# GMC

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# TRANSMITTAL COVER SHEET

- DATE: July 26, 2024
- PAGE: 1 of 16 (INCLUDING THIS PAGE)
- TO: ALL CONTRACTORS
- FROM: DENISE KING
- PROJECT: NEW LOXLEY WATER TREATMENT PLANT FOR THE CITY OF LOXLEY GMC PROJECT NO. CMOB220078(2)
- RE: ADDENDUM #3

# PLEASE COMPLETE BELOW AND RETURN IMMEDIATELY.

Ashley Morris Email: <u>Ashley.Morris@gmcnetwork.com</u>

I, the undersigned, hereby acknowledge receipt of this Addendum.

Authorized Representative of Contractor

Date

Company Name

Telephone

Contractor's License Number (if applicable)



# **ADDENDUM NUMBER 3**

NEW LOXLEY WATER TREATMENT PLANT

FOR CITY OF LOXLEY

GMC PROJECT NO. CMOB220078(2)

#### 1. <u>General</u>

1.1 The following revisions are hereby added as Addendum No. 3 to the referenced Project Manual and Plans and shall be considered when preparing bids.

#### 2. <u>Revisions to Project Manual</u>

- 2.1 Specification 40 71 13 Magnetic Flow Meters has been revised and is included as an attachment to this addendum.
- 2.2 Drawings E-912, E-913, I-101 & I-601 have been revised and are included as an attachment to this addendum.

#### 3. Questions

- 3.1 Question: In the Project Specifications Section 40 71 13, there are two flowmeters called out (FE/FIT6250 & FE/FIT6400), but neither instrument tag is present in the Project Plans. Please clarify. Answer: The only mag meter in the project is FE/FIT1100. The revised specification is included as an attachment to this addendum.
- 3.2 Question: PSH6211 & PSH6221 are shown on SHT I-601 but are not listed in the specifications. Please confirm that specification 40 73 36 & 40 73 63 apply to these pressure switches. Answer: Yes, Specifications 40 73 36 & 40 73 63 apply to these pressure switches.
- 3.3 Question: PI1104 on SHT I-101, PI6211 on SHT I-601, & PI6221 on SHT I-601 are not listed in the specifications. Please confirm that Specification 40 73 13 & 40 73 63 apply to these instruments. Answer: Yes, Specification 40 73 13 & 40 73 63 apply to these instruments.
- 3.4 Question: PI8003 on SHT I-801 & PI8103 on SHT I-811 are not listed in the specifications. Please confirm that specification 40 73 13 applies to these instruments. Answer: Yes, Specification 40 73 13 applies to these instruments.
- 3.5 Question: Flow meter FE/FIT1100 is not listed in the Project Specifications Section 40 71 13. Is there another specification for this flowmeter? Answer: Specification 40 71 13 applies to FE/FIT1100.
- 3.6 Question: There is no flowmeter shown for the water entering the distribution system. Please clarify if one is required to track flow from WTP to system. Answer: Only raw water flow is required to be measured and reported. The owner does not desire a flow meter on the finished water line to the distribution system.
- 3.7 Question: Project Plans SHT I-101 and I-102 show that Well VFD and Finished Water VFDs are to be monitored and controlled via ethernet only. With critical equipment it is advantageous to supply Addendum No. 3: Page 1 of 3



hardwired connections in the event of a communication failure of any kind to still have monitoring and control over the motor. Please clarify intention to control if communication failure occurs. Answer: Revised electrical and P&ID drawings are included as an attachment to this addendum showing hardwired connections for VFDs for redundancy. Primary monitoring and control shall be via ethernet.

- 3.8 Question: On Project Plans SHT I-811, the Chlorine Feed System is called out to receive a raw water flow signal. How is this accomplished? Answer: An analog signal from LCP1000 to the chlorine feed controller (FIC8110) is shown on the riser diagram on E-913 to flow pace the chlorine feed system.
- 3.9 **Question: On Project Plans SHT I-801, who is responsible for providing Pl8003?** Answer: The contractor is responsible for providing Pl8003.
- 3.10 **Question: On Project Plans SHT I-811, who is responsible for providing Pl8103?** Answer: The contractor is responsible for providing Pl8103.
- 3.11 Question: Are there gutters and downspouts required? There are specs for them but they are not shown on the plans. Answer: Gutters and downspouts are not required.
- 3.12 Question: The fascia system spec'd on page 07 62 00-3 is for a flat roof and it's calls for .063" alum Would the fascia for the metal roof need to be made from .063" alum in clear satin apodized
  - alum. Would the fascia for the metal roof need to be made from .063" alum in clear satin anodized aluminum?

