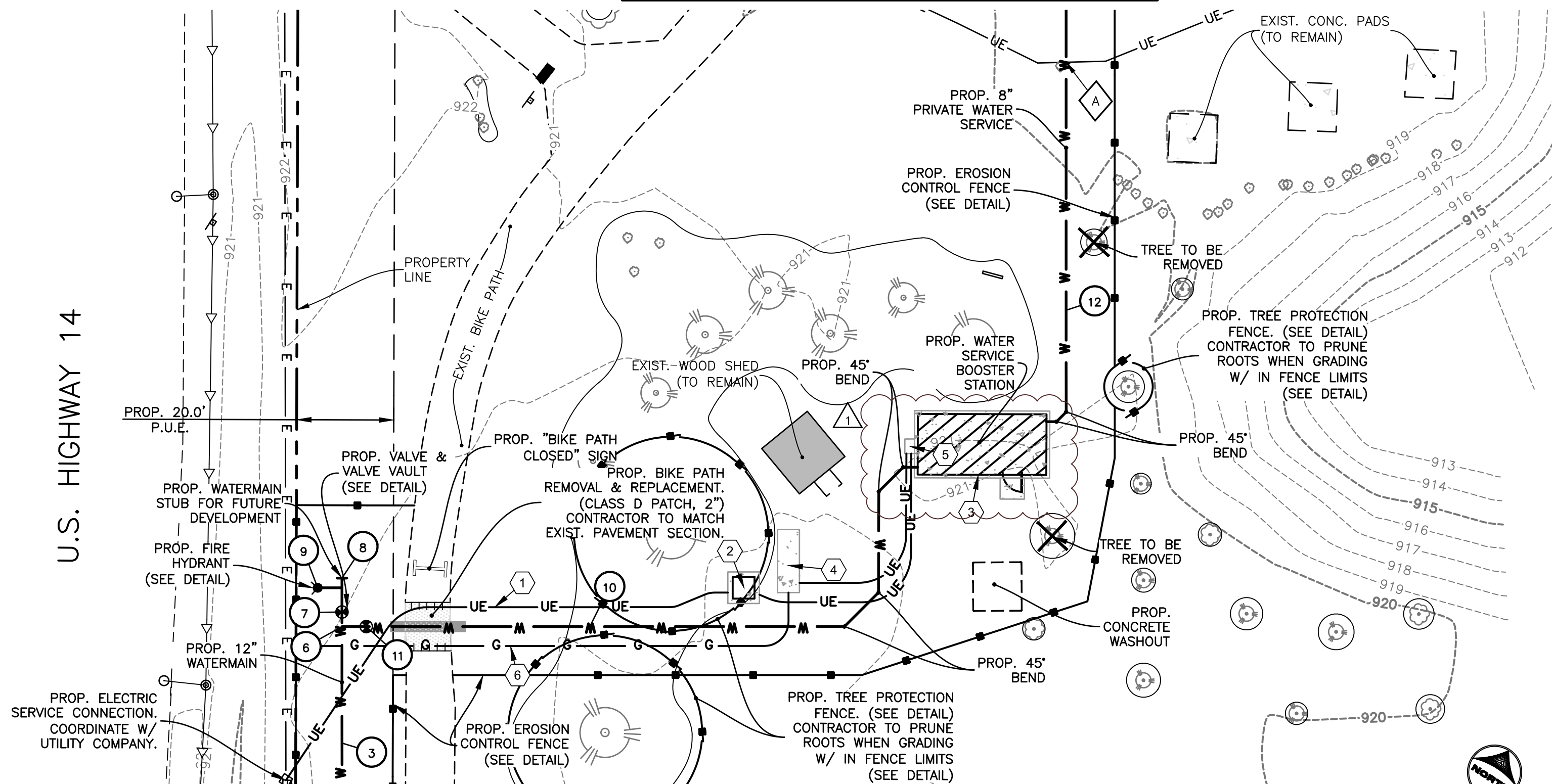
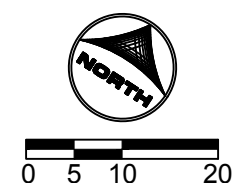


MATCH LINE
SEE PLAN BELOW



1 WATERMAIN PLAN VIEW
SCALE: 1" = 20'

MATCH LINE
SEE SHEET SHEET C-03



CONTRACTOR NOTE:
CONTRACTOR TO COORDINATE BIKE PATH REMOVAL WITH MCCD PRIOR TO CONSTRUCTION START.

RESTORATION NOTE:
ALL DISTURBED AREAS ABOVE TRENCH SHALL BE RESTORED WITH 4" OF TOPSOIL. ALL OTHER DISTURBED AREAS SHALL BE TOP DRESSED WITH 2" OF TOPSOIL. ALL AREAS SHALL BE HYDROSEED (MULCH METHOD 4) PER IDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION. IDOT TYPE 2A SALT TOLERANT TURF SEED MIX SHALL BE UTILIZED.

