONTRACT DOCUMENTS
- REPLACE PAVEMENT TO EQUAL OR BETTER THAN EXISTING PAVEMENT, SEE NOTES 8 & 9.
- STRAIGHT SAWED JOINTS
- EXISTING PAVEMENT
- SELECT BACKFILL MATERIALS
- GRANULAR BEDDING LIMITS FOR D.I.P. (TYP.)
- APPROVED BACKFILL
- UNDISTURBED EARTH
- CONC. THRUST BLOCK POURED IN PLACE
- ADJUSTABLE VALVE BOX
- 6" GATE VALVE (M.J.)
- ANCHORS SHALL BE MIN. #3 BARS
- 6" DUCTILE IRON PIPE CLASS 250
- MUELLER SUPER CENTURION FIRE HYDRANT WITH 5 1/4" MAIN VALVE (2) HOSE NOZZLE /(1) PUMPER NOZZLE
- 16 C.F. OF 1" CLEAN ROCK FOR HYDRANT DRAINAGE
- CONCRETE BLOCKING AGAINST SOLID BANK
FILL VOIDS WITH SAK-CRETE (DO NOT BLOCK DRAIN HOLE)
- 3"x6" SWIVEL ADAPTER OR GRADE LOCK COUPLING
- ANCHORS SHALL BE MIN. #3 BARS
- CONCRETE THRUST BLOCK POURED IN PLACE
- MECHANICAL JOINT (REDUCING IF REQ'D) WITH THRUST BLOCK (SEE THRUST BLOCK DETAIL)
- 6" MJ x MJ MUELLER GATE VALVE
- ADJUSTABLE VALVE BOX
- FIRE HYDRANT ISOLATION VALVE AND VALVE BOX



PLAN



SECTION A

4 SPLASH PAD
C5 NO SCALE

TRENCH NOTES:

- MINIMUM TRENCH WIDTH SHALL BE MAINTAINED FROM 6" BELOW PIPE TO 12" ABOVE THE TOP OF PIPE.
- IF PAYMENT IS AUTHORIZED, PAY LINES FOR ROCK REMOVAL SHALL BE BASED UPON 2 TIMES PIPE DIAMETER.
- PIPE BEDDING NOTE BELOW IS MINIMUM STANDARD, HOWEVER ANY MORE STRINGENT REQUIREMENTS SET BY PIPE SUPPLIER SHALL SUPERSEDE THE REQUIREMENTS SHOWN.
- GRANULAR BEDDING GRADUATION SHALL BE AS FOLLOWS UNLESS REQUIRED BY THE PIPE MANUFACTURER OR APPROVED BY THE ENGINEER.

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

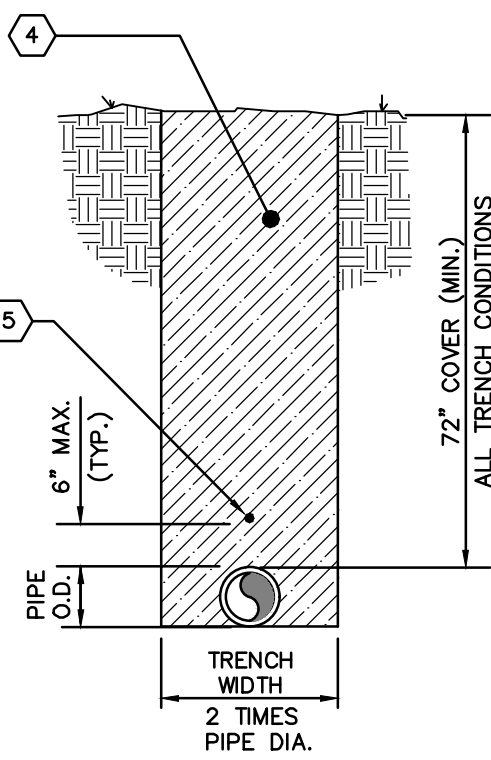
- FLOWABLE FILL MIX SHALL BE AS FOLLOWS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

