

Addendum No. 3
Four Rivers Sanitation Authority
Collection Systems Operations Facility
Capital Project No. 2217

This Addendum No. 3, dated February 14, 2023, for the above referenced project, supersedes all contrary and conflicting information in the specifications and contract documents, which are hereby supplemented or revised as follows:

PROJECT PLANS

1. Plan Sheet C101 Existing Conditions & Removals: DELETE Sheet C101 in its entirety and REPLACE with the attached revised Sheet C101.
2. Plan Sheet C102 Plan Overview: DELETE Sheet C102 in its entirety and REPLACE with the attached revised Sheet C102.
3. Plan Sheet C302 Utility Plan: DELETE Sheet C302 in its entirety and REPLACE with the attached revised Sheet C302.
4. Plan Sheet C303 Offsite Water Main Plan: DELETE Sheet C303 in its entirety and REPLACE with the attached revised Sheet C303.
5. Plan Sheet ES101 Lighting Site Plan: DELETE Sheet ES101 in its entirety and REPLACE with the attached revised Sheet ES101.
6. Plan Sheet ES103 Electrical Ductbank Site Plan: DELETE Sheet ES103 in its entirety and REPLACE with the attached revised Sheet ES103.
7. Plan Sheet E101 Lighting Overall Floor Plan: DELETE Sheet E101 in its entirety and REPLACE with the attached revised Sheet E101.
8. Plan Sheet E102 Power & Systems Floor Plan: DELETE Sheet E102 in its entirety and REPLACE with the attached revised Sheet E102.
9. Plan Sheet E103 Electrical Specifications & Riser Diagram: DELETE Sheet E103 in its entirety and REPLACE with the attached revised Sheet E103.
10. Plan Sheet P101 Plumbing Overall Floor Plan: DELETE Sheet P101 in its entirety and REPLACE with the attached revised Sheet P101.
11. Plan Sheet P102 Plumbing Enlarged Floor Plans: DELETE Sheet P102 in its entirety and REPLACE with the attached revised Sheet P102.
12. Plan Sheet P104 Plumbing Schedule and Details: DELETE Sheet P104 in its entirety and REPLACE with the attached revised Sheet P104.
13. Plan Sheet FP101 Fire Protection Overall Floor Plan: DELETE Sheet FP101 in its entirety and REPLACE with the attached revised Sheet FP101.

BIDDER QUESTIONS

1. Typically, horn strobes for the fire alarm system cover a 50'x50' area (2,500 SF) maximum. The horn strobe coverage shown on the drawings is much less than this. Can the engineer review and determine if additional horn strobe coverage is needed?

Response: *Reference revised Plan Sheet E102 for revisions to the fire alarm system.*

2. On Plan Sheet ES101 did the East gate go away?

Response: *The existing gate at Martin Rd. and Foley St. has already been connected to FRSA treatment plant electrical and no additional work is required in this Contract.*

3. On Sheet ES103 do the four (4) 2" conduits to the North gate need to be in a duct bank?

Response: *No, per the callout on Plan Sheet ES103 these conduits are to be direct buried. Reference revised Plan Sheet ES103.*

4. On Sheet ES103 it shows four (4) 4" ducts going to the South quazite box. What is going to the North quazite box at the future wash bay?

Response: *The north quazite box has been omitted from the plans, reference revised Plan Sheet ES103.*

5. On Sheet ES103, it shows a total of twelve (12) 4" pipes in the ductbank but after the split it appears that there only needs to be eight (8). Is this correct?

Response: *Reference revised Plan Sheet ES103 for clarification.*

6. On Sheet ES103, for the ductbank and the four (4) 2" to the gate, where do we stub these up to, or where do we leave the end?

Response: *A quazite box has been added at this location, reference revised Plan Sheet ES103.*

7. On Sheet ES101, it shows twenty-two (22) fixtures on 4 of the 6 circuits at 277 volt. Is the 20 A breaker adequate with #12 wire?

Response: *Reference revised Plan Sheet ES101 for clarification.*

8. Are the overhead door jambs provided by the previous steel package?

Response: *Per Addendum No. 2, all heavy gauge steel girts are to be furnished and installed by the Contractor. Bolts are to be provided by the girt manufacturer; holes to be pre-punched by manufacturer or field drilled. All heavy gauge framing for doors, windows, and openings through exterior walls are to be furnished and installed by the Contractor.*

9. Please clarify the OH door jamb trim details (material type & thickness, installation details, color).

Response: *Provide 22 Gauge steel pre-finished trim (Kynar 500) to match the Dove Gray Insulated Metal Panel color.*

10. Please clarify if Type C or Type I is applicable at interior control and expansion joints since both reference concrete floors.

Response: *Type I.*

11. Addendum No. 2 includes a trench drain detail and does not show a felt expansion without sealant, confirm no sealant?

Response: *Trench drains are shown formed and poured with the floor slab, so no sealant is required.*

12. Is perimeter sealant required at floor to foundation isolation joints?

Response: *Sealant to be installed at Metal Liner Panel base to concrete floor as shown on drawings.*

13. How many joist reinforcement points should be included with bid?

Response: *If the localized point load on the joist top and/or bottom cord is less than 50 lbs. then no additional non-panel point reinforcing is required for the joist at those locations.*

14. Regarding exterior pavement/roadway joints, clarify detail between curb and concrete pavement – is sealant required? Is Type C to be removed as an option for pavements?

Response: *Per Addendum No. 2, all PCC pavement longitudinal joints (both sawed and construction) are to be sealed in accordance with IDOT Highway Standard 420001-10 as shown on Plan Sheet C401. This includes longitudinal construction joints between PCC curb and adjacent PCC pavements. Please reference Section 32 1313 Concrete Paving for joint filler material specifications.*

15. Is the Parex trowel on air barrier OK to be installed over the 1" insulation? Please clarify the fastening requirements for the 1" insulation.

Response: *Parex Air Barrier to be applied over CMU or Plywood Sheathing (not insulation, the drawing note leader is shown incorrectly).*

16. Please clarify existing fence removal limits.

Response: *Reference revised Plan Sheets C101 and C102 for updated limits of fence that was previously removed by FRSA.*

17. Can the Industrial/Commercial permit fees be waived?

Response: *There will be no FRSA review, connection, or inspection fees charged for this project. The Contractor's plumber is required to complete and submit the Industrial/Commercial permit application accordingly.*

18. Addendum No. 2 revised testing costs to be by General Contractor. Please clarify frequency/quantity of testing for soils, stone, steel, concrete, asphalt, masonry, air barrier or any other material that testing will be required.

Response: *See individual specification sections for testing required.*

19. Is lawn irrigation required? If so, please define scope?

Response: *Installation of irrigation is not part of this Contract. Conduits to accommodate the future irrigation system are included and shall be furnished and installed by the Contractor as shown on Plan Sheets L01 and L02.*

20. Has ComEd been notified to remove the OH electric?

Response: *FRSA is coordinating with ComEd regarding removal/relocation of their existing facilities.*

21. Please confirm the tree removal quantity noted in the legend on Plan Sheet C101.

Response: *Confirmed as correct.*

22. Removals for the Kennon Street hydrant and water main work are not indicated on Plan Sheet C101.

Response: *Reference revised Plan Sheet C303 for removal limits.*

23. Has Nicor been notified for the gas abandonments?

Response: *FRSA is coordinating with Nicor regarding removal/relocation of their existing facilities.*

24. Where are the existing grades and existing topography survey?

Response: *Reference revised Plan Sheet C101 which shows existing contours.*

25. Are the abandoned sanitary and water lines to be filled with flowable fill?

Response: *All sanitary sewer and watermain proposed to be abandoned shall be done in accordance with FRSA and City of Rockford requirements (respectively); flowable fill is not required.*

26. What size sleeve is required for the Nicor service? Addendum No. 1 appears to indicate contractor installs the gas service without a sleeve, please confirm. Any meter or valve? Detail? Testing requirements? Note plumbing drawings do not coordinate if gas service is to be by Contractor.

Response: *No sleeve is required – the Contractor shall connect to the existing 2" PVC gas pipe stub south of the project site as shown on Plan Sheet C302. There is an existing valve south of this connection point so no shutdown is required. This location is on the FRSA-side of the meter so no coordination with Nicor is necessary to make the connection (other than JULIE locates for existing Nicor facilities in proximity of the work). No meter is required. Reference revised Plan Sheet P104 for revised note on gas service.*

27. Is Nicor installing the gas line to the curb island? Addendum No. 1 appears to indicate contractor installs, please confirm.

Response: *The Contractor is to furnish and install the gas pipe as a continuation of the existing FRSA gas service.*

28. What type of shut down will be necessary for the 8" domestic tie-in?

Response: *This domestic watermain is under FRSA ownership and maintenance per agreement with the City of Rockford and therefore FRSA will perform the necessary shutdown to accommodate the tie-in work. The Contractor shall coordinate the shutdown schedule with FRSA per General Notes on Plan Sheet C001.*

29. Where is the tie-in for the 4" plant water? Near the apparent tie in point there is bold linetype heading towards the building and also heading towards a valve. The new domestic valve connections appear to be shown within pavements. Please clarify scope and clarify the removal extents and desired patching.

Response: *The tie-in for the 4" plant water line is just south of the Grit Building as shown on Plan Sheet C302. The Contractor shall cut out a portion of the existing water line, install a tee, install a valve on the Grit Building side of tee, and install a valve on the new line. FRSA will perform the shutdown. The Contractor shall be responsible for excavating, performing work as shown and described, and backfilling (and compacting) the excavated area. FRSA will restore all pavement and turf within the treatment plant excavated areas for both the domestic and plant water connections.*

30. Is a PIV or wall post required for the 8" water service?

Response: *A wall indicator.*

31. What size piping are the storm lines outside the building on the north side? Are there any cleanouts?

Response: *Size of storm sewer piping is noted on Plan Sheet C502. No cleanouts are proposed for storm sewer.*

32. The fire riser indicates a remote fire department connection location and to refer to civil. Please clarify location.

Response: *Reference revised Plan Sheet FP101 for clarification.*

33. The note on Plan Sheet C302 indicates the 4" domestic to be directionally drilled, confirm this is a typo and should be 8"?

Response: *This is a typo; the domestic water is 8" dia.; reference revised Plan Sheet C302.*

34. Is there any water main demo on Blair Street? What currently exists at the 8" to 6" reducer location?

Response: *The Blair Street 6" dia. watermain exists as shown on Plan Sheet C303 – the proposed watermain fills in a gap. The Contractor shall cut a portion of the existing watermain off at Kennon Road to connect the new 8" to 6" reducer.*

35. Do the joists have bolted bridging?

Response: *Yes, bolted – reference steel shop drawings per Section 00 3100 Available Project Information.*

36. Is any joist X bridging required? If so, is it bolted bridging?

Response: *Yes, bolted – reference steel shop drawings per Section 00 3100 Available Project Information.*

37. Is the overhang roof drain and bump out roof drain tied together inside the building and then exit as a 10"?

Response: *Reference revised Plan Sheets P101 and P102 for clarification.*

38. Please clarify if an EV Charging station is part of the scope.

Response: *Installation of EV charging stations are not part of this Contract. Electrical rough-in to accommodate future EV charging stations on the building west wall are included and shall be furnished and installed by the Contractor as shown on electrical Plan Sheets.*

39. Are the primary roof drains in the shop area to be piped overhead or underground?

Response: *Overhead.*

40. Please confirm if gas regulators are required at all gas fired equipment and if so will the regulators need to be vented through the roof?

Response: *Yes – reference note on revised Plan Sheet P104.*

41. Confirm supplied gas pressure (Plumbing drawing states 2psi, Mechanical drawing equipment states low pressure supplied).

Response: *Gas piping is 5 psi.*

42. The tax-exempt statement states that FRSA is exempt from excise tax – are they also sales tax exempt?

Response: *Please reference Section I Bidding Requirements, Subsection B. Instructions to Bidders, Item 3.13 Tax Exemption for FRSA's sales tax exemption number.*

43. Can the contractor utilize the new roof top units as heat if needed to complete finishes towards the end of the project?

Response: *Per Addendum No. 2, upon connection and termination of permanent utility services to their final waterproof locations within the building, FRSA will assume utility expenses provided the utilities are utilized for construction purposes only to a reasonable extent.*

44. Is the salt sealer called out in the cast in place concrete specifications required for all exterior concrete including the roadway?

Response: *Yes.*

45. For the sealed concrete inside the space BASF is called out in the room finish schedule and then there is another list under the cast in place concrete specification Section 2.08 densifiers and sealers. Can it be elaborated on what the owner is expecting to utilize at these locations?

Response: *BASF Lapidolith.*

This information shall be taken into consideration when preparing your bid. Bidders shall acknowledge all project addenda. This addendum will be emailed to all plan holders as well as posted to FRSA's website at fourrivers.illinois.gov.

End of Addendum No. 3

Issued February 14, 2023

Four Rivers Sanitation Authority



Christopher T. Baer, PE
Director of Engineering

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New Collection
Systems Operation
Facility

Capital Project No.
2217

for

Rockford, Illinois

NO.	DATE	DESCRIPTION
1.	12/19/22	FOR REVIEW
2.	1/17/23	ISSUED FOR BID
3.	2/13/23	REVISED TO SHOW EX CONTOURS.
4.	2/13/23	REMOVED PORTION OF FENCE FROM ADD. 3 STA 102+ TO STA 106.

Project No. 21-13

Scale

As indicated

Sheet Title

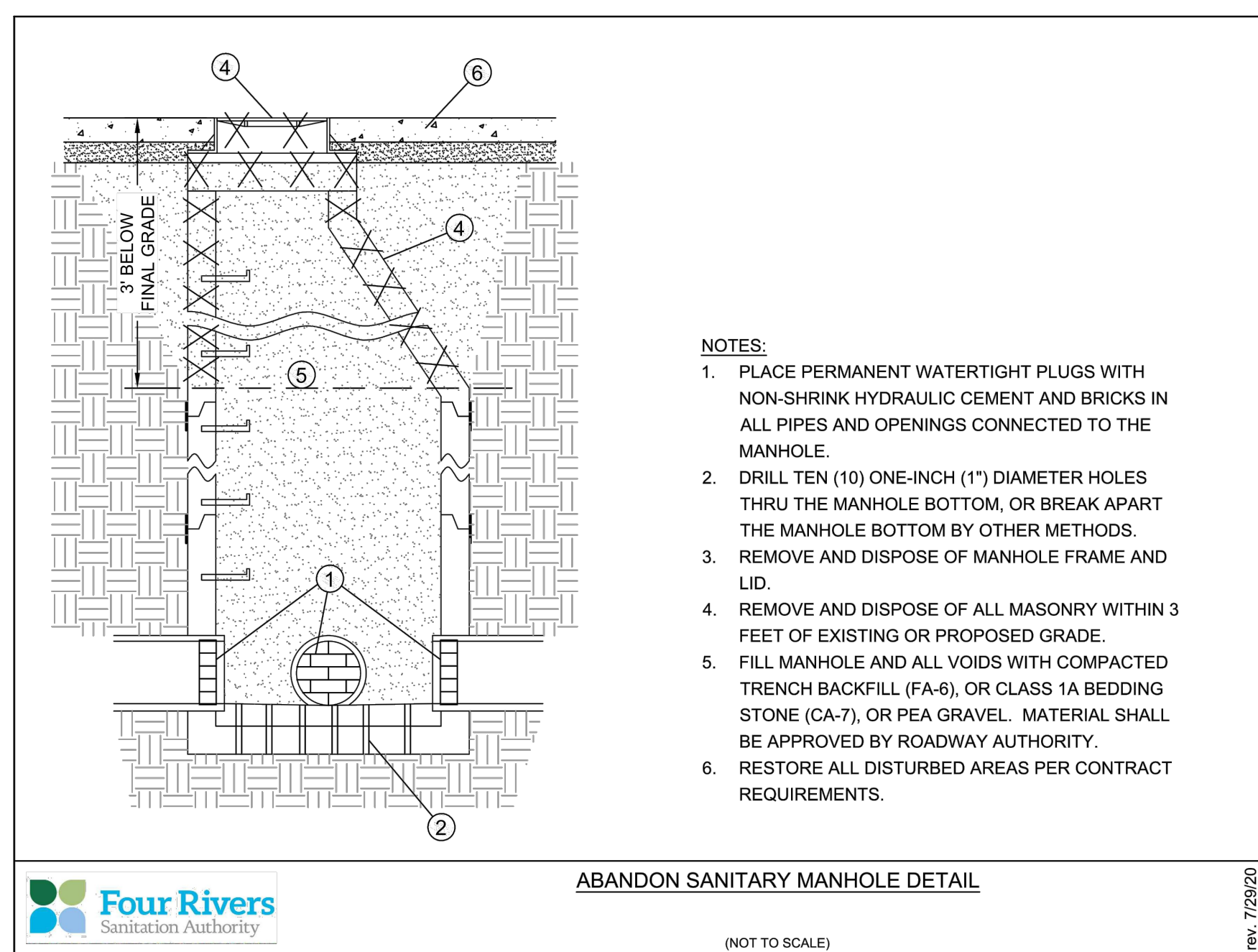
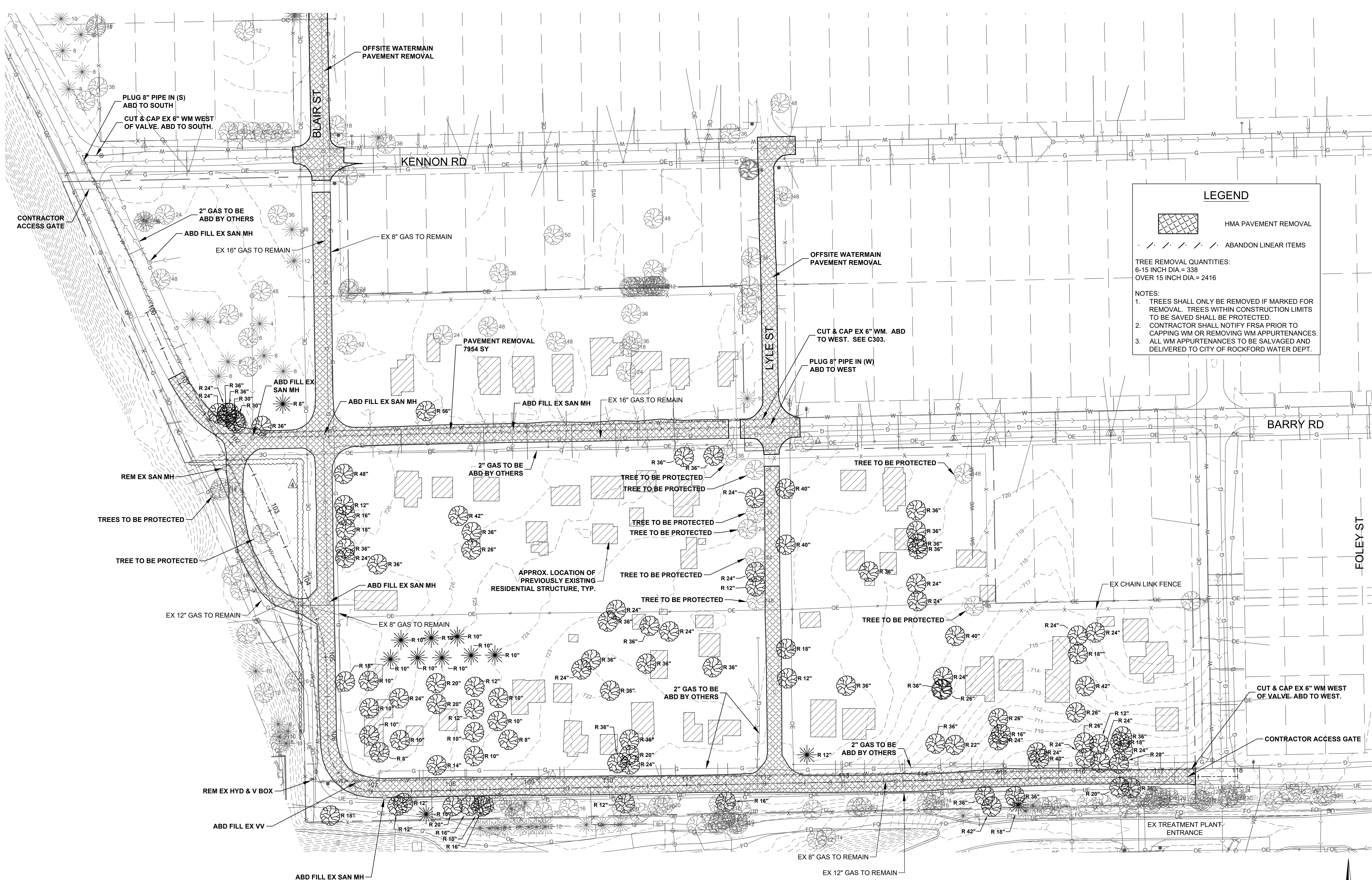
EXISTING CONDITIONS
& REMOVALS

Ref. North

Sheet No.

