NOTICE TO ALL BIDDERS:

This addendum shall be considered part of the Bid Documents and is issued to change, amplify, or delete from or otherwise explain the documents where provisions of this addendum differ from those of the original contract documents. This addendum shall have precedence over the original bid documents and shall govern.

Bidders are hereby notified that they shall incorporate this addendum in their bid, and it shall be construed that the Contractor's bid shall reflect with full knowledge, all items, changes and modifications to the bid documents herein specified.

Bidders are advised to check for updates, addenda issuance, and bid opening date changes at the TPWD Infrastructure Division Website:

http://www.tpwd.state.tx.us/business/bidops/current_bid_opportunities/construction/

Please see attached revisions to clarify the specifications and drawings.

1. DRAWINGS (ISSUED SHEETS WITH EXHIBIT DETAILS)

   Sheet – YARD HYDRANT DETAIL

   Sheet – CONCRETE SLAB JOINT DETAIL

2. QUESTIONS WITH ANSWERS:

   Q: Is the generator described as Bid Option #1 on the bid schedule the same unit as described in paragraph 2.7, page 11200-8 of the specifications? Section 16200 describes the generator more thoroughly however it is not clear if it is the intent for the Ozone manufacturer to supply the standby generator.

   A: The generator described in Section 11200 is an ozone generator (it makes ozone). Specification Section 16200 applies to a standby electrical power generator (add alternate item.)

   Q: Ref Sh5-Can the area on the east and west side of the new entry road and south of the new fence be cleared between the fence and the existing gravel road in order to utilize it for a storage and office area?
A: The described area may be used for construction staging but must be revegetated as specified after construction. An area inside the Hatchery boundaries may be more appropriate for a temporary office trailer and will be discussed further during the pre-construction conference.

Q: Will timber burning be allowed on the jobsite?
A: Burning will not be allowed.

Q: Is a geotech report available for the jobsite? If not can rock and/or boulder excavation be expected for pipeline and structural excavation?
A: No geotech report is available for the jobsite. No additional payment will be made for any excavation in rock if required.

Q: Ref Sh7-Both horizontal and vertical scales are given. What does the vertical scale apply to?
A: The vertical scale applies to the profile vertical grids.

Q: Sh 7.-Is any kind of expansion joint in the pipe needed on the 24" sch 10 ss pipe at the connection to the ozone contact tank?
A: No but a material compatible coupling can be provided if needed for construction prosecution.

Q: Sh 9-Wall piece for the 24" outlet pipe is shown to be stainless. Where and how does the conversion to 24" ductile pipe occur?
A: The transition to ductile occurs immediately after the SS wall pipe leaving the contact tank.

Q: Sh 7-What type connection is required for installing the 24" stainless valve #FV1102 in the ductile iron tank outlet line?
A: Mechanical joint; see detail sheet 17.

Q: Sh 7-Note at station 4+46 calls for connecting 24" ductile to 27" HDPE with a coupling. Are we also to install a new 27" HDPE tee in the existing line or is there an existing stub to connect to? If a new tee is required how long can the line be shut down for installation?
A: No stub out exists a new tee is required. Down time to be coordinated with Hatchery site operations.

Q: Will this project have a full time construction inspector or will the inspector make periodic site visits?

A: Construction Inspector and Construction Manager from TPWD Infrastructure Division will make periodic site visits. TPWD Inland Fisheries Division staff are at the hatchery full time.

Q: Will submittals be reviewed by the engineering firm or by TPWD or both?

A: Both.

Q: How long can we expect a submittal review to require?

A: Time to review submittals vary and is dependent on completeness, accuracy and correctness of submittals provided.

Q: Do we have to obtain any sort of permit from anyone to work on the Diversion Lake side of the dam to do the work at the intake structure?

A: TPWD will notify the Dam owner when construction begins and will assist contractor in obtaining any permits required to perform the work.

Q: Can a water truck be filled from water on the hatchery site?

A: Lake Water may be taken from the Hatchery lake water distribution system but must be coordinated with TPWD Inland Fisheries staff. The hatchery is served potable water by Wichita Valley Water Supply Corporation. Water for consumption may be taken from the Hatchery potable distribution system. If large quantities of potable water are needed for construction, contractor should haul water or explore obtaining a temporary meter from the WSC.

