

Date: April 2, 2019

Requisition No.: 183377

**PURCHASING DEPARTMENT
101 EAST 11TH STREET
CITY HALL
SUITE G13
CHATTANOOGA, TENNESSEE
37402**

Request for Bid (RFB) for the City of Chattanooga, Tennessee

*Proposals will be received at 101 East 11th Street, Suite G13,
Chattanooga, TN 37402 until 2:00 P.M., EST. on April 16, 2019*

Requisition / Bid No.: R183377 / 305453

Ordering Dept.: Fleet Management, Public Works

Buyer & E-mail: Mark McKeel mmckeel@chattanooga.gov

Items Being Purchased: Annual Safety Tests & Inspections

*****REQUEST FOR BIDS MUST BE RECEIVED*****

2:00 P.M., EST on April 16, 2019

*****PRE-BID CONFERENCE WILL BE CONDUCTED*****

10:00 A.M., EST on April 9, 2019

**The City of Chattanooga reserves the right to reject any and/or all proposals,
waive any informalities in the proposals received, and to accept any proposal
which in its opinion may be for the best interest of the City.**

**The City of Chattanooga will be non-discriminatory in the purchase of all goods
and services on the basis of race, color or national origin.**

**The City's Standard Terms and Conditions may be found on website:
<http://www.chattanooga.gov/purchasing/standard-terms-and-conditions>**

Note: ALL BIDS MUST BE SIGNED

All proposals received are subject to the terms and conditions contained herein and as listed in the above referenced website. The undersigned Offeror acknowledges having received, reviewed, and agrees to be bound to these terms and conditions, unless specific written exceptions are otherwise stated.

PLEASE PROVIDE THE FOLLOWING INFORMATION:

Company Name: _____

Mailing Address: _____

City & Zip Code: _____

Phone/Toll Free No.: _____

Fax No.: _____

E-Mail Address: _____

Contact Person: _____

Company Title: _____

Signature: _____

BID SOLICITATION



City of Chattanooga
101 East 11th Street, Suite G13
Chattanooga, TN 37402

SEALED BIDS

Mail or submit two (2) signed copies of bid form to this office in the enclosed envelope. Retain one copy for your file.

BID OPENING DATE AND TIME:

16-APR-19 at 2:00 PM

BID NUMBER: 305453

BUYER:

PHONE #: (423) 643-7230

DELIVERY REQUIRED:

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City of Chattanooga
101 East 11th Street, Suite G13
Chattanooga, TN 37402

Item	Class-Item	Quantity	Unit	Unit Price	Total
Requisition / Bid No.: 183377 / 305453 Ordering Dept.: Fleet Management, Public Works Buyer: Mark McKeel Phone No.: 423-643-7236 Items Being Purchased: Annual Safety Tests & Inspections ATTACHMENTS: 1. Specifications (16 pages) 2. Affirmative Action Plan (2 pages) 3. Iran Divestment Act Disclosure (1 page) 4. No Contact / No advocacy Notice (1 page) City of Chattanooga (COC) Terms and Conditions posted on Website http://www.chattanooga.gov/purchasing/standard-terms-and-conditions If you can't download call buyer for a copy. NOTE: A Pre-Bid Conference will be held April 9, 2019 at 10:00 AM, at City Hall, Purchasing Conference Room 101 East 11th Street, Suite G13, Chattanooga, TN 37402. Attendance at the Pre-Bid is Preferred. This Shall Be A Twelve (12) Month Blanket Contract To Supply Annual Safety Tests and Inspections of equipment for Fleet Management. The Contract Term May Be Renewed For An Additional Two (2) Twelve (12) Month Terms Under The Same Terms And Conditions By Mutual Agreement. The City Of Chattanooga And The Contractor May Bilaterally Extend The Contract By Providing Written Confirmation Of Agreement By Both Parties At Least 30 Days Prior To The Contract's Current Expiration Date Into Any Successive Term As Provided Herein. QUANTITIES ARE ESTIMATES ONLY THE CITY OF CHATTANOOGA SHALL GUARANTEE NO MINIMUM OR MAXIMUM AMOUNT PURCHASED DURING THE LIFETIME OF THE CONTRACT. *** BID MUST BE RECEIVED NO LATER THAN *** *** 2:00 PM EST ON APRIL 16, 2019 *** PLEASE SUBMIT BIDS IN DUPLICATE INDICATING BID NUMBER (305453) ON OUTSIDE PACKAGING PLEASE DO NOT EMAIL BIDS **** Vendor Shall Hold Prices Firm for First (1st) Year of Contract **** Price Escalation Clause: If as a result of a general change in prices or discounts, the Contractor has changed prices to all of its customers, the price under this contract may be adjusted accordingly. Contractor may be requested to show proof of alleged price changes prior to approval of any price adjustments. NOTE: ALL BIDS MUST BE SIGNED All bids received are subject to the terms and conditions contained herein and as listed in the above referenced website. The undersigned Bidder acknowledges					