C101

PROFESSIONAL DESIGN FIRM REGISTRATION #



NO.	DATE	DESCRIPTION
1.	12/19/22	FOR REVIEW
2.	1/17/23	ISSUED FOR BID
3.	1/24/23	REVISED TO SHOW OFFSITE IMPROVEMENTS.
4.	2/13/23	REMOVED PORTION OF FENCE FROM STA 102+ TO STA 108.

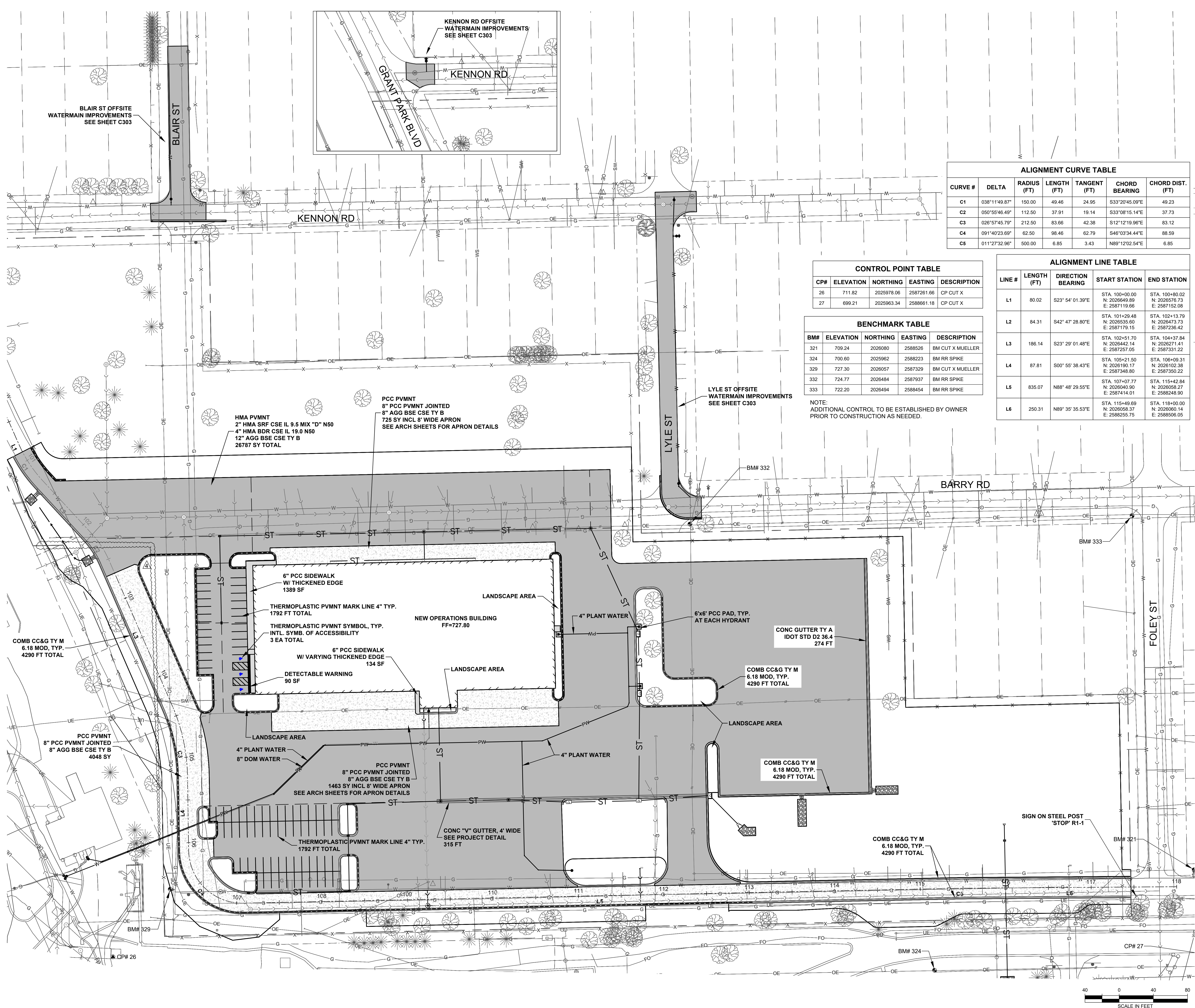
Project No. 21-13

Scale

Sheet Title As indicated

PLAN OVERVIEW
Ref. North Sheet No.

C102
PROFESSIONAL DESIGN FIRM REGISTRATION #



New Collection
Systems Operation
Facility

Capital Project No.
2217

for

Rockford, Illinois

NO.	DATE	DESCRIPTION
1.	12/19/22	FOR REVIEW
2.	1/17/23	ISSUED FOR BID
3.	1/24/23 ADD. 2	ADDED MATERIAL SPECIFICATION FOR 2" GAS PIPING.
4.	2/13/23 ADD. 3	ADDED HYD & VALVE ASS'Y AT CORNER NEW BUILDING PER COR COMMENT.
5.	2/13/23 ADD. 3	REVISED NOTES TO CORRECT 8" DOMESTIC WATER.

Project No. 21-13

Scale

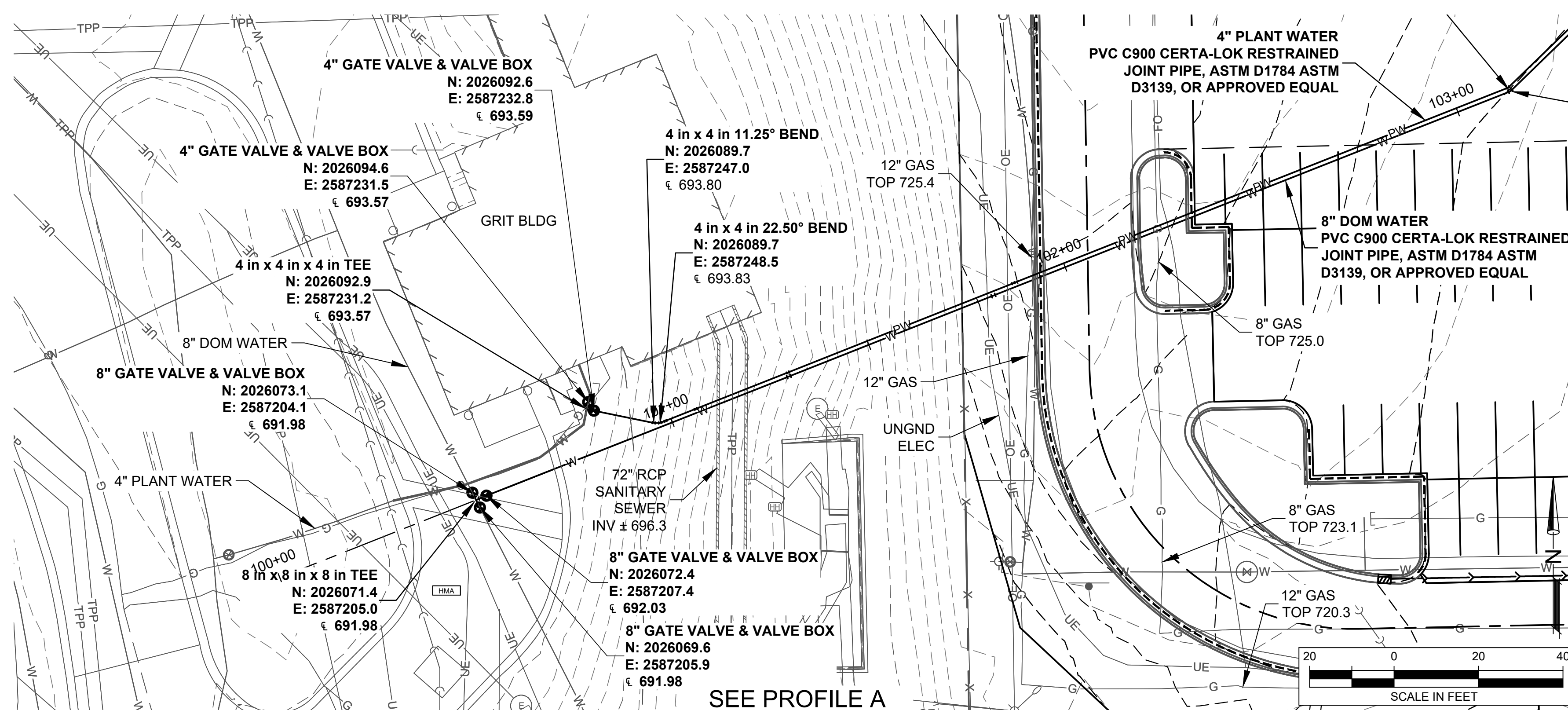
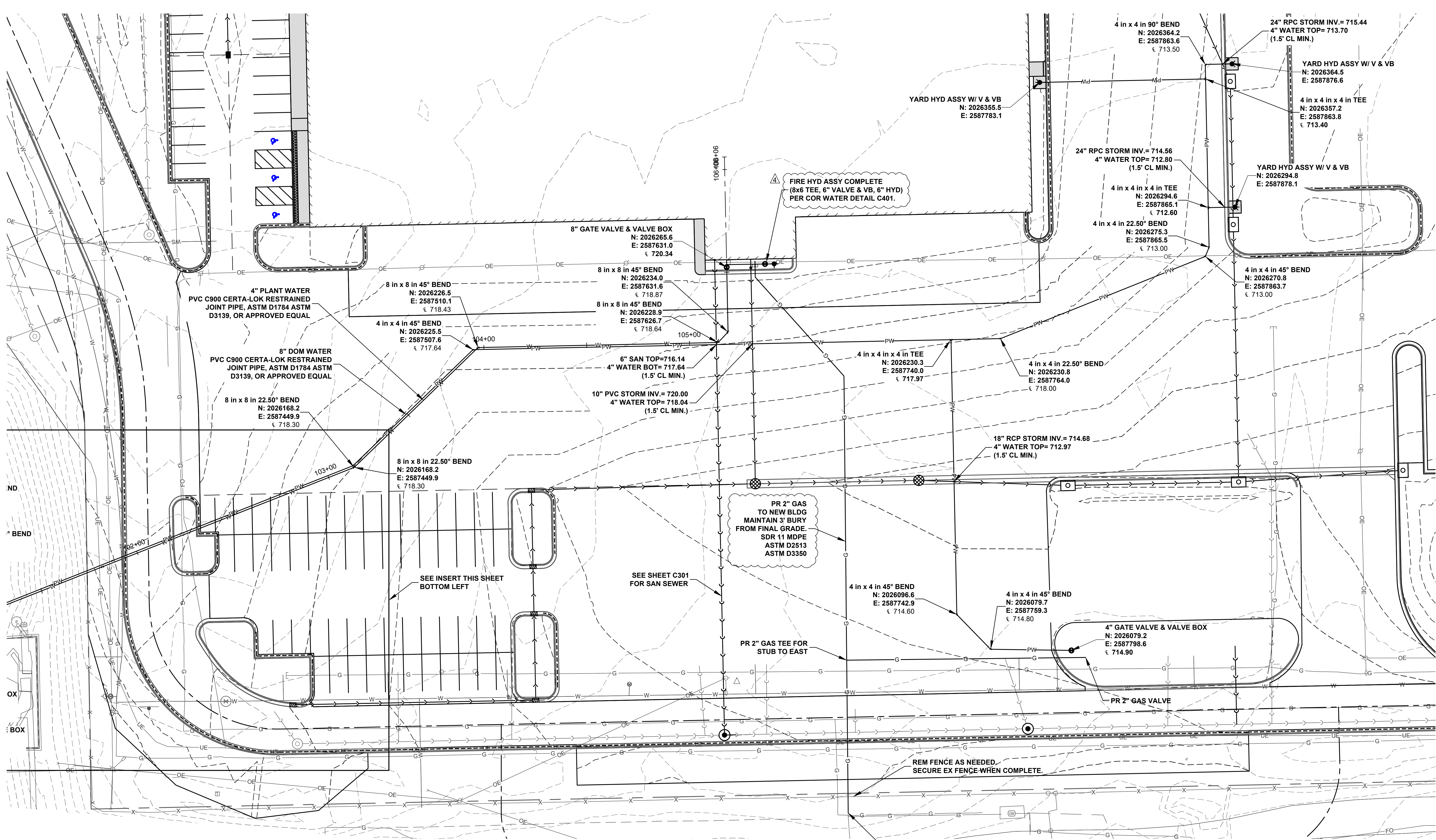
Sheet Title
As indicated

Ref. North
Sheet No.

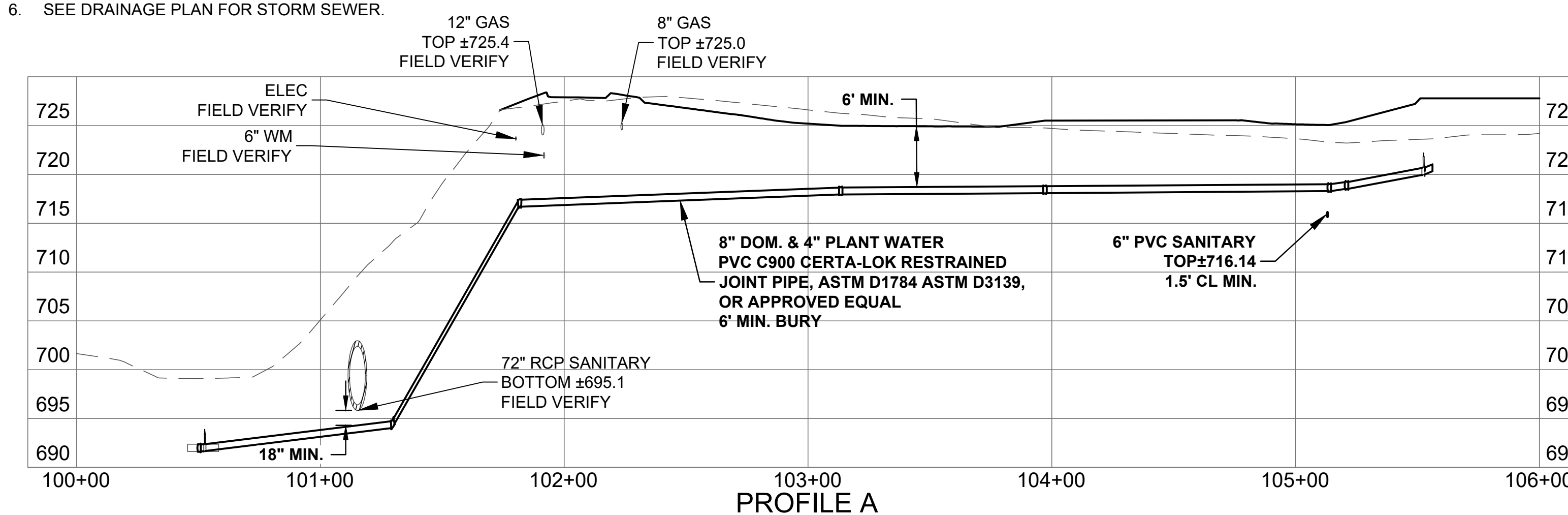
UTILITY PLAN

C302

PROFESSIONAL DESIGN FIRM REGISTRATION #



- NOTES:
- THE 8" DOMESTIC WATER & 4" PLANT WATER SHALL BE HORIZONTAL DIRECTIONAL DRILLED FROM WEST OF THE 72" RCP SANITARY SEWER TO EAST OF THE 12" & 8" GAS MAINS.
 - THE CONTRACTOR SHALL VERIFY ELEVATIONS OF CONSTRAINTS PRIOR TO PERFORMING THE HDD OPERATION, AND SHALL NOT BEGIN UNTIL A WORK PLAN HAS BEEN APPROVED BY THE FRSA. CONSTRAINTS SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, THE 72" SANITARY, AND 8" & 12" GAS MAINS.
 - THE HDD OPERATION SHALL BE PERFORMED WITH EQUIPMENT CAPABLE OF DETERMINING DRILL HEAD POSITION AND DEPTH WITH REASONABLE ACCURACY.
 - THE CONTRACTOR SHALL COORDINATE SHUT DOWNS OF THE DOMESTIC & PLANT WATER MAINS FOR CONNECTIONS WITH FRSA PER NOTES ON SHEET C001.
 - HDD WATER MAIN MATERIAL SHALL BE PVC C900 CERTA-LOK RESTRAINED JOINT PIPE, ASTM D1784 ASTM D3139, OR APPROVED EQUAL.
 - SEE DRAINAGE PLAN FOR STORM SEWER.

