

ADDENDUM NO. 3

Date: 2 November 2011

San Antonio Water System

Project Name: LIFT STATIONS REHABILITATION DESIGN – PHASE 3

Project No.: 08-2504

Solicitation No.: B-11-047-MF

This addendum, applicable to work referenced above, is an amendment to the bidding documents 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 in the space provided in submitted copies of the proposal.

A. Bidding and Contract Requirement Revisions:

Item 1: Instructions to Bidders

- a) On Page IB-4, Item # 9, DELETE the following sentence: "In all cases, the written unit price in the bid shall govern." The remaining section of Item # 9 in the Instructions to Bidders shall remain.

Item 2: Bid Proposal

- a) DELETE Section "Bid Proposal" in its entirety (11 pages) and REPLACE with the attached Bid Proposal, Pages BP-1 to BP-11, Addendum No. 3 (11/02/2011) (11 pages). The following changes were made:
 - **Item No. 24 CPS Energy Allowance, Page BP-5:** Change Unit Price and Total Price from "\$55,000.00" to "\$90,000".
 - **Bidder's Questionnaire, Page BP-9:** Question 12 that reads "12. Will the Bidder provide a dedicated superintendent for the project (as defined under Sc. 3)? () No () Yes" was removed, in its entirety.

Item 3: Special Conditions

- a) ADD the following on page SC-5 as Item 20:

"Rain gauges are currently installed at Indian Springs and Champion Ridge. Contractor is responsible for preserving these gauges and for ensuring that they are kept in service throughout construction. Rain gauges are to be relocated by others under a separate contract. Minimum 48-hours notification to SAWS is required for any rain gauge related work."

Item 4: Specification Section 16901 Instrumentation and Control

- a) On Page 16901-12, DELETE article 2.13.C.2.(vii) that reads: "Analog output telefast base (ABE-7CPA21)" in its entirety.

Item 5: Specification Section 16902 Control Panels

- a) On Page 16902-5, DELETE "Square D Motor Logic Plus" and REPLACE with "Motor Logic Feature Base".

Item 6: Specification Section 16020 Utilities

- a) REMOVE Section 16020 (2 pages) in its entirety and REPLACE with attached Section 16020 Utilities, Addendum No. 3 (3 pages).

- Item 7: Special Provisions to SAWS Standard Specification, Item No. 850 Sanitary Sewer Structures (SP850)**
- a) Under special provision item no. 2, DELETE first paragraph that reads: "6. Mortar shall be composed of one part Portland Cement, one part masonry cement (or ¼ part hydrated lime), and masonry sand equal to 2-1/2 to 3 times the sum of the volumes of the cements and lime used." in its entirety.
 - b) Under special provision item no. 5, DELETE sentence 3. 3 that reads: "3. Perform a vacuum test conforming to item 850.4 (2) of the San Antonio Water System Standard Specifications for Construction at each wet well rehabilitated." in its entirety.

B. Drawing Revisions:

- Item 1: LS# 190 – ALAMO DOME PLAN AND SECTION VIEW**
- a) REMOVE Sheet C-190-3, Sheet 26 of 143 and REPLACE with attached revised sheet dated November 1, 2011.
- Item 2: LS# 205 – CAROWINDS SITE PLAN**
- a) REMOVE Sheet C-205-1, Sheet 30 of 143 and REPLACE with attached revised sheet dated November 1, 2011.
- Item 3: LS# 205 – CAROWINDS ELECTRICAL PLAN**
- a) REMOVE Sheet E-205-2, Sheet 33 of 143 and REPLACE with attached revised sheet dated November 1, 2011.
- Item 4: LS# 210 – HORSESHOE BEND PLAN AND SECTION VIEW**
- a) Records indicate that Wet well depth is 12 feet deep.
- Item 5: LS# 210 – HORSESHOE ELECTRICAL PLAN**
- a) Sheet E-210-2, add the following sentence to the end of Keyed Note No. 4. Provide new service feeder and conduit, reference E-205-3 for wire and conduit size requirements."
 - b) Sheet E-210-3, Keyed Note No. 1, replace first sentence with "Existing 120/240V, 3Ø, 4W service feeder to be replaced."
- Item 6: LS# 228 – SOUTHWEST HIGH SCHOOL ELECTRICAL PLAN**
- a) Sheet E-228-2, change keyed note number "17" to "20" on triangle located on drawing between both pump motors and contains arrows pointing to both motors.
- Item 7: LS# 239 – SOUTHSIDE HIGH SCHOOL ONE-LINE DIAGRAM**
- a) Sheet E-239-2. Keyed Note No. 14, Replace Note with the following: "Re-install existing Automatic Transfer Switch and make all required reconnections to generator and transfer switch."
 - b) Sheet E-239-3, change text on generator breaker from "2P-200A" to "3P-200A".
- Item 8: LS# 245 – HARRIS MIDDLE SCHOOL PLAN AND SECTION VIEW**
- a) REMOVE Sheet C-245-2, Sheet 67 of 143 and REPLACE with attached revised sheet dated November 1, 2011.
- Item 9: LS# 252 – HEIGHTS OF STONE OAK ELECTRICAL PLAN**
- a) Sheet E-252-2. Keyed Note No. 14, Replace Note with the following: "Provide Automatic Transfer Switch and make all required reconnections to generator and transfer switch."
- Item 10: LS# 258 – ALAMO RANCH ONE-LINE DIAGRAM**
- a) Sheet E-258-3, Keyed Note No. 9. Replace note with "Provide pump control panel with an appropriately sized A/C unit."

Item 11: LS#270 – CHAMPIONS RIDGE ELECTRICAL MODIFICATIONS PLAN

- a) SHEET E-270-1: Add the following to Keyed Note No. 9. "Due to the increase in size of enclosure. Relocate generator to the southwest corner of the Lift Station. Provide new generator foundation slab as needed for new enclosure, provide pad with a minimum of 18 inches in height. A 4ft clearance around the generator shall be maintained, refer to details. Saw cut and extend all existing associated generator conduits to new location. Provide all new wire and cables as required of the same type and quantity for the reconnection of all power and controls. Contractor shall be responsible for re-installing a complete and functional system of the generator. No separate payment will be made for this modification. Cost for this modification should be included in the lump sum price bid for this lift station."

Item 12: SHEET E-3 – ELECTRICAL DETAILS SHEET II

- a) Under detail A –Stand by Generator Installation Details, remove important note no.1 and replace with the following: "Contractor is responsible for the designing of the generator foundation and will be required to have a professional engineer registered in the state of Texas design the foundation for the generator, costs associated with the foundation design shall be included in the base bid."
- b) Note No.3 – change "Stainless Steel 304" to "Stainless Steel 316".
- c) Note No.5 – change "3,000 PSI" to "4,000 PSI".

Item 13: SHEET E-4 – ELECTRICAL DETAILS SHEET III

- a) Detail A – Area Light Detail. Remove callout for concrete base "Foundation Details refer to structural" and replace with "Contractor is responsible for designing the light pole foundations for all lift stations requiring an area light. Contractor will be required to have a professional engineer registered in the state of Texas design the foundation for the pole light at each site required, costs associated with the foundation design shall be included in the base bid."
- b) Detail B – TVSS Connection Detail. Add Note No.3. "Surge Protection Device shall be installed at the Main Disconnect Switch for 120/240V services and at the Manual Transfer Switch or the Automatic Transfer Switch for 480/277V services."
- c) Detail B – TVSS Connection Detail. Add "(See Note 3)" under the main disconnect switch callout.
- d) Detail D – Ground well Installation. Change "Copper Clad Steel Ground Rod" to "Copper Ground Rod".

Item 14: SHEET E-5 – ELECTRICAL DETAILS SHEET IV

- a) Detail A – Typ. Electrical Rack Side View Detail. Remove Note No.1 and replace with "Contractor is responsible for designing the equipment rack and the equipment rack foundation for all lift stations requiring an equipment rack and/or a rack foundation. Contractor will be required to have a professional engineer registered in the state of Texas design the foundation for the equipment rack and rack foundation. Costs associated with the foundation design shall be included in the base bid."
- b) Detail D – Electrical Service Rack Layout. Add the following callout pointing to the fluorescent work light: "Vapor tight 2 lamp fluorescent with polycarbonate body and lens Lithonia #DMW 232 120, or approved equal".
- c) Detail B – add the following to the Rack & Canopy Support Pipe callout: "4" ID HD Galv. Std. Steel Pipe".

Item 15: SHEET E-6 – ELECTRICAL DETAILS V

- a) Detail A – Conduit at Hatch Details – Change spelling "Pump Ligting Chain" to "Pump Lifting Chain".
- b) Detail B – Pump Cable J-Box Interior Detail. Remove "(See Sheet E13)" from the Nema 4X enclosure callout and replace with (Hoffman #AA24H2010SS6LP, or approved equal)".

- Item 16: SHEET E-11 – PUMP CONTROL PANEL DETAILS**
- a) Detail E-3, Item No. 10 – Replace with “Surge Protection Device - Phoenix Contact – Part No. 28 56 70 2”.
 - b) Detail E-3, Item No. 1 – Replace with “NEMA 4X 316 ss enclosure (size as required). Remove part number and replace with “part number as required”.
 - c) Panel Note No.2, change “ Brass Screws” with “ 316 SS screws”.
- Item 17: SHEETS E-13 THRU E-23 – CONTROL SCHEMATICS**
- a) Add the following general note “the contractor shall be responsible for submitting all panel drawing schematics with wire numbers for each device accordingly.”
- Item 18: SHEET E-13 – SELF PRIMING PUMP CONTROL SCHEMATIC**
- a) REMOVE Sheet E-13, Sheet 129 of 143 and REPLACE with attached revised sheet dated November 1, 2011.
- Item 19: SHEET E-14 – SUBMERSIBLE PUMP CONTROL SCHEMATIC I**
- a) REMOVE Sheet E-14, Sheet 130 of 143 and REPLACE with attached revised sheet dated November 1, 2011.
- Item 20: SHEET E-19 – SELF PRIMING PUMP SSRV CONTROL SCHEMATIC II**
- a) REMOVE Sheet E-19, Sheet 135 of 143 and REPLACE with attached revised sheet dated 11/1/2011.
- Item 21: SHEET E-21 – Self Priming Pump SCADA Panel Schematic II**
- a) Detail 3 – SCADA Panel PLC & Radio Layout, remove the “Empty Slot DO” Module slot from the layout.
 - b) Detail 1 – SCADA Panel Auxiliary Power, line 421, change wording to “PFR on Normal Side of ATS or MTS of Transfer Switch”.
 - c) Detail 1 – SCADA Panel Auxiliary Power, line 423, change wording to “PFR on Load Side of ATS or MTS of Transfer Switch”.
- Item 22: SHEET E-23 – Submersible Pump SCADA Panel Schematic II**
- a) Detail 3 – SCADA Panel PLC & Radio Layout, remove the “Empty Slot DO” Module slot from the layout.
- Item 23: SHEET T-1 – SYSTEM LAYOUT**
- a) REMOVE Sheet T-1, Sheet 140 of 143 and REPLACE with attached revised sheet dated November 1, 2011.
- Item 24: SHEET T-2 – SYSTEM LAYOUT TABLE**
- a) REMOVE Sheet T-2, Sheet 141 of 143 and REPLACE with attached revised sheet dated November 1, 2011.
- Item 25: SHEET T-3 – 40’ SELF SUPPORTING TOWER DETAILS – LIFT STATIONS**
- a) Detail 3 – Side View Tower Foundation. Add the following Note No.3, “Contractor is responsible for the designing of the antenna tower foundation for all lift stations. Contractor will be required to have a professional engineer registered in the state of Texas design the foundation for the antenna tower. Costs associated with the foundation design shall be included in the base bid.”

C. Questions Received During Q&A Period:

Q1: What material is approved for restoration of walls?

Refer to Item No. 850 Sanitary Sewer Structures and the Special Provisions to Item No. 850 (SP850).

Q2: Please consider our Mainstay ML-CA, Calcium Aluminate Mortar and DS-5, 100% Solids Epoxy Coating as an equal to Quadex and Raven. Info attached.

Items submitted for consideration must conform to product specification criteria and to other conformance standards. Refer to SAWS Product Standards Committee website. http://www.saws.org/business_center/specs/product_submittal/

Q3: Drawing E-7 Manual Transfer Switch List of Materials. Can square D provided and equal to the following:

- a) Square D equal to the ABB Molded Case switch S3H225DW**
- b) Square D equal to the ABB Mechanical Interlock K3MI-H**

Equal part numbers by other manufacturers for item 1 and items 7 to 10 (as identified in the List of Materials on drawing E-7, sheet 123 of 143) inclusively will be evaluated during submittal review and will be approved if found to be equal by the Engineer given they meet the intent of the Contract Documents. Also, please see response to Q4 and Q6 of this addendum.

Q4: Drawing E-11 Pump Control Panel Material List. Can square D provided and equal to the following:

- a) Square D equal to the IDEC RH2BUL-AC120**
- b) Square D equal to the IDEC SH2B-05**

Engineer/Owner acknowledge that other manufacturers are acceptable; however, for this project, bidders shall base their bids on the specific equipment as described, and as indicated in the Technical Specifications and the Plan Drawings of the Contract Documents. Bidders are advised to reference the Technical Specifications of the Contract Documents, including Section 01600 Product Requirement, Article 2.2, Product Substitution (Page 01600-6 and -7) for requirements for review and approval of equipment and materials different than as explicitly shown in the Plan Drawings and Technical Specifications of the Contract Documents. (Note that the Owner/Engineer will not pre-approve any product substitutions prior to Bid Opening).

Q5: Specification Section 16901 Article 2.13.C.2.f Items (vi), (vii) and (viii) call out for the Telefast Bases. The M340 PLC's can be wired point to point similar to the AB PLC without these extra components can these be removed?

Telefast Bases for the M340s can be removed as long as the instrumentation wiring between the interposing relays inside the SCADA panel and the M340 PLC are 20 or 22AWG. All other SCADA panel wiring sizes are to remain as currently specified in the Contract Documents.

Q6: Specification Section 16373 Article 2.01.A Calls for the manufacturer of the Solid state Starter to be Benshaw, can Square D provide an Equivalent to this Solid State Starter?

Engineer/Owner acknowledge that other manufacturers are acceptable; however, for this project, bidders shall base their bids on the specific equipment as described, and as indicated in the Technical Specifications and the Plan Drawings of the Contract Documents. Bidders are advised to reference the Technical Specifications of the Contract Documents, including Section 01600 Product Requirement, Article 2.2, Product Substitution (Page 01600-6 and -7) for requirements for review and approval of equipment and materials different than as explicitly shown in the Plan Drawings and Technical Specifications of the Contract Documents. (Note that the Owner/Engineer will not pre-approve any product substitutions prior to Bid Opening).

Q7: Drawings E-163-3, and E-188-3 has the Incoming Service with a 400A Fusible Disconnect NEMA 4X 316 Stainless Steel. Square D does not have a product offering for 316SS at the 400A rating, can 304 Stainless Steel be provided for these two locations?

304SS enclosure for the Incoming Service Disconnect will not be allowed. Enclosure shall be 316SS.

Q8: Sheet D-8 has a sewage air release valve detail on it, bu spec section 02081, page 5, part 2.05 calls for sewage combo air / vac valves. Please clarify what kind of air valves are required.

Sewage Combinations Air/Vacuum release valves shall be used for this project.

Q9: On Sheet C-163-2, proposed keyed note H says to install an 8" gate valve. However, proposed keyed note I says to install an 8" x 6" reducer. The gate valve is connected to the 6" flg of the reducer. Please clarify the size of proposed keyed note H.

Sheet C-163-2, Proposed Keyed Notes H indicate Install 6" Gate Valve.

Q10: On Sheet C-190-3, proposed keyed note G says to install a 4" bypass assembly with quick connect, gate valve, and check valve. However, the entire discharge line is 3" in size. Please clarify the size of the bypass assembly needed in this location.

Sheet C-190-3, proposed keyed Note G shall be revised to say install an Emergency bypass assembly with, 3" gate valve, 3" check valve, 3"x4" reducer and Quick Disconnect 4" Stainless Steel Male Fitting with Dust Cap.

Q11: On Sheet C-245-2, proposed keyed note I says to install a 4" gate valve. The plan view shows a 4" gate valve before the 90 degree bend in to the ground, but the section view shows a 4" gate valve after the 90 degree bend in to the ground.

4" Gate valve shall be installed after the 45 degree bend. Contractor shall be responsible for all fittings required to connect to existing force main.