- KEY NOTES:**
- UNDERGROUND PRIMARY ELECTRIC LINE. CONTRACTOR TO FURNISH & INSTALL (1) 4" PVC SCHEDULE 40 CONDUIT WITH PULL STRING FROM TRANSFORMER PAD TO UTILITY POLE. CONTRACTOR TO COORDINATE CONNECTION TO EXIST. POWER POLE WITH COMED.
 - PAD MOUNTED TRANSFORMER. CONTRACTOR TO PROVIDE & INSTALL 6.5'X6.5' PAD & SECONDARY SERVICE IN ACCORDANCE WITH COMED SPECIFICATIONS & REQUIREMENTS.
 - METERING CURRENT TRANSFORMER CABINET. TO BE MOUNTED ON BOOSTER STATION BUILDING EXTERIOR.
 - NATURAL GAS POWERED STANDBY GENERATOR W/ 13'X4.5' CONCRETE PAD. SEE DETAIL 7 ON SHEET S-02 FOR PAD DETAIL.
 - SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH W/ 2'X3' CONCRETE PAD. SEE DETAIL 7 ON SHEET S-02 FOR PAD DETAIL.
 - NATURAL GAS LINE TO GENERATOR. CONTRACTOR TO COORDINATE SERVICE LINE WITH NICOR.

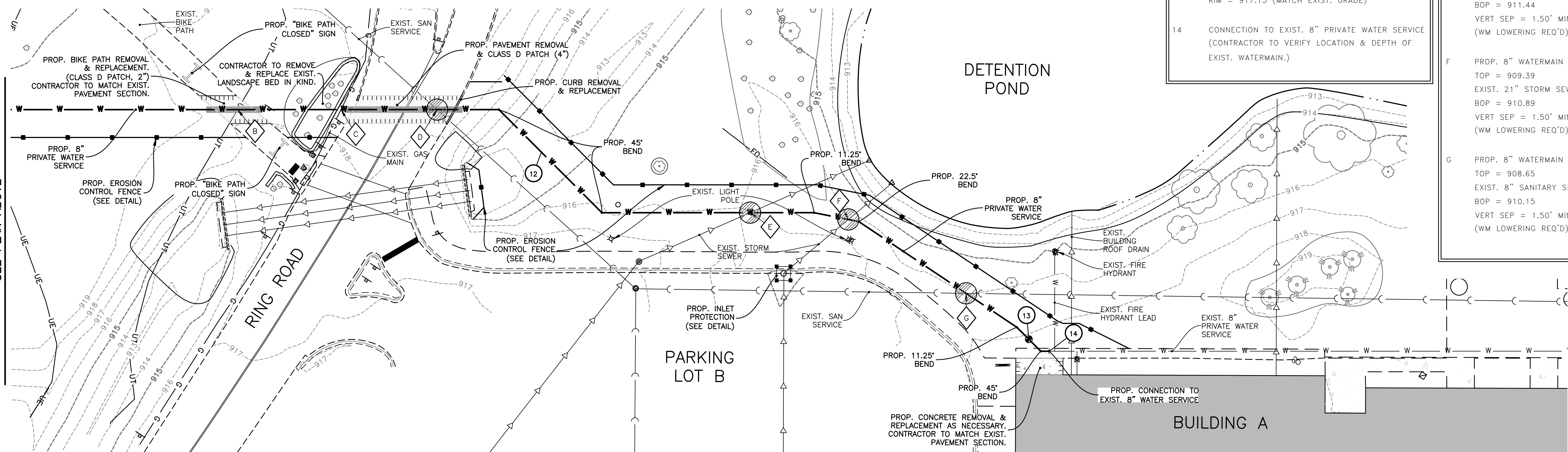
WATER TAGS

- 990 LIN FT WATERMAIN, 12" w/ BENDS
DUCTILE IRON PIPE - CLASS 52
- FIRE HYDRANT W/ AUXILIARY VALVE
(SEE DETAIL)
BURY ELEV = 919.50
- FIRE HYDRANT W/ AUXILIARY VALVE
(SEE DETAIL)
BURY ELEV = 918.75
- 12"X8"X12" TEE
- 12" WATERMAIN VALVE & 5' DIA. VALVE VAULT
(SEE DETAIL)
RIM = 921.00 (MATCH EXIST. GRADE)
- 12" MJ CAP
POUR CONCRETE THRUST BLOCK
- FIRE HYDRANT W/ AUXILIARY VALVE
(SEE DETAIL)
BURY ELEV = 921.30
- 154 LIN FT PRIVATE WATER SERVICE, 8" w/BENDS
DUCTILE IRON PIPE - CLASS 52
- 8" WATER SERVICE VALVE & VALVE BOX
(SEE DETAIL)
RIM = 920.75 (MATCH EXIST. GRADE)
- 496 LIN FT PRIVATE WATER SERVICE, 8" w/BENDS
DUCTILE IRON PIPE - CLASS 52
- 8" WATER SERVICE VALVE & VALVE BOX
(SEE DETAIL)
RIM = 917.15 (MATCH EXIST. GRADE)
- CONNECTION TO EXIST. 8" PRIVATE WATER SERVICE
(CONTRACTOR TO VERIFY LOCATION & DEPTH OF EXIST. WATERMAIN.)

