



McMullen Tank Control Valve & Yard Piping Improvements
Solicitation Number: CO-00172-SM
Job No.: 18-6005

ADDENDUM 3
March 20, 2019

To Bidder 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 bid proposal.

RESPONSES TO QUESTIONS

1. **The Engineer stated that radio communications can be down at “each site” for 4 hours only. They could not elaborate on what that meant in their slideshow. One of their engineers said maybe give SAWS 4-hours notice prior to taking down communications, but could not elaborate and confirm what the 4 hours refers to in context of the radio communications?**

Communications to the EST can be interrupted no more than four hours at any one time and must be coordinated in advanced with SAWS. If multiple interruptions are required, each interruption is limited to no more than four hours and each one must be coordinated with SAWS individually. Please referenced Special Conditions for more information regarding any work requiring outages on the SCADA and radio systems.

2. **Plan sheet E-104- “All loose cables and wiring along tank ladder shall be placed inside new conduit”.**
 - a. **Does this include the existing antenna cable?**
 - b. **Will the antenna cable need to be replaced along with new connectors, grounding kit, etc. if ran in new conduit?**

No, the Yagi antenna, cable and mounting hardware is scheduled to be removed from the tank as part of the Broadband Phase 1 project. The current schedule for the Broadband Phase 1 demolition work is scheduled to be completed prior to the start of this project.

3. **Plan sheet E-104- “Relocate existing SAWS Antenna to new Unistrut. Existing angle orientation to remain.”**
 - a. **Where is the new location of the antenna in reference to the current location? Will the antenna be located at the same elevation?**
 - b. **Can a detail be provided for the antenna mounting?**
 - c. **Can the existing mounting hardware for the antenna be re-used, or will new mounting hardware be required?**

See response to Questions #2.

4. **Plan sheet E-06- Detail A “Existing PLC Panel” picture:**
 - a. **Existing polyphaser is mounted through the bottom of the cabinet and the antenna cable is connected to it on the outside of the panel. Can the existing polyphaser/coaxial jumper cable be relocated to a more weather resistant location in the panel and the existing penetration be sealed in the bottom of the panel?**
 - b. **Is the radio pictured currently in use?**

Photograph A on Sheet E-06 does show the “Existing PLC Panel”. It does show the polyphaser mounted on the bottom of the panel on the inside with the coax cable connecting to it from the bottom. However, there is no requirement to move polyphaser or coaxial jumper cable. The radio has been changed out to a Trio radio.

5. There are 2 separate Specification Section 16120 in the Contract Specifications with conflicting requirements for the single conductor wires. Section 16120 on page 344 states insulation to the THHN/THWN, however, Specification Section 16120 on page 417 calls for XHHW-2. Electrical drawings do not state which to use. Which set of specifications are we to use?

XHHW-2 is to be used. See Changes to Specifications.

6. Electrical drawing E-03 note 27 state ground rods to be 316 stainless steel, however specification section 16660 section 2.03 a state it to be copper clad. Which is correct?

Copper-clad ground rods are to be used. See changes to plans.

7. Scales on drawing E-04 for the Tank Plan and drawing E-05 are incorrect when comparing distance from the existing Switchrack to the storage tank and valve pad dimensions. Please verify that they should be 1/8"=2'0" and 3/8"=2'0" respectively and reissue.

The scale shown for the "Tank Plan" on Sheet E-04 (1/8"=1'0") and the scale shown for "Valve Pad Plan" on Sheet E-05 (3/8"=1'-0") are both incorrect. The correct nomenclature should be "NTS" for "Not To Scale". Those details are not based upon surveyed drawings and as such actual field dimensions are not necessarily displayed.

CHANGES TO SPECIFICATIONS

1. Specification Section 16120 2.01, remove and replace with the following language.

A. Conform to applicable requirements of

- a. UL 83
- b. ASTM Standards
- c. Federal Specification A-A-59544
- d. NFPA 70, Article 725

B. Conductor Type: Stranded Copper

C. Insulation: Type THHN/THWN 90°C. Allowable conductor ampacity shall be as listed for 75°C Temperature rating even for conductor with 90°C rated insulation.

D. No conductor smaller than #12 AWG shall be used.

2. Specification Section 16120 2.03.2, remove and replace with the following language.

No. 10 AWG and smaller: Solid Bare Copper or Stranded copper with, Type THHN/THWN, insulation

- a. A continuous white outer finish shall be used on all systems with a voltage of less than 150V between grounded and ungrounded conductors.
- b. A continuous gray outer finish shall be used on all systems with a voltage of 150V or higher between grounded and ungrounded conductors.

3. Remove Special Conditions in its entirety and replace with the revised version attached to this Addendum.

CHANGES TO THE PLANS

1. Remove and replace Plan E-03.

2. Remove and replace Plan E-04.

3. Remove and replace Plan E-05.

END OF ADDENDUM

This Addendum is seven (7) page(s) in its entirety.

This Addendum, including these three (3) pages, are seven (7) pages with attachments in its entirety.

