



SCOPE OF SERVICES

Solicitation Number: CLMP141

Project Name: South Austin Regional WWTP Train A & B Improvements

PROJECT FOR:

CITY OF AUSTIN, AUSTIN WATER UTILITY, THROUGH ITS CONTRACT MANAGEMENT DEPARTMENT

PROJECT TITLE:

South Austin Regional WWTP Train A & B Improvements

OBJECTIVES OF THE PROJECT:

The project objectives includes a condition assessment of the drive assemblies, gear box, rakes and center column and wells for Train A & B 140-foot diameter Primary Clarifiers (4 total), 120-foot diameter Secondary Clarifiers (8 total), 75-foot diameter Chlorine Contact Clarifier (4 total) and clarifier ancillary components including scum collection box, valves, influent pipe, effluent pipe, walkways, handrails, electrical, instrumentation and controls to prioritize the rehabilitation and/or replacement of wastewater treatment components.

Additional objectives include a structural assessment and repair of Train A Primary Clarifiers (2 total) and Secondary Clarifiers (4 total) concrete cracks and defects in the walls and effluent troughs.

Also included is a condition assessment of Train B headworks bar screen, grit classifier, conveyor, scums pumps, sludge pumps, process valves and gates, electrical, instrumentation and controls to prioritize the rehabilitation and/or replacement of wastewater treatment components.

BACKGROUND:

The South Austin Regional Wastewater Treatment Plant (SARWWTP) has three treatment trains; these are Trains A, B, and C. Treatment Train A was originally constructed starting in 1984 and was completed in April of 1986. Immediately after that project, Treatment Train B was constructed and it was completed in late 1988. Initially, these two treatment trains were designed for 20 MGD each for a total design capacity of 40 MGD. In the early 1990's, SARWWTP was successful in getting each treatment train capacity rerated to 25 MGD, for a total plant capacity of 50 MGD, without the construction of additional treatment units. This rerating was based on plant performance and no further modifications were made to the facility.

Train A & B Primary Clarifiers, Secondary Clarifiers, Chlorine Contact Clarifier and ancillary equipment are original process components and constructed approximately 27 and 25 years

ago, respectively. The facilities are showing signs of deficiencies and deterioration affecting the operation of the clarifiers and need to be rehabilitated and/or replaced.

Additionally, Train B's pretreatment facility, process valves and gates, pumps, and electrical systems are experiencing degradation and need to be assessed for rehabilitation and/or replacement.

ANTICIPATED SERVICES:

The following is intended as a guide to the general nature of services that will be provided based on the Major Scopes of Work described herein.

Phase I: Preliminary Engineering and Condition Assessment

In Phase I of the project, the selected engineering firm shall review existing data of existing facilities, conduct a condition assessment of Train A & B clarifiers including structural steel and ancillary components; conduct a concrete structural assessment of Train A primary and secondary clarifiers; and conduct a condition assessment of Train B pretreatment facility, scum pumps, sludge pumps, process valve and gates, and electrical systems. Consultant will be required to develop several alternatives including total replacement, total rehabilitation, partial rehabilitation and potential phasing options among others. The selected engineering firm will develop business case for each option life cycle cost evaluation, financial evaluation (NPV, payback and IRR), as well as evaluation of non-economic factors (operational flexibility, ease of operations, sustainability, other).

The selected firm should have experience in condition assessment and fitness for service of equipment, electrical components, structural steel, bolting, welding, paint, structural concrete cracks and defects and the design and construction activities associated with rehabilitation or replacement of wastewater facilities. Other tasks will include prioritizing the rehabilitation and/or replacement, developing a schedule for implementation of the improvements and estimating construction costs. Services necessary to accomplish Phase I may include:

1. Meet with the South Austin Regional WWTP Operation and Maintenance staff, Process and Facility Engineering staff to receive information concerning existing operations and any previous investigations of possible solutions.
2. Perform a condition assessment of Trains A & B Clarifiers existing condition, fitness for service and remaining useful life. Consideration must be given to structural steel, bolting, welding, paint and mechanical operation for the complete clarifier assembly including the complete drive assembly, gear box, clarifier rakes and plows, clarifier center column and wells, weirs, scum collection, valves, influent pipe, effluent pipe hand rails and walkways..
3. Perform a structural assessment and evaluation of Trains A Clarifier's concrete defects and cracks.
4. Perform a condition assessment and evaluation of mechanic, electrical, instrumentation and control components for Trains B pretreatment facility, scum pumps, sludge pumps, process valve and gates, electrical, instrumentation and controls.

