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**ADDENDUM NO. 2  
CSP # 18-0112**

Date: October 23, 2018  
To: All Interested Parties  
From: Grady Garrow, CPPB  
Buyer  
Re: **CSP No. 18-0112 Lake Houston Pump Station Discharge Piping Rehabilitation**

The following additions, deletions, changes or clarifications to CSP No. 18-0112 are hereby made a part of the originally issued documents for the above referenced project as fully and as completely as though the same were included therein.

**Questions and Responses**

**Q: Operating pressure is specified as 20 psi but nothing is specified for transient pressures, should operating plus transient pressure be assumed to be 40 psi?**

**A: Due to the low static differential pressure between the suction and discharge, and the absence of valves on the discharge lines a detailed transient analysis was not performed.**

**Q: There is nothing specified for vacuum pressure, what psi should we use for vacuum?**

**A: Under normal operation, the discharge pipes do not flow full, and each pipe is equipped with a 10-inch vent pipe that is open to the atmosphere. Vacuum pressure is not expected in the lines.**

**Q: Soil modulus is assumed to be 1,000 psi, please verify.**

**A: Assuming a compaction of 90% at a depth of cover between 5-10 ft, the soil modulus can be assumed to be 1,000 psi.**

**Q: Pipe ovality is assumed to be 2%, please verify.**

**A: Pipe ovality is unknown.**

**Q: Drawings show soil cover to be 11ft but spec states 6.5ft, please verify soil cover height.**

**A: Soil cover varies over the pipe from the pump station to the junction box. According to the 1953 Pump Station Drawings, the approximate depth of soil cover at the pump station wall is 8'-8" from grade to the top of the concrete encasement. Refer to the concrete pipe encasement detail for the 30-inch pipe on Sheet 2 in the original drawings titled "San Jacinto River Pump Station", 1953, Freese & Nichols.**

**Q: Groundwater is specified to be 13ft below ground, please verify ground water depth as it relates to the pipe.**

**A: No geotechnical data was performed at the discharge piping location at the pump station. The ground surface elevation at the geotechnical boring location is approximately 55.00 ft, according to the geotechnical report boring log, groundwater was encountered at approximately 13 feet below grade. The survey shows the ground surface at the pump station is approximately 58.00 ft. It is not certain that the groundwater is at a constant level between the geotechnical boring and the pump station. If the groundwater is constant between these two points, then the groundwater at the pump station would be approximately 16 feet below grade.**

**Q: What is the temperature range of the fluid being transported in the pipe? The spec specifies 20 degrees F, should we assume +-40F?**

**A: USGS typical water temperature range for Lake Houston is 40 degrees F to 95 degrees F. The average water temperature units listed in the spec should be in degrees C, which corresponds to 68 degrees F.**

**Q: Drawings show that the pipe is encased in concrete thrust blocks, please verify.**

**A: The original pump station drawings show the pipes are encased in concrete. Limits of encasement are shown on the contract drawings. Refer to original drawings titled "San Jacinto River Pump Station", 1953, Freese & Nichols for encasement details.**

All provisions which are not so amended or supplemented remain in full force and effect.

Please acknowledge receipt of this addendum with signature and date and return with completed Proposal/Quotation. Failure to do so may cause your Proposal to be considered non-responsive.

***Receipt of this Addendum No. 2 is hereby acknowledged***

\_\_\_\_\_  
***Authorized Signature***

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

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