CROSSING TAGS

- PROP. 8" WATERMAIN
TOP = 913.75
EXIST. ELECTRIC
BOP = 916.87 (APPROX.)
(CONTRACTOR TO VERIFY LOCATION & DEPTH OF ELECTRIC UTILITY. NOTIFY ENGINEER W/ ANY DISCREPANCIES.)
VERT SEP = 3.12'
- PROP. 8" WATERMAIN
TOP = 912.10
EXIST. TELEPHONE
BOP = 915.22 (APPROX.)
(CONTRACTOR TO VERIFY LOCATION & DEPTH OF TELEPHONE UTILITY. NOTIFY ENGINEER W/ ANY DISCREPANCIES.)
VERT SEP = 3.12'
- PROP. 8" WATERMAIN
TOP = 912.23
EXIST. GAS
BOP = 915.35 (APPROX.)
(CONTRACTOR TO VERIFY LOCATION & DEPTH OF GAS UTILITY. NOTIFY ENGINEER W/ ANY DISCREPANCIES.)
VERT SEP = 3.12'
- EXIST. 10" SANITARY SEWER
TOP = 910.04
PROP. 8" WATERMAIN
BOP = 911.65
VERT SEP = 1.61' (1.50' MIN.)
(WM LOWERING REQ'D)
- PROP. 8" WATERMAIN
TOP = 909.94
EXIST. 12" STORM SEWER
BOP = 911.44
VERT SEP = 1.50' MIN.
(WM LOWERING REQ'D)
- PROP. 8" WATERMAIN
TOP = 909.39
EXIST. 21" STORM SEWER
BOP = 910.89
VERT SEP = 1.50' MIN.
(WM LOWERING REQ'D)
- PROP. 8" WATERMAIN
TOP = 908.65
EXIST. 8" SANITARY SEWER
BOP = 910.15
VERT SEP = 1.50' MIN.
(WM LOWERING REQ'D)