Q: Ref Sh 17- Two independent ozone analyzers are in the box at the contact tank. Can they share the same sample tap or does each analyzer have its on tapping saddle?

A: They can share the same sample tap.
Q: Ref SH 3- What size are the lines from the air tank and the oxygen tank to the ozone unit? Tanks are supplied by the ozone manufacturer but piping is by the contractor according to notes on sheet 5.

A: Air and Oxygen line sizes shall be in accordance with Ozone Manufacturer’s recommendations. Compressed air and oxygen inlet lines are anticipated to be 1”. Compressed air and oxygen outlet lines are anticipated to be 1.5”.

Q: Do notes on Sheet 14 apply to the ozone contact basin only?

A: Notes apply to the project.

Q: SH 14-Contact Basin cross section shows crushed stone surface rock to terminate at the top of the excavated slope. Sheet 5 shows crushed rock on the entire site. Should the surface rock on sheet 14 extend beyond the boundary of the excavation?

A: Crushed stone required within site fencing.

Q: Sheet 14-Note 3, lower right portion of sheet, calls for dewatering to a minimum 3' below required excavation. How long must we maintain the dewatered condition?

A: Dewatering must be maintained at all times during construction.

Q: What is the nature of the soil that is being dewatered?

A: Unknown.

Q: Are there any available records on ground water levels at the site?

A: Unknown.

Q: Is there a place on the site where excavated material can be wasted if unsuitable for use as general fill within the fence line?

A: Spoil material must be removed from the site.

Q: Please provide a detail, size and spec for the “Yard Hydrant Assembly” shown @ STA 1+32 on the 30” DIP RW Line.

A: Yard Hydrant Detail is attached. (SHEET-YARD HYDRANT DETAIL)
**Q:** Spec Section 09800. Is there a specific paint spec the exterior of the ozone container needs to adhere to? Which System No does the container fall under?

**A:** System No. 3.

**Q:** Spec Section 11200 1.3.C. Please allow Submittals for Ozone System to be issued in phases based upon project progression to expedite submission and engineer review and approval.

**A:** Submittals for the Ozone system will be allowed to be issued in phases.

**Q:** Spec Section 11200 2.5.A.2. Please correct that pipe stub outs for field connection to ozone manufacturer's supplied oxygen and air tanks installed externally to container. Not to compressor which is located inside container.

**A:** Specification should state provide pipe stub outs for field connection to ozone manufacturer’s supplied oxygen and air tanks installed externally to the container.

**Q:** Spec Section 11200 2.8.A.14. Please correct number of Pipeline Flash Reactors from quantity 2 to quantity 1.

**A:** One Pipeline Flash Reactor that accommodates the use of two injection skids is required.

**Q:** Spec Section 11200 2.9.A.4-9. These are items that are more in line with a closed loop cooling water skid with a heat exchanger, not air cooled chiller system. Please confirm.

**A:** Cooling water skid shall feature an air cooled chiller not a heat exchanger.

**Q:** Spec Section 11200 2.12. For clarification, the SCADA/Radio Telemetry Equipment would require a separate RTU outside the Ozone Container (preferably directly behind the Main Ozone Control Panel). The MOCP would not contain the radio or RTU components (PLC, etc.).

**A:** There is no requirement for an RTU at the Ozone Container. A gateway card in the MOCP that communicates with an outdoor located SCADA telemetry radio would seem sufficient.

**Q:** Spec Section 11200 2.15.A.4. As the generator is mounted vertically, having a sight glass is provides no benefit therefore, having spare is not necessary.

**A:** Provide sight glass.
Q: Spec Section 11200 2.15.A.5&6. These seem to be redundant. Should one be removed?
A: No.

Q: Spec Section 13420. Please confirm if OSS is to provide the Seimens 24" flow meter
A: 24” Mag Meter is not in the OSS scope of supply.

Q: Spec Section 13421. Please confirm if OSS is to provide the radar level transmitter.
A: Radar level transmitter is not in OSS scope of supply.

Q: Spec Section 16301. Please confirm this study is to be provided by the Contractor.
A: Yes this study is to be provided by the contractor.

