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Response to Questions #2
Hinesville/ Ft Stewart WWTP Modification
PCS # 2009-63
November 15, 2014

1. On Sheet E0.2 & E0.3 all detail pertaining to electrical stands and racks are shown as being pieced together using stainless steel strut and fittings. In place of the strut and fitting, can we offer 304 stainless steel welded stands and racks? **Welded stands are acceptable.**
2. In Spec Section 16110 3.01 B 4, it states that all service entrance conduits in direct contact with earth shall be galvanized steel. Does this pertain to the power conduits coming from the Georgia Power transformer and the Generators only? **Correct: Conduits from the pad mounted transformer to the main breaker, and conduits from the generators to the paralleling switchboard, shall be rigid galvanized steel.**
3. In Spec Section 16110 3.01 B 1, it states that all conduits installed in concrete floor slabs shall be galvanized rigid steel? Does this mean that all conduits that are roughed in the power house and blower building concrete slabs are to be galvanized rigid steel and not Such 80 PVC conduits? **Correct. Conduits within the slab shall be RGS or IMC, conduits in the earth below the slab shall be SCH80 PVC. The means and methods are the responsibility of the contractor but must conform to the specifications.**
4. On sheet E2.0, E2.2, & E2.3 there is a note that states all conduits in these areas shall be stainless steel. Is this the only areas that exposed conduits are required to be stainless steel or is all exposed conduit required to be stainless steel? **Exposed conduits in corrosive areas (the headworks screen, odor control, grit removal, influent pump station and on the SBR tanks) shall be stainless steel. Exposed conduits about the cloth filters and UV system shall be RGS or IMC.**
5. On E2.2 & E2.3 it refers to SBR control panel numerous times. I haven't been able to find an SBR control panel on the drawings. Is it the Aqua-aerobic control panel? **Correct, the Aqua Aerobics Control Panel is the SBR system control panel.**
6. On E5.3 the Digester Blowers disconnect are shown as NEMA 4X, the rest of the disconnects in the same building are shown as NEMA 1. Is this the correct rating for these disconnects? **Provide NEMA 1 enclosures for all blower disconnect switches located within the Blower Building.**

7. In Spec Section 16110 3.01 B 1, it states different methods for conduit requirements. For clarification, is PVC Sch 80 allowed underground and in concrete? **Within the slab, provide RGS or IMC. Below the slab, provide SCH80 PVC. Do not provide SCH40 anywhere on this project.**
8. Do the duct banks require concrete encasement? **No. Concrete encasement is not required for any duct banks on this project.**
9. Do the duct banks require a separate ground wire with each duct bank? **No.**
10. On E2.7 it states different demoing methods and requirements. For clarification what is the extent that we are to demo? Are we to demo the old MCC's and panel boards or leave them in place? **In the existing Recirculation Building, the existing MCC's and panel boards shall be abandoned in place.**
11. On E2.7 it states different demoing methods and requirements. For clarification what is the extent that we are to demo? Are we to demo the old conduits and wire or leave them in place? Wire from existing generator? **Demolish the service entrance cables. Demolish the existing temporary generator feeder. Disconnect feeders that extend beyond the building as the equipment served is decommissioned. Where removal of the existing feeders is not possible, abandon in place and tag both ends of the cable as to the source and termination points. All existing conduits shall be abandoned in place with the exception of the temporary generator feeder conduit to the Recirculation Building.**
12. On E5.3 Note 5 has Gorman-Rupp supplying MCC-GR. In Addendum #1 it looks as if Gorman-Rupp has deleted this MCC. Is it the electrical contractor's responsibility to supply MCC-GR? **Correct. The electrical contractor shall provide MCC-GR as part of the electrical equipment package.**
13. Is any Lightning Protection required for this project? **No lightning protection system specified or required.**
14. 1. The plan drawing M-23 shows that there are to be four concrete support saddles for the hydropneumatic tank. This design is not recommended as the two interior saddles put uneven stresses on the tank. The tank design is based on the Zick Analysis, which proves that a pressure vessel filled with water can be supported by two saddle supports. Will it be allowable to utilize only two saddle supports in lieu of the detailed four saddle supports? **The design, to include a structural analysis of the supports and the loading based on allowable soil conditions, will be reviewed as long as the submittal is accompanied with a Georgia professional engineers stamp along with a copy of his professional liability Insurance.**
15. 2. The plan drawing M-23 and specification section 15176 2.02.A and 2.02.B all indicate that the air charging system be either an Air-Rite model 610 air volume controller or a Charge Air 2000 air volume controller. These units are self contained with all components being within a single housing and requiring only a 230 VAC power source. In Section 15176 2.02.C states that "A combination magnetic starter with H-O-A switch and two overload relays shall be furnished in a NEMA-1 enclosure." This is not required for the previously mentioned air volume control units. Can this removed from the specification? **The plans and specifications can be modified to delete the magnetic starter but the compressor will still have an on-off switch and two overload relays for**