MATERIAL	QUANTITY/CU. YD.
CEMENT	70 POUNDS
FLY ASH	300 POUNDS
FINE AGGREGATE	2600 POUNDS
WATER	50 GALLON

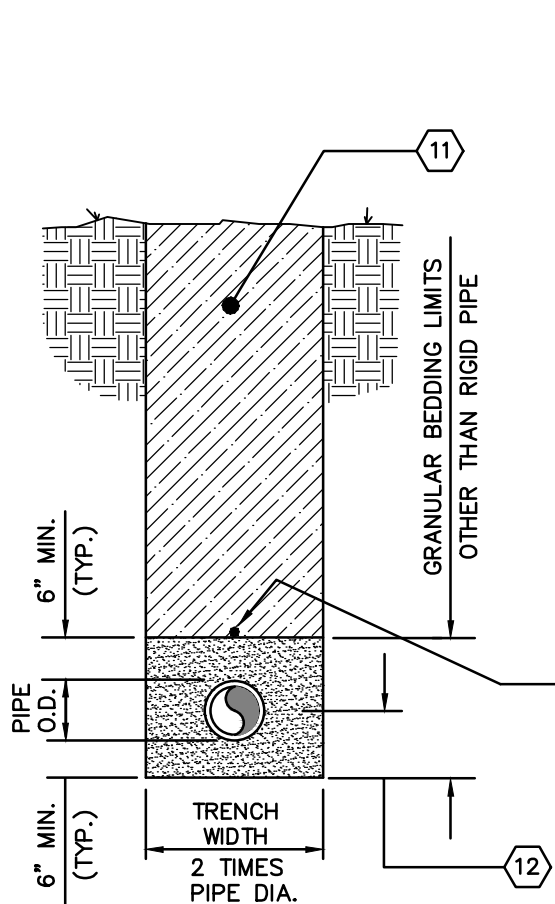
- UNSUITABLE BACKFILL MATERIAL SHALL BE DISPOSED OF BY CONTRACTOR AT HIS EXPENSE AND SUITABLE REPLACEMENT MATERIAL PROVIDED AT NO ADDITIONAL COST TO OWNER.
- ALL TRENCHES SHALL MEET O.S.H.A. REQUIREMENTS.
- ROADWAY RESURFACING SHALL BE REPLACED AS SHOWN IN ACCORDANCE WITH PROJECT SPECIFICATIONS OR CURRENT REQUIREMENTS OF THE CONTROLLING AUTHORITY, WHICH EVER IS MORE STRINGENT AS DEFINED BY THE ENGINEER.
- PAVEMENT REPLACEMENT SHALL CONSIST OF THE FOLLOWING:
ASPHALT
MATERIAL: HOT MIX ASPHALT
THICKNESS: MATCH EXISTING, BUT NOT LESS THAN 4" COMPACTED IN PLACE
NOTE: DELETE CRUSHED STONE BASE IF FLOWABLE FILL IS USED, TACK COAT TOP OF FLOWABLE FILL OR PRIME CRUSHED STONE BASE AT A RATE OF 0.25 GALLON / SQUARE YARD.

- 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 CRUSHED STONE BASE IF FLOWABLE FILL IS USED.