Q: Spec Section 16302. Please confirm this study is to be provided by the Contractor.
A: Yes this study is to be provided by the contractor.

Q: Spec Section 16303. Please confirm this study is to be provided by the Contractor.
A: Yes this study is to be provided by the contractor.

Q: Spec Section 16500 2.10. Would equivalent enclosure models from Hammond Manufacturing and/or Hoffman be acceptable in place of Saginaw SCE-xxEL-xxxxSS6LPPL dead-front enclosures?
A: Engineer approved equivalents are acceptable.

Q: Spec Section 16500 2.10. Is it acceptable to epoxy paint outdoor RTUs white for climate control?
A: White paint is not acceptable in lieu of specified breathers, vents, thermostatically controlled heaters and thermostatically controlled vent fans.

Q: Spec Section 16700 1.20. Section states that communications between ozone control panels and SCADA will be Modbus TCP while 16700 2.4.E states PLCs, etc. will be equipped with Ethernet cards. Please confirm that Ethernet protocol may be used across the
system.

**A:** Specification 16700 does not have a section 1.20. The communications protocol is to be TCP/IP.

**Q:** Spec Section 16700 2.4.U. Would wooden poles be acceptable for the antenna masts in place of hot-dip galvanized steel towers?

**A:** A wood pole is not acceptable. The section referenced is boiler plate language. I anticipate that when the radio path study is completed you will find that all SCADA antennas can be mounted to short poles attached to three location structures and that there will not be a need for a tower of any height.

**Q:** Spec Section 16700 2.4.V. Please clarify who is responsible for the antenna tower foundations (if not poles).

**A:** The contractor is responsible.

**Q:** Plan Drawing E-7.1. RTU example has this note- "Battery - 24 Hours". There is no UPS/Battery Backup "run time" mentioned in the specifications. With the diesel generator coming on line in minutes can this 'run time' be reduced? For example, two 9 AH, 12V batteries in series can provide 4.5 hours of "run time" for a 1.5 Amp DC load.

**A:** Provide 24 hour battery backup as specified. The generator is an additive alternate.

**Q:** Valves-General. Please provide clarification on the scope of all the loose field valves - will these be in contractor scope? The OSS will only be supplying valves for the ozone destruct and all valves required within the ozone container as well as four DO3 field analyzers - please confirm that this understanding is correct.

**A:** Coordination of scope of supply is contractor’s responsibility.

**Q:** What is the required thickness of the weir plate and the 4'x3'6" wall plate shown on section B-B, sheet 9?

**A:** Weir plate and weir wall access manway plate shall be ¼” thick.

**Q:** Are wall ties used for concrete forms on the ozone contact basin required to be stainless steel?

**A:** No.
Q: Section B-B shows the thickness of the roof to be 8" at the edge of the roof and 12" at the center. Section A-A shows to be cut thru the center of the tank and shows a constant elevation on the top. Please clarify. If the rooftop slopes in all directions from the top centerpoint a drawing indicating so would help.

A: Roof shall be sloped to provide positive drainage.

Q: Is handrail to be included on all four sides of the ozone contact basin? Section Section B-B does not show anything on the end.

A: Handrail is to be included on all four sides of the ozone contact basin.

Q: How wide are the stair treads at the ozone contact tank?

A: Stair tread with shall be compliant with OSHA standards.

Q: Sheet 9 states that the ozone tank will be tested for leakage. Will this be done by the Owner or by the Contractor? If it is to be done by the Contractor is there a required procedure?

A: Leak testing shall be performed by the Contractor as described below:

1. Upon completion of the tank, it shall be filled to top of the weir with water furnished by the Contractor. The tank shall remain filled for a period of at least 48 hours to allow for absorption and initial settlement. After the initial period, makeup water shall be added as required and the tank shall be allowed to stand for a minimum of 24 hours.

2. The Contractor shall measure the drop in the liquid level over the next 72 hours. The net drop in liquid level shall not exceed the maximum allowable of 0.05 percent per 24 hour period.

3. If the net drop in liquid level exceeds the maximum allowable, the liquid level test shall be extended to a total of 5 days. If at the end of 5 days, the average net drop in liquid level does not exceed the maximum allowable, the test shall be considered satisfactory. If the net liquid loss exceeds the maximum allowable, the test shall be considered unsuccessful, the source of leakage shall be corrected, and the tank shall be retested by the Contractor.