Attachments:

Plan Sheet E-03

Plan Sheet E-04
Plan Sheet E-05
Special Conditions



ELECTRICAL GENERAL NOTES

- 1 THE NOTES CONTAINED ON THIS SHEET ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR WHEN WORKING IN THE FIELD, AND CONTAIN EXCERPTS FROM THE SPECIFICATION SECTIONS. HOWEVER THE CONTRACTOR IS HEREBY ADVISED THAT THE CONTRACT DOCUMENTS CONSIST OF BOTH THE DRAWINGS AND THE SPECIFICATIONS, AND THAT THE CONTRACTOR MUST COMPLY FULLY WITH BOTH THE BOUND DRAWINGS AND THE BOUND SPECIFICATIONS.
- 2 ALL EQUIPMENT WIRING, RACEWAYS, ETC. SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, LOCAL CODES, AND INDUSTRY STANDARDS (IE. UL, NEMA, IEEE, ANSI, ETC.) THE DRAWING NOTES AND DETAILS SHALL BE COMPLIED WITH IN ADDITION TO THE REQUIREMENTS IN THE SPECIFICATIONS. REFER TO EACH SPECIFICATION SECTION FOR SPECIFIC REQUIREMENTS.
- 3 ALL RACEWAY INSTALLATIONS SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. ALL EXPOSED RACEWAY SHALL BE INSTALLED PARALLEL TO BEAMS, CEILINGS, FLOORS AND WALLS. SEE SPECIFICATION ON RACEWAYS FOR ADDITIONAL REQUIREMENTS.
- 4 CONDUITS SHALL BE TERMINATED IN A NEAT MANNER AND STRICTLY IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWING DETAILS.
- 5 CONDUITS TERMINATED INTO ENCLOSURES SHALL BE PERPENDICULAR TO THE WALLS OF THE ENCLOSURE. THE USE OF SHORT SEALTIGHT ELBOW FITTINGS FOR SUCH TERMINATIONS WILL NOT BE PERMITTED.
- 6 ALL RACEWAY INSTALLATIONS, CROSSING EXPANSION JOINTS OR TRANSITIONS FROM BELOW GRADE TO EXPOSED ABOVE GRADE, SHALL HAVE EXPANSION OR EXPANSION/DEFLECTION TYPE FITTINGS AS SPECIFIED FOR THE APPLICATION. SEE THE DRAWINGS AND THE SPECIFICATION ON RACEWAYS FOR THE EXACT TYPE OF FITTING TO BE USED.
- 7 NO CONDUIT SMALLER THAN 3/4", NOR WIRE SMALLER THAN NO. 12 AWG, SHALL BE USED UNLESS SPECIFICALLY NOTED.
- 8 ALL UNDERGROUND SINGLE CONDUITS, AND DUCTBANKS OF MULTIPLE CONDUITS, SHALL BE RIGID PVC CONDUIT, ENCASED IN REINFORCED RED CONCRETE, AND THE CONCRETE DYED RED BEFORE PLACEMENT, AS SPECIFIED. MINIMUM SIZE SHALL BE 2 INCH. THE CONTRACTOR SHALL FIELD VERIFY THE ROUTING OF ALL EXISTING UNDERGROUND CONDUIT AND DUCTBANKS AND SHALL COORDINATE THE ROUTING OF NEW CONDUIT AND DUCTBANKS TO AVOID INTERFERENCE WITH EXISTING CONDUIT AND DUCTBANKS AND OTHER UNDERGROUND UTILITIES.
- 9 ALL CHANGES OF DIRECTION GREATER THAN 20 DEGREES IN UNDERGROUND SINGLE, OR DUCTBANKS OF MULTIPLE CONDUITS, SHALL BE ACCOMPLISHED USING PVC COATED RIGID ALUMINUM LONG RADIUS BENDS, BENDS OF PVC CONDUIT GREATER THAN 20 DEGREES, OR THE USE OF FLEXIBLE CONDUIT OF ANY TYPE, WILL NOT BE PERMITTED. SEE THE SPECIFICATIONS FOR MORE REQUIREMENTS.
- 10 LIQUID TIGHT FLEXIBLE ALUMINUM CONDUIT SHALL BE USED FOR THE PRIMARY AND SECONDARY OF TRANSFORMERS, GENERATOR TERMINATIONS AND OTHER EQUIPMENT WHERE VIBRATION IS PRESENT. USE IN OTHER LOCATIONS IS NOT PERMITTED, EXCEPT FOR CONNECTIONS TO INSTRUMENTATION TRANSMITTERS, WHERE MULTIPLE PENETRATIONS ARE REQUIRED. LIQUID TIGHT FLEXIBLE ALUMINUM CONDUIT SHALL HAVE A MAXIMUM LENGTH NOT GREATER THAN THAT OF A FACTORY MANUFACTURED LONG RADIUS ELBOW OF THE CONDUIT SIZE BEING USED. THE MAXIMUM BENDING RADIUS SHALL NOT BE LESS THAN THAT SHOWN IN THE NEC CHAPTER 9, TABLE 2, "OTHER BENDS". BX OR AC TYPE PREFABRICATED CABLES WILL NOT BE PERMITTED.
- 11 THE WIRING DIAGRAMS, BLOCK DIAGRAMS, QUANTITY, SIZE OF WIRES, AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY APPROVED. ALL MODIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFIED.
- 12 FOR ALL JUNCTION BOXES, PULL BOXES AND TERMINATION BOXES IN THE RACEWAY SYSTEM IN NEMA 12 AREAS, BOXES SHALL BE OF ALUMINUM. FOR NEMA 4X AREAS SEE SECTION 16110 FOR BOX DETAILS AND SPECIFICATIONS.
- 13 WHERE RACEWAYS ENTER JUNCTION BOXES OR CONTROL PANELS CONTAINING ELECTRICAL OR INSTRUMENTATION EQUIPMENT, ALL ENTRANCES SHALL BE SEALED WITH WATERTIGHT SEALANT. REFER TO THE SPECIFICATIONS FOR DETAILS.
- 14 ALL EQUIPMENT AND ELECTRICAL EQUIPMENT ENCLOSURE LOCATIONS, OR TERMINAL BOX LOCATIONS, ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER/ENGINEER, DURING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
- 15 ALL EQUIPMENT AND ELECTRICAL EQUIPMENT ENCLOSURES DIMENSIONS ARE APPROXIMATE. ALL EQUIPMENT AND ELECTRICAL EQUIPMENT ENCLOSURES OR TERMINAL BOX DIMENSIONS SHALL BE VERIFIED WITH THE EQUIPMENT SUPPLIER. ALLOW FOR LOCATION CHANGES AND INCLUDE IN THE CONTRACT PRICE. THE EXACT LOCATIONS OF ALL ELECTRICAL EQUIPMENT AND ROUTING OF ALL CABLES AND CONDUITS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER ENGINEER DURING CONSTRUCTION.
- 16 CORING OF AN EXISTING STRUCTURE SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER/ENGINEER. CORING THROUGH STRUCTURAL BEAMS IS STRICTLY PROHIBITED, WITHOUT PRIOR WRITTEN APPROVAL FROM THE OWNER/ENGINEER.
- 17 THE LOCATION OF ALL ELECTRICAL EQUIPMENT AND ROUTING OF CABLES AND CONDUITS SHALL BE COORDINATED AND APPROVED BY THE OWNER.
- 18 THE DUCTBANK ROUTING AS SHOWN ON THE DRAWING IS APPROXIMATE. THE EXACT DUCTBANK ROUTING, CABLE LENGTH AND CONDUIT LENGTH SHALL BE VERIFIED IN THE FIELD.

