



**Turtle Creek No. 3 Primary Pump Station Project**  
**Solicitation Number: CO-00404-SM**  
**Job No.: 21-6001**

**ADDENDUM NO. 4**  
**September 21, 2021**

To Respondent of Record:

This addendum, applicable to work referenced above, is an amendment to the bid proposal, plans and specifications and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the Addendum number and issue date on the space provided in submitted copies of the Respondent Questionnaire.

<b>RESPONSES TO QUESTIONS</b>
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- 1. Question: Excavation depth: Note 2 of Sheet T-4 requires that “Soils shall be undercut to a depth of at least 8 feet and the excavation be replaced with 8 feet of select fill”. Given that existing grade elevations vary from 938’ to 943’, we respectfully suggest that the bid documents provide a specific uniform excavation elevation in terms of either (a) an average between excavation elevations 930’ and 935’; or (b) a uniform depth measured from the bottom of the tank footing.**

*Response: Note 2 of Sheet T-4 has been updated. Refer to Item No. 8 in CHANGES TO THE PLANS section of this addendum.*

- 2. Question: Drawing EA-3 and EA-4 shows the MVMCCA and MVMCCB with Fused Feeders, but no in-line contactor is shown. Can a latched contactor be utilized with fuses for feeder applications? If not then Square D by Schneider Electric would have to utilize MV Metal Enclosed Switchgear Design which has a width per section of 38 Inches and has a depth of 72.50 Inches and the transition sections between are 3 Inches.**

*Response: A 400A latched contactor with fuses can be used for feeder application. Refer to Item No. 14 and 15 in CHANGES TO THE PLANS section of this addendum.*

- 3. Question: Drawing EA-5 shows the MVMCC Feeders to be 3’-0” Wide. Square D by Schneider Electric MVMCC feeders are 29.5” wide is this acceptable?**

*Response: The final dimensions of the MVMCC Feeders are to be finalized during the Project’s construction, after award of the contract.*

- 4. Question: Drawing EA-5 shows the transition sections between the MV Metalclad and the MV MCC’s to be 2’-0” wide. Square D by Schneider Electric transition sections are 14.75” wide will this be acceptable?**

*Response: The final dimensions of transition sections between the MV Metalclad and MVCCs are to be finalized during the Project’s construction, after award of the contract.*

5. **Question: Section 44 42 56.02 1.01.B – Remove reference to sole plate. Pumps installed in barrels with integral top flange. Remove lower floor column brace.**

*Response: Section 44 42 56.02, Paragraph 1.01.B's reference to sole plate shall remain. Pumps may utilize an integral top flange however the flange must connect to the sole plate per the details shown on Drawing SD-5. References to lower floor column brace have been removed. Refer to Item No. 20 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

6. **Question: We respectfully request you consider adding Floway Pump to list of acceptable pump suppliers for Section 44 42 56.2 Vertical Turbine Pumping Units.**

*Response: Section 44 42 56.02 Vertical Turbine Pumping Units has been updated. Refer to Item No. 21 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

7. **Question: Section 44 42 56.02 1.03.B.1 – Clarify requirements for witness testing. Wording implies there will be (2) separate trips for pump only Witness testing, (2) separate trips for motor only Witness testing, and (2) separate trips for VFD witness testing.**

*Response: Section 44 42 56.02, Paragraph 1.03.B.1 has been revised to include the cost of a maximum of two (2) separate trips for witness testing of the pumps, "job motors", and a shop VFDs. Refer to Item No. 22 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

8. **Question: Section 44 42 56.02 1.03.B.1 – Recommend removing witness test requirements for VFD.**

*Response: Section 44 42 56.02, Paragraph 1.03.B.1 has been revised to not require separate witness testing for VFDs. Factory pump performance witness testing shall consist of the pumps, "job motors", and a shop VFDs. Refer to Item No. 22 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

9. **Question: Section 44 42 56.02 1.03.B.1 – Since job motors will be witnessed at pump witness testing, recommend removing motor only witness testing from requirements.**

*Response: Section 44 42 56.02, Paragraph 1.03.B.1 has been revised to not require separate witness testing for motors. Factory pump performance witness testing shall consist of the pumps, "job motors", and a shop VFDs. Refer to Item No. 22 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

10. **Question: Section 44 42 56.02 1.07.B.2 – Revise 'Maximum specific speed' to state 'Maximum operating speed'.**

*Response: Section 44 42 56.02, Paragraph 1.07.B.2 has been revised to state "Maximum Operating Speed". Refer to Item No. 25 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

11. **Question: Section 44 42 56.02 1.07.B.3 – Revise barrel inlet diameter to 24".**

*Response: Section 44 42 56.02, Paragraph 1.07.B.3 has been revised to state a barrel inlet diameter of 24". Refer to Item No. 26 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

12. **Question: Section 44 42 56.02 1.07.B.3 – Revision Pump Discharge diameter from 10" to 12".**

*Response: Section 44 42 56.02, Paragraph 1.07.B.3 has been revised to note that the pump discharge must be a minimum of 10". Refer to Item No. 26 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

**13. Question: Section 44 42 56.02 2.01.D.3 – Revise bearings to bronze backed fluted rubber.**

*Response: Section 44 42 56.02, Paragraph 2.01.D.3 has been revised to require bronze-backed fluted rubber, Neoprene 65 shore bearings and the rubber shall be of “low swell” material to prevent the bearing from seizing the line shaft and preventing rotation by hand. Refer to Item No. 27 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

**14. Question: Section 44 42 56.02 2.01.E – Remove this paragraph. Pumps are product lubricated and do not require enclosing tubes.**

*Response: Section 44 42 56.02, Paragraph 2.01.E has been removed. Refer to Item No. 28 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

**15. Question: Section 44 42 56.02 2.01.F – Revise column diameter from 30” to 12”.**

*Response: Section 44 42 56.02, Paragraph 2.01.F has been revised to specify a minimum column diameter of 12” and minimum wall thickness of 0.33”. Refer to Item No. 29 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

**16. Question: Section 44 42 56.02 2.01.G – Add requirement that discharge head receive stress relief prior to machining.**

*Response: Stress relief will not be required for the discharge head assembly.*

**17. Question: Section 44 42 56.02 2.01.H – Add requirement for 304SS shaft sleeve through stuffing box. This is typical for pumps with packing gland.**

*Response: Shaft sleeve will not be required at the stuffing box. A hardened chrome surface will be required as described in Section 44 42 56.02, Paragraph 2.01.G.*

**18. Question: Section 44 42 56.02 2.01.M – Revise to allow bolted in vanes. Bolts will be installed with lock washers to prevent nuts from backing off.**

*Response: Section 44 42 56.02, Paragraph 2.01.L shall maintain welded vanes.*

**19. Question: Section 44 42 56.02 3.01.A – Add requirement that pump supplier must supply the pump installer, and must have valid Well Installer License.**

*Response: Well Installer License will not be required for the installation of the high-service pumps.*

**20. Question: Section 44 42 56.02 Attachment ‘A’ – Confirm if job VFD is needed during factory pump performance tests.**

*Response: Factory pump performance witness testing shall consist of the pumps, “job motors”, and a shop VFDs. Refer to Item No. 22 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

**21. Question: Section 26 05 50 – Motors 2.04.R – PFCCs are not recommended for motors run on VFD. Remove this requirement.**

*Response: Power factor correction capacitors shall not be required for NEMA frame induction motors, 600 volts or below that are also operated by variable frequency drives. Refer to Item No. 9 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

- 22. Question: Section 26 05 50 – Motors 2.05 – Add Complete Test to testing requirements if motor tests are to be Witnessed per 44 42 56.02**

*Response: Separate Factory Witness Testing is not required for NEMA frame induction motors, 600 volts or below per Section 26 05 50 Motors. Refer to Item No. 24 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

- 23. Question: Section 26 29 23 – Low Voltage VFDs 2.01.A – Please add Danfoss to the list of approved VFD manufacturers.**

*Response: Section 26 29 23 Low Voltage VFDs, Paragraph 2.01.A will not be updated.*

- 24. Question: Section 26 05 51 – Large Induction Motors 2.03.D – Insulation called out as Class F. Pump spec calls for Class H. Please revise specifications to match, and confirm which insulation class is required for the Well Pump motors.**

*Response: Class F insulation shall be changed to Class H insulation requirement. Refer to Item No. 10 and 11 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

- 25. Question: Section 26 05 51 – Large Induction Motors 2.08.C – Enclosure for Well Pump motors called out as WPI, contradicting pump spec requiring TEFC. Please revise WPI to TEFC so specifications match.**

*Response: Well Pump motor enclosure type WP-1 shall be changed to TEFC. Refer to Item No. 12 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

- 26. Question: Section 26 05 51 – Large Induction Motors 2.13.A – 100-ohm RTDs are specified, contradicting the 120-ohm RTDs required by pump spec. Please clarify what is required.**

*Response: Platinum, 100-ohm RTDs will be changed to nickel, 120-ohm RTDs. Refer to Item No. 7, 8, and 13 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

- 27. Question: Section 26 05 51 – Large Induction Motors 2.15.B – Replace ‘Altek’ model with PIE 211. Altek is an obsolete brand.**

*Response: Altek RTD calibrator model 211, or equal will be changed to Altek RTD model PIE 211, or equal. Refer to Item No. 14 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

- 28. Question: Spec section 46 33 44.01 – Are there 2 ea. peristaltic sampling pumps or 1 ea.? 1.01, B. states that there are 2 ea., but the schedule (3.04, B.) lists only 1 ea. (and I can only find 1 shown on the drawings).**

*Response: Section 46 33 44.01, Paragraph 1.01.B has been revised to require only one (1) peristaltic sampling pump. Refer to Item No. 31 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

- 29. Question: Please confirm that the “Structural Fill” throughout the drawings is to be TXDOT Item 247, Type A.**

*Response: All “Structural & Select Fill Materials” shall be imported crushed limestone base that meets the plasticity and gradation requirements for TXDOT item 247, Type A, Grade 1-2. Refer to Item No. 7 in CHANGES TO THE PLANS section of this addendum.*

30. **Question: Is the “Select Fill” that is found throughout the structural drawings to be TXDOT Item 247, or is it the material(s) classified under “Foundation Note E” on Sheet S-1? Please advise.**

*Response: All “Structural & Select Fill Materials” shall be imported crushed limestone base that meets the plasticity and gradation requirements for TXDOT item 247, Type A, Grade 1-2. Refer to Item No. 7 in CHANGES TO THE PLANS section of this addendum.*

31. **Question: I noticed that there are 3 wage rate classifications for this project- Building, Heavy and Highway, and Heavy Pipeline – On-shore Pipeline Construction. Normally we only see one wage rate classification, Heavy and Highway, and having 3 classification makes it very difficult to bid and track in the field.**

*Response: “Building, Heavy” and “Heavy Pipeline – On-shore Pipeline Construction” wage rate classifications have been removed from the specifications. Contractor to utilize “Heavy and Highway” wage rate classification. Refer to Item No. 3 and 4 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

32. **Question: Is there a certain path we need to take to get Sulzer approved on your approved vertical turbine pump manufacture list?**

*Response: Section 44 42 56.02 Vertical Turbine Pumping Units has been updated. Refer to Item No. 22 in CHANGES TO THE SPECIFICATIONS section of this addendum.*

<b>CHANGES TO THE SPECIFICATIONS</b>
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1. **Section Supplementary Instructions to Respondents, Paragraph E.3.b.i (Pg. SIR-8)**  
**Delete** “The anticipated notice to proceed (NTP) for this Project is **November 22, 2021.**” **and replace with** “The anticipated notice to proceed (NTP) for this Project is **January 10, 2022.**”
2. **Section Evaluation Criteria Form, Paragraph 3.b.i (Pg. EV-34)**  
**Delete** “The anticipated notice to proceed (NTP) for this Project is **November 22, 2021.**” **and replace with** “The anticipated notice to proceed (NTP) for this Project is **January 10, 2022.**”
3. **Delete** Section 00 11 00 Wage Determination, Construction Type: Building in its entirety.
4. **Delete** Section 00 11 02 Wage Determination, Construction Type: Heavy Pipeline – On-Shore Pipeline Construction in its entirety.
5. **Section 26 05 13 Medium Voltage Cables, Paragraph 2.04.A.1:**  
**Delete** “1. Cable termination and splicing material shall be as manufactured by Raychem; 3M Corp.; Elastimold or equal. All material used in terminating and splicing medium voltage cables shall be as recommended by the cable manufacturer. Cables shall be terminated in accordance with the kit supplier's drawings.” **and replace with** “1. Cable termination material shall be as manufactured by Raychem; 3M Corp.; Elastimold or equal. All material used in terminating medium voltage cables shall be as recommended by the cable manufacturer. Cables shall be terminated in accordance with the kit supplier's drawings.”
6. **Section 26 05 13 Medium Voltage Cables, Paragraph 3.02.B.2:**  
**Delete** “2. Terminating shall be performed by electricians having formal training and a minimum of 5 years field experience in this type of splicing work with 5 kV and 15 kV cable, as specified herein.” **and replace with** “2. Terminating shall be performed by electricians having formal training and a minimum of 5 years field experience in this type of work with 5 kV and 15 kV cable, as specified herein.”

7. **Section 26 05 50 NEMA Frame Induction Motors, 600 Volts and Below, Paragraph 2.04.N.2:**  
Delete “Each detector shall be of the 100-ohm platinum type.” and replace with “Each detector shall be of the 120-ohm nickel type.”
8. **Section 26 05 50 NEMA Frame Induction Motors, 600 Volts and Below, Paragraph 2.04.O.1:**  
Delete “Each detector shall be of the 100-ohm platinum type.” and replace with “Each detector shall be of the 120-ohm nickel type.”
9. **Section 26 05 50 NEMA Frame Induction Motors, 600 Volts and Below, Paragraph 2.04.R:**  
Add to the end of the paragraph “Power factor correction capacitors shall not be required for motors operated by variable frequency drives.”
10. **Section 26 05 51 Large Induction Motors, Paragraph 2.03.D:**  
Delete “D. All motors shall have Class F insulation and shall be rated at the following temperature rises:” and replace with “D. All motors shall have Class H insulation and shall be rated at the following temperature rises:”
11. **Section 26 05 51 Large Induction Motors, Paragraph 2.04.B:**  
Delete “B. The motor stator winding shall be form wound and provided with premium grade full Class F insulation or better. Silicone rubber insulation is not acceptable.” and replace with “B. The motor stator winding shall be form wound and provided with premium grade full Class H insulation or better. Silicone rubber insulation is not acceptable.”
12. **Section 26 05 51 Large Induction Motors, Paragraph 2.08.C:**  
Delete “C. Well Pump motor enclosure shall be WP-1” and replace with “C. Well Pump motor enclosure shall be TEFC.”
13. **Section 26 05 51 Large Induction Motors, Paragraph 2.13.A:**  
Delete “A. Type: Platinum, 100 OHM at 0 degrees C.” and replace with “A. Type: Nickle, 120 OHM at 0 degrees C.”
14. **Section 26 05 51 Large Induction Motors, Paragraph 2.15.B:**  
Delete “B. Motor manufacturer shall furnish one Altek RTD calibrator model 211, or equal, to check the proper installation of RTD’s prior to final acceptance.” and replace with “B. Motor manufacturer shall furnish one Altek RTD calibrator model PIE 211, or equal, to check the proper installation of RTD’s prior to final acceptance.”
15. **Section 26 18 42 Medium Voltage Class E2 Solid State Reduced Voltage Motor Controllers, Paragraph 2.01.A:**  
Add “6. Rockwell Automation”
16. **Section 26 29 23 Low Voltage Variable Frequency Drives, Paragraph 2.01.A:**
  - a. Delete “5. Approved equal.” and replace with “5. Rockwell Automation.”.
  - b. Add “6. Approved equal.”
17. **Section 40 61 96 Process Control Descriptions, Paragraph 3.02.G:**  
Delete paragraph in its entirety. **Renumber** all subsequent paragraphs.
18. **Section 40 61 96 Process Control Descriptions, Paragraph 3.02.I.1:**
  - a. Delete “well site” and replace with “pump”.
  - b. **Insert** the following paragraphs in the proper sequential location:  
“O. Plant Water, Brine, and Softened Water Filters Differential Pressure  
PLC: PLC-TC3CHEM

P&ID(S): I-10

LOOP(S): 500, 505, 510, 520

1. Overview
  - a. For the plant water, softened water and brine filters associated with the OSHG systems as shown in the Drawings, differential pressure is continuously monitored, displayed at the local and top-end HMIs and historically stored and trended.
2. Control
  - a. There is no control associated with this control description.
3. Software Permissives and Hardwired Interlocks
  - a. There are no software permissives or hardwired interlocks associated with this control description.
4. Calculated Alarms and Variables
  - a. No additional calculated alarms or variables are associated with this control description.
5. Field Alarms
  - a. Refer to the P&IDs for field alarms associated with this control description.
6. Field Inputs and Outputs
  - a. Refer to the P&IDs for field input and output points associated with this control description.”

**c. Insert** the following paragraphs in the proper sequential location:

“T. Uninterruptible Power Supply Monitoring

PLC: PLC-TC3MAIN, PLC-TC3CHEM

DRAWING(S): I-2, I-3

LOOP(S): N/A

1. Overview
  - a. Uninterruptible Power Supplies (UPSs) are connected directly to the local network as shown in the Drawings. At a minimum, the alarms and statuses listed below will be displayed at the HMI.
    - 1) UPS On
    - 2) UPS Online
    - 3) UPS On Battery
    - 4) UPS Battery Low
    - 5) Replace UPS Battery
    - 6) UPS Bypassed
    - 7) UPS Communications Loss

8) UPS Overload”

19. **Section 40 63 00 Programmable Logic Controller, Paragraph 2.01.D.1:**  
**Delete “L36” and replace with “L330ER”**

20. **Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 1.01.B:**  
**Delete** “Pumping units shall include, but not necessarily be limited to, bowl and impeller assembly, line shaft, shaft bearings, column, above floor discharge, motor stand, motor, sole plate, pump barrels for High-Service Pump Station pumps, anchor bolts, suction screen, and lower floor column brace.”  
**and replace with** “Pumping units shall include, but not necessarily be limited to, bowl and impeller assembly, line shaft, shaft bearings, column, above floor discharge, motor stand, motor, sole plate, pump barrels for High-Service Pump Station pumps, anchor bolts, and suction screen.”

21. **Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 1.02.A:**  
**Delete:**

- i. “A. Pumps:
  - 1. Pentair Fairbanks Nijhuis
  - 2. Flowserve
  - 3. ITT Goulds”

**and replace with:**

- i. “A. Pumps:
  - 1. Pentair Fairbanks Nijhuis
  - 2. Flowserve
  - 3. ITT Goulds
  - 4. Floway”

22. **Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 1.03.B.1.b:**  
**Delete** “The Supplier shall include the cost for witness tests of the pumps, motors, and VFDs in the bid for four people for a maximum of two trips for the pump tests and two trips for the motors, including accommodations.” **and replace with** “The Supplier shall include the cost for witness tests of the pumps, “job motors”, and shop VFDs in the bid for four people for a maximum of two trips for the tests, including accommodations.”

23. **Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 1.03.B.1.d:**  
**Delete** “All four pumps shall be tested with the four previously tested “job motors” at maximum speed.”  
**and replace with** “All four pumps shall be tested with the four “job motors” at maximum speed.”

24. **Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 1.03.B.2.c:**  
**Delete** “Pumps shall be tested using one of the previously tested “job motors” at maximum rated speed and with the complete pump bowl assembly, less the suction screen.” **and replace with** “Pumps shall be tested using the “job motors” at maximum rated speed and with the complete pump bowl assembly, less the suction screen.”