Q12: Drawing E-11 Pump Control Panel Material List Item 23 Solid State Relay: .The Square D Solid State Relay Motor Logic Plus is obsolete and no longer available can the Square D - Tesys T be utilized for this functionality?

Yes the Tesys T will meet the requirement and can be utilized.

Q13: Will SAWS provide lab testing for soils, concrete and asphalt or is that a cost for the contractor is to carry.

Contractor is responsible for paying for and arranging for testing by an approved independent testing laboratory to perform quality control inspection and testing services identified in the individual Specification sections. Payment for testing laboratory services will not be measured or paid for directly, but shall be considered subsidiary to the related bid items of the contract requiring the testing. Refer to Page GC-16, Paragraph 5.3.2; Supplemental Conditions Page SS-1 (paragraph referencing "Page GC16" and "Page GC-22"); and Specification Section 01400 Quality Requirements.

Q14: With these sites much less than an acre each is a storm water permit required?

Please refer to the Special Conditions Item 8 on page SC-3.

Q15: Will the paint inspection tools be returned to the contractor at the end of the project or is it SAWS intention to retain the tools for future projects.

SAWS will retain the paint inspection tools.

Q16: There is a requirement to use City of San Antonio uniformed police for traffic control. Where can we find the rules to determine when they will be required.

Contractor is responsible for maintaining site safety and security and shall determine when and where uniformed officer will be necessary to perform the work. Bidders shall visit lift stations site and use their own judgment when a uniformed officer is required.

Q17: Each site is to be paved. Is the paving perimeter edge inside the fence line or outside the fence a few inches.

Site pavement shall be as indicated on site plans and Detail Sheet D-5, 103 of 143.

Q18: On LS # 163 the force main appears to be relocated by approximately two feet. How much of the line is to be replaced?

Plan Drawings for LS# 163 didn't indicate replacement or relocation of existing force main. Contractor shall be responsible for installation and connecting the proposed By-Pass pumping system and Gate Valve to existing force main.

Q19: PHI would like to submit Grundfos Submersible wastewater pumps as an equal to ITT Flygt and Myers Self-Priming pumps as an equal to Gorman-Rupp. Will you accept as approved equal?

Engineer/Owner acknowledge that other pump manufacturers are acceptable lift station submersible and self-priming pump manufacturers; however, for this project, bidders shall base their bids on the specific pumps as described, and as indicated in the Technical Specifications and the Plan Drawings of the Contract Documents. Bidders are advised to reference the Technical Specifications of the Contract Documents, including Section 01600 Product Requirement, Article 2.2, Product Substitution (Page 01600-6 and -7) for requirements for review and approval of equipment and materials different than as explicitly shown in the Plan Drawings and Technical Specifications of the Contract Documents. (Note that the Owner/Engineer will not pre-approve any product substitutions prior to Bid Opening).

**Q20: Specification 16496 480V AUTOMATIC TRANSFER SWITCH:
The Transfer Switches are shown as Manual Transfer with Breakers Interlocked, except for LS# 239 where the ATS is existing, and LS# 252. The ATS at LS# 252 is not noted if it is in existence or not, but Drawing E-252-2, Page 75 of 143 Note 14 states, "PROVIDE MANUAL TRANSFER SWITCH WITH GENERATOR PLUG ASSEMBLY". Need clarification on this.**

The automatic transfer switch required is for LS#252 and is not in existence. The note on page 75 of 143 should state "provide Automatic Transfer Switch.

Q21: Specification 16442 MINI-POWER CENTER, Article 2.08.B States

"The enclosure shall be totally enclosed, no ventilated, NEMA 3R, SS316.", Mini-Power Zone require ventilation due to the heat generated by the transformer which is the reason they are provided in NEMA 3R, can these be provided in NEMA 3R 316SS? If not will have to provide in a NEMA 1 Enclosure and Contractors will have to install within a NEMA 4X Box and size the box accordingly for the Watts Loss. Box would be rather large to accommodate the losses.

A NEMA 3R 316SS enclosure for the Mini-Power Zone is acceptable and required. A ventilated enclosure for the Mini-Power Zone is acceptable.

Q22: Special Provisions to Section 850.2 -6: Materials: This appears to be a "lesser" build back material as what is in the original specifications. How are the QAQC and strength properties to be verified?

This special provision is deleted as described in Item 7a of this addendum. Note that the coating shall include a one inch thick layer of cementitious coating as listed in Article 850.2 5.

Q23: Special Provisions to Section 850.15-E: Submittals and Certification: is the CONTRACTOR to submit with their bid, the following, to insure conformance to the specifications at bid time:

- a) **Applicator references that demonstrate a minimum of 15,000 vertical feet installed in the State of Texas**
- b) **Five recent references for applicator indicating successful application of proposed coating.**

Contractor applicator references and five recent references shall be submitted by the Contractor during the construction phase Submittal Process and Review process.

Q24: Special Provisions to Section 850.4-3 Testing for wet well rehabilitation/coating: How do you recommend to perform a vacuum test on the wet wells due to their make up? An exfiltration test is already in the specification.

The vacuum testing is not applicable for wet well rehab. This special provision is deleted as described in Item 7b of this addendum.

Q25: After the build back material is applied is there a moisture test required to minimize outgassing /bubbling prior to applying the epoxy coatings?

Prepared surfaces should be tested prior to application of the coating and shall meet any specific pH or moisture content requirements set by the coating manufacturer.

Q26: Special Provisions to Section 850.7-1: Warranty on Wet Well Coating: Request the warranty to start as soon as wet well is put back into operation. At that point the coating is being fully utilized by the owner.

Warranty will start when lift station rehabilitation is complete, operational and accepted by SAWS.

Q27: Special Provisions to Section 850.7-1: Warranty on Wet Well Coating: Is the CONTRACTOR to submit with their bid, the following, to insure conformance to the specifications at bid time:

- a) **Manufacturers 10 year Warranty as stated in the pre-bid meeting.**

No. 10 Year Manufacturer Warranty shall be submitted during Submittal Process and Review Process.

Q28: Soft Start - Spec says “ Benschaw or Engineered Approved Equal”. Will the Square D ATS22 with built in shorting contactor be an acceptable alternate?

Engineer/Owner acknowledge that other soft start manufacturers are acceptable; however, for this project, bidders shall base their bids on the specific equipment as described, and as indicated in the Technical Specifications and the Plan Drawings of the Contract Documents. Bidders are advised to reference the Technical Specifications of the Contract Documents, including Section 01600 Product Requirement, Article 2.2, Product Substitution (Page 01600-6 and -7) for requirements for review and approval of equipment and materials different than as explicitly shown in the Plan Drawings and Technical Specifications of the Contract Documents. (Note that the Owner/Engineer will not pre-approve any product substitutions prior to Bid Opening).

Q29: Please clarify if SAWS will program and set-up for the SCADA system PLC and Radio. Reference to spec section 16901, Pg. 12, 2.13, E Programming?

Yes, all programming will be provided by SAWS personnel for the PLCs and Radios.

- Q30: Please clarify information on LS#258. The notes states SAWS wants to reuse the existing Soft Start. Please provide the manufactures info as well as a model number and the revised wiring schematic for the soft starters and bypass contactors.**

The manufacturer is believed to be Square D, model # ATS48C14Y, contractor to verify in the field. The control panel is to be replaced and the control schematics on pages E-16 and E-17 are to be followed with the addition of the third pump.

- Q31: Please clarify the pump protection relays for LS#258. The current panel has Flygt CAS units, are new units to be required or old units to be reused. Also confirm that pump has sensor cable with 12 leads and terminal box will need to be sized accordingly.**

New units are required. The confirmation of the sensor cable will need to be verified in the field by the contractor and the terminal box will need to be sized accordingly

- Q32: Please clarify the statement concerning the submersible transducer requirements, "with range as required by depth of wetwell." Reference to spec section 1690, Pg. 5 2.01, E 1.**

The depth of the wet well (top of wet well elevation at grade to bottom of wet well at floor) will determine the range of the PSI required for the transmitter for that wet well. Provide transmitter with the required PSI range based on the total wet well depth and not the operating level conditions of the pumps and / or the high wet well level alarm.

- Q33: Please clarify, On drawing E-11 shows double door enclosures. Previous control panels have been single door. Are single door panels ok with dead front inner doors? Also is the 25% spare space still a requirement?**

The pump control enclosure shall have two doors (480V installed on the right side, 120V equipment on the left side. Single door panels are acceptable, but only for lift stations where space will not allow for a two door pump control enclosure installation. The need for a single door enclosure shall be verified in the field by the contractor. 25% spare space is a requirement.

- Q34: Please clarify, Drawings show a single control transformer in each control panel, previous SAWS Specs required two control transformers for independent circuits for each pump on a duplex panel.**

A single control transformer is acceptable.

- Q35: Is there geotechnical data available that indicates the compressive strength of the rock that will require excavation for installation of the canopies, duct banks, area lights and antennas?**

Refer to Instructions to Bidders, paragraph 5b. and General Conditions, Page GC-17, Paragraph 5.6.1. Contractor is responsible for any and all geotechnical investigation's necessary to perform the work at no additional cost to SAWS.

- Q36: Several sites (examples - LS 176, LS 210 & LS 258) have concrete covering the entire surface area or most of the lift station surface area. Are we to remove and replace all existing site concrete to complete the work or sawcut, remove and patch back concrete as necessary to complete the work?**

Contractor shall be responsible for Means and Methods of Removing, Replacing, Sawcut and Patching of concrete surfaces and all necessary work required. Contractor is responsible for repairing, to pre-existing or better conditions, any damaged areas at no additional cost to SAWS.

Q37: How many project signs will be required?

Contractor shall be responsible for keeping a sign for each site under rehabilitation. Sign should not be relocated until the lift station rehabilitation is complete, operational and accepted by the Owner. Note that Contractor shall be mobilized at no more than 7 lift stations at any time, reference Article 1.08. B of Specification 01010 of the Summary of Work.

Q38: If street cuts are needed in some areas, after patching the trenches, will the contractor be required to mill and overlay the street full width for the full block?

Contractor is responsible for repairing, to pre-existing or better conditions, any damaged areas at no additional cost to SAWS.

Q39: Didn't notice a Wage Scale in the Specifications. Could you please furnish?

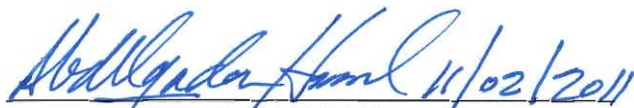
There is no certified payroll required for this project. Wage decisions will not be provided.

This Addendum, including these 10 pages, is 33 pages, with attachments, in its entirety.

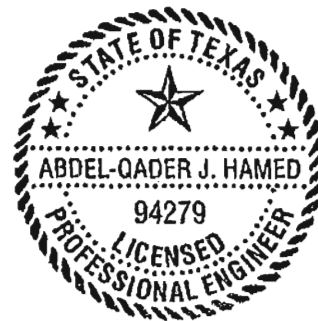
Attachments

- Bid Proposal (11 pages)
- Specification Section 16020 Utilities (3 pages)
- Sheet C-190-3 (1 page)
- Sheet C-205-1 (1 page)
- Sheet E-205-2 (1 page)
- Sheet C-245-2 (1 page)
- Sheet E-13 (1 page)
- Sheet E-14 (1 page)
- Sheet E-19 (1 page)
- Sheet T-1 (1 page)
- Sheet T-2 (1 page)

Each bidder is requested to acknowledge receipt of this Addendum No. 3 by his/her signature affixed hereto and to file same with and attached to his/her bid.



Approved by ENGINEER
WESTON SOLUTIONS, INC.,
TEXAS REGISTERED ENGINEERING FIRM F-3123



The undersigned acknowledges receipt of this Addendum No. 3 and the bid submitted herewith is in accordance with the information and stipulations set forth.

Date

Signature of Bidder

END OF ADDENDUM

Job No.: 08-2504
 Project Title: Lift Stations Rehabilitation Design – Phase 3
 Solicitation # B-11-047-MF

BID PROPOSAL

PROPOSAL OF _____, a corporation
 a partnership consisting of _____
 an individual doing business as _____.

THE SAN ANTONIO WATER SYSTEM:

Pursuant to Instructions and Invitations to Bidders, the undersigned proposes to furnish all labor and materials as specified and perform the work required for the construction of pipelines and appurtenances, San Antonio Water System Job. No. 08-2504, in accordance with the Plans and Specifications for the following prices, to wit:

ITEM NO.	DESCRIPTION & ESTIMATED QUANTITIES (Lump Sum Price to be written in words)	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
1.	Lift Station Rehab: LS# 163 – Potranco #2 Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
2.	Lift Station Rehab: LS# 176 – Southwest Middle School Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
3.	Lift Station Rehab: LS# 188 – Valley Hi Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, inclusive of a spare pump, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
4.	Lift Station Rehab: LS# 189 – Threadneedle Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$

Job No.: 08-2504

Project Title: Lift Stations Rehabilitation Design – Phase 3

Solicitation # B-11-047-MF

ITEM NO.	DESCRIPTION & ESTIMATED QUANTITIES (Lump Sum Price to be written in words)	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
5.	<p>Lift Station Rehab: LS# 190 – Alamo Dome Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$
6.	<p>Lift Station Rehab: LS# 205 – Carowinds Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$
7.	<p>Lift Station Rehab: LS# 207 – Wood Glen Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$
8.	<p>Lift Station Rehab: LS# 210 – Horseshoe Bend Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$
9.	<p>Lift Station Rehab: LS# 211 – Villa Espranza Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$

ITEM NO.	DESCRIPTION & ESTIMATED QUANTITIES (Lump Sum Price to be written in words)	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
10.	Lift Station Rehab: LS# 228 – Southwest High School Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
11.	Lift Station Rehab: LS# 237 – Shaenfield Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
12.	Lift Station Rehab: LS# 239 – Southside High School Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
13.	Lift Station Rehab: LS# 245 – Harris Middle School Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
14.	Lift Station Rehab: LS# 252 – Heights of Stone Oak Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$

Job No.: 08-2504

Project Title: Lift Stations Rehabilitation Design – Phase 3

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ITEM NO.	DESCRIPTION & ESTIMATED QUANTITIES (Lump Sum Price to be written in words)	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
15.	<p>Lift Station Rehab: LS# 253 – Palo Alto Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$
16.	<p>Lift Station Rehab: LS# 257 – Ranch at Iron Horse Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$
17.	<p>Lift Station Rehab: LS# 258 – Alamo Ranch Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$
18.	<p>Lift Station Rehab: LS# 263 – Indian Springs Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$
19.	<p>Lift Station Rehab: LS# 264 – Westwinds Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price:</p> <p>_____ Dollars And _____ Cents</p>	\$XXXXXX.XX	\$

Job No.: 08-2504
 Project Title: Lift Stations Rehabilitation Design – Phase 3
 Solicitation # B-11-047-MF

ITEM NO.	DESCRIPTION & ESTIMATED QUANTITIES (Lump Sum Price to be written in words)	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
20.	Lift Station Rehab: LS# 265 – The Villages of Bulverde Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
21.	Lift Station Rehab: LS# 270 – Champions Ridge Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of lift station modifications and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
22.	Repeater Site: Callaghan Tank Inclusive of furnishing all tools, labor, materials, equipment, and miscellaneous items necessary for the complete construction of repeater site and related demolition as shown on the Drawings and specified in the Contract Documents, Complete and In-Place for the Lump Sum price: _____ Dollars And _____ Cents	\$XXXXXX.XX	\$
23.	All Permitting Fees – Contractor to pay and be reimbursed actual amount by SAWS. _____ Fifty Thousand _____ Dollars And _____ No _____ Cents	\$50,000.00	\$50,000.00
24.	CPS Energy Allowance – Contractor to pay and be reimbursed actual amount by SAWS. _____ Ninety Thousand _____ Dollars And _____ No _____ Cents	\$90,000.00	\$90,000.00
LINE ITEM "A." SUBTOTAL BASE BID AMOUNT		\$ _____	

Job No.: 08-2504
 Project Title: Lift Stations Rehabilitation Design – Phase 3
 Solicitation # B-11-047-MF

ITEM NO.	DESCRIPTION & ESTIMATED QUANTITIES (Lump Sum Price to be written in words)	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
25.	Mobilization and Demobilization – This item includes project move-in and move-out of personnel and equipment, set-up of temporary facilities, and clean-up of site upon completion of Work, complete in place, per lump sum (See Item No. 100 Special Provisions to Mobilization). _____ Dollars And _____ Cents _____ Percent (Maximum of 5% of Line Item “A.” Subtotal Base Bid Amount)	\$XXXXX.XX	\$
MOBILIZATION AND DEMOBILIZATION SUB-TOTAL		\$ _____	
TOTAL BID AMOUNT (Line Item A. + Item No. 25)		\$ _____	
_____ DOLLARS AND _____ CENTS			

Mobilization and Demobilization lump sum bid shall be limited to a maximum 5% of the Line Item “A.” Subtotal Base Bid Amount. The Line Item “A.” Subtotal Base Bid Amount is defined as all bid items **EXCLUDING** Item 25, Mobilization and Demobilization. **In the event of a discrepancy between the written percentage and dollar amount shown for Item 25, Mobilization and Demobilization, the written percentage will govern. If the percentage written exceeds the allowable maximum stated for mobilization, SAWS reserves the right to cap the amount at the percentage shown and adjust the extensions of the bid item accordingly.**

 BIDDER'S SIGNATURE & TITLE

 FIRM'S NAME (TYPE OR PRINT)

 FIRM'S ADDRESS

 FIRM'S PHONE NO./FAX NO.