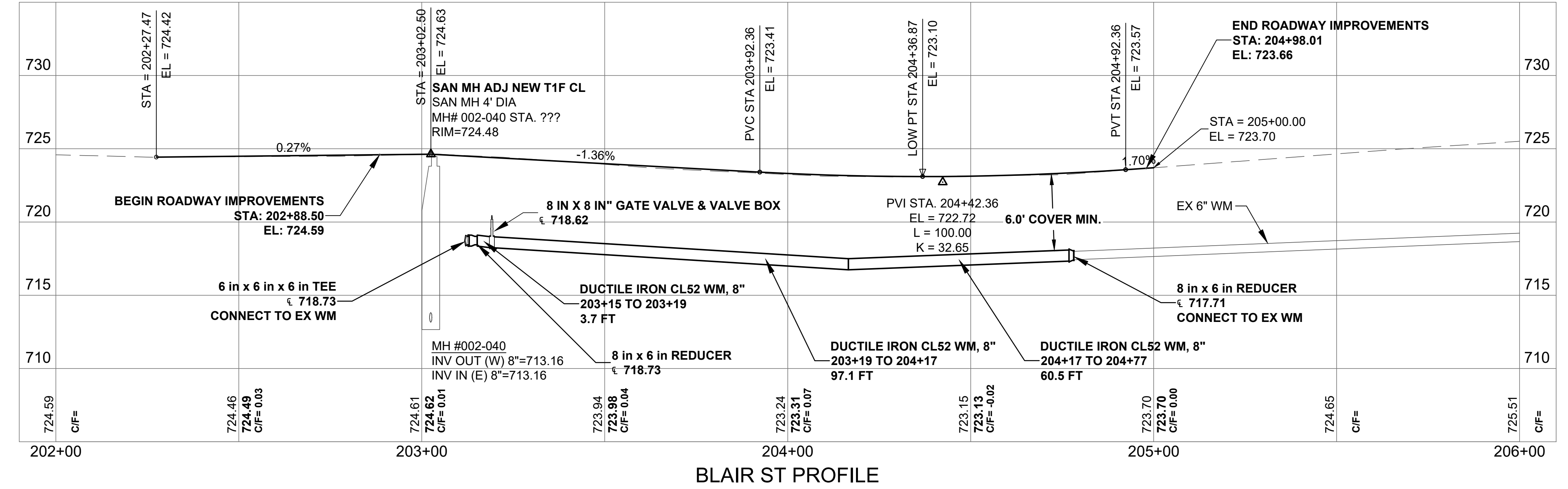
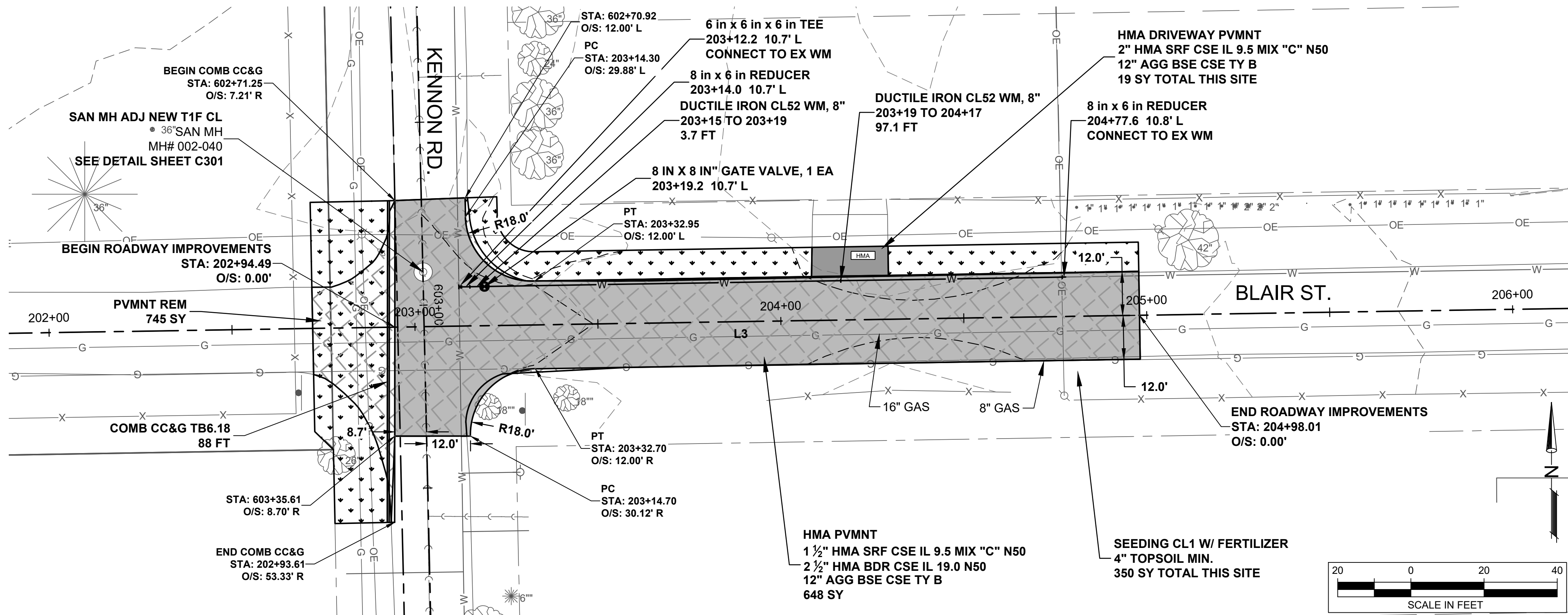
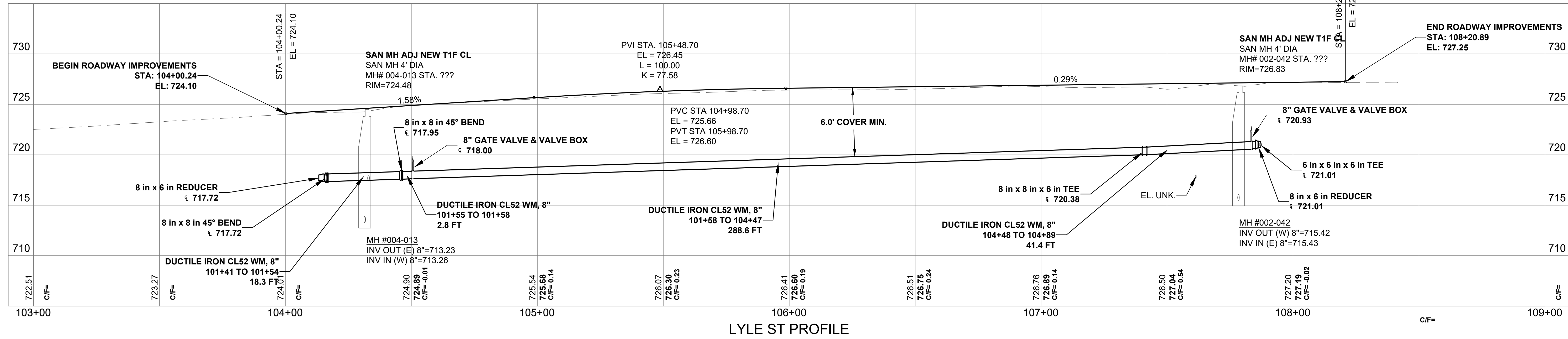
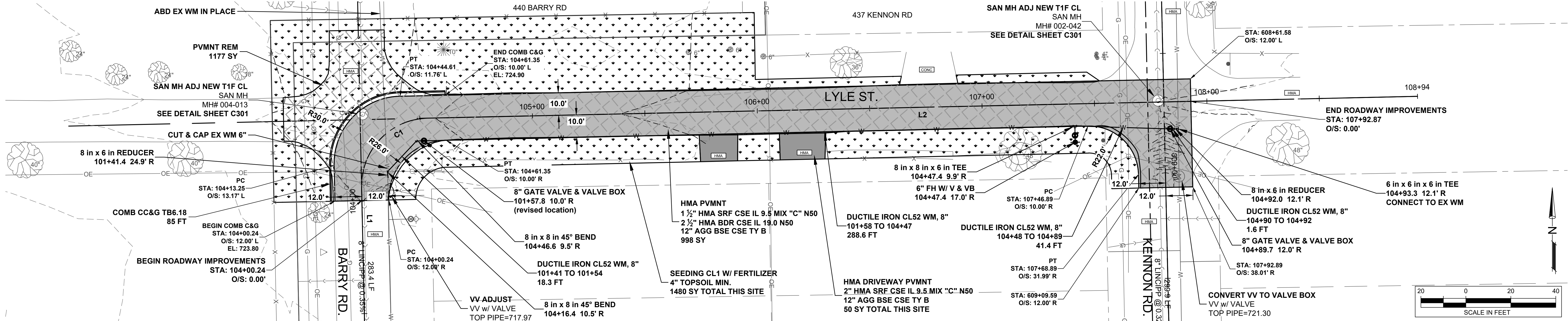


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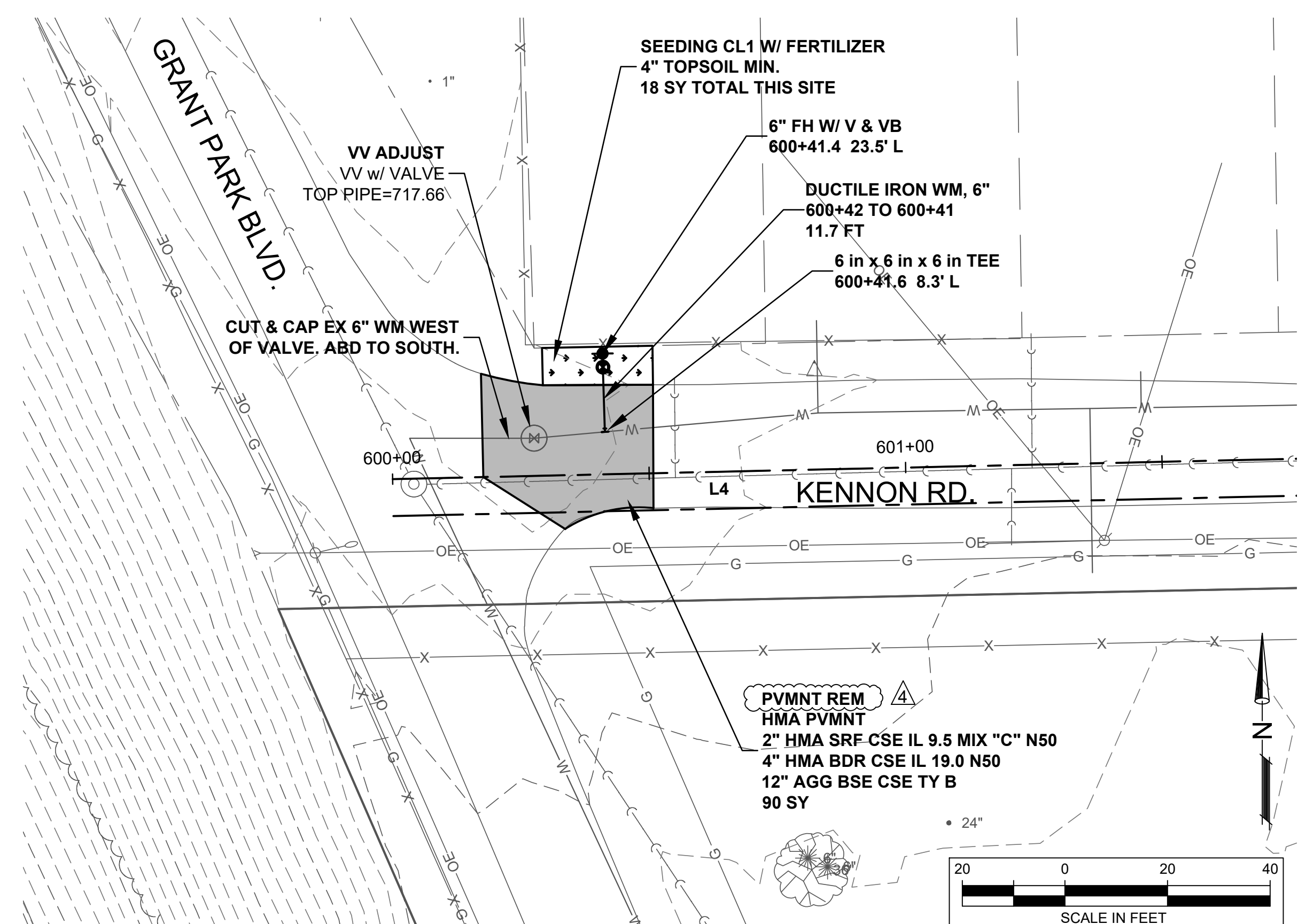
for

Rockford, Illinois



ALIGNMENT LINE TABLE				
LINE #	LENGTH (FT)	DIRECTION BEARING	START STATION	END STATION
L1	406.24	S88° 45' 44.89\"W	STA. 100+00.00 N: 2026513.05 E: 2588350.11	STA. 104+06.24 N: 2026504.27 E: 2587943.96
L2	440.35	N01° 15' 45.10\"W	STA. 104+53.35 N: 2026533.60 E: 2587913.32	STA. 108+93.70 N: 2026973.85 E: 2587903.62
L3	778.14	N00° 54' 49.74\"W	STA. 200+00.00 N: 2026545.86 E: 2587345.39	STA. 207+78.14 N: 2027323.90 E: 2587332.98
L4	1014.61	N88° 42' 38.40\"E	STA. 600+00.00 N: 2026841.44 E: 2587034.75	STA. 610+14.61 N: 2026864.27 E: 2588049.11

ALIGNMENT CURVE TABLE						
CURVE #	DELTA	RADIUS (FT)	LENGTH (FT)	TANGENT (FT)	CHORD BEARING	CHORD DIST. (FT)
C1	190°59'09.35\"	30.00	47.11	29.99	N46°15'00.11\"W	42.42



NO.	DATE	DESCRIPTION
1.	12/19/22	FOR REVIEW
2.	1/17/23	ISSUED FOR BID
3.	1/24/23 ADD. 2	MOVED VALVE LOCATION PER COR REVIEW COMMENT.
4.	2/13/23 ADD. 3	ADDED REMOVALS AT KENNON / GRANT PARK.

Project No. 21-13

Scale

As indicated

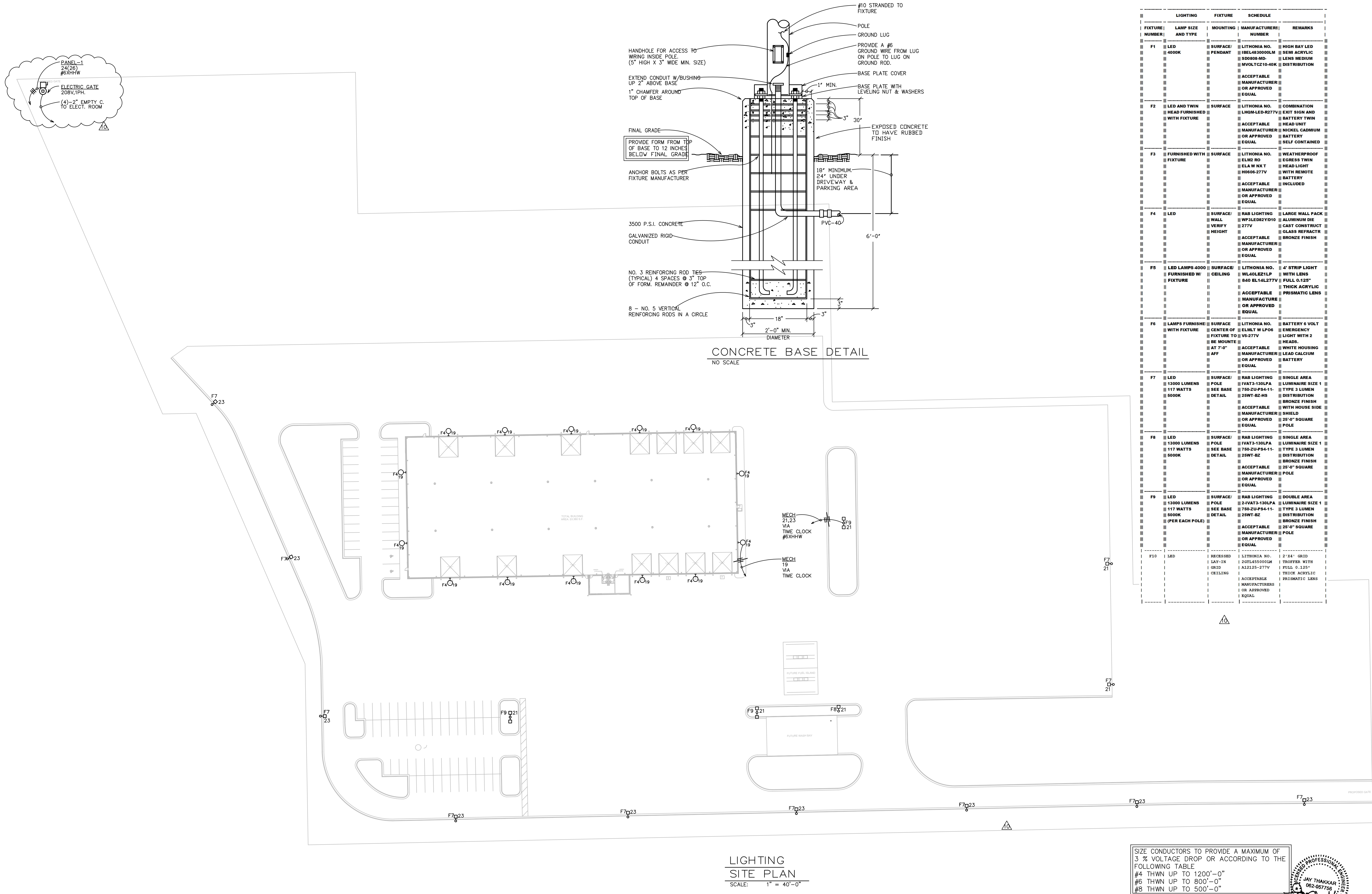
Sheet Title

OFFSITE WATER MAIN
PLAN

Ref. North Sheet No.

C303
PROFESSIONAL DESIGN FIRM REGISTRATION #

NO.	DATE	DESCRIPTION
1.	05-20-2021	Initial Owner Layout Review
2.	08-18-2021	Owner Review One
3.	01-21-2022	Owner Review One
4.	02-04-2022	Owner Review Two
5.	04-05-2022	Issued for Bids
6.	07-14-2022	Issued for Zoning Review
7.	08-22-2022	Issued for Bids
8.	01-17-2023	Issued for Permit
9.	01-17-2023	Issued for Bids
10.	02-06-2023	Addendum Two
11.	02-08-2023	Addendum Three





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e-mail legacy@legacydesigns.net
web site www.legacydesigns.net

New Collection
Systems Operation
Facility

Capital Project No.
2217

for



Rockford, Illinois

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF BLAKEMORE ARCHITECTS AND MAY NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF THE ARCHITECT.