BID SOLICITATION



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Item	Class-Item	Quantity	Unit	Unit Price	Total
<p>having received, reviewed, and agrees to be bound to these terms and conditions, unless specific written exceptions are otherwise stated.</p> <p>Any manufacturer;s names, trade names, brand names, or catalog numbers used in the specifications are for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive. Bids will be considered for any brand which meets or exceeds the quality of the specifications listed for any item.</p> <p>The City of Chattanooga reserves the right to reject any and/or all bids, waive any informalities in the bids received, and to accept any bid which in its opinion may be for the best interest of the city.</p> <p>The City of Chattanooga will be non-discriminatory in the purchase of all goods and services on the basis of race, color, or national origin.</p> <p>**** NOTE **** PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION:</p> <p>Company Name _____</p> <p>Address _____</p> <p>Phone/Toll-Free No. _____</p> <p>Fax No. _____</p> <p>eMail Address _____</p> <p>Contact Person's Name _____</p> <p>Estimated Delivery _____</p> <p>Minority-Owned Business _____ Small Business _____ Veteran _____</p> <p>Minority Woman-Owned Business _____ Disabled Veteran _____</p> <p>Woman-Owned Business _____</p> <p>**** ALL ITEMS MUST BE QUOTED F.O.B. DESTINATION ****</p>					

NOTE: ALL BIDS RECEIVED ARE SUBJECT TO THE TERMS AND CONDITIONS

ALL BIDS MUST BE SIGNED – The undersigned offers the above quoted prices under the conditions contained herein.

The City is Exempt from all Federal and State Tax.
Bids will be received at the above mentioned address.

TERMS OF PAYMENT: _____

TELEPHONE NUMBER: _____

COMPANY: _____

SIGNATURE: _____

NAME AND TITLE: _____

BID SOLICITATION



City of Chattanooga
101 East 11th Street, Suite G13
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City of Chattanooga
101 East 11th Street, Suite G13
Chattanooga, TN 37402

Item	Class-Item	Quantity	Unit	Unit Price	Total
1	Fire Department Ground Ladder-Annual Safety Inspections per Specs	18	Each	_____	_____
2	Fire Department Aerial-Annual Safety Inspection per Specs	18	Each	_____	_____
3	Fire Department Aerial-Five Year Safety Inspection per Specs	18	Each	_____	_____
4	Overhead Crane-10 Ton-Annual Safety Inspection per Specs	2	Each	_____	_____
5	Overhead Crane-5 Ton-Annual Safety Inspection per Specs	3	Each	_____	_____
6	Overhead Crane-1 Ton-Annual Safety Inspection per Specs	3	Each	_____	_____
7	Truck Mounted Cranes-Annual Safety Inspection per Specs	12	Each	_____	_____
8	Electric Man Lifts-Annual Safety Inspection per Specs	18	Each	_____	_____
9	Insulated Man Lift-Annual Safety Inspection Standard Test per Specs	18	Each	_____	_____
10	Non-Insulated Man-Lift Annual Safety Inspection per Specs	18	Each	_____	_____

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City of Chattanooga
101 East 11th Street, Suite G13
Chattanooga, TN 37402

Item	Class-Item	Quantity	Unit	Unit Price	Total
11	Automotive Lifts-18000 lbs-Test and Inspection per Specs	6	Each	_____	_____
12	Automotive Lifts-16000 lbs-Test and Inspection per Specs	8	Each	_____	_____
13	Automotive Lifts-15000 lbs-Test and Inspection per Specs	2	Each	_____	_____
14	Automotive Lifts-12000 lbs-Test and Inspection per Specs	1	Each	_____	_____
15	Automotive Lifts-10000 lbs-Test and Inspection per Specs	3	Each	_____	_____
16	Automotive Lifts-9000 lbs-Test and Inspection per Specs	2	Each	_____	_____
17	Automotive Lifts-8000 lbs-Test and Inspection per Specs	11	Each	_____	_____

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SIGNATURE: _____

TELEPHONE NUMBER: _____

NAME AND TITLE: _____

**TEST AND INSPECTION SPECIFICATIONS
For
Automotive Lifts,
Fire Department Ground Ladders, Aerial Ladders, Platforms,
Overhead Crane Annual Inspection, and
Aerial Device Test and Inspection**

AUTOMOTIVE LIFTS

Vendor is to provide an annual test and inspection on site. A two-man crew of well-equipped, nondestructive technicians who are experienced in structural testing, including a staff of professional engineers, Level III technicians, and equipment specialists to support them.

The following tests and inspections are to be performed.

1. Structural Tests

- 1.1. **Visual Inspection:** A complete inspection of accessible areas.
- 1.2. **Magnetic Particle Inspection:** Magnetic particle is a nondestructive test method used to identify surface cracks on ferrous material. It is performed on all critical welds, plates, and castings of items during the visual inspection.
- 1.3. **Dye Penetrant Inspection:** Dye Penetrant is a nondestructive test method used to identify surface cracks and works on any structural surface including all critical welds, plates, castings made of non-ferrous material, and any area requiring verification in Part 1.3 or Part 1.5.
- 1.4. **Ultrasonic Inspection:** Ultrasonic is a nondestructive test method used to detect flaws in accessible critical pins. Use of ultrasonic reduces the number of pins that have to be removed for inspection. Pins with flat end surfaces without drilled holes are best suited for ultrasonic.
- 1.5. **Torque Testing:** Torque testing all critical fasteners and anchor mounting bolts.

2. Functional and Operational Test

A functional and operational test is performed to ensure proper operation of unit and safety devices.

3. Report and Certification

- 3.1. Defects found during the inspection and tests are classified for degree of severity and printed on a computerized report. The technicians will review the report with the customer designated representative. A signed and dated copy of the test report listing the defects discussed is left with the representative.
- 3.2. The test is reviewed by staff engineers and the final report is mailed to the designated customer representative. The testing company retains a copy of the test report on file. Units that need rework require verification of repair or retest in the customer file.