- 19 PROVIDE CONDUIT SEALS FOR CONDUIT PENETRATIONS. SEE SECTION 16110 FOR DETAILS.
- 20 THIS IS AN OPERATING FACILITY. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER.
- 21 THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE ALL UNDERGROUND UTILITIES BEFORE DIGGING. CONTRACTOR SHALL COORDINATE THE EFFORT WITH THE OWNER.
- 22 ALL SLOTTED CHANNEL, SLOTTED CHANNEL SUPPORT MATERIAL, WASHERS, SCREWS, NUTS, CONDUIT CLAMPS, ALL THREAD SPRING NUTS AND MISC. MOUNTING HARDWARE SHALL BE 316 STAINLESS STEEL.
- 23 LIGHTING FIXTURES SHALL BE MOUNTED ACCORDING TO THE MOUNTING HEIGHT GIVEN ON THE DRAWINGS. THE MOUNTING HEIGHT SHALL BE MEASURED FROM THE BOTTOM OF THE LIGHTING FIXTURE TO THE FINISHED FLOOR.
- 24 CONDUIT AND WIRE (NOT SHOWN) FOR THE HVAC CONTROL EQUIPMENT AND MISCELLANEOUS DEVICES SHALL BE FURNISHED AND INSTALLED UNDER THE HVAC SPECIFICATIONS AND SHALL BE:
 - A. 3/4" (MIN) RIGID ALUMINUM.
 - B. NO.14 XHHW CU. WIRE XHHW (MIN.) NUMBER OF WIRES AS REQUIRED.
 - C. IN ACCORDANCE WITH ALL DIVISION 16 REQUIREMENTS.
- 25 ALL CONDUITS AND WIRES SHOWN ON THE INTERFACE DIAGRAM SHALL BE INSTALLED BY THE CONTRACTOR. GROUPING OF CONDUIT AND WIRE MAY BE CHANGED, IF APPROVED BY THE ENGINEER AND OWNER.
- 26 ALL CONDULETS SHALL BE FORM 7 AND SHALL HAVE 316 SS CLAMP COVERS WITH 316 SS CLAMPS AND SCREWS. SCREW DOWN COVERS ARE UNACCEPTABLE. REFER TO THE SPECIFICATIONS FOR MORE INFORMATION.
- 27 ALL BARE COPPER GROUNDING CONDUCTORS SHALL BE TINNED, ALL GROUND RODS SHALL BE COPPER-CLAD STEEL, 3/4" BY 10' LONG. ALL EXPOSED COPPER GROUND CABLES SHALL BE GREEN INSULATED CONDUCTORS. PROVIDE XHHW INSULATION.
- 28 WHERE NOTES ON THE DRAWING INDICATE THAT THE CONTRACTOR SHALL FIELD-VERIFY, THE INTENT IS FOR THE CONTRACTOR TO INVESTIGATE TO THE EXTENT NECESSARY TO PROVIDE THE WORK AND MATERIALS PRIOR TO BIDDING AND INCLUDE ALL COSTS IN THE BID PRICE. THE CONTRACT PRICE SHALL NOT BE INCREASED WHEN THE CONTRACTOR HAS NOT INVESTIGATED PER THE NOTES DIRECTING THAT BE DONE.