 FIRM'S EMAIL ADDRESS

The Contractors herein acknowledges receipt of the following:

Addendum No's.: _____

OWNER RESERVES THE RIGHT TO ACCEPT THE OVERALL MOST RESPONSIBLE BID.

The bidder offers to construct the Project in accordance with the Contract Documents for the contract price and to complete the Project within **Four-hundred and twenty (420) calendar days** after the start date, as set forth in the Authorization to Proceed. **The bidder understands and accepts the provisions of the Contract Documents relating to liquidated damages of the Project if not completed on time.**
 Complete the additional requirements of the Proposal which are included on the following pages.

Job No.: 08-2504
Project Title: Lift Stations Rehabilitation Design – Phase 3
Solicitation # B-11-047-MF

PROPOSAL CERTIFICATION

Accompanying this proposal is a Bid Bond or Certified or Cashier's Check on a State or National Bank payable to the Order of the San Antonio Water System for _____ dollars (\$_____), which amount represents five percent (5%) of the total bid price. Said bond or check is to be returned to the bidder unless the proposal is accepted and the bidder fails to execute and file a contract within 10 calendar days after the award of the Contract, in which case the check shall become the property of said San Antonio Water System, and shall be considered as payment for damages due to delay and other inconveniences suffered by said San Antonio Water System due to the failure of the bidder to execute the contract. The San Antonio Water System reserves the right to reject any and all bids.

It is anticipated that the Owner will act on this proposal within 60 calendar days after the bid opening. Upon acceptance and award of the contract to the undersigned by the Owner, the undersigned shall execute standard San Antonio Water System Contract Documents and make Performance and Payment Bonds for the full amount of the contract within 10 calendar days after the award of the Contract to secure proper compliance with the terms and provisions of the contract, to insure and guarantee the work until final completion and acceptance, and the guarantee period stipulated, and to guarantee payment of all lawful claims for labor performed and materials furnished in the fulfillment of the contract.

It is anticipated that the Owner will provide written Authorization to Proceed within 30 days after the award of the Contract.

The Contractor hereby agrees to commence work under this Contract within seven (7) calendar days after issuance by the SAWS of the written Authorization to Proceed. Under no circumstances shall the work commence prior to Contractor's receipt of SAWS issued, written Authorization to Proceed. Work shall be completed in full within consecutive calendar days.

The undersigned certifies that the bid prices contained in the proposal have been carefully checked and are submitted as correct and final.

In completing the work contained in this proposal the undersigned certifies that bidder's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin and that the bidder will affirmatively cooperate in the implementation of these policies and practices.

Signed:

Company Representative

Company Name

Address

Please return bidder's check to:

Company Name

Address

BIDDER'S QUESTIONNAIRE

Contractor shall submit a record of performance on three (3) similar projects in scope and construction cost completed within the last five (5) years, including name of project, amount of project, project duration; and name, address, and telephone number of Owner contact person for each project. Similar projects must have been a minimum of \$5 million in construction cost and must have included improvements and/or modifications to existing lift station facilities. Contractor shall be familiar with bypass/flow management and SCADA equipment and installation. All questions must be answered and data given must be clear and comprehensive. If necessary, questions may be answered on separate sheets.

1. Bidder:
2. Years in business under present business name:
3. Attach a list of current projects. Provide the name of the Owner and Engineer for each project and include the name and telephone number of the contact person for each organization. Indicate the total value of each contract and the value of the work remaining.
4. Have you ever failed to complete any work awarded to you? () No () Yes

If yes, provide complete circumstances for each occurrence on separate sheets of paper.

5. Are you presently involved in any litigation or lawsuits involving construction work of any type?
() No () Yes

If yes, provide complete circumstances for each occurrence on separate sheets of paper.

6. Has the company received an OSHA citation during the most recent 12 months?
() No () Yes

If yes, provide complete circumstances for each occurrence on separate sheets of paper.

7. Has the company experienced lost time accidents during the most recent 12 months?
() No () Yes

If yes, describe each accident and the amount of time lost. Attach a copy of the OSHA 300 logs for the past three (3) years.

8. Is the Bidder now or has the Bidder ever been involved in any bankruptcy or reorganization proceedings within the last seven (7) years? () No () Yes

If yes, provide complete circumstances for each occurrence on separate sheets of paper.

9. Has the Bidder ever failed to enter into a contract in the past 10 years when the Bid was awarded to them? () No () Yes

If yes, provide complete circumstances for each occurrence on separate sheets of paper.

10. During the last 10 years, has the Bidder ever been declared in default under a contract by an Owner? () No () Yes

If yes, provide complete circumstances for each occurrence on separate sheets of paper.

11. Submit resumes for the proposed project manager and the proposed project superintendent detailing prior work experience and current references. The resumes must demonstrate that these individuals have worked on at least (3) similar, successfully completed lift station facilities during the last (5) years.
12. Relevant Experience – List firm’s construction experience for lift station facility improvements and/or modifications of at least \$5 million in construction costs. Contractor shall be familiar with bypass/flow management and SCADA equipment and installation. A minimum of three (3) successfully completed projects must be listed.

Project No. 1

Project Name and Location: _____

Project Description: _____

Owner’s Name and Address: _____

Contract Price: _____

Owner’s Contact Person: _____

Phone No.: _____

E-Mail Address: _____

Contract Start Date (date of Notice to Proceed): _____

Contract Time: () Calendar Days () Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date*: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed, attach a written explanation for each time extension.

Project No. 2

Project Name and Location: _____

Project Description: _____

Owner's Name and Address: _____

Contract Price: _____

Owner's Contact Person: _____

Phone No.: _____

E-Mail Address: _____

Contract Start Date (date of Notice to Proceed): _____

Contract Time: Calendar Days Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed, attach a written explanation for each time extension.

Project No. 3

Project Name and Location: _____

Project Description: _____

Owner's Name and Address: _____

Contract Price: _____

Owner's Contact Person: _____

Phone No.: _____

E-Mail Address: _____

Job No.: 08-2504
Project Title: Lift Stations Rehabilitation Design – Phase 3
Solicitation # B-11-047-MF

Contract Start Date (date of Notice to Proceed): _____

Contract Time: Calendar Days Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed, attach a written explanation for each time extension.

SECTION 16020

UTILITIES

PART 1- GENERAL

1.01 WORK INCLUDED

- A. Furnish and install necessary materials and make arrangements for the connection of utilities for the project. The required utilities are electrical service upgrades to lift stations indicated on the contract drawings, utility pole replacement at lift stations indicated on the contract drawings, and the installation of the natural gas line for the emergency generator at lift station #252 .

1.02 REFERENCE STANDARDS

- A. Comply with all service installation standards of the serving utility companies.

1.03 COORDINATION

- A. Deviations from the contract drawings and specification shall be noted on the shop drawing submittal furnished to the Engineer.
- B. The Contractor shall schedule work with CPS Energy to execute final connections and testing of the equipment for a complete and functional electrical service.
- C. The contractor shall coordinate his work with CPS Energy to arrange for all upgraded services to 480/277V, 3PH services required, utility pole replacement, all required permits, inspections, and other required services.
- D. The electrical installation shall conform to all applicable State and Local codes, and shall be made in a neat and workmanlike manner, in accordance with the best practice of the trade. Upon completion of the work, the Contractor shall conduct an operating test in the presence of the Owner's representative, and shall demonstrate that the electrical installation is operating properly.
- E. Verify the service requirements with CPS, ascertain those items of material and work which are not provided by CPS and which are required for the service(s) indicated and provide all such items and work at no additional cost to the Owner.
- F. Excess facilities charges, if any, by CPS, for delivery of service will be paid by the owner.
- G. The Contractor shall coordinate with Power Company installation of work as shown on the drawings. Utility contact information:
 - a) Chris Lansford: Tel: (210) 353-2810 or Email: CALansford@cpsenergy.com
 - b) CPS Energy, Natural Gas Service, New Services:210-353-4639.
- H. Entrance must be coordinated with the Engineer/Owner. Provide materials and equipment required to connect the project service to the system. Coordinate with CPS Energy for requirements of power service and natural gas service.

1.04 ALLOWANCE

- A. The contractor shall include in the total bid amount an allowance of \$90,000.00 for payment of all charges made by CPS Energy in connection with providing power to each of the lift stations as described below and as otherwise shown on the drawings. This shall include, but not limited to the following:
 - a. Conversion of the service from 120/240Vm 3 phase, 4 wire to 277/480V, 3 phase, 4 wire.
 - b. Associated costs from the utility for re-termination of service or other fees applied from the utility companies during coordination due to the electrical work required in the contract documents such as the replacement of the utility poles, meter bases, main service disconnects and weatherheads which are to be performed by the contractor at the lift stations indicated.
 - c. Installation of a natural gas line and any additional fees from the utility associated with the installation at Lift Station #252.
- B. The contractor shall not include any profit or overhead in this allowance.
- C. This allowance shall not be used for temporary construction phase power charges levied by CPS Energy.
- D. Contractor shall use the allowance to pay CPS Energy charges and bill the Owner in the same amount. If there is an unused amount remaining after the project is completed it shall be credited to the total bid amount and not be billed to the owner.

PART 2- PRODUCTS

2.01 SERVICE CONDUIT AND CABLE

- A. Cable shall be sized as shown on the drawings.
- B. The conduits shall be as indicated in Section 16110.

2.02 ELECTRIC METER

- A. The Contractor shall furnish and install the electric meter base, current transformers including cabinet (if required) accordance with CPS standards and requirements.
- B. The electric meter shall installed and connected by CPS upon notification of completed work by the Contractor.
- C. All equipment shall be suitable for outdoor installation and shall be SS 316.

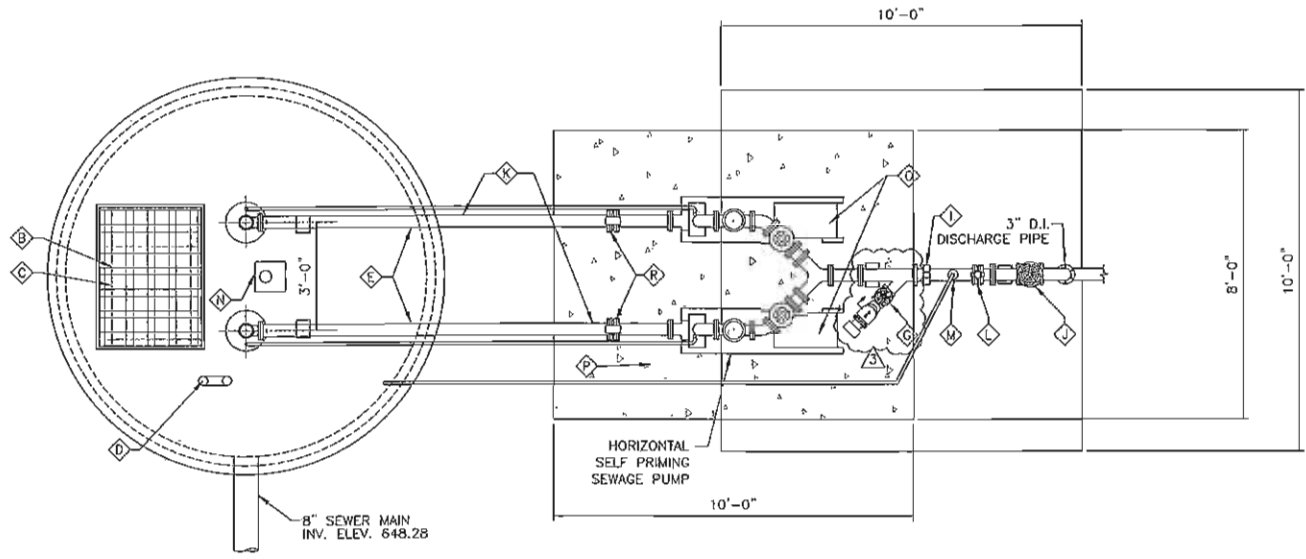
PART 3- EXECUTION

3.01 UTILITY

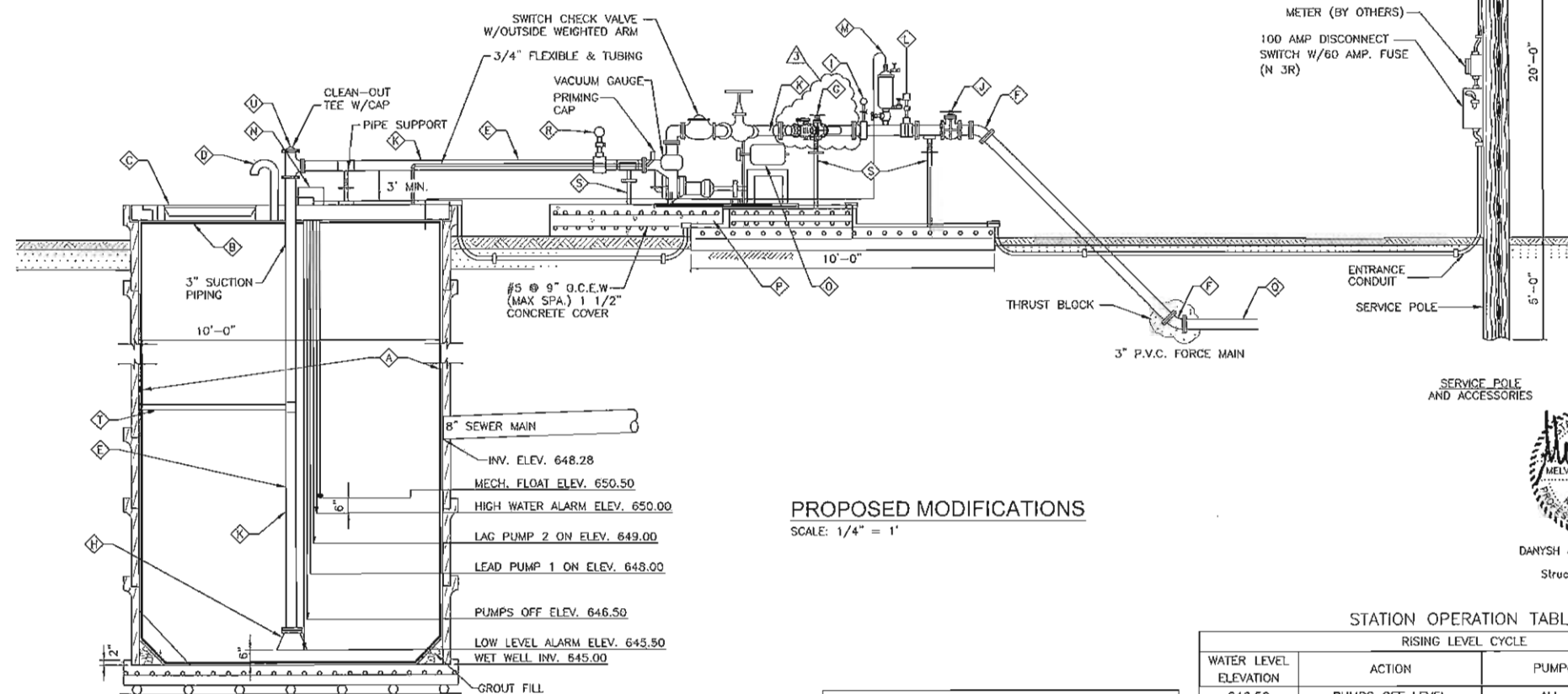
- A. Electric company is to upgrade service to 3-phase, 4-wire, 60-Hertz electrical service at the lift stations indicated.
- B. Gas company is to provide new natural gas line to the LS#252 location up to the meter.