4. Location and Scheduling

The testing company schedules tests with each customer to best meet their individual requirements. The company shall provide mobile crews located throughout the United States to perform the test at your site. American Test Center encourages your representative to have all the appropriate people available after the test to review the test results and to ask questions. American Test Center requests that operators manuals, manufacturer bulletins, maintenance files are available for our crew and that the aerial device be adequately cleaned prior to testing to assure a thorough test.

5. Customer Support

Vendor must include a guarantee of services that technicians are certified and experienced to perform the inspections, and that company representatives will work with you to review an incident that occurs within 10 days after our inspection. Please provide Contact information for support.

6. Test and Report Limitations

The test report is provided to you with the understanding that the awarded testing companies responsibility is solely to conduct the test, and assist you with an interpretation of the results. The decisions made thereafter concerning the equipment are your exclusive responsibility, and are not responsible for those decisions or their consequences.

WARNING! These tests determine the state of the equipment at the time the tests were performed only! Any overloads, accidents, or abuse of this equipment after the test could result in the test performed no longer being valid; as structural damage may have occurred even though the equipment visually may appear intact and usable after said overloads, accidents, or abuse. Furthermore, fiberglass-reinforced materials experience a normal aging process whether abuse occurs or not, therefore, the unit must be retested at regular intervals to assure its structural integrity.

Cost Per Unit _____

FIRE DEPARTMENT GROUND LADDERS

Properly maintained ladders are essential to the safe and economical operation of a fire department. Firefighters rely on the ladders to perform structurally and mechanically as intended.

When should ground ladders be tested?

NFPA 1932 contains the following requirements pertaining to frequency of ground ladder testing:

1. At least annually
2. Any time a ladder is suspected of being unsafe
3. After the ladder has been subjected to overloading
4. After the ladder has been subjected to impact loading or unusual conditions of use
5. After heat exposure
6. After any deficiencies have been repaired, unless the only repair was replacing the halyard
7. Before the ladder is placed in service for the first time

An annual inspection and test program uncovers many defects before they become major problems, thus resulting in better safety precautions and lower maintenance costs.

Vendor will perform a thorough test and inspection on site by a well-equipped, nondestructive technicians who are experienced in structural testing, including a staff of professional engineers, Level III technicians, and equipment specialists to support them.

Vendor is to perform the following tests and inspections:

1. Structural

1.1. Visual Inspection: A complete visual inspection of the following:

- 1.1.1. Base Section - side rail condition, rail alignment, rung condition, rung to rail attachment, butt spurs/foot pads, ladder stops, stay poles, toggles, and rail guides/lubrication
- 1.1.2. Second Section - side rail condition, rail alignment, rung condition, rung to rail attachment, ladder stops, pawl operation and lubrication, and rail guides/lubrication
- 1.1.3. Third Section - side rail condition, rail alignment, rung condition, rung to rail attachment, ladder stops, pawl operation and lubrication, and rail guides/lubrication
- 1.1.4. Fly Section - side rail condition, rail alignment, rung condition, rung to rail attachment, ladder stops, pawl operation and lubrication, and rail guides/lubrication
- 1.1.5. Halyard Condition - rope size and condition, anchors, thimbles, clamps, pulleys, and adjustment
- 1.1.6. Roof Hooks - hook size, hook condition, operation and sharpness, hook housing and adjustment

1.1.7. General - heat sensor labels, NFPA 1931 certification, electrical hazard sticker, serial number identification, and ladder length marking within 12 inches of butt

1.2. Hardness Testing: (Metal ground ladders)

Heat affected (annealed) areas on aluminum ladders are not visible to the naked eye, thus it is necessary to perform a hardness test, or conductivity test, as well as a load test to determine its strength. The hardness service test is performed along the top and bottom of both beams.

1.3. Liquid Penetrant Testing:

This test method is used on ground ladders made of aluminum material to verify discontinuities determined by visual inspection.

2. Load Tests

2.1. Horizontal Bending Test: The following test procedures are performed:

2.1.1. The ladder shall be placed in a flat, horizontal position supported under the first rung from each end of the ladder. Extension and combination ladders shall be extended to their maximum extended length with pawls engaged for this test.

2.1.2. Procedure for Metal and Fiberglass Ladders

Step 1. The ladder shall be loaded with a preload. The load shall be allowed to remain for at least one minute to "set" the ladder prior to completing the rest of the test.

Step 2. After removing the preload, the distance between the bottom edge of each side rail and the surface upon which the ladder supports are placed shall be measured. All measurements shall be taken at a consistent location and near as practical to the center of the ladder.

Step 3. The ladder test load shall be applied equally to the center span over a specified distance from the center. The test load shall remain in place for five minutes.

Step 4. The test load shall then be removed and the distance between the bottom of each side rail and surface upon which the ladder supports are placed shall be measured.

Differences between measurements taken in Step 2 and Step 4 shall not exceed specifications. There shall be no visible permanent change or failure of any hardware.

2.1.3. Procedure for Wood Ground Ladders

The ladder shall be loaded with a test load applied equally to a center span covering the specified distance each side of the center. The test load shall remain in place for five minutes and then removed. To pass the test, the ladder and all components shall not show ultimate failure. Any ladder that fails the test shall be removed from fire service use and destroyed.

2.2. Ladder Hardware Test (Extension ladders only)

The ladder shall be extended approximately five rungs to apply a specially designed test fixture at each end of the ladder. The ladder locks must be in the set or locked position. The test load shall be applied for a minimum of one minute. Ladders shall sustain this test with no permanent deformation or other visible weakening of the structure.