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Project No. 21-13

Scale 1" = 40'-0"

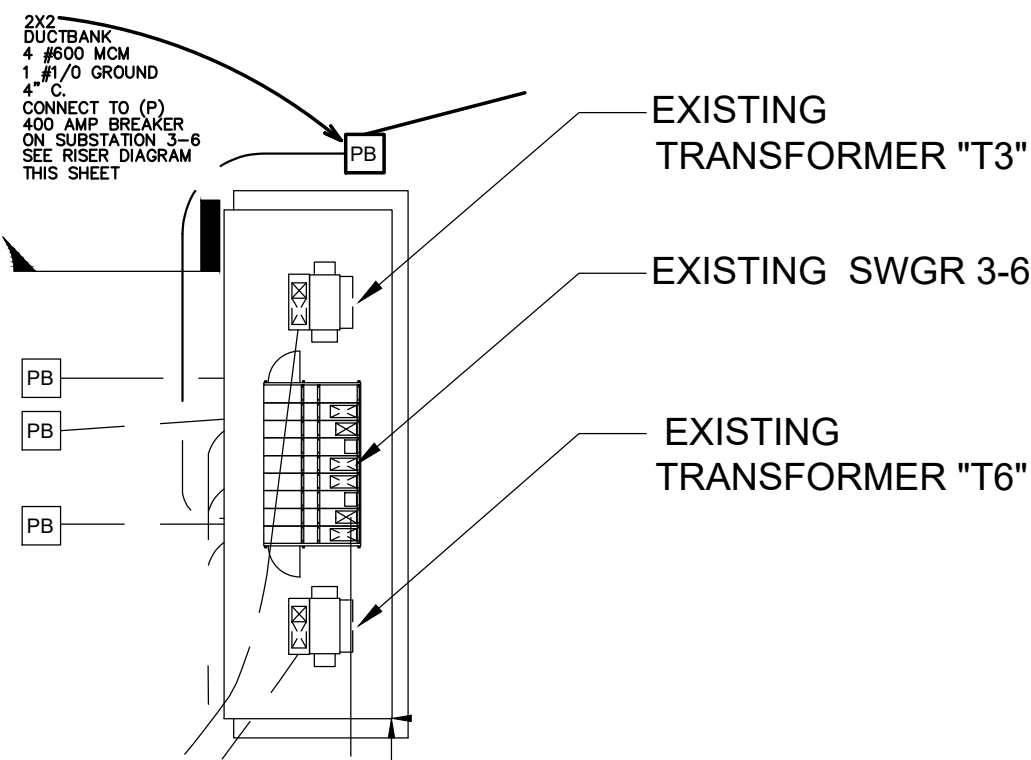
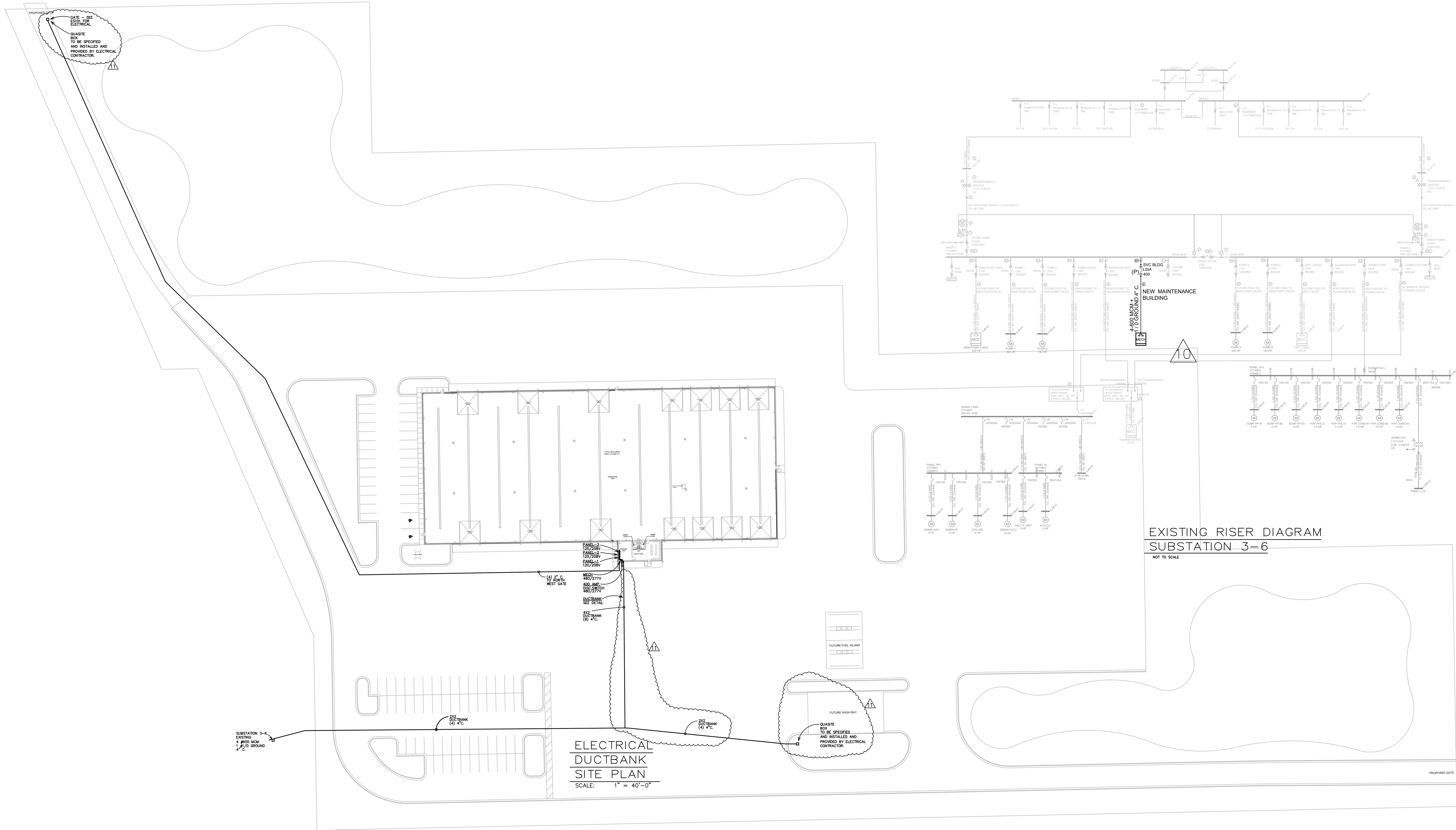
Sheet Title
ELECTRICAL - DUCTBANK
SITE PLAN

Ref. North Sheet No.
ES103

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342



Y:\BLAKEMORE\2022\222189 FOUR RIVERS SANITATION MAINTENANCE GARAGE\elec\222189-ELC.dwg Feb 13, 2023 - 2:55pm L Hansen



SUBSTATION 3-6
EXISTING

BOX



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web site: www.legacydesigns.net

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Project No. 21-13

Scale 3/32" = 1'-0"

Sheet Title LIGHTING
OVERALL FLOOR PLAN

Ref. North Sheet No. E101

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342



LIGHTING
OVERALL FLOOR PLAN
SCALE: 3/32" = 1'-0"

REFERENCE NOTES:

1. PROVIDE CEILING MOUNTED MOTION SENSOR SWITCH EQUAL TO ENLIGHT NCM6. VERIFY MOUNTING LOCATIONS PRIOR TO ROUGH-IN.
2. LIGHTING CONTROL PANEL EQUAL TO AQUITY RELAY PANEL ARP-INTENC16-NLT. 16FOR-120V-HLK-SM. 16 FIELD CONFIGURABLE RELAYS, HINGE LOCKING SURFACE MOUNT.



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for



Rockford, Illinois

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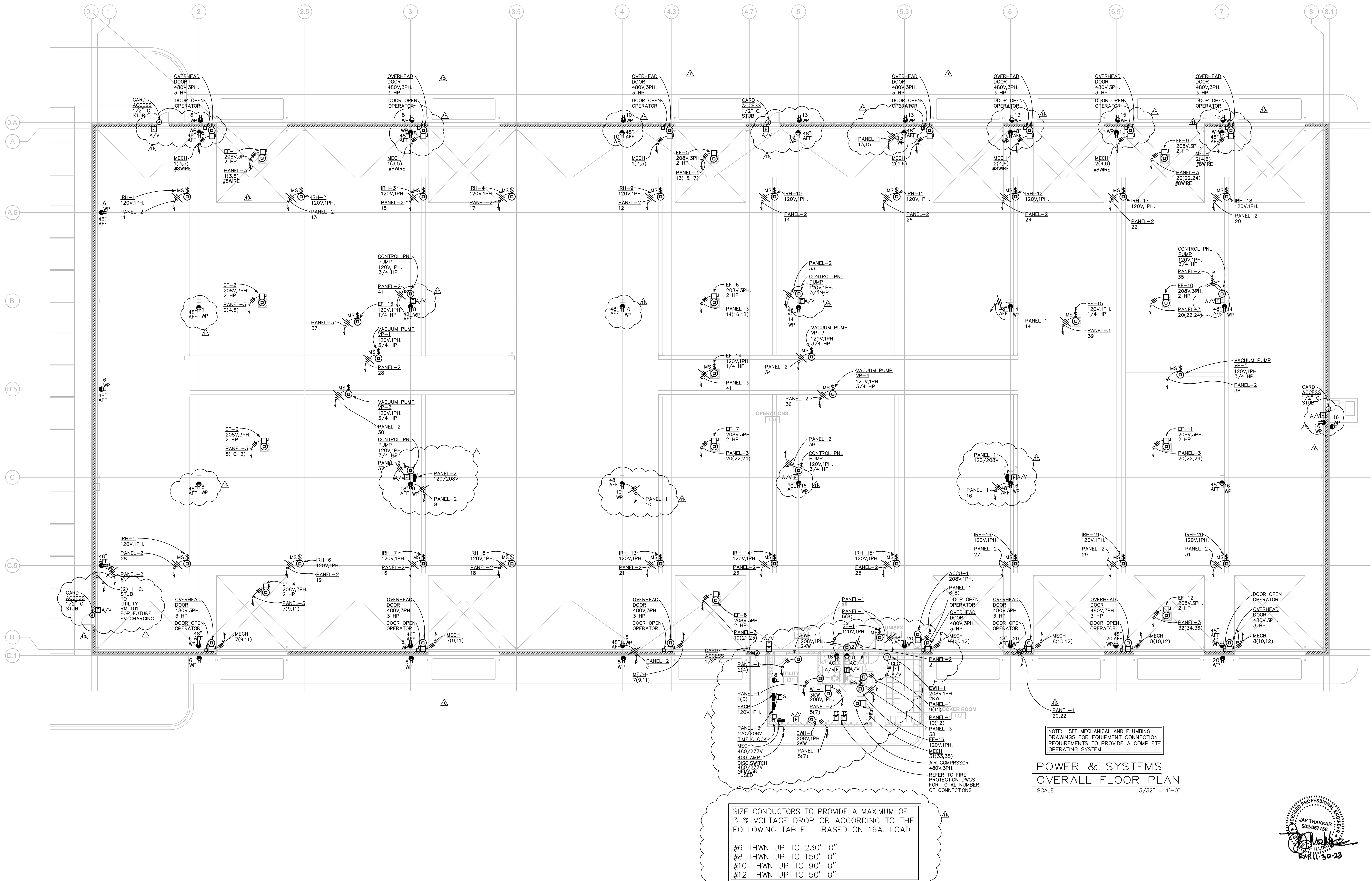
Project No. 21-13

Scale 3/32" = 1'-0"

Sheet Title POWER & SYSTEMS
FLOOR PLAN

Ref. North Sheet No.
E102

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342



ELECTRICAL SPECIFICATIONS:

1.01. WORK INCLUDES

- A. Raceways.
B. Wires and cables.
C. Boxes.
D. Supporting devices.

1.02. REGULATORY REQUIREMENTS

- A. National Electrical Code, NEC (2014)
1. Comply with NEC/NFPA No. 70, for construction and installation of basic materials.
2. NEC 300-21: Wiring Methods; Spread of Fire or Products of Combustion.
3. Building code for the city of Rockford.
B. Underwriter's Laboratories, UL:
1. All basic materials listed and labeled by UL.

1.03. REFERENCED

- A. American National Standards Institute, ANSI:
1. C80.3: Specification for Electrical Metallic Tubing, Zinc Coated.
B. National Electrical Manufacturer's Association, NEMA:
1. Enclosures: Publication 250.
a. Type 1: Indoor use, atmospheric conditions normal.
C. Underwriter's Laboratories, UL

1.04. SUBMITTALS

- A. Shop Drawings:
1. Submit drawings for:
a. Lighting fixtures.
b. Electrical Panel.
c. Receptacles.

1.05. PROJECT RECORD DOCUMENTS

- A. Accurately record on mylar sepia copy of actual locations and wiring methods and "As-built" record documents.
B. Submit for Architect's review.

1.06. DRAWINGS AND SPECIFICATIONS

- A. With the exception of systems and equipment furnished by Owner, it is intended that work covered by Specifications and Drawings includes systems complete and operative, irrespective of whether or not every item is specifically shown on plans and/or specified. Any omission of direct reference herein to any essential item shall not excuse contractor from complying with above intent.
B. In case of error or inconsistency, between Specifications and Drawings or within either document itself the item or arrangement of better quality, greater quantity or highest cost shall take precedence over drawings as directed by Owner. Figured dimensions supersede scaled dimensions. Contractor shall take no advantage of, and shall promptly call Owner's attention to any error, omission or inconsistency in Specifications and Drawings prior to submitting bid.
C. Material shall be new. Seconds or damaged materials will be rejected by Owner, who reserves the right to disapprove and reject any materials, proposed or installed which, in their opinion, fail to meet quality standards specified. Contractor shall, at his expense, remove any rejected materials and replace with approved materials.

2. PRODUCTS

2.01. RACEWAYS

- A. Conduit Materials, Components:
1. Conduit:
c. Electrical Metallic Tubing: ANSI C80.3.
2. Couplings:
a. EMT Conduit: Set screw.

2.02. WIRES AND CABLES

- A. Building Wiring: 98% conductivity copper, 600 volt insulation, THWN or THHN.
B. Branch Circuit Wiring: Conductors smaller than #12 AWG not permitted.
C. Provide permanent plastic name tag indicating load feed.

2.03. WIRING SYSTEM IDENTIFICATION

- A. Wire Insulation Color:
120/208 V., 3 phase, 4 wire
1. Phase A Black
2. Phase B Orange
3. Phase C Blue
4. Neutral White
5. Ground Green
277/480 V., 3 phase, 4 wire
1. Phase A Brown
2. Phase B Orange
3. Phase C Yellow
4. Ground Green
5. Neutral Gray

2.04. BOXES

- A. Outlet Boxes: Hot dipped galvanized, 1.25 oz./sq. ft. or cadmium plated.
1. Interior Boxes: Pressed steel sheet, with knockouts for conduit, attached lugs for locating.
2. Ceiling Boxes: 4 inch octagon boxes for 1 fixture; including fixture studs and maximum 2 connecting conduits.
3. Flush Mounted in Walls:
a. Boxes with matching plaster cover for single or two gang outlets.
b. Two gang box or larger for conductors, conductor joints, conduit terminations and wiring devices.
B. Pull Boxes and Junction Boxes: NEC metal construction; with screw-on or hinged cover.
1. Flush Mounted Pull Boxes: Overlapping covers with flush-head cover retaining screws; prime coated.

2.05. SUPPORTING DEVICES

- A. Conduit Supports:
1. Single Runs: Galvanized conduit straps or ring bolt type hangers with specialty spring clips.
2. Vertical Runs: Channel support with conduit fittings.
B. Anchors:
1. Hollow Masonry: Toggle bolts or spider type expansion anchors.
2. Solid Masonry: Lead expansion anchors or preset inserts
3. Metal Surfaces: Machine screws, bolts, or welded studs.
4. Wood Surfaces: Wood screws.
5. Concrete Surfaces: Self-drilling anchors or power-driven studs.
C. All 120V, single phase, 15 Amp and 20 Amp branch circuits serving bedrooms shall be protected by a listed arc-fault circuit interrupter, combination type installed to provide protection to the branch circuit (NEC 210.12).

2.06. FIRE AND SMOKE PENETRATION SEALANT

- A. NEC 300-21; UL rated flexible sealant.

2.07. CORROSION PREVENTION

- A. Protect all metallic materials against corrosion.
1. All equipment enclosures given rust-inhibiting treatment and standard finish by manufacturer.
2. Ferrous Metal Parts: Hot dip galvanized, ASTM A123 or ASTM A153.
a. Includes anchors, bolts, braces, boxes, bodies, clamps, fittings, guards, nuts, pins, rods, shims, thimbles, washers, and miscellaneous parts; other than stainless steel or non-ferrous materials.
B. Isolation of Dissimilar Metals: Separate dissimilar metals with NEC approved material.

2.08. PANELBOARD

A. ACCEPTABLE MANUFACTURERS

1. Square D.
2. Cutler Hammer.
3. ITE-Siemens.
4. G.E..

B. FABRICATION

1. Panels: Flush or Surface mounted complete with panel trim having concealed hinges and trim mounting screws. Provide locking door with flush catch.
2. Tub: Galvanized.
3. Keys: Provide two keys for each panel. Make keys interchangeable for panels of same voltage.
4. Branch circuit panelboards shall be of size and capacity as indicated on the drawings.
5. Branch non-interchangeable trip thermal magnetic circuits for lighting and small motors shall consist of molded case, bolt-on circuit breakers.
6. Branch circuits for feeders and power loads over 100 amperes shall consist of thermal magnetic non- interchangeable trip molded case bolt-on circuit breakers of rating, type and capacity indicated.
7. Breakers shall have thermal ratings as indicated on the drawings. Breakers shall be rated for local switching duty.
8. Each conductor terminal shall be provided with a bolted clamp type solderless lug.

- Breakers shall be back connected to bus bars with studs. All spaces for future breakers in all panels shall be equipped with proper buss connecting links to facilitate the installation of future breakers. Breakers shall have trip elements calibrated in accordance with the drawings. The trip elements shall ensure coordination and be capable of withstanding excessive short current conditions without injury to the breaker.
Breakers shall have inverse time limit characteristics so that tripping will be prevented on momentary overloads, but will clear before dangerous values are reached and shall have quick-make and quick-break toggle mechanism and a position between manual "on" and "off" positions when breaker is tripped.
Each breaker shall be provided with a numerical designation strip to properly identify the circuit served. Bus bars for all panels shall be hard drawn electrolytic copper of 98% conductivity rated 1000 amperes per square inch and shall be of size in strict accordance with NEMA requirements.
Multi-pole breakers shall have common trip with single handle. Tying single pole breaker handles together is not acceptable.

- Neutrals shall be grouped on a common bar and each terminal on the neutral bar shall be stamped with the number of the circuit with which it is associated.
Panel cabinets shall not be less than 20" wide, 5-3/4" deep and shall have gutters at each side and at top and bottom of ample width to accommodate branch circuit feeder conductors. All gutters shall be minimum 4" width except that gutters where cables are connected to panelboard main lugs and gutters used for through feed of feeder conductors shall be sized in accordance with the following schedule:
Up to #1/0 4" minimum
Enclosure shall be of code gauge steel with ample wiring space on all sides. Trim and door shall be of #12 gauge steel fastened to the tube with adjustable clamps. Door shall be provided with flush type hinges and chrome plated flush type combination catch and cylinder lock masterkeyed. Panel shall be provided with a circuit directory under glass in a metal frame. Panel tub shall be galvanized. Trim and door shall be painted standard factory finish for final painting on job by General Contractor.
Cabinets for panels shall comply with all NEMA standards and shall be of the dead front type suitable for surface or recessed mountings as indicated on drawings.
All panelboard equipment shall include a ground bus. Provide isolated ground bus where called for under panel schedules.