MATCH LINE
SEE PLAN ABOVE



2 WATERMAIN PLAN VIEW
SCALE: 1" = 20'

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1	01/08/17	ECH	ADDENDUM #1

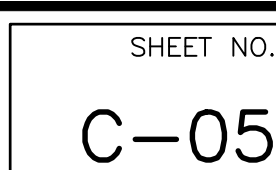
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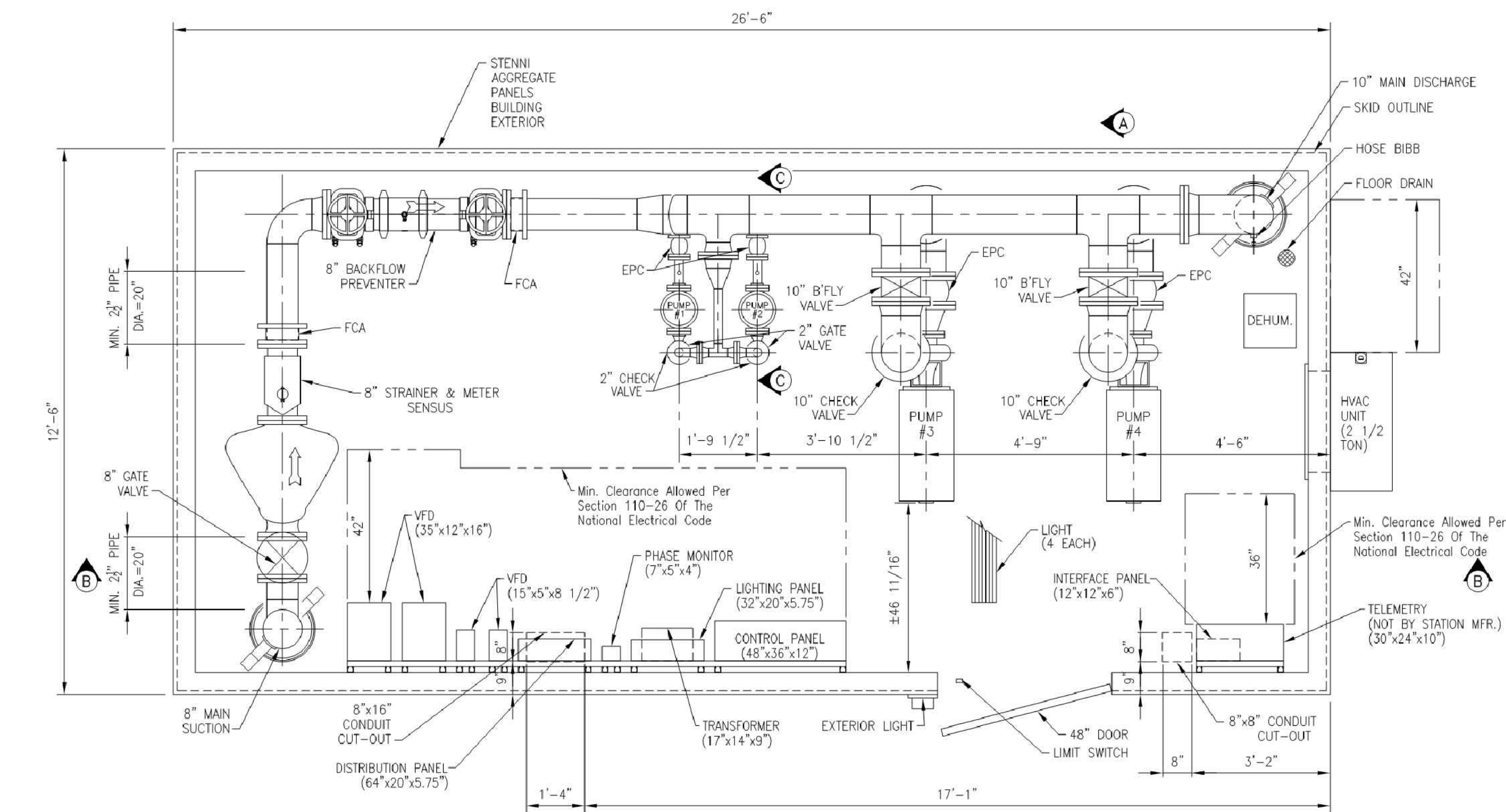