2.3. Roof Ladder Hook Test (Ladders with roof hooks)

Apply the test load for a period of one minute to the roof hooks. The ladder and hooks shall sustain this test load with no permanent deformation or other visible weakening of the structure. Deformation to the hooks shall not exceed specifications.

Note: Roof hooks should measure 3/4 inch diameter or 3/8 inch should be made of alloy steel.

3. Reports

Test results for each ladder are listed on awarded vendors test report forms. After the test; approved technicians review the findings with the fire department representative, and a signed dated copy of each report is left with the fire department representative. Two copies are reviewed and signed by testing company professional engineers. One report is mailed to the fire department and Vendor retains a copy of each report on file for 3 years.

4. Scheduling

Vendor will schedule tests with each fire department to best meet their individual requirements throughout the year. Vendor must have crews available throughout the United States to perform the tests at the fire department location. The City of Chattanooga will have a representative present during the tests to observe and ask questions. The testing company must be flexible and willing to modify their standard testing procedures to meet your particular needs.

Note: All specifications for tests and inspections of ground ladders must meet or exceed NFPA 1932.

Cost Per Ladder _____

FIRE DEPARTMENT AERIAL DEVICES

1. Structural Inspection

2. Visual Inspection: A complete inspection of the following

- 2.1. Outriggers - Pads, structure, welds, bolts, hoses, fittings, cylinders, check valves, pins and retainers
- 2.2. Chassis - Truck frame, aerial sub-frame/mounting, suspension, PTO, brake hoses, hydraulic components, electrical components, brake lock assembly, steering components, exhaust system and cooling system
- 2.3. Pedestal - Mounting bolts/welds, pedestal structure, attachment welds/pins, hydraulic swivel joint, hydraulic components, swing drive gear box/mounting bolts, backlash between swing pinion/bull gear and electric collector ring/brushes
- 2.4. Rotation Bearing - Upper/lower bearing attachment weld/bolts and vertical movement of bearing, as well as proper torque on accessible bearing bolts
- 2.5. Turntable - Turntable structure, hydraulic components, lower control operation, extension winch/motor mounting, spotlights and intercom
- 2.6. Lower Boom - Boom structure, welds, lower boom lift cylinders/attachment, hydraulic components/lines, leveling cables/rods, upper/extend cylinder/attachment, boom rest supports, tie down straps, boom extension roller assembly and wear pads
- 2.7. Elbow Area - Elbow structure, hydraulic hoses and leveling cables
- 2.8. Upper Boom Extension - Boom structure, welds, leveling cables/rods, wear pads and hydraulic lines/components
- 2.9. Platform - Mounting bracket/bolts, leveling system, platform exterior condition, platform control operation and hydraulic lines/components
- 2.10. Ladder and Extension Sections - Base, Second, Third, Fourth and Fly; Inspect rails, rungs, lacing, hand rails for, structural welds, dents and gouges, extension roller assemblies, wear pads/babbitt slides, cables/chains, bed lock lubrication. Extension lock operation, pawls, springs and lubrication. Cylinder shut-off safety valve operation and leakage. Pin joint condition
- 2.11. Fifth Wheel - Pivot pins, mounting bolts and lower mounting housing
- 2.12. Tiller - Steering gearbox/attachment, steering elements, signal to cab and suspension components
- 2.13. Waterway - Waterway components, attaching brackets, see optional pressure test
- 2.14. General - Load rating chart, electrical hazard placards and upper/lower control placards.

Note: The visual inspection includes removal of inspection cover plates as necessary to do a thorough job.

3. **Functional and Operational Test**

- 3.1. **Functional Test:** A functional and operational test is performed to check the operation of controls, bearings, pin bushings, cylinders, holding valves, ladder extension cables, platform leveling mechanisms, outriggers, waterways, etc. This test also finds worn swing bearings/gear boxes, worn pin/bushings and loose bolts critical to the operation of the aerial.
- 3.2. **Operational Test on Aerial Ladders:** A complete cycle of aerial ladder operation will be carried out. The ladder will also be fully elevated out of the bed, rotated 90 degrees, and extended to full specified height. The tests will also demonstrate successful operation of all ladder controls.
- 3.3. **Drift Test:** Place the aerial device at full elevation, marking the cylinder piston on the second section in relation to the base section, and allow the ladder to stand for one hour with engine off. Results shall not exceed the manufacturer's specifications for allowable cylinder drift.
- 3.4. **Operational Test on Elevating Platforms:** The operation of the elevating platform shall include movement of the platform from ground to maximum elevation, and extension, as well as rotating platform 360 degrees to the left and to the right while the unit is at its maximum horizontal reach. Booms and telescoping elevating platforms will operate without any improper or unusual motion or sound. From the lower control station, the elevating platform will also be raised out of the bed, extended to full-specified height, and rotated through a 90-degree arc. Both tests will demonstrate successful operation of platform controls.

4. **Load Tests**

Load tests are performed on each aerial ladder and platform. The aerials are operated to determine they operate smoothly and without any undue vibration. Horizontal and maximum elevation tests are performed on aerial ladders using the manufacturers' recommended rating at permissible operating ranges. Full operating range tests are performed on aerial platforms with the manufacturers' specified rating to determine stability and acceptable operation under load.