5. Prioritize the rehabilitation and/or replacing scope.
6. Evaluate clarifier rehabilitation methods and options.
7. Evaluate clarifier replacement and material options.
8. Evaluate concrete repair methods and options for Train A Primary and Secondary concrete cracks and defects.
9. Evaluate clarifier weir operation.
10. Evaluate Train B equipment rehabilitation and/or replacement options.
11. Based on the condition assessment and fitness for service findings for Train A & B Clarifiers and ancillary equipment, Train A concrete, and Train B equipment determine rehabilitation and/or replacement scope.
12. Conduct preliminary field surveys and determine any site constraints and special permitting requirements (Federal, State, and Local).
13. The selected professional engineering firm shall, upon conclusion of their reviews, investigations, and preliminary evaluations, prepare, present and publish details and summarization of their findings, solution options, budget constraints, cost estimates, recommendations, and a design and construction schedule for the recommended improvements in a report format.

Phase II: Design and Bid Documents Preparation

After completion of Phase I, the selected engineering firm shall, upon specific written authorization, conduct or otherwise acquire the necessary field surveys, soils, and peripheral investigations for final design of the approved wastewater improvements for Train A and B. The engineering firm shall prepare final detailed plans, specifications (utilizing City of Austin standards), contract documents and cost estimates for the construction of project improvements as approved by the City of Austin. The selected consultant shall furnish sub-consultant services as may be appropriate for the execution of the design and assist in applying for and obtaining agency approvals and permits necessary for the construction of the project. The engineer shall also assist in advertising the project for bids and developing construction contract(s).

Phase III: Construction Management Services

The construction phase professional services which may be provided by the selected consultant are those generally associated with the construction phase and may include the following: periodic visits to the job site by the design professionals to generally review the progress and character of the work being performed, review of periodic payment estimates of the contractor for completed work, review and approve shop drawings and any necessary change orders, interpretation of the plans, specifications, and other contract documents as required, project reviews with the contractor and the City, preparation of as-built drawings of the completed facilities (ink on mylar or photographically reproduced mylar tracings, including computer disc copies in AutoCAD and PDF format), and other necessary and related services associated with the engineer's design as applied to the construction processes.

PROPOSED SCHEDULE:

Bid and Award Phase	6 Months
Preliminary Engineering Phase	6 Months
Design Phase	9 Months
Construction Phase	24 Months

COST ESTIMATE:

Estimated Consultant Project Cost	\$ 3.0 million
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MAJOR AND OTHER SCOPES OF WORK:

Below is a list of the major scopes of work that the City has identified for this project. There must be representation for all major scopes of work listed in the prime’s statement of qualifications (SOQ). The experience of the firms listed to perform the Major Scopes of Work, whether a subconsultant or prime firm, will be evaluated under Consideration Item 6 – Major Scopes of Work – Comparable Project Experience. In addition, the City has identified Other Scopes of work that MAY materialize during the course of the project. The City does not guarantee that the scopes listed under Other Scopes of work will materialize on this contract. If the prime consultant intends to enter into a subconsulting agreement on a scope of work not listed below, the prime consultant is required to contact SMBR and request an updated availability list of certified firms in each of the scopes of work for which the prime consultant intends to utilize a subconsultant.

Major Scopes of Work

- *Civil Engineering
- *Electrical Engineering
- *Structural Engineering
- *Mechanical Engineering
- *Condition Assessment of Equipment, Concrete, and Steel

Other Scopes of Work

N/A

* There must be representation for all major scopes of work listed. The experience of the firms listed to perform the Major Scopes of Work, whether a subconsultant or prime firm, will be evaluated under Consideration Item 6 – Major Scopes of Work – Comparable Project Experience.

Notes:

- Participation at the prime or sub-consultant level may create a conflict of interest and thus necessitate exclusion from any contracts resulting from the work performed in the design phase.

- If the City determines that a conflict of interest exists at the prime or sub-consultant level, the City reserves the right to replace/remove the prime or instruct the prime consultant to remove the sub-consultant with the conflict of interest and to instruct the prime consultant to seek a post-award change to the prime consultant's compliance plan as described in City Code § 2-9B-23. Such substitutions will be dealt with on a case-by-case basis and will be considered for approval by Small and Minority Business Resources (SMBR) in the usual course of business. The City's decision to remove a prime or sub-consultant because of a conflict of interest shall be final.
- Public Information/Communications and Construction Inspection are **NOT** sub-consultant opportunities on this project. These services will be performed in-house or under a separate contract, if needed, and will be determined when project assignment is made.