

Marietta Board of Lights and Water
Sugar Hill Elevated Water Storage Tank Structural Evaluation
Request for Proposals

INTRODUCTION

The Marietta Board of Lights and Water is accepting proposals for the inspection and structural evaluation of the Sugar Hill 500,000 gallon elevated water storage tank. The tank is located on Sugar Hill drive in Marietta, Georgia. A location map and drawing of the tank indicating the design, plate thicknesses, and dimensions is attached.

Contractors shall submit a single lump sum bid to cover the cost of pressure washing clean the tank interior, rigging, performing shell thickness measurements, providing a structural evaluation, and disinfecting and restoring to service the Sugar Hill 500,000 gallon elevated water storage tank.

Sealed proposals will be received by the CITY OF MARIETTA/BOARD OF LIGHTS AND WATER, at the PURCHASING DEPARTMENT, 1ST FLOOR, CITY HALL, MARIETTA, GEORGIA 30060 until:

Thursday, January 16, 2014, 10:00 A.M., Local Time

PRESSURE WASHING

The Owner will drain the tank at the contractor's request. The contractor must notify the Owner not less than 10 days in advance of the proposed inspection dates. The scope of the work to be performed is as follows:

1. Open and close tank hatches for inspection. Replace any damaged or missing gaskets, nuts and bolts on the hatches and manways. Repair of broken hinges or other defects is not required unless the damage is due to the actions of the contractor.
2. Provide all labor, tools, and materials necessary to pressure wash all interior surfaces of the tank. Pressure washers must be not less than 12 horsepower, capable of 4 gallons per minute, and adjustable from not less than 5,000 psi down to 2,000 psi. No wash additives are required. Sludge and debris are to be accumulated in the tank bottom and removed from the tank. Care shall be taken to prevent damage to painted surfaces during pressure washing and sludge removal. Debris may not be washed down the tank drain or fill pipe. Sludge and debris from the tank interior are to be stored on site for disposal by the Owner. Wash water will be provided to the contractor free of charge provided it is not wasted or otherwise misused. Appropriate, functional, backflow prevention devices are required on all equipment connected to the public water supply.
3. Provide all labor, tools, and materials necessary to disinfect the tank and restore it to

service. Disinfection shall be by **Chlorination Method 2** of the methods described in AWWA C652-02. Areas disinfected shall include all areas that would contact water with the tank filled to overflow elevation. A solution of 200-mg/L available chlorine shall be applied directly to surfaces that are in contact with water when the tank is filled to overflow.

4. The chlorine solution may be applied with suitable brushes or spray equipment. The solution shall thoroughly coat all surfaces to be treated, including inlet and outlet piping, and shall be applied to any separate drain piping such that it will have available chlorine of not less than 10mg/L when filled with water. Overflow piping need not be disinfected.
5. The disinfected surfaces shall remain in contact with the strong chlorine solution for at least 30 minutes after which potable water shall be admitted, the drain piping shall be purged of the 10-mg/L chlorinated water, and the tank shall then be filled to overflow level. Following this procedure, and subject to satisfactory bacteriological testing and acceptable aesthetic quality, such water may be delivered to the distribution system.
6. Marietta Board of Lights and Water personnel will take samples of water from the tank and test them for turbidity, odor, and total coliform. If the results are acceptable the tank will be restored to service.
7. The interior of the tank is considered a confined space hazard. Only personnel trained in confined space entry may enter the tank.

QUALIFICATIONS

Submit a complete resume of the person performing the field inspection and the structural engineer performing the calculations and the evaluation. The BLW reserves the right to reject any and all proposals considered to be deficient in experience or otherwise under qualified to perform the evaluation.

BOWL AND RISER SHELL THICKNESS MEASUREMENT

The tank will be drained and pressure washed clean for the inspection by the contractor. The contractor shall make all measurements, disinfect and restore the tank to service in a single day. Bowl and riser shell thickness measurements shall be made using a multiple echo ultrasonic thickness gauge or other device capable of discerning the plate thickness without inclusion of paint and loose rust. A total of not less than 100 evenly distributed measurements shall be made in the tank bowl. A total of not less than 100 evenly distributed measurements shall be made in the tank riser. Additional measurements shall be made in those areas showing the greatest concentration of pitting and overall metal loss. The quantity and location of the additional measurements shall be at the engineer's discretion but must be sufficient to provide a comprehensive evaluation of the structural stability of the tank.

STRUCTURAL EVALUATION

The evaluation of the existing tank bowl and riser shell shall be made by an engineer, registered in the state of Georgia and experienced in water tank design. The evaluation shall include a comparison analysis of the existing shell riser and bowl plate thickness against the latest AWWA

D-100 design requirement plate thickness. Design conditions shall be the same considerations as for a new tank of similar design. The wind load design shall be for ASCE 7 100 mph wind loading. Current design requirements shall be compared to the measured average existing shell plate thickness minus 1/16th of an inch corrosion allowance. The evaluation shall also consider the affect of local heavy metal loss on the structural stability of the tank. No footing design or soils report is available, assumptions will have to be made in this area.

The inspection shall include a detailed inspection of the tanks weld seams. All bracing and tension rods shall be inspected as well as the column to bowl connections.

REPORT

The contractor shall provide four hard and one electronic copy of a written report stamped and signed by an engineer registered in the state of Georgia. The report shall document the evaluation of the tank. The results of the plate thickness measurements, structural calculations, and recommendations regarding the suitability of the tank for continued use shall be included in the report. Should repairs be required describe the repairs in detail and provide an estimated cost to perform the repairs.