Answer: The fascia/trim shall be the same material as the roof panels.

- 3.13 **Question: The plans say vinyl soffit and the specs say metal soffit. Which is it?** Answer: Vented metal soffit shall be used.
- 3.14 Question: The metal roof paint calls for a 3-coat system, which is a custom paint. Standard is a 2coat system. Requiring a 3-coat system, on this small of a job could significantly increase the material cost. Please confirm if a 3-coat system is desired. Answer: A 2-coat system on the metal roof is acceptable.
- 3.15 Question: There is a discrepancy on the inlet piping to the aerator. Sheet D-604 calls for a 12" diameter flange and Specification 41 71 00 calls for a 14" inlet pipe. Which is it? Answer: A 14" x 12" reducing 90 bend is called out on D-604 to connect to a 14" diameter inlet flange on the aerator.
- 3.16 Question: The VFD cable that is specified is Belden VFD Cable Symmetrical VFD Cable 600 v, Steel Armor, suitable for hazardous locations and UL Listed for Direct Burial and only comes in lengths ~5 times what is needed in this project. Are there other options to consider? Answer: Please bid the cable as specified.
- 3.17 Question: The VFD specification states that 6 pulse, passive filters and 12 pulse rectifiers are not acceptable and will be rejected. However, Drawing E-932 calls out in the motor controller schedule "6 pulse VFD". Yaskawa is the only VFD manufacturer listed that uses the matrix conversion technology for direct conversion of AC to AC. Can you please confirm if 6 pulse technology for the AC to AC conversion will be accepted for these VFDs?

Answer: The statement in Section 2.4.C in Specification 26 29 23 regarding the exclusion of standard drive technology can be omitted. We have a power conditioning unit specified that will correct harmonic content instead using the matrix conversion technology from the VFD.



- 4.1 Receipt of Addendum No. 3 shall be acknowledged in two ways:
  - 4.1.1 Note on (EJCDC C-410) the <u>Bid Form</u> of the Project Manual Bidder acknowledges receipt of "Addendum No. 3" and date of "July 26, 2024".
  - 4.1.2 EMAIL GMC immediately at <u>ashley.morris@gmcnetwork.com</u> and confirm that addendum has been received and is legible.

#### 5. <u>Conclusion</u>

5.1 This is the end of Addendum Number 3, dated Friday, July 26, 2024.

#### SECTION 40 71 13 – MAGNETIC FLOW METERS

#### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Magnetic flow meters.
  - 2. Transmitters.
  - 3. Indicators.
  - 4. Recorders.
  - 5. Integrators.

#### B. Related Requirements:

- 1. Division 26 Electrical
- 2. Division 27 Communications
- 3. Division 40 Process Interconnections

#### 1.2 REFERENCE STANDARDS

- A. American Water Works Association:
  - 1. AWWA M6 Water Meters Selection, Installation, Testing, and Maintenance.
  - 2. AWWA M33 Flowmeters in Water Supply.
- B. ASME International:
  - 1. ASME B16.1 Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
- C. NSF International:
  - 1. NSF 61 Drinking Water System Components Health Effects.
  - 2. NSF 372 Drinking Water System Components Lead Content.

#### 1.3 COORDINATION

- A. Section 01 31 00 Project Management and Coordination.
- B. Coordinate Work of this Section with piping work.

#### 1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

GOODWYN MILLS CAWOOD, LLC. GMC PROJECT NO. CMOB220078 (2)

#### WATER TREATMENT PLANT

- B. Furnish complete Product Data, Shop Drawings, Test Reports, Operating Manuals, Record Drawings, Manufacturer's certifications, Manufacturer's Field Reports.
- C. Product Data:
  - 1. Submit manufacturer information for system materials and component equipment, including connection requirements.
  - 2. Measurement accuracy.
  - 3. Flow range ability.
  - 4. Enclosure rating.
  - 5. Classification rating.
  - 6. Electrical characteristics.
  - 7. Output options.