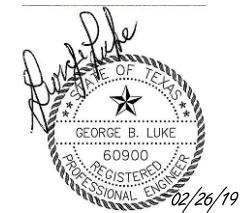
TYPICAL ENCLOSURE TYPES BY AREA TYPE						
NON-HAZARDOUS AREAS	BOXES & ENCLOSURES					CONDUIT
	1	3R	4X	4X*	12	
OUTDOOR; GENERAL AREAS		X	X			RIGID ALUMINUM
OUTDOOR; CHEMICAL AREAS				X		SCHEDULE 80 PVC
INDOOR; CHEMICAL ROOM				X		SCHEDULE 80 PVC
INDOOR; CONDITIONED SPACE					X	RIGID ALUMINUM
INDOOR; NON-CONDITIONED SHOP SPACE					X	RIGID ALUMINUM
INDOOR; NON-CONDITIONED PROCESS AREA			X			RIGID ALUMINUM
INDOOR, ADMIN BUILDING	X					EMT/RIGID ALUMINUM
CLASS I, DIVISION 1	REFER TO NEC, NFPA-820, AND CONTRACT CONSTRUCTION SPECIFICATIONS					
CLASS I, DIVISION 2	REFER TO NEC, NFPA-820, AND CONTRACT CONSTRUCTION SPECIFICATIONS					
GENERAL NOTES:						
<ul style="list-style-type: none"> EQUIPMENT SUCH AS MOTOR CONTROL CENTER, SWITCHGEAR, VFDS, AND OTHER STAND-ALONE MOTOR STARTERS ARE TO BE SPECIFIED UNIQUELY. NEMA 1 ENCLOSURES ARE TO BE NEMA 1 GASKETED. NEMA 4X* ENCLOSURES ARE TO BE NON-METALLIC (ie PVC) NEMA 4X CONDUIT INSIDE ADMIN BUILDING LOCATION IS TO BE EMT IF CONCEALED IN DRY WALL (AKA SHEET ROCK WALL); OTHERWISE RIGID ALUMINUM. OUTDOOR GENERAL AREAS COULD BE 3R OR 4X DEPENDING ON OWNER PREFERENCE AND WHETHER WTP OR WWTP - REFER TO DRAWINGS. 						

CONDUIT TYPE	LOCATION
RIGID GALVANIZED CONDUIT	NOT ACCEPTABLE FOR USE ON THIS PROJECT
PVC COATED ALUMINUM CONDUIT	ALL EMBEDDED CONDUIT BENDS, UNDERGROUND DUCTBANK OF MORE THAN 20 DEGREES, AND ALL CONDUIT STUB-UPS TO A MINIMUM OF 6" ABOVE FINISHED FLOOR OR GRADE AND IN CHLORINE AND CAUSTIC ROOMS.
LIQUID TIGHT FLEXIBLE ALUMINUM CONDUIT	RACEWAY CONNECTION TO VIBRATING EQUIPMENT ONLY, IN ALL AREAS.
RIGID NON-METALLIC, SCHEDULE 40 PVC CONDUIT	UNDERGROUND ENCASED IN RED DYE REINFORCED CONCRETE.
RIGID NON-METALLIC, SCHEDULE 80 PVC CONDUIT	FOR USE IN CHLORINE AND CAUSTIC ROOMS.
FLEXIBLE ALUMINUM CONDUIT	FIXTURE WHIP CONNECTION TO LIGHTING FIXTURES IN NEMA 12 AREAS (MAXIMUM 3-FT). BX OR AC TYPE PREFABRICATED CABLES ARE NOT PERMITTED.
ALUMINUM RIGID METAL CONDUIT	ALL ABOVE GRADE AREAS, EXCEPT FOR CONCRETE EMBEDDED AND THOSE AREAS ALREADY DESCRIBED IN THIS TABLE

\$TIMES

\$DATES

\$FILES



NOTES

1. DUE TO FEDERAL REGULATION TITLE 49, PART 92.181 CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES ADJACENT TO THE WORK AREAS.
3. THE CONTRACTOR WILL HAVE RESPONSIBILITY TO PROTECT AND SUPPORT CABLE TV AND TELEPHONE COMPANY PLANT DURING CONSTRUCTION.
4. THE EXISTENCE AND LOCATION OF UTILITIES INDICATED ON THE PLAN ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED TO BE ACCURATE.