5. **Report and Certification**

Test defects are listed on the Vendor's Test report forms, and described in detail on a comment sheet. Defects are classified for degree of severity. After the test, the vendor's personnel will review the report with the department representative. A signed, dated copy of the test report listing the defects discussed is left with the department. Two copies are reviewed and signed by the vendor's professional engineers. One signed report is then mailed to the designated department representative. The vendor retains a copy of the test report on file. Certificates are provided for aerials that pass the test. Units that need rework require verification or retest of completed work.

6. **Location and Scheduling**

The vendor schedules tests with each fire department to best meet their individual requirements throughout the year. The testing company will have crews located throughout the United States and performs the test at you station or garage. The City Of Chattanooga will have all the appropriate people available after the test to review the test results and to ask questions. Testing companies requests that equipment be properly cleaned prior to testing to assure a thorough test.

The Five Year NDT test includes all of the above

7. 5 YEAR TEST (includes all NDT testing as required by NFPA 1911 chapter 22 v2017)

- 7.1. **Magnetic Particle Inspection:** All critical welds, plates, and castings of items listed in Part 2 during the visual inspection. Magnetic particle is used to identify surface cracks
- 7.2. **Dye Penetrant Inspection:** All critical welds, plates and castings made of non-ferrous material and any area requiring verification in Part 7.1. Dye penetrant is used to identify surface cracks on ferrous material.
- 7.3. **Ultrasonic Inspection:** All accessible pins including outriggers, pedestal, boom, and platform. Ultrasonic is a test method used to detect flaws in pins. The pins being tested must be accessible, have flat end surfaces, and not have grease fittings. Use of ultrasonic limits the number of pins which might otherwise have to be removed for inspection.
- 7.4. **Hardness Tests:** Non-ferrous aerial device beams checked for strength and heat exposure.

8. Pressure Test (Included)

The water system will be pressure tested by filling the system to the manufacturer's rated working pressure, and check for leaks including the turntable swivel. If equipped with a flow meter and/or water pressure gauge; each should be checked for accuracy. If equipped with a relief valve; it will be verified that it is operational at the manufacturer's recommended pressure setting. Department must supply operator for these tests.

9. Oil Spectro-Analysis

Chemical analysis of oil in engines, transmissions, and hydraulic systems. Determines type and amount of contamination, which is important for proper maintenance of equipment.

Cost Per Annual Test _____

Cost Per 5 Year Test _____

OVERHEAD CRANE ANNUAL INSPECTION

Test and Inspection Nationwide

Vendors shall perform a thorough test and inspection of overhead and gantry cranes.

Properly maintained overhead cranes, through a test and inspection program, are essential to the safe and economical operation of our plant. Operators and their co-workers rely on these units performing structurally, mechanically, and functionally. An overhead crane that fails could result in injury to our employees or costly downtime. Our overhead cranes may have been designed initially with adequate safety factors; however, overloads, fatigue, or lack of maintenance can cause problems to develop. A thorough, regularly scheduled inspection and test program can identify potential problems before they cause injuries or downtime. Furthermore, early discovered defects are less expensive to repair than if they are left to develop into major defects.

The vendor's test and inspections are to be performed at our designated site by an experienced and thoroughly trained technician. Our technicians are supported by a staff of professional engineers, Level III technicians, and equipment specialists.

The vendor performs the following tests and inspections:

1. **Structural / Mechanical**

1.1. **Visual Inspection:** A complete inspection of the following

- 1.1.1. Bridge - bridge structure, welds, truck wheels, axle bearings, truck pinions, truck gears, truck pinion shaft, bearings & seals, cross shaft, cross shaft bearings, motor pinion, motor gear, motor gear case bearings and seals, couplings, crane alignment, bolts/rivets, end trucks, gear & coupling guards, platform, stops, railings, cage, ladders & stairways, rails, bridge brake, and mechanical rail sweeps.
- 1.1.2. Trolley: structure & welds, track wheels, axle bearings, track gear, gear case, bearings/seals, couplings, load brake wheel/discs, load brake ratchet, load brake pawls/up limit travel.
- 1.1.3. Main Hoist & Auxiliary Hoist: bottom block, upper block, rope drum, drum shaft, drum gear, drum pinion, intermediate gear, intermediate pinion motor gear, motor pinion, gear case gears/seals, couplings, load brake wheel/discs, load brake ratchet, load brake pawls/up limit travel.
- 1.1.4. Wire Ropes: deterioration, stretch, wear and broken wires.

The visual inspection includes removal of inspection covers where possible to do a thorough job.

- 1.2. **Magnetic Particle Inspection:** All critical welds, plates, and castings of items listed in Part 1.1 during the visual inspection. Magnetic particle is used to identify surface cracks on ferrous material.

1.3. **Dye Penetrate Inspection:** All critical welds, plates, and castings made of non-ferrous material as well as any area requiring verification in Part 1.2. Dye penetrate is used to identify surface cracks and works on any structural surface.

1.4. **Ultrasonic Inspection:** All accessible pins including bridge, trolley, and hoist. Ultrasonic is a test method used to detect flaws in pins. The pins being tested must be accessible; have flat end surfaces, and not have grease fittings. Use of ultrasonic limits the number of pins that might otherwise have to be removed for inspection.

2. **Functional and Operational Test**

A functional and operational test is performed to check the operation of controls, bearings, bushings, pins, gears, shafts, air/hydraulic/mechanical components, and overall operating condition.

3. **Load Tests**

Load tests are performed as required to meet OSHA/ASME/ANSI requirements or per your specifications.