- C. Contractor shall provide and install natural gas line per utility guidelines from the meter to the Generator Set. Contractor shall coordinate natural gas pressure requirements with utility and generator manufacturer. Provide fuel gas valves, gas regulators, and any other equipment as required for a functional System.
- D. Contractor shall provide and install utility riser poles and Main Fused Disconnects per utility guidelines. Contractor to coordinate re-termination of power at all lift stations where work is required.
- E. Contractor will keep existing services until the new services to the electrical equipment are connected, tested and accepted.
- F. Contractor to follow the mechanical construction sequencing, electrical equipment shall be energized on time. Delay to the startup shall not be caused due to electrical contractor miscoordination.
- G. Contractor to minimize interruption of service. Contractor to coordinate with Owner prior any interruption.
- H. Contractor is to provide and install all low voltage (120V, 208V, 480V, etc.) distribution equipment and hardware associated with this project as shown on the plan drawings.
- I. The work performed, materials furnished and all labor, tools, equipment and incidentals necessary to complete the work under this item will not be measured or paid for directly, but shall be considered subsidiary to the various bid items of the contract.

END OF SECTION 16020



PLAN VIEW
SCALE: 1/4" = 1'



PROPOSED MODIFICATIONS
SCALE: 1/4" = 1'

TABLE 1 - PUMP INFORMATION

MANUFACTURER	GORMAN RUPP. OR APPROVED EQUAL
MODEL	T3A-B4
POWER	5 HP
DISCHARGE DIAMETER	3 IN.
IMPELLER NO./DIA.	8.74 IN.
SPEED	1250 RPM
FLOW	150 GPM
TOTAL HEAD	35 FT
HYDRAULIC EFFICIENCY	39 %

STATION OPERATION TABLE

RISING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
646.50	PUMPS OFF LEVEL	ALL PUMPS ARE OFF
648.00	LEAD PUMP LEVEL	LEAD PUMP ON
649.00	LAG PUMP LEVEL	LEAD & LAG PUMPS ON
650.00	HIGH WATER ALARM LEVEL	HIGH WATER ALARM SOUND
FALLING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
649.00	LAG PUMP LEVEL	LEAD & LAG PUMPS ON ALARM TURNS OFF
648.00	LEAD PUMP LEVEL	LEAD & LAG PUMPS ON
646.50	ALL PUMPS OFF LEVEL	ALL PUMPS STOPPED - LAG PUMP SWITCHES TO LEAD PUMP



DANYSH & ASSOCIATES, INC.
F-002228
Structural Engineers

- KEYED NOTES - PROPOSED MODIFICATIONS.**
- ◇ COAT ALL INTERIOR CONCRETE SURFACES WITHIN WET WELL IN ACCORDANCE WITH THE SPECIFICATIONS.
 - ◇ RETROFIT EXISTING ACCESS HATCH AT PRIMARY AND SECONDARY WETWELL WITH SAFETY GRATE MADE OF ALUMINUM OR NON-CORROSIVE FIBERGLASS AS PER ACCESS COVER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAIL 8 ON SHEET D-8.
 - ◇ INSTALL NON-CORROSIVE LOCKING BAR ON WET WELL ACCESS HATCH COMPLETE WITH PADLOCK.
 - ◇ INSTALL 316 STAINLESS STEEL INSECT SCREEN IN VENT.
 - ◇ INSTALL AND COAT 3" SUCTION PIPING.
 - ◇ INSTALL 2-3" 45° BEND
 - ◇ INSTALL AN EMERGENCY BYPASS ASSEMBLY WITH 3" GATE VALVE, 3" CHECK VALVE, 3"x4" REDUCER AND QUICK DISCONNECT 4" STAINLESS STEEL MALE FITTING WITH DUST CAP.
 - ◇ INSTALL 3" FLANGED FLARE.
 - ◇ INSTALL PRESSURE GAUGE WITH ISOLATION BALL VALVE, MIN 4" DIAL, 5% ACCURACY, LIQUID FILLED. REFER TO DETAIL 9 ON SHEET D-8.
 - ◇ INSTALL 3" GATE VALVE, RESILIENT WEDGE WITH FLANGED JOINTS ON FORCE MAIN.
 - ◇ COAT AND PAINT PIPE, VALVES, AND FITTINGS INSIDE AND OUTSIDE THE WET WELL.
 - ◇ INSTALL PRESSURE TRANSMITTER WITH ISOLATION BALL VALVE.
 - ◇ INSTALL 2" AIR RELEASE VALVE AND PIPING ASSEMBLY. REFER TO DETAIL 3 ON SHEET D-8.
 - ◇ INSTALL 316 STAINLESS STEEL JUNCTION BOX FOR PRESSURE LEVEL TRANSMITTER AND HIGH LEVEL FLOAT.
 - ◇ INSTALL 2 NEW SELF PRIMING PUMPS REFER TABLE 1, IN THIS SHEET.
 - ◇ INSTALL 8'-0"x10'-0"x9" THICK CONCRETE SLAB. CONCRETE SHALL BE 4000 PSI, (MATCH EXISTING OR 6" MIN.).
 - ◇ CONTRACTOR SHALL CONNECT PROPOSED PIPING TO EXISTING 3" FORCE MAIN.
 - ◇ INSTALL 2-VACUUM GAUGE WITH ISOLATION BALL VALVE MIN 4" DIAL 5% ACCURACY LIQUID FILLED.
 - ◇ INSTALL 316 STAINLESS STEEL PIPE SUPPORT, REFER TO DETAIL 5 ON SHEET D-7.
 - ◇ INSTALL 316 STAINLESS STEEL PIPE SUPPORT BRACKETS. REFER TO DETAIL 4 ON SHEET D-8.
 - ◇ INSTALL 2-3" CLEANOUT WITH CAPS.

- NOTES**
1. EXISTING LIFT STATIONS SHOWN HERE BASED ON SAWS RECORD DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING DIMENSIONS AND EQUIPMENTS SHOWN HERE.
 2. PRIOR TO APPLICATION OF WET WELL COATING, CONTRACTOR SHALL REPAIR ANY WETWELL CRACKS; SEAL JOINTS AND PENETRATIONS; AND PREPARE THE SURFACE PER MANUFACTURER'S RECOMMENDATION, CONTRACTOR SHALL SUBMIT PROPOSED REPAIR METHODS FOR REVIEW AND APPROVAL. CONTRACTOR SHALL ENSURE ALL SUB-SURFACES ARE CLEAN AND FREE FROM LANTANCE, LOOSE MATERIALS AND ALL EXISTING COATING AND LINING MATERIALS.
 3. CONTRACTOR SHALL SEAL SLEEVED OR CORED DISCHARGE PIPE OPENINGS WITH LINK SEAL OR APPROVED EQUAL REFER TO DETAIL 2 ON SHEET D-8.
 4. CONTRACTOR SHALL PROVIDE TEMPORARY BY-PASS PUMPING TO MAINTAIN WASTEWATER SERVICE DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT BYPASS PUMPING PLAN PER ITEM 864 OF THE SPECIFICATIONS.
 5. INSTALL ACCESS HATCH WITH MIN. 36"x48" CLEAR OPENING PROVIDED WITH A SAFETY GRATE MADE OF ALUMINUM OR REINFORCED FIBERGLASS MATERIAL FOR FALL PROTECTION.
 6. PIPE, VALVES, AND FITTINGS (EXCEPT 316 STAINLESS STEEL AND PVC) OUTSIDE THE WET WELL SHALL RECEIVE AFTER INSTALLATION A 100% SOLIDS EPOXY COATING SYSTEM WITH A TOP COAT SYSTEM OF URETHANE COLOR SHALL BE GREY PANTONE #431U. APPROVED MANUFACTURERS INCLUDE TNEDEC, CARBOLINE, SHERWIN-WILLIAMS, PPG, AND M.A.B.PAINTS.
 7. PIPE, AND FITTINGS (EXCEPT 316 STAINLESS STEEL AND PVC) WITHIN THE WET WELL SHALL RECEIVE AFTER INSTALLATION A 100% SOLIDS COAL TAR, EPOXY COATING SYSTEM. COLOR SHALL BE GREY PANTONE #431U. APPROVED MANUFACTURERS INCLUDE TNEDEC, CARBOLINE, SHERWIN-WILLIAMS, PPG, AND M.A.B.PAINTS.
 8. CONTRACTOR SHALL SUBMIT PROPOSED DEMOLITION AND REMOVAL SCHEDULE FOR APPROVAL AND NOTIFY OWNER'S REPRESENTATIVE IN WRITING AT LEAST 48 HOURS BEFORE STARTING DEMOLITION. SUBMIT APPROVAL COPY OF CITY OF SAN ANTONIO DEMOLITION. PERMIT PRIOR TO COMMENCEMENT OF DEMOLITION OPERATIONS.
 9. CONTRACTOR SHALL RETURN TO SAWS THE FOLLOWING EQUIPMENT AND MATERIALS: PUMPS, MOTORS, VALVES, PIPE, FITTINGS, CONTROLS AND ACCESSORIES.
 10. PIPES, VALVES AND FITTINGS INSIDE AND OUTSIDE WETWELL SHALL HAVE 316 STAINLESS STEEL BOLTS AND NUTS.

NO.	DATE	REVISION DESCRIPTION
1	11/01/11	Accedendum 3

WESTON SOLUTIONS, INC.
70 NE LOOP 410, SUITE 600
SAN ANTONIO, TEXAS 78216-5842
TEXAS REGISTERED ENGINEERING FIRM F-3123

WESTON SOLUTIONS

LIFT STATIONS REHABILITATION DESIGN - PHASE 3
LS# 190 - ALAMO DOME
PLAN AND SECTION VIEW

San Antonio Water System

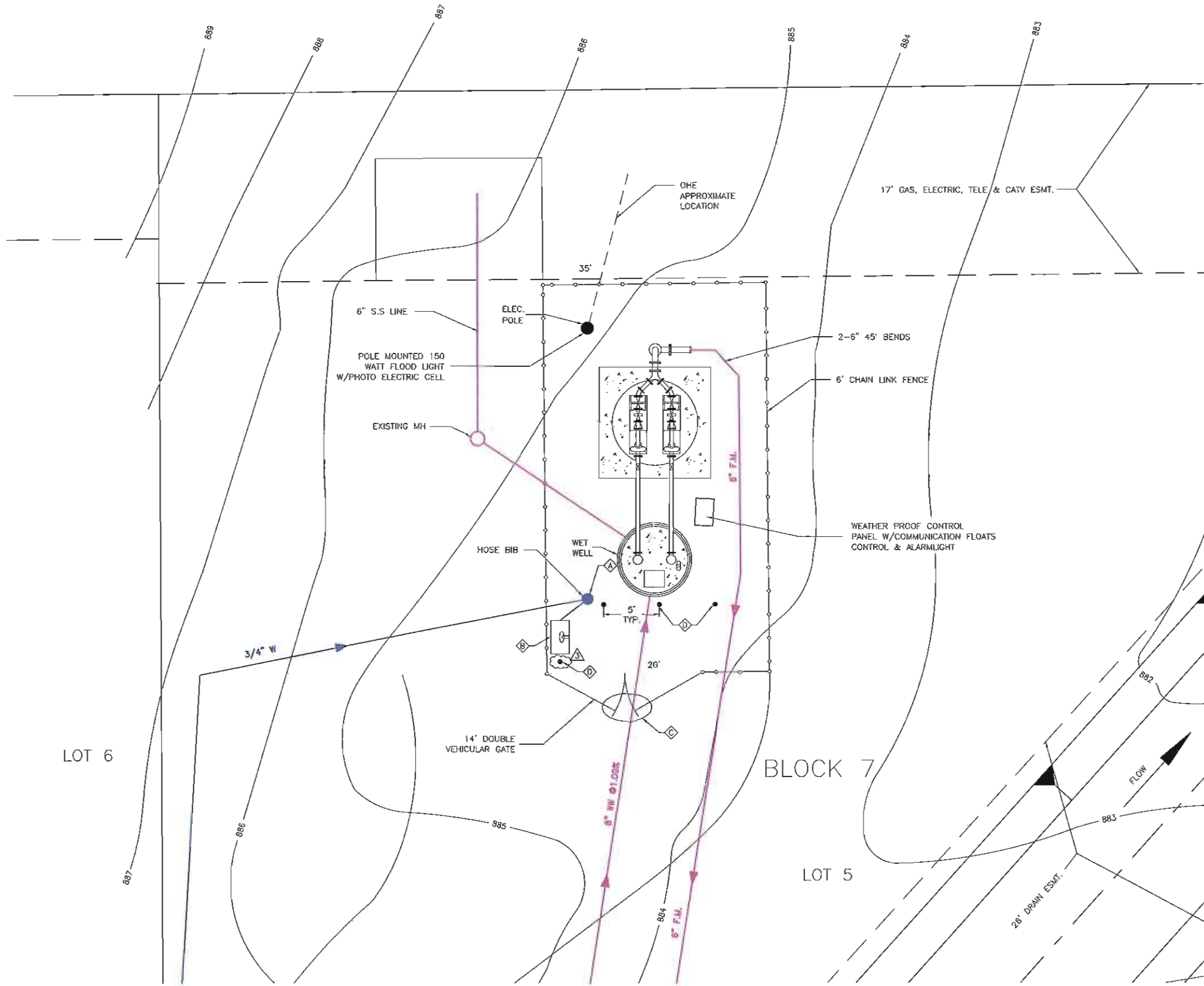
SAWS

JOB NO. 08-2504

NOTES	INITIALS	DATE
DESIGNED BY	AH	11/01/11
REVIEWED BY	MRJ	11/01/11

SCALE: AS SHOWN

SHEET NO. **C-190-3**
26 OF 143



SITE INFORMATION
 LIFT STATION NUMBER/NAME: LS# 205-CAROWINDS
 LOCATED AT: 9803 CAROWINDS, SAN ANTONIO, TX 78251
 LATITUDE: 29.4779 LONGITUDE: -98.68362
 SAWS BLOCK MAP: 100-596
 LOCATED WITHIN 100-YR FLOODPLAIN?: NO
 LOCATED WITHIN EDWARDS AQUIFER?: NO

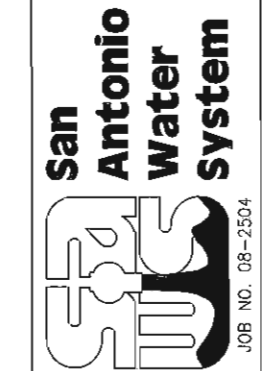
- KEYED NOTES--SITE PLAN**
- Ⓐ CONTRACTOR SHALL RELOCATE EXISTING WATER SERVICE AND INSTALL HOSE BIBB VACUUM BREAKER (HBVB) ON EXISTING WATER SERVICE. REFER TO DETAIL 6 ON SHEET D-7.
 - Ⓑ INSTALL EMERGENCY SHOWER AND EYE WASH STATION, FREEZE-PROOF AND CONNECT TO EXISTING WATER SERVICE. REFER TO DETAIL 3 ON SHEET D-7.
 - Ⓒ INSTALL 9" DIAMETER DISK LOCK ON EXISTING GATE COMPLETE WITH LOCK. REFER TO DETAILS 4 AND 6 ON SHEET D-6.
 - Ⓓ INSTALL PROTECTIVE REMOVABLE BOLLARDS. VERIFY LOCATION WITH SAWS INSPECTOR. REFER TO DETAIL 7 ON SHEET D-7.

- NOTES:**
- EXISTING LIFT STATION SHOWN HERE IS BASED ON SAWS RECORD DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING DIMENSIONS AND IMPROVEMENTS SHOWN HERE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING FEATURES DURING CONSTRUCTION. ANY FEATURES DAMAGED SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.
 - UTILITIES SUCH AS WATER, ELECTRIC, GAS, FIBER OPTICS, AND TELECOMMUNICATIONS MAY EXIST WITHIN THE WORK AREA. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES SHOWN AND NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO THE UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION.
 - QUANTITIES SHOWN ARE ESTIMATES ONLY. CONTRACTOR TO VERIFY ALL QUANTITIES.