11550 IH 10 WEST, STE. 350 SAN ANTONIO, TX 78230
(210) 366-1988 TBPE No. F-333

1	ADDENDUM NO.3	SAH	GBL	03/19/19			
No.	Revision	Drawn	Approved	Date			

REVISIONS

McMULLEN TANK CONTROL VALVE AND YARD PIPING IMPROVEMENTS

ELECTRICAL GENERAL NOTES

MAP No. 140568	Compkey	SHEET E-03
SECT. No.	JOB No.	OF 7
DR. SL	CK. GBL	18-6005

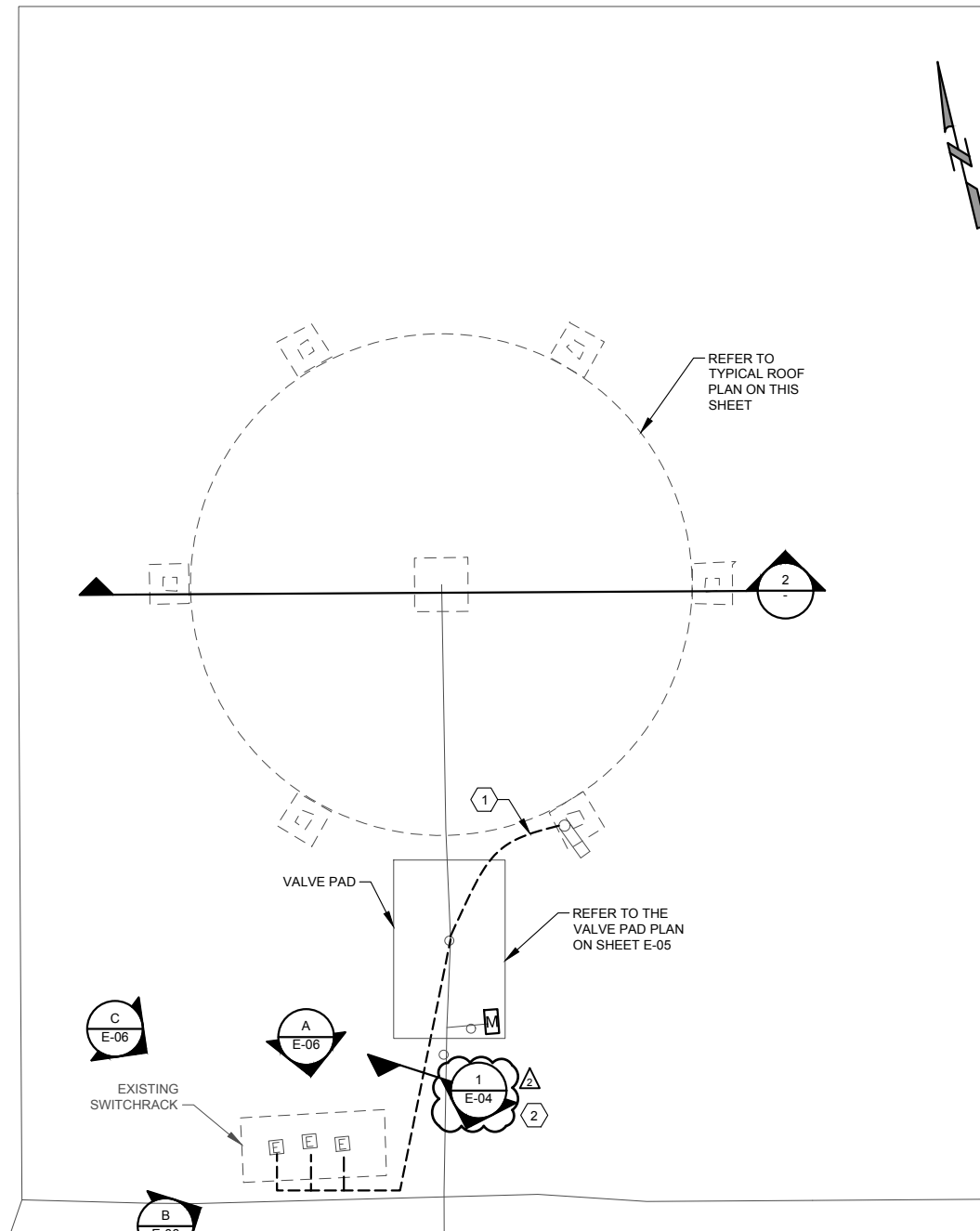
GAI

Gupta & Associates, Inc. 13717 Neutron Road
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Tel: 972-490-7661
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Registration No. F-2593 email: vkgupta@gaiconsulting.com