BONDS AND INSURANCE REQUIREMENTS

Bonds

Bid bonds and performance bonds are not required.

Insurance

Contractor shall purchase and maintain such comprehensive general liability and other insurance as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the work and Contractor's other obligations under the Contract Documents, whether such performance is indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

1. Claims under workers' or workmen's compensation, disability benefits and other similar employees benefit acts;
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. Claims for damages insured by personnel injury liability coverage which are sustained (i) by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or (ii) by any other person for any other reason.
5. Claims for damages, other than to the work itself because of injury to or destruction of tangible property, including loss of use resulting there from; and
6. Claims for damages because of bodily injury or death of any person or property damage arising out of the Ownership, maintenance or use of any motor vehicle.

- a. The insurance required by this paragraph shall include the specific coverages and be

written for not less than the limits of liability and coverages provided herein or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All such insurance shall contain a provision that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to Owner and Engineer. All such insurance shall remain in effect until final payment.

b. Contractual Liability Insurance: The comprehensive general liability insurance required by paragraph (a) will include contractual liability insurance applicable to Contractor's obligations under separate contract and subcontracting.

c. The Contractor shall purchase and maintain property insurance upon the work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in these supplementary conditions or required by law). This insurance shall include the interest of Owner, Contractor and Subcontractors in the work, shall insure against the perils of fire and extended coverage, shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and other perils as may be provided in these supplementary conditions, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance or otherwise provided in these Supplementary Conditions, Contractor shall purchase and maintain similar property insurance on portions of the work stored on and off the site or in transit when such portions of the work are to be included in an Application for Payment. The policies of insurance required to be purchased and maintained by Contractor in accordance with paragraphs c and d shall contain a provision that the coverage afforded will not be canceled or materially changed until at least thirty days' prior written notice has been given to the Owner.

d. Contractor shall purchase and maintain such boiler and machinery insurance as may be required by the Supplementary Conditions or by law. This insurance shall include the interest of Owners, Contractor and Subcontractors in the work and shall provide coverage for all installed and functional mechanical equipment for the full replacement value of the equipment.

e. Owner shall not be responsible for purchasing and maintaining any property insurance to protect the interests of Contractor or Subcontractors. If Contractor wishes property insurance coverage within the limits of such amounts, Contractor may purchase and maintain it at his own expense.

f. If Owner has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by Contractor in accordance with paragraphs a, b, c, and d, Owner will notify Contractor thereof within ten days of the date of delivery of such certificates, to Owner. Contractor will provide to the Owner such additional information in respect of insurance provided by him as Owner may

reasonably request. The right of the Owner to review and comment on Certificates of Insurance is not intended to relieve the Contractor of his responsibility to provide insurance coverage as specified nor to relieve the Contractor of his liability for any claims which might arise.

g. Partial Utilization: Not Applicable

h. The Contractor shall carry and maintain Combined Excess Liability (Umbrella) Insurance for a limit of not less than the following:

Each Occurrence:\$3,000,000
Aggregate:.....\$3,000,000

i. The limits of liability for the insurance required by paragraph (a) of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

For claims under Worker’s Compensation:

- (1) StateStatutory
- (2) Federal.....Statutory
- (3) Employer’s Liability – Each Accident:.....\$1,000,000
- Employer’s Liability – Disease – Each Employee:\$1,000,000
- Employer’s Liability – Disease – Policy Limit:\$1,000,000

If the Contractor chooses to maintain a policy with a maximum of the state mandated amounts of \$100,000 per accident, \$100,000 for disease per employee and a disease policy limit of \$500,000, the Contract required minimum of \$1,000,000 can be achieved by the excess liability policy required by paragraph **h** above.

For Claims Under General Liability,
General Liability Provided Per Occurrence

Each Occurrence (Bodily and Property
Damage Included):.....\$1,000,000

Fire Damage (Any One Fire):.....\$50,000

Medical Expenses (Any One Person):\$5,000

Personal and Adv Injury, With Employment
Exclusion Deleted:\$1,000,000

General Aggregate (Per Project):.....\$2,000,000

Products and Completed Operations
Aggregate:.....\$1,000,000

Notes: Property Damage Liability Insurance will provide explosion, collapse and underground hazard coverages where applicable. Each detonation of blasting shall be considered a single occurrence. General Liability shall include Contractual Liability as stipulated in paragraph **b** above.

For claims under Comprehensive Automobile Liability:

Combined Single Limit Per Occurrence, For
Any and All Autos, Including Bodily
Injury and Property Damage:\$1,000,000

j. Scope of Insurance and Special Hazards – The amounts stated in subparagraph “i” above are minimum amounts of insurance to be carried. The Contractor shall carry such additional insurance as may be required to provide adequate protection of the Contractor and his Subcontractors, respectively, against any and all damage claims which may arise from operations under this Contract, whether such operations be by the insured or by anyone directly or indirectly employed by his and, also, against any of the special hazards which may be encountered in the performance of this Contract.

k. Certificate Holder should read:
City of Marietta / Board of Lights and Water
675 North Marietta Parkway
Marietta, Georgia 30060

l. Insurance company must have an A.M. Best Rating of A-6 or higher. Insurance company must be licensed to do business by the Georgia Secretary of State. Insurance company must be authorized to do business in the State of Georgia by the Georgia Insurance Department.

Proof of insurance must be provided prior to any work being performed. Direct all questions to the Engineer.

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