WESTON SOLUTIONS, INC.
 70 NE LOOP 410, SUITE 600
 SAN ANTONIO, TEXAS 78216-5842
 TEXAS REGISTERED ENGINEERING FIRM F-3123

LIFT STATIONS REHABILITATION DESIGN - PHASE 3
LS# 205-CAROWINDS
 SITE PLAN



NOTES	INITIALS	DATE
DESIGNED BY	AH	11/01/11
REVIEWED BY	MRJ	11/01/11
SCALE:	AS SHOWN	
SHEET NO.	C-205-1	
	30 OF 143	

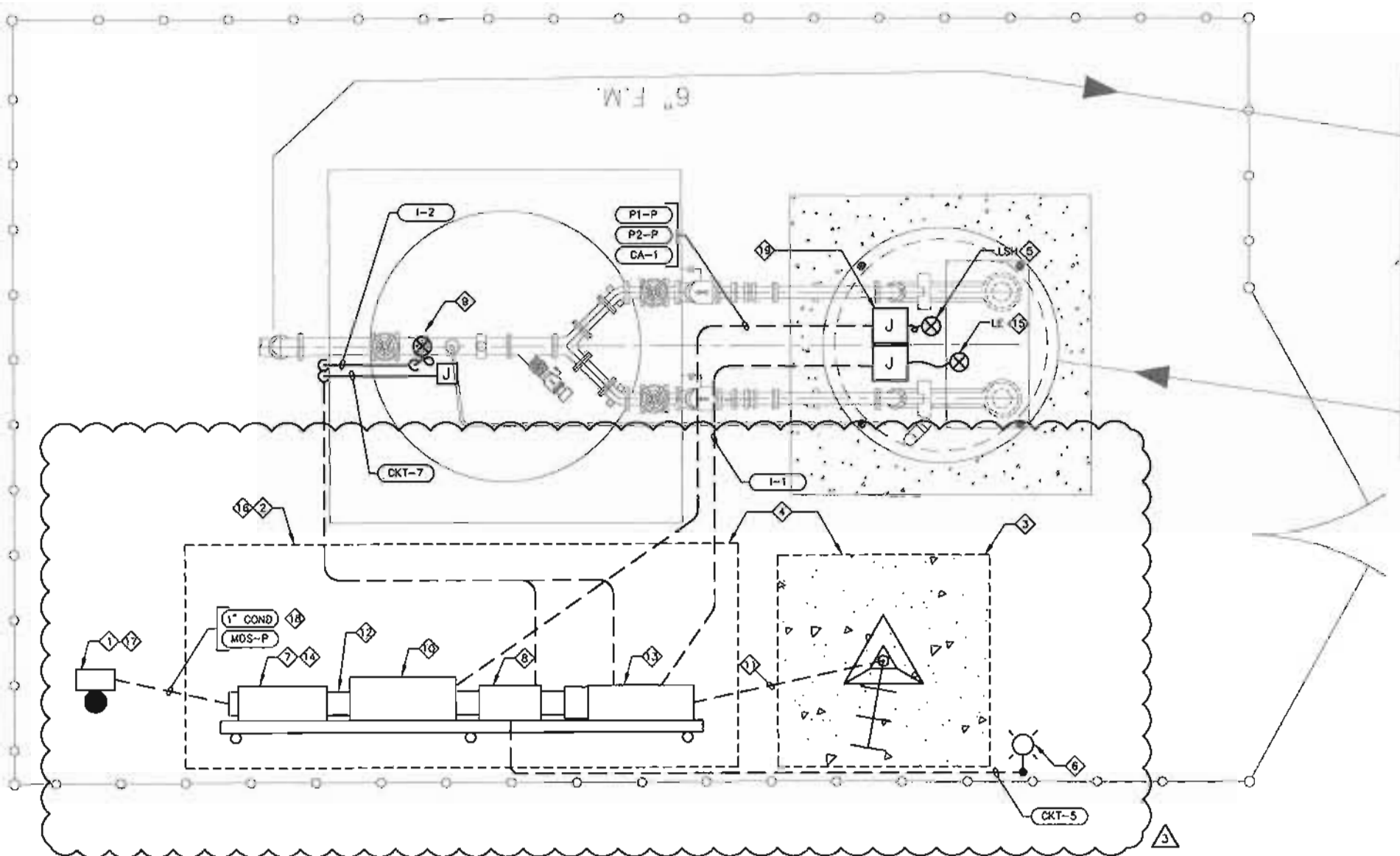
SITE PLAN
 SCALE: 1"=5'-0"

NOTE:
 TOPOGRAPHIC ELEVATIONS ARE BASED ON GIS TOPOGRAPHIC CONTOURS AVAILABLE FROM THE CITY OF SAN ANTONIO. SEWER LINES AND WATER LINES SHOWN ARE BASED ON AVAILABLE SAWS GIS DATA.

LEGEND

	FORCE MAIN
	SEWER LINE
	WATER LINE
	APPROXIMATE GROUND ELEVATION





ELECTRICAL PLAN
 SCALE: 1/2"=1'-0"
 0 1' 2'

- NOTES:**
- EXISTING LIFT STATION SHOWN HERE IS BASED ON SAWS RECORD DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFY DIMENSIONS AND IMPROVEMENTS SHOWN HERE.
 - CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING DIMENSIONS AND EQUIPMENT SHOWN.
 - CONDUIT SHALL BE INSTALLED BELOW GRADE WHERE ALL POSSIBLE, SAW CUT AND REPAIR CONCRETE OR PAVEMENT AS NEEDED. WHERE CONDUITS CANNOT BE INSTALLED BELOW GRADE, PROVIDE A RAMP COVER IF CONDUITS ARE IN A PATHWAY OR ARE A TRIPPING HAZARD.
 - PROVIDE REMOVABLE PROTECTIVE BOLLARDS IN FRONT OF EQUIPMENT, COORDINATE LOCATION WITH SAWS INSPECTOR. REFERENCE "C" SHEETS FOR DETAILS.

- KEYED NOTES:**
- CHANGE 120/240V, 3Ø, 4W SERVICE TO 277/480V, 3Ø, 4W. REPLACE RISER POLE AND INSTALL AT NEW LOCATION SHOWN. PROVIDE A 200 AMP DISCONNECT SWITCH IN A NEMA 4X 316 SS ENCLOSURE, WEATHER HEAD AND METER BASE. REINSTALL PHONE LINE ON RISER POLE. COORDINATE INSTALLATION WITH CPS AND PHONE COMPANY. ALL UTILITY CHARGES INCURRED ARE TO BE INCLUDED IN THE ALLOWANCE FOR THIS STATION ITEM.
 - PROVIDE ELECTRICAL RACK, CANOPY, AND CONCRETE PAD PER DETAILS, RE-E-5.
 - PROVIDE 40FT. ROHN ANTENNA TOWER PER DETAILS, RE-T-3
 - COORDINATE INSTALLATION OF ANTENNA BASE AND EQUIPMENT RACK WITH EXISTING PIPING, ADJUST LOCATION AS REQUIRED.
 - PROVIDE HIGH LEVEL FLOAT SWITCH AND CONNECT TO THE PUMP CONTROL PANEL. LOCATE HANGER WITHIN 8" OF THE ACCESS HATCH.
 - PROVIDE AREA LIGHT PER DETAIL, RE-E-4.
 - PROVIDE SURGE PROTECTION DEVICE (SPD) IN NEMA 4X 316 SS ENCLOSURE AT THE MTS.
 - PROVIDE 10KVA MINI POWER CENTER.
 - PROVIDE PRESSURE TRANSMITTER. RE-DETAIL C/E-2 PROVIDE POWER CIRCUIT AND J-BOX FOR PRESSURE TRANSMITTER HEAT TRACE.
 - PROVIDE NEW PUMP CONTROL PANEL FOR PUMPS.
 - PROVIDE 2-2" CONDUITS FROM ANTENNA DIRECTLY TO THE SCADA PANEL, ROUTING THROUGH WIREWAY IS NOT PERMITTED. PROVIDE A COAX CABLE IN ONE OF THE 2" CONDUIT, THE OTHER SHALL BE A SPARE.
 - PROVIDE 8"X8" WIREWAY ON RACK BELOW EQUIPMENT PER DETAILS, RE-E-5. THE ROUTING OF ANALOG SIGNAL THROUGH WIREWAY IS NOT PERMITTED.
 - PROVIDE SCADA PANEL PER DETAILS, RE-E-22 AND E-23.
 - PROVIDE MANUAL TRANSFER SWITCH WITH GENERATOR PLUG ASSEMBLY.
 - PROVIDE SUBMERSIBLE PRESSURE LEVEL TRANSDUCER AND J-BOX. INSTALL 1'-0" ABOVE BOTTOM OF WETWELL. ROUTE WIRE AND CONDUIT DIRECTLY TO PUMP CONTROL PANEL (PCP).
 - PROVIDE GROUNDING AND GROUND RODS, RE-B/E-5. (GROUNDING NOT SHOWN FOR CLARITY.)
 - PROVIDE ARC FLASH STUDY FOR LIFT STATION.
 - PROVIDE TELEPHONE LINE FROM RISER POLE TO EQUIPMENT RACK. RE-INSTALL AUTODIALER AND ALARM POINTS. PROVIDE NEMA 4X 316SS ENCLOSURE FOR AUTODIALER. AUTODIALER TO REMAIN IN SERVICE UNTIL SCADA SYSTEM HAS BEEN ACCEPTED AS FULLY OPERATIONAL.
 - PROVIDE J-BOX FOR CONNECTIONS TO SUBMERSIBLE PUMP POWER CABLE, MOISTURE SENSOR/OVERTEMP SWITCH ALARM AND HIGH LEVEL FLOAT CABLES.



REV. NO.	BY	DATE	REVISION DESCRIPTION
1	AL	11-01-11	Addendum J3



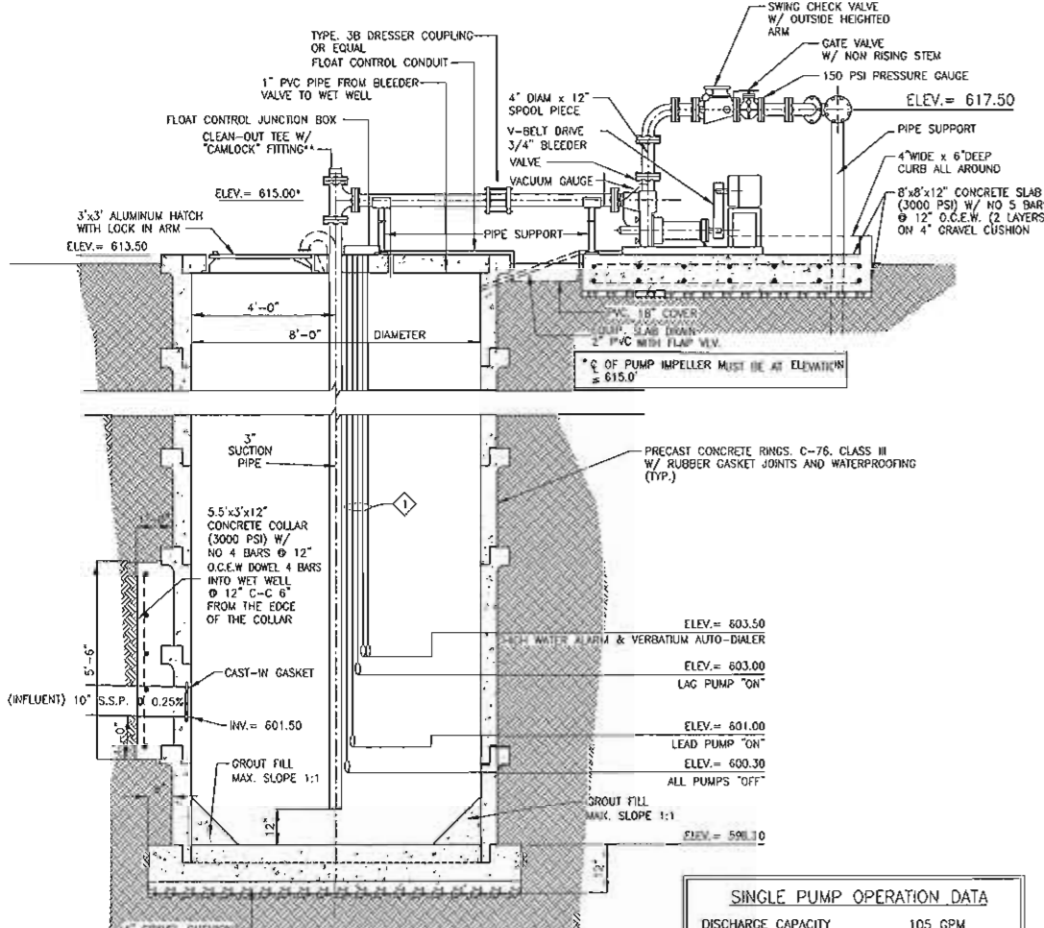
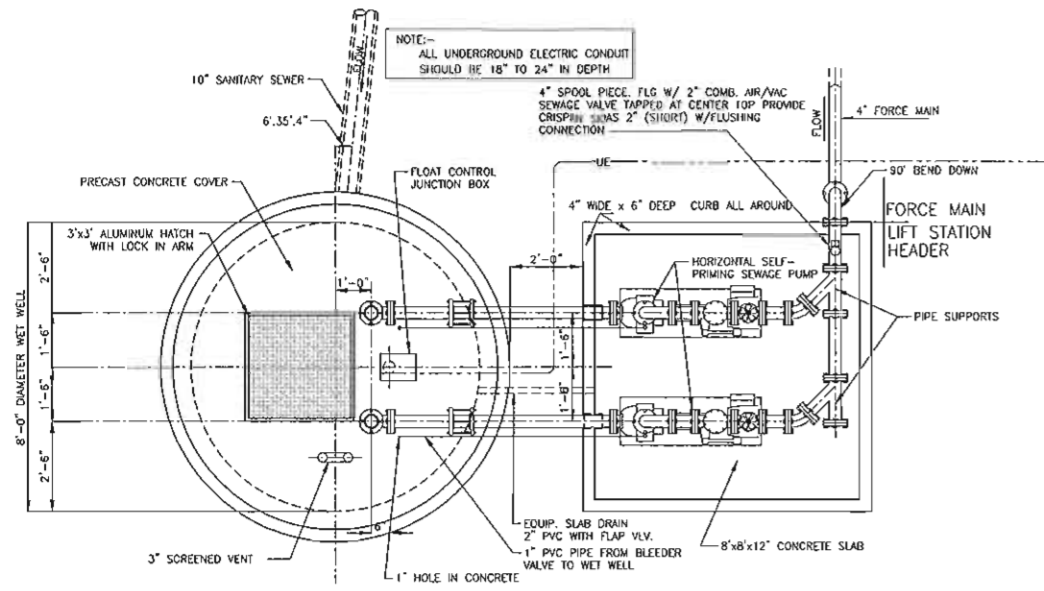
WESTON SOLUTIONS, INC.
 70 NE LOOP 410, SUITE 600
 SAN ANTONIO, TEXAS 78216-5642
 TEXAS REGISTERED ENGINEERING FIRM F-3123