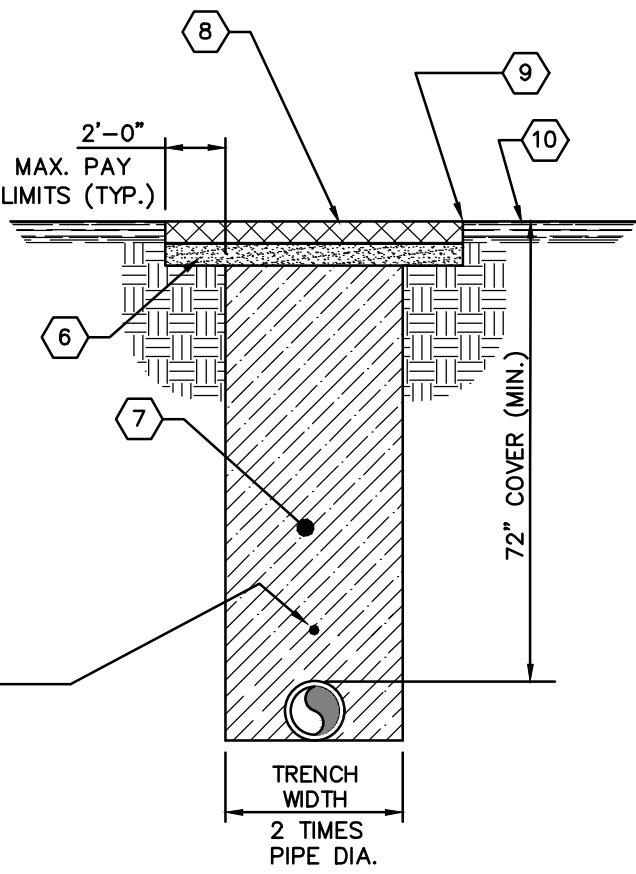
- GRAVEL
- MATERIAL: 1" MINUS CRUSHED STONE
THICKNESS: MATCH EXISTING, BUT NOT LESS THAN 6" COMPACTED IN PLACE.