4. **Report and Certification**

Test defects are listed on the vendor's test report forms, and described in detail on a comments sheet. Defects are classified for degree of severity. After the test, the vendor's personnel will review the report with the company representative. A signed, dated copy of the test report listing the defects discussed is left with the representative. Approved testing companies encourage your representative to have all the appropriate people available after the test to review the test results, and to ask questions. Two copies are reviewed and signed by the vendor's professional engineers at our office. One signed report will be mailed to the designated company representative. The vendor shall retain a copy of the test report on file up to 3 years. Units that need rework require verification or retest of completed work.

5. **Location and Scheduling**

The vendor shall schedule tests with each customer to best meet their individual requirements throughout the year. The vendor must have crews located throughout the United States and will perform the tests at our site. Testing companies request that equipment be properly cleaned prior to testing to assure a thorough test.

NOTE: Vendors specifications for test and inspection of cranes must meet or exceed standards from OSHA, ASME, ANSI, SAE, ASTM, and AWS.

Cost Per Crane Test _____

MOBILE CRANE

Test and Inspection Nationwide - OSHA Certified

Approved vendor shall perform a thorough test and inspection of your crane from the end of the boom down through the truck frame or undercarriage assembly.

Properly maintained cranes, through a test and inspection program, are essential for a safe and economical operation. Operators and their co-workers rely on these units performing structurally, mechanically, and functionally. A crane that fails could result in injury or death to your employees or costly downtime.

Cranes may have been designed initially with adequate safety factors, however, overloads, fatigue or lack of maintenance can cause problems or accidents. A thorough, regularly scheduled inspection and test program can identify potential problems before they cause injuries or downtime. Furthermore, early discovered defects are less expensive to repair than if they are left to develop into major defects.

Awarded vendor tests and inspections are performed at our site by an experienced and thoroughly trained technician. A staff of professional engineers, Level III technicians and equipment specialists supports our technicians. The vendor performs the following tests and inspections:

1. Structural / Mechanical

1.1. Visual Inspection: Complete inspection of:

- 1.1.1. Chassis - truck frame, sub-frame/mounting, steering elements, steering gearbox, suspension, drive line and joints, PTO, brake (Micro brake) lock assembly, trailer hitch/pintle hook, electrical system, hydraulic/electrical components, exhaust system and cooling system.
- 1.1.2. Outriggers - pads, structure/welds, beam/housing, bolts, hoses, fittings, cylinders, check valves, pins and retainers.
- 1.1.3. Car Body - side frames, crawlers: structural/welds, track condition, drive chain, sprockets, air/hydraulic components, bolts/fasteners.
- 1.1.4. Pedestal - mounting bolts/welds, pedestal structure, attachment welds/bolts/pins, hydraulic/air/electric swivel joint, hydraulic components, swing drive gear box/mounting bolts, and backlash between swing pinion/bullgear.
- 1.1.5. Rotation Bearing - upper/lower bearing attachment weld/bolts, vertical movement of bearing, and proper torque on accessible bearing bolts.
- 1.1.6. Hook and Load Rollers - clearance, roller path, hook/load rollers and brackets, shafts/retainers and lubrication.
- 1.1.7. Machinery Deck - A-frame structure & welds, structural/welds, walkways, railings, cab panels, guards over moving parts, hydraulic oil levels/leaks, air/hydraulic components, hydraulic cylinders.

- 1.1.8. Drive Train - gear wear, lubrication, guards, hydraulic components.
- 1.1.9. Drum Shafts - main hoist, auxiliary hoists, 3rd drum, boom hoist, swivel, etc., drum conditions, clutch/brake lining, clutch/brake components, ratchet-pawl/dog system, air & hydraulic lines/components, bearing block mountings & guards.
- 1.1.10. Operator Cab - crane gauges working, control functions operational & labeled, glass condition, door latches, fire extinguisher, rating charts.
- 1.1.11. Gantry/Mast - structure/welds - chords & lacing, pins & bolts.
- 1.1.12. Back Legs - structure/welds & pins
- 1.1.13. Inner Bail/Outer Bail - structure/welds, sheaves, pins & bolts, bearings, and lubrication.
- 1.1.14. Wire Ropes (standing/running) - check for wear & broken wires, lubrication, end connections, pins, clips, and spreaders.
- 1.1.15. Load Blocks - hook condition, safety latch, sheaves, bearings, beackets, clips, swivel lock and structure, and anti-two-block system.
- 1.1.16. Boom/Jib/Masts - structure/welds, pin end castings, pins, bolts, keepers, lift cylinders, sheaves, rope guides, boom stops, wear pads & extension roller assemblies.
- 1.2. The visual inspection includes removal of inspection cover plates as necessary to do a thorough job.
- 2. **Magnetic Particle Inspection:** All critical welds, plates and castings of items listed in Part 1.1 during the visual inspection. Magnetic particle is used to identify surface cracks on ferrous material.
- 3. **Dye Penetrant Inspection:** All critical welds, plates, castings made of non-ferrous material and any area requiring verification in Part 2. Dye penetrant is used to identify surface cracks and works on any structural surface.
- 4. **Ultrasonic Inspection:** All accessible pins including outriggers, pedestal, and boom. Ultrasonic is a test method used to detect flaws in pins. The pins being tested must be accessible, have flat end surfaces and not have grease fittings. Use of ultrasonic limits the number of pins that might otherwise have to be removed for inspection.
- 5. **Functional and Operational Test**

A functional and operational test is performed to check the operation of controls, bearings, bushings, pins, cylinders, gears, shafts, air/hydraulic/mechanical components, holding valves, parking brakes/dogs, boom stops, angle/load indicators, outriggers, and overall operation of crane.