#### 1.5 QUALITY ASSURANCE

- A. Ensure that materials of construction of wetted parts are compatible with process liquid.
- B. Materials in Contact with Potable Water: Certified to NSF 61 and NSF 372.
- C. Perform Work according to applicable standards.
- D. Manufacturer instruments in facilities certified to the quality standards of ISO Standard 9001.
- E. Non-intrinsically safe electrical equipment shall be approved by a Nationally Recognized Testing Laboratory (NRTL) such as cCSAus, FM, or UL for the specified electrical area classification.

#### 1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum five (5) years' experience.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- C. Store equipment according to manufacturer instructions.
- D. Protection:
  - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
  - 2. Provide additional protection according to manufacturer instructions.

#### 1.8 WARRANTY

- A. Section 01 70 00 Execution and Closeout Requirements: Requirements for warranties.
- B. Furnish one (1) year manufacturer's warranty for magnetic flow meters and appurtenant devices. If the meter is commissioned by a factory certified technician, the warranty shall be extended to three (3) years.

#### 1.9 PROJECT AND SITE CONDITIONS

A. Provide instruments suitable for the installed site conditions including but not limited to material compatibility, site altitude, process and ambient temperature, and humidity conditions.

#### PART 2 - PRODUCTS

#### 2.1 SYSTEM DESCRIPTION

A. Furnish sensors, field preamplifiers, signal conditioners, offset and span adjustments, amplifiers, transducers, transmitters, control devices, interconnecting cables, and unit conversions and algorithms as required for application.

#### 2.2 MAGNETIC FLOW METERS

- A. Manufacturers:
  - 1. Endress+Hauser Promag 400
  - 2. McCrometer
  - 3. Rosemount
  - 4. Siemens
  - 5. Approved Equal
- B. Description: Low-frequency, electromagnetic induction-type flow meter, producing a linear signal directly proportional to flow rate, consisting of flow tube, signal cable, and transmitter.
- C. Schedule:
  - 1. FE/FIT1100
- D. Performance and Design Criteria:
  - 1. Design: According to AWWA M33.
- E. Flow Rate Range: See instrument schedule
- F. Size: As indicated on Drawings.
- G. Flow Tubes:

#### WATER TREATMENT PLANT

- 1. Material: Type 304 stainless steel with PTFE liner.
- 2. Length: As indicated on Drawings.
- 3. End Connections: Flanged, ASME B16.1, carbon steel.
- H. Electrodes:
  - 1. Type 316L stainless steel.
  - 2. Self-cleaning.
- I. Accuracy: Plus or minus 1 percent of actual flow rate over a 10:1 range.
- J. Provide adjustment for zero and span.
- K. Accessories:
  - 1. Furnish cable between transmitter and receiver.
  - 2. Provide automatic, non-mechanical electrode cleaning system without taking meter out of service.

#### 2.3 TRANSMITTERS

- A. Transmitter Output:
  - 1. 4- to 20-mA dc analog signal and pulse frequency output for totalization.
  - 2. Accuracy: Plus or minus 0.25 percent of full scale.
  - 3. External third-party signal converter is unacceptable.
- B. Housing Material: Cast aluminum.
- C. HMI:
  - 1. Touch-screen programming, functioning through enclosure window without opening enclosure.
  - 2. Display:
    - a. Size: Four lines by 16 characters.
    - b. Type: Backlit digital display.
    - c. User-selectable engineering units.
    - d. Readout of diagnostic error messages.
    - e. Indicate simultaneous flow rate and total flow with three totalizers (forward, reverse, and net total).
- D. Indicators
  - 1. Integrally mounted in transmitter housing
  - 2. Scale: graduated
  - 3. Units: gpm
  - 4. Mounting: Panel
- E. Mounting:

#### WATER TREATMENT PLANT

- 1. Integral or remote mounting up to 50 ft from flow meter (see drawings).
- 2. Mounting locations less than 4 ft above grade: Provide stainless-steel mounting posts.
- F. Transmitter Communication Interface: Modbus RTU, Modbus TCP, or Ethernet/IP.
- G. Communication Firmware and Software: Obtain from the manufacturer as designated for the piece of equipment installed.
- H. Accessories:
  - 1. Current signal output simulation.
  - 2. Empty pipe detection.
  - 3. Self-diagnostics.
  - 4. Automatic zero adjustment.
  - 5. Stainless-steel sunshield.
  - 6. Signal Cable: Provided by flow meter manufacturer.
  - 7. Internally retain all setup parameters, calibration parameters and accumulated measurements in non-volatile memory in the event of power failure.
  - 8. Protected against voltage spikes from the power source with internal transient protection.