TYPICAL TRENCH

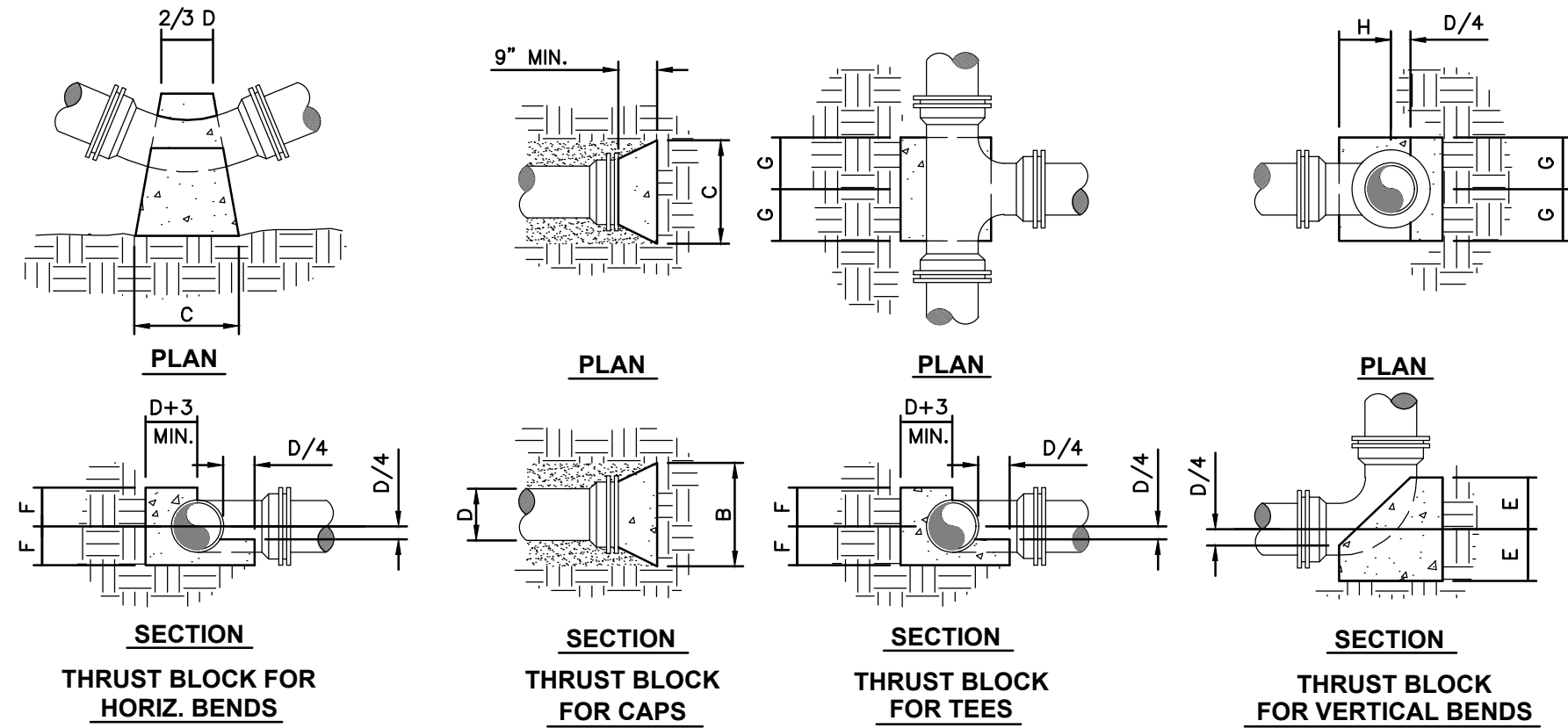


GRANULAR BACKFILL
WARRANTED CONDITIONS
(INCLUDING ROCK EXCAVATION)



TRENCH THRU PAVEMENT
(INCLUDING GRAVEL)

