

## RIGGING FALL PROTECTION FOR SAVANNAH ARENA

EVENT NO. 8326

### SPECIFICATIONS AND SPECIAL CONDITIONS

- 4.0** These specifications describe the requirements for the rigging fall protection system for the Savannah Arena located on Stiles Ave., Savannah, Georgia 31401.

The Savannah Arena is the largest capital expenditure in the City's history. The Arena represents nearly 20 years of efforts to construct a first-class, arena that provides a flexible and usable sports and entertainment venue to the public. When complete the arena will seat 10,000 and cover 269,000 sf on the City's west side.

To submit pricing electronically for this event, enter pricing for each line item shown under the lines tab on the event summary. To enter pricing manually, complete the attached bid proposal form. Manually submitted bids must be submitted on the bid proposal forms contained in these specifications in order to be considered.

#### **4.1 Scope of Work**

- A. Section Includes: Fall protection systems for access to the roof trusses and steel grid for protection of workers while they are beyond the limits of the catwalk system. Included are the following:
1. Design of the fall protection systems.
  2. Development of cable loads for review by the owner's structural engineer.
  3. Furnish and install complete fall protection system.
  4. Fall protection systems may terminate to main truss vertical members.
  5. Intermediate cable supports may attach to main truss vertical members or truss sub panel vertical members,
  6. Furnish and install structural supports or stanchions where there are no truss members to provide an attachment point.
  7. All fabricated fall protection brackets and stanchions are to be the design of the fall protection contractor.
  8. Furnish the specified user equipment.
  9. Development of procedures for the safe implementation of assisted and unassisted rescues.
  10. Training in the use, care and maintenance of the fall protection equipment and rescue equipment
- B. General Requirements:
1. Fall protection coverage shall be as indicated on the plans.

## 4.2 REFERENCES

- A. American Society for Testing Materials (ASTM):
  - 1. A666-96b Annealed or Cold Worked Austenitic Stainless Steel, Sheet, Strip, Plate and Flat Bar.
- B. American National standards Institute (ANSI):
  - 1. Z359.1-2009 Specifications and Design Requirements for Active Fall Protection Systems.
  - 2. Z359.1-2007 Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
- C. American Institute of Steel Construction (ANSI/AISC 360-05):
  - 1. Specifications for Structural Steel Buildings – March 2005
- D. American Iron and Steel Institute:
  - 1. SG-671 specifications for the Design of Cold Formed Steel Structural Members, 1/91 and subsequent addenda
- E. American Welding Society (AWS):
  - 1. D1.1-94 Structural Welding Code-Steel
- F. Occupational Safety and Health Administration (OSHA):
  - 1. CFR 29 Part 1910 Occupational and Health Standards
  - 2. CFR 29 Part 1926 Safety and Health Regulations for Construction
- G. Georgia State Building Code, latest edition.

## 4.3 SYSTEM DESCRIPTION

- A. Engineering Design Requirements
- B. Fall protection systems to be designed by a Professional Engineer Registered in the State of Georgia and experienced in the design of fall protection systems (Refer 4.5 Quality Assurance)
- C. The design of the horizontal lifeline fall protection systems shall provide coverage for the areas shown on the plans and be based on the sequential fall of two users.
- D. Dynamic reactions shall be generated for all intermediate and end supports of the fall protection system. Loads to be reviewed and approved by the owner's engineer.
- E. Design of all fall protection systems to safely resist the dynamically applied loads while maintaining a safety factor of two against failure.
- F. Design shall be based on the presumption that the underlying support steel is capable of safely resisting the applied loads without reinforcement or stiffening.

- G. System Performance Requirements: In addition to compliance with the performance specifications of the OSHA and ANSI specifications cited herein, the fall protection systems shall:
  
- H. It is anticipated that installation of the fall rigging system shall begin in October 2021, and take 6 weeks to complete installation and test. All work on site will need to be scheduled, contact information for scheduling will be given upon award.
  
- I. Accommodate 2 users per subspan. Consist of long span, multi-span horizontal lifelines.
  - 1. System to be suited for use to current event rigging practices.
  - 2. Cables to be installed a minimum of 6'-6" to 6'-9" above the beam walking surface and not cross catwalks.

#### **4.4 SUBMITTALS**

The following are to be submitted with the bid.

- A. Bonds and Insurance
  - 1. Bid Bond, Payment and Performance bond is required.

The following submittals are to be made post award:

- B. Product Data
  - 1. Manufacturers product information and data for all components including:
  - 2. Horizontal lifelines
  
- C. Shop Drawings
  - 1. Shop drawings showing locations of all fall protection systems, connection requirements, loads and other pertinent information required for fabrication, coordination and installation.
  - 2. Clearly indicate design and fabrication details, plans, elevations, components profiles and sizes, hardware and installation details.
  - 3. Fully detail all anchors and connections to structure.
  - 4. Include all necessary restrictive and non-restrictive, working, usage notes and general safety notes.
  - 5. Shop drawings to be sealed by a qualified professional engineer, registered in the State of Georgia (Refer to 1.05 Quality Assurance)
  
- D. Calculations

1. Provide fall protection loads for review by the project structural engineer

E. Certifications

1. Manufacturers ISO9001:2008 Certificate of Registration for the design and manufacture of fall protection systems.

F. Maintenance Manuals

1. Submit user manuals for the use, care and maintenance of all fall protection, user and rescue equipment.

G. Training List

1. Submit list of attendees at training class in the use care and maintenance of fall protection, user and rescue equipment.