- 3.03. RACEWAY SYSTEM IDENTIFICATION
A. Identify all exposed conduits and boxes as follows:
1. Boxes, on face of coverplate.
a. Power - Show panel, voltage and circuit number, painted stenciled letters. (Black letters, yellow background).
b. Systems - Indicate system, such as sound, clock, telephone, etc., (Black letters, yellow background).
B. Identify all conduit and boxes above accessible ceilings.
1. Follow steps A.1. above.
C. Lettering to be as large as possible for each conduit size.

- 3.04. WIRE AND CABLES
A. Installation:
1. Make conductor length for parallel feeders identical.
2. Lase or clip groups of feeder conductors at distribution center, pull boxes and wireways.
3. Conductor size indicated on drawings indicates ampacity requirements using copper conductors.
B. Identify all conduit and boxes above accessible ceilings.
1. Follow steps A.1. above.
C. Lettering to be as large as possible for each conduit size.

- 3.05. BOXES
A. Installation:
1. Provide knockout closures to cap unused knockout holes where blanks have been removed.
2. Support all boxes independently of conduit.
3. Outlet Boxes:
a. Flush mount outlet boxes in areas other than mechanical rooms, electrical rooms, and above removable ceilings.
b. Masonry Walls:
1) Adjust position of outlets in finished masonry walls to suit masonry course lines.
2) Coordinate cutting of masonry walls to achieve neat openings for boxes.
3) Locate boxes in masonry walls so that only corner need be cut from masonry units.
c. Do not use sectional boxes unless approved by Architect/Engineer.
d. Adjust outlet mounting height to grade with specified location for equipment served.
4. Pull Boxes and Junction Boxes: Locate pull boxes and junction boxes above removable ceilings or in electrical rooms, utility rooms, or storage areas.

3.06. SUPPORTING DEVICES

- A. Installation:
1. Maintain headroom, neat mechanical appearance, and support equipment loads specified.

3.07. INSTALLATION PANELBOARDS

- A. Provide mounting brackets, busbar drillings, and filler pieces for unused spaces.
B. Prepare and affix typewritten directory to inside cover of panelboard indicating:
1. Circuit number/breaker number and use.

3.08. EXECUTION

- 3.01. INSTALLATION
A. Drawings are diagrammatic and are intended to convey scope of work and indicate general arrangement of conduit, boxes, equipment, fixtures and other work included in contract.
3.02. RACEWAYS
A. Locations:
1. Above-Grade Interior Locations: Electrical metallic tubing.
2. Install liquid-tight flexible conduit where subjected to one or more of the following conditions.
a. Moist or humid atmosphere where condensate can be expected or accumulate.
b. Corrosive atmosphere.
c. Subjected to water spray.
d. Subjected to dripping oil, grease, or water.
3. Size raceways in accordance with NEC for 1W wire regardless of wire type used.

- B. Installation of Conduit:
1. Install conduit and tubing products indicated, in accordance with manufacturer's written instructions and requirements of NEC and NECA, Standard of Installation.
2. Conceal conduit in all areas excluding mechanical, electrical and other unfinished rooms, connections to motors, and connections to surface cabinets.
3. Attach conduit with clamps.
4. Coordinate installation of conduit in partition work.
5. Install conduit free from dents and bruises.
6. Plug conduit ends to prevent entry of dirt or moisture.
7. Clean out conduit before installation of conductor(s).
8. Alter conduit routing to avoid structural obstructions, minimize cross-overs; and where possible, install raceways above water and steam piping.
9. Allow minimum 6 inch clearance at flues, steam pipes, and heat sources.
10. Route all exposed conduits parallel or perpendicular to building lines.
11. Fire rated walls, partitions, floors, ceiling penetrations:
a. Sealed in accordance with NEC 300-21.
b. Flexible conduit sufficient length to avoid vibration transmission.
12. Building Expansion Joints: Install UL listed expansion fittings complete with grounding jumpers where conduits cross building expansion joints.
a. Provide bands or offsets in conduit adjacent to building expansion joints where conduit is installed above suspended ceiling.

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- 3.04. WIRE AND CABLES
A. Installation:
1. Make conductor length for parallel feeders identical.
2. Lase or clip groups of feeder conductors at distribution center, pull boxes and wireways.
3. Conductor size indicated on drawings indicates ampacity requirements using copper conductors.
B. Identify all conduit and boxes above accessible ceilings.
1. Follow steps A.1. above.
C. Lettering to be as large as possible for each conduit size.

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A. Installation:
1. Provide knockout closures to cap unused knockout holes where blanks have been removed.
2. Support all boxes independently of conduit.
3. Outlet Boxes:
a. Flush mount outlet boxes in areas other than mechanical rooms, electrical rooms, and above removable ceilings.
b. Masonry Walls:
1) Adjust position of outlets in finished masonry walls to suit masonry course lines.
2) Coordinate cutting of masonry walls to achieve neat openings for boxes.
3) Locate boxes in masonry walls so that only corner need be cut from masonry units.
c. Do not use sectional boxes unless approved by Architect/Engineer.
d. Adjust outlet mounting height to grade with specified location for equipment served.
4. Pull Boxes and Junction Boxes: Locate pull boxes and junction boxes above removable ceilings or in electrical rooms, utility rooms, or storage areas.

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- A. Installation:
1. Maintain headroom, neat mechanical appearance, and support equipment loads specified.

3.07. INSTALLATION PANELBOARDS

- A. Provide mounting brackets, busbar drillings, and filler pieces for unused spaces.
B. Prepare and affix typewritten directory to inside cover of panelboard indicating:
1. Circuit number/breaker number and use.

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A. Drawings are diagrammatic and are intended to convey scope of work and indicate general arrangement of conduit, boxes, equipment, fixtures and other work included in contract.
3.02. RACEWAYS
A. Locations:
1. Above-Grade Interior Locations: Electrical metallic tubing.
2. Install liquid-tight flexible conduit where subjected to one or more of the following conditions.
a. Moist or humid atmosphere where condensate can be expected or accumulate.
b. Corrosive atmosphere.
c. Subjected to water spray.
d. Subjected to dripping oil, grease, or water.
3. Size raceways in accordance with NEC for 1W wire regardless of wire type used.

- B. Following removed present equipment and materials which are in good condition (or are placed in good condition), suitable, meet requirements of these specifications, and are approved in writing by engineer, or called for, may be reused (PXN-PN).
1. Lighting fixtures.
2. Speakers.
C. Removed conduit and wire must not be reused.
D. Any of above equipment which is not reused and following removed present equipment shall become property of contractor, and shall be removed from premises by him (PXN).
E. Following present equipment shall be carefully removed, intact, marked, and stored in place or is practical, shall remain property of Owner, and shall be delivered to Owner outside of building where directed by the engineer (PX-D).
1. Equipment so designated on drawings.
F. Contractor shall:
1. Provide new floors under removed present equipment and where called for.
2. Repair floors under and walls adjacent to removed equipment, to match adjacent construction.
3. Fill in present chases which are no longer required and neatly patch to match adjacent construction.
4. Cut openings required for:
a. His work.
b. Admission of new equipment.
c. Removal of present equipment.
d. New connection to present construction.
5. Patch and repair unused present holes and openings, and those left by the removal of present equipment and admission of new equipment.
6. Patch and repair present equipment, and building construction which has been cut, removed, disturbed or marred as required to restore it to original condition before being disturbed.
G. Unused openings in enclosures in conduits, boxes, cabinets, and panels shall be filled with fire rated material.
H. Present painted construction which is marred shall be repaired same as new construction.
I. Certain abbreviations or symbols, when applied to present (or existing) line, device or equipment, shall have the following meanings.
K. New conduit serving new and/or present electrical devices in finished rooms or spaces shall be concealed in finished rooms, where possible, or shall be run in adjoining unfinished rooms, shafts, chambers, cloak rooms, etc., where exposed conduit is permitted in finished present rooms by Architect, in writing, it shall be wirewired, with matching boxes, run as inconspicuously as possible, in straight lines, parallel to walls and ceilings, with neat bends. Unused boxes, switches and wiring shall be completely removed and openings patched. In present rooms or locations where new lighting equipment is shown, present fixtures, boxes, wiring, switches, etc., shall be removed as per note "PX", unless another symbol is shown on drawings. Where specifically approved by Architect in writing, boxes may be permitted to remain and be provided with new flush covers, extending over entire wall opening.
L. Lighting fixtures which are reused shall have lens and reflectors cleaned. All fixtures shall be provided with new lamps.
M. Work shall be coordinated so that heating, plumbing, electrical and telephone services to the present building will not be interrupted, except as approved by the Architect.

- 3.09. CLEANING
A. Clean systems internally before placing in operation. Clean externally and restore damaged surfaces.
B. Lubricate equipment per manufacturer's instructions. Where - lubricating points are not easily accessible, provide extensions.
4. FIRE ALARM AND DETECTION SYSTEM
A. Electrical Contractor provide a zone, none-coded, continuous sounding, U.L. listed, electrically supervised system, fully installed and tested.
B. Requirements of regulatory agencies:
1. National Fire Protection Association (NFPA):
a. NFPA-70 National Electrical Code (NEC)
b. NFPA-101 Life Safety Code
c. Local codes and ordinances
d. Underwriters Laboratories, Inc. (UL)
C. Reference Standards:
1. National Fire Protection Association (NFPA)
a. NFPA-72A Local Protection Signaling Systems
b. NFPA-72B Auxiliary Signaling Systems
c. Remote Station System
d. NFPA-72C Proprietary Signaling System
e. NFPA-72E automatic Fire Detectors
2. National Electrical Manufacturer's Association (NEMA).
3. All equipment specified shall be U.L. listed and cross listed for use with the main fire alarm control panel and shall bear the same number as shown on the main control panel as well as all the remote devices. Systems having equipment with various manufacturer's names will not be acceptable.
4. The Fire Alarm System specified is manufactured by the Simplex Time Recorder Co. Catalog and model numbers are intended to establish the type and quality of equipment and system design as well as exact operating features required. The manufacturer's specification sheets of each item so listed shall be considered to be part of the specification and binding therein.
5. Acceptable as equal:
a. Pyrotechnics
b. Gamewell
c. Edwards
d. Fire-Lite
System Operation
a. Actuation of any alarm initiating device shall cause all alarm devices to sound continuously. Alarm initiating device shall be grouped in zones.
A zone in alarm conditions shall be indicated by a red LED on the proper zone module.
b. Actuation of any alarm initiating device shall automatically cause the following operations when furnished as a part of this system.
(1) Sound or audio-visual devices continuously (NOTE: A one (1) minute inhibit shall allow the audio signals to be prematurely silenced until one (1) minute after the alarm has sounded.
(2) Indicate on the control panel the zone initiating the alarm and/or trouble condition.
(3) Indicate the zone of the reporting device on the remote annunciator.
(4) Be arranged to transmit a signal to the local fire department (via leased telephone lines).

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815-484-4708 Phone 815-484-4710 Fax
e-mail legacy@legacydesigns.net
web site www.legacydesigns.net

New Collection
Systems Operation
Facility
Capital Project No.
2217

for



Rockford, Illinois

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF BLAKEMORE ARCHITECTS AND MAY NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF THE ARCHITECT.

NO.	DATE	DESCRIPTION
1.	05-20-2021	Initial Owner Layout Review
2.	08-18-2021	Owner Layout Review
3.	01-21-2022	Owner Review One
4.	02-04-2022	Owner Review Two
5.	04-05-2022	Issued for Bids
6.	07-14-2022	Issued for Zoning Review
7.	08-22-2022	Issued for Bids
8.	01-17-2023	Issued for Permit
9.	01-17-2023	Issued for Bids
10.	02-06-2023	Addendum Two
11.	02-08-2023	Addendum Three

Project No. 21-13

Scale NONE

Sheet Title ELECTRICAL SPECIFICATIONS & RISER DIAGRAM

Ref. North Sheet No.

E103

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342

222189

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e-mail legacy@legacydesigns.net
web site www.legacydesigns.net

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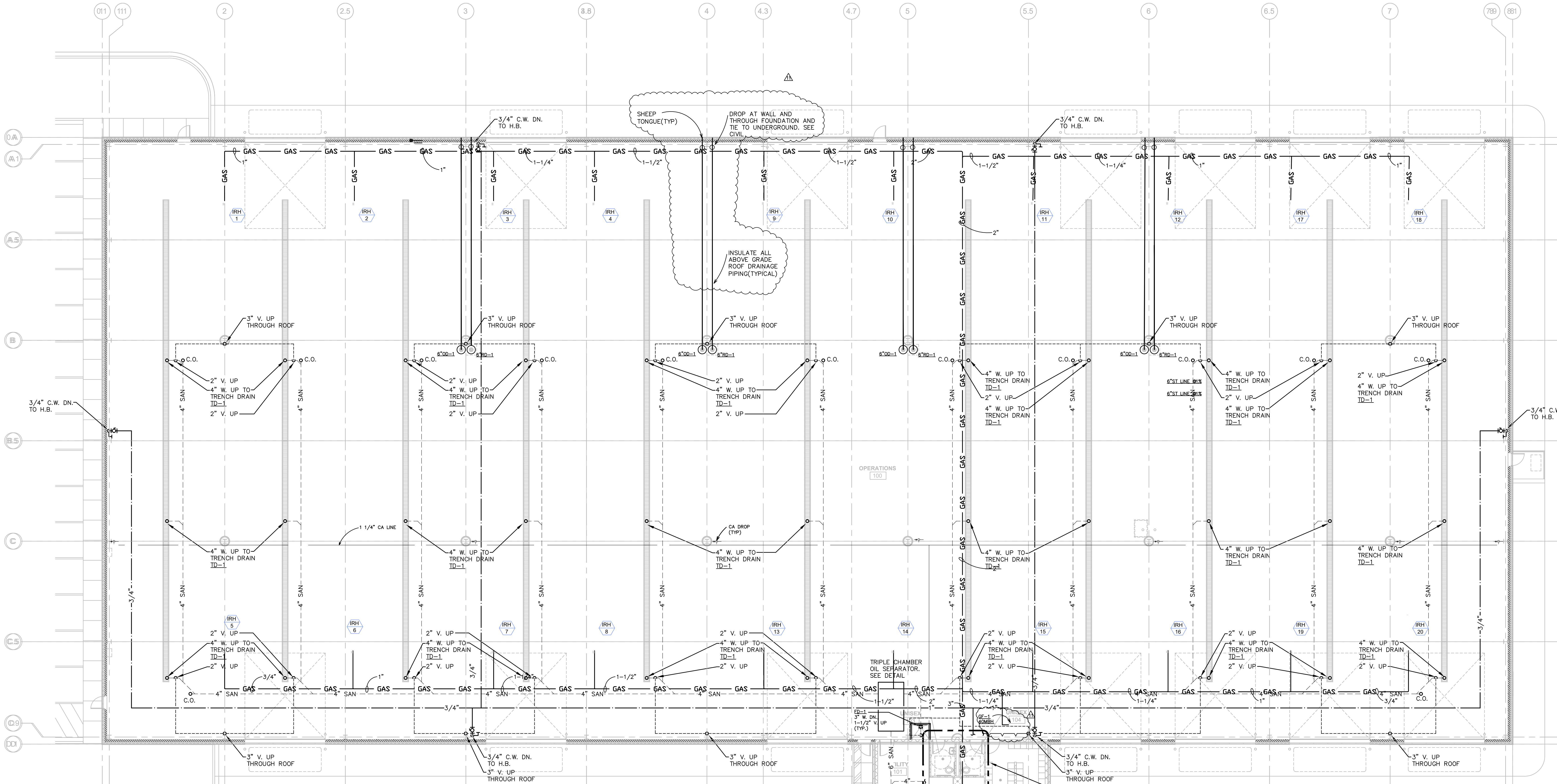
Project No. 21-13

Scale
 $3/32" = 1'-0"$

Sheet Title
PLUMBING
OVERALL FLOOR PLAN

Ref. North
Sheet No.
P101

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342



COMPRESSED-AIR PIPING SPECIFICATION

- 1.1 SUMMARY
Medium-pressure system steel pipe and welding-type fittings if connecting to high-pressure system source.
A. This Section includes piping and specialties for building compressed-air systems operating at 200 psig and less.
- 1.2 MANUFACTURERS - VALVES
A. Valves - Compressed-Air-Service, Locking-Handle, Safety-Exhaust Valves:
1. Canbroco Industries, Inc.; Apollo Div.
2. Dynalene Controls
3. Hammered Valve
4. Milwaukee Valve Co., Inc.
5. Nibco, Inc.
6. Quick Connect/Disconnect
- 1.3 PIPING, GENERAL
A. Provide compressed-air piping components complying with ASME B31.1, "Power Piping."
- 1.4 PIPES AND TUBES
A. Steel Pipe - ASTM A 53, Type E, Electric-Resistance Welded or Type S, Seamless, Grade B, Schedule 40, black or hot dipped, zinc coated.
- 1.5 PIPE AND TUBE FITTINGS
Select pipe- and tube-fitting options from paragraphs below to match options selected in "Pipes and Tubes" Article above and in "Piping Applications" Article in Part 3.
A. Malleable-Iron Pipe Fittings: ASME B16.3, Class 150, threaded, plain or galvanized.