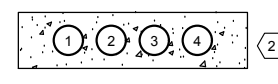
STIMES

SDATES

SFILES



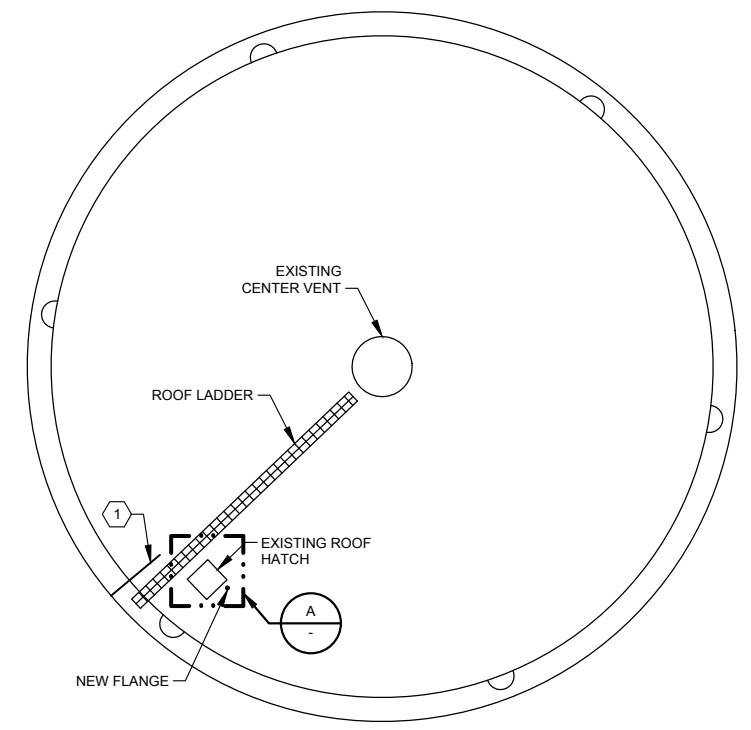
TANK PLAN NTS



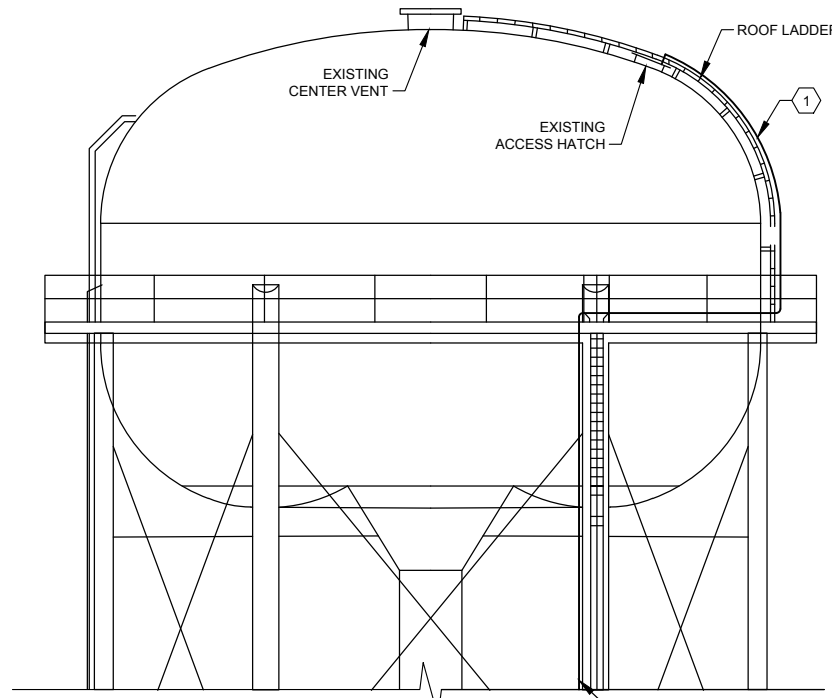
DUCTBANK SECTION 1

TABLE FOR SECTION 1

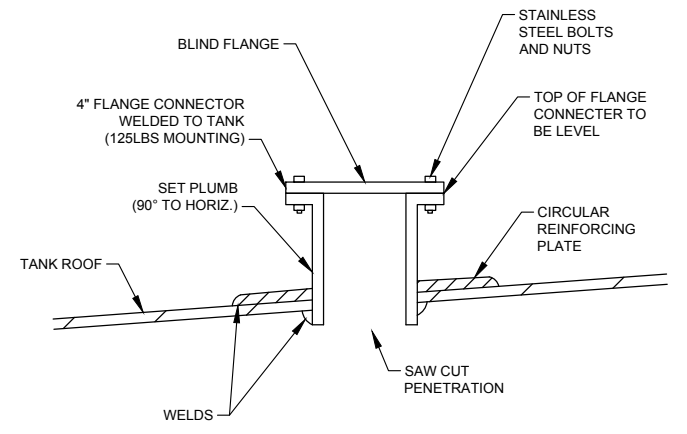
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	P-101	2" C	VAULT HEAT TRACE
2	C-101	2" C	LEVEL PROBE CABLES
3	C-102	2" C	ALTITUDE VALVE CONTROL
4	C-103	2" C	ALTITUDE VALVE SCADA



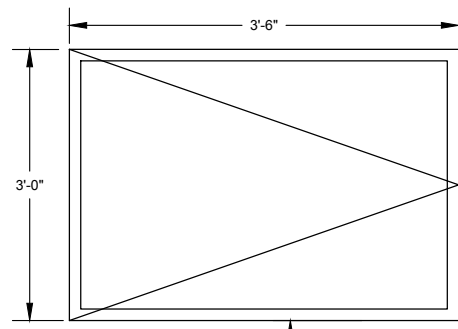
TYPICAL ROOF PLAN NTS



TYPICAL TANK BOWL SECTION 2



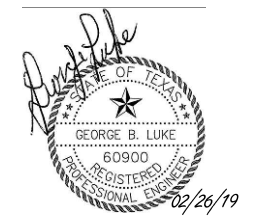
SENSOR FLANGE DETAIL B



4" LEVEL ELECTRODE FLANGE OUTLET DETAIL A

ROOF HATCH DETAIL A

- NOTES:
- 1 C-101 CONTINUES TO TANK AND UP TO LEVEL PROBES.
 - 2 FIELD COORDINATE CONDUIT ROUTING WITH FINAL LOCATION OF NEW VALVE PAD.



- NOTES
- DUE TO FEDERAL REGULATION TITLE 49, PART 92.181 CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
 - THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES ADJACENT TO THE WORK AREAS.
 - THE CONTRACTOR WILL HAVE RESPONSIBILITY TO PROTECT AND SUPPORT CABLE TV AND TELEPHONE COMPANY PLANT DURING CONSTRUCTION.
 - THE EXISTENCE AND LOCATION OF UTILITIES INDICATED ON THE PLAN ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED TO BE ACCURATE.

MAESTAS
11550 IH 10 WEST, STE. 350 SAN ANTONIO, TX 78230
(210) 366-1988 TBPE No. F-333

No.	Revision	Drawn	Approved	Date
2	ADDENDUM NO.3	SAH	GBL	03/19/19
1	ADDENDUM NO.1	SAH	GBL	03/19/19

REVISIONS

McMULLEN TANK CONTROL VALVE AND YARD PIPING IMPROVEMENTS

OVERALL SITE PLAN AND DETAILS

GAI
Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593

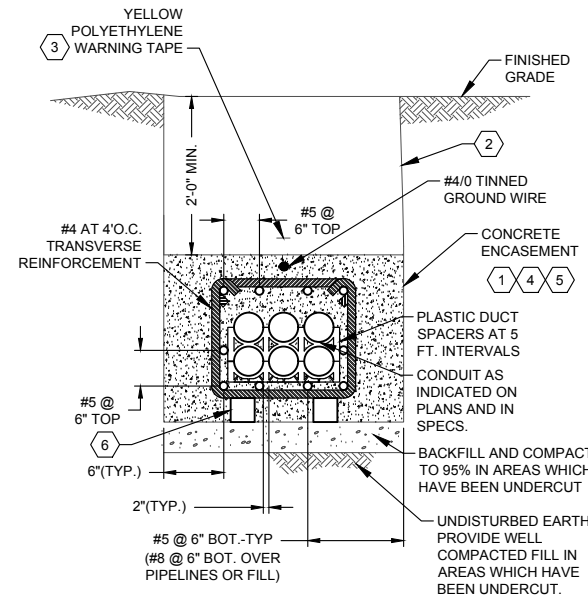
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MAP No. 140568	Compkey	SHEET E-04
SECT. No.	JOB No.	Of 7
DR. SL CK. GBL	18-6005	