4. Damp spots on the exterior wall surface shall not be permitted. Damp spots are defined as spots where moisture can be picked up on a dry hand. The source of water movement through the wall shall be located and permanently sealed in an acceptable manner. No leakage that includes visible flow through the wall-floor joint shall be permitted.
Q: Note 6 on sheet 12 refers to "control joint detail". We do not see a "control joint detail". Is this the same as the "expansion joint detail" on sheet 16?
A: Control Joint Detail is attached. (SHEET-CONCRETE SLAB JOIN DETAIL)

Q: Is there a detail that applies to the sidewalk on sheet 12?
A: Sidewalk shall be consistent the details shown on Sheet 9 for stairway sidewalks.

Q: The CJ on sheet 12 foundation plan is not drawn to extend all the way across the slab. Please clarify.
A: Construction joint shall extend across slab.

Q: Note on Sheet 5 calls for 56 SY sidewalk. Dimensions on Sheet 12 indicate that 62 SY is required. Minor issue but clarification requested.
A: 62 SY is correct.

Q: Note on sheet 5 Plan calls for TxDOT Type A Grade 1-2 crushed rock within the fenced area. There is not a Grade 1-2 as far as we can determine. Does this mean either grad 1 or grade 2 is acceptable?
A: Refer to TxDOT 2014 standards.

Q: Tank Plan on sheet 9 shows two lockable manways in the south wall of the ozone basin. Section A-A looking north is cut midway between the North and South walls and shows two lockable manways but none are shown on the north wall in the plan. Where are the two manways shown on section A-A located in the plan view?
A: Manways shall be in the south wall as show in the plan view.

Q: Do you have a spec or a referenced manufacturer for the lockable manway?
A: No.

Q: At what wall height is the sample tap and pressure gauge shown on sheet 10 to be located? If low enough to be operated from ground level should it have bollards to protect it from grounds activity?
A: Height shall be established in field by operator preference.

Q: Spec: 16100, 2.4, B.. 1 RFC: Is this applicable wiring inside the control panels, or only the wiring outside the control panels, in the field?

A: Instrumentation hook-up wire is intended to be wiring from the field to instruments and SCADA panels. Instrumentation hook-up wire is not intended to apply to wiring furnished with the ozone container building that does not exist the building.

Q: Spec: 11200, 2.12, A RFC: The “ozone generator manufacturer” is mentioned to furnish the following:
   i. Local control panel
   ii. Remote biologist HMI/Workstation
   iii. Remote RTU
   iv. Related radio telemetry
Please confirm the “Local control panel” is what is referred to on E-2.2 as LCP41.1

A: Yes, LCP 41.1 is the main control panel inside the ozone container building.

Q: Please confirm that the “remote biologist HMI/Workstation” is in error, and that this is applicable to the SCADA supplier (section 16700)

A: The ozone equipment supplier is the SCADA supplier. SCADA is to be provided by the ozone equipment supplier or a sub-contractor of the ozone equipment supplier. The SCADA is not to be provided by a sub-contractor of the electrical sub-contractor, nor by an instrumentation sub-contractor nor as a direct sub-contractor of the general contractor. The ozone equipment supplier is responsible for the SCADA system.

Q: Please confirm that the “remote RTU” referred here is the one located at “Lake Diversion”

A: Specification 16700 / 2.11 / A – It is confirmed that “remote RTU” is the one located at Lake Diversion.

Q: Please confirm that the “remote RTU” is in error, and that this is provided by others

A: The RTU at Lake Diversion is to be provided as part of the ozone equipment package.

Q: Please confirm that the “radio telemetry” (hardware to enable RADIO ETHERNET) is in error, and that this is applicable to the SCADA supplier (section 16700)?
A: Radio telemetry is to be provided by the ozone equipment supplier and not by others.

Q: Spec: 16700. RFI: This falls under who’s scope of supply?
A: The ozone equipment supplier is to provide the scope of supply in specification 16700.