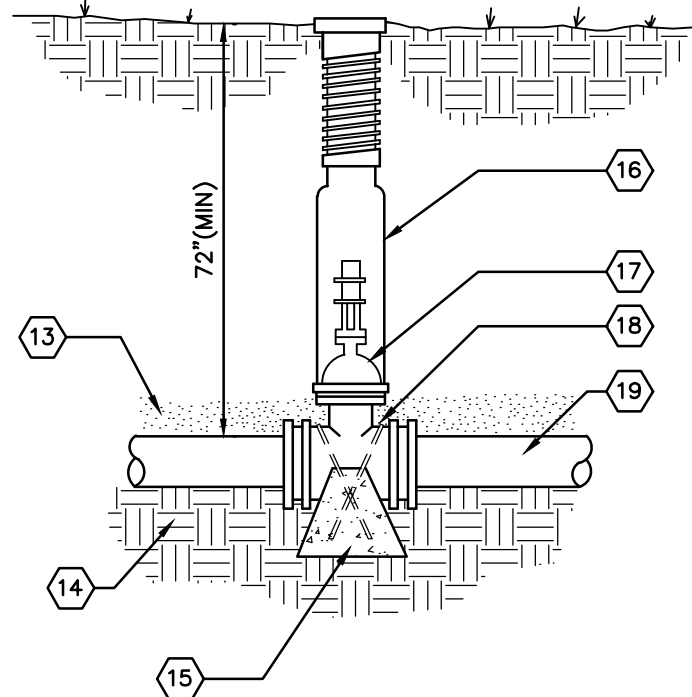
1 TRENCH CONDITIONS
C5 NO SCALE



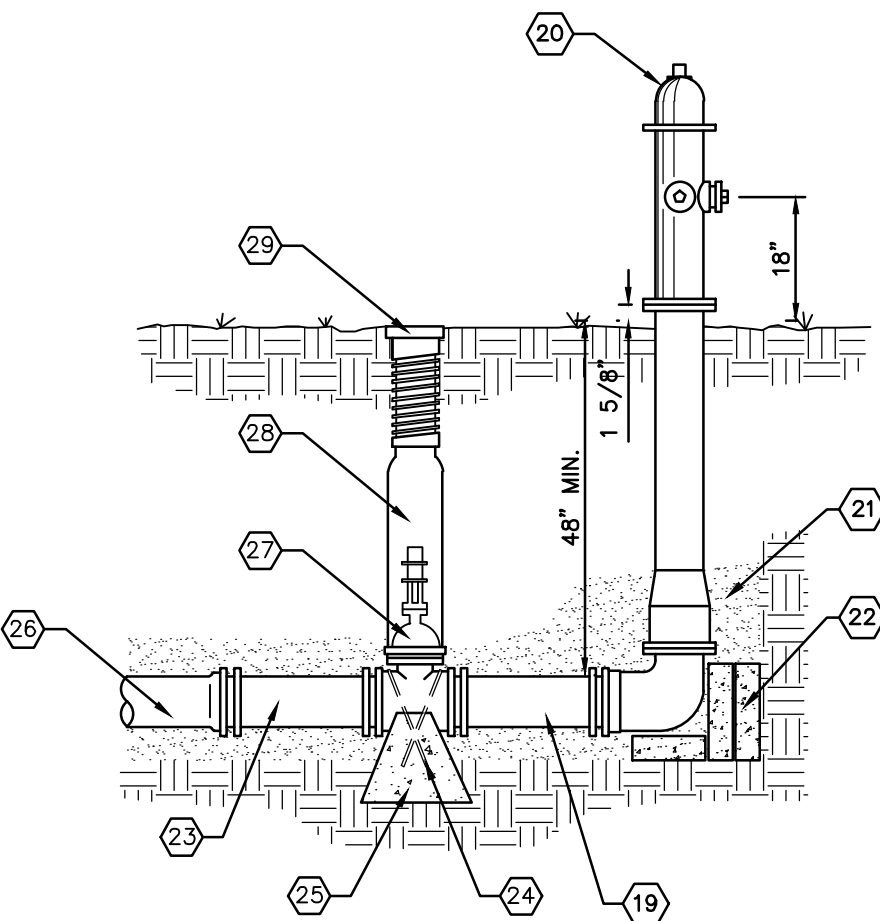
THRUST BLOCK DIMENSIONS										
PIPE SIZE	B	C	D	E	F	G	H	I	J	K
2'-4"	15"	15"	2'-4"	8"	11"	11"	6 1/2"	36"	30"	30"
6"	17"	15"	8"	8"	12"	13"	8"	36"	30"	30"
8"	19"	20"	8"	8"	13"	14"	9"	48"	36"	33"
10"	22"	25"	10"	10"	16"	15"	11"	54"	48"	36"
12"	30"	50"	12"	15"	24"	15"	14"	---	---	---
14"	36"	58"	14"	18"	29"	18"	16"	---	---	---
16"	40"	67"	16"	20"	34"	20"	18"	---	---	---
18"	48"	72"	18"	24"	36"	24"	20"	---	---	---
20"	50"	84"	20"	26"	42"	26"	22"	---	---	---
24"	54"	112"	24"	27"	56"	27"	26"	---	---	---

MAXIMUM DESIGN PRESSURE = 200 PSI

5 THRUST BLOCKS
C4 NO SCALE

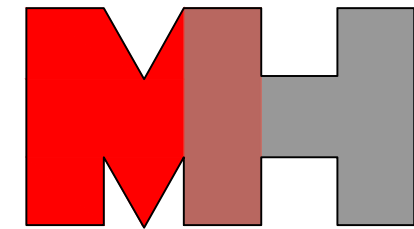


2 GATE VALVE WITH
CAST IRON VALVE BOX
C5 NO SCALE



3 FIRE HYDRANT ASSEMBLY
C5 NO SCALE

MECO-HENEGHAN
ENGINEERS, LLC



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ST. CHARLES, MO 63301
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REVISIONS

DATE

NO.

PHASE 1B

CONTRACT "D" - PHASE "1B"
ELEVATED WATER STORAGE
TANK MISCELLANEOUS
SITE DETAILS

ILLINOIS ALLUVIAL REGIONAL WATER COMPANY
JERSEY & MACOUPIN COUNTIES, ILLINOIS

DRAWN BY: R.H. / J. McNEFF
CHECKED BY: K. GARNETT
APPROVED BY: M. MIDDENDORF
HORIZONTAL SCALE:

AS SHOWN

VERTICAL SCALE:

PROJECT NO.
700-003

DATE:
09/04/26

SHEET NO.
C5

6 OF 6 SHEETS