1.6 VALVES

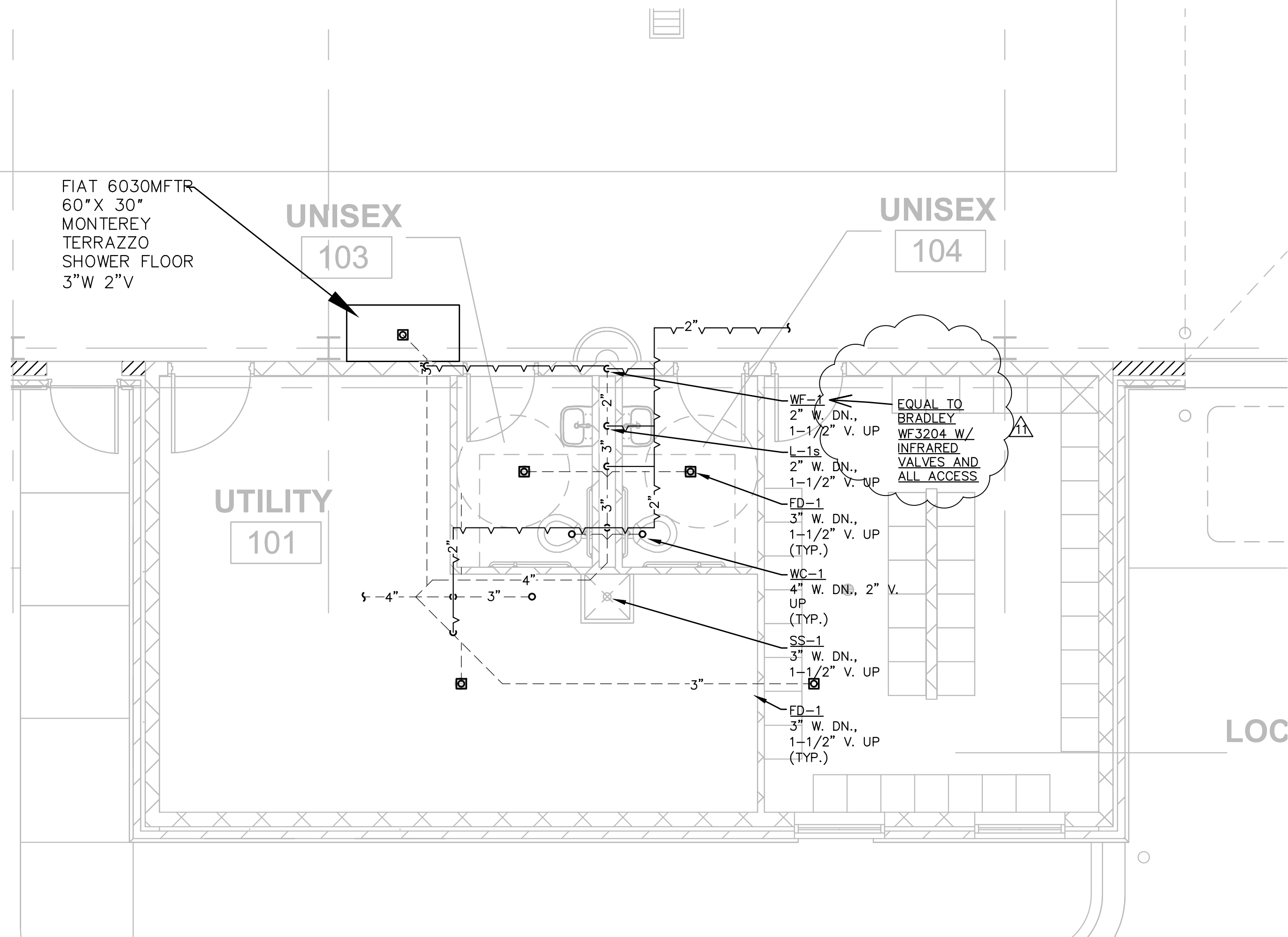
- A. Special-Duty, Compressed-Air Valves: Include PTFE seats and comply with the following:
1. Ball Valves, 2-inch NPS (DN50) and Smaller: MSS SP-110; 2-piece bronze body with blowout-proof stem; regular or full port; chrome-plated, solid-brass or -bronze bolt; threaded ends, and 600-psig minimum WOG pressure rating.
- 1.7 VALVE APPLICATIONS
A. Compressed-Air Supply to Equipment: Locking-handle, safety-exhaust ball valves.
- 1.8 PIPING INSTALLATION, GENERAL
A. Install air and drain piping with one percent slope downward in direction of airflow.
B. Connect branch air piping to mains from top of main. Provide drain leg and drain trap at end of each main, branch, and low point in piping. Modify pressure requirements below where ABS piping system is used.
- C. Piping System Tests: Cap and fill compressed-air piping with air-free, dry air, or gaseous nitrogen to pressure of 50 psig above system operating pressure, but not less than 150 psig. Isolate test source and let stand for 4 hours to equalize temperature. Refill system, if required, to test pressure and hold pressure for 2 hours with no drop in pressure. Repair leaks and defects with new materials and retest system until satisfactory results are obtained.
- 1.9 Water Separator
A. Compressed-Air Supply to Equipment: Equal to Ingersoll Rand-"F Series", MODEL FA75G (Verify with owner prior to order)

PLUMBING - OVERALL FLOOR PLAN

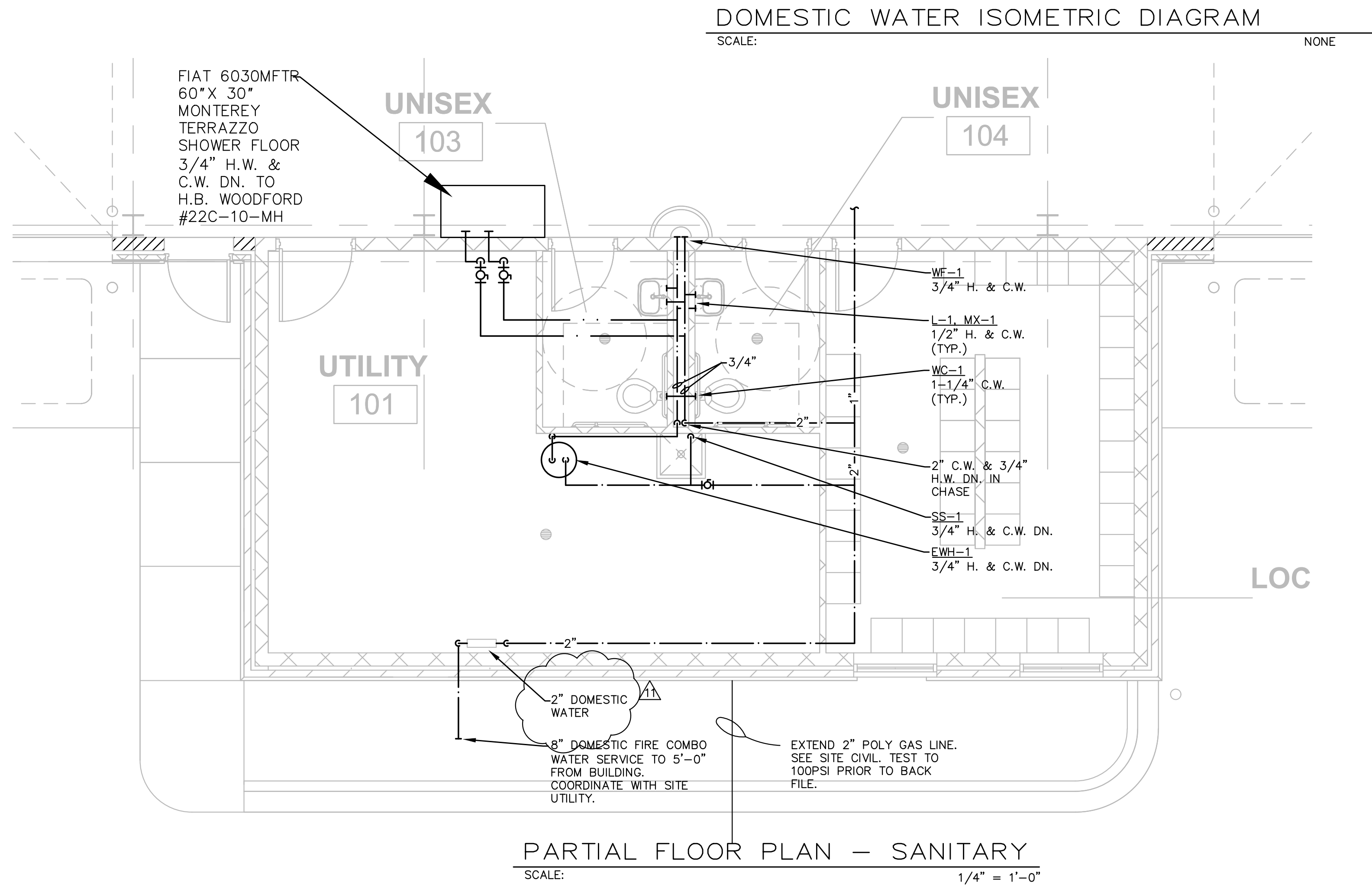
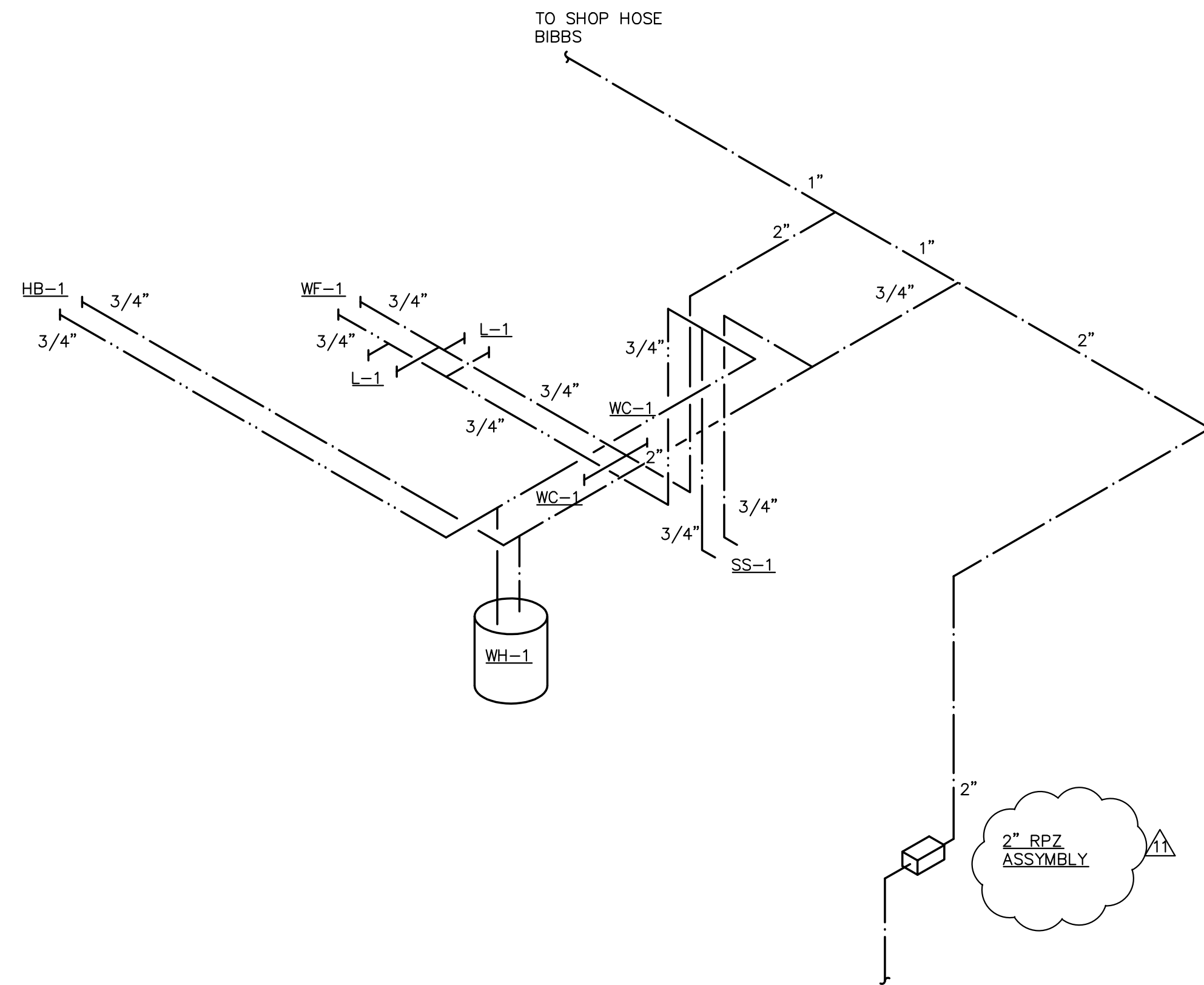
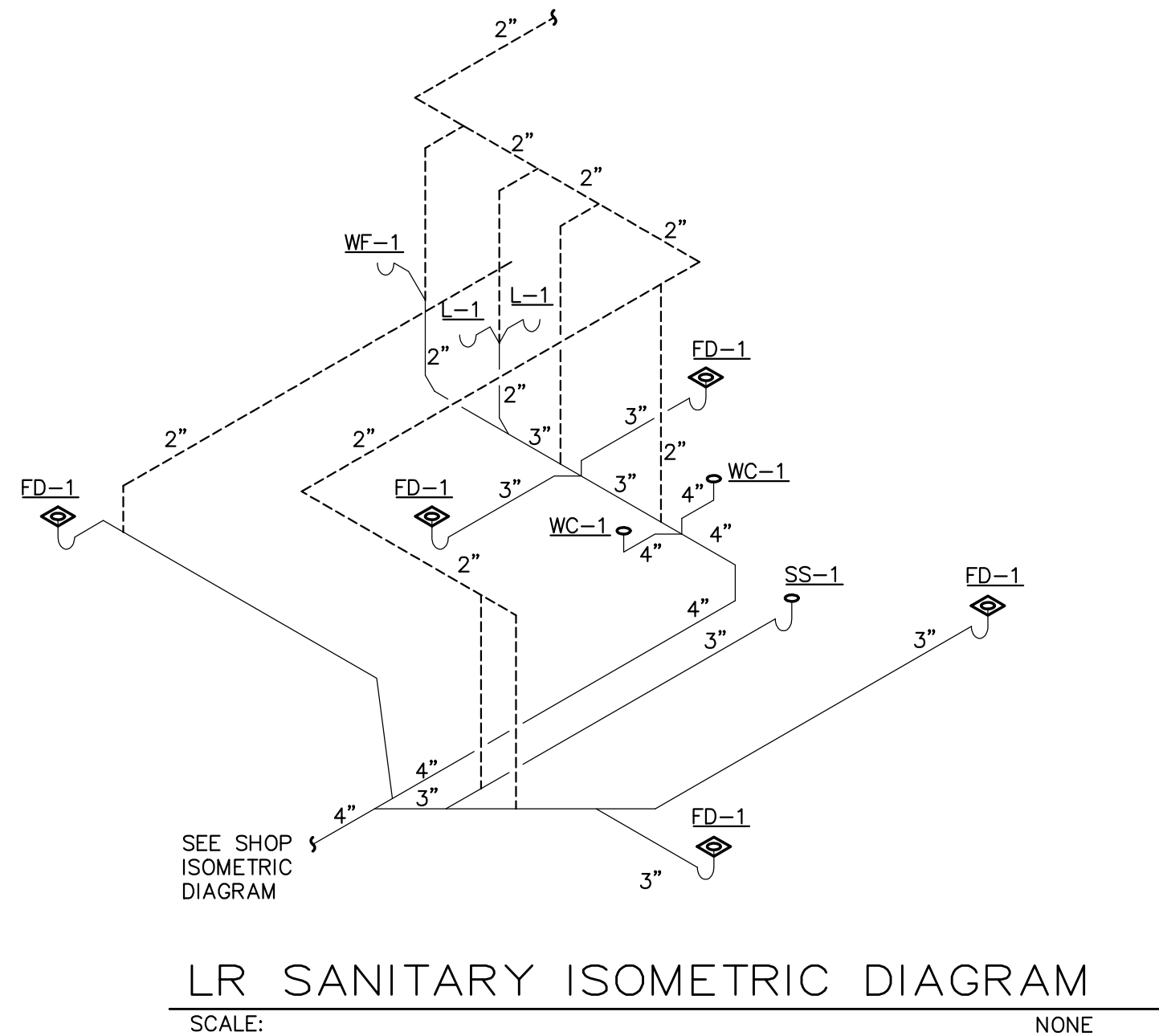
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ROOF DRAIN SIZING WORKSHEET			
1.JOB DATA: PLANT/ENGINEER			
A.JOB NAME:	FOUR RIVERS		
B.FOR ROOF AREA IDENTIFIED AS			
C.LOCATION: CITY:	ROCKFORD	STATE:	IL
D.RETURN PERIOD: 100 YR			
E.OVERFLOW PROVISIONS: PARAPET HEIGHT	1 in		
2.SIZING			
ROOF LENGTH:	350 FT	PARAPET LENGTH :	100 FT
ROOF WIDTH:	150 FT		
ROOF AREA:	52500 SQFT	PARAPET AREA :	4.2 SQFT
TOTAL AREA	52504.2 SQFT		
1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1)		3.5 in/hr	
RAINFALL in (FT/HR)	0.291667		
PIPE SIZE	6 in		
SLOPE OF HORIZONTAL DRAIN		1/4 in/ft	
TOTAL CAPACITY FROM TABLE 1106.1		487 GPM	
CORRESPONDING AREA		13356.65 SQFT	
PRESENT FLOW RATE :		114852.9 GPH	
		1914.216 GPM	
TOTAL NO OF ROOF DRAINS		4	



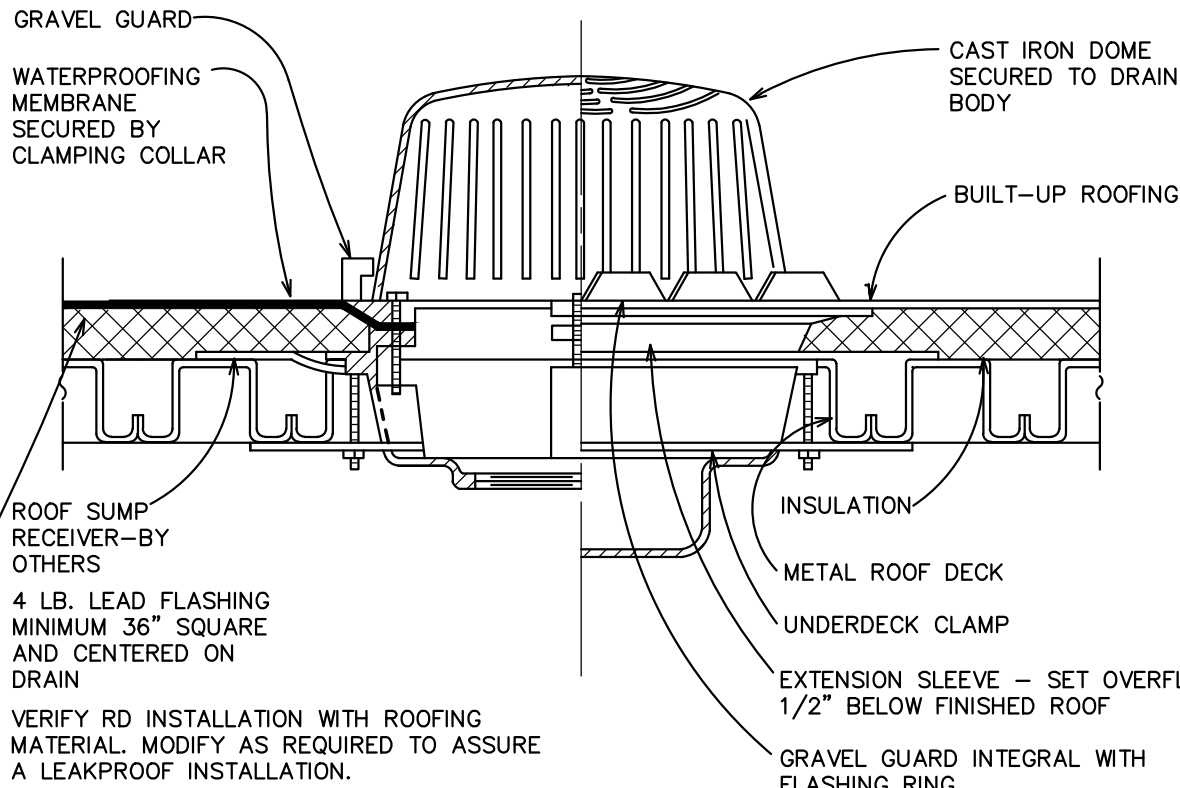
PARTIAL FLOOR PLAN - PLUMBING
SCALE: 1/4" = 1'-0"