6. Load Tests

Load tests and stability tests are performed as required to meet OSHA/ANSI requirements or per your specifications.

7. Report and Certification

Test defects are listed on the vendor's test report forms and described in detail on a comments sheet. Defects are classified for degree of severity. After the test, the vendor's personnel will review the report with the company representative. A signed, dated copy of the test report listing the defects discussed is left with the representative. The City Of Chattanooga shall have a representative to have all the appropriate people available after the test to review the test results and to ask questions. Two copies are reviewed at the vendor's office, and signed by awarded vendor's professional engineers. One signed report is then mailed to the designated company representative. The testing company retains a copy of the test report on file. Units that need rework require verification or retest of completed work.

8. Location and Scheduling

The vendor will schedule tests with each customer to best meet their individual requirements throughout the year. The vendor must have crews located throughout the United States and performs the test at our site. ATC requests that equipment be properly cleaned prior to testing to assure a thorough inspection and test. The vendor must be flexible and willing to work with the City Of Chattanooga to meet special needs. If you have any questions, or if you would like a quotation, please call or write our corporate headquarters.

NOTE: Testing Companies specifications for test and inspection of cranes must meet or exceeds standards from OSHA, ANSI, SAE, ASTM, and AWS.

Cost Per Test _____

Aerial Device Test and Inspection Insulated/Non Insulated Man Lifts

Vendors must adhere to the following codes for man lifts depending on how they are manufactured.

ANSI A92.3 Manually Propelled
ANSI A92.5 Boom supported
ANSI A92.6 self-propelled
ANSI A92.9 mast climbing
OSHA 1910.68

Properly maintained and tested aerial devices are essential to the safe and economical operation of a fleet. Operators and their co-workers rely on the aerial devices to perform structurally, mechanically, functionally and dielectrically as intended.

Approved testing company shall provide annual test and inspection on site by a well-equipped two-man crew of nondestructive technicians who are experienced in structural and dielectric testing. A staff of professional engineers, Level III technicians and equipment specialists supports them.

Approved vendor shall perform the following tests and inspections:

1. Structural Tests

1.1. **Visual Inspection:** A complete inspection of accessible areas including the following

- 1.1.1. Outriggers - Pads, structure, welds, bolts, hoses, cylinders, valves, pins and retainers.
- 1.1.2. Chassis - Truck frame, aerial sub-frame, suspension, PTO, pintle hook.
- 1.1.3. Pedestal - Mounting bolts and welds, pedestal structure, diagonal brace, attachment welds or pins, hydraulic swivel joint, hydraulic components, swing drive gearbox mounting bolts, backlash between swing pinion or bull gear, electric collector ring and brushes and lower control operation
- 1.1.4. Rotation Bearing - Upper and lower bearing attachment weld and bolts, vertical movement of bearing, and proper torque on accessible bearing bolts.
- 1.1.5. Turntable - Turntable structure, bucket leveling cables, leveling cylinders, compensating chains or sprockets, and hydraulic system components.
- 1.1.6. Lower Boom - Boom structure, welds, lift cylinders and attachment, hydraulic system, leveling cables or rods, upper or extend cylinder and attachment, push links, boom rest supports, tie-down straps, lower insulator and mounting, extension roller assembly and wear pads.
- 1.1.7. Elbow - Elbow structure, hydraulic hoses and leveling cables

- 1.1.8. Upper Boom (Extension) - Structure, welds, leveling cables or rods, wear pads, upper insulator and mounting, hydraulic lines and components, jib structure and mounting, tool circuit hoses and fittings, pole claw arms and mounting brackets.
- 1.1.9. Platform (Bucket) - Mounting bracket bolts, leveling system, exterior condition, control operation and hydraulic lines and components
- 1.1.10. Digger and Auger - Digger mounting arm and housing, gearbox, auger, digger wind-up bracket or rope, auger stop bracket, lock mechanism and control operation
- 1.1.11. Winch - Mounting brackets, bolts, pins; gearbox, hydraulic components, load line, and controls.
- 1.1.12. General - Load rating chart, electrical hazard placards, MADDCC placards and upper or lower control operation placards.

The visual inspection includes removal of inspection cover plates as necessary to do a thorough job.

- 1.2. **Acoustic Emission (AE) Test:** AE is the accepted industry method for testing fiberglass and steel structures. The AE test includes attaching sensitive sensors to the structural fiberglass and metal components from the bucket down to the outrigger or chassis sub frame. A test load of 1-1/2 or 2 times the rated load (specified by customer) is applied to the boom. A computer system monitors sounds emitted by defects that are growing during the test load. The computer selects the critical noise emissions and prints a summary report.
- 1.3. **Magnetic Particle Inspection:** Magnetic particle is a nondestructive test method used to identify surface cracks on ferrous material. It is performed on all critical welds, plates and castings of items listed in Part 1.1 during the visual inspection.
- 1.4. **Dye Penetrant Inspection:** Dye Penetrant is a nondestructive test method used to identify surface cracks and works on any structural surface including all critical welds, plates, castings made of non-ferrous material and any area requiring verification in Part C or Part E.
- 1.5. **Ultrasonic Inspection:** Ultrasonic is a nondestructive test method used to detect flaws in accessible critical pins. Use of ultrasonic reduces the number of pins that have to be removed for inspection. Pins with flat end surfaces and do not have drilled holes are best suited for ultrasonic.
- 1.6. **Torque Testing:** Torque testing all critical fasteners in accessible areas including upper and lower rotation bearing, swing gearbox, boom connections, and platform mounting.