Q: Spec: 16700, 1.2 RFC: Please confirm that the use on ModBUS/TCP is not necessary, and that Ethernet/IP can be utilising, seeing as the PLCs are Allen-Bradley and the SCADA is WONDERWARE, which can communicate any PLC protocol. RFI: This falls under who’s scope of supply?
A: Communications protocol is TCP/IP.

Q: Spec: 16700, 2.1 RFI: Allen-Bradley is the preferred PLC manufacturer. Please indicate if there is a preferred series (1756, 1769, etc.)
A: There is no preferred series.

Q: Spec: 16700, 2.1 RFC: In the event that the HMI/SCADA supply is actually in the Ozone Equipment Supplier’s scope, we ask that more detail be provided as far as version and methods of configuration of the Wonderware package, since integration/deployment can be done in different forms with Wonderware
A: HMI/SCADA is in ozone equipment supplier’s scope of supply. No additional details are to be provided.

Q: Spec: 16700, 2.4, D RFD: With present-day technologies, programming methodologies, but most importantly, because of the logic & sequencing requirements of an ozone system, please confirm that other programming methods, such as functions blocks (AOI), structured text and others can be used along with ladder.
A: IEC methods in addition to ladder logic may be used.

Q: Spec: 16700, 2.4, F RFC: Does this indicate that the SCADA supplier is meant to provide a fully licensed version of WONDERWARE DEVELOPER? If yes, please provide additional details of the version and options required.
A: A developer license is not required.

Q: Spec: 16700, 2.4, Y RFC: Please confirm that permission for owner to modify any developed software application will only come into affect after the warranty period.
A: KSA Engineers is not inclined to restrict the owner with regard to this issue as a part of the bid set documents.

Q: Section 11200, para. 2.8 A Ozone Injection Skids “Two injection skids shall be designed to treat a maximum of 2,000 gpm with both skids in operation and a minimum flow of 729 gpm with one injection skid in operation” Please confirm maximum and minimum facility flow rates in the 24 inch main line and expected line pressure at those flows.

A: Maximum flow in 24” = 2,000 gpm, Expected Line Pressure at PRF = 4.87 psi
Minimum flow in 24” = 729 gpm, Expected Line Pressure = 4.82 psi

Q: Will flow rate be allowed to vary for the entire range between maximum and minimum?

A: Yes.

Q: How frequently is flow rate expected to change?

A: Unknown. Will depend upon lake level and hatchery operations.

Q: Please confirm that a meter outside the scope of the ozone system supplier will send the flow rate signal in the 24 inch pipeline to the ozone system. Will the signal be from mag meter 1102?

A: Yes.

Q: Will the signal from AIT 906 or AIT 1104/1105 control ozone production?

A: No.

Q: Drawing 7 shows one Pipeline Flash Reactor to be installed in the 24 inch main line. Para 2.8.14 calls for two Pipeline Flash Reactors. Only one Pipeline Flash Reactor is needed. Please confirm that a quantity of two Pipeline Flash Reactors is required for this bid.

A: One Pipeline Flash Reactor that accommodates the use of two injection skids is required.

Q: Spec: 11200, 2.1, A The phrase “PSA Systems:” should be removed from the ozone
concentration design requirement.

A: “PSA Systems” should not appear in this location in the specification.

Q: Spec: 11200, 2.3, J Ozone generator manufacturer shall furnish “piping, heat tracing, insulation, valves”. Please confirm that this applies only to the container and skidded units where required.

A: Confirmed.

Q: Spec: 11200, 2.6, A, 5 Please confirm schedule 10s 316L SS piping. (Note: SUEZ standard for ozone piping is Schedule 40, which is mentioned elsewhere in the piping spec.)

A: Piping shall be Schedule 40 316L SS.

Q: Spec: 11200, 2.8, A, 9 Please confirm schedule 10s 316L SS piping. (Note: SUEZ standard for ozone piping is Schedule 40, which is mentioned elsewhere in the piping spec.)

A: Piping shall be Schedule 40 316L SS.

Q: Project 128632 has a 60 day bid acceptance period. Current economic conditions are such that most suppliers will not quote a price and hold it firm for 60 days. Is there any protection from price escalation for the low bidder that can be built into the bid documents for recovery of properly documented price increases experienced from the date of the bid to the award date?

A: The Bid Schedule attestation establishing that bids will not be withdrawn for a period of sixty (60) calendar days from the date set for bid opening remains unchanged.