\$DSTATES

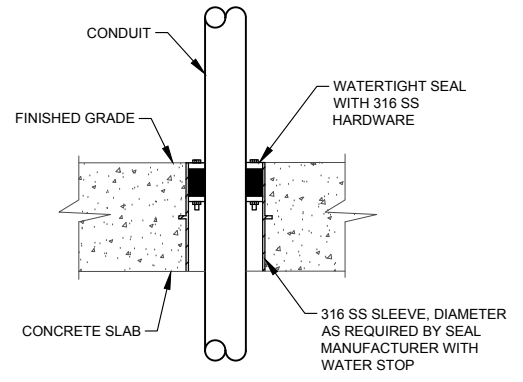
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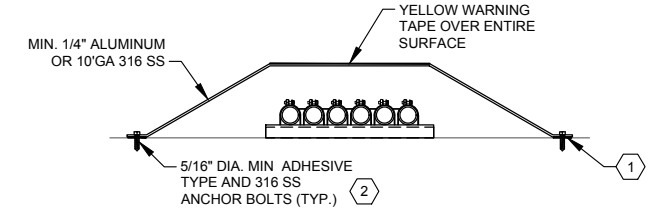


REINFORCED CONCRETE
ENCASED CONDUIT DUCTBANK
DETAIL A
NTS

- NOTES:
- 1 PROVIDE MIN. 3 INCHES CONCRETE COVER OVER AND UNDER REINFORCEMENT CAGE AND 6 INCHES ON EACH SIDE.
 - 2 SELECT FILL TO A MINIMUM OF 2 FT. ABOVE DUCTBANK TOP 6" TO BE TOPSOIL. COMPACT ALL BACKFILL IN 4 IN. LIFTS TO 90 PERCENT OF STANDARD PROCTOR (ASTM D 698) DENSITY, UNLESS UNDER EXISTING OR PROPOSED PAVEMENT, OTHER UNDERGROUND UTILITIES, OR STRUCTURES. IF DUCT BANK IS UNDER EXISTING OR PROPOSED PAVEMENT, OTHER UNDERGROUND UTILITIES, OR STRUCTURES, COMPACT ALL BACKFILL IN 8 IN. LIFTS TO 95 PERCENT OF STANDARD PROCTOR DENSITY.
 - 3 REFER TO SPEC SECTION 16600 FOR ADDITIONAL REQUIREMENTS.
 - 4 REFER TO CONCRETE SPECIFICATIONS FOR MIX DESIGN.
 - 5 RED DYE TO BE MIXED IN CONCRETE BEFORE PLACEMENT.
 - 6 3"x3" CMU BLOCK TWO ON EACH SIDE MINIMUM TO SUPPORT REBAR CASE PLACED 5'-0" ON CENTER.