WESTON
 CONSULTING ENGINEERS

LIFT STATIONS REHABILITATION DESIGN - PHASE 3
 LS# 205 CAROWINDS
 ELECTRICAL PLAN

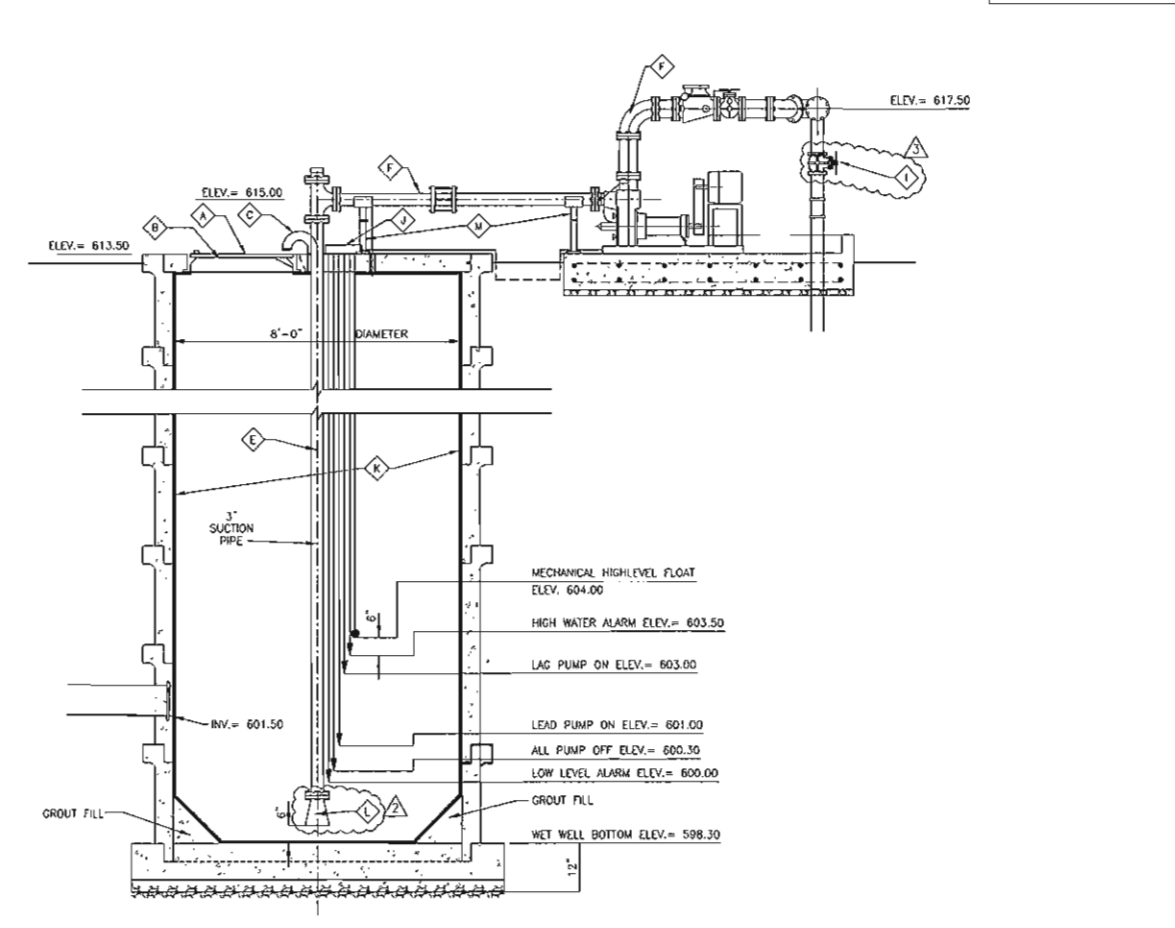
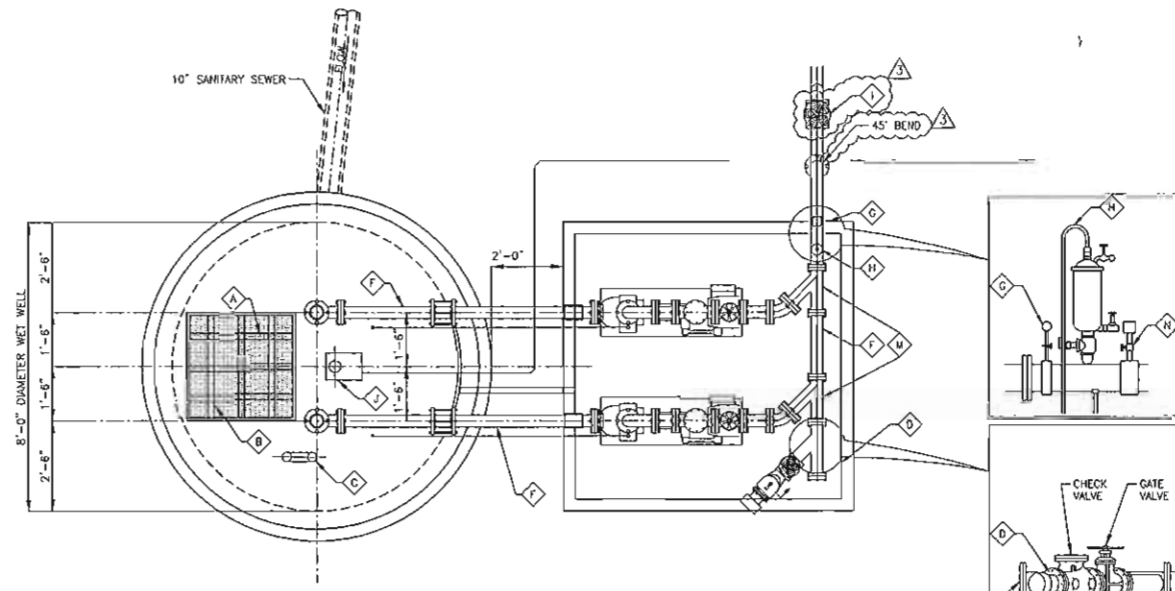


NOTES	INITIALS	DATE
DESIGNED BY	CC	11/01/11
REVIEWED BY	AL	11/01/11
SCALE:	AS SHOWN	
SHEET NO.	E-205-2	
	33 OF 143	



SINGLE PUMP OPERATION DATA	
DISCHARGE CAPACITY	105 GPM
TOTAL HEAD	27.5 FT
STATIC HEAD (MAX.)	17.2 FT
PUMP SPEED-VARIABLE	1000-1200 RPM
MINIMUM MOTOR BRAKE HP	2.0 BHP
MOTOR PHASE	3 PH
MOTOR VOLTAGE	210 V
MINIMUM PUMP EFFICIENCY	36 %
MAXIMUM VERTICAL PRIME	16.7 FT
NPSH AVAILABLE	15.0 FT

DEMOLITION PLAN
SCALE : 3/8" = 1'



PROPOSED MODIFICATIONS
SCALE : 3/8" = 1'

KEYED NOTES - DEMOLITION PLAN

◇ REMOVE FLOAT.

KEYED NOTES - PROPOSED MODIFICATIONS

◇ RETROFIT EXISTING ACCESS HATCH WITH SAFETY GRATE MADE OF ALUMINUM OR NON-CORROSIVE FIBER GLASS REINFORCED COMPOSITE MATERIAL FOR FALL PROTECTION AS PER ACCESS COVER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAIL 8 ON SHEET D-8.

◇ INSTALL NON-CORROSIVE LOCKING BAR ON WET WELL ACCESS HATCH COMPLETE WITH PADLOCK.

◇ INSTALL 316 STAINLESS STEEL INSECT SCREEN IN VENT.

◇ INSTALL AN EMERGENCY BYPASS CONNECTION COMPLETE WITH QUICK-DISCONNECT 4" STAINLESS STEEL MALE FITTING WITH DUST CAP, GATE VALVE AND CHECK VALVE.

◇ COAT AND PAINT PIPE AND FITTING INSIDE THE WET WELL.

◇ COAT AND PAINT PIPE, VALVES, AND FITTING OUTSIDE THE WET WELL.

◇ INSTALL PRESSURE GAUGE WITH ISOLATION BALL VALVE, MIN 4" DIAL, 5% ACCURACY, LIQUID FILLED. REFER TO DETAIL 9 ON SHEET D-8.

◇ INSTALL 2" AIR RELEASE VALVE AND PIPING ASSEMBLY. REFER TO DETAIL 3 ON SHEET D-8.

◇ INSTALL 4" GATE VALVE, RESILIENT WEDGE WITH FLANGED JOINTS ON FORCE MAIN. 4" GATE VALVE SHALL BE INSTALLED AFTER THE 45 DEGREE BEND.

◇ INSTALL 316 STAINLESS STEEL JUNCTION BOX FOR SUBMERSIBLE PRESSURE LEVEL TRANSMITTER AND FLOAT.

◇ COAT ALL INTERIOR CONCRETE SURFACE WITHIN THE WET WELL IN ACCORDANCE WITH THE SPECIFICATIONS.

◇ INSTALL 3" FLANGED FLARE.

◇ INSTALL 316 STAINLESS STEEL PIPE SUPPORT. REFER TO DETAIL 5 ON SHEET D-7.

◇ INSTALL PRESSURE TRANSMITTER WITH ISOLATION BALL VALVE.

NOTES

- EXISTING LIFT STATIONS SHOWN HERE BASED ON SAWS RECORD DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING DIMENSIONS AND EQUIPMENTS SHOWN HERE.
- PRIOR TO APPLICATION OF WET WELL COATING, CONTRACTOR SHALL REPAIR ANY WETWELL CRACKS; SEAL JOINTS AND PENETRATIONS; AND PREPARE THE SURFACE PER MANUFACTURER'S RECOMMENDATION. CONTRACTOR SHALL SUBMIT PROPOSED REPAIR METHODS FOR REVIEW AND APPROVAL. CONTRACTOR SHALL ENSURE ALL SUB-SURFACES ARE CLEAN AND FREE FROM LAFTANCE, LOOSE MATERIALS AND ALL EXISTING COATING AND LINING MATERIALS.
- CONTRACTOR SHALL SEAL SLEEVED OR CORED DISCHARGE PIPE OPENINGS WITH LINK SEAL OR APPROVED EQUAL REFER TO DETAIL 2 ON SHEET D-8.
- CONTRACTOR SHALL PROVIDE TEMPORARY BY-PASS PUMPING TO MAINTAIN WASTEWATER SERVICE DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT BYPASS PUMPING PLAN PER ITEM 864 OF THE SPECIFICATIONS.
- INSTALL ACCESS HATCH WITH MIN. 36"x48" CLEAR OPENING PROVIDED WITH A SAFETY GRATE MADE OF ALUMINUM OR REINFORCED FIBERGLASS MATERIAL FOR FALL PROTECTION.
- PIPE, VALVES, AND FITTINGS (EXCEPT 316 STAINLESS STEEL AND PVC) OUTSIDE THE WET WELL SHALL RECEIVE AFTER INSTALLATION A 100X SOLIDS EPOXY COATING SYSTEM WITH A TOP COAT SYSTEM OF URETHANE COLOR SHALL BE GREY PANTONE #431U. APPROVED MANUFACTURERS INCLUDE TNEEC, CARBOLINE, SHERWIN-WILLIAMS, PPG, AND M.A.B.PAINTS.
- PIPE, AND FITTINGS (EXCEPT 316 STAINLESS STEEL AND PVC) WITHIN THE WET WELL SHALL RECEIVE AFTER INSTALLATION A 100X SOLIDS COAL TAR EPOXY COATING SYSTEM. COLOR SHALL BE GREY PANTONE #431U. APPROVED MANUFACTURERS INCLUDE TNEEC, CARBOLINE, SHERWIN-WILLIAMS, PPG, AND M.A.B.PAINTS.
- CONTRACTOR SHALL SUBMIT PROPOSED DEMOLITION AND REMOVAL SCHEDULE FOR APPROVAL AND NOTIFY OWNER'S REPRESENTATIVE IN WRITING AT LEAST 48 HOURS BEFORE STARTING DEMOLITION. SUBMIT APPROVAL COPY OF CITY OF SAN ANTONIO DEMOLITION PERMIT PRIOR TO COMMENCEMENT OF DEMOLITION OPERATIONS.
- CONTRACTOR SHALL RETURN TO SAWS THE FOLLOWING EQUIPMENT AND MATERIALS: PUMPS, MOTORS, VALVES, PIPE, FITTINGS, CONTROLS AND ACCESSORIES.
- PIPES, VALVES AND FITTINGS INSIDE AND OUTSIDE WETWELL SHALL HAVE 316 STAINLESS STEEL BOLTS AND NUTS.

STATION OPERATION TABLE		
RISING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
600.30	PUMPS OFF LEVEL	ALL PUMPS ARE OFF
601.00	LEAD PUMP LEVEL	LEAD PUMP ON
603.00	LAG PUMP LEVEL	LEAD & LAG PUMPS ON
603.50	HIGH WATER ALARM LEVEL	HIGH WATER ALARM SOUND

FALLING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
603.00	LAG PUMP LEVEL	LEAD & LAG PUMPS ON ALARM TURNS OFF
601.00	LEAD PUMP LEVEL	LEAD & LAG PUMPS ON
600.30	ALL PUMPS OFF LEVEL	ALL PUMPS SWITCHES TO LEAD PUMP

REV. NO.	DATE	REVISION DESCRIPTION
1	11/01/11	ADDENDUM 3

WESTON SOLUTIONS, INC.
70 NE LOOP 410, SUITE 600
SAN ANTONIO, TEXAS 78216-5842

LIFT STATIONS REHABILITATION DESIGN - PHASE 3
LS# 245 - HARRIS MIDDLE SCHOOL
PLAN AND SECTION VIEW

San Antonio Water System

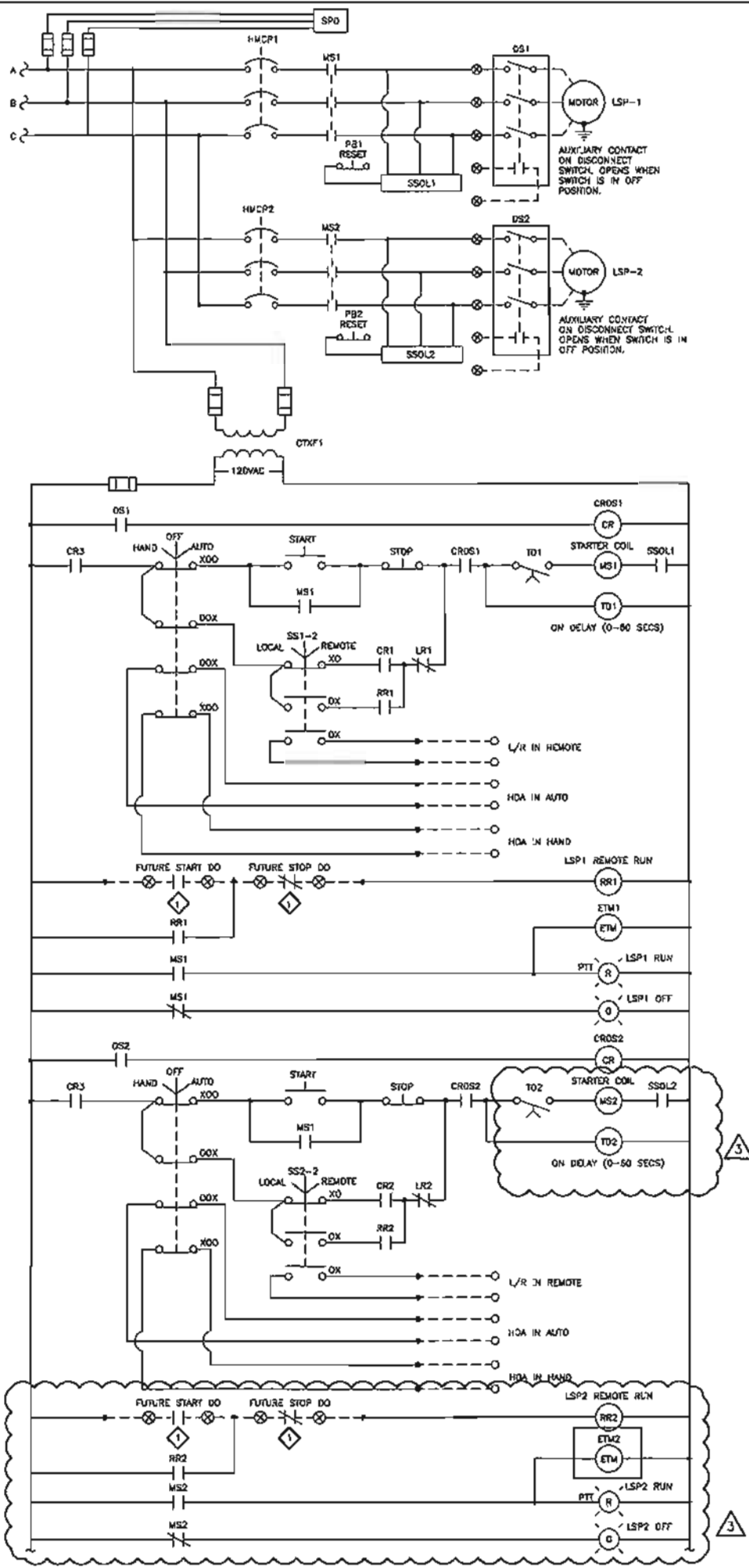
NOTES INITIALS DATE

DESIGNED BY AH 11/01/11

REVIEWED BY MRJ 11/01/11

SCALE: AS SHOWN

SHEET NO. C-245-2
67 OF 143



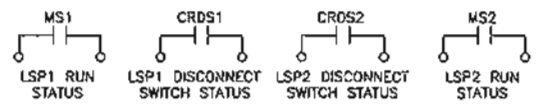
- NOTE:
1. SCHEMATIC IS TYPICAL FOR 240V 3PH AND 480 3PH.
 2. ENCLOSURE SHALL BE NEMA 4X SS 316.
 3. PROGRAM OUTPUT LC1, LC2 AND LC3 TO PROVIDE ALTERNATING CONTROL.
 4. PROGRAM LCA OUTPUT TO OPEN UPON EITHER LOSS OF POWER TO THE CONTROLLER OR OUT OF RANGE SIGNAL (LEVEL TRANSDUCER FAILURE).
 5. PFR IS FROM THE PHASE MONITOR CONTACT LOCATED ON THE LOAD SIDE OF THE MANUAL TRANSFER SWITCH.