H. Letter of Certification (Refer to 4.05 Quality Assurance)

I. As-Built Shop Drawings

1. Provide copies of reduced drawings showing fall protection locations and details.

#### **4.5 QUALITY ASSURANCE, and INSURANCE REQUIREMENTS**

- A. Product Source: All fall protection system equipment to be by a single manufacturer.
- B. Ensure uniform fall protection system equipment quality, ease of maintenance, and minimal parts storage.
- C. Contractor shall be responsible for proper and complete installation.
- D. Contractor shall have demonstrated experience manufacturing and installing safety rigging on at least five arenas or large public theaters during the last three years.
- E. Regulatory Requirements: Fall protection systems shall comply with the following:
  1. OSHA 1910.140 for fall protection
- F. Engineering to comply with applicable portions of the following publications:
  1. AISC: S342L, S335, S329 and S303.
  2. AISI: Sg-671.
- G. Design engineer responsible for the layout, configuration and supports for the manufactured fall arrest system shall be a Professional Engineer registered in the state where the project is located and shall maintain the following minimum limits of insurance:
  1. Errors and Omission

\$2,000,000/ occurrence \$2,000,000/aggregate

- H. Manufacturer: All fall protection equipment system equipment to be by a manufacturer regularly engaged in manufacturing and producing fall protection systems. Manufacturer shall:
1. Be engaged full time in design and fabrication of fall protection systems for at least 5 years.
  2. Demonstrate history of at least 10 successful installations in the last 5 years, free of litigation, injuries, or fatalities resulting from their products or design.
  3. Have specific liability insurance for all aspects of design and installation of all safety components against failure in the amount of \$2,000,000/ occurrence plus \$10,000,000 umbrella for products and completed operations and installations.
- I. Installer shall maintain the following insurance coverage:
1. Contractors Liability Insurance in the amount of \$1,000,000 / occurrence, \$2,000,000 aggregate.
  2. Excess Liability \$5,000,000 each occurrence.
  3. Workers Compensation \$1,000,000 each accident.

#### 4.6 PRODUCTS

- A. DESIGN-BUILD CONTRACTORS:
1. Specification based upon systems designed and installed by:
  2. Evan Fall Protection or approved equal.
  3. All engineered lifeline components shall be from a single source. They shall be part of a pre-engineered system produced by a fall protection manufacturer that has been certified as ISO 9001:2008 for Quality Management in the Design and Manufacture of Fall Protection Systems
- B. COMPONENTS
1. Cable - 8mm stainless steel type 316
  2. End anchors, splices, intermediate supports, turnbuckles, and cable terminations- stainless steel Type 316
  3. Cable terminations to be hydraulically swaged.
  4. Fasteners
    - 4.1 High strength bolts, ASTM A325 of SAE Grade 5, as specified by the engineer.
    - 4.2 Devices selected by the manufacturer by Hilti, Lindapter Connection Systems, or approved equal.
- C. Accessories: As required for complete installation.
1. Harness and lanyards- provide four (4) sets
  2. Rescue Equipment- Provide one (1) set

#### **4.7 FABRICATION**

- A. Fabricate fall protection system assemblies to meet 4.3 System Description, “A. Engineering Design Requirements” and “B. System Performance Requirements”.
- B. Welding to comply with AWS D1.1
- C. Fabricated stanchions or brackets to be plain steel with prime painted finish.
- D. System components to be of same material unless otherwise stated.

### **5 EXECUTION**

#### **5.1 EXAMINATION**

- A. Examine the support structure and conditions under which work is to be performed. Notify the Owner in writing of unsatisfactory dimensions or conditions. Coordinate location of all attachments and fall protection devices to ensure noninterference with existing facilities

#### **5.2 INSTALLATION**

- A. Install fall protection systems in accordance with the approved shop drawings, manufacturers written instructions, approved design documents and all pertinent regulations and codes.
- B. All attachments shall be permanent utilizing welded or bolted connections.
- C. Contractor to utilize temporary fall protection measures during installation of project to ensure 100% tie-off and safe working conditions for installation crew.
- D. System to remain out of service until installation is complete and Letter of Certification has been received.

#### **5.3 FIELD QUALITY CONTROL**

- A. Installation of work to be performed under the supervision of the qualified professional engineer, registered in the State of Georgia, specified in the resume’ section of this specification.
- B. Conduct final inspection to verify all work installed correctly and in accordance with approved drawings and that all products function properly.
- C. Issue Letter of Certification for use of system.

#### **5.4 TRAINING**

- A. Training Class
  - 1. Hold one on-site class, four-hour minimum. Class to consist of awareness training in “Use” and include demonstration on installed systems.
- B. Provide 3 copies of bound training manuals for above training.

### **6.0 GENERAL CONDITIONS**

#### **6.1 Permits**

The contractor will be responsible for obtaining all required permits. Fees for the City of Savannah permits will be paid for by the City.

6.2 **All bids must be submitted in DUPLICATE.**

6.3 **The bid response must include the following documents in the order listed:**

- Bid Proposal Form (as a cover sheet)
- Exception Sheet
- Non-Discrimination Statement
- Proposed Schedule of M/WBE Participation
- Bond
- Other submittals as stated

All referenced documents must be completed and returned in their entirety to constitute a complete bid.

6.4 Original invoices should be sent to:

City of Savannah  
Accounts Payable  
P.O. Box 1027  
Savannah, GA 31402

6.5 The vendor is responsible for determining and acknowledging any addenda issued in