

**CITY OF AUSTIN  
PURCHASING OFFICE  
SOLICITATION NO. RFP MPM0401  
SCOPE OF WORK**

**INSPECTION, REPAIR, AND/OR RESTORATION OF MOONLIGHT TOWERS**

**I. PURPOSE**

Austin Energy (hereafter referred to as AE) seeks Offers from Contractors who are qualified and experienced in the inspection, repair, and/or restoration of lattice towers. This Contract is for the inspection, maintenance, and repair of the Moonlight Towers located in Austin, TX. As part of this work one or more towers may need to be disassembled, repaired, and reassembled. Due to the age and rarity of these towers, the Contractor may be required to fabricate some parts of the tower. The Contractor shall consider the work and all necessary permitting as part of this Contract.

**II. BACKGROUND**

These towers are part of a set of 17 towers erected in 1893 as a unique area lighting system for the City of Austin. The towers have been designated as both Texas and Austin Historic Landmarks. The moonlight towers are between 148' - 168' tall.

- Tower No. 1 – Eastside and Leland
- Tower No. 2 – South 1<sup>st</sup> and West Monroe
- Tower No. 3 – 3<sup>rd</sup> and Trinity (Currently in Storage)
- Tower No. 4 – Guadalupe and West 9<sup>th</sup>
- Tower No. 5 – 12<sup>th</sup> and Blanco
- Tower No. 6 – West 12<sup>th</sup> and Rio Grande
- Tower No. 7 – West 15<sup>th</sup> and San Antonio
- Tower No. 8 – 22<sup>nd</sup> and Nueces
- Tower No. 9 – West 41<sup>st</sup> and Speedway
- Tower No. 10 – Zilker Park (Christmas Tree) \*
- Tower No. 11 – Martin Luther King and Chicon
- Tower No. 12 – East 13<sup>th</sup> and Coletto
- Tower No. 13 – Leona and Pennsylvania
- Tower No. 14 – East 11<sup>th</sup> and Trinity
- Tower No. 15 – East 11<sup>th</sup> and Lydia
- Tower No. 16 – West 4<sup>th</sup> and Nueces (Currently in Storage)
- Tower No. 17 – Canterbury and Lynn

**\* The Zilker Park tree is used as a “Christmas Tree” and shall be completed prior to November 1, 2014.**

**\*\* Towers in storage shall be repaired, painted, and placed according to Owner’s schedule.**

The City of Austin undertook a complete restoration project in 1995. Since that time three (3) of the towers have been taken down due to development projects around them, one (1) of which has been reassembled and installed, and the remaining fourteen (14) have had only visual inspections and minor repairs. The entire set of seventeen (17) towers need to be brought back to original condition and maintained so that future generations can enjoy them.

The City’s approximate budget is between \$500,000 and \$900,000 each year for the base term. The

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actual amount spent will be dependent on the repairs needed on each moonlight tower.

Please see Attachment J for more information on the towers.

**III. REQUIREMENTS**

- A. This section describes the project in general and provides an overview of the extent of the work to be performed by the Contractor. Detailed requirements and extent of work is stated in the applicable specification sections and shown on the drawings. Contractor shall, except as otherwise specifically stated herein or in any applicable part of these Contract documents, provide and pay for all labor, materials, equipment, tools, building equipment, permits, and other facilities and services necessary for proper execution, testing, and completion of the work.
- B. Any part or item of the work which is reasonably implied or normally required to make the installation satisfactorily operable shall be performed by the Contractor. It is the intent of these specifications to provide AE with the complete system. All miscellaneous appurtenances and other items of work that are incidental to meeting the intent of the specifications shall be considered as having been included in the applicable unit prices or lump sum prices for the work, even though these appurtenances and items may not be specifically called for in the solicitation documents.
- C. Contractor Responsibilities
  - a. The Contractor shall provide services for ascending, visual/physical inspection, and repair of towers. The Contractor shall also complete the repair and placement of towers currently in storage.
  - b. The work will be performed in an orderly sequence according to a work plan submitted by the Contractor for approval by AE after Contract execution and before work commences. The work plan will provide information on the anticipated order of work and a time schedule for completing the work. It will also provide a detailed description to define the Contractor's method of access to all the towers and all components of the towers including those in storage.
  - c. Awarded Contractor will be required to inspect and repair the towers in the order designated by the AE Project Manager. AE requires no more than four (4) towers, including the two (2) in storage, be disassembled and in restoration at any given time.
  - d. UNDER NO CIRCUMSTANCES SHALL THE TOWER BE CLIMBED. Contractor shall use an aerial device or ladder to access the towers. A ladder may only be used to access the base and lower catwalk. Any other portion of the moonlight towers must be accessed with an aerial device. Contractor may use the upper catwalk for inspection and repair of the light fixture.
    - i. ACCESSING THE TOWER
      - 1. Accessing the tower by aerial device
        - i. Follow all safety procedures for setup and operation of aerial devices.
        - ii. Ensure that the person accessing the tower utilizes a six foot fall arresting lanyard and a full body harness to attach to the aerial device before it is uncradled.
        - iii. Personnel transferring from an aerial device to a tower must have their lanyard attached properly to the star post before their feet leave the floor of the aerial basket.
      - 2. Accessing the tower by ladder
        - i. Follow all safety procedures for setup and operation of ladders.