#### 2.4 OPERATION

- A. Control Power:
  - 1. 120-V ac, single phase, 60 Hz.
  - 2. Furnish local transformers as required.
- B. Enclosures: NEMA 4X

#### 2.5 ACCESSORIES

- A. Stainless steel tag labeled to match the contract documents
- B. Provide grounding rings, as per manufacturer's recommendations, if required.
- C. Provide sun shield for outdoor installations.

#### 2.6 SOURCE QUALITY CONTROL

- A. Electromagnetic flow meters shall be factory calibrated on an ISO 17025 accredited test stand with certified accuracy traceable to NIST per "General Requirements for the Competence of Testing and Calibration Laboratories."
- B. Evidence of accreditation must originate from a national verification agency such as A2LA.
- C. Each meter shall ship with a certificate of a 2-point calibration report exceeding stated standard accuracy of 0.5% or 0.2% of rate as specified.

# WATER TREATMENT PLANT

- D. A real-time computer generated printout of the actual calibration data points shall indicate apparent and actual flows. The flow calibration data shall be confirmed by the manufacturer and shipped with the meters to the project site.
- E. The manufacturer shall provide complete documentation covering the traceability of all calibration instruments.

# 2.7 SAFETY

- A. All electrical equipment shall meet the requirements of ANSI/NFPA 70, National Electric Code latest addition.
- B. All devices shall be certified for use in hazardous areas, independent of the output protocol selected.
- C. All devices shall be suitable for use as non-incendive devices when used with appropriate nonincendive associated equipment.
- D. Electrical equipment housing shall conform to NEMA 4X classification.
- E. Non-intrinsically safe electrical equipment shall be approved by a Nationally Recognized Testing Laboratory (NRTL) such as cCSAus, FM, or UL for the specified electrical area classification.

# PART 3 - EXECUTION

# 3.1 EXAMINATION

- A. Examine the complete set of plans, the process fluids, pressures, and temperatures and furnish instruments that are compatible with installed process conditions.
- B. Examine the installation location for the instrument and verify that the instrument will work properly when installed.

# 3.2 INSTALLATION

- A. As shown on installation details and mechanical Drawings.
- B. As recommended by the manufacturer's installation and operation manual.
- C. Specific attention should be given to the following technical requirements:
  - 1. Verify ground rings (if required) have been installed according to the manufacturer's recommendations.
  - 2. Reduced inlet installations must be accompanied by manufacturer's documented evidence of third party testing and data collection in comparison to a traceable standard.

#### 3.3 FIELD QUALITY CONTROL

- A. Each instrument shall be tested before commissioning and the Engineer shall witness the interface capability in the PLC control system and associated registers.
  - 1. Each instrument shall provide direct programming capability through the PLC.
  - 2. Each instrument shall provide direct control of totalizer reset functions through the PLC
  - 3. Each instrument shall be supported with a device profile permitting direct integration in the PLC.
- B. The Engineer shall witness all instrument verifications in the field.
- C. Manufacturers Field Services are available for start-up and commissioning by a Factory field service representative or a manufacturer's authorized service provider (ASP) the warranty against manufacturing defects is three years.
  - 1. Manufacturer representative shall verify installation of all installed flow tubes and transmitters.
  - 2. Manufacturer representative shall notify the Engineer in writing of any problems or discrepancies and proposed solutions.
  - 3. Manufacturer representative shall perform field verification at the time of installation for long-term analysis of device linearity, repeatability and electronics health. A comparative report shall be generated for each meter tested.
  - 4. Manufacturer representative shall generate a configuration report for each meter.

