SCOPE OF SERVICES

Solicitation Number: CLMP165
Project Name: Engineering Services for Downtown District Cooling Plant #3

PROJECT FOR:

CITY OF AUSTIN, AUSTIN ENERGY, THROUGH ITS CONTRACT MANAGEMENT DEPARTMENT

PROJECT TITLE:

Engineering Services for Downtown District Cooling Plant #3

BACKGROUND:

The Austin Energy Downtown District Cooling System is located in Austin and is bound by 6th street to the North, Cesar Chavez Street on the South, Red River Street on the East and Bowie Street on the West. There are two existing plants, Paul Robbins District Chilled Water Plant in the center, and District Cooling Plant #2 in the eastern part of the system. There are approximately 26 customers served for a total load of 15,000 tons. Austin Energy distributes chilled water from its plants to individual buildings via a network of underground pipes and heat exchangers within the customers' mechanical rooms.

OBJECTIVES OF THE PROJECT:

The City of Austin (City) Austin Energy Department (AE), through its Contract Management Department (CMD), is seeking Statements of Qualifications from qualified firms interested in providing engineering services for the new Downtown District Cooling Plant #3 to be located at the Crescent Tract Property, 812 1/2 W 2nd Street.

The objective of this project is the installation of 5,000 to 10,000 tons of additional chilled water capacity including chillers, cooling of condenser water using cooling towers or once through lake water from Lady Bird Lake, associated infrastructure, and appurtenances. The project also includes the construction of a retaining wall along the railroad property to increase available space on the site. The east property line is common with the Union Pacific Railroad Right of Way. The selected firm will provide engineering and professional services for preliminary design, design, community involvement, permitting, bid/award, construction, and warranty phases of the chiller installation project. The selected firm shall receive a 25% engineering package (excludes retaining wall design) showing the piping and instrument diagram, site layout, flow diagram, building lay outs, electrical one line diagram for the proposed plant. Additionally, existing site utilities and chilled water piping record drawings will be provided along with the site survey and geotechnical reports from previous site projects. The design shall address the hydraulic, mechanical, civil, structural, electrical, instrumentation & controls, permitting, architectural, and environmental aspects of the facility. The Firm will develop drawings and other visual aids to communicate the aesthetics of the plant design to nearby property owners, predominantly condominiums and apartments, and stakeholders such

as City Council, Electric Utility Commission, and Downtown Austin Neighborhood Alliance who will have input into the final design. The project will be subject to City of Austin Arts in Public Places requirements and as such, the Firm will be expected to incorporate specified design elements into project. The design of the plant shall take into consideration the existing downtown chilled water operations from Paul Robbins District Cooling Plant, District Cooling Plant #2, and temporary chillers on site which cannot be negatively impacted during any phase of the permanent chiller installation project. Therefore, measures to ensure uninterrupted chilled water operations during the construction phase will have to be planned for and integrated into the construction sequencing.

Nearby property owners and stakeholders will have input on the sound levels from the plant. An engineering sound report, provided by AE, will be completed and used as the basis for equipment selection. The engineering sound report will detail the background noise levels and the noise levels for new chiller/cooling tower options. The selected firm will be required to model the impact of the sound from its design on nearby apartments and condominiums.

ANTICIPATED SERVICES:

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

PRELIMINARY STUDIES AND SITE CONDITION ASSESSMENT

1. Identify and conduct required environmental site assessments and studies for lake cooling water intake and wastewater discharge permits, including, but not limited to:
    - Characterizing the thermal plume using models or data collection for establishing temperature limits for TCEQ TPDES Permit;
    - Source water physical characterization such as bathymetry, flow rates and volumes to assure the physical environment is not adversely impacted by upsetting lake stratification of diverting greater than 5% of river flow;
    - National Pollutant Discharge Elimination System (NPDES) 316(b) best technology available (BTA) demonstration for intake velocities 0.5 ft/s;
    - Source water biological assessment including identification of historical and contemporary biota, studying the baseline fish and/or shellfish endangered species, important commercial and/or sport fisheries and other species of concern. Assessment includes their abundance, spatial and temporal variations in spawning, feeding and migration of the species impacted;
    - Delineation of wetlands and other bodies of water in the area and assessment of wetlands loss;
    - Inventory of listed endangered species or critical habitat; and
    - Inventory of historic property that could be affected by project.
2. Perform surveys for existing as-built conditions, topography, sub-surface utilities, and geotechnical conditions.

Deliverables:

A. Studies and site assessments required for local, state and federal permit applications, including, but not limited to, Army Corp of Engineers Permit, NPDES Permit for cooling water intake and discharge, local site development and Lady Bird Lake impact analysis.
B. Surveys for existing as-built conditions, topography, sub-surface utilities, and geotechnical conditions.

PHASE I - DESIGN AND BID SERVICES

Subsequent to the review of the preliminary engineering phase report (PER) and environmental assessment, the selected Firm will prepare an assessment of the preliminary design and permitting report to identify any issues which may require rework by the selected firm. Engineer will perform detailed design and preparation of documents required to bid the construction phase services. The design shall consist of 60%, 90% and 100% stages of completion, incorporating City of Austin and Austin Energy Standards. At each of the milestones, the plans, specifications and calculations (if requested) shall be submitted to the City for review followed by a project review meeting.

Design elements shall include the ability to operate and maintain equipment. Project shall be designed to be consistent with surrounding development aesthetics. Engineer will participate in public involvement process. Aesthetics of design is to be vetted through all stakeholders. The design shall ensure decibel levels limits agreed to by adjacent property owners and stakeholders will be achieved.