GENERAL NOTE

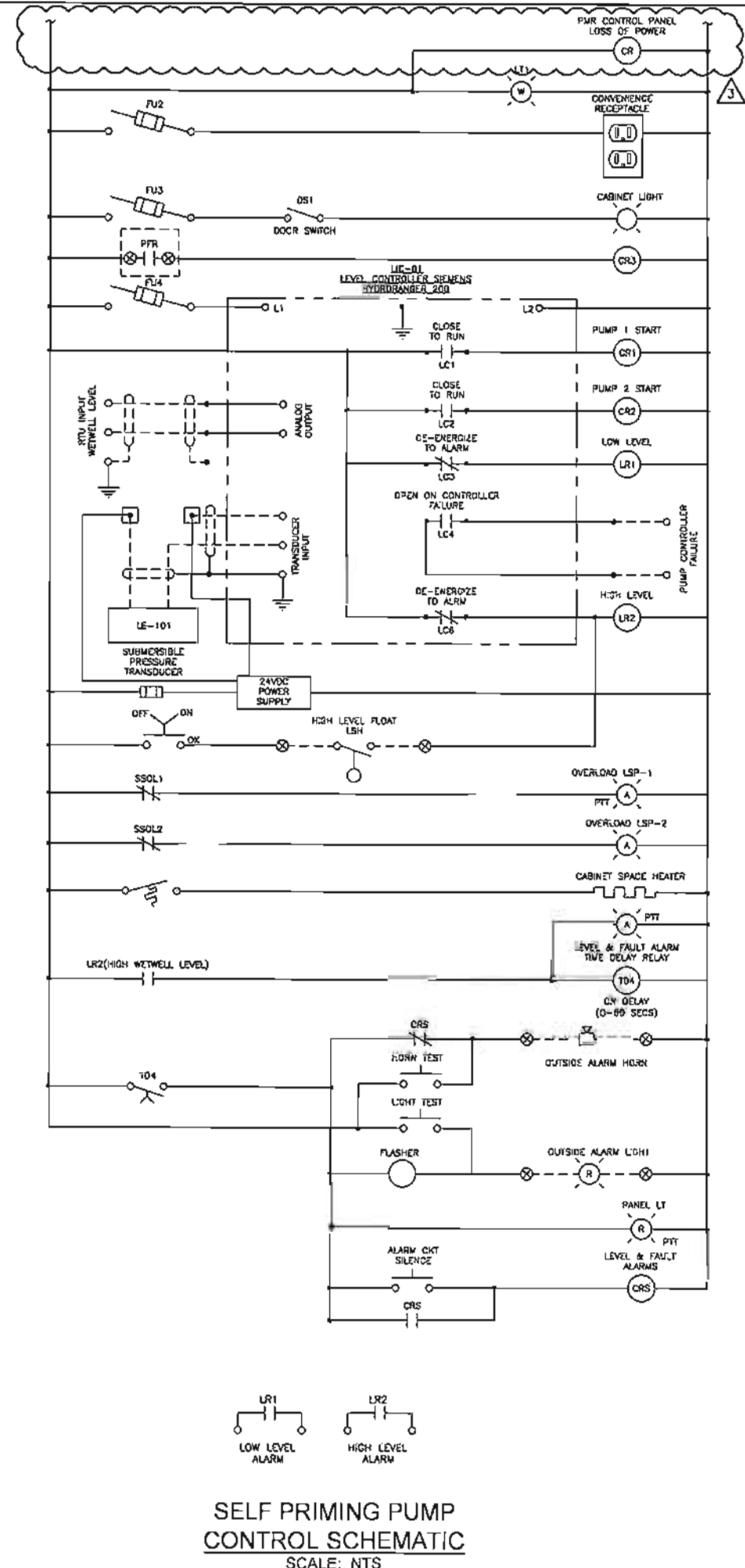
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING ALL PANEL DRAWING SCHEMATICS WITH WIRE NUMBERS FOR EACH DEVICE ACCORDINGLY.

KEYED NOTE

◇ PROVIDE TERMINAL BLOCKS AND INTERCONNECTING WIRING FOR FUTURE START AND STOP PLC OUTPUTS.



SELF PRIMING PUMP CONTROL SCHEMATIC
SCALE: NTS



SELF PRIMING PUMP CONTROL SCHEMATIC
SCALE: NTS



REV. NO.	BY	DATE	REVISION DESCRIPTION
1	AL	11-01-11	ADDENDUM #3



WESTON SOLUTIONS, INC.
70 NE LOOP 410, SUITE 600
SAN ANTONIO, TEXAS 78216-5542
TEXAS REGISTERED ENGINEERING FIRM F-3702

WESTON SOLUTIONS

LIFT STATIONS REHABILITATION DESIGN - PHASE 3

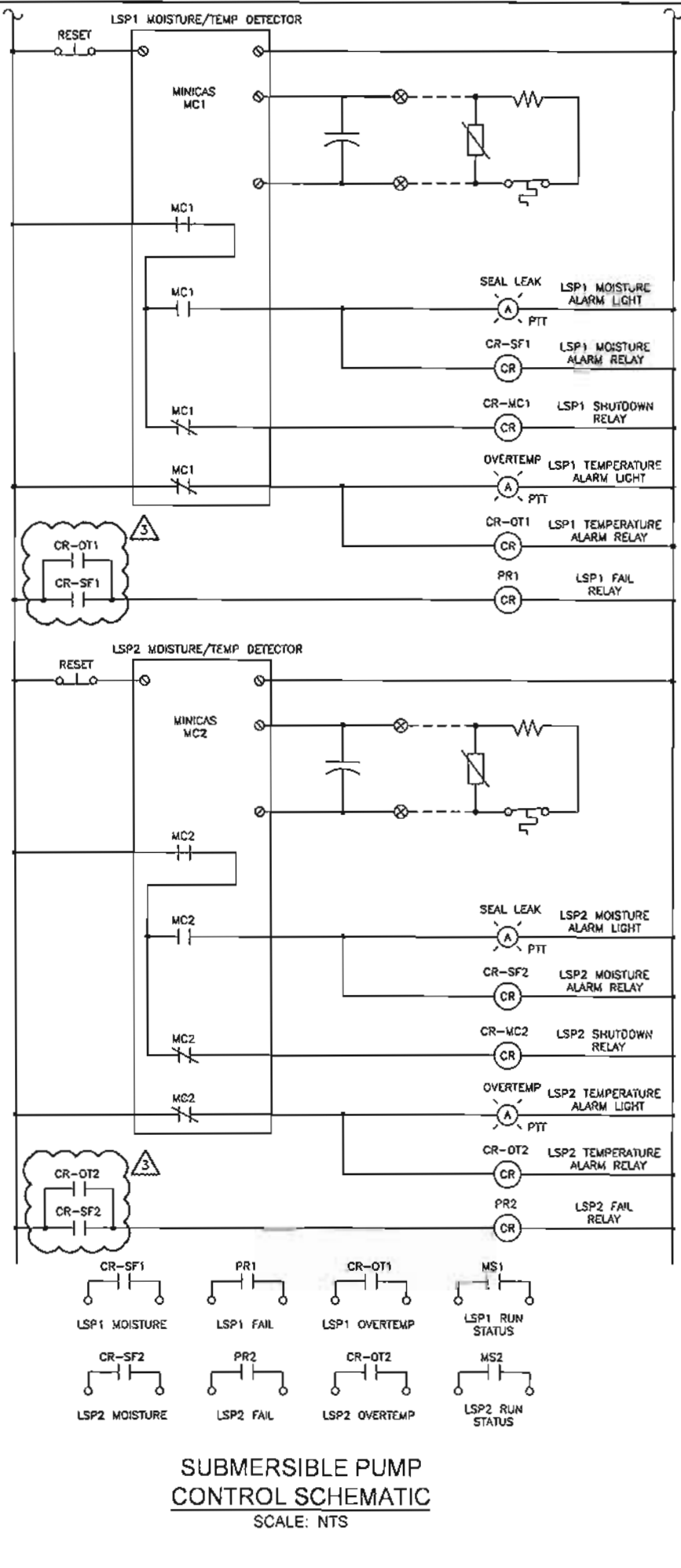
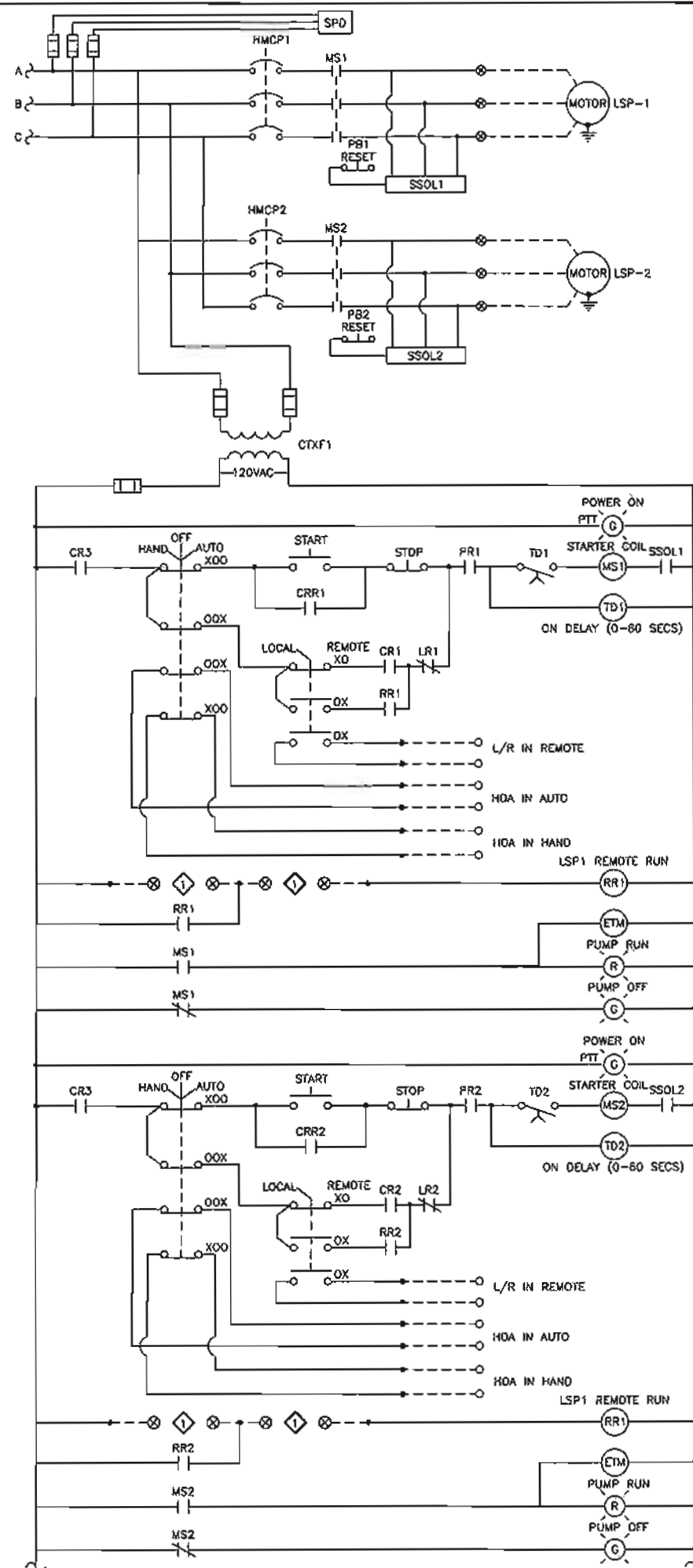
SELF PRIMING PUMP CONTROL SCHEMATIC

san Antonio water system

SAWS

JOB NO. 08-250-4

NOTES	INITIALS	DATE
DESIGNED BY	CC	11/01/11
REVIEWED BY	AL	11/01/11
SCALE:	AS SHOWN	
SHEET NO.	E-13	
	129 OF 143	



SUBMERSIBLE PUMP CONTROL SCHEMATIC
SCALE: NTS

- NOTE:
1. SCHEMATIC IS TYPICAL FOR 240V 3PH AND 480 3PH.
 2. PROGRAM OUTPUT LC1, LC2 AND LC3 TO PROVIDE ALTERNATING CONTROL.
 3. PROGRAM LC4 OUTPUT TO OPEN UPON EITHER LOSS OF POWER TO THE CONTROLLER OR OUT OF RANGE SIGNAL (LEVEL TRANSDUCER FAILURE)
 4. PFR IS FROM THE PHASE MONITOR CONTACT LOCATED ON THE LOAD SIDE OF THE MANUAL TRANSFER SWITCH.
 5. LEVEL SENSOR PROBES FOR PUMP CONTROL ARE NOT ALLOWED.
 6. THE ELECTRIC LOAD OF EACH INTERNAL DIGITAL RELAYS OF THE LEVEL CONTROLLER MUST BE LIMITED TO ONE MINATURE RELAY COIL.
 7. PANEL SHALL BE NEMA 4X 316 SS.

GENERAL NOTE

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING ALL PANEL DRAWING SCHEMATICS WITH WIRE NUMBERS FOR EACH DEVICE ACCORDINGLY.

KEYED NOTE

◇ PROVIDE TERMINAL BLOCKS AND INTERCONNECTING WIRING FOR FUTURE START AND STOP PLC OUTPUTS.