#### 3.4 ADJUSTING

A. Verify factory setup of all instruments in accordance with the Manufacturer's instructions.

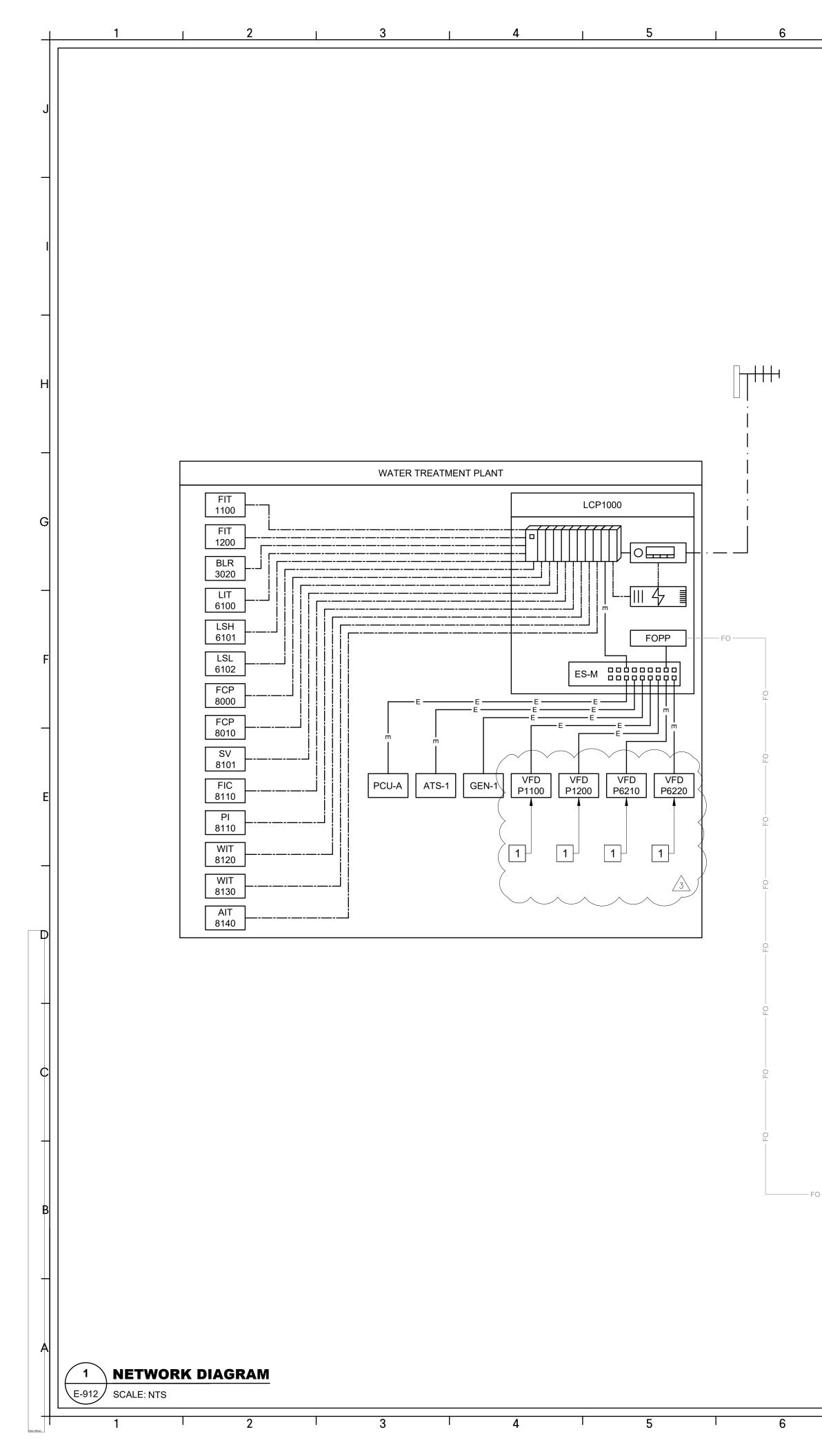
#### 3.5 DEMONSTRATION

- A. Section 01 70 00 Execution and Closeout Requirements: Requirements for demonstration and training.
- B. Demonstrate equipment startup, shutdown, routine maintenance, and emergency repair procedures to Owner's personnel.

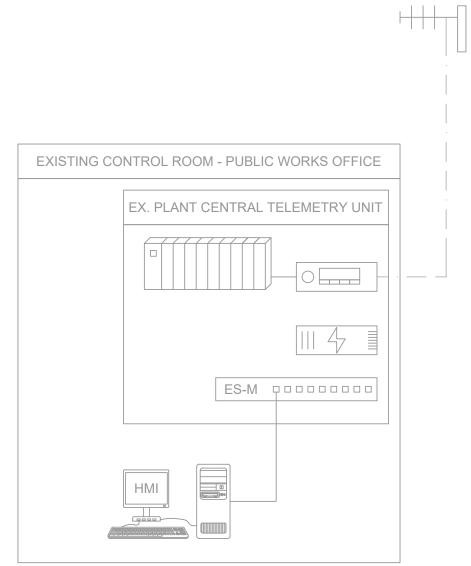
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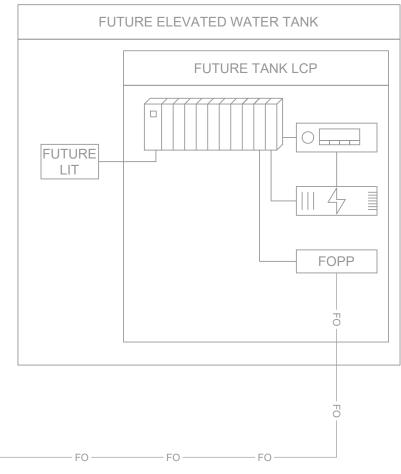
WATER TREATMENT PLANT