Understanding the potential for fluctuations in market pricing, and in the event the contractor believes the bid price cannot be met, TPWD may consider proposed costs for Change Orders submitted by the awarded contractor related to this circumstance.

Any such change proposal would need to demonstrate a substantial difference between bid price and purchase price and be prepared in accordance with the conditions of the contracts.

These conditions include but are not limited to:
- Uniform General Conditions, Section 11.7.2 which establishes that any proposed costs for change order work must be supported by itemized accounting of material, equipment and associated itemized installation costs in sufficient detail; including copies of subcontractor and vendor [supplier] proposals.
Uniform General Conditions, Section 10.1.2 which establishes that Contractor shall retain a copy of all worksheets used in preparation of its bid or proposal, supported by a notarized statement that the worksheets are true and with complete copies of the documents used to prepare the bid. [subcontractor and supplier quotes should be part of this documentation].

In considering a proposal that requests a change to the bid price without changes to the work or quantities, TPWD will closely evaluate all proposal and supporting documents submitted as evidence of actual bid pricing compared to current market pricing. TPWD will make any investigations necessary to ensure that there was no intent or effort to circumvent competitive bidding.

**Q:** Specification 11200 Part 3.4.A.B.1 states “Peak Demand and power consumption shall be no more than estimate provided in the Bid, verified, and measured over one month.” Where is this estimate located? Is it a specified value or is this something to be provided by the Ozone Equipment Supplier based upon their proposed equipment?

**A:** The bidder’s response is to include the information above and as a part of the performance guarantee testing the bid values shall not be exceeded when measured in operation for one month.

**Q:** Section 2.7 of the Supplemental General Conditions states “Buy America Requirements for Iron and Steel Used in Construction. In accordance with Texas Government Code 2252, Section 2252.202, all iron or steel products (i.e., rolled structural shapes including wide flange beams and columns, angles, bars, plates, sheets, hollow structural sections, pipe, etc.) shall be produced, manufactured and fabricated in the United States.” What is the expectation from TPWD staff as to what items will be required to meet this condition? Does this requirement apply to the valves on this project? Does this apply to the cast iron valve boxes? Does this apply to the ozone equipment? Does this apply to the container that ozone equipment is to be installed into?

**A:** Texas Government Code §2252.202 requires state entities with construction projects to require contractors to source iron and steel products used in such projects from the United States.

TPWD applies Texas Government Code §2252.202 to structural steel to be used on the project. Structural steel is defined as:

Steel, rolled in a variety of shapes and fabricated for use as load-bearing structural members or elements. Steel shaped purchased and used to assemble project components, either on-site or custom shop-built for TPWD, shall be considered structural steel.

Structural steel includes the following shapes: Angles, Bars, Channels, Pipes, Plates, Rails (i.e. crane rails), Reinforcing Bars (re-bar).
Q: Specification 02669 Part 2.2.B describes AWWA-type Gate Valves constructed of iron. Type 316 Stainless Steel Gate Valves are called out on the drawings. Please provide a specification for Type 316 Stainless Steel Gate Valves.

A: All references to 316 stainless steel gate valves shall be removed from the plans. All proposed 316 stainless steel gate valves shall be 316 stainless steel butterfly valves in accordance with Section 02669.

Q: Specification 02669 Part 2.2.E describes Plug Valves constructed of materials that would not be typically associated with 316SS valves. Type 316 Stainless Steel Gate Valves are called out on the drawings. Please provide a specification for Type 316 Stainless Steel Plug Valves.

A: See specification below:

316 Stainless Steel Plug Valves (Ozone Service)

Valves shall be of the non-lubricated eccentric type with an elastomer covering all seating surfaces. The elastomer shall be suitable for ozone service. Flanged valves shall be manufactured in accordance with ANSI B16.1 Class 125 including facing, drilling and flange thickness. Ports shall be round on sizes 2-1/2"-12" and rectangular port design on valves 14" and larger. All valves shall be capable of being “pigged” with a soft pig when required.

Valve bodies shall be of CF8M (316 stainless steel). Valves shall be furnished with 316 stainless steel seat in accordance with AWWA C-517 Section 4.3.3.4.

