

TIC

TANK

INDUSTRY

CONSULTANTS

Engineering Water Tanks  
Since 1979

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Revised June 16, 2022  
November 11, 2021

Wayne Berger  
Director of Utilities  
City of Cuero  
514 West Sara Street  
Cuero, Texas 77954

RE: Professional Services associated with the Rehabilitation of the Industrial Park Tank #1 a 50,000 Gallon Multi-Legged Elevated Water Storage Tank and Industrial Park Tank #2 a 54,410 Gallon Standpipe Water Storage Tank TIC Project #S1538.003 and 004

Dear Wayne:

Tank Industry Consultants is pleased to provide this proposal for engineering services associated with the rehabilitation of the two above mentioned tanks located in Cuero, Texas. As per our conversation on June 16, 2022, it is our understanding that the City will bid Industrial Tank # 2 as an alternate bid item. Industrial Park #2 will be a complete blast and paint of the interior and a spot clean and topcoat of the exterior.

TIC evaluated these tanks in 2014, at that time we advised that Industrial Park Tank #1 could be spot cleaned and topcoated at the time. The City will be performing a full rehabilitation of Industrial Park Tank #1.

## EVALUATION

Tank Industry Consultants completed the evaluations of these tanks on March 24, 25 and 26, 2014.

## PREPARATION OF SPECIFICATIONS

This phase will encompass the design and preparation of the detailed plans and specifications based on the work authorized by the City of Cuero. TIC will review the evaluation report with you and discuss in detail the most appropriate scope of work within your budgetary constraints. TIC will prioritize the necessity for different repair options and compare the anticipated life for alternative coatings options. TIC will also provide budget estimates for construction, so the final scope of work meets the maintenance and financial goals of the City of Cuero.

From the data obtained during the field evaluation, engineered drawings and plans can be properly prepared and included within the specifications. TIC will assist the City of Cuero decision makers in analyzing the various methods of accomplishing the recommended repair and repainting options so that the water system's long-

term and short-term goals of will be met. We will share our expertise and knowledge of all applicable regulations, codes, and standards. The project plans and specifications will include the documents required to execute the project.

TIC's specifications and contract documents are more extensive than provided by most engineers' designs due to our experience and intimate familiarity with the AWWA, TCEQ, API, NACE, NFPA, and SSPC standards and how they must be supplemented. TIC's specifications are prepared in accordance with local, state, and federal laws, and all specific requirements of the City of Cuero. All documents are submitted for review as needed to maintain the project objectives. After all reviews are complete, TIC will revise all documents as required for final approvals and prepare a final detailed cost estimate for the project.

**Reduce Construction Costs:** While most engineering firms can provide a generic specification package, our uniquely developed specifications address the specific work that needs to be performed. This reduces the change orders to only those items that have competitive unit prices already negotiated prior to starting the project. Our specifications will also address potential problems that may come up during the course of a tank rehabilitation project including containment and proper removal and disposal/treatment of lead-based coatings, plus the removal and disposal of steel that is coated with lead-based coatings. While our specifications are designed to protect the City of Cuero, our designs and specifications will also offer the most cost-effective alternatives available on the market.

Our specifications are not only designed to reduce construction costs during this tank rehabilitation, but also for future tank rehabilitation. By **designing out** problem maintenance areas, the newly applied coating system will not only last longer, but when future maintenance is performed, the repainting will be easier and therefore less expensive.

**Repair and Rehabilitation Design:** It is important to include specific tank upgrades in the tank rehabilitation. TIC has found that a specification that is only end-result oriented is not adequate when working with tank repair and repainting contractors. For example, merely requiring a clog-resistant vent to be installed (as required by the American Water Works Association) could result in a contractor installing a regular vent with a very weak screening material that fails prior to the tank roof being sucked inward during a vacuum situation. However, with TIC's design, there are pressure and vacuum pallets that rise to allow venting when the screens are occluded. When no additional venting is required by the tank, the pallets return to their normal operating position as required by AWWA. While both types of vents allow for venting to occur even if the screen was clogged, with the contractor's design, the tank owner would now have a large hole in their vent screen that would allow the ingress of animals, birds, and insects. TIC's specific designs of the repairs will provide for a better-finished product. TIC's goal is to have the tank properly repaired **THE FIRST TIME**. This can only be accomplished through thorough, concise specifications that include the necessary details for proper repair designs.

**Coating System Design:** TIC continually researches alternative coating systems in order to match the best coating system to the specific needs and requirements of each client's tank. When selecting the coating system for the various tanks, the engineers at TIC take into consideration the service requirements for each tank and the possible limited out-of-service time available for the tank rehabilitation and repainting. TIC has an extensive track record of successfully specifying and utilizing dehumidification, new fast-cure coatings, and other new coatings technology. TIC specifies coating systems to meet not only the needs of the tank, but also to meet the needs of the waterworks system.