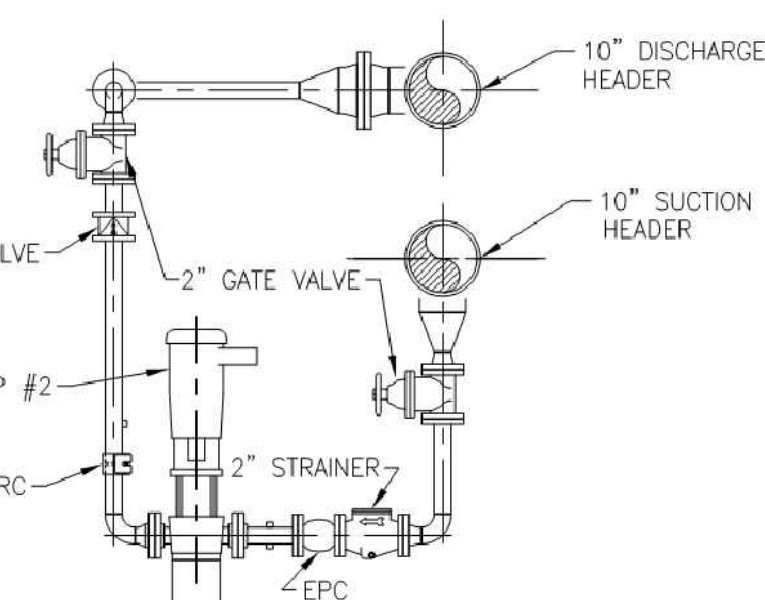
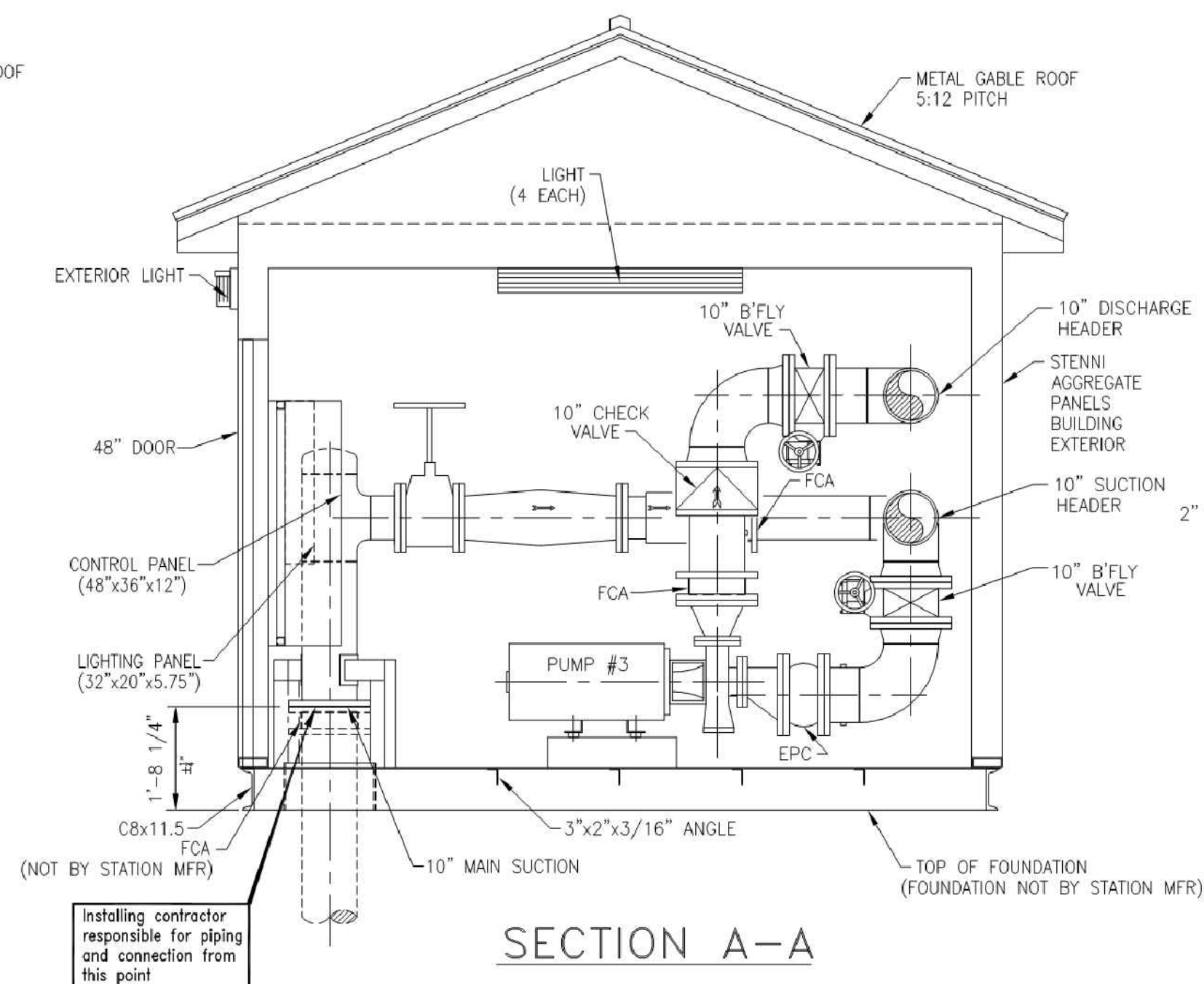
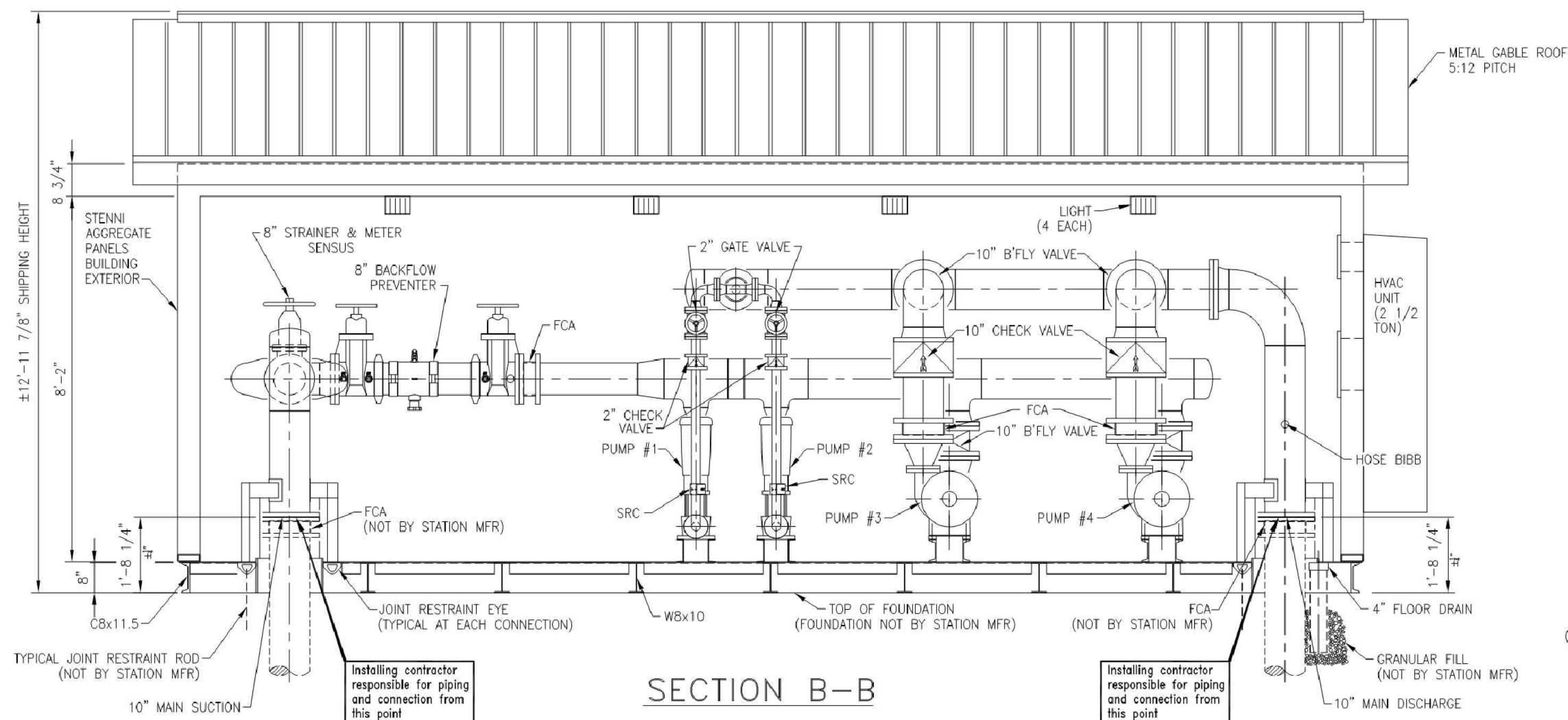
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WATER SERVICE EXTENSION &
BOOSTER STATION INSTALLATION
CRYSTAL LAKE, ILLINOIS

