



## SCOPE OF SERVICES

Solicitation Number: CLMP190

Project Name: Engineering Services for Sanitary Sewer Evaluation Study – Crosstown Tunnel

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### **PROJECT FOR:**

CITY OF AUSTIN, AUSTIN WATER, THROUGH ITS CAPITAL CONTRACTING OFFICE

### **PROJECT TITLE:**

Sanitary Sewer Evaluation Study - Crosstown Tunnel

### **OBJECTIVES OF THE PROJECT:**

The objective of this project is to perform Sanitary Sewer Evaluation Studies (SSES) in the Crosstown Tunnel Basin Area to identify, rank and define improvements in the wastewater collection system. The SSES will analyze, assess, identify, prioritize, and define improvements and risk of failure in the targeted area which will reduce inflow and infiltration (I/I) and Sanitary Sewer Overflows (SSOs) in the study area.

### **BACKGROUND:**

In 2013, Austin Water installed 26 “permanent” flow meters in the Crosstown Basin. In addition, a number of temporary flow meters have also been installed in the Crosstown Basin. Over 2½ years, these flow meters have identified drainage sub-basins with relatively high I/I. This project will analyze and rank the data obtained from these “permanent” and temporary flow meters to identify targeted SSES on specified sub-basins’ drainage areas. These targeted sub-basin studies will identify major sources of I/I and system conditions within each area through the application of a variety of inspection techniques. The goal of these studies will be to assess, identify, quantify, and prioritize repairs that will reduce I/I, SSOs, and minimize the possibility of future system failures and environmental impacts. The measures of success for these studies and subsequent repair projects will be the reduction of peak flows due to I/I, excessive long-term infiltration, and the reduction of SSOs in the targeted areas.

### **ANTICIPATED SERVICES:**

The anticipated services will include civil engineering, project management, investigation, analytical study, field services, evaluation, hydraulic modeling, coordination, preparing maps, flow monitoring, evaluation of historical data, preliminary engineering and other engineering services as necessary for this Sanitary Sewer Evaluation Study. Engineering disciplines under this contract may include civil, environmental, instrumentation, control systems, automation, mechanical, sanitary, structural, chemical, and or other types of engineering. The services should be performed by a firm regularly engaged in sewer evaluation studies and sewer improvement programs. The professional services to be provided on this project will consist of targeted (SSES) and other activities to complement Austin Water’s Capacity Management

Operations and Maintenance (CMOM) and sewer improvement efforts. The selected firm should be knowledgeable and experienced in wastewater collection systems, the collection of field data, and developing cost effective and efficient recommendations for addressing system deficiencies.

### **REQUIRED TASKS:**

**Initial Submittals** – Provide initial submittals, including but not limited to, project work plan and schedule, staffing and equipment plan, quality control plan, Health and Safety Plan.

**Review of Existing Data** – Review existing flow monitoring, Hansen (SSO), and flow monitoring data to understand existing system and prioritize SSES work. Provide an inflow and analysis report of the Crosstown Tunnel Basin Area prioritizing individual sites for SSES investigation.

**Coordination** – Coordinate with City of Austin (COA) crews for field activities; to include work schedule coordination and Television Inspection requests for any areas that need additional field investigation

**Flow monitoring** – Perform flow monitoring to pinpoint and locate areas with high inflow and infiltration

**Manhole Inspection** – Following industry standards, inspect manholes to identify system defects in manholes

**Smoke Testing** – Using industry standards and a dual blower system, perform smoke testing to identify defects in the collection system. Provide location, type of defect, severity of leak, line segment, and photographs for each I&I defect.

**Dyed Water Flooding** – Perform dyed water flooding to identify direct connections through sanitary main defects from the surface or through the storm water system.

**Private Lateral Investigation** – Perform investigation on targeted line segments to identify defects on the private side of the collection system. In areas where defects are located on the private side, provide details and information to allow PLAT activities to take place.

**Coordination with COA Collection System Model** – Work with the modeling team to identify and prioritize capacity related concerns.

**System Analysis and Rehabilitation/Repair Cost Estimate** – Review field work to insure it is complete and free from errors or inaccuracies. Summarize and analyze sources of I&I along with a recommended repair/rehabilitation method for addressing deficiencies. Prioritize repairs based upon the ratio of repair cost to estimated I&I removed (\$/gallon per day).

**Recommend Improvements** – Provide a list of recommended improvements, benefit of improvements, cost and effectiveness.

**SSES Report** – Summarize inspection results in a technical memorandum with tables and graphical exhibits. Provide SSES report of findings and recommendations. Identified projects should be recommended and grouped along with supporting documentation.

**Preliminary Engineering Design Report** – Based on priority projects identified and selected as a result of the SSES report and approved by Austin Water; consider alternative solutions so that the most cost-effective solution is identified and then provide a preliminary engineering design report.

**PROPOSED SCHEDULE**

Review of existing data and Inflow Analysis Report should be completed within 3 months of the Notice to Proceed. Based upon this evaluation, it is anticipated that up to 5 targeted areas will be selected for targeted SSES studies. The size and limits of the targeted SSES areas will be selected based upon the prioritized list identified in the inflow and analysis report. It is expected that each targeted area will be investigated one after another or in series. For a targeted area, it is anticipated that flow monitoring will take 3 to 6 months to complete and smoke testing will take 3 to 6 months to complete. Both the flow monitoring and smoke testing are contingent on the size of the area selected and the weather. The SSES Report should be submitted within 2 months after smoke testing and manhole inspection are completed. The Preliminary Engineering Design on Priority Projects should be submitted within 5 months after SSES Report is complete.

**PROPOSED PROCUREMENT SCHEDULE**

RFQ Issued – September 2015  
 Proposals Due - October 2015  
 Selection – December 2015  
 Water and Wastewater Commission – January 2016  
 Council – January 2016  
 Contact Execution – April 2016

**COST ESTIMATE:**

The budget for this project is up to \$1,500,000.

**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. 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**

**Sewage Collection, Treatment and Disposal Engineering**

**Sanitary Engineering**

**Civil Engineering**

**Environmental Engineering**

**Other Scopes of Work**

**Cost Estimating**

**Mechanical Engineering**

**Chemical Engineering**

**Structural Engineering**

**Smoke Testing**

**Notes:**

- Construction Inspection and Public Information and Communications are **NOT** subconsultant opportunities. These services will be performed in-house or under a separate contract, if needed, and will be determined when project assignment is made.
- Participation at the prime or subconsultant 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 subconsultant level, the City reserves the right to replace/remove the prime or instruct the prime consultant to remove the subconsultant 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 subconsultant because of a conflict of interest shall be final.

- For work that includes construction activities performed by the CONSULTANT or Subconsultants, workers shall be paid not less than the prevailing wage rates, as referenced in Section 00830 (include link to 00830 on CMD website)
- A consultant performance evaluation will be performed on all professional services contracts. This evaluation will be conducted at the end of each phase or other period defined by OWNER.