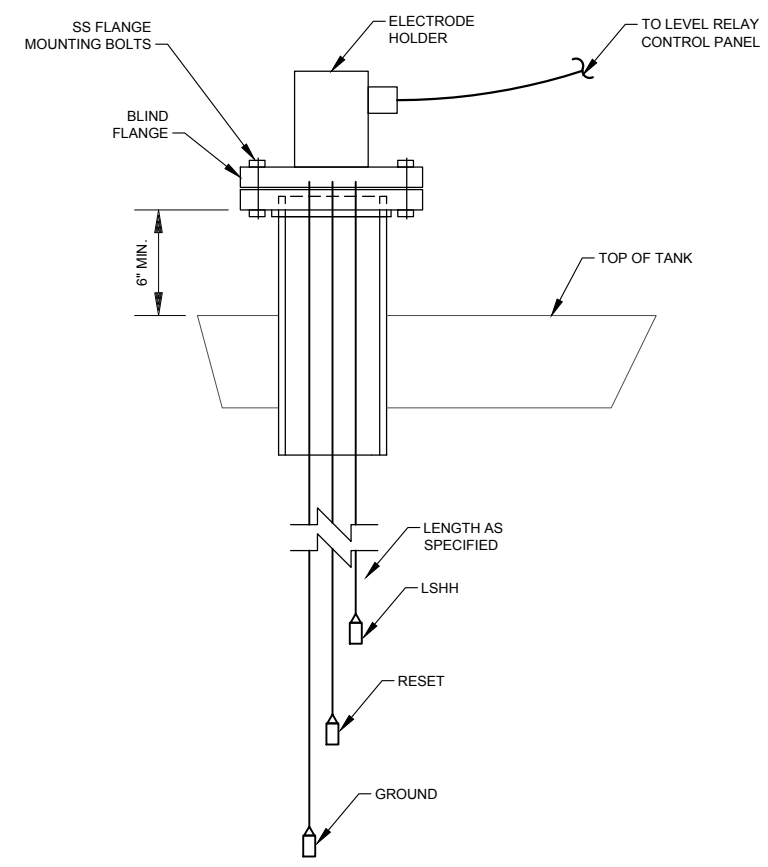


NEW CONSTRUCTION CONCRETE SLAB -
WATERING CONDUIT PENETRATION
DETAIL B
NTS

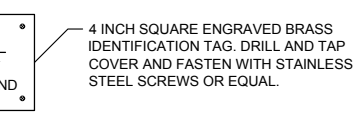
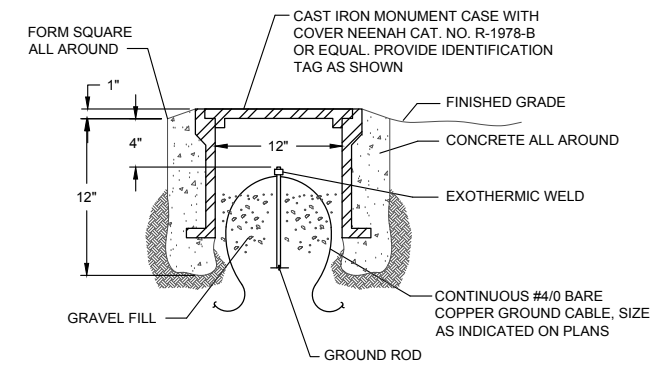


CONDUIT COVER
DETAIL C
NTS

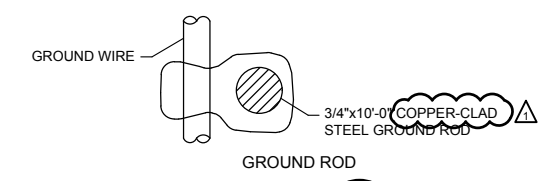
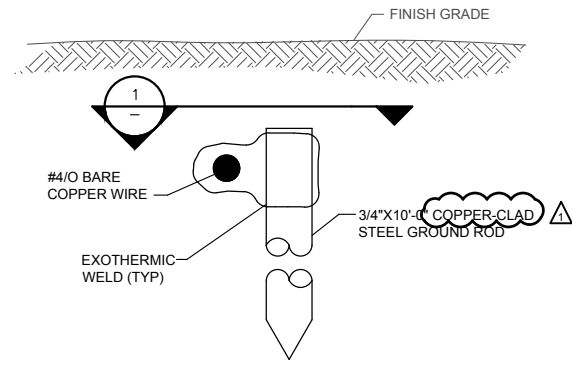
- NOTES:
- 1 PROVIDE 1/8" NEOPRENE GASKET WHERE ALUMINUM IS SELECTED. DO NOT ALLOW ALUMINUM TO COME INTO DIRECT CONTACT WITH CONCRETE.
 - 2 PROVIDE THE CORRECT SIZE ANCHOR BOLTS BASED ON 200# LOAD.



LEVEL ELECTRODE MOUNTING
DETAIL D
NTS

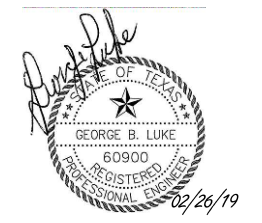


GROUNDING ROD AND WELL
DETAIL E
NTS



GROUNDING BUS CONNECTION TO
GROUND ROD
SECTION 1
NTS

GROUNDING BUS CONNECTION TO
GROUND ROD
DETAIL F
NTS



- NOTES
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 - THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES ADJACENT TO THE WORK AREAS.
 - THE CONTRACTOR WILL HAVE RESPONSIBILITY TO PROTECT AND SUPPORT CABLE TV AND TELEPHONE COMPANY PLANT DURING CONSTRUCTION.
 - THE EXISTENCE AND LOCATION OF UTILITIES INDICATED ON THE PLAN ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED TO BE ACCURATE.

MAESTAS
11550 IH 10 WEST, STE. 350 SAN ANTONIO, TX 78230
(210) 366-1988 TBPE No. F-333

No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO.3	SAH	GBL	03/19/19

REVISIONS
McMULLEN TANK CONTROL VALVE AND YARD PIPING IMPROVEMENTS
STANDARD CONSTRUCTION DETAILS

GAI
Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13717 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7661
Fax: 972-490-7125
email: vkgupta@gaiconsulting.com

MAP No. 140568	Compkey	SHEET E-07
SECT. No.	JOB No.	Of 7
DR. SL	CK. GBL	18-6005

Special Condition

1. General McMullen may be taken offline during construction. The contractor will provide SAWS 2 weeks' notice prior to shutting down either tank.
2. Contractor shall submit a plan to SAWS on the process of dewatering the tanks prior to the construction of ladders for General McMullen. Contractor's plan shall address processes for adequate disposal of water, disinfection, traffic control plan (for street inlet discharge), testing, commissioning, and re-filling the tanks.
3. Each Project Site has SCADA equipment and radios that communicate with headquarters. Any work requiring outages on the SCADA and radio systems shall require close coordination with SAWS Operations department. The Contractor is allowed to take SCADA and radio systems out of service from each site for a maximum of four (4) hours only. The Contractor shall be responsible to develop an installation plan that takes into account any necessary outages. The Contractor's plan shall address demolition of existing equipment, installation of new conduit and cables, removal and reinstallation of antennas and radios (where applicable), commissioning, testing, and demonstration of equipment function.
4. The general contractor shall coordinate the demolition and installation of new equipment with the electrical sub-contractor and with SAWS.
5. During inspection, General McMullen were tested above protective concentration level for lead. The Contractor shall perform testing for lead and other heavy metals on all tanks prior to the start of the construction.