CIVIL SITEWORK
WATERMAIN PLAN VIEW 2

SHEET NO.
C-04



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NOTE: EXCEPT FOR PIPE END SUPPORTS, WHICH ARE SHOWN, VERTICAL AND ANGLE PIPE BRACES ARE NOT SHOWN FOR DRAWING CLARITY

GENERAL NOTES

CONTRACTOR'S NOTE:

SCHEDULE 40 STEEL PIPE
MAIN SUCTION:
10" ANSI STANDARD B16.5, CLASS 150 FLANGE
MAIN DISCHARGE:
10" ANSI STANDARD B16.5, CLASS 150 FLANGE

ALL PIPING AND EQUIPMENT
WILL BE ADEQUATELY
SUPPORTED AND BRACED

PLATE & STRUCTURAL
STEEL: ASTM A-36
STRUCTURAL TUBING: A500, GRADE B

CONTRACTOR'S NOTES

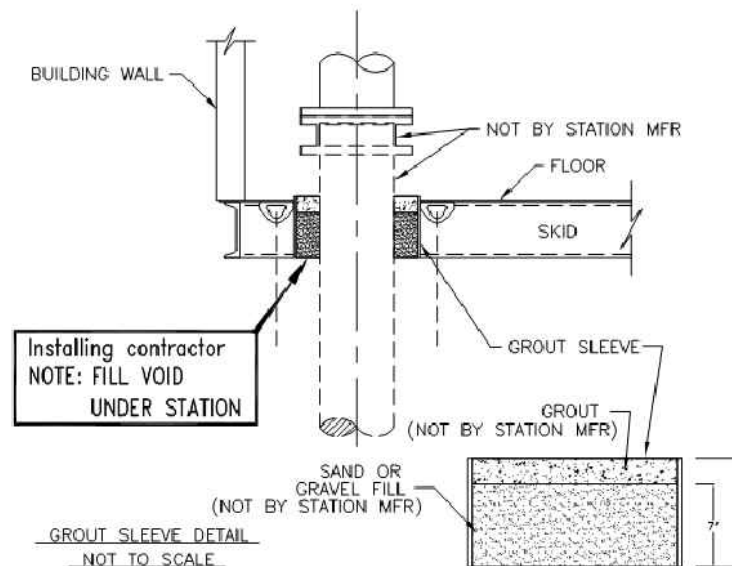
DEHUMIDIFIER MUST
BE POWERED UP AND TURNED ON
IMMEDIATELY AFTER THIS STATION IS
SET IN PLACE.

SHIMS MAY BE REQUIRED AROUND PERIMETER
OF WATERSHED* TO ENSURE PROPER LEVEL.
WITHOUT PROPER LEVEL ENGINEERED FLUID
CANNOT BE RESPONSIBLE FOR PROPER DOOR
OPERATION.

PLEASE NOTE ORIENTATION OF THE INLET
AND OUTLET PIPE AND ELECTRICAL CONDUIT
LOCATIONS IN REFERENCE TO THE JOBSITE LAYOUT.
EFL CANNOT BE HELD RESPONSIBLE UNLESS
CONFIRMATION OF THESE ORIENTATIONS IS RECEIVED
THROUGH THE APPROVED SUBMITTALS.

THIS STATION IS NOT DESIGNED TO WITHSTAND
PIPELINE THRUST OR EXTERNAL PIPE RESTRAINT
FORCES. THRUST BLOCKING AND PIPE RESTRAINTS
EXTERNAL TO THE STATION SHALL BE DESIGNED
AND INSTALLED BY OTHERS.

ESTIMATED TOTAL STATION WEIGHT: T.B.D.



NOTE: FILL VOID UNDER STATION

NOTE:
THIS PLAN IS FOR REFERENCE ONLY.
REFER TO MANUFACTURER'S DETAILS
FOR INSTALLATION.