REV. NO.	DATE	BY	DESCRIPTION
1	11-01-11	AL	As shown #1



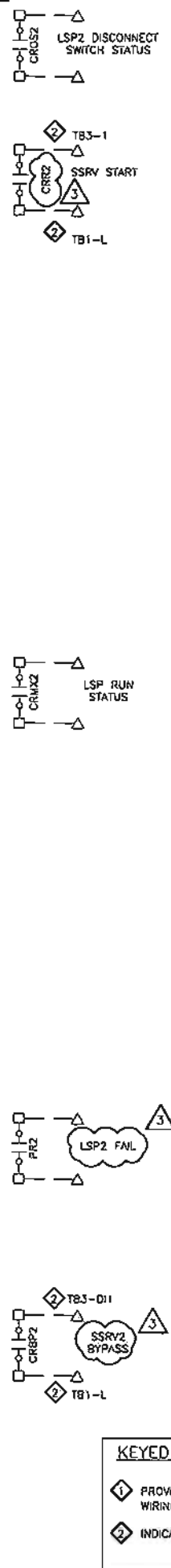
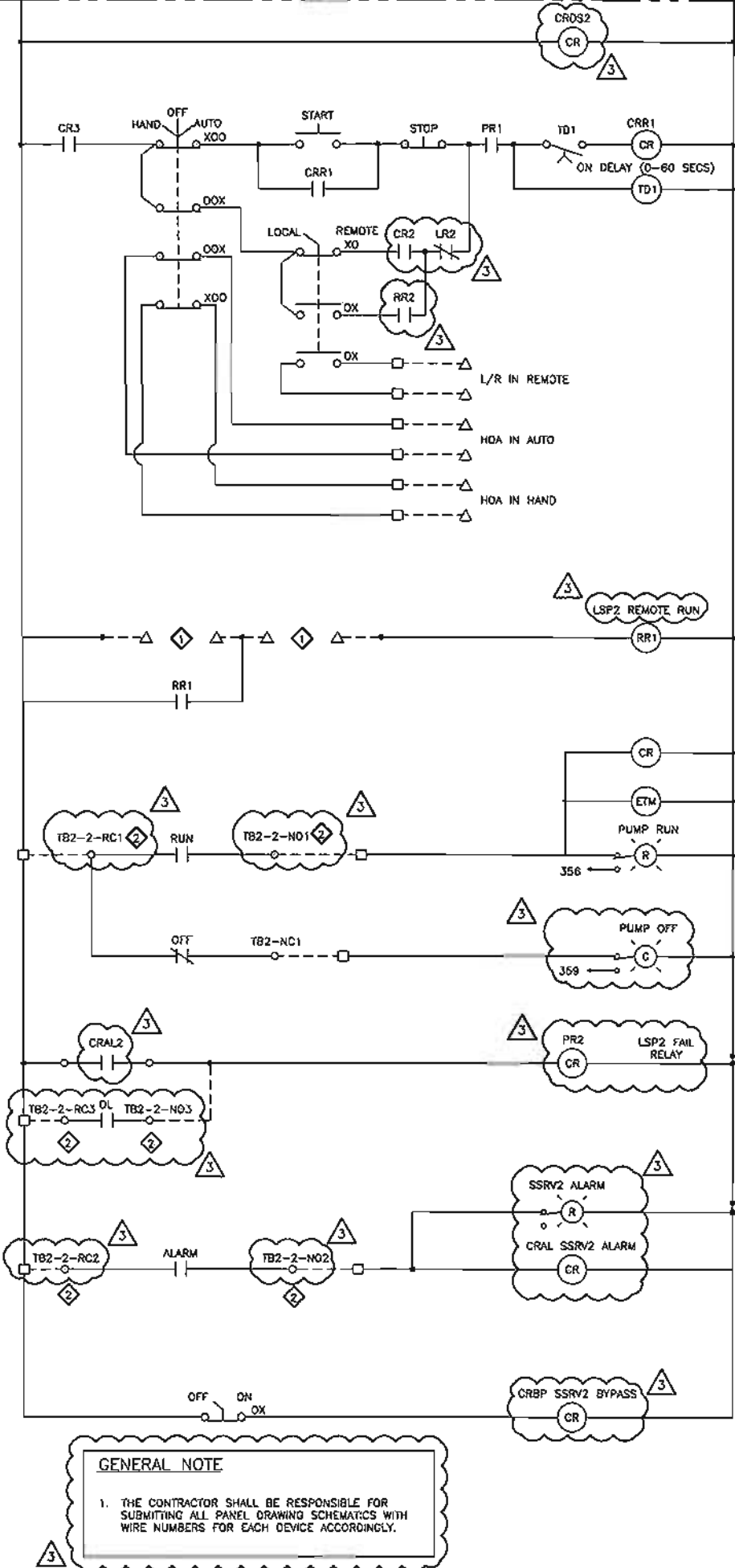
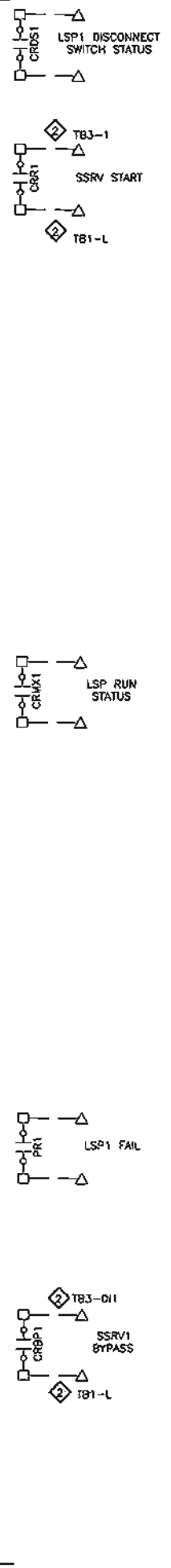
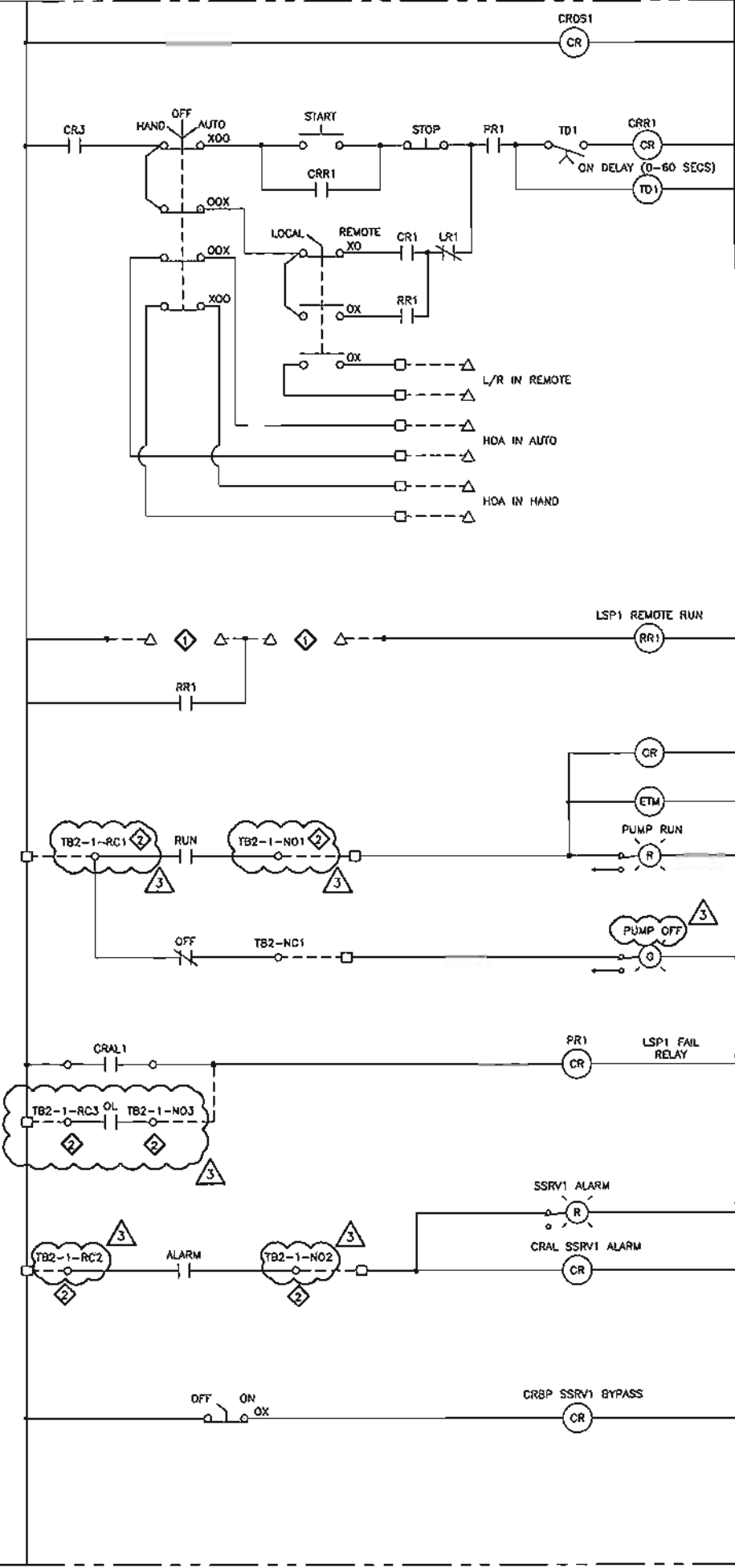
WESTON SOLUTIONS, INC.
70 NE LOOP 410, SUITE 600
SAN ANTONIO, TEXAS 78216-5842
TEXAS REGISTERED ENGINEERING FIRM F-3123

LIFT STATIONS REHABILITATION DESIGN - PHASE 3
SUBMERSIBLE PUMP CONTROL SCHEMATIC I



NOTES	INITIALS	DATE
DESIGNED BY	CC	10/07/11
REVIEWED BY	AL	10/07/11
SCALE:	AS SHOWN	
SHEET NO.	E-14	
	130 OF 143	

JOB NO. 08-2504



GENERAL NOTE

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING ALL PANEL DRAWING SCHEMATICS WITH WIRE NUMBERS FOR EACH DEVICE ACCORDINGLY.

KEYED NOTE

1 PROVIDE TERMINAL BLOCKS AND INTERCONNECTING WIRING FOR FUTURE START AND STOP PLC OUTPUTS.

2 INDICATES TERMINAL POINT ON SSRV MX2 CARD.



REV. NO.	BY	DATE	REVISION DESCRIPTION
1	AL	11-01-11	As per item 3



WESTON SOLUTIONS, INC.
 70 NE LOOP 410, SUITE 600
 SAN ANTONIO, TEXAS 78218-5847
 TEXAS REGISTERED ENGINEERING FIRM E-3123

LIFT STATIONS REHABILITATION DESIGN - PHASE 3
SELF PRIMING PUMP SSRV CONTROL SCHEMATIC II

san Antonio water system

CRW

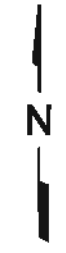
JOB NO. 08-2504

NOTES	INITIALS	DATE
DESIGNED BY	CC	10/07/11
REVIEWED BY	AL	10/07/11
SCALE:	AS SHOWN	
SHEET NO.	E-19	
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SITE LOCATION

SITE	SITE NAME
183	POTRANCO #2
178	SOUTHWEST MIDDLE SCHOOL
188	VALLEY HI
189	THREADNEEDLE
190	ALAMO DOME
205	CORALWINDS
207	WOOD GLEN
210	HORSESHOE BEND
211	VILLA ESPRANZA
228	SOUTHWEST HIGH SCHOOL
237	SHAENFIELD
239	SOUTHSIDE HIGH SCHOOL
245	HARRIS MIDDLE SCHOOL
252	HEIGHTS OF STONE OAK
253	PALO ALTO
257	RANCH AT IRON HOUSE
258	ALAMO RANCH
263	INDIAN SPRINGS
264	WESTWINDS
285	THE VILLAGE OF BULVERDE
270	CHAMPIONS RIDGE



REV. NO.	BY	DATE	REVISION DESCRIPTION
1	AL	11-01-11	Adopted



WESTON SOLUTIONS, INC.
 70 NE LOOP 410, SUITE 600
 SAN ANTONIO, TEXAS 78216-5842
 TEXAS REGISTERED ENGINEERING FIRM F-3123

LIFT STATIONS REHABILITATION DESIGN - PHASE 3

SYSTEM LAYOUT



NOTES	INITIALS	DATE
DESIGNED BY	CC	11/01/11
REVIEWED BY	AL	11/01/11

SCALE: AS SHOWN

SHEET NO. T-1
 140 OF 143

GENERAL NOTES FOR SCADA RF RADIO INSTALLATION

- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED RECOMMENDATIONS FOR SERVICE INTENDED. AS INTERPRETED BY THE ENGINEER. THE INSTALLATION OF ALL EQUIPMENT SHALL BE MADE BY EXPERIENCED CRAFTSMEN IN A NEAT, WORKMANLIKE MANNER. ALL MATERIALS, TOOLS, COSTS AND SERVICES NECESSARY TO COMPLETELY INSTALL THE WORK SHALL BE PROVIDED BY THE CONTRACTOR.
- WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. ALL WORK NOTED "N.I.C." OR "NOT IN CONTRACT" IS TO BE ACCOMPLISHED BY A DIFFERENT CONTRACTOR OR FURNISHED BY OWNER AND IS NOT TO BE PART OF THE CONSTRUCTION AGREEMENT.
- CONTRACTOR SHALL VERIFY CABLE LENGTHS BY FIELD MEASUREMENT BEFORE CUTTING OR PULLING OF CABLES.
- LOCATION OF DEVICES SHOWN IS APPROXIMATE. COORDINATE PLACEMENT WITH ALL OTHER EQUIPMENT AND SERVICE ON SITE. RADIO, EQUIPMENT, CABLE, AND ANTENNA SHALL NOT BE SUPPORTED BY, OR COME IN CONTACT WITH ANY OTHER SYSTEM OR SERVICE EXCEPT AS INDICATED HERE IN.
- "TYPICAL" OR "TYP" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS THE SAME OR REPRESENTATIVE FOR ALL SIMILAR CONDITIONS THROUGHOUT, UNLESS OTHERWISE NOTED.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, ORDINANCES AND STANDARDS HAVING JURISDICTION. IF THERE ARE ANY QUESTIONS OR CONFLICTS CONCERNING COMPLIANCE WITH SUCH CODES, REGULATIONS, ORDINANCES OR STANDARDS, THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER BEFORE PROCEEDING WITH THE WORK IN QUESTION.
- ALL NECESSARY PERMITS, LICENSES, CERTIFICATES, TEST, ECT SHALL BE PROCURED AND PAID FOR BY THE CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL CONTRACT DOCUMENTS, FIELD DIMENSIONS AND DIMENSIONS FOR ACCURACY AND CONFIRMING THE THE WORK IS BUILDABLE AS SHOWN AND MEETS ALL APPLICABLE CODES BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE ANY QUESTIONS, OBTAIN A CLARIFICATION FROM THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- SPECIFICATIONS ARE INCLUDED IN THE CONTRACT DOCUMENTS.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE USED AS AN INTEGRATED PACKAGE. ANY CONTRADICTIONS BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE IDENTIFIED BY THE CONTRACTOR FOR RESOLUTION BY THE ENGINEER. IN THE CASE OF NO RESOLUTION, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
- SITE DRAWINGS ARE BASED IN PART UPON INFORMATION FROM OTHERS. ALEXANDER UTILITY ENGINEERING CANNOT INSURE THE ACCURACY OF THE INFORMATION FURNISHED BY OTHERS. THOSE RELYING UPON THIS DRAWING SET ARE ADVISED TO OBTAIN VERIFICATION OF IT'S ACCURACY BEFORE APPLYING BEFORE APPLYING IT FOR ANY PURPOSE.
- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS BEFORE COMMENCING WORK. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS THAT ARISE DUE TO UNDOCUMENTED EXISTING CONDITIONS.
- CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF ALL REQUIRED OPENINGS WITH OWNER.
- LIST OF ACRONYMS: SAF - STORE AND FORWARD (REPEATER)
- ANTENNAS TO BE ORIENTED TOWARD REPEATER SITES LISTED. USE THE HIGHEST SIGNAL GAIN TO DETERMINE EXACT ORIENTATION.

SITE LOCATION / AZIMUTH TABLE

SITE	SITE NAME	LATITUDE	LONGITUDE	ANT. HEIGHT	AZIMUTH	POINTS TO
163	POTRANCO #2	29.43785 N	98.68106 W	40	147.4	DWYER
176	SOUTHWEST MIDDLE SCHOOL	29.32761 N	98.61887 W	40	331.4	DWYER
188	VALLEY HI	29.3778 N	98.64782 W	40	140.9	DWYER
189	THREADNEEDLE	29.38477 N	98.65244 W	40	142.3	DWYER
190	ALAMO DOME	29.42018 N	98.47923 W	40	353.1	HILDEBRAND
205	CORALWINDS	29.47779 N	98.88362 W	40	79.0	CALLAGHAN
207	WOOD GLEN	29.47301 N	98.6884 W	40	74.3	CALLAGHAN
210	HORSESHOE BEND	29.46998 N	98.59622 W	40	44.3	CALLAGHAN
211	VILLA ESPERANZA	29.39099 N	98.54151 W	40	29.7	HILDEBRAND
228	SOUTHWEST HIGH SCHOOL	29.30999 N	98.66698 W	40	21.6	DWYER
237	SHAENFIELD	29.52664 N	98.70297 W	40	15.9	HELOTES
239	SOUTHSIDE HIGH SCHOOL	29.24006 N	98.46945 W	40	305.1	DWYER
245	HARRIS MIDDLE SCHOOL	29.40052 N	98.50751 W	40	14.1	HILDEBRAND
252	HEIGHTS OF STONE OAK	29.67559 N	98.49304 W	40	70.3	INDIAN SPRINGS
253	PALO ALTO	29.3241 N	98.56841 W	40	298.0	DWYER
257	RANCH AT IRON HOUSE	29.5622 N	98.7057 W	40	42.9	HELOTES
258	ALAMO RANCH	29.4672 N	98.7264 W	40	137.8	DWYER
263	INDIAN SPRINGS	29.6809 N	98.4182 W	40	292.9	INDIAN SPRINGS
264	WESTWINDS	29.4848 N	98.7383 W	40	22.7	HELOTES
265	THE VILLAGE OF BULVERDE	29.672 N	98.42 W	40	316.8	INDIAN SPRINGS
270	CHAMPIONS RIDGE	29.6608 N	98.4827 W	40	51.0	INDIAN SPRINGS

CP&E REG. F-1741

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	A.	11-01-11	Adendum #3



WESTON SOLUTIONS, INC.
 70 NE LOOP 410, SUITE 600
 SAN ANTONIO, TEXAS 78216-5842
 TEXAS REGISTERED ENGINEERING FIRM F-3123

WESTON SOLUTIONS, INC.
 TEXAS REGISTERED ENGINEERING FIRM F-3123

LIFT STATIONS REHABILITATION DESIGN - PHASE 3

SYSTEM LAYOUT TABLE



NOTES	INITIALS	DATE
DESIGNED BY	CC	11/01/11
REVIEWED BY	AL	11/01/11
SCALE:	AS SHOWN	
SHEET NO.	T-2	
	141 OF 143	