2. Functional and Operational Test

A functional and operational test is performed to check the operation of controls, bearings, pins, bushings, cylinders, holding valves, bucket leveling mechanisms, outriggers, etc. This test will also find worn swing bearings or gearboxes, worn pins or bushings, and loose fasteners critical to the operation of the aerial.

3. **Dielectric Test (DC):** A dielectric test up to 100kV as specified by ANSI standards. The dielectric test verifies the electrical insulating strength in the FRP upper and lower booms, bucket, liners, FRP extensions on digger derricks, tool circuits, and upper control system.

4. **Additional Tests as Applicable:**

- 4.1. Dielectric Tests: Bucket liners

- 4.2. Hydraulic oil to ASTM D1816 standards

- 4.3. Hot sticks

5. **Oil Spectro-Analysis:** Chemical analysis of oil in engines, transmissions, and hydraulic systems. Determines type and amount of contamination.

6. **Thickness Testing:** Ultrasonic thickness testing is a nondestructive test method used to determine thickness of materials where thickness is critical and difficult to measure with mechanical test equipment.

7. **Report and Certification**

Defects found during the inspection and tests are classified for degree of severity and printed on a computerized report. The testing company's technicians will review the report with the customer designated representative. A signed and dated copy of the test report listing the defects discussed is left with the representative.

The test is reviewed by the vendor's staff engineers, and the final report is mailed to the designated customer representative. The testing company shall retain a copy of the test report on file. Units that need rework require verification of repair or retest in the customer file.

8. **Location and Scheduling**

The testing company shall schedule tests with each customer to best meet their individual requirements. The testing company shall have mobile crews located throughout the United States to perform the test at our site. All testing companies encourage City representatives to have all the appropriate people available after the test to review the test results and to ask questions. The City Of Chattanooga will have operator's manuals, manufacturer bulletins, and maintenance files available for our crew, and that the aerial device be adequately cleaned prior to testing to assure a thorough test.

9. **Customer Support**

The testing Company must include a guarantee of services that technicians are certified and experienced to perform the inspections and that company representatives will work with the City to review an incident that occurs within 10 days after our inspection. They must provide office phone number for support.

Cost Per Insulated Test _____
Cost Per Lift Test _____

Affirmative Action Plan

The City of Chattanooga is an equal opportunity employer and during the performance of this Contract, the Contractor agrees to abide by the equal opportunity goals of the City of Chattanooga as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap. The Contractor will take affirmative action to ensure that applicants are employed, and the employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay, or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.
3. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. In all construction contracts or subcontracts in excess of \$10,000 to be performed for the City of Chattanooga, any contractor and/or subcontractor is further required to file in duplicate within ten (10) days of being notified that it is the lowest responsible bidder, an affirmative action plan with the EEO Director of the City of Chattanooga. This plan shall state the Contractor's goals for minority and women utilization as a percentage of the work force on this project.
5. This Plan or any attachments thereto shall further provide a list of all employees annotated by job function, race, and sex who are expected to be utilized on this project. This plan or attachment thereto shall further describe the methods by which the Contractor or Subcontractor will utilize to make good faith efforts at providing employment opportunities for minorities and women.

During the term of this contract, the Contractor upon request of the City, will make available for inspection by the City of Chattanooga copies of payroll records, personnel documents and similar records or documents that may be used to verify the Contractor's compliance with these Equal Opportunity provisions.

6. The Contractor will include the portion of the sentence immediately preceding paragraph 1 and the provisions of paragraphs 1 through 6 in every subcontract so that such provisions will be requested of each subcontractor. The Contractor agrees to notify the City of Chattanooga of any subcontractor who refuses or fails to comply with these equal opportunity provisions. Any failure or refusal to comply with these provisions the Contractor and/or Subcontractor shall be a breach of this contract.

(Signature of Contractor)

(Title and Name of Construction Company)

(Date)

Chapter No. 817 (HB0261/SB0377). "Iran Divestment Act" enacted.
Vendor Disclosure and Acknowledgement

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to § 12-12-106.

(SIGNED)

(PRINTED NAME)

(BUSINESS NAME)

(DATE)

For further information, please see website:

https://www.tn.gov/assets/entities/generalservices/cpo/attachments/List_of_persons_pursuant_to_Tenn._Code_Ann._12-12-106,_Iran_Divestment_Act-July.pdf

No Contact/No Advocacy

Notice Receipt

City of Chattanooga
Purchasing Division

For Submission with Sealed Bid Solicitation Responses:

_____ (Vendor Agent name), states that:

(1) He/She is the owner, partner, officer, representative, or agent of _____

_____ (Business name), the Submitter of the

attached sealed solicitation response to Solicitation # _____, and said

Business has taken notice, and will abide by the following No Contact and No Advocacy clauses:

NO CONTACT POLICY: After the posting of this solicitation, a potential submitter is prohibited from directly or indirectly contacting any City of Chattanooga representative concerning the subject matter of this solicitation, unless such contact is made with the Purchasing Division.

NO ADVOCATING POLICY: To ensure the integrity of the review and evaluation process, companies and/or individuals submitting sealed solicitation responses, as well as those persons and/or companies formally/informally representing such submitters, may not directly or indirectly lobby or advocate to any City of Chattanooga representative.

Any business entity and/or individual that does not comply with the No Contact and No Advocating policies may be subject to the rejection or disqualification of its solicitation response from consideration.

Submitter Signature:

Printed Name:

Title: _____

Date: _____