DESIGN CRITERIA

Controls: CONSTANT PRESSURE
Power Service: 480 Volts, 3 Phase, 60 Cycle

PUMP DATA

Type: VERTICAL, MULTI-STAGE, CENTRIFUGAL
Pump 1 & 2
Capacity: 78 G.P.M. AT 140 FEET T.D.H.
Size: 2" X 2"
Motor: 5 H.P., 3600 R.P.M.
Type: HORIZ., CLOSED CPLD., END SUCTION
Pump 3 & 4
Capacity: 1500 G.P.M. AT 247 FEET T.D.H.
Size: 4" X 5" X 9"
Motor: 125 H.P., 3500 R.P.M.

REVISION #	DATE	REVISED BY	DESCRIPTION
1	12/22/17	SM	CHANGE METER & BFP
DESIGNED BY: DD	MECHANICAL CHECKED BY (C.E.):	ELECTRICAL CHECKED BY: JM	N.T.S.
DRAWN BY: SM			



ENGINEERED FLUID, INC.

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BOOSTER PUMP STATION

McHENRY COUNTY COLLEGE

CRYSTAL LAKE, ILLINOIS

NOTE: EPC - ELASTOMER PIPE CONNECTOR
SRC - SELF RESTRAINED COUPLING
FCA - FLANGED COUPLING ADAPTER

This drawing is conceptual and does not reveal certain details and manufacturing processes required to successfully build the equipment. As such, Engineered Fluid, Inc. is not responsible for injury or damages caused by any unauthorized fabrication or assembly using all or any part of this drawing.