25. **Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 1.07.B.2 “Pumping Conditions”:**  
**Delete:**

<b>Pumping Conditions at Full Speed</b>	<b>Pumps No. 1, No. 2, No. 3 and No. 4</b>
Rated Capacity, MGD	4.167 (3,475 gpm)
Rated Head at Rated Flow, ft.	208.0
Maximum Shutoff Head, ft.	322



<b>Pumping Conditions at Full Speed</b>	<b>Pumps No. 1, No. 2, No. 3 and No. 4</b>
Maximum Operating Head, ft.	240
Minimum Operating Head, ft.	150
Minimum Operating Speed	60% of Max.
Maximum Specific Speed	1778
Minimum Overall Pump Efficiency at Rated Head, %	80
Maximum Horsepower, HP	250

and replace with:

<b>Pumping Conditions at Full Speed</b>	<b>Pumps No. 1, No. 2, No. 3 and No. 4</b>
Rated Capacity, MGD	4.167 (2,893 gpm)
Rated Head at Rated Flow, ft.	208.0
Maximum Shutoff Head, ft.	322
Maximum Operating Head, ft.	240
Minimum Operating Head, ft.	150
Minimum Operating Speed	60% of Max.
Maximum Operating Speed	1778
Minimum Overall Pump Efficiency at Rated Head, %	80
Maximum Horsepower, HP	250

**26. Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 1.07.B.3 “Pumping Settings”:**

Delete:

<b>Pump Setting</b>	<b>Pumps No. 1, No. 2, No. 3 and No. 4</b>
Elev. of Suction Centerline	933.23’
Elev. of Discharge Centerline	943.74’
Elev. Operating Floor	941.07’
Elev. Bottom of Suction Bell	923.07’
Elev. Bottom of Can	922.07’
Elev. Maximum Water Level	982.00’
Elev. Minimum Water Level	948.85’
Suction Barrel Inlet Diameter (I.D.)	29.25”
Barrel Diameter (O.D.)	30”
Pump Discharge Diameter (I.D.)	10”
Maximum Dimension Pump CL to Discharge Flange	30”

and replace with:

Pump Setting	Pumps No. 1, No. 2, No. 3 and No. 4
Elev. of Suction Centerline	933.23'
Elev. of Discharge Centerline	943.74'
Elev. Operating Floor	941.07'
Elev. Bottom of Suction Bell	923.07'
Elev. Bottom of Can	922.07'
Elev. Maximum Water Level	982.00'
Elev. Minimum Water Level	948.85'
Suction Barrel Inlet Diameter (I.D.)	24"
Barrel Diameter (O.D.)	30"
Minimum Pump Discharge Diameter (I.D.)	10"
Maximum Dimension Pump CL to Discharge Flange	30"

**27. Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 2.01.D.3.a:**

**Delete** “Open line shaft bearings (Pump No. 1, Pump No. 2, Pump No. 3, and Pump No. 4) shall be bronze ASTM B271, alloy C93200. The bearings must contain grooves or a separate bypass hole which allow water to flow through and lubricate the bearings below.” **and replace with** “Open line shaft bearings (Pump No. 1, Pump No. 2, Pump No. 3, and Pump No. 4) shall be bronze backed fluted rubber, Neoprene 65 shore. The rubber shall be of “low swell” material to prevent the rubber from seizing the line shaft and preventing rotation by hand. Bearings shall be lubricated with the liquid being pumped. All bearings shall be mounted securely in stainless steel 316L lined bearing retainers which are welded integrally to the pump column near each coupling. The retainer bore shall be machined concentric to the column flange aligning registers.”

**28. Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 2.01.E:**

**Delete** “Shaft Enclosing Tube: The shaft enclosing tube shall be furnished as an integral component with the outer column welded to the column sections at both ends with spider ribs. Tube shall contain the shaft bearing retainer, and shall be joined at each column flange with “O” ring seals.”

**29. Section 44 42 56.02 Vertical Turbine Pumping Units, Paragraph 2.01.F:**

**Delete** “The column pipe outside diameter shall be 30 inches. Minimum column pipe wall thickness shall be 0.375 inches.” **and replace with** “The minimum column pipe outside diameter shall be 12 inches. Minimum column pipe wall thickness shall be 0.330 inches.”

**30. Section 46 31 11 On-Site Sodium Hypochlorite Generation System, Appendix A – Pre-Negotiation Documents**

**Delete** Appendix A – Pre-Negotiation Documents in its entirety **and replace with** the revised Appendix A – Pre-Negotiation Documents included in this addendum.

**31. Section 46 33 44.01 Peristaltic Pumps and Auxiliaries, Paragraph 1.01.B:**

**Delete** “Furnish labor, materials, equipment and incidentals necessary to install two (2) peristaltic sampling pumps used for potable water as specified herein. The sample pumps shall be peristaltic pumps capable of sampling water from the ground storage tank outlet to the chlorine residual analyzer located in the Sodium Hypochlorite Generation Building.” **and replace with** “Furnish labor, materials, equipment and incidentals necessary to install one (1) peristaltic sampling pumps used for potable water as specified herein. The sample pumps shall be peristaltic pumps capable of sampling water from the

ground storage tank outlet to the chlorine residual analyzer located in the Sodium Hypochlorite Generation Building.”

The remaining sections shall remain the same.

## CHANGES TO THE PLANS

1. **Delete** Drawing G-5 in its entirety **and replace with** revised Drawing G-5 included in this addendum.
2. **Delete** Drawing SD-5 in its entirety **and replace with** revised Drawing SD-5 included in this addendum.
3. **Delete** Drawing SD-6 in its entirety **and replace with** revised Drawing SD-6 included in this addendum.
4. **Delete** Drawing S-1 in its entirety **and replace with** revised Drawing S-1 included in this addendum.
5. **Delete** Drawing E-4 in its entirety **and replace with** revised Drawing E-4 included in this addendum.
6. **Delete** Drawing E-8 in its entirety **and replace with** revised Drawing E-8 included in this addendum.
7. **Delete** Drawing EB-7 in its entirety **and replace with** revised Drawing EB-7 included in this addendum.
8. **Drawing T-4, Note 2:**

**Delete** “SOILS SHALL BE UNDERCUT TO A DEPTH OF AT LEAST 8-FEET AND THE EXCAVATION REPLACED WITH A MINIMUM OF 8-FEET OF SELECT FILL. SELECT FILL SHALL BE IMPORTED CRUSHED LIMESTONE MEETING TXDOT ITEM 247, TYPE A, GRADE 1-2 REQUIREMENTS. SELECT FILL TO BE PLACED IN NO GREATER THAN 8-INCH THICK LOOSE LIFTS AND SHALL BE COMPACTED TO AT LEAST 98% ASTM D1557. THE MOISTURE CONTENT OF THE SELECT FILL SHALL BE MAINTAINED WITHIN 2-PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT.” **and replace with** “SOILS SHALL BE UNDERCUT TO A DEPTH OF AT LEAST 8-FEET BELOW THE PROPOSED MEMBRANE SLAB FOUNDATION ELEVATION AND REPLACED WITH SELECT FILL. SELECT FILL SHALL BE IMPORTED CRUSHED LIMESTONE MEETING TXDOT ITEM 247, TYPE A, GRADE 1-2 REQUIREMENTS. SELECT FILL TO BE PLACED IN NO GREATER THAN 8-INCH THICK LOOSE LIFTS AND SHALL BE COMPACTED TO AT LEAST 98% ASTM D1557. THE MOISTURE CONTENT OF THE SELECT FILL SHALL BE MAINTAINED WITHIN 2-PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT.”
9. **Drawing E-7 Electrical Ductbank Section – II. Table for Section R5:**
  - a. **Delete** conduit tags “SCP-160,” “SCP-161,” “SCP-162,” and “SCP-163” from the table column titled “CONDUIT TAG.”
  - b. **Delete** “AND PRESSURE SIGNAL” from the table column titled “DESCRIPTION” for Conduit No. 1, 3 and 5.
  - c. **Delete** “AND PRESSURE SIGNAL PLUS” from the table column titled “DESCRIPTION” for Conduit No. 7.
10. **Drawing E-13 Lighting Fixture Schedules, Equipment/Instrumentation Table:**

**Delete** the last row of the EQUIPMENT/INSTRUMENTATION TABLE which includes item numbers 18, 28, 38 and 48 for discharge pressure indicating transmitters PIT-301, PIT-302, PIT-303 and PIT-304, respectively.
11. **Drawing E-14 High Service Pump Station Area Enlarged Site Plan, Detail 1- Pump Station Floor Plan:**

**Delete** item numbers 18, 28, 38 and 48 (discharge pressure indicating transmitters PIT-301, PIT-302, PIT-303 and PIT-304, respectively), and the associated wiring and conduit.

12. **Drawing E-15 High Service Pump Station Riser Diagrams, Pump Riser Diagrams:**
  - a. **Delete** the pressure indicating transmitter PIT-301 and the associated conduit and wiring from PUMP HSP-1 RISER DIAGRAM.
  - b. **Delete** tag “SCP-160” in its entirety from PUMP HSP-1 RISER DIAGRAM.
  - c. **Delete** the pressure indicating transmitter PIT-302 and the associated conduit and wiring from PUMP HSP-2 RISER DIAGRAM.
  - d. **Delete** tag “SCP-161” in its entirety from PUMP HSP-2 RISER DIAGRAM.
  - e. **Delete** the pressure indicating transmitter PIT-303 and the associated conduit and wiring from PUMP HSP-3 RISER DIAGRAM.
  - f. **Delete** tag “SCP-162” in its entirety from PUMP HSP-3 RISER DIAGRAM.
  - g. **Delete** the pressure indicating transmitter PIT-304 and the associated conduit and wiring from PUMP HSP-4 RISER DIAGRAM.
  - h. **Delete** tag “SCP-163” in its entirety from PUMP HSP-4 RISER DIAGRAM.
  
13. **Drawing E-16 High Service Pump Station Section and Details, Detail 1 – Section:**

**Delete** the pressure indicating transmitter located near the Local Control Panel of Detail A and on the discharge side of the high service pumps.
  
14. **Drawing EA-3, 4160V MVMCC-A One-Line Diagram:**
  - a. **Add** Note 6 to read “ Latching contactor (400A) with overload relay, isolation switch, and fuse can be provided in lieu of load break switch and fuse for feeder application.”.
  - b. **Add** note 6 symbol to disconnect fuse combination for circuits 1A, 2A, 3A, 4A, and 5A.
  
15. **Drawing EA-4, 4160V MVMCC-A One-Line Diagram:**
  - a. **Add** Note 5 to read “ Latching contactor (400A) with overload relay, isolation switch, and fuse can be provided in lieu of load break switch and fuse for feeder application.”.
  - b. **Add** note 5 symbol to disconnect fuse combination for circuits 1B, 2B, 3B, and 4B.
  
16. **Drawing EB-4 Electrical Building Electrical & Ground Plan, Detail 1 – Electrical Building Grounding & Control Plan:**

**Add** home run to UPS and label circuit as “SCP-142A”
  
17. **Delete** Drawing EB-7 in its entirety **and replace with** revised Drawing EB-7 included in this addendum.
  
18. **Drawing ED-5 Chemical Building Electrical Room Power Plan, Detail 1 – Electrical Room Power Plan:**
  - a. **Add** home run to MAINTENANCE BY-PASS MBY-CHEM and label circuit as “PLCH-904”.
  - b. **Add** home run to UPS-CHEM and label circuit as “PLCH-903”.
  
19. **Drawing ED-8 Brine and Hypo Tanks Power Plan, Equipment Table:**

Under TAG NO., **replace** tag number “100” on the last row with “101”.
  
20. **Drawing ED-19 Interface Diagram – I, Interface Diagram:**
  - a. For UPS-TC3CHEM, under DESCRIPTION, **replace** “LOSS OF INCOMING UPS POWER” with “UPS”.
  - b. For UPS-TC3CHEM, under FIELD WIRING, **replace** tag “A1” with “M1”.
  - c. For MBY-TC3CHEM, under DESCRIPTION, **replace** “UPS ON BYPASS” with “MAINTENANCE BYPASS”
  
21. **Drawing ED-20, Interface Diagram – II, Interface Diagram:**
  - a. Under EQUIP NO., **replace** “92” with “101”.
  - b. Under EQUIP NO., **replace** “91” with “92”.

**22. Drawing I-3, Facility Network Diagram-II:**

**Add** UPS-TC3CHEM to block diagram as follows: the UPS will be located in the Chemical Building Electrical Room and will be connected using Category 6 cabling to Ethernet switch ESW-TC3CHEM located in PLC-TC3CHEM control panel.

**23. Drawing I-7 Pump Station P&ID:**

**Delete** all four high service pump discharge pressure transmitters.

**CLARIFICATIONS**

- 1. None

**END OF ADDENDUM**

This Addendum, including these thirteen (13) pages, is forty-two (42) pages with attachments in its entirety.

Attachments:

Attachment 1 – Section 46 31 11 On-Site Sodium Hypochlorite Generation System, Appendix A - Pre-Negotiation Documents

Attachment 2 – Revised Drawings



Attachment 1  
Revised Section 46 31 11 On-Site Sodium Hypochlorite  
Generation System,  
Appendix A – Pre-Negotiation Documents

**FIRM PROPOSAL**

**MICROCLOR® ON-SITE  
HYPOCHLORITE GENERATION SYSTEM  
FOR  
SAWS, TX  
TURTLE CREEK PUMP STATION**



*Reference Picture of a Microclor® On-Site Hypochlorite Generation System*

PSI Water Technologies, Inc. File No.: P16-2688 Rev5 (FIRM)  
CA Contractor's License: #877235

Prepared on: September 9, 2021

**AUTHORIZED SALES REPRESENTATIVE**

Environmental Improvements (EI2)  
Curtis Cathey  
PO Box 79266  
Houston, TX 77279  
Tel: (512) 295-3733  
Email: ccathey@ei2austin.com



## TABLE OF CONTENTS

Cover Letter

Section 1: Scope of Supply

Section 2: Proposal Acceptance

Section 3: Terms and Conditions

**IMPORTANT NOTICE:** All the information in this Proposal is confidential and has been prepared for Buyer's use solely in considering the purchase of the Equipment described. Transmission of all or any part of this Proposal to others or use by Buyer for other purposes is unauthorized without Seller's advance written consent.





September 9, 2021

Kelia Smoot  
Freese and Nichols

Re: On-Site Hypochlorite Generation System for SAWS, TX  
PSI Water Technologies, Inc. File No.: P16-2688 Rev3 (FIRM)

Dear Kelia,

Thank you for your interest in PSI Water Technologies, Inc. (PSI), a UGSI Solutions Company. We have prepared this firm proposal for providing two (2) Microclor® MC-800 On-Site Hypochlorite Generation Systems for Turtle Creek Pump Station. We look forward to providing SAWS with yet another OSHG system incorporating past standards which SAWS has expected of us from previous bids.

The PSI Water Technologies Onsite Sodium Hypochlorite Generation System is to be supplied for the San Antonio Water System (SAWS) Turtle Creek #3 Primary Pump Station Improvements Project ("Project"). PSI understands the Onsite Sodium Hypochlorite Generation System will be supplied by agreement between PSI Water Technologies and a general contractor (the "Equipment Sale Agreement"). The general contractor will complete the Project pursuant to the August 2021 contract documents executed between the general contractor and SAWS (the "Contract Documents"), a copy of which has been supplied to PSI. The Contract Documents may include (as defined in the Contract Documents): Bidding or Proposal Documents, the Contract, the Conditions of the Contract, the Standard Drawings, the Construction Specifications, the Change Orders, the Payment and Performance Bonds, and the Good Faith Effort Plan.

The technical requirements in the Standard Drawings and Construction Specifications in the Contract Documents, as and to the extent applicable to the Scope of Supply described in this Proposal (the "Applicable Technical Requirements"), will be incorporated into the Equipment Sale Agreement. In the event of a conflict between the Applicable Technical Requirements and this Proposal, the Applicable Technical Requirements will prevail, subject to the exceptions and clarifications in Sections 1.B. (Scope of Work by Others) and 1.C. (Clarifications) of this Proposal.

Our proposal is based on the following design criteria:

Design Criteria

Flow Rate, (Max) MGD	25
Chlorine Demand, ppm	1.8
Desired Chlorine Residual, ppm	1.2
Total Chlorine Demand (Peak), ppd	625
System Rating, ppd	2 x 800 (Duty/Standby)

Our on-site hypochlorite generation (OSHG) system is a skid-mounted system. It consists of electrolytic cells, a rectifier, brine pump, piping, valves, instrumentation, and controls. Each system is pre-assembled, piped, wired, and factory-tested to facilitate simple installation and start-

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M: jkoch@ugsicorp.com

W: 4psi.net



up at the jobsite. Ancillary equipment necessary to make a complete and functional system includes a hydrogen dilution blower, water softener, water and brine filters, brine tank, hypochlorite storage tank, and metering pump.

A detailed scope of supply and firm price for the complete system is listed in Section 1 of this proposal. Proposal acceptance in Section 2 and section 3 includes our Terms and Conditions. All pricing is based on our standard system and our Terms and Conditions.

### **System Features & Advantages**

The PSI Water Technologies, Inc. Microclor® On-Site Hypochlorite Generation System incorporates many features and advantages, including:

- Passive hydrogen removal increases operator safety
- Salt efficiency maximized by variable speed brine pump controlled by current feedback loop
- Constant current reliably achieved using an automated variable speed brine pump
- Advanced electrolytic cell design precludes the need for wet DC cable connections or internal baffles and gasketing
- Skid-mounted unique cell design and union connections allows for simple cell maintenance and replacement
- Reliable performance and robust construction reduces operator attention and lowers maintenance costs
- Pre-assembled, piped, wired, and tested at the factory prior to shipment
- Delivered and installed quickly, with minimal construction and installation cost
- Proven track record supported by years of successful operational experience

We look forward to working with you on this project. If we can be of any further assistance, please do not hesitate to contact our authorized sales representative, Curtis Cathey at Environmental Improvement (Ei2), or me at (281) 636-6129.

Thank you.

Sincerely,

John Koch  
Regional Sales Manager

Cc: David Shekhtman, PSI Water Technologies, Inc.  
Shruti Thakur, PSI Water Technologies, Inc.



## **SECTION 1**

### **SCOPE OF SUPPLY**

#### **Microclor<sup>®</sup> On-Site Hypochlorite Generation System**

- A. Scope of Work by PSI Water Technologies, Inc.
- B. Scope of Work by Others

## A. SCOPE OF WORK BY PSI WATER TECHNOLOGIES, INC.

The following equipment and services are included in our scope of work. All equipment will be manufactured in accordance with the descriptions below. Please see attached equipment general arrangement drawing for illustration and reference.