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- ii. Ensure that the person to access the tower is wearing a full body harness with a six foot fall arresting lanyard.
  - iii. Station at least one employee at the base of the ladder to hold it in place as the first employee climbs, and that the first employee to climb securely lashes the top of the ladder to tower before any further climbing is attempted.
  - iv. Personnel transferring to the tower from the ladder shall have their lanyard properly attached to the star post before they begin to climb onto the tower.
- d. All work shall be performed from Monday through Friday between the hours of 8 AM through 4 PM.
- e. All public and private property affected by the work shall be protected by the Contractor at all times and any such property damaged due to the Contractor's negligence shall be restored at the Contractor's expense.
- f. The Contractor shall furnish and employ adequate barricades, guard fences, signs, torches, lanterns, flagmen, guards, and any other protective devices that may be necessary to protect and warn the public throughout the course of the work and will obtain any necessary permits for street or sidewalk closures. Operations shall be carried out so as to cause the least interruption to traffic. No traffic detours shall be placed into effect without authorization of the proper authority. All barricading and warning signs shall be in accordance with the Manual on Uniform Traffic Control Devices and the Manual on Uniform Construction Barricading Standards. Hydrants under pressure, valve boxes, fire or police call boxes, or other utilities shall be left unobstructed and accessible throughout the course of the work.
- g. The Contractor shall secure and pay for all permits, fees, and licenses as required for proper execution of the work.
- h. The Contractor shall comply with all codes, ordinances, rules, regulations, orders, and other legal requirements of public authorities which bear on performance of the work.
- i. The inspection by the Contractor shall be of sufficient detail so as to result in a determination of structural integrity and to inform AE of any conditions of deviation in alignment, guy wire tension, paint failure, light bulbs out, and any other condition which would affect tower performance. This inspection will result in a written report to Austin Energy informing of conditions and recommendations for repair or other preventive maintenance required, as well as the stability and overall condition of the towers.
- i. **PRE-ACCESS INSPECTION**
  - 1. Guying system
    - i. Inspect guy posts for rust or corrosion and paint deficiencies.
    - ii. Ensure that turnbuckles have at least 1 1/2-remaining thread per side on the inside of the turnbuckles.
    - iii. Ensure that the turnbuckle safety cable is in place and fully clamped.
    - iv. Ensure that there are three (3) guy wires in place from each guy post, and that they are properly tensioned.
    - v. Ensure that the pre-form ties on the guys are not damaged or loose.
    - vi. Ensure that all cluster clamps are in place and tight.
    - vii. Ensure that all guys are in good condition (call for tree trimming, etc. if necessary).
  - 2. Tower Base
    - i. Ensure that all nuts are present and tight on base bolts.
    - ii. Inspect for rust or corrosion and paint deficiencies.

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- iii. Inspect knee braces and associated nuts and bolts for presence and condition.
  - iv. Inspect knee brace safety strap for presence, condition and tightness.
  - v. Visually inspect all sides of the tower for alignment of the vertical star posts.
  - vi. Visually inspect the entire tower for any twisting or rotation.
  - vii. Visually inspect the lower catwalk assembly and lower elevator support system for loose or missing hardware.
  - viii. Inspect Grounding wire and connections.
- ii. INSPECTION OF THE TOWER
- 1. Inspect lower catwalk and lower elevator assembly
    - i. Inspect lower catwalk hardware to ensure that it is present and secure.
    - ii. WARNING: ENSURE THAT PRIMARY CHAIN AND LOCK AND SECONDARY SAFETY CHAIN ARE SECURING THE ELEVATOR BEFORE APPROACHING THE ELEVATOR
    - iii. Inspect the elevator assembly to include: cage, pulley wheel, wheel supports, counterweight cable, guide cables, braking clamps and all cable clamps.
    - iv. Proceed up the tower and inspect each section as you go for rust or corrosion of star posts and sockets, missing or loose socket set screws, tightness of diagonal rods, bent star posts, tightness of climbing steps, loose hardware or pre-form ties on guy wire attachments, cracks in clevises, and condition of guy wires.
    - v. Upon reaching the top of the tower, inspect the bottom of the upper catwalk assembly for paint and loose hardware.
    - vi. Check the upper elevator assembly for loose hardware.
    - vii. Install the cross-arm strap to the center post near the upper catwalk and attach your lanyard to it while working.
  - j. Contractor shall receive approval by Project Manager prior to any repair performance or preventative maintenance recommended in the inspection report.
  - k. The Contractor shall plumb and re-tension the guy-wires per Section 05133. The Contractor shall repaint any painted surfaces requiring repainting per Section 09860. In the event of excessive damage the Contractor shall disassemble, repair, and reassemble the tower per Sections 05131 and 05132.
  - l. The Contractor shall replace any lights that are out at the time of inspection. The Contractor shall exercise the circuit breakers located at the light assembly by turning each one on and off. Any circuit breakers that fail shall be replaced at that time by the Contractor.
  - m. The Contractor shall replace glass candelabras if necessary.
  - n. Emergency service calls for corrective maintenance requested by AE shall be available 24 hours per day, 365 days per year (including holidays). The Contractor shall arrive at the damaged moonlight tower address within four (4) hours of being notified. The Contractor shall make emergency repairs, stabilize the tower, or disassemble and remove the tower within twenty-four (24) hours of any incident. This requirement is based on only one tower damaged within a 48 hour period.
  - q. Welders shall be certified by the American Welding Society (AWS) and shall be qualified to AWS D1.1 Structural Welding Code or ASME Section IX Qualification Standard for Welding and Brazing Procedures. Qualification records will be kept current and shall be made available to AE if requested while Contractor's employees are on-site performing work.

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- s. Contractor shall cooperate with AE and coordinate with other Contractors for site access, transportation, utilities, material storage, traffic, and parking.
- t. Contractor should provide a list of man-lift/ladder equipment available for this project. Contractor shall use a man-lift/ladder to access the Towers, which are approximately 148' – 168' tall.

D. AE Responsibilities

- a. The AE Project Manager shall review and approve shop drawings of fabricated items prior to manufacture of the items.
- b. All Engineering responsibilities will be handled by Austin Energy. The AE Project Manager will be available to make any engineering decisions as needed.