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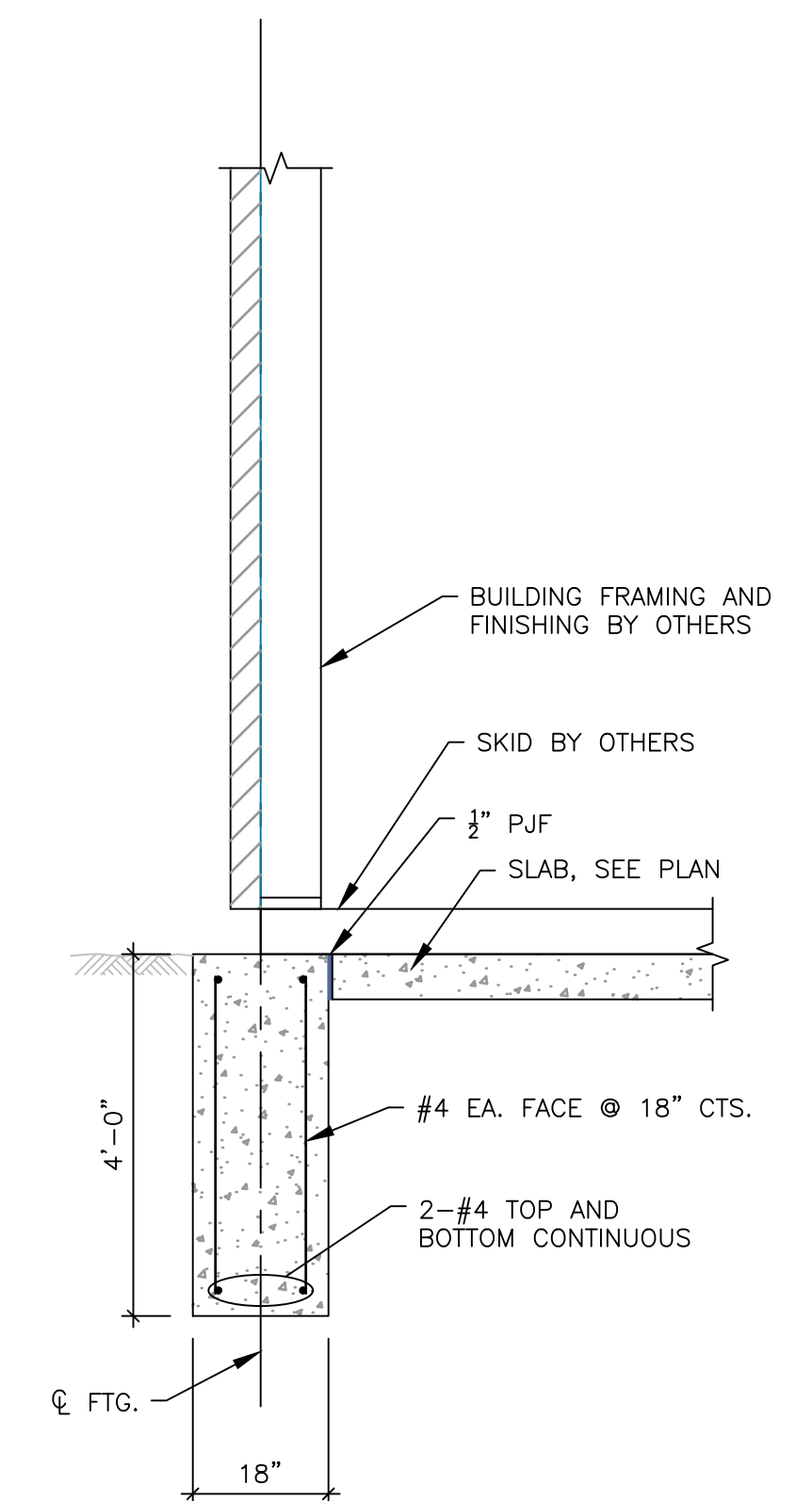
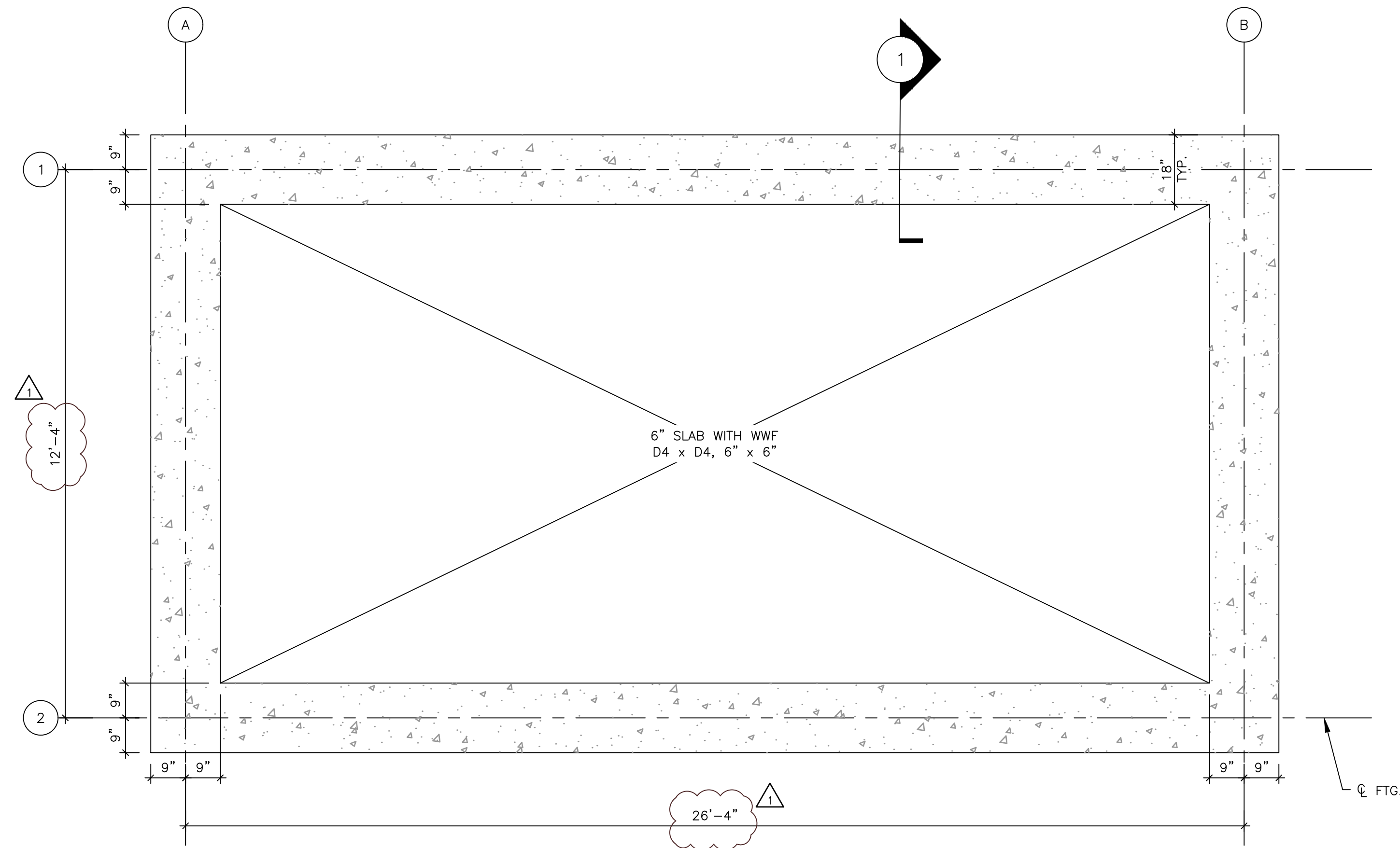


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CRYSTAL LAKE, ILLINOIS

CIVIL SITEWORK
BOOSTER PUMP STATION DETAILS

SHEET NO.

C-10



SECTION 1
SCALE: NONE

- NOTES:
1. CONCRETE COMPRESSIVE STRENGTH, f'_c , AT 28 DAYS SHALL = 4,000 PSI.
 2. DESIGN ASSUMES ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSI.
 3. AIR ENTRAINMENT OF EXTERIOR CONCRETE SHALL BE 4% TO 6%.
 4. SLUMP, WITHOUT USE OF SUPERPLASTICIZER ADMIXTURE, SHALL BE 4 TO 6 INCHES. IF SUPERPLASTICIZER IS USED, SLUMP MUST BE ADJUSTED SO THAT THE 4 TO 6 INCHES IS MET AFTER ADMIXTURE IS ADDED.



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