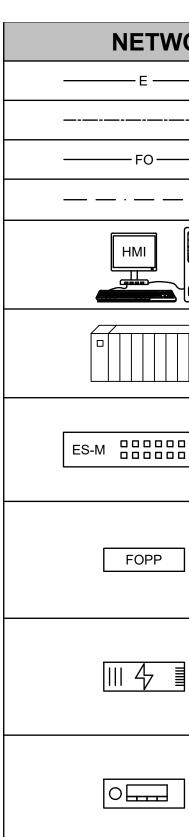
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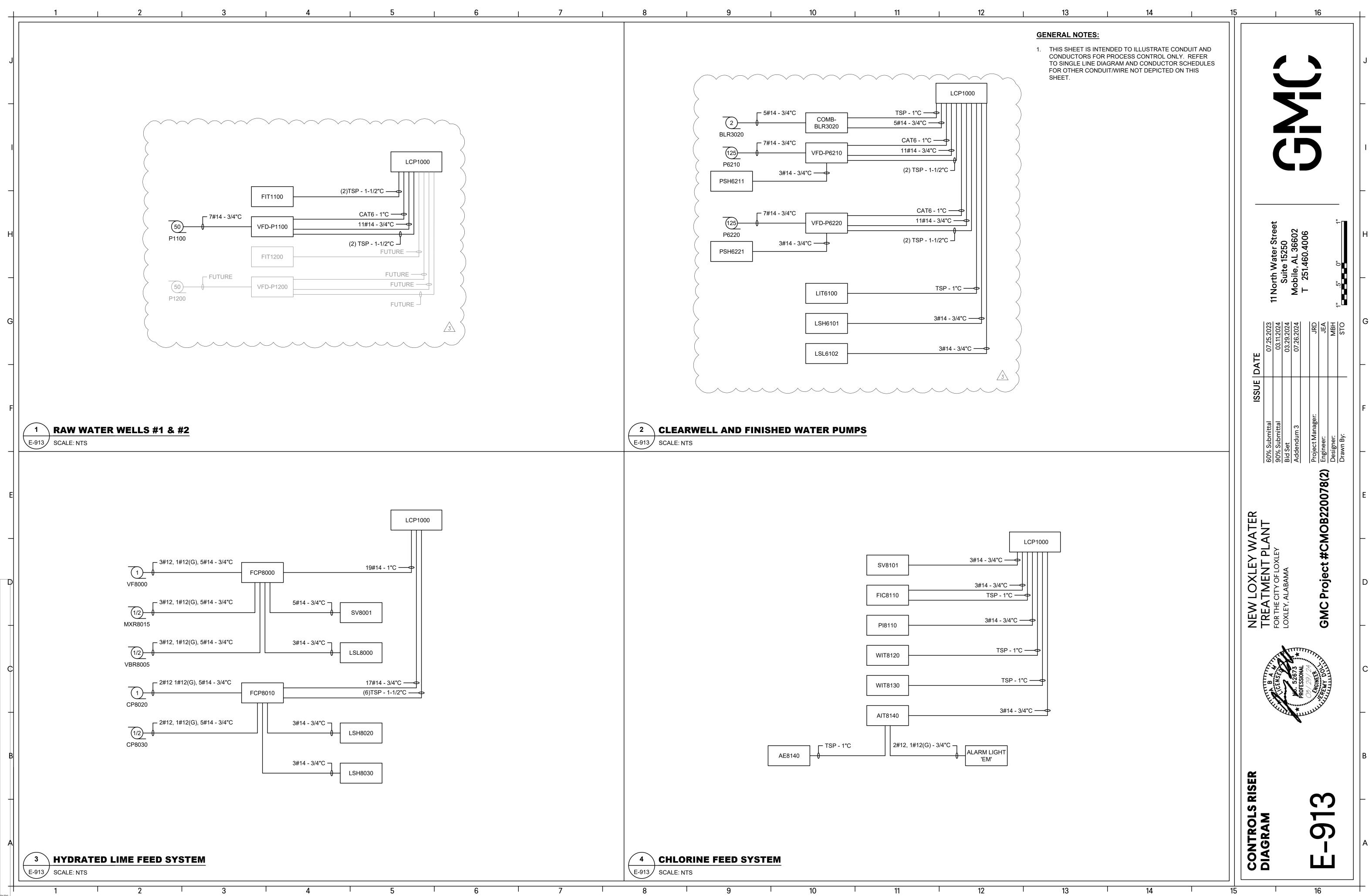