PARTIAL FLOOR PLAN - SANITARY
SCALE: 1/4" = 1'-0"

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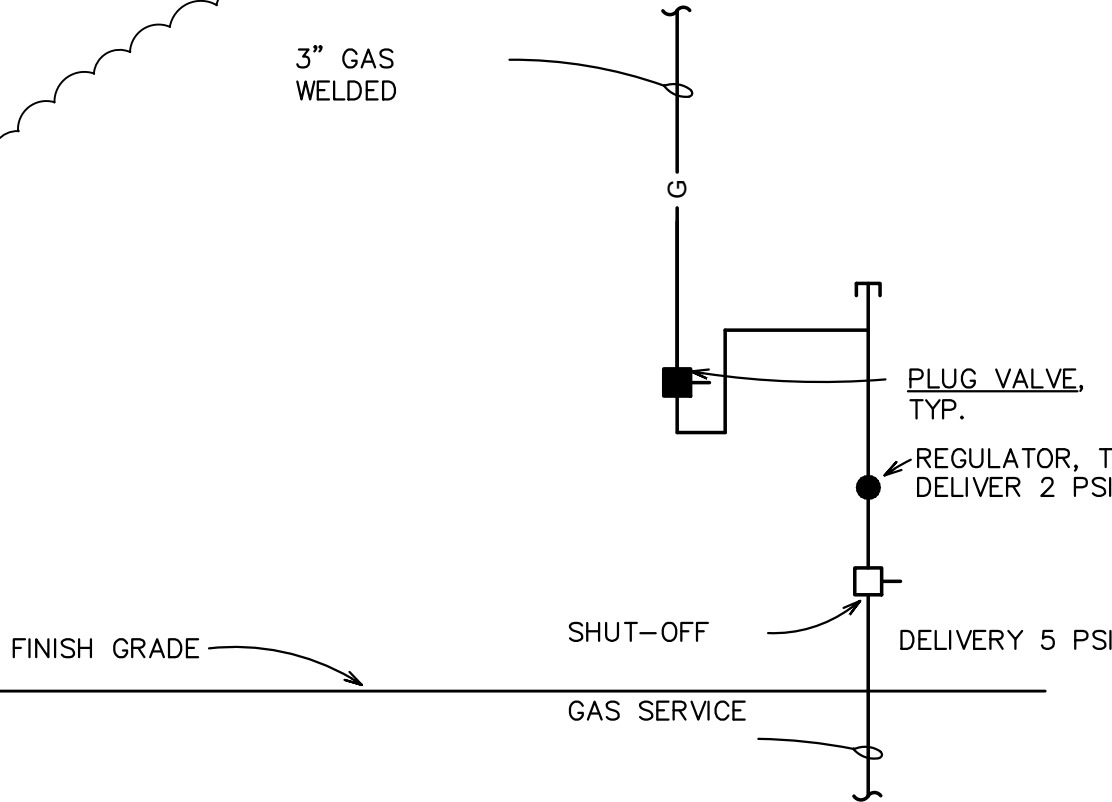


ROOF DRAIN (RD)-INSULATED METAL ROOF WITH ROOFING MEMBRANE

NO SCALE

GENERAL NOTES:

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. EACH CONTRACTOR SHALL MAKE REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND THE BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
- IT IS INTENDED THAT THE APPARATUS SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- EACH CONTRACTOR SHALL CHECK DRAWINGS OF THE OTHER CONTRACTORS TO VERIFY SPACES IN WHICH THEIR WORK WILL BE INSTALLED IS CLEAR OF OBSTRUCTIONS. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION.
- FURNISH EACH CONTRACTOR ADVANCE INFORMATION ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS NEEDED FOR WORK, AND ALSO FURNISH INFORMATION AND SHOP DRAWINGS TO PERMIT EACH CONTRACTOR AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- WHERE THERE IS EVIDENCE THAT THE WORK OF ONE CONTRACTOR WILL INTERFERE WITH THE WORK OF OTHER CONTRACTORS, EACH CONTRACTOR SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE SATISFACTORY ADJUSTMENTS.
- ALL WATER LINES SHALL DRAIN COMPLETELY THROUGH LOWER FIXTURES, UNIONS, BRASS CAP OR PLUG AT LOW POINTS AND MUST VENT COMPLETELY THROUGH FIXTURE ABOVE OR AIR VENT.
- PROVIDE LINE SIZE AIR CHAMBERS FOR ALL FIXTURES. AIR CHAMBERS SHALL BE MINIMUM 18" IN LENGTH.
- CONTRACTOR IS ALLOWED TO MAKE MINOR CHANGES TO PIPING, ETC. FROM THAT SHOWN ON DRAWINGS AS REQUIRED TO AVOID FIELD CONFLICTS AT NO ADDITIONAL COST TO THE OWNER AND AS LONG AS THE RELOCATION DOES NOT AFFECT THE PERFORMANCE OF THE SYSTEM.
- CONTRACTOR SHALL VERIFY ALL PRESENT CONDITIONS INCLUDING, BUT NOT LIMITED TO, PIPE SIZES, LOCATIONS, INVERTS, TEMPERATURES, ELEVATIONS, PRESSURES, ETC. PRIOR TO START OF CONSTRUCTION AND MAKE MODIFICATIONS FOR WORK SHOWN AS REQUIRED TO ACCOMMODATE PRESENT OR NEW CONSTRUCTION. ALL AT NO INCREASE IN CONTRACT PRICE.
- THE INSTALLATION OF ALL PIPING SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS IT PERTAINS WITH CLEARANCE OF PIPING IN RELATIONSHIP TO ELECTRICAL SWITCHGEAR, ELECTRICAL EQUIPMENT, ELECTRICAL PANELS, ETC. PIPING SHALL NOT CROSS OVER THE TOP OF OR IMPINGE UPON ELECTRICAL EQUIPMENT.
- CONTRACTOR SHALL INSTALL HIS WORK IN ACCORDANCE WITH ALL LAWS, RULES, REGULATIONS, CODES, ETC. PER ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
- CONTRACTOR SHALL WARRANTY HIS SYSTEMS FOR A PERIOD OF ONE (1) YEAR.
- SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT ITEMS.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTIONS, ETC. AS REQUIRED FOR HIS WORK.
- ALL GAS PIPING, WHICH IS CONCEALED ABOVE A CEILING, IN A CHASE, WALL, PARTITION, ETC. SHALL BE OF WELDED CONSTRUCTION. NO JOINTS, OTHER THAN WELDED, NOR VALVES SHALL BE ALLOWED IN CONCEALED SPACES. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



GAS SERVICE PIPING DIAGRAM

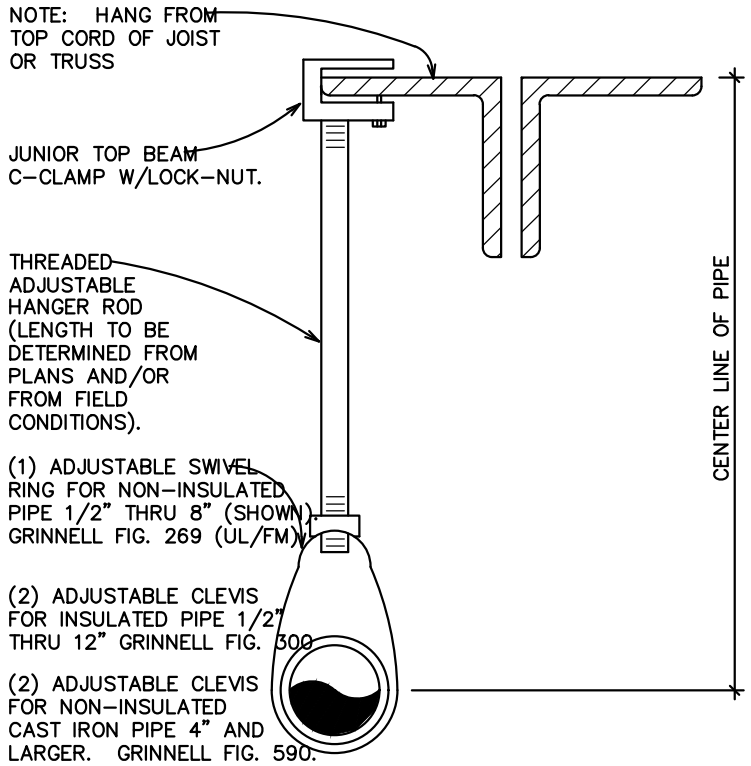
NO SCALE

NOTES:

- CONNECT TO GAS-FIRED EQUIPMENT WITH GAS COCK, REGULATOR, DRIP LEG AND UNION. COORDINATE EXACT LOCATION IN FIELD.

GAS SERVICE SCHEDULE	
REQUIRED CAPACITY	
1	3000 MBH

- GAS PIPING SHALL BE BLACK STEEL SCHEDULE 40, SEAMLESS, THREADED OR WELDED, COMPLYING WITH NFPA 54 AND THE GAS PIPING AND TUBING MATERIALS.
- STANDARD GAS PIPING MOUNTED INSIDE SUPPORTED AT MAXIMUM 10'-0" ON CENTER AND AS PER CODE AND PITCHED BACK AT 1/4" IN FOR EVERY 15 FEET. PROVIDE SHUTOFF, DIRTLEG AND UNION AT EACH GAS APPLIANCE.
- STANDARD ROOF MOUNTED GAS PIPING TO BE SUPPORTED BY PIPE-EASE EZ SLEEPER ROOF SUPPORT BLOCKS EVERY 10'-0". STANDING SEAM ROOF GAS PIPING TO BE SUPPORTED BY S-S SYSTEM.
- PROVIDE PRESSURE REGULATOR, SHUTOFF, DIRTLEG AND UNION AT EACH GAS APPLIANCE, ALL INFRARED HEATERS, ETC.
- PROVIDE PRESSURE REDUCING VALVE VENTED TO ATMOSPHERE AT ALL GAS APPLIANCES FED BY MEDIUM PRESSURE GAS.
- PROVIDE GAS SHUTOFF VALVES FOR ALL HIGH PRESSURE REGULATORS PER IFGC-410.2.
- LOW PRESSURE GAS PIPING 2" OR SMALLER TO BE SCREWED. PIPE 2-1/2" OR LARGER TO BE WELDED, OR AS MODIFIED BY LOCAL CODE AMENDMENTS.
- ALL HIGH PRESSURE GAS PIPING TO BE WELDED.
- PRIME AND PAINT ALL ROOF MOUNTED, EXPOSED GAS PIPING WITH ONE COAT OF RUSTOLEUM PAINT. ALL GAS PIPING INSTALLED ON ROOF SHALL BE PAINTED YELLOW PER LOCAL AMENDMENT, OR AS REQUIRED BY LOCAL JURISDICTION.
- FUEL GAS PIPING AND CONTROLS MUST CONFORM TO THE IFGC, CHAPTER 4.
- VERIFY METER AND EXISTING CONDITIONS WITH LOCAL GAS UTILITY COMPANY PRIOR TO INSTALLATION.



STEEL JOISTS/TRUSSES

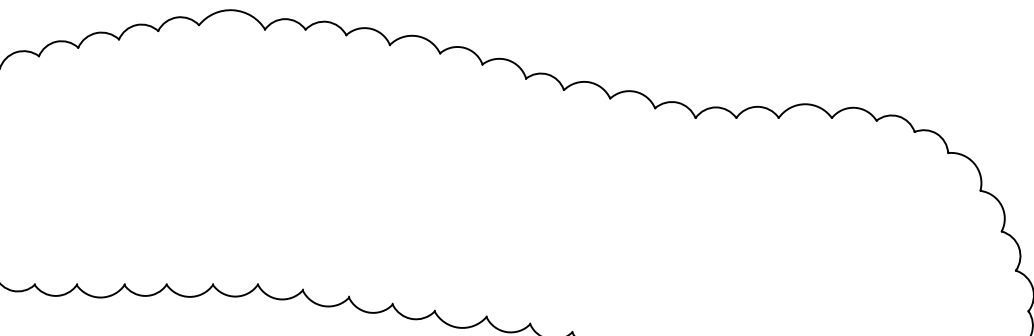
ACCEPTABLE MANUFACTURERS:
MILN, GRINNELL, PHILLIPS

NOTATIONS:

- PIPE CONTINUOUS THROUGH PIPE HANGERS. INSULATION SHALL BE PROTECTED FROM DAMAGE BY HANGERS WITH THE USE OF SHIELDS OR SADDLES.
- PIPE SHALL BE FREE TO EXPAND OR CONTRACT IN PIPE HANGER.
- PIPE SHALL NOT BE HUNG FROM FROM ANOTHER PIPE, FROM DUCTWORK, ETC.
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

PIPE HANGERS

NO SCALE

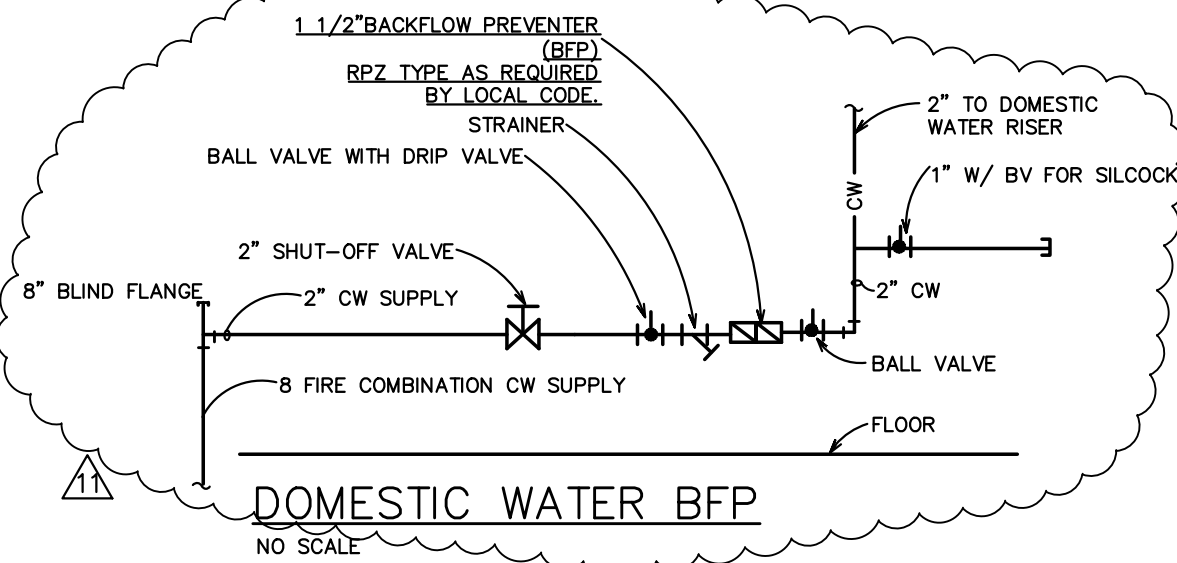


BACKFLOW PREVENTER SCHEDULE:

- ACCEPTABLE MANUFACTURERS: AMES, CONBRACO, FEBCO, WATTS, WILKINS.
- BFP-1: REDUCED PRESSURE ZONE BACKFLOW PREVENTER, CAST-IRON CONSTRUCTION, STAINLESS STEEL INTERNAL PARTS, RELIEF VENT PIPED TO DRAIN, UNION CONNECTIONS, TEST COCKS. PROVIDE RESILIENT SEATED OS&Y GATE VALVES BEFORE AND AFTER AND BRONZE STRAINER BEFORE. PROVIDE AIR GAP ASSEMBLY RECOMMENDED BY MANUFACTURER. WATTS No. 009-S-NRS.

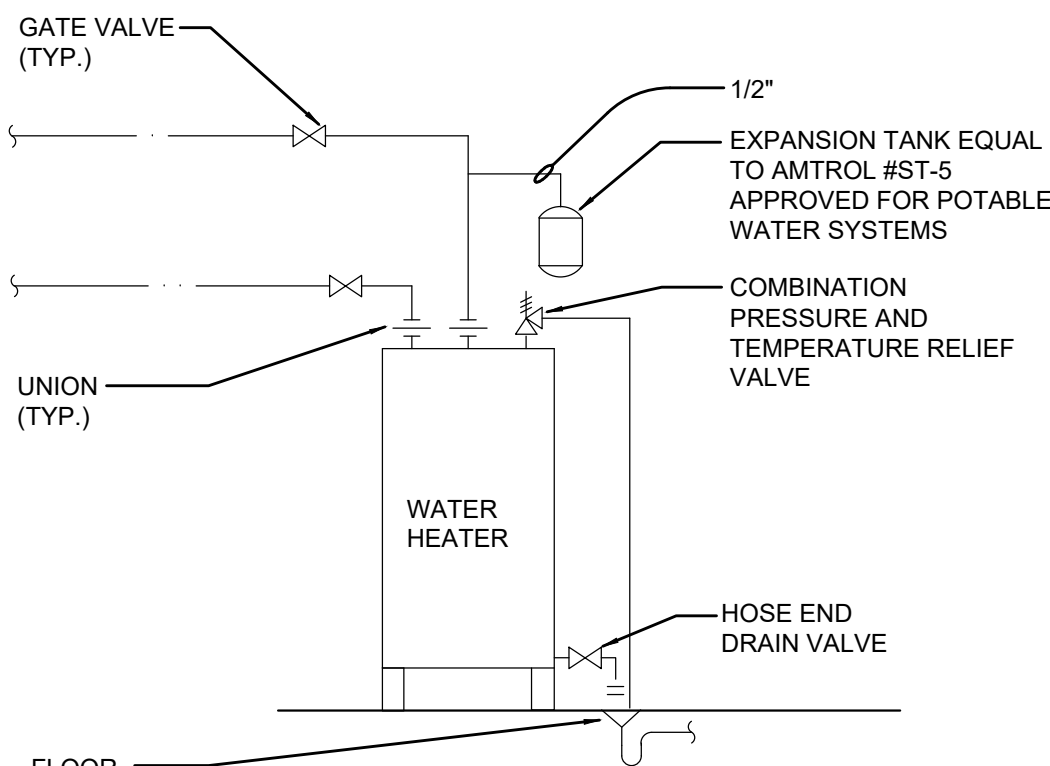
WATER HAMMER ARRESTERS

- ACCEPTABLE MANUFACTURERS: SIOUX CHIEF, JR SMITH AND WATTS.
- WATER HAMMER ARRESTERS SHALL BE INSTALLED WHERE REQUIRED IN PIPING SYSTEMS. WATER HAMMER ARRESTERS SHALL BE SUFFICIENT VOLUME OF AIR TO DISSIPATE THE KINETIC ENERGY GENERATED IN THE PIPING SYSTEM.
- ARRESTORS SHALL HAVE A PERMANENTLY SEALED TUBE BODY WITH FACTORY AIR CHARGE, AND SHALL BE AVAILABLE WITH MALE, THREAD OR FLANGED CONNECTION. ARRESTERS SHALL BE SIZED AND PLACED PER MANUFACTURER'S INSTRUCTIONS.
- MATERIALS: L COPPER/BRASS AND 316 STAINLESS STEEL TUBE.
- WORKING LIMITS 250F, 350 PSIG MAX. PRESSURE.
- WATER HAMMER ARRESTERS SHALL BE: ANSI/ASSE 1010 2004 CERTIFIED.



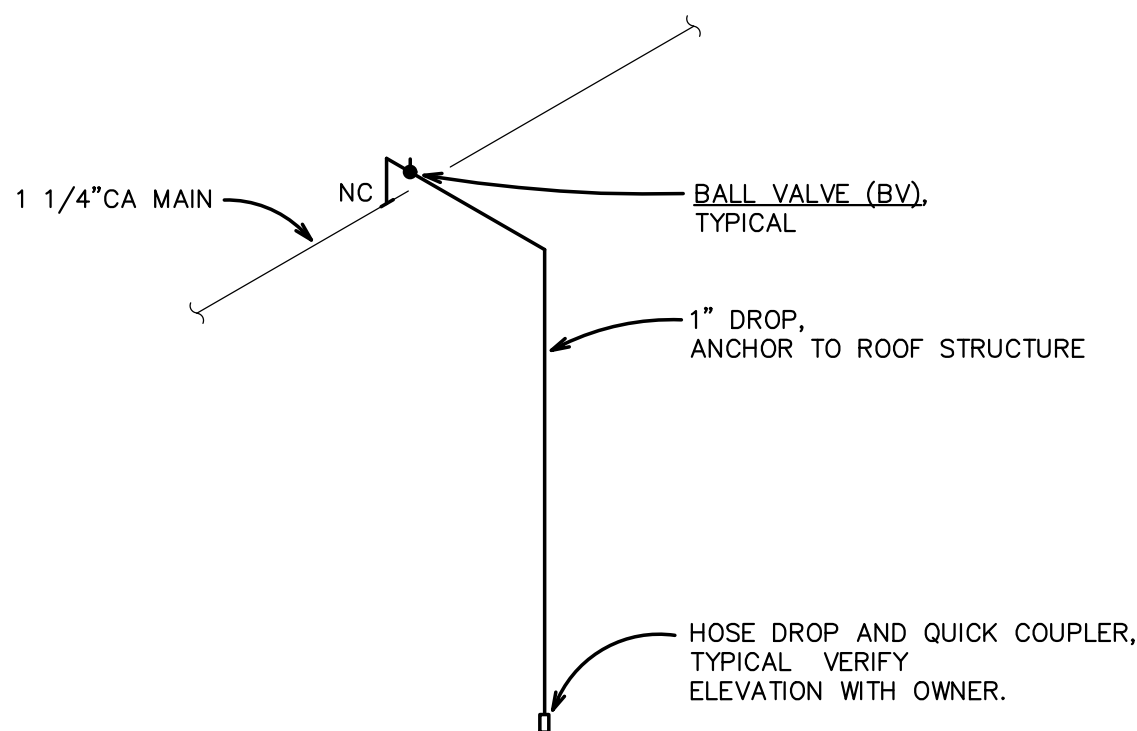
DOMESTIC WATER BFP

NO SCALE



ELECTRIC WATER HEATER PIPING DIAGRAM

N.T.S.



COMPRESSED AIR DROP

NO SCALE

NOTE: CONTRACTOR TO VERIFY WITH OWNER COMPRESSED AIR DROP LOCATIONS.

ROOF DRAIN SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	BODY MATERIAL	DOME		PIPE SIZE (IN.)	NOTES:
				MATERIAL	SIZE		
RD-1	WADE	3000	DUCO CAST IRON	CAST IRON	15"Ø	SEE PLANS	
ORD-1	WADE	3000	DUCO CAST IRON	CAST IRON	15"Ø	SEE PLANS	1
DSN-1	RECTOSEAL	G-O-N	NICKEL BRONZE	-	-	SEE PLANS	2

(APPROVED EQUAL: JAY R. SMITH, SIOUX CHIEF, JOSAM, ZURN, MIFAB)

NOTES:

- INTERNAL 3" WATER DAM
- PROVIDE OPTIONAL REMOVABLE STAINLESS STEEL SCREEN.

OIL / SAND SEPARATOR SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	INLET, OUTLET SIZE (IN.)	MAX FLOW RATE (GPM)	OIL CAPACITY (GALLONS)	SAND CAPACITY (GALLONS)	LIQUID CAPACITY (GALLONS)	UNIT WEIGHT (LBS)	DIMENSIONS (LxWxH)	NOTES:
OS-1	STRIEM	OS-75	4	75	93	11	110	130	46"x32"x38.5"	1 - 3

(APPROVED EQUAL: ENDURA, JAY R. SMITH, JOSAM, ZURN, PROCEPTOR)

NOTES:

- FACTORY INSTALLED BUILT-IN FLOW CONTROL.
- BOLTED GAS/WATER TIGHT 24"Ø COMPOSITE COVER.
- TELEGLIDE RISERS AS REQUIRED

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	ADA	DESCRIPTION	ACCESSORIES	PIPE CONNECTION SIZES				NOTES
					W	V	CW	HW	
WC-1	WALL MOUNTED FLUSH VALVE TYPE WATER CLOSET	X	Zurn Z5615-HET - Elongated ADA 1.6 Gpf Wall mounted type, Sloan Regal XL Flushometer, American Standard Vortex Elongated White seat model 5055A.65C. Zurn Toilet Chair carrier 21203-NL4	Seat: American Standard Vortex Elongated White Model 5055A.65C	4"	2"	1-1/4"	---	MOUNT 17" AFF TO TOP OF BOWL RIM
L-1	WALL MOUNTED LAVATORY		Mansfield 2018HBS-4 Wall Mounted Lavatory With Backsplash	Faucet: American Standard #7385.004VA.002 Aerator: American Standard #V05 Drain: McGuire #155A Supply: McGuire #H1708V4LE 1/4 turn p-Trap: McGuire #8872C-1TT 1-1/2" Chrome Plated Brass Carrier: Jay R. Smith #0700-Z	1-1/2"	1-1/2"	1/2"	1/2"	1
MX-1	THERMOSTATIC MIXING VALVE		WATTS LFUSG-B-M2	ASSE 1070 Thermostatic Mixing Valve	---	---	1/2"	1/2"	
SS-1	SERVICE SINK		FIAT Mop Sink #MSB2424	Faucet: FIAT #830-AA with Integral Check Valves Bracket: FIAT #832-AA Mop Hanger: FIAT #889-CC Drain Gasket: FIAT #20C3-2 Splash Panel: FIAT #MSG	3"	---	1/2"	1/2"	

APPROVED PLUMBING FIXTURE MANUFACTURERS: AMERICAN STANDARD, MANSFIELD, CRANE, TOTO, ELKAY, KOHLER, ZURN, SLOAN, FIAT, FLORESTONE, MUSTEE.
APPROVED PLUMBING HARDWARE MANUFACTURERS: MOEN, AMERICAN STANDARD, DELTA, KOHLER, CHICAGO, SLOAN, ZURN, T&S, ACORN, TOTO.
(FIXTURES TO BE INSTALLED IN ACCORDANCE WITH ADA REQUIREMENTS)

NOTES:

- PROVIDE PLASTIC TYPE PIPE COVERS EQUAL TO TRUEBRO "LAY GUARD" ON ALL ACCESSIBLE LAVATORIES AND SINKS.
- ALL TANK TYPE WATER CLOSETS SHALL BE ORDERED WITH HANDLES ON THE OPEN SIDE (ADJACENT TO THE LAVATORY) PER CODE.

ELECTRIC DOMESTIC WATER HEATER SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	LOCATION	CAPACITIES		ELECTRICAL DATA		NOTES
				RECOVERY (GPM)	STORAGE (GALLONS)	TEMP. RISE (DEG. F)	KW INPUT	
WH-1	BRADFORD WHITE	LE130L3-3	SEE PLAN	12	30	100	3.0	208/1

(APPROVED EQUAL: LOCHINVAR, A.O. SMITH, BRADFORD WHITE, BOCK)

NOTES:

- U.L. LISTED

FLOOR DRAIN SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	LOCATION	BODY MATERIAL	GRATE		ACCESSORY	PIPE SIZE (IN.)	NOTES:
					TYPE	FINISH			
FD-1	SIOUX CHIEF	832	SEE PLAN	DUCTILE IRON	6-1/2" Ø	NICKEL BRONZE	-	3"	1

(APPROVED EQUAL: ZURN, JOSAM, JAY R. SMITH, SIOUX CHIEF, MIFAB)

NOTES:

- "SURESEAL" IN LINE TRAP SEAL.

TRENCH DRAIN SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	LOCATION	BODY MATERIAL	GRATE		DIMENSIONS	PIPE SIZE (IN.)	NOTES:
					TYPE	MATERIAL			
TD-1	NDS	NDL150HD	SERVICE DEPARTMENT	HDPE	DUCTILE IRON	GALVANIZED STEEL	6" x VARIES*	-	1

NOTES:

- REFER TO DRAWINGS FOR PRE-SLOPED SECTION QUANTITIES

BA

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web site www.legacydesigns.net

New Collection Systems Operation Facility

Capital Project No. 2217

for



Rockford, Illinois

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF BLAKEMORE ARCHITECTS AND MAY NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF THE ARCHITECT.

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Project No. 21-13

Scale

NONE

Sheet Title

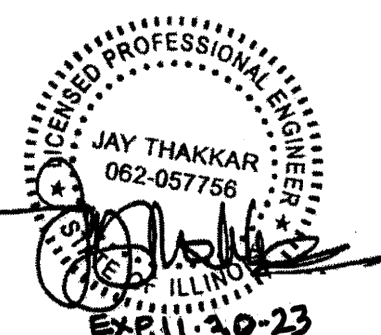
PLUMBING SCHEDULES AND DETAILS

Ref. North

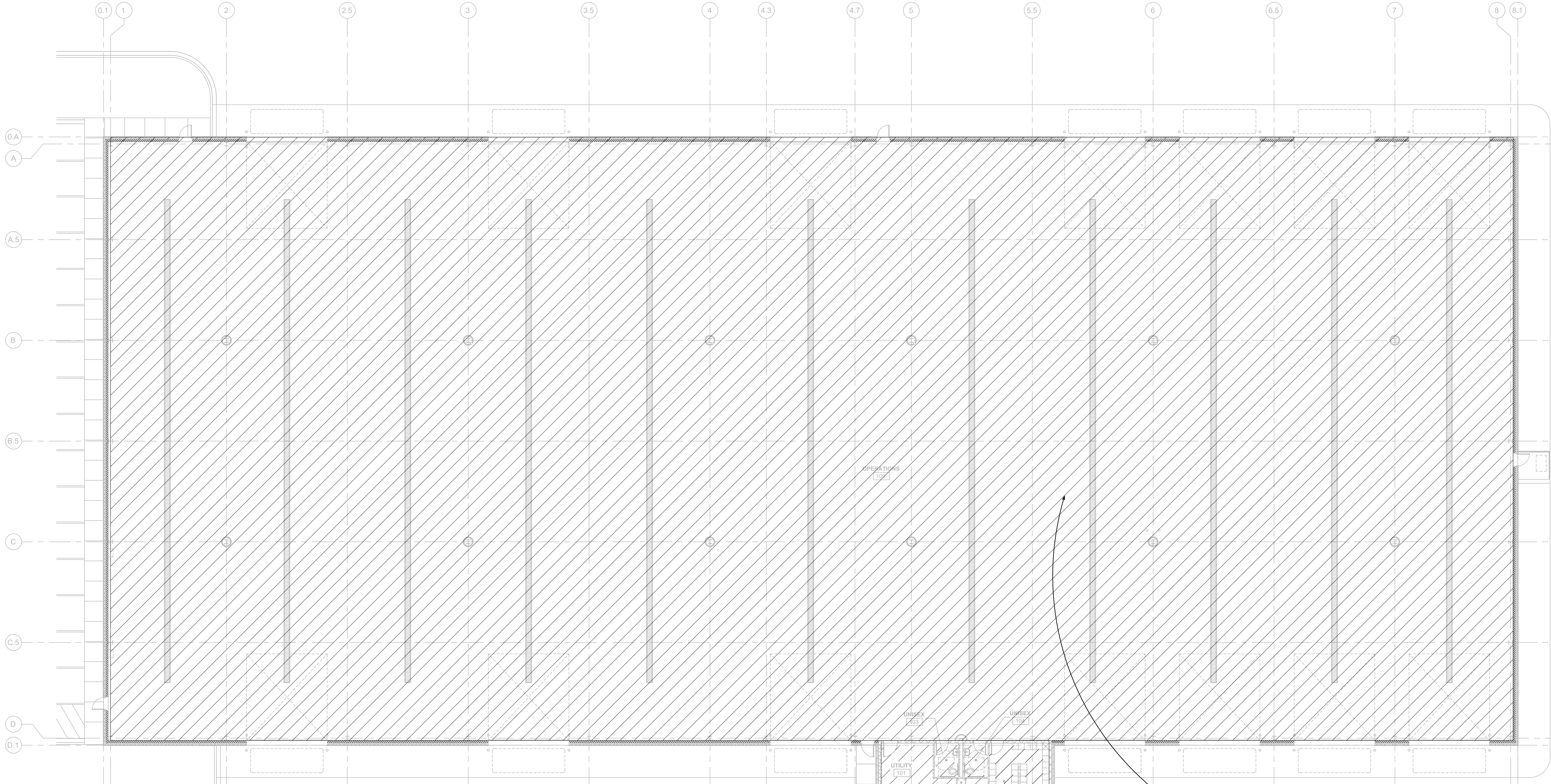
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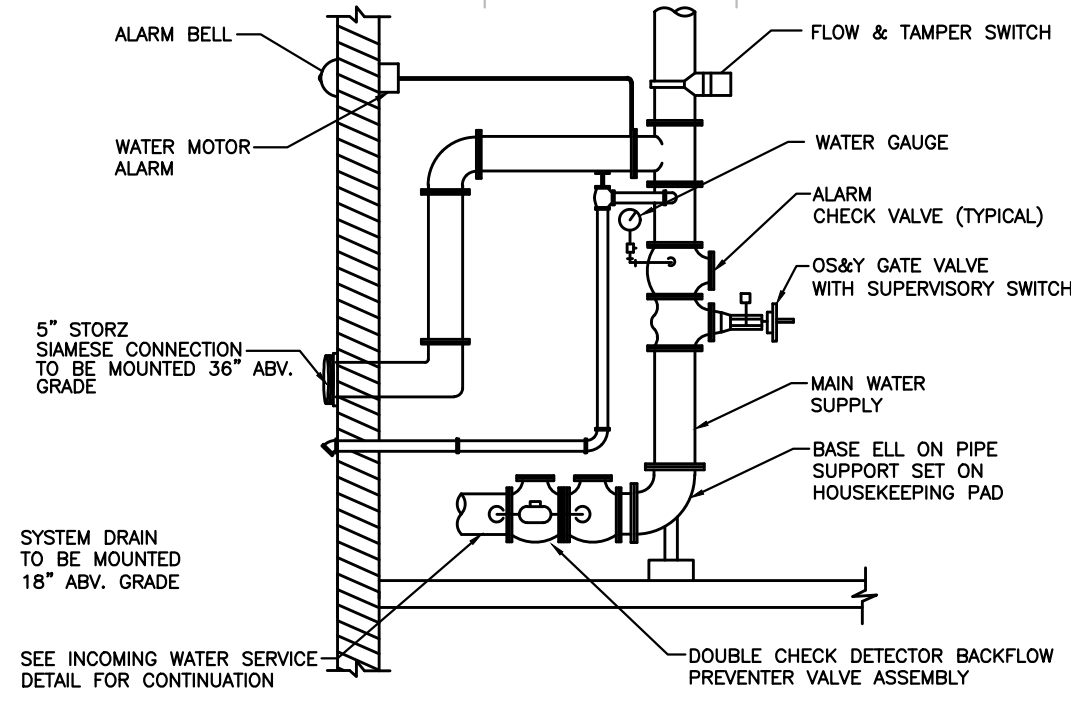
Y:\BLAKEMORE\2022\222189 FOUR RIVERS SANITATION MAINTENANCE GARAGE.vbldwg 222189-PL16.dwg Feb 14, 2023 - 9:54am Lhansen



SPRINKLER HEAD (SH) SCHEDULE					
SH NO.	SYMBOL	SPRINKLER HEAD DESCRIPTION	ORIFICE SIZE, INCHES	TEMP. RATING, DEG. F.	ACCEPTABLE MANUFACTURERS
SH-2	⊙	STANDARD COVERAGE, QUICK RESPONSE, SEMI-RECESSED PENDANT TYPE WITH METAL STRUT OR GLASS BULB, CHROME PLATED OR BRASS CONSTRUCTION, UL LISTED. REMOVAL OF CEILING ESCUTCHEON PLATE SHALL ALLOW THE REMOVAL OF THE CEILING WITHOUT HAVING TO REMOVE THE SPRINKLER.	1/2"	165	CENTRAL RELIABLE VIKING

FIRE PROTECTION DESIGN INFORMATION

- THE FIRE PROTECTION SYSTEM AT ALL AREAS, UNLESS OTHERWISE NOTED, SHALL BE HYDRAULICALLY DESIGNED PER ORDINARY HAZARD GROUP 1 OCCUPANCY REQUIREMENTS.
 - 0.15 GPM PER SQ. FT. FOR THE MOST REMOTE 1500 SQ. FT. (EXCEPT FOR ORDINARY HAZARD GROUP)
 - HOSE ALLOWANCE (COMBINED INSIDE AND OUTSIDE): 250 GPM
- FLOW TEST INFORMATION:
 - CONTRACTOR SHALL OBTAIN CURRENT FLOW TEST FROM LOCAL WATER DEPARTMENT.



NOTE:
DETAILS SHOWN HERE ARE TYPICAL ONLY. EXACT
FINAL DETAILS AND LAYOUT SHALL BE AS REQUIRED
TO SUIT THE FACILITY LAYOUT AND THE REQUIREMENTS
OF THE VARIOUS REGULATORY AGENCIES.

SPRINKLER RISER DETAIL

NO SCALE

FIRE PROTECTION - OVERALL FLOOR PLAN

SCALE: 3/32" = 1'-0"

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web site: www.legacydesigns.net

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Project No. 21-13

Scale 3/32" = 1'-0"

Sheet Title
FIRE PROTECTION
OVERALL FLOOR PLAN

Ref. North

Sheet No.
FP101

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342