Plugs shall be of CF8M (316 stainless steel). The plugs shall be of one piece solid construction with PTFE thrust bearings on the upper and lower bearing journals to reduce torque and prevent dirt and grit from entering the bearing and seal area.

Valves shall be furnished with replaceable sleeve type bearings conforming to AWWA C-517 Section 4.4.6. Bearings shall be of sintered, oil impregnated type stainless steel. Valve shaft seals shall be of the “U” cup type in accordance with AWWA C-517 Section 4.4.7. Seals shall be self adjusting and repackable without removing the bonnet from the valve.

Wrench operated valves 2-1/2"-8" shall be capable of being converted to worm gear or automated operation without removing the bonnet or plug from the valve. All wrench operated valves shall be equipped with a 2" square nut for use with removable levers or extended “T” handles.

Worm gear operators, where required, shall be of the heavy duty construction with the ductile iron quadrant supported on the top and bottom by oil impregnated bronze bearings. The worm gear and shaft shall be manufactured of hardened steel and run on high efficiency roller bearings. All worm gear operators shall be sized for bi-directional shutoff at the valves design pressure rating.
Valves shall be designed and manufactured to shut off bubble tight at 275 psi. Each valve shall be given a hydrostatic and seat test with the test results being certified when required by the customer. Certified copies of Proof-of-Design test reports shall be furnished as outlined in AWWA C-517 Section 5.2.2 when requested. Plug valves shall be Pratt Plug Valve Series 601S or Engineer approved equal.

**Q:** Sheet 8, Pipeline Flash Reactor Detail, shows a 2” flange for Pressure Transmitter connection. Is this Pressure Transmitter part of the scope of this project? If it is, please provide specifications for this.

**A:** No pressure transmitter or 2” flange is required at this location.

**Q:** Sheet E-3.1 shows the Sample Pump for AIT 1104 and 1105. Spec section 16500 Part 2.3.B notes that the Ozone production equipment manufacturer shall supply this pump. Please provide specifications for this pump. Please provide installation details for this pump.

**A:** Sample pumps shall be provided by the Ozone manufacturer as required to operate with the analyzers provided by the Ozone manufacturer. If the supplied analyzer does not require sample pump for proper operation then no sample pumps will be required.

**Q:** Sheet 19 of the project drawings for referenced project calls for 1.25#/ft steel pipe T posts. T posts are normal T shaped steel posts, not pipe, and are available in 1.25#/lf. 2” pipe weighing 2.375#/lf is called for use as line posts on sheet 19 with a spacing of 125’. Please clarify what type posts are required at 25’ intervals. Using 8’ tall T posts at 25’ intervals seems a bit flimsy.

**A:** Fence shall be as shown in the detail.

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**BIDDERS SHALL ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE CONTRACTOR’S BID FORM.**

**WARNING: BIDDER’S FAILURE TO ACKNOWLEDGE RECEIPT OF ADDENDA MAY RESULT IN REJECTION OF BID.**

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End of Addendum Number 01

Sincerely,

Michael Polendo, CTCD, CTCM

MICHAELE POLENDO, CTCD CTCM
Contract Manager, Infrastructure Division
NOTE:
1. YARD HYDRANTS SHALL BE SIMMONS MODEL 800LF OR ENGINEER APPROVED EQUAL.
2. SPLASH BLOCKS TO BE PROVIDED AT ALL YARD HYDRANTS.
TOOLED JOINTS MUST BE RUN EARLY IN THE FINISHING PROCESS, AND RERUN LATER TO ENSURE GROOVE BOND HAS NOT OCCURRED. SAWCUT JOINTS SHALL BE RUN WITHIN 4 TO 8 HOURS AFTER THE CONCRETE HAS BEEN FINISHED. PREFORMED PLASTIC STRIPS SHALL BE INSERTED INTO THE CONCRETE SURFACE TO THE REQUIRED DEPTH BEFORE FINISHING.

SAW–CUT CONTROL JOINT DETAIL

1/4" TOOLED JOINT FILL W/ JOINT SEALANT

1/2" Ø x 2’-0” SMOOTH BARS @ 18” O.C.

KEYED CONSTRUCTION JOINT DETAIL

CONCRETE SLAB JOINT DETAIL