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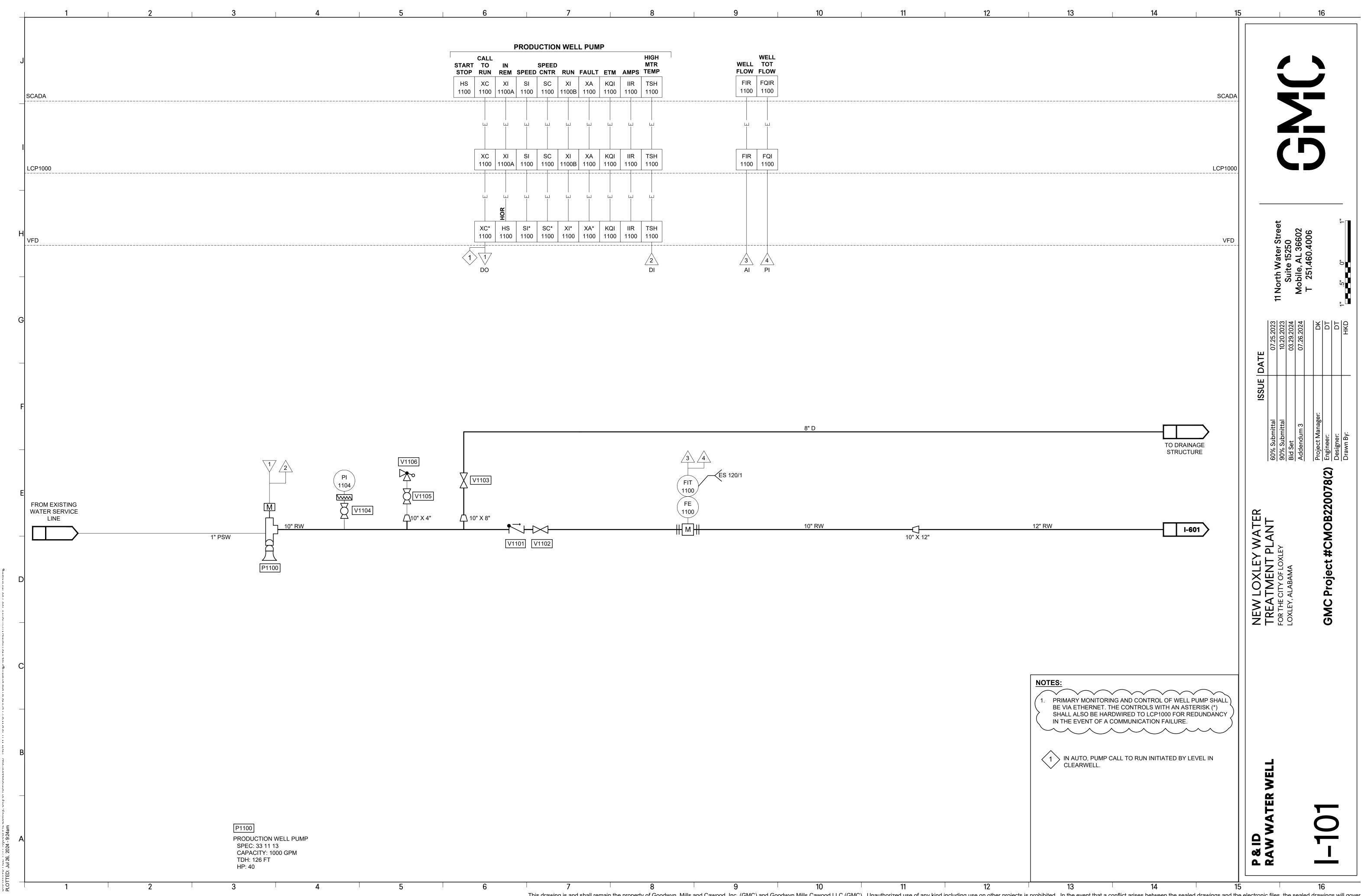