protection. This will be enclosed in a NEMA 4X enclosure adjacent to the tank location. In addition the tank will have a port to fill the tank with air on initial startup and for emergency charging.

16. 3. In Addendum #1, an addition was made to Specification Section 15176, adding in sub section 2.02.D stating, "The pneumatic system shall be controlled with the "Pulsco Hydropneumatic Pressure Control System, designed and manufactured by Pulsco, Irvine, California or approved equal." As stated above, the description in Section 15176 2.02.A and 2.02B with the detail on drawing M-23 all indicate that the air volume controller is either an Air-Rite model 610 or a Charge Air 2000 unit and not a Pulsco Hydropneumatic Pressure Control System. Can you please clarify if the desired air volume control system is a stand alone self contained unit or if a full logic control system with independent 5 HP air compressor is required? **Pulsco unit removed from plans and specifications Air Rite model 610HP is required to obtain larger pressure differential**
17. Will material suppliers/vendors count toward the 10% minority goal M/WBE as well? **Yes**
18. We have reviewed the above referenced project with Whitaker Lab, this is the geotechnical company that performed the soil investigation. The project is currently designed to use 14" square precast driven piling forty to forty-five feet in deep. Based on conversation with Whitaker Lab and review of the soil borings, we are suggesting using 16" diameter Auger Cast by fifty feet in lieu of the precast pile, Whitaker Lab agreed this could be a suitable substitute. Please advise. **Does your recommendations include the same allowable loading as the original design? If so you should submit your design data for review by the structural engineer.**
19. We have a concern in section 03300-5 under Class of Concrete, all mixes have a plus or minus 1 inch which indicates water may be added, in section 03300-6 Concrete Mixing and placing it says NO WATER will be added on the job. With the traffic getting on and off of Fort Stewart, your time of travel could go for 20 minutes to 45 minutes, starting this project in April we also contend with the heat. We are concerned with the NO WATER added on the job. When travel time could double and the temperature in the Spring can reach high temps, we want to make sure if we can or cannot add water. Considering these factors, can water be added at the project site? **This question cannot be answered directly because it has too many other considerations that must be addressed when water is added.**
- "Many important characteristics of concrete are influenced by the ratio (by weight) of water to cementitious materials (w/cm) used in the mixture. By reducing the amount of water, the cement paste will have higher density, which results in higher paste quality. An increase in paste quality will yield higher compressive and flexural strength, lower permeability, increase resistance to weathering, improve the bond of concrete and reinforcement, reduce the volume change from drying and wetting, and reduce shrinkage cracking tendencies (PCA, 1988)."**
- Is your question related to pumping the concrete or all loads? In some cases we may allow water to be added to the load at the site if the same amount of water has been left out of the load at the plant. Other considerations to deal with the situation you have mentioned is to add ice to the load or admixtures. It has been our experience that if we allow water to be added at the site, too much water is normally added and it effects the mix design, slump, air entrainment and the aesthetic look of the concrete when the forms are stripped. It is important to maintain the paste quality especially regarding the structural concrete. You should bid the project to meet the specification.**
20. How are the communications intended with the MCCs? Do you want the SCADA system to wire into each individual starter/VFD or were you wanting a common communication point?

The communications between the VFD's and the control must be coordinated with the controlling system.

- i. Coordinate the SBR blower VFD's and Post EQ blower VFD's with Aqua-Aerobics.
- ii. Coordinate the Digester blower VFD's with the In-Plant SCADA system.
- iii. Coordinate the MCC-GR VFD's with the Gorman Rupp control panel and in-plant SCADA.
- iv. Refer to the SCADA specifications for a partial list of I/O - D/A points.

21. Can you verify the GA Power new service transformer voltage, kVA rating and impedance to feed the 4000A service? **Contact Georgia Power, their contact information is on the drawings.**