The Engineer will prepare an estimate of probable construction cost at the 60%, 90% and 100% stages of completion. The Firm will also be responsible for preparing all documents required for applicable Federal, State, and Local permits and be responsible for permitting of improvements. The selected engineer shall provide bid phase services including the issuance of any addenda, participation in pre-bid conference, preparation of responses to questions from contractors, and work with the City's team to evaluate bids received and recommend the construction contract award.

Deliverables:

1. Report on preliminary design and permitting assessment performed by others,
2. Detailed engineering documents sealed by a Professional Engineer in Texas and associated services required for the permitting, bidding and construction of the Downtown Cooling Plant 3. Engineering documents shall be delivered for City review at the 60%, 90%, and 100% stages of completion,
3. Project schedules,
4. Opinion of Probable Cost for construction beginning at 60% and greater stages,
5. Permit applications and utility coordination documents (if required),
6. Bid phase addenda and responses to questions,
7. Architectural renderings and public outreach materials,
8. Monthly updates of design schedule and design costs to date.

PHASE II - CONSTRUCTION SERVICES

The selected engineering firm shall provide construction phase services for each below, which will include having an on-site representative at the construction site to monitor contractor's performance during construction. Engineer shall review submittals and requests for information, review change orders, approve field design changes, attend weekly construction meetings, and make periodic site investigations to ensure project is constructed in accordance with engineer's design. Prepare as-built drawings as well as civil, mechanical and electrical drawings.

Deliverables

- Approve submittals, requests for information, change orders and design changes;
- As-built drawings;
- Inspection and testing reports;
- Oversee and approve commissioning of plant;
- Attend weekly project meetings and record and submit minutes; and
- Monthly updates of design schedule and design costs to date.

Construction Phase Activities

This work is anticipated to be scheduled in the order below:

1. Install erosion and sedimentation controls;
2. Construction of required retaining wall and grade the site to make maximum use of space;
3. Connect to existing, underground chilled water lines, potable water and sewer;
4. Installation of new electrical service and equipment for the new facility;
5. Install building structures to house chillers, mechanical and electrical systems, and appurtenances;
6. Install cooling water intake structure and associated intake and discharge piping system (if cooling water intake design not used);
7. Install new chillers, pumps, variable frequency drives, piping, chemical treatment and compressed air facilities and other required appurtenances, as well as electrical switchgear and control systems;
8. Install new cooling towers;
9. Test Chiller Units and cooling towers for performance;
10. Finish architectural elements; and
11. Surface and site restoration.

PHASE III - WARRANTY SERVICES

Provide support to City on an as needed basis to evaluate and make engineering recommendations regarding warranty issues related to the improvements.

PROPOSED SCHEDULE:

Owner will begin designing for both options, but may elect to cease design for one or the other options depending on cost, schedule or constructability issues.

Option A – Cooling Tower
Complete selection of Engineer and Council approval of Recommendation to Council by February 2015.
Issue Notice to Proceed by March 2015
Complete 60% design by July 2015
Complete 90% design by November 2015
Complete 100% design by January of 2016
Complete Permitting by February of 2016
Begin Construction by June 2016
Complete Construction for September 2018

Option B – Lake Cooling Water Intake
Complete selection of Engineer and Council approval of Recommendation to Council by February 2015.
Issue Notice to Proceed by March 2015
Complete 60% design by August 2015
Complete 90% design by December 2015
Complete 100% design by February of 2016
Complete Permitting by February of 2017
Begin Construction by June 2017
Complete Construction for September 2019

COST ESTIMATE FOR ENGINEERING SERVICES:

Option A - $2,000,000 - $3,000,000
Option B - $5,000,000 - $8,000,000

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 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
Mechanical Engineering
Structural Engineering
Electrical, Controls and Instrumentation Engineering
Federal, State and Local Environmental Permitting

OTHER SCOPES OF WORK
Geotechnical Services
Surveying
Construction Inspections: Electrical and Controls
General Construction: Management, Scheduling, Cost
Architectural Services
Acoustic Consulting: Noise Modeling and Abatement
Public Involvement
Plant Commissioning

CITY OF AUSTIN PUBLIC PARTICIPATION PRINCIPLES: Accountability and Transparency

The City will enable the public to participate in decision-making processes by providing clear information on the issues, the ways to participate, and how their participation contributes to the decision.

- **Fairness & Respect**
  The City will maintain a safe environment that cultivates and supports respectful public engagement and will expect participants to do so in turn.

- **Accessibility**
  The City will respect and encourage participation by providing ample public notice of opportunities and resources and accommodations that enable all to participate.

- **Predictability & Consistency**
  The City will prepare the public to participate by providing meeting agendas, discussion guidelines, notes, and information on next steps.

- **Creativity & Community Collaboration**
  (Inclusivity and Diversity)
  The City will use innovative, proven, and customized engagement solutions that are appropriate to the needs of the projects and the participants.

- **Stewards of Resources**

The City will balance its commitment to provide ample opportunities for public involvement with its commitment to delivering government services efficiently and using City resources wisely.

NOTES:

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

A consultant performance evaluation will be performed on all professional services contracts. This evaluation will be conducted at the end of each Preliminary, Design and Construction phase.

Construction Inspection and Public Information and Communications are sub-consultant opportunities. These services will be performed under this contract.