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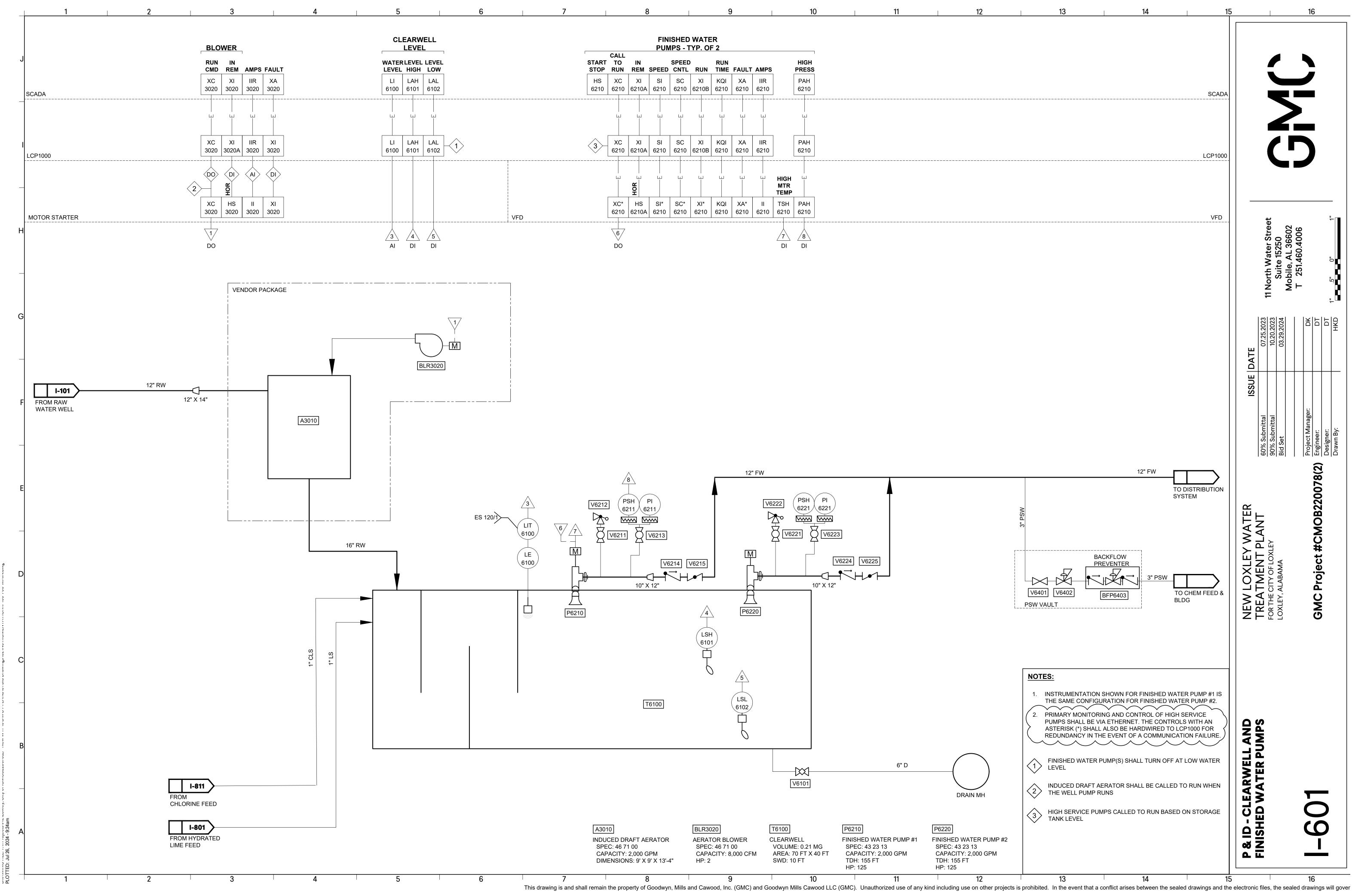
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