<u>No</u>	<u>Item Description</u>	<u>Qty.</u>
1.	<b>Skid-Mounted, Pre-Assembled, Piped, Wired, and Factory-Tested Microclor® MC-800 On-Site Hypochlorite Generation System,</b> including: <ul style="list-style-type: none"> <li>▪ 160 ppd Electrolytic Cell (Qty. 5)</li> <li>▪ Water and Brine Rotameters</li> <li>▪ Endress Hauser Magnetic Flow Meter on Brine and Water Inlet</li> <li>▪ Optical Level Switch (Qty. 5)</li> <li>▪ Temperature Switch (Qty. 4)</li> <li>▪ Temperature Sensor</li> <li>▪ Water Solenoid Valve</li> <li>▪ 3-way Solenoid Valve</li> <li>▪ 316 Stainless Steel, Electropolished Open Frame Equipment Skid</li> </ul>	2
2.	<b>Stainless Steel Brine Gear Pump</b> <ul style="list-style-type: none"> <li>▪ Cavity Style</li> <li>▪ PTFE Gaskets and Seals</li> <li>▪ UL-Listed</li> </ul> <p><i>Note: Brine pump will be housed off-skid</i></p>	2
3.	<b>Transformer Rectifier,</b> including: <ul style="list-style-type: none"> <li>▪ NEMA 3R Enclosure – 316 Stainless Steel Construction</li> <li>▪ 96 kVA Step-Down Transformer – 300 VDC @ 320 ADC</li> <li>▪ DC Bridge Rectifier with Diode Assemblies and Aluminum Heat Sink with Cooling Fan</li> <li>▪ DC Current Transducer</li> <li>▪ Panel-Mounted Disconnect Switch</li> </ul> <p><i>Note: Each transformer rectifier includes a harmonic filter to comply with IEEE 519 standards</i></p>	2
4.	<b>Skid-Mounted Electrical Control Panel,</b> including: <ul style="list-style-type: none"> <li>▪ NEMA 4X Enclosure – 316 Stainless Steel Construction</li> <li>▪ Allen-Bradley CompactLogix Programmable Logic Controller with Ethernet Communication</li> <li>▪ 12" Color Touchscreen HMI</li> <li>▪ 24 VDC Power Supply</li> <li>▪ Emergency Stop Pushbutton</li> <li>▪ Panel-Mounted Disconnect Switch</li> <li>▪ Current Sensor</li> </ul>	2

<b><u>No</u></b>	<b><u>Item Description</u></b>	<b><u>Qty.</u></b>
5.	<b>Signal Interface (Splitter) Panel</b>	1
6.	<b>Hydrogen Dilution Blower (For Generator), including:</b> <ul style="list-style-type: none"> <li>▪ Duty Configuration per Generator</li> <li>▪ Design Flow Rate: 812 cfm</li> <li>▪ Cast Aluminum Radial Blade</li> <li>▪ AMCA Type B Spark Resistant Construction</li> <li>▪ Corrosion Resistant Coating</li> <li>▪ TEFC Motor</li> <li>▪ Air Flow Switch Assembly</li> </ul>	2
7.	<b>Hydrogen Dilution Blower (For Hypochlorite Tank), including:</b> <ul style="list-style-type: none"> <li>▪ Duty/Standby Configuration per Hypochlorite Tank</li> <li>▪ Design Flow Rate: 406 cfm</li> <li>▪ Cast Aluminum Radial Blade</li> <li>▪ AMCA Type B Spark Resistant Construction</li> <li>▪ Corrosion Resistant Coating</li> <li>▪ TEFC Motor</li> <li>▪ Air Flow Switch Assembly</li> </ul>	4
8.	<b>Cartridge Filters</b> <ul style="list-style-type: none"> <li>▪ Two (2) Incoming Water</li> <li>▪ Two (2) Brine</li> <li>▪ Two (2) Softened Water</li> </ul>	6
9.	<b>Dual Tank Water Softener</b> <ul style="list-style-type: none"> <li>▪ Kinetico Model CP 216s</li> </ul>	3
10.	<b>Acid Cleaning Cart, including:</b> <ul style="list-style-type: none"> <li>▪ Polyethylene Tank</li> <li>▪ Reversible Pump</li> <li>▪ Portable Cart</li> </ul>	1
11.	<b>Hydrogen Detector</b> <ul style="list-style-type: none"> <li>▪ Conspec CN06</li> </ul>	1
12.	<b>Water Hardness Monitor</b> <ul style="list-style-type: none"> <li>▪ Colorimetric Measurement Method</li> <li>▪ Hach SP 510</li> <li>▪ Solenoid Valve Assembly for Sampling</li> </ul>	3
13.	<b>Cell Hoist</b>	1

<u>No</u>	<u>Item Description</u>	<u>Qty.</u>
14.	<b>Brine Storage Tank</b> , including: <ul style="list-style-type: none"> <li>▪ Pneumatic Fill</li> <li>▪ FRP Construction</li> <li>▪ 40 Ton Capacity</li> <li>▪ Stainless Steel Salt Fill Tube – 316 Stainless Steel</li> <li>▪ Tie Down Lugs – 316 Stainless Steel</li> <li>▪ Lifting Channels – 316 Stainless Steel</li> <li>▪ Level Control Assembly</li> <li>▪ Pressure Transducer for Level Control</li> <li>▪ Dust Collection Assembly</li> <li>▪ Salt Level Indication</li> <li>▪ Water Inlet Distribution Ring – Integral to Tank</li> <li>▪ Solenoid Valve – Water Inlet</li> <li>▪ Overflow Port 2" Flanged Fitting – Field Fitted</li> <li>▪ Under Drain with Valve</li> <li>▪ Drain Flange – Field Fitted</li> <li>▪ 36" Top Manway – Spring Loaded for Pressure Relief</li> <li>▪ 36" Side Manway</li> <li>▪ Ladder with Safety Cage</li> <li>▪ Heat Tracing and Insulation</li> <li>▪ Calculations signed by PE registered in State of TX</li> <li>▪ Dimensions: 10'-0"D x 15'-0"H (Shell)</li> </ul>	1
15.	<b>Pressure Gauge</b> <ul style="list-style-type: none"> <li>▪ Manufacturer: Ashcroft</li> <li>▪ Model: Type 1279</li> </ul>	11
16.	<b>Pressure Regulating Valve for Water</b> <ul style="list-style-type: none"> <li>▪ Generator Inlets</li> <li>▪ Brine Tank Inlets</li> <li>▪ Hardness Monitor Inlet</li> </ul>	4
17.	<b>Ball Valve</b> <ul style="list-style-type: none"> <li>▪ Brine Tank Level Indicator</li> <li>▪ Salt Fill Line Flushing Water Connection</li> <li>▪ Brine Tank Drain</li> <li>▪ Brine to OSHG Skid 1</li> <li>▪ Brine to OSHG Skid 2</li> </ul>	5
18.	<b>Spare Parts</b> , including: <ul style="list-style-type: none"> <li>▪ One (1) Spare Parts Kit for Brine Pump</li> <li>▪ One (1) Cell Level Switch</li> <li>▪ One (1) Cell Temperature Switch</li> <li>▪ One (1) Cell Temperature Sensor</li> <li>▪ One (1) 160 PPD Electrolytic Cell</li> <li>▪ One (1) Spare Brine Pump</li> </ul>	1

<u>No</u>	<u>Item Description</u>	<u>Qty.</u>
	<ul style="list-style-type: none"> <li>▪ One (1) Air Flow Switch</li> <li>▪ One (1) Water Rotameter</li> <li>▪ One (1) Brine Rotameter</li> <li>▪ Six (6) Water Filter Cartridge</li> <li>▪ Tank Gaskets</li> </ul>	
19.	<b>Spare Parts for Water Softener</b> , including: <ul style="list-style-type: none"> <li>▪ One (1) Control Valve</li> <li>▪ Additional Media for each Ion Exchange Media Tank</li> <li>▪ Water Hardness Test Kit</li> </ul>	1
20.	<b>Manufacturer's Field Services (22 days)</b> , including: <ul style="list-style-type: none"> <li>▪ Installation Assistance</li> <li>▪ Installation Inspection</li> <li>▪ System Start-Up</li> <li>▪ Operator Training</li> </ul>	Included
21.	<b>Submittal and Operation &amp; Maintenance Manual as Follows:</b> <ul style="list-style-type: none"> <li>▪ Submittal: Sent Electronically</li> <li>▪ O&amp;M Manual: Sent Electronically</li> </ul>	Included
22.	<b>FOB Factory, Milpitas, CA with Full Freight Allowed to Jobsite, San Antonio, TX</b>	Included
	<b>FIRM PRICE [ITEMS 1-22]</b>	<b>\$1,138,000</b>

## **B. SCOPE OF WORK BY OTHERS**

1. **Hypochlorite storage tanks and level instrumentation.**
2. **Hypochlorite dosing assembly and instrumentation.**
3. **Master Control Center (housing blower motor starters) – to be provided by Contractor.**
4. Equipment unloading and installation.
5. All civil works and concrete pad for equipment.
6. Any underground or structural work.
7. Anchor bolts and seismic restraints.
8. All interconnecting piping, including between brine tank, OSHG skid, hypochlorite tank, metering pumps and accessories, and point of hypochlorite injection.
9. Water supply piping to water connection- **1” at 50-80 psi.**
10. Valves, fittings, appurtenances not specifically listed under Scope of Supply by PSI Water Technologies, Inc.
11. Heat tracing and insulation of all interconnecting piping, if required.
12. Electrical power to control panel (120/208-240V/1Ph/60Hz for 30A), blower control panels (120/208-240V/1Ph/60Hz for 20A), splitter panel (120/1Ph/60Hz for 15A) and transformer rectifier (480V/3Ph/60Hz for 175A).
13. All power and control/signal, electrical conduit, wiring, electrical material, etc., including terminations, between control panel, brine tank, OSHG skid, hypochlorite tank, metering pumps, SCADA, etc.
14. Room ventilation, air conditioning, or lighting.
15. Any video recording.
16. All taxes, fees, lien waivers, bonds and licenses.
17. Any permitting or regulatory approvals.
18. Any items not explicitly listed under Scope of Supply by PSI Water Technologies, Inc.

## **C. CLARIFICATIONS**

1. Water to Generator must be Potable, 50 PSI and 55 – 78 Deg F.
2. PSI acknowledges Addendum #1 dated May 11<sup>th</sup>, 2021.

## **D. TERMS OF PAYMENT**

- 20% Payment Invoiced on Approved Submittals
- 80% Payment Invoiced on Shipment of Equipment
- Net 30 Days
- Price Valid for 180 Days

## **E. DELIVERY**

- Design Submittal: 8 - 10 Weeks After Receipt of Fully Executed Order
- Equipment Shipment: 14 – 16 Weeks After Approval of Submittals





## **F. WARRANTY**

- PSI warrants all the equipment supplied for at least 3 years per PSI's standard warranty terms included in the Terms and Conditions at Section 3 of this Proposal. PSI's warranty on the electrolytic cells and cell bodies will continue on a prorated basis for years 4 through 7 as set forth in such Terms and Conditions.
- Basic warranty period is 36 months from the date of start-up or 42 months from the date of delivery to the jobsite, whichever is earlier.



**SECTION 2**

**PROPOSAL ACCEPTANCE**



**Microclor® On-Site Hypochlorite Generation System**  
 PSI Water Technologies, Inc. File No.: P16-2688 Rev3 (FIRM)

- 1) PSI Water Technologies, Inc. (Seller) proposes to furnish the equipment described in this proposal. Any items not shown above as detailed under "SCOPE OF WORK BY PSI WATER TECHNOLOGIES, INC." are EXCLUDED. In addition:
  - a. Seller's price will be held valid for a period of 180 days from the date of this proposal ("Proposal Date"). Seller shall have the right to reprice this proposal if the Buyer's order is received more than 180 days beyond the Proposal Date or delivery more than 365 days after commercial agreement.
  - b. Prices are in US Dollars.
  - c. Local or state taxes are not included in this proposal.
- 2) This proposal by Seller is contingent upon: (i) Seller's written acceptance of the signed proposal, a purchase order, or other document issued by the Buyer in response to this proposal; and (ii) Buyer's assent to the terms and conditions contained in this proposal, such terms to take precedence in the event of conflict with any other terms or documents incorporated into the contract arising out of this proposal unless otherwise agreed in a writing, signed by Seller; and (iii) satisfactory completion of an anti-corruption due diligence review, if applicable.
- 3) All of the information supplied by Seller in connection with this proposal (including drawings, designs and specifications) (the "Information") is confidential and/or proprietary and has been prepared for Buyer's use solely in evaluating the purchase of the equipment and/or services described herein. Transmission of all or any part of the Information to others, or use by Buyer for any purpose other than such evaluation, is expressly prohibited without Seller's prior written consent, unless such information is legally required to be disclosed under an Open Records request to SAWS upon which SAWS will notify Seller within the timeframe required by law prior to such disclosure.
- 4) Please return a signed copy of this proposal or address and send your purchase order to:
 

PSI Water Technologies, Inc.  
 550 Sycamore Drive  
 Milpitas, CA 95035  
 Attn: Guy Chadwell  
 Phone: 408.370.6540  
 Fax: 408.866.4660  
 E-mail: gchadwell@ugsicorp.com

Thank you for your interest in PSI Water Technologies, Inc. We are committed to meeting your expectations.

**Proposal Acceptance**

An authorized signature indicates Buyer's acceptance of this proposal, including without limitation Seller's Terms and Conditions below.

\_\_\_\_\_  
**Company Name**

\_\_\_\_\_  
**Buyer's Name (printed)**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Buyer's Authorized Signature**

\_\_\_\_\_  
**Requested Arrival Date**

<b>Bill To Name:</b> _____	<b>Ship To Name:</b> _____
<b>Bill To Email:</b> _____	<b>Ship To Email:</b> _____
<b>Bill To Phone:</b> _____	<b>Ship To Phone:</b> _____
<b>Bill to Address:</b> _____	<b>Ship to Address:</b> _____



City	State	Zip	City	State	Zip
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**SECTION 3**

**TERMS AND CONDITIONS**

**Microclor® On-Site Hypochlorite Generation System**

**1. Applicable Terms.** PSI Water Technologies, Inc. (“Seller”) will sell, and the buyer (“Buyer”) will purchase, the products and/or services referred to in Seller’s proposal or quotation (collectively, the "Products"), subject to these terms and conditions, including the Warranty Attachment hereto (the “Warranty Attachment”, and such Warranty Attachment, together with these Terms and Conditions, being referred to herein as the “Terms”). The front page of Buyer’s purchase order (disregarding any reference to terms and conditions and any provisions that conflict with the Terms), if any, together with the description of the Products in Seller’s proposal or quotation and the Terms, constitute the complete and exclusive agreement between the parties related to the purchase and sale of the Products (the “Agreement”). All prior communications, documents, negotiations and representations, if any, are merged herein. Whether the Terms are included in an offer or an acceptance by Seller, such offer or acceptance is conditioned on Buyer's assent to the Terms. Any additional, different or conflicting terms contained in Buyer's request for proposal, specifications, purchase order or any other written or oral communication from Buyer shall not be binding in any way on Seller, whether or not they would materially alter this document, and Seller hereby objects thereto. All orders are subject to prior credit approval by Seller.

**2. Pricing.** The prices shall be as stated in Seller's proposal or order acknowledgment.

**3. Payment.** Unless otherwise stated, all payments shall be net 30 days from invoice date payable in United States Dollars. Unless provided otherwise in Seller’s proposal, 20% of the purchase price will be invoiced on approved submittals, and 80% will be invoiced on shipment. If Buyer fails to make any payment to Seller when due, Buyer's entire account(s) with Seller will become immediately due and payable without notice or demand. Buyer will pay 1½% interest per month, compounded monthly, on all amounts not received by the due date. Buyer hereby grants Seller a purchase money security interest in the Products until such time as Seller is fully paid. Buyer will assist Seller in taking action to perfect and protect Seller's security interest. Seller may make partial shipments, in which case, Buyer shall pay for each shipment in accordance with the terms hereof.

**4. Taxes, Shipping, Packing** Except to the extent expressly stated otherwise in Seller’s proposal, prices do not include any freight, storage, insurance, taxes, excises, fees, duties or other government charges, and Buyer shall pay such amounts or reimburse Seller for any such amounts Seller pays. If Buyer claims a tax or other exemption or direct payment permit, it shall provide Seller with a valid exemption certificate or permit and indemnify, defend and hold Seller harmless from any taxes, costs, and penalties arising out of same. Prices include the costs of Seller's standard domestic packing only. Any deviation from standard packing (domestic or export) shall result in extra charges. Any and all increases, changes, adjustments, or surcharges (including fuel surcharges) which may arise in connection with the freight charges, rates or classification included as part of the Agreement, shall be for the Buyer’s account.

**5. Delivery.** Products shall be delivered F.O.B. Seller's point of shipment. All delivery dates are estimated and are dependent in part upon prompt receipt of all necessary information from Buyer, including submittal approvals, if applicable, and all required commercial documentation. Seller will make a good faith effort to complete delivery of the Products on the date and to the location specified in writing by Buyer, but Seller assumes no liability for loss or damage due to delay or inability to deliver, whether or not such loss or damage was made known to Seller. If Buyer causes or requests a shipment delay, or if Seller ships or delivers the Products erroneously as a result of inaccurate, incomplete or misleading information supplied by Buyer or its agents or representatives, storage and all other additional costs and risks will be borne solely by Buyer. Any claims for Products damaged or lost in transit (“Transit Losses”) must be made by Buyer to the carrier and reported to Seller within one business day following delivery to Buyer.



**6. Inspection and Acceptance.** Buyer will have seven days from the date Buyer receives any Products to inspect such Products for defects and nonconformance which are not due to Transit Losses, and to notify Seller, in writing, of any defects, nonconformance or rejection of such Products. After such seven-day period, Buyer will be deemed to have irrevocably accepted the Products, if not previously accepted. After such acceptance, Buyer will have no right to reject or revoke acceptance of the Products for any reason; provided that Buyer retains all rights in respect of the warranties in, or referred to in, Section 9 below.

**7. Returns and Cancellation.** Buyer may not return custom engineered Products. Buyer may return other Products only with Seller's prior written approval, which may be withheld in Seller's sole discretion. Any authorized return will be subject to payment of a restocking charge and will be allowed only if the subject Product: (i) is in new condition, suitable for resale, and (ii) has not been used, installed, modified, altered or damaged. The restocking charge for authorized returns will be no less than (x) 25% of the purchase price, net of any freight charges included in the purchase price, plus (y) 100% of freight costs incurred by Seller. Buyer is responsible for the payment or reimbursement of return freight charges. Returns will be shipped F.O.B. Seller's location. Seller may, but will not be obligated to, treat any cancellation of an accepted order as an authorized return.

**8. Force Majeure.** Seller will have no liability for any breach caused by extreme weather or other act of God, strike or other labor shortage or disturbance, fire, accident, war or civil disturbance, delay of carriers, failure of normal sources of supply, act of government, epidemic or other public health crisis, or any other cause beyond Seller's reasonable control.

**9. Warranty.** Seller warrants the principal components of the Microclor® system identified in the Warranty Attachment as set forth in such Warranty Attachment. Seller warrants that all other Products will be free from defects in material and workmanship for 36 months from initial operation or 42 months from delivery to the jobsite, whichever is earlier (the "Warranty Period"). Seller's warranties are conditioned on (i) the Product being stored, installed, started-up, operated and maintained in accordance with Seller's instructions; (ii) no repairs, modifications or alterations being made to the Product other than by Seller or its authorized representatives; (iii) Buyer providing prompt written notice of any warranty claims within the Warranty Period; (iv) Seller's verification of the claimed breach of warranty; and (v) at Seller's discretion, Buyer either removing and shipping the Product or non-conforming part thereof to Seller, at Buyer's expense, or Buyer granting Seller access to the Product at all reasonable times and locations to assess the warranty claims. Seller's warranties do not apply to software and do not cover ordinary wear and tear.

If the claimed breach of warranty is verified by Seller, then, as the sole and exclusive remedy of Buyer or the initial end-user of the Product, Seller will, at Seller's sole option (a) repair the applicable Product or component free of charge, or (b) replace the applicable Product or component free of charge F.O.B. Buyer's facility. The warranty on repaired or replaced Products or component parts is limited to the remainder of the original Warranty Period. Buyer shall be responsible for (x) any labor required to gain access to the Product or component or so that Seller can assess the available remedies; and (y) all costs of installation of repaired or replacement Products or components.

THE WARRANTIES SET FORTH IN THIS SECTION 9 AND IN THE WARRANTY ATTACHMENT ARE INTENDED TO BE SELLER'S SOLE AND EXCLUSIVE WARRANTIES WITH RESPECT TO THE PRODUCTS AND SELLER'S WARRANTIES ARE SUBJECT TO SECTION 10 BELOW. SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCTS, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE, OR ANY WARRANTIES THAT MIGHT ARISE FROM COURSE OF DEALING OR USAGE OF TRADE. NOTWITHSTANDING THE FOREGOING, IF IT IS ALLEGED OR DETERMINED THAT SELLER HAS MADE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BY COURSE OF DEALING OR USAGE OF TRADE, SUCH OTHER WARRANTIES SHALL BE SUBJECT TO ALL THE CONDITIONS, LIMITATIONS AND PROCEDURES SET FORTH IN THIS SECTION 9, THE WARRANTY ATTACHMENT, AND SECTION 10 BELOW.



**10. LIMITATION OF LIABILITY.** NOTWITHSTANDING ANYTHING ELSE TO THE CONTRARY, SELLER WILL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE OR OTHER INDIRECT DAMAGES, AND SELLER'S TOTAL LIABILITY ARISING AT ANY TIME FROM THE SALE OR USE OF THE PRODUCTS WILL NOT EXCEED THE PURCHASE PRICE PAID FOR THE PRODUCTS. THESE LIMITATIONS APPLY WHETHER THE LIABILITY IS BASED ON CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY. THE REMEDIES SET FORTH IN THIS AGREEMENT ARE INTENDED TO CONSTITUTE A COMPLETE ALLOCATION OF THE RISKS BETWEEN THE PARTIES, AND BUYER ACKNOWLEDGES THAT IT IS KNOWINGLY LIMITING THE REMEDIES THAT MIGHT OTHERWISE BE AVAILABLE TO BUYER. BECAUSE THIS AGREEMENT AND THE PRICE PAID REFLECT SUCH ALLOCATION, THE REMEDIES PROVIDED TO BUYER HEREUNDER WILL NOT HAVE FAILED OF THEIR ESSENTIAL PURPOSE EVEN IF THEY OPERATE TO BAR RECOVERY FOR CERTAIN DAMAGES THAT BUYER MAY INCUR.

**11. Remedies of Seller.** Any of the following will constitute an event of default which will enable Seller, at its option and without liability to Buyer, to cancel any unexecuted portion of the order that is the subject of this Agreement and to exercise any other right or remedy expressed herein or otherwise available at law or in equity: (i) the failure of Buyer to make any payment required hereunder when due ("Payment Default") or to perform any other term or condition contained herein; (ii) the insolvency of Buyer or its failure to pay its debts as they mature, an assignment by Buyer for the benefit of its creditors, the appointment of a receiver for Buyer or for the materials covered by this Agreement, or the filing of any petition to adjudicate Buyer bankrupt. Seller's obligations under Section 9 hereof and the Warranty Attachment will be suspended during the pendency of any Payment Default. No such suspension will extend Seller's obligations under Section 9 or the Warranty Attachment beyond the period provided therein. Seller's election of any remedy in the event of a default by Buyer will not preclude Seller from exercising any other remedy available to Seller hereunder or at law or in equity for the same or any other default. In the event it becomes necessary to incur any expense for collection of any overdue account, Seller's collection charges, including attorneys' fees and expenses, will be added to the balance due and Buyer will pay all such charges together with interest thereon from the date incurred in accordance with Section 3.

**12. Remedies of Buyer.** In the event that Seller fails to ship the Products within 16 weeks after receipt of approval of its submittals, and the cause of such delay is the fault of Seller, Buyer may require Seller to pay the liquidated damages of \$1,420/day actually assessed pursuant to the Contract Documents with SAWS for the days in which Seller caused the delay up to a maximum aggregate amount equal to 20% of the purchase price hereunder.

**13. Equal Employment Opportunity.** Seller is an equal opportunity employer. The parties shall, as applicable, abide by the requirements of 41 CFR 60-1.4(a), 41 CFR 60-300.5(a), 41 CFR 60-741.5(a) and Executive Order 13496 (29 CFR Part 471, Appendix A to Subpart A) (relating to the notice of employee rights under federal labor laws), and these laws are incorporated herein by reference.

**14. Export Compliance.** Buyer acknowledges that Seller is required to comply with applicable export laws and regulations relating to the sale, exportation, transfer, assignment, disposal, and usage of the Products provided under the Agreement, including any export license requirements. Buyer agrees that such Products shall not at any time directly or indirectly be used, exported, sold, transferred, assigned, or otherwise disposed of in a manner which will result in non-compliance with such export laws and regulations. It shall be a condition of the continuing performance by Seller of its obligations hereunder that compliance with such export laws and regulations be maintained at all times. BUYER WILL INDEMNIFY, DEFEND AND HOLD SELLER HARMLESS FROM ANY AND ALL COSTS, LIABILITIES, PENALTIES, SANCTIONS AND FINES RELATED TO NON-COMPLIANCE WITH APPLICABLE EXPORT LAWS AND REGULATIONS.

**15. Miscellaneous.** No part of this Agreement may be changed or cancelled except by a written document signed by Seller and Buyer. As used in this Agreement, "including" and its variants mean "including without limitation" and its variants. No course of dealing or performance, usage of trade, or failure to enforce any term will be used to modify the Agreement. Buyer acknowledges that it has not relied upon any letters of intent, agreements, promises, negotiations, statements or representations other than those expressly set forth in this Agreement. Buyer agrees and



warrants that in entering into this Agreement, Buyer is relying solely upon the information contained in this Agreement and not in reliance upon any other information. If any of the Terms is unenforceable, such Term will be limited only to the extent necessary to make it enforceable, and all other Terms will remain in full force and effect. Buyer may not assign this Agreement without Seller's prior written consent. This Agreement will be governed by the laws of the State of California without regard to its conflict of laws provisions. The application of the United Nations Convention on Contracts for the International Sale of Goods is excluded. Any bond issued by Seller in connection with the sale of the Products shall remain in effect for a maximum of two (2) years after acceptance of the Products, and the only warranty, guaranty or Product performance obligations covered thereby shall be those at Section 9 above and in the Warranty Attachment. All Product performance obligations of Seller are contingent on the design criteria and the condition of the influent and the raw materials being as specified by Seller and will be considered satisfied and discharged upon successful completion of the initial Product performance testing. EACH OF THE PARTIES IRREVOCABLY AND UNCONDITIONALLY WAIVES ITS RIGHT TO TRIAL BY JURY IN RESPECT OF ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING IN CONNECTION WITH THE TRANSACTION CONTEMPLATED HEREBY.



**WARRANTY ATTACHMENT  
FOR  
MICROCLOR® ON-SITE HYPOCHLORITE SYSTEM COMPONENTS**

**I. Incorporation and Definitions.** This Warranty Attachment is incorporated into, and made a part of, the PSI Water Technologies, Inc. Terms and Conditions (the “Terms and Conditions”). All capitalized terms used in this Warranty Attachment have the meanings assigned to them in the Terms and Conditions. This Warranty Attachment sets forth Seller’s warranty with respect to the following principal components of the Microclor® onsite sodium hypochlorite system supplied by Seller (the “System”): electrolytic cells (including electrolytic cell bodies, the “Electrolytic Cells”), brine pump, rectifier, rotometers installed on the generator skid, Microclor control panel, and the master panel for the Microclor skids (the “Principal Components”). All other components of or accessories to the System are covered by the warranty set forth in Section 9 of the Terms and Conditions.

**II. Warranty Statement.**

A. *Basic Warranty.* Seller warrants for a period of 36 months from the date of start-up of the System incorporating the Principal Components, or 42 months from the date of delivery of the Principal Components to the jobsite, whichever is earlier (the “Basic Warranty Period”), that the Principal Components will be free from defects in material and workmanship (the “Basic Warranty”).

If the claimed breach of warranty is verified by Seller, then, as the sole and exclusive remedy of the Buyer or the end-user of the System (the “Customer”) for breach of the Basic Warranty, Seller will, at Seller’s sole option (i) repair the defective Principal Component free of charge, or (ii) replace the applicable Principal Component free of charge F.O.B. Customer’s facility. Repaired or replacement Principal Components are warranted in accordance with the terms of this warranty for the remainder of the Basic Warranty Period.

B. *Pro-Rated Warranty for Electrolytic Cells.* In addition to the Basic Warranty set forth above, Seller warrants for a period of 48 months commencing at the end of the Basic Warranty Period (the “Pro-Rated Warranty Period”), that the Electrolytic Cells (including Electrolytic Cells repaired or replaced during the Basic Warranty Period) will be free from defects in material and workmanship (the “Pro-Rated Warranty”). If the claimed breach of warranty is verified by Seller, then, as Customer’s sole and exclusive remedy for the breach of the Pro-Rated Warranty, Seller will, at Customer’s option and subject to Customer’s payment of the prorated Cell Replacement Price (as defined below), either (i) repair the defective Electrolytic Cell (a “Refurbished Cell”) and return the Refurbished Cell to Customer F.O.B. Customer’s facility, or (ii) replace the defective Electrolytic Cell with a new, unused Electrolytic Cell (a “Replacement Cell”) F.O.B. Customer’s facility. Cell Replacement Price means (i) for a Refurbished Cell, the amount quoted in writing by Seller for the repair following Seller’s inspection of the defective Electrolytic Cell, and (ii) for a Replacement Cell, the Seller’s list price for a new, unused Electrolytic Cell at the time of replacement. The prorated portion of the Cell Replacement Price to be paid by Customer with respect to defects reported during the Pro-Rated Warranty Period shall be calculated as follows:

$$\frac{[\text{Number of full months (but not to exceed 84) elapsed since the commencement of the Basic Warranty Period} \div 84] \times \text{Cell Replacement Price}}$$

Seller warrants each Refurbished Cell in accordance with Seller’s Microclor® Refurbished Cell Warranty, a copy of which will be furnished upon request.

Seller warrants each Replacement Cell in accordance with Seller’s Microclor® Replacement Cell Warranty, a copy of which will be furnished upon request.

C. *Warranty Conditions.* The warranties in this Part II are subject to the provisions, and to compliance with the warranty claim procedure, set forth below.



**III. Conditions and Limitations of Seller's Warranties.**

- A. Seller's warranties:
- (i) apply only when the Principal Components are handled, stored, and tested in accordance with Seller's written guidelines; and
  - (ii) are conditioned upon Seller's verification of the claimed breach of warranty.
- B. Seller is not responsible for any costs incurred in connection with the removal or reinstallation of Principal Components or for costs incurred by Customer to enable Seller to gain access to the Principal Components to be repaired or replaced.
- C. Seller reserves the right to test the allegedly defective Principal Component on the premises of Customer or to request the Customer to perform such inspections or tests and forward the results thereof to Seller.
- D. Seller's warranties shall be null and void if Customer fails or refuses to fully disclose to Seller the conditions of the influent to, or use and operating parameters of, the System.

**IV. Exclusions from Seller's Warranties.** Seller's warranties do not cover and Seller will not be liable for:

- A. Any defect or failure caused by faulty installation (if installation is not performed by Seller), misapplication, misuse, failure to start-up, maintain or operate the System or the Principal Components in accordance with the Seller's instructions or guidelines, accident, or tampering.
- B. Accidental and/or external caused damages and damages caused by improper use, including but not limited to damage caused by operation and/or exposure of the System or Principal Components to conditions outside of the instructions and conditions listed in the O&M Manual, Seller's product datasheets, or in the project specifications.
- C. Expendable parts and components other than Electrolytic Cells (e.g., spacers, gaskets, mechanical fasteners).
- D. Any defects or faults caused by, or resulting from, inaccurate or incomplete operating process information / process operating parameters, or work performed by Customer or its employees or agents.
- E. Any damage or operational deficiency caused by the existence or occurrence of any of the following conditions:
- (i) Failure of the raw water supply to the water softener to be potable.
  - (ii) Exposure of the System or the Principal Components to ambient air temperatures outside the range of 35°F - 90°F.
  - (iii) Exposure of the System or the Principal Components to the elements or other harmful site-related environmental conditions, including without limitation rain, direct sunlight, coastal atmospheric conditions, and corrosive chemicals or agents.
  - (iv) Use of salt that does not meet Seller's specifications.
  - (v) Unauthorized repairs, modifications, or alterations to the System or Principal Components or to the PLC program.



**V. Warranty Claim Procedure.** Before returning any Principal Component to Seller for warranty examination, whether under the Basic Warranty or the Extended Warranty, Seller must be contacted to obtain return authorization. Any Principal Component shipped to Seller's facility without return documentation will be returned to shipper unopened, freight collect. The following procedure shall be followed to determine warranty protection:

A. Customer shall send a written notice to Seller within a reasonable period following discovery of the alleged defect and in any case within 30 days following the end of the applicable warranty period or else the claim is waived.

B. Customer shall submit all relevant operating data requested by the Seller within a reasonable period of time following Seller's request.

C. The Seller will be provided a reasonable time to review the data and make initial recommendations in writing for further evaluation of the claim.

D. Customer will make all reasonable efforts to execute and implement the Seller's recommendations and collect, record, and submit all relevant data resulting from these recommendations.

E. In the event Seller's initial recommendations do not address and solve the warranty issues, Customer will grant Seller access to the System and the Principal Components and a reasonable period of time to perform inspection, testing and evaluation of System and Principal Component conditions and performance or Customer will perform such inspections or tests as Seller shall request and forward the results thereof to Seller.

F. In the event Seller's recommendations solve the warranty issues, the warranty claim will be deemed resolved and withdrawn.

G. If Customer fails to follow Seller's recommendations, the warranty claim will be deemed resolved and withdrawn.

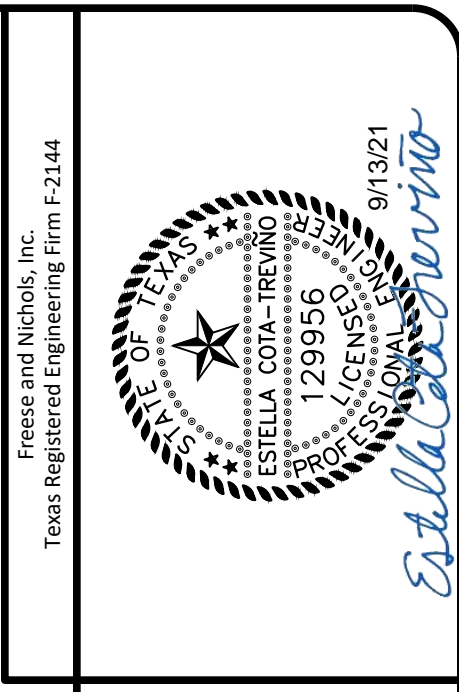
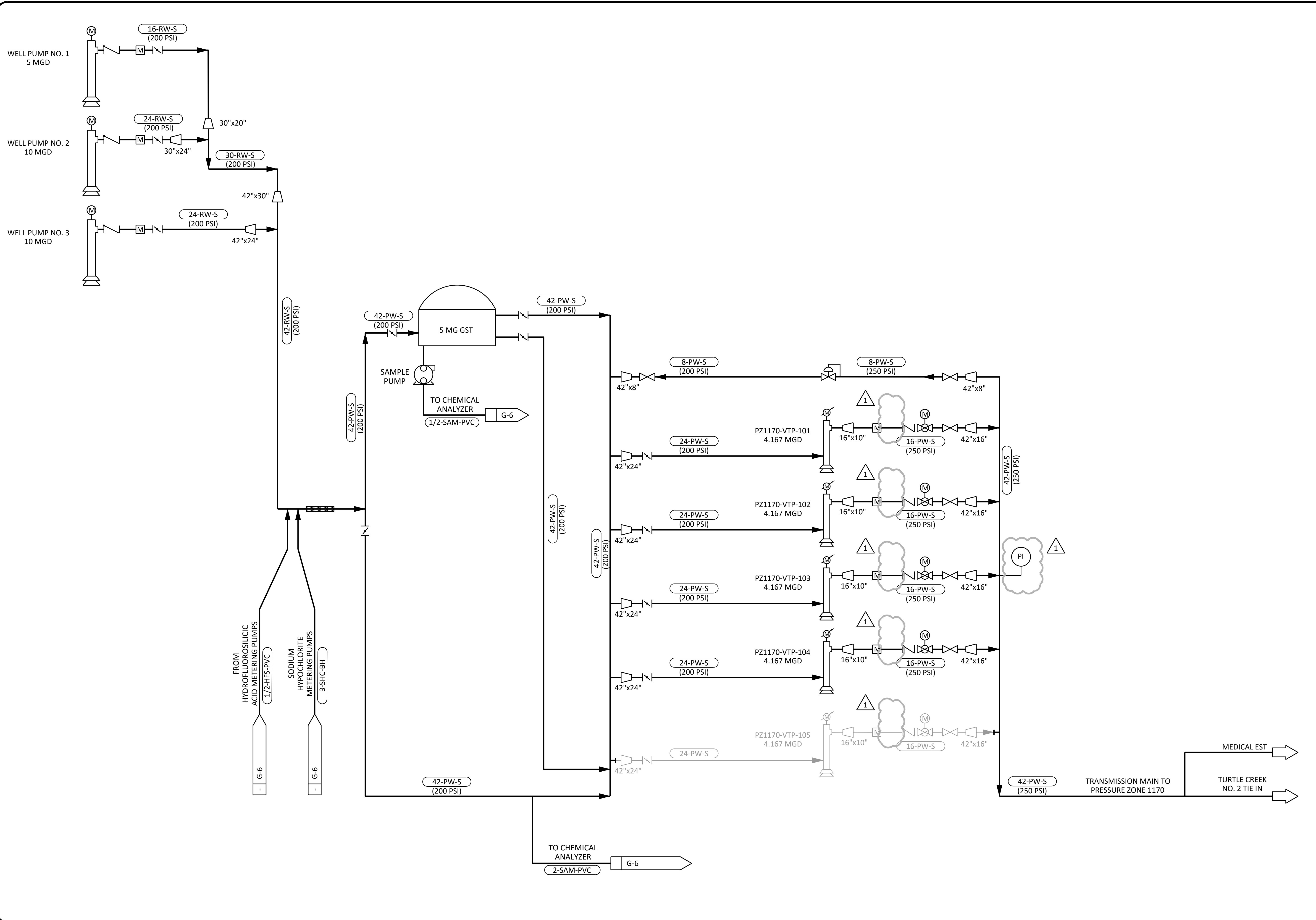
H. Upon Seller's request, any allegedly defective Principal Component shall be returned to Seller at Customer's expense, as applicable. Reasonable, documented return freight cost will be reimbursed by Seller if a covered warranty defect is confirmed.

**VI. Customer's Responsibilities.** Customer shall ensure that operation, maintenance and performance data for the System and Principal Components are recorded in a reasonably prudent manner. Such information shall be made available to Seller in the event a claim is made against Seller pursuant to the foregoing warranties.

**VII. Payment for Non-Warranty Services and Products.** If the Principal Component failure is determined to be from a cause other than breach of warranty or is not covered by Seller's warranties for any of the reasons set forth above or otherwise, Customer shall pay to Seller a fee of \$1,500 per day plus direct travel expenses incurred by Seller's employees in connection with any inspection, testing or repair of such Principal Component on Customer's premises. Principal Components shipped to Seller for warranty examination must be shipped freight prepaid, such freight to be reimbursed as provided in Part V.H. above. Principal Components examined as part of a warranty claim which are found not to be defective will be returned to Customer freight collect.

Attachment 2  
Revised Drawings

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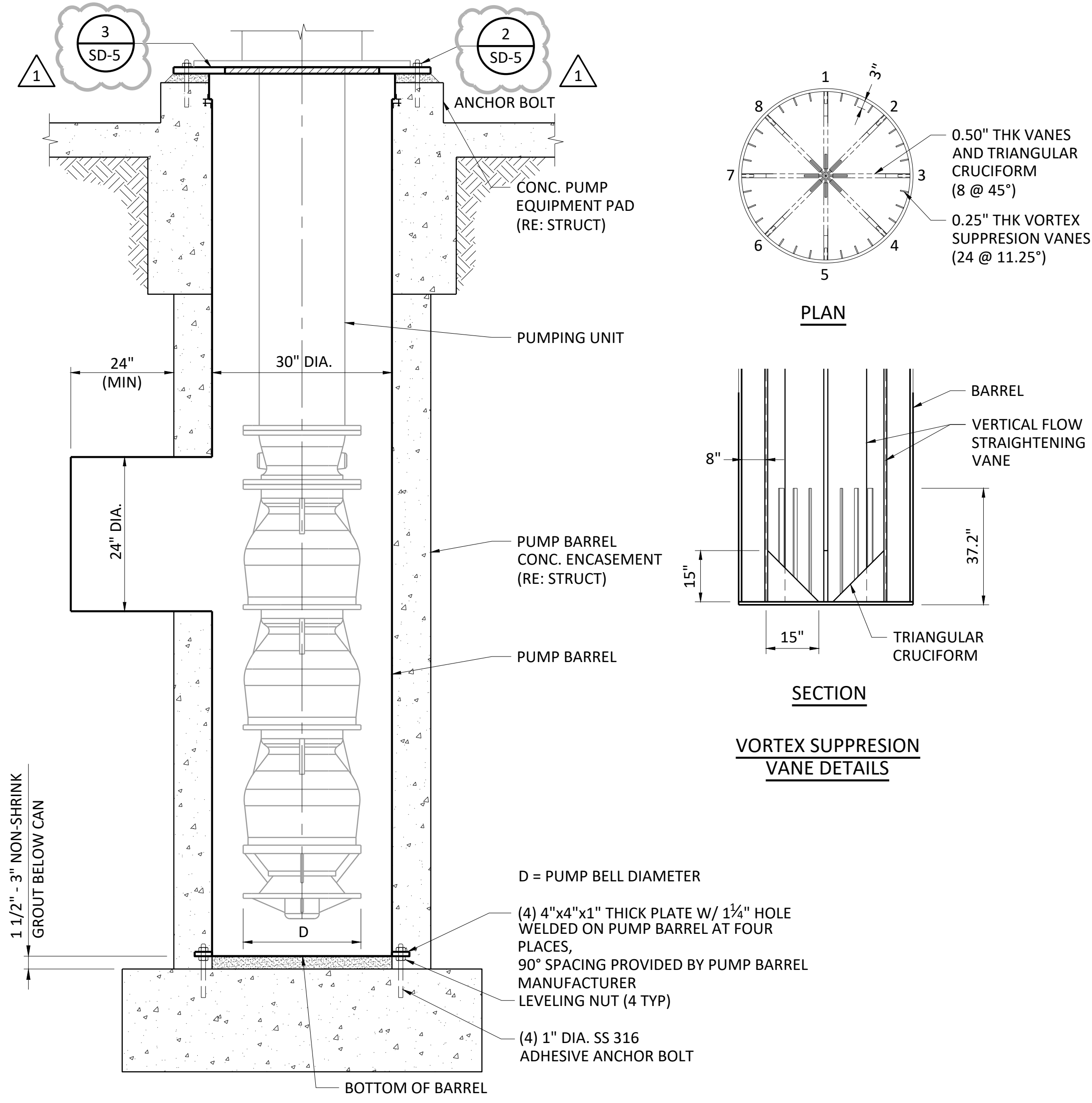


**FREESE & NICHOLS**  
 9601 McAllister Freeway, Suite 1008  
 San Antonio, Texas 78216  
 Phone - (210) 298-3800  
 Web - www.freese.com

**TURTLE CREEK NO. 3 PRIMARY PUMP STATION**

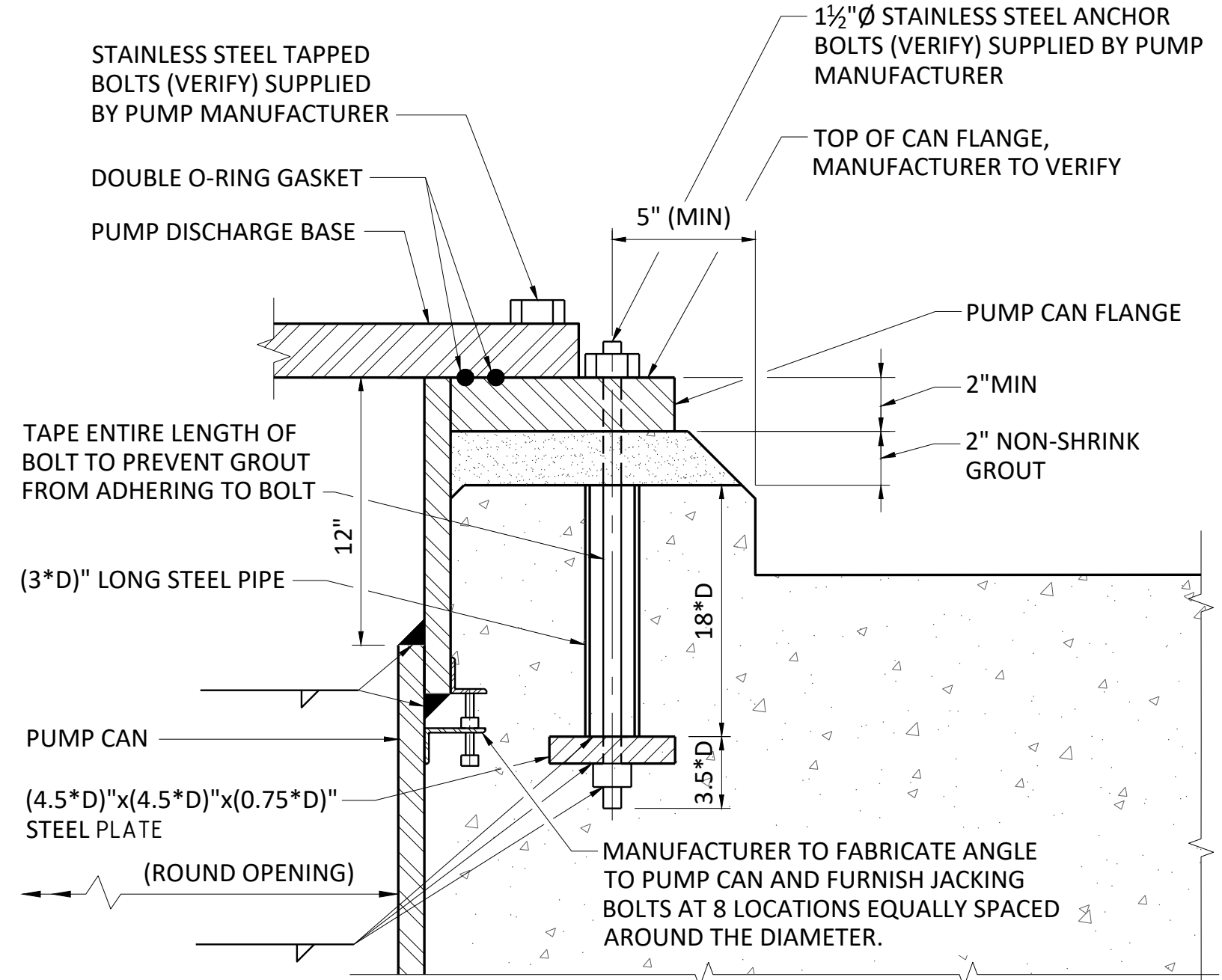
GENERAL  
 PROCESS FLOW DIAGRAM I

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SHEET					
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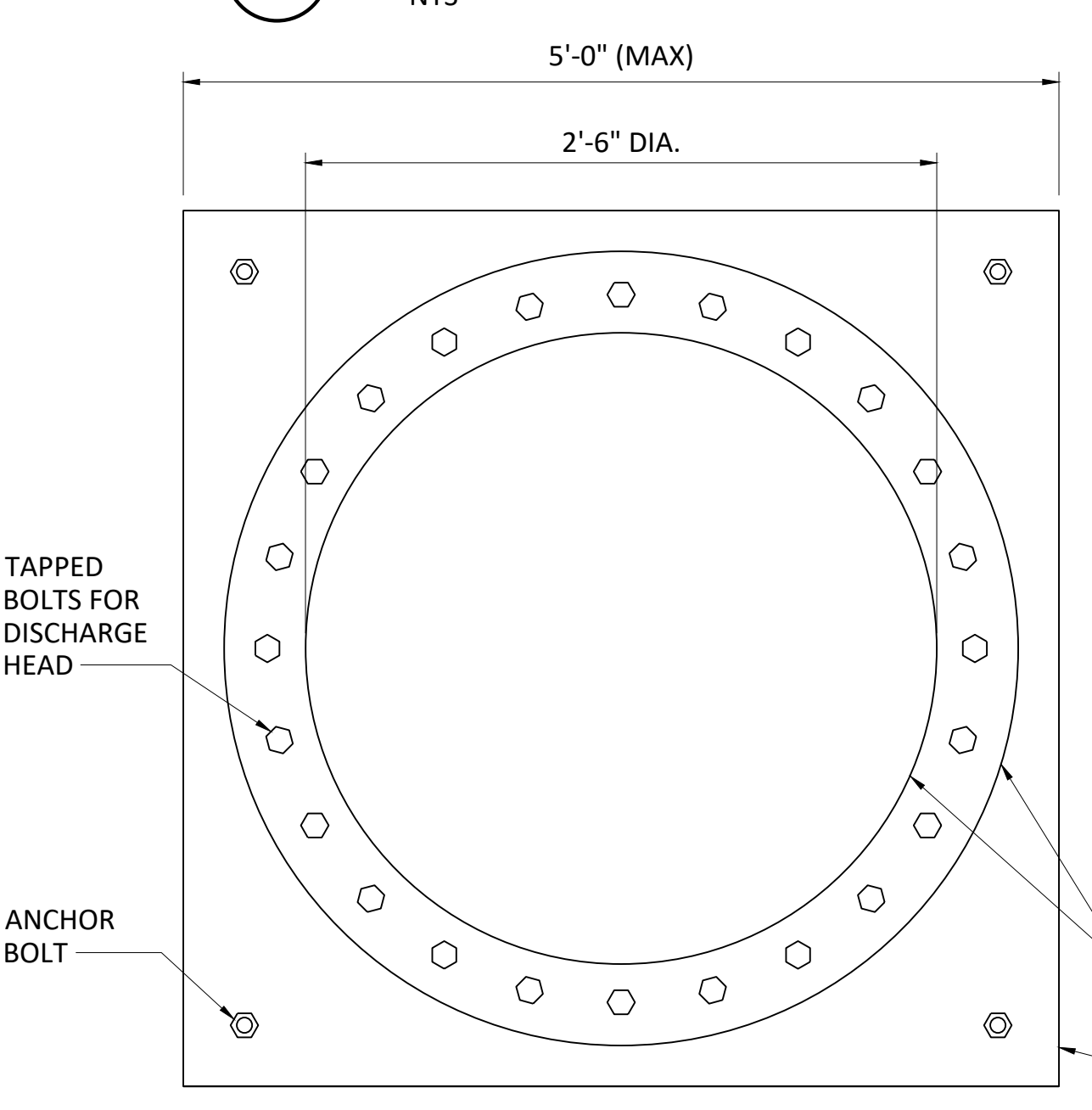
**NOTES FOR INSTALLATION OF VERTICAL PUMP BARRELS (CANS)**

- ONCE THE SLAB FOUNDATION FOR THE PUMP BARREL HAS ATTAINED STRENGTH IN ACCORDANCE W/ SPECIFICATION, THE CONTRACTOR SHALL DRILL AND EPOXY SET THE LEVELING BOLTS FOR THE CAN. DURING INSTALLATION OF THE CONCRETE AND RELATED REINFORCEMENT, CONTRACTOR SHALL LOCATE REINFORCEMENT SUCH THAT IT DOES NOT CONFLICT WITH DRILLING AND SETTING OF EPOXY ANCHOR BOLTS.
- ONCE THE CAN HAS BEEN MADE SQUARE AND STRAIGHT WITH THE SUCTION LINE, CONTRACTOR SHALL RAISE THE CAN TO CORRECT GRADE AND MAKE THE CAN PLUMB AND TOP FLANGE LEVEL IN ACCORDANCE WITH PUMP MANUFACTURERS RECOMMENDED TOLERANCES.
- ONCE PLUMB, NON-SHRINK GROUT SHALL BE PLACED BENEATH THE PUMP BARREL. RAM GROUT INTO THE VOID TO INSURE A TIGHTLY COMPACTED GROUT FIT BETWEEN THE CAN BOTTOM AND TOP OF SLAB. ONCE GROUT HAS SET, CONTRACTOR MAY POUR THE WALLS OF THE PUMP WELL.
- CONTRACTOR SHALL VERIFY THE IN-PLACE OVALITY OF THE CAN AND PROVIDE STULLING, SUPPORT OR JACKING AS REQUIRED TO MEET REQUIREMENTS. CAN OVALITY SHALL SHOW DEVIATION OF NO MORE THAN 2% FROM TRUE ROUNDNESS WHEN MEASURED THROUGHOUT AND AFTER CAN HAS BEEN PERMANENTLY SET WITH THE PUMP WELL WALLS POURED. CONTRACTOR SHALL PROVIDE CONFIRMATION IN WRITING BY PUMP MANUFACTURE BEFORE AND AFTER CONCRETE POUR.
- DURING CONCRETE PLACEMENT THE CONTRACTOR SHALL PROVIDE METHODS TO PREVENT FLOTATION, MISALIGNMENT OR EGGING OF THE CAN. ANY STULLING, SUPPORT OR JACKING OF THE CAN SHALL BE PADDED AND NOT DAMAGE THE CAN LINING.
- ADJUST LOOSE TOP FLANGE PIECE USING THE JACKING BOLTS AND TACK WELDING UNTIL ACHIEVING THE REQUIRED INSTALLATION TOLERANCES. COMPLETE THE WELDING ON BOTH SIDES OF THE LAP JOINT FOR THE TOP FLANGE PIECE.
- PLACE GROUT BETWEEN THE FLOOR SLAB AND THE BOTTOM OF THE CAN FLANGE ONCE THE PUMP HAS BEEN SET, AFTER VERTICAL TOLERANCES ARE IN COMPLIANCE WITH MFR REQUIREMENTS.
- FINAL FIELD MACHINING OF THE PUMP BARREL FLANGE SHALL BE REQUIRED AFTER INSTALLATION IF NECESSARY TO OBTAIN LEVEL AND FLATNESS REQUIRED BY PUMP MANUFACTURER.
- THE ELEVATION OF THE BOTTOM OF THE PUMP BARREL AND THE BOTTOM OF THE SUCTION BELL SHALL BE SUBJECT TO THE PUMP MANUFACTURER'S VERIFICATION AND IN ACCORDANCE WITH HI STANDARDS.
- THE PUMP VENDOR SHALL PROVIDE THE STRUCTURAL DESIGN OF THE PUMP BARREL, INCLUDING FLANGE DESIGN, HEAD SEALING ARRANGEMENT, FLANGE STIFFENING RIBS AND CAN STIFFENERS.
- CAN FLANGE DESIGN SHALL ACCOMMODATE THE FORCES AND MOMENTS FOR THE LARGEST PUMP BEING SUPPLIED FOR THE PUMP STATION, WITH A MINIMUM FACTOR OF SAFETY OF 3.0 APPLIED.

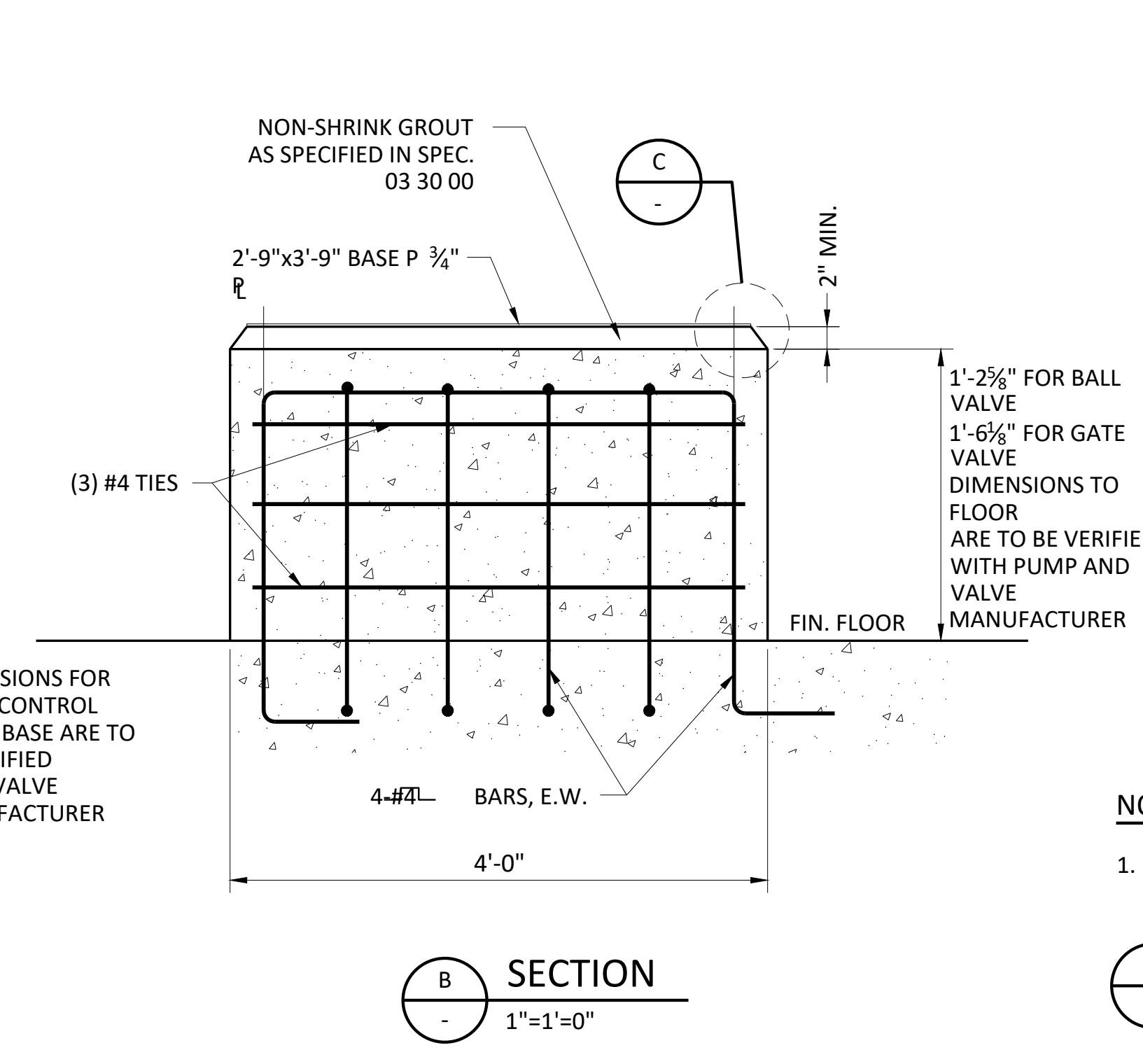
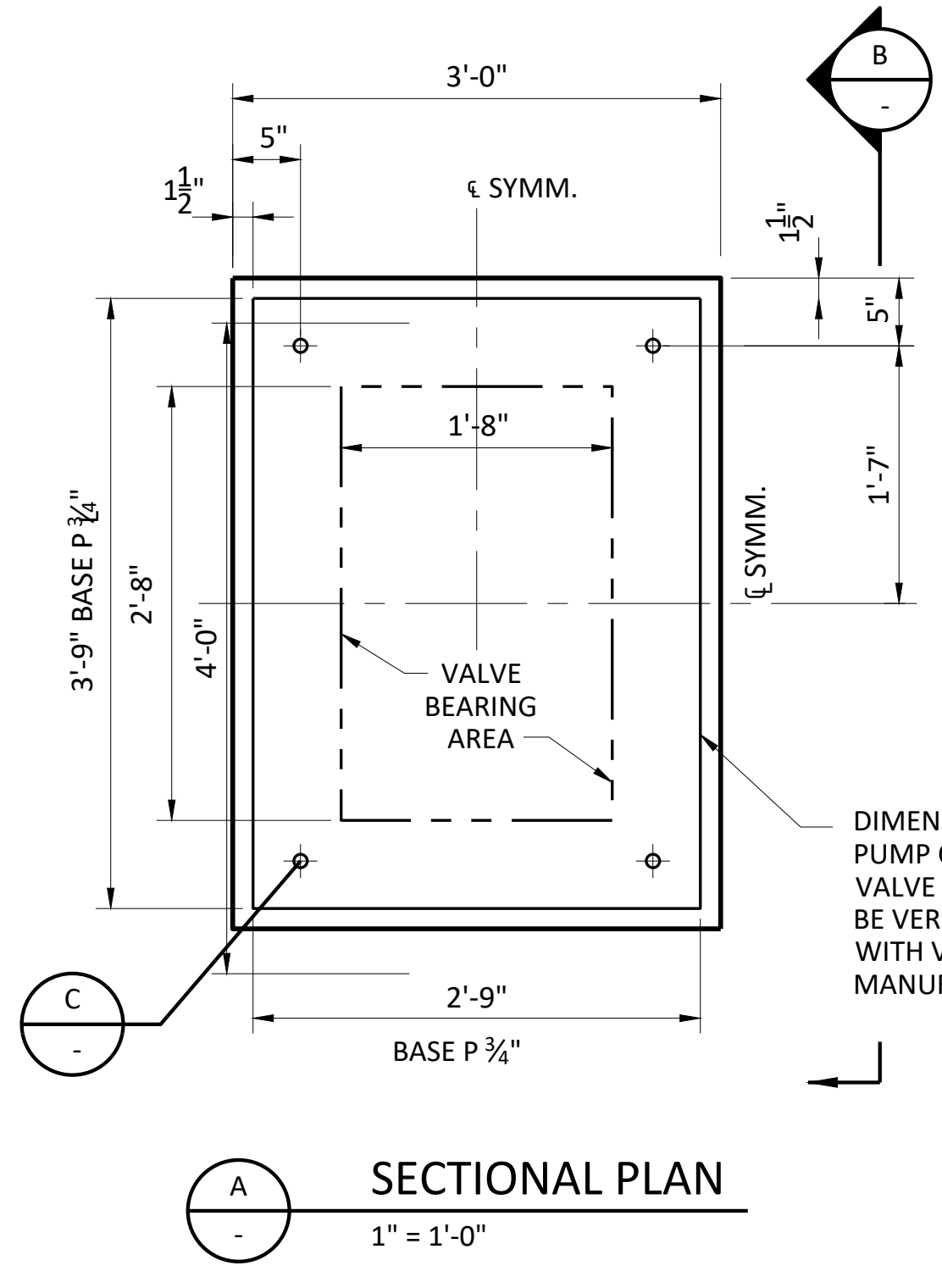


**2**  
NTS

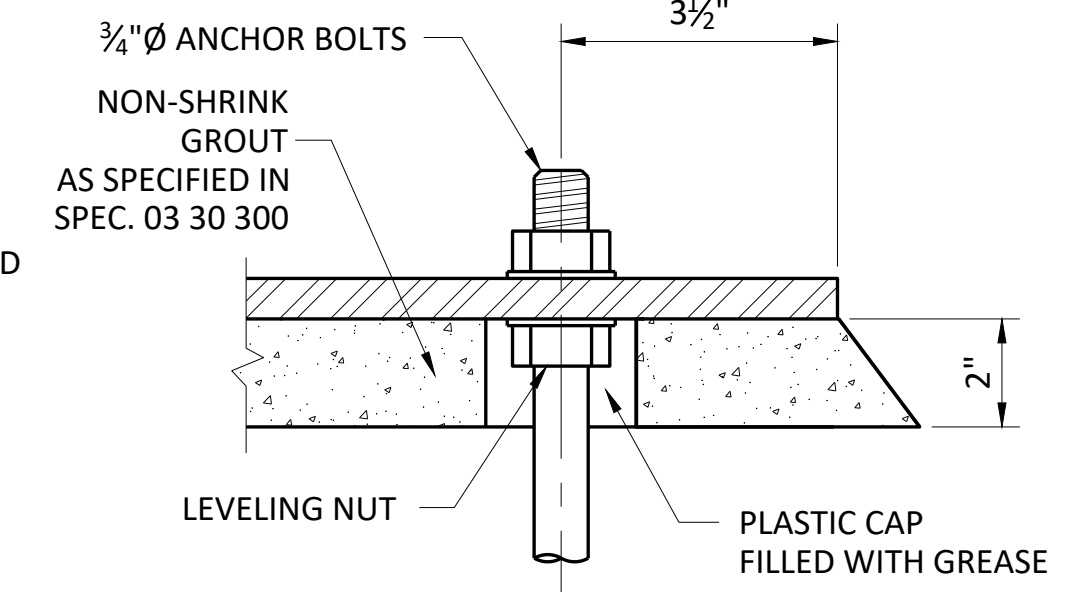
**1**  
PUMP BARREL LEVELING DETAILS



- NOTES:**
- DIAMETER OF OPENING IN PUMP SOLE PLATE SHALL BE DETERMINED BY PUMP MANUFACTURER AND SHALL YIELD A MINIMUM OF 4 INCHES OF CLEARANCE ALL AROUND WHEN SETTING OR REMOVING THE PUMP THROUGH THE OPENING.
  - OVERALL DIMENSIONS OF PUMP SOLE PLATE SHALL BE SQUARE. DIMENSIONS SHALL BE DETERMINED BY PUMP MANUFACTURER AND SHALL BE 2 FEET GREATER THAN THE REQUIRED DIAMETER OF THE SOLE PLATE OPENING.
  - SIZE AND NUMBER OF ANCHOR BOLTS TO BE DETERMINED BY PUMP MANUFACTURER.
  - ORIENT CAV VENT PIPE TO TRENCH DRAINS.



**4**  
VALVE SUPPORT DETAILS  
1" = 1'-0"



- NOTE:**
- FEET OF VALVE SHALL REST ON 3/4" BASE PLATE, BUT SHALL NOT BE ANCHORED TO THE PLATE OR CONCRETE VALVE SUPPORT.

**3**  
NTS

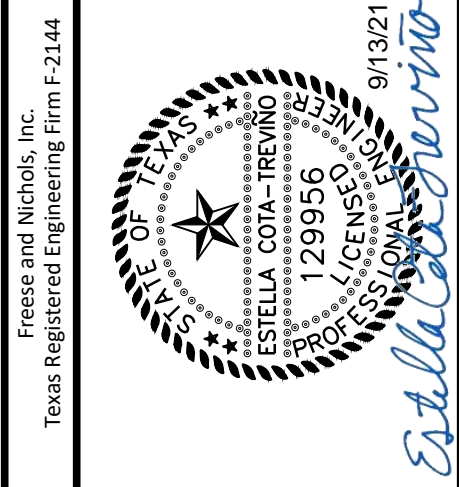
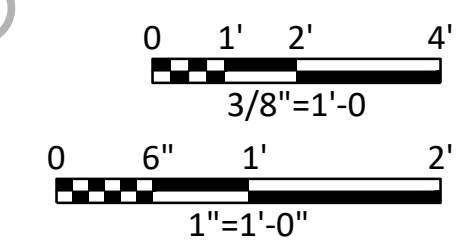
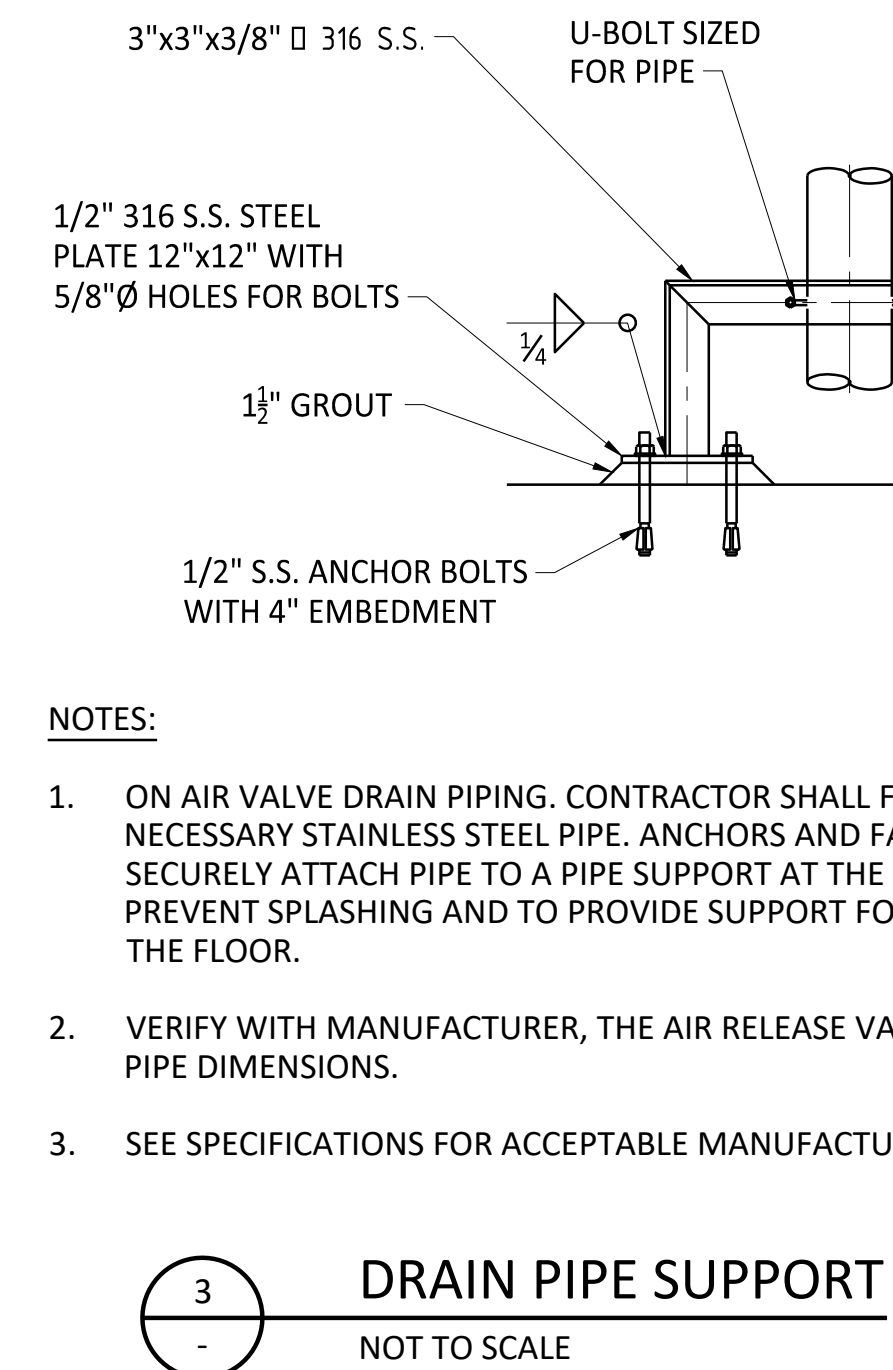
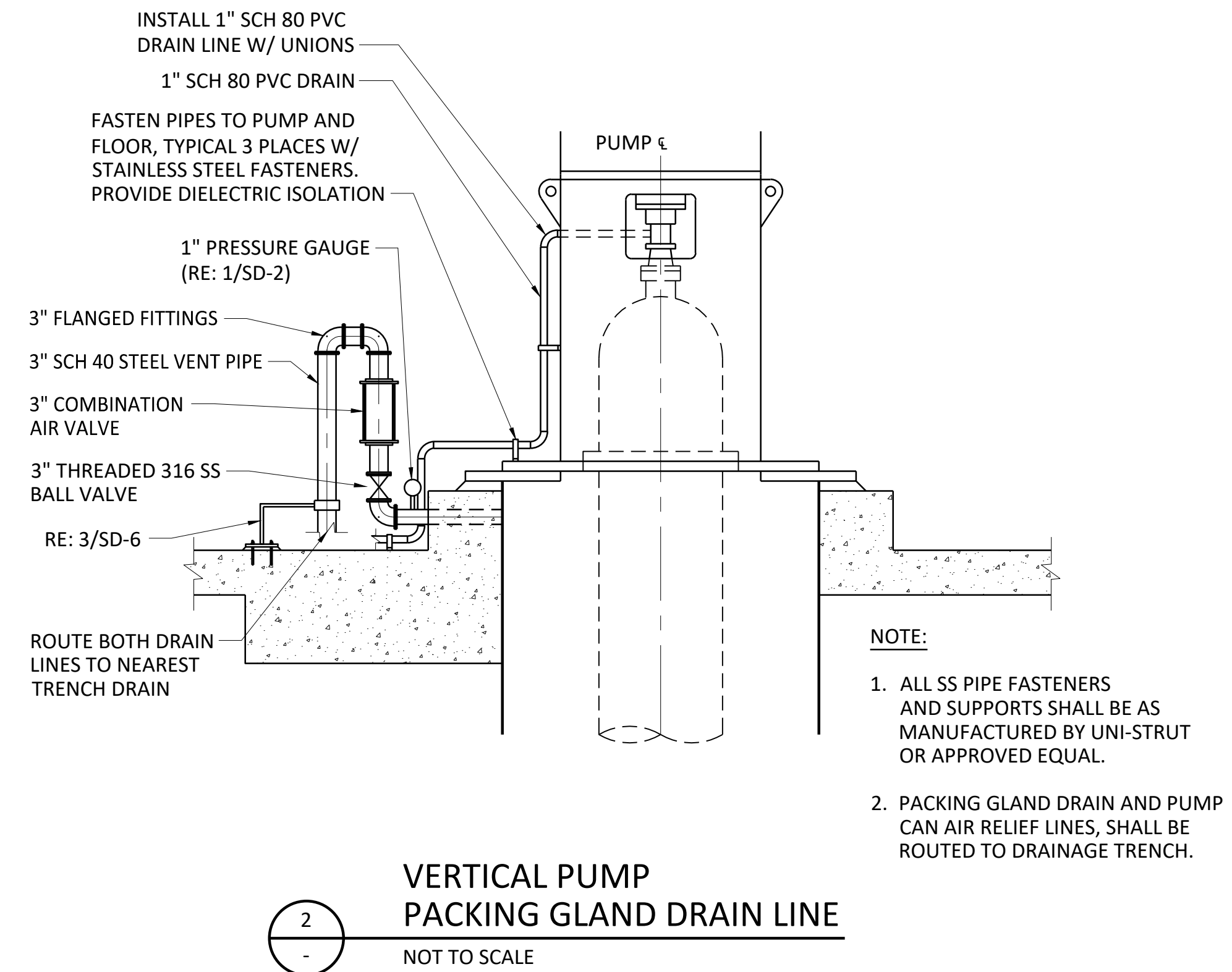
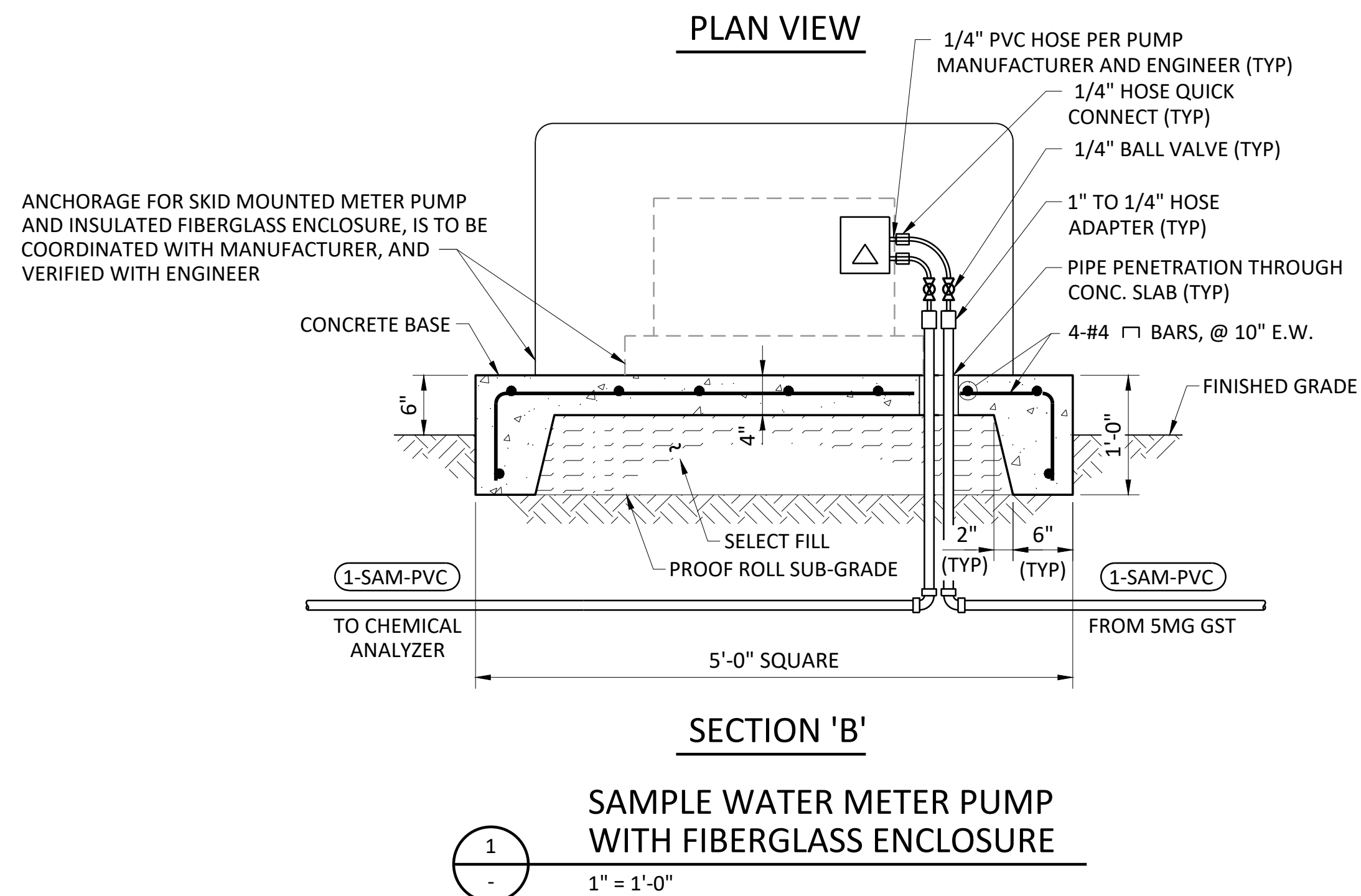
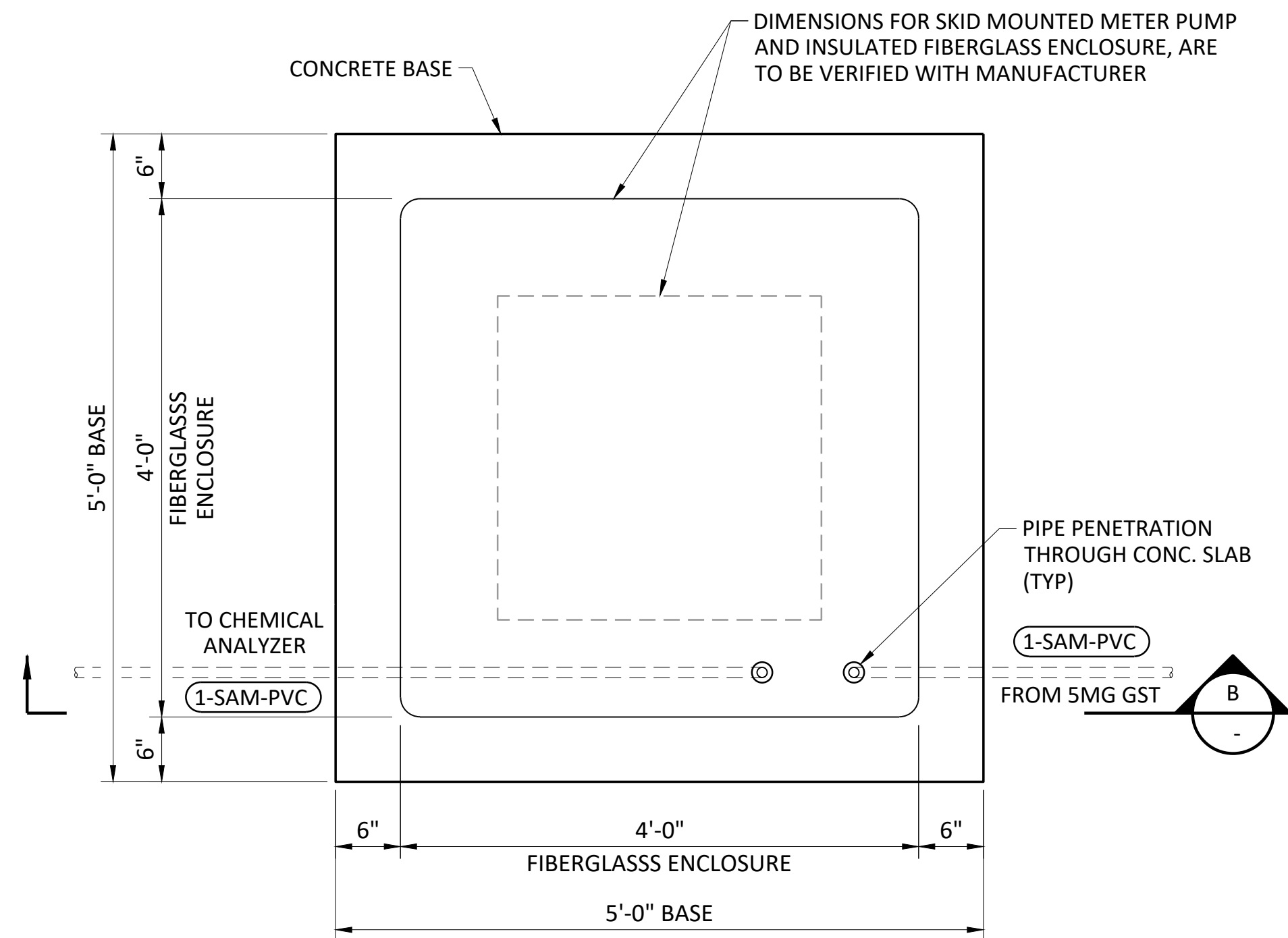
Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-3144

Estrella Cortez Trevino

**FREES & NICHOLS**  
9601 McAllister Freeway, Suite 1008  
San Antonio, Texas 78216  
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Web - www.freese.com

SAN ANTONIO WATER SYSTEM  
**TURTLE CREEK NO. 3 PRIMARY PUMP STATION**  
STANDARD DETAILS  
**STANDARD DETAILS V**

NO.	ISSUE	DATE	BY	DATE	DESIGNED	ECT	DRAWN	DDH	REVISION	CHECKED	ECT	DTB
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ADDENDUM NO. 4												
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SHEET <b>SD-5</b>												
SEQ.												



**FREESSE and NICHOLS**  
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 San Antonio, Texas 78216  
 Phone - (210) 298-3800  
 Web - www.freese.com

SAN ANTONIO WATER SYSTEM  
**TURTLE CREEK NO. 3 PRIMARY PUMP STATION**  
 STANDARD DETAILS  
**STANDARD DETAILS VI**

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2	REVISION		ECT		
3	CHECKED		DTB		

ADDENDUM NO. 4  
 VERIFY SCALE  
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SHEET **SD-6**

SEQ.

**GENERAL**

1. DESIGN IS IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE, LOCAL AMENDMENTS, AND APPLICABLE CODE REFERENCED STANDARDS.
2. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH APPLICABLE OSHA, STATE, AND LOCAL REGULATIONS. THIS DESIGN IS NOT INTENDED TO CONFLICT WITH SAFETY OR APPLICABLE REGULATIONS OR TO RELIEVE THE CONTRACTOR OF COMPLIANCE WITH THESE REQUIREMENTS. IN CASE OF CONFLICT WITH SAFETY OR APPLICABLE REGULATIONS, CONTACT THE ENGINEER FOR GUIDANCE BEFORE PROCEEDING WITH FABRICATION OR CONSTRUCTION.
3. PRIOR TO FABRICATION OR CONSTRUCTION:
  - A. VERIFY DIMENSIONS AND LOCATIONS OF ALL OPENINGS, DEPRESSIONS, OFFSETS, SLEEVES, CURBS, PADS, INSERTS, EQUIPMENT REQUIREMENTS, ETCETERA.
  - B. REVIEW OTHER DISCIPLINE DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS, DEPRESSIONS, OFFSETS, SLEEVES, CURBS, PADS, INSERTS, EQUIPMENT REQUIREMENTS, ETC WHICH ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
  - C. FIELD VERIFY ALL EXISTING CONDITIONS, INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES.
  - D. NOTIFY OWNERS REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN DISCIPLINES, CONSTRUCTIBILITY ISSUES, OR EXISTING CONDITIONS.
4. REMOVE ALL ABANDONED FOUNDATIONS, UTILITIES, PIPELINES, ETCETERA THAT INTERFERE WITH NEW CONSTRUCTION.
5. PROVIDE EXCAVATION SHORING TO PROTECT AND SUPPORT FOUNDATION SOILS UNDER EXISTING STRUCTURES.
6. THE STRUCTURE IS DESIGNED FOR STABILITY IN THE FINAL CONDITION ONLY. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY DURING CONSTRUCTION.
7. PLANS, SECTIONS, AND DETAILS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
8. THE GENERAL NOTES AND TYPICAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.
9. SUPPLY ALL ITEMS FOR ATTACHING MECHANICAL AND ELECTRICAL EQUIPMENT TO THE BUILDING STRUCTURE TO RESIST ALL LOADS INCLUDING SEISMIC FORCES. ATTACHMENT SHALL BE MADE SO AS NOT TO OVERSTRESS STRUCTURAL MEMBERS. COORDINATE THE ATTACHMENTS AND LOCATIONS OF THE EQUIPMENT WITH THE STRUCTURAL SHOP DRAWINGS.

**LOADS**

10. SUPERIMPOSED DEAD LOADS (NOT INCLUDING STRUCTURAL FRAMING SELF-WEIGHT):
  - A. ROOF: 18 PSF
11. FLOOR LIVE LOADS:
  - A. CORRIDORS AND STAIRS: 100 PSF
  - B. SLAB-ON-GRADE: 150 PSF
  - C. HEAVY STORAGE: 250 PSF
  - D. PUMP & MOTOR: 19 KIPS (INCLUDES 1.5x WATER COLUMN)
12. ROOF LIVE LOAD:
  - A. ROOF: 20 PSF
  - B. EQUIPMENT: AS SPECIFIED IN DRAWINGS
13. GROUND SNOW LOAD:  $P_g = 5$  PSF
14. LATERAL LOADS:
  - A. RISK CATEGORY III
  - B. WIND LOAD:
    - i. BASIC WIND SPEED:  $V = 115$  MPH
    - ii. WIND EXPOSURE: C
    - iii. INTERNAL PRESSURE COEFFICIENT:  $G_{Cpi} = +/-0.18$
    - iv. COMPONENTS AND CLADDING PRESSURES, FOR VARIOUS ZONES USING AN EFFECTIVE WIND AREA OF 10 FT2 ARE AS FOLLOWS:

ELECTRICAL BUILDING - LRFD DESIGN WIND PRESSURE FOR COMPONENTS AND CLADDING PRESSURES HAVE BEEN MULTIPLIED BY A 1.0 LOAD FACTOR (PSF)			
ZONE	PRESSURE	ZONE	PRESSURE
1	+16 / -16	4	+21 / -23
2	+24 / -16	5	+22 / -29
3	+27 / -16		

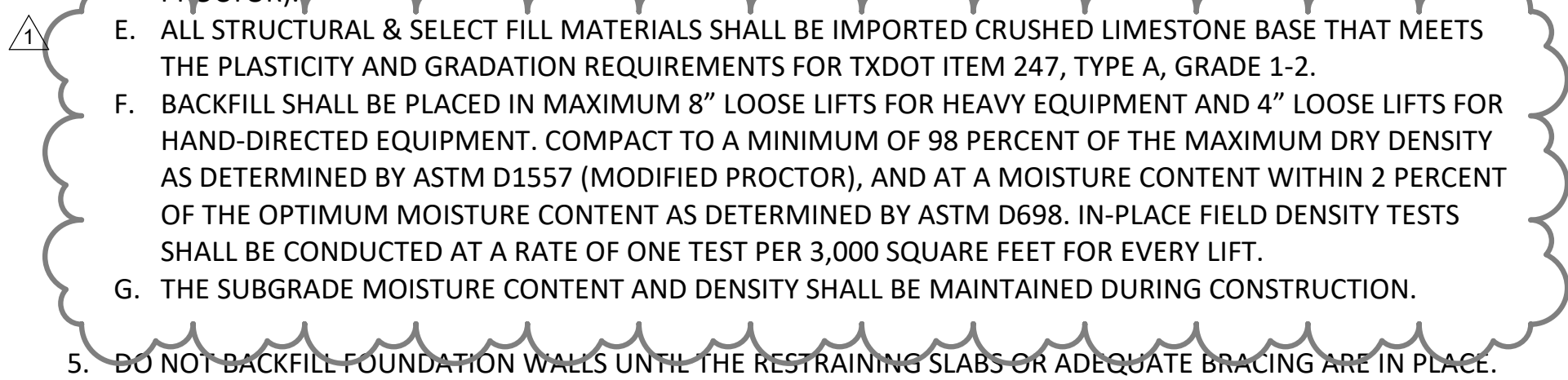
  

CHEMICAL BUILDING - LRFD DESIGN WIND PRESSURE FOR COMPONENTS AND CLADDING PRESSURES HAVE BEEN MULTIPLIED BY A 1.0 LOAD FACTOR (PSF)			
ZONE	PRESSURE	ZONE	PRESSURE
1	+16 / -16	4	+21 / -23
2	+22 / -16	5	+22 / -27
3	+24 / -16		

- C. SEISMIC LOAD:
  - i. SEISMIC IMPORTANCE FACTOR:  $I = 1.25$
  - ii. MAPPED SPECTRAL ACCELERATIONS:  $S_S = 0.076$ ,  $S_1 = 0.030$
  - iii. SITE CLASS: D
  - iv. SPECTRAL RESPONSE COEFFICIENT:  $S_{DS} = 0.081$ ,  $S_{D1} = 0.048$
  - v. SEISMIC DESIGN CATEGORY: A
  - vi. BASIC SEISMIC FORCE-RESISTING SYSTEM:
    1. ORDINARY REINFORCED MASONRY SHEAR WALLS
  - vii. DESIGN BASE SHEAR  $V = 0.01W$
  - viii. SEISMIC RESPONSE COEFFICIENT:  $C_S = 0.034$
  - ix. RESPONSE MODIFICATION FACTOR:  $R = 3$
  - x. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

**FOUNDATION**

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT; "SUBSURFACE EXPLORATION, LABORATORY TESTING PROGRAM, AND GEOTECHNICAL RECOMMENDATIONS FOR THE PROPOSED TURTLE CREEK NO. 3 PRIMARY PUMP STATION, BLUFFCREEK DRIVE AND BLUFFDALE DRIVE; SAN ANTONIO WATER SYSTEM; PROJECT ADDRESS, SAN ANTONIO, TEXAS", DATED OCTOBER 31, 2019, PREPARED BY ROCK ENGINEERING AND TESTING LABORATORY, INC. (REPORT NO. G219198).
2. EXCAVATION DESIGN AND SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY SLOPES SHOWN ARE A MAXIMUM AND SHALL BE DECREASED AS REQUIRED FOR SAFETY OR TO MEET OSHA REQUIREMENTS.
3. AT THE LOCATIONS WHERE UTILITY TRENCHES CROSS THE BUILDING LINE, 5'-0" OF EACH TRENCH CENTERED ON THE BUILDING LINE SHALL BE BACKFILLED AS FOLLOWS: OUTSIDE THE BUILDING LINE BACKFILL ABOVE THE UTILITY WITH A COMPACTED, LOW-PERMEABILITY CLAY; INSIDE THE BUILDING LINE BACKFILL WITH SPECIFIED SELECT FILL; EMBEDMENT MATERIAL BELOW AND AROUND THE UTILITY SHALL BE FLOWABLE FILL.
4. EXCAVATION AND SUBGRADE PREPARATION
  - A. REMOVE THE SURFICIAL VEGETATION, WASTE AND LOOSE SOILS TO A MINIMUM DEPTH OF 12 INCHES.
  - B. EXCAVATE THE SITE TO THE PROPOSED FINISHED SUBGRADE WHERE CUTTING TO SUBGRADE IS REQUIRED. EXTEND THE LATERAL LIMITS OF THE EXCAVATION 2'-0" BEYOND THE PERIMETER OF THE FOUNDATION.
  - C. PROOF ROLL THE EXPOSED SUBGRADE IN ACCORDANCE WITH TXDOT ITEM 216. SOFT OR PUMPING SUBGRADE AREAS SHALL BE EXCAVATED IN BOTH HORIZONTAL AND VERTICAL DIRECTIONS EXPOSING COMPETENT SUBGRADE. GRADE SHALL BE RESTORED WITH COMPACTED EXCAVATED ONSITE SOIL.
  - D. SCARIFY THE EXPOSED SUBGRADE TO A DEPTH OF 6 INCHES, ADJUST THE MOISTURE CONTENT AS NECESSARY AND MAINTAIN IT TO WITHIN 2 PERCENT OF OPTIMUM AND RECOMPACT THE SOIL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 (STANDARD PROCTOR).
  - E. ALL STRUCTURAL & SELECT FILL MATERIALS SHALL BE IMPORTED CRUSHED LIMESTONE BASE THAT MEETS THE PLASTICITY AND GRADATION REQUIREMENTS FOR TXDOT ITEM 247, TYPE A, GRADE 1-2.
  - F. BACKFILL SHALL BE PLACED IN MAXIMUM 8" LOOSE LIFTS FOR HEAVY EQUIPMENT AND 4" LOOSE LIFTS FOR HAND-DIRECTED EQUIPMENT. COMPACT TO A MINIMUM OF 98 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR), AND AT A MOISTURE CONTENT WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698. IN-PLACE FIELD DENSITY TESTS SHALL BE CONDUCTED AT A RATE OF ONE TEST PER 3,000 SQUARE FEET FOR EVERY LIFT.
  - G. THE SUBGRADE MOISTURE CONTENT AND DENSITY SHALL BE MAINTAINED DURING CONSTRUCTION.
5. DO NOT BACKFILL FOUNDATION WALLS UNTIL THE RESTRAINING SLABS OR ADEQUATE BRACING ARE IN PLACE.
6. EXTERIOR SLABS SHALL SLOPE AWAY FROM THE STRUCTURE A MINIMUM OF 1/4" PER FOOT UNLESS OTHERWISE NOTED. GRADING AROUND STRUCTURES SHALL BE SUCH AS TO DRAIN ALL WATER AWAY FROM BUILDINGS.
7. ALL FOUNDATIONS SHALL BEAR ON SOUND, UNDISTURBED, LEVEL EXCAVATIONS. REMOVE ANY AND ALL LOOSE DEBRIS FROM EXPOSED BEARING SURFACE. SUITABLE BEARING MATERIAL SHALL BE VERIFIED BY A GEOTECHNICAL PROFESSIONAL ENGINEER
8. MUD SLABS, WHERE INDICATED, SHALL BE PLACED THE SAME DAY EXCAVATION IS COMPLETED. THE GEOTECHNICAL ENGINEER SHALL VERIFY THAT THE BEARING SURFACE IS FREE OF LOOSE AND/OR DELETERIOUS MATERIAL BEFORE PLACEMENT OF MUD SLAB.



**CONCRETE**

1. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI. AND ACI 318.
2. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS NOTED OTHERWISE, SHALL BE IN ACCORDANCE WITH THE ACI DETAILING MANUAL (ACI SP-66), LATEST EDITION.
3. ALL REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A615, GRADE 60, DEFORMED.
4. CONCRETE CLEAR COVER OVER REINFORCING SHALL BE AS LISTED BELOW, UNLESS OTHERWISE NOTED.
  - A. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
  - B. ALL OTHER: 2"
  - C. SEE DRAWINGS FOR EXCEPTIONS
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" INSIDE FORMS OR TOOLED TO 3/4" RADIUS ON SLABS UNLESS OTHERWISE NOTED.
6. SLABS ON GRADE SHALL HAVE CONSTRUCTION JOINTS AND/OR CONTROL JOINTS (SAWED JOINTS) LOCATED AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL LOCATE SLAB JOINTS ON RECORD INFORMATION SHOP DRAWINGS. DO NOT PROVIDE SAWED JOINTS IN STRUCTURAL SLABS.
7. ADDITIONAL CONSTRUCTION JOINTS SHALL HAVE PRIOR APPROVAL OF THE ENGINEER.
8. PENETRATIONS OTHER THAN SHOWN SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING, TEMPORARY BRACING AND SHORING.
10. CONDUITS AND PIPING EMBEDDED IN CONCRETE SHALL BE SPACED A MINIMUM OF FOUR DIAMETERS AND THE OUTSIDE DIAMETER SHALL BE LESS THAN 30% OF THE MEMBER THICKNESS PLACED BETWEEN LAYERS OF REINFORCING.
11. UNLESS NOTED OTHERWISE, HOOKS SHOWN ON DRAWINGS SHALL BE ASSUMED TO BE STANDARD HOOKS PER ACI 318.
12. UNLESS INDICATED OTHERWISE, LAP SPLICES IN BEAMS AND WALLS SHALL BE STAGGERED.
13. ALL REINFORCING SHALL BE CONTINUOUS. CONTINUOUS BARS SHALL LAP 48 BAR DIAMETERS OF SMALLER BAR LAPPED, UNLESS NOTED OTHERWISE. ALL REBAR EMBEDMENT LENGTHS SHALL BE 36 BAR DIAMETERS, UNLESS NOTED OTHERWISE.

**STRUCTURAL STEEL**

1. STEEL MATERIAL SHALL BE IN ACCORDANCE WITH THE FOLLOWING UNLESS NOTED OTHERWISE:
  - A. WIDE FLANGES: ASTM A992
  - B. CHANNELS: ASTM A36
  - C. PIPES: ASTM A53, TYPE E OR S, GRADE B
  - D. HSS: ASTM A500, GRADE B
  - E. PLATES: ASTM A36
  - F. MISC.: ASTM A36
  - G. ANCHOR RODS: ASTM F1554, GRADE 36
2. ALL BOLT HOLES SHALL BE STANDARD HOLES PER AISC 360 TABLE J3.3, UNLESS OTHERWISE NOTED. DO NOT OVERSIZE, SLOT, OR ENLARGE HOLES UNLESS SPECIFICALLY INDICATED.
3. BOLT HOLES SHALL NOT BE OVERSIZED IN GALVANIZED STEEL UNLESS SPECIFICALLY STATED TO BE OVERSIZED. UNBLOCK AND CLEAN HOLE AFTER GALVANIZING AS REQUIRED FOR BOLT INSTALLATION WITHOUT ENLARGING HOLE DIAMETER IN STEEL MEMBER.
4. WELDING SHALL BE PERFORMED WITH E70XX LOW-HYDROGEN ELECTRODES.
5. NO HOLES SHALL BE CUT THROUGH STEEL FRAMING IN FIELD UNLESS APPROVED BY THE ENGINEER.

Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144

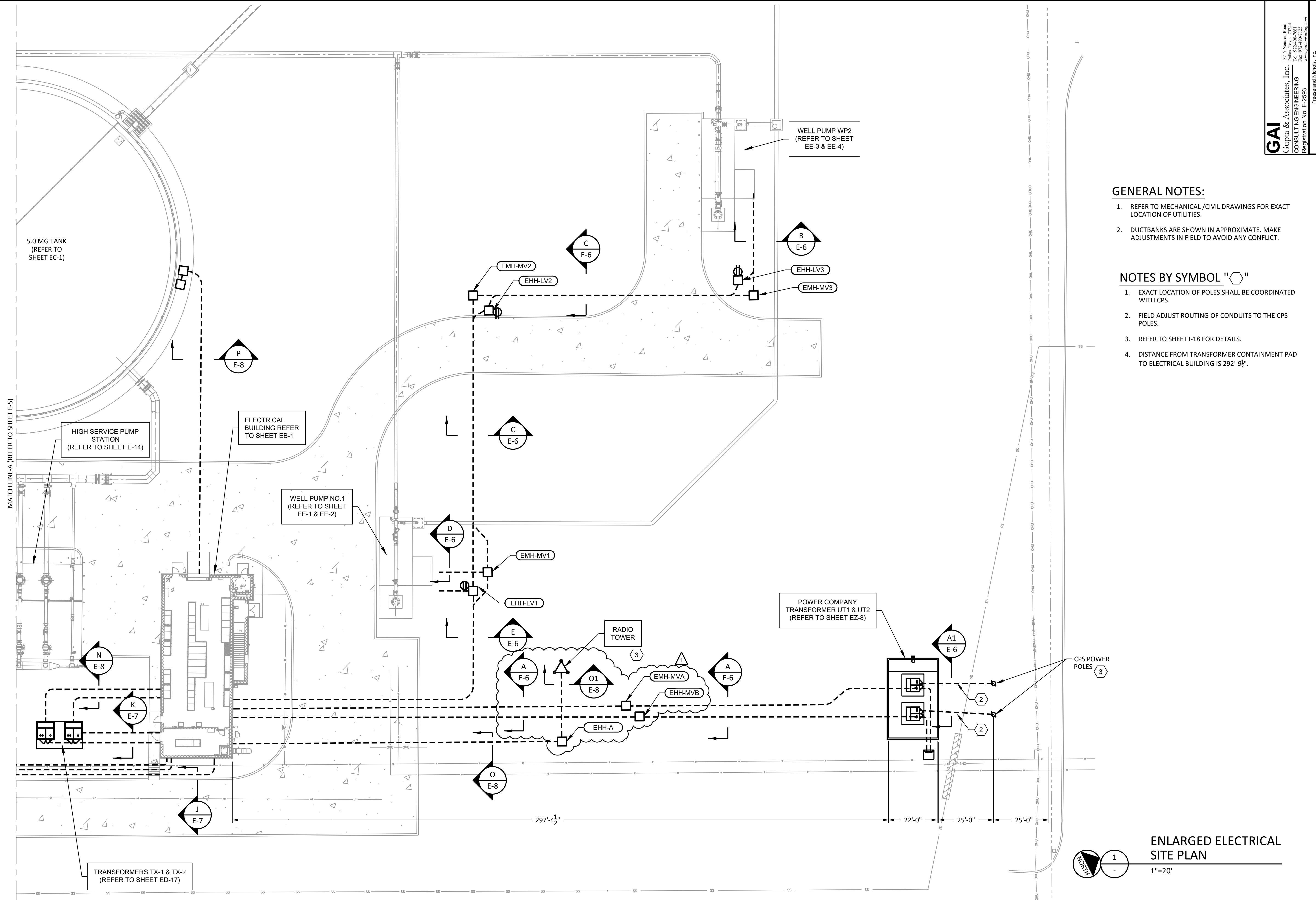


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SAN ANTONIO WATER SYSTEM  
**TURTLE CREEK NO. 3 PRIMARY PUMP STATION**  
ARCHITECTURE  
**PUMP STATION**  
**GENERAL NOTES I**

NO.	1	ADDITIONAL NO.	4	ISSUE	DATE	BY	FILE NAME
					09/09/21	FLB	N:\ARC\ARC-SWB19118-CH-FRB.rvt
F&N JOB NO.	SWB19118		DATE	08/11/21	DESIGNED	ACD	FILE NAME
					DRAWN	JAW	N:\ARC\ARC-SWB19118-CH-FRB.rvt
					REUSED		
					CHECKED	FLB	
VERIFY SCALE							
0 Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.							
SHEET							
S-1							
SEQ.							

ACAD Ref: 24.0s (LMS Tech)  
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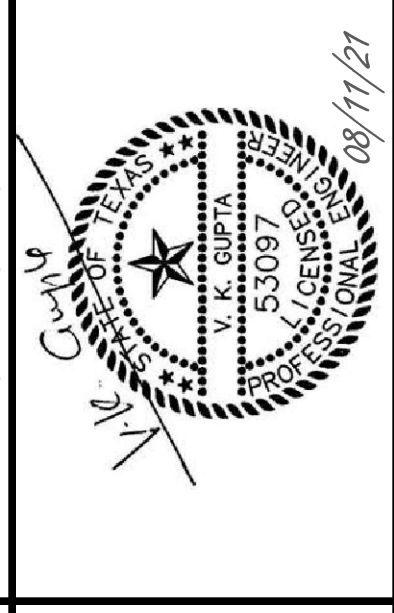
- GENERAL NOTES:**
- REFER TO MECHANICAL/CIVIL DRAWINGS FOR EXACT LOCATION OF UTILITIES.
  - DUCTBANKS ARE SHOWN IN APPROXIMATE. MAKE ADJUSTMENTS IN FIELD TO AVOID ANY CONFLICT.

- NOTES BY SYMBOL "⬡"**
- EXACT LOCATION OF POLES SHALL BE COORDINATED WITH CPS.
  - FIELD ADJUST ROUTING OF CONDUITS TO THE CPS POLES.
  - REFER TO SHEET I-18 FOR DETAILS.
  - DISTANCE FROM TRANSFORMER CONTAINMENT PAD TO ELECTRICAL BUILDING IS 292'-9 1/2\".

**ENLARGED ELECTRICAL SITE PLAN**  
 1"=20'  
 1  
 NORTH

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SAN ANTONIO WATER SYSTEM  
**TURTLE CREEK NO. 3 PRIMARY PUMP STATION**  
 ELECTRICAL  
**ENLARGED ELECTRICAL SITE PLAN - I**

NO.	ISSUE	DATE	BY	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
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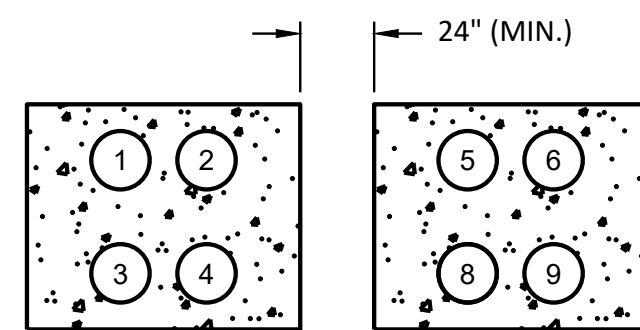
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VERIFY SCALE 1

SHEET **E-4**

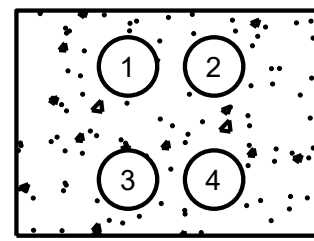
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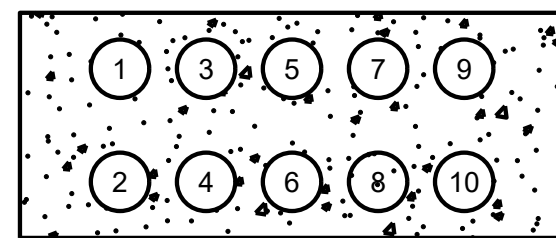
**M**  
E-5  
DUCTBANK SECTION  
NTS

TABLE FOR SECTION M			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1-3	TX-3P	4"C	FROM TX-3 TO MCC-CHEMICAL BLDG.
4	SPARE	4"C	PULL STRING
5-7	TX-4P	4"C	FROM TX-4 TO MCC-CHEMICAL BLDG.
8	SPARE	4"C	PULL STRING



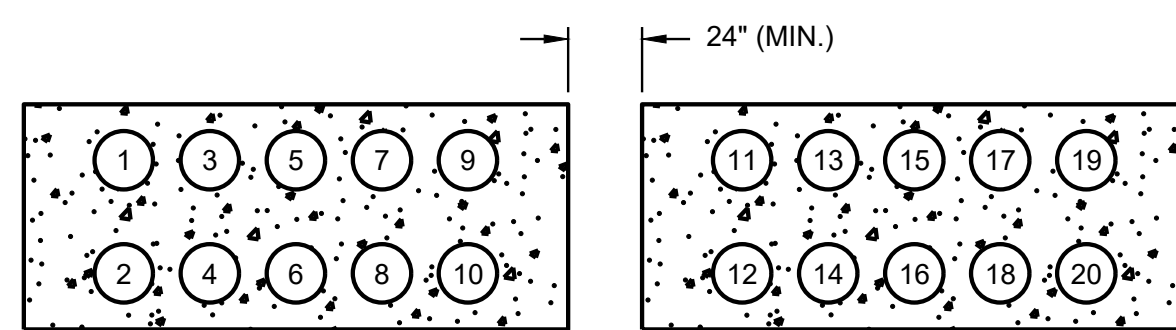
**P**  
E-4  
DUCTBANK SECTION  
NTS

TABLE FOR SECTION P			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LB-19, LB-21, LB-23	2"C	GROUND STORAGE TANK (GST) 120V POWER
2	LRP-C	2"C	GST TANK LEVEL PROBES TO LRP
3	SCP-151, SCP-152	2"C	GST ANALOG SIGNAL TO SCP
4	SPARE	2"C	PULL STRING



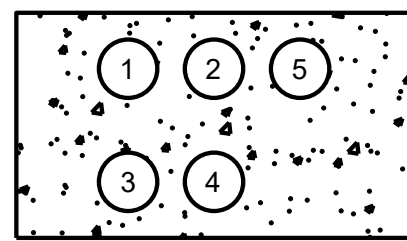
**R3**  
E-14  
DUCTBANK SECTION  
NTS

TABLE FOR SECTION R3			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWB-6BP, LB-1, LB-3, LB-5	2"C	HSP-3, 480V & 120V POWER
2	SPARE	2"C	PULL STRING
3	SCP-122, HSP3-C	2"C	HSP-3 CONTROL SIGNALS
4	SPARE	2"C	PULL STRING
5	SWB-7BP, LB-2, LB-4, LB-6	2"C	HSP-4, 480V & 120V POWER
6	SPARE	2"C	PULL STRING
7	SCP-132, HSP4-C	2"C	HSP-4 CONTROL SIGNALS
8	SPARE	2"C	PULL STRING
9-10	EMPTY CONDUIT	2"C	FUTURE USE FOR HSP-5



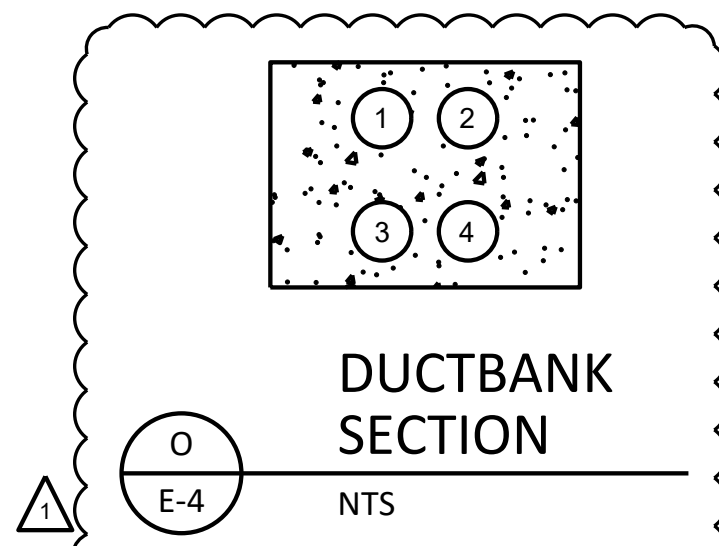
**N**  
E-4  
DUCTBANK SECTION  
NTS

TABLE FOR SECTION N			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1-8	TX-1P	4"C	FROM TX-1 TO SWITCHBOARD ELECTRICAL ROOM
9-10	SPARE	4"C	PULL STRING
11-18	TX-2P	4"C	FROM TX-2 TO SWITCHBOARD ELECTRICAL ROOM
19-20	SPARE	4"C	PULL STRING



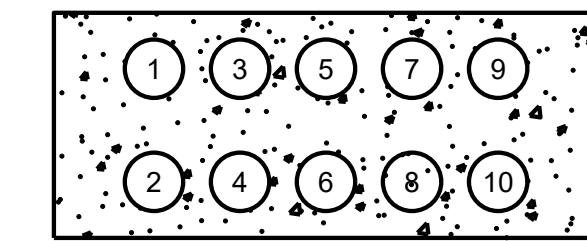
**R1**  
E-14  
DUCTBANK SECTION  
NTS

TABLE FOR SECTION R1			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	HSP1-A	2"C	RTD'S TO VFD FOR HSP1
2	HSP2-A	2"C	RTD'S TO VFD FOR HSP2
3	HSP3-A	2"C	RTD'S TO VFD FOR HSP3
4	HSP4-A	2"C	RTD'S TO VFD FOR HSP4
5	HSP5-A	2"C	FUTURE FOR HSP5



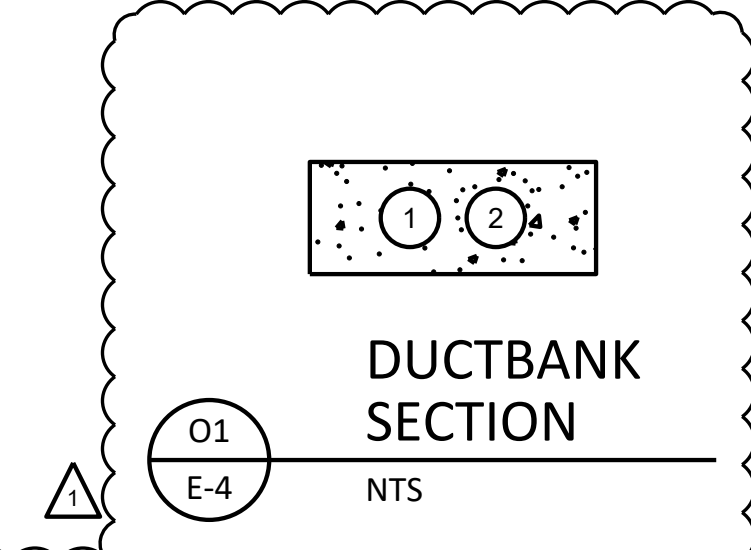
**O**  
E-4  
DUCTBANK SECTION  
NTS

TABLE FOR SECTION O			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-200	2"C	RADIO TOWER TO NETWORK ENCLOSURE
2-4	SPARE	2"C	PULL STRING



**R2**  
E-14  
DUCTBANK SECTION  
NTS

TABLE FOR SECTION R2			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	HSP1-P	4"C	HSP-1 POWER
2	EMPTY CONDUIT	4"C	FUTURE USE FOR HSP-1
3	HSP2-P	4"C	HSP-2 POWER
4	EMPTY CONDUIT	4"C	FUTURE USE FOR HSP-2
5	HSP3-P	4"C	HSP-3 POWER
6	EMPTY CONDUIT	4"C	FUTURE USE FOR HSP-3
7	HSP4-P	4"C	HSP-4 POWER
8	EMPTY CONDUIT	4"C	FUTURE USE FOR HSP-4
9-10	HSP5-P	4"C	FUTURE USE FOR HSP-5

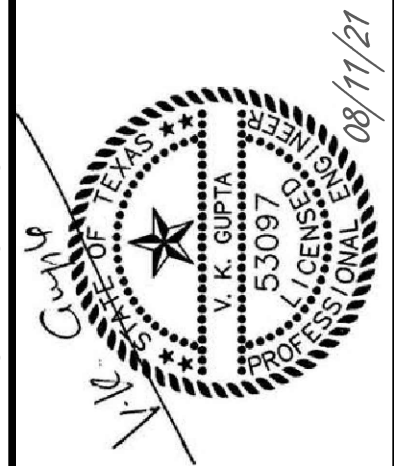


**O1**  
E-4  
DUCTBANK SECTION  
NTS

TABLE FOR SECTION O1			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-200	2"C	RADIO TOWER TO NETWORK ENCLOSURE
2	SPARE	2"C	PULL STRING

**GAI**

Gupta & Associates, Inc.  
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Registration No. F-2593



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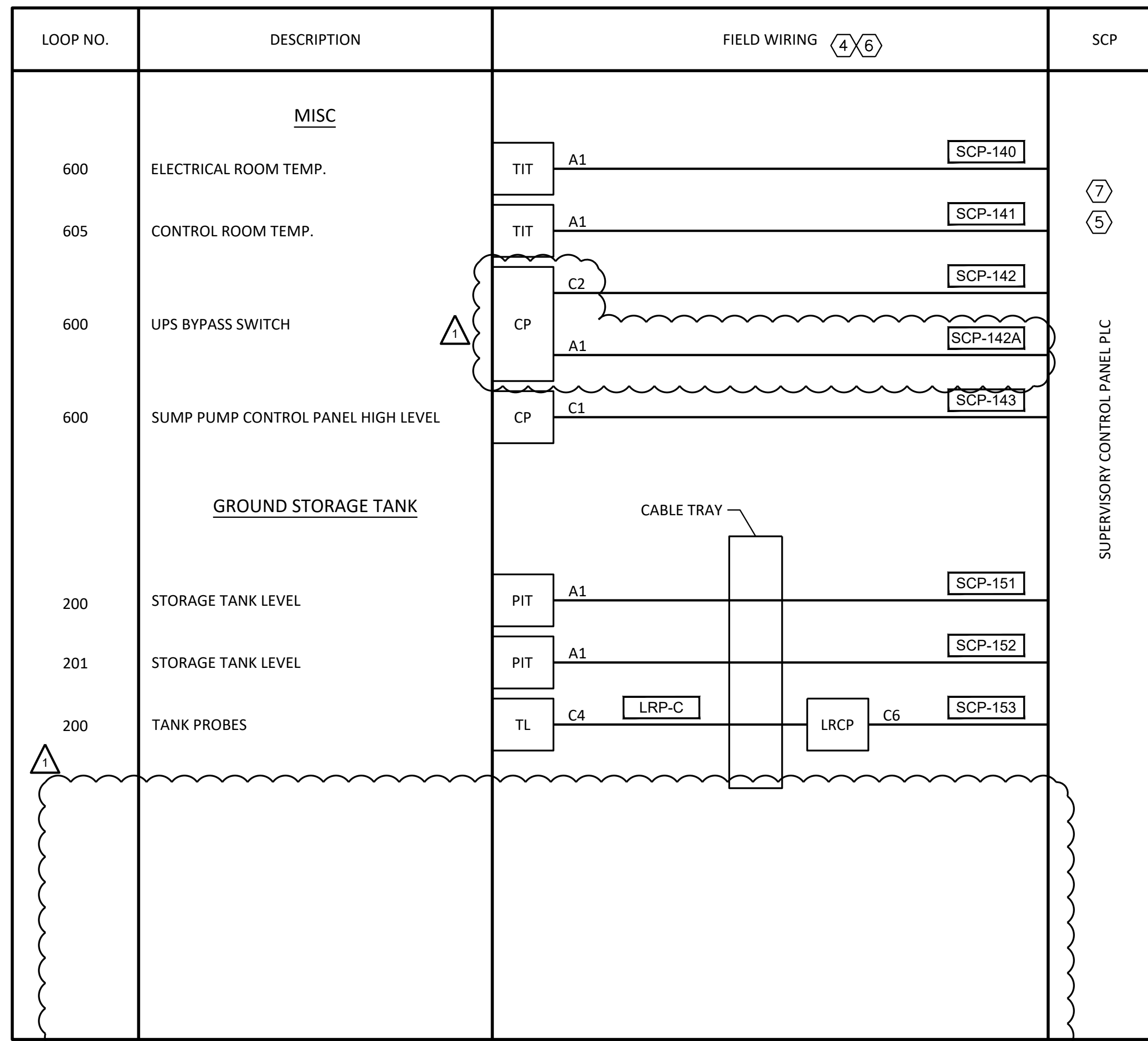
SAN ANTONIO WATER SYSTEM  
**TURTLE CREEK NO. 3 PRIMARY PUMP STATION**  
ELECTRICAL  
**ELECTRICAL DUCTBANK SECTION - III**

NO.	ISSUE	DATE	BY	FILE NAME
1	ADDENDUM NO. 4	09/10/2021	VKG	1968_E-08.dwg
	DESIGNED	08/11/2021	LP	
	DRAWN		SAH	
	REVISED		ER	
	CHECKED		VKG	

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LOOP NO.	DESCRIPTION	FIELD WIRING 4x6	SCP
<b>HIGH SERVICE PUMPS</b>			
301	HIGH SERVICE PUMP HSP-1	VFD C5 SCP-100	SUPERVISORY CONTROL PANEL PLC
		VFD A2 SCP-101	
		VFD C8 HSP1-C1	
	REFER TO SCHEMATIC (DISCHARGE VALVE)	VCP 101 C12 HSP1-C1 C4 SCP-102B	
301	FLOW METER FIT-201	FIT M1 3 SCP-103	
		VFD C5 SCP-110	
302	HIGH SERVICE PUMP HSP-2	VFD A2 SCP-111	
		VFD C8 HSP2-C1	
	REFER TO SCHEMATIC (DISCHARGE VALVE)	VCP 201 C12 HSP2-C1 C4 SCP-112B	
302	FLOW METER FIT-202	FIT M1 3 SCP-113	
		VFD C8 SCP-120	
303	HIGH SERVICE PUMP HSP-3	VFD A2 SCP-121	
		VFD C8 HSP3-C1	
	REFER TO SCHEMATIC (DISCHARGE VALVE)	VCP 301 C12 HSP3-C1 C4 SCP-122B	
303	FLOW METER FIT-302	FIT M1 3 SCP-123	
		VFD C5 SCP-130	
304	HIGH SERVICE PUMP HSP-4	VFD A2 SCP-131	
		VFD C8 HSP4-C1	
	REFER TO SCHEMATIC (DISCHARGE VALVE)	VCP 401 C12 HSP4-C1 C3 SCP-132B	
304	FLOW METER FIT-402	FIT M1 3 SCP-133	
305	DISCHARGE HEADER PRESSURE PIT-305	PIT A1 SCP-134	
300	SURGE VALVE OPEN	ZSO C1 SCP-135	



**NOTES BY SYMBOL " "**

- TC: TRAY CABLE (TYPICAL ALL SHEETS).
- CONTAINS SPARE WIRES.
- RUN CAT-6 CABLE TO EACH FLOW METER.
- FOR UNDERGROUND PORTIONS OF CIRCUITS, USE CONDUIT SIZES IN DUCTBANK SCHEDULES.
- REFER TO I&C DRAWINGS FOR DETAILS.
- ALL WIRES SHOWN ON THE INTERFACE, DIAGRAM SHALL BE INSTALLED WHETHER SHOWN ON THE FLOOR PLAN OR NOT.
- ALL WIRES SHALL BE TERMINATED IN THE ENCLOSURE.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE			
C1	2#14, 3/4"C	A1	1Pr#16 TSP, 3/4"C
C2	4#14, 3/4"C	A2	2-1Pr#16 TSP, 3/4"C
C3	6#14, 1"C	A3	3-1Pr#16 TSP, 3/4"C
C4	8#14, 1"C	A4	4-1Pr#16 TSP, 1"C
C5	10#14, 1"C	A5	5-1Pr#16 TSP, 1"C
C6	12#14, 1-1/4"C	A6	6-1Pr#16 TSP, 1-1/4"C
C7	14#14, 1-1/4"C	A7	7-1Pr#16 TSP, 2"C
C8	16#14, 1-1/4"C	A8	8-1Pr#16 TSP, 2"C
C9	18#14, 1-1/4"C	A9	9-1Pr#16 TSP, 2"C
C10	20#14, 1-1/4"C	A10	10-1Pr#16 TSP, 2"C
C11	22#14, 1-1/2"C	A11	11-1Pr#16 TSP, 2"C
C30	60#14, 3-1/2"C	M1	CAT-6, 1"C
C37	74#14, 4"C	M2	2-CAT-6, 1-1/2"C
		M3	3-CAT-6, 2"C
		M4	4-CAT-6, 2"C

**CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:**

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

# REPRESENTS PAIR OF WIRE  
 EXAMPLE C10 = 20#14 WIRES  
 EXAMPLE C20 = 40#14 WIRES

CH  
 C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

**GAI**

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**TURTLE CREEK NO. 3 PRIMARY PUMP STATION**

SAN ANTONIO WATER SYSTEM  
 ELECTRICAL  
 SCP & PLC  
 INTERFACE DIAGRAM - I

NO. 0	ISSUE	DATE 09/10/2021	BY AS	DESIGNED LP	DRAWN SAH	REVISER ER	CHECKED VKG	FILE NAME 1968_EB-07.dwg
ADDENDUM NO. 4		DATE 08/11/2021	BY	DESIGNED	DRAWN	REVISER	CHECKED	FILE NAME
VERIFY SCALE 1		Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.						
SHEET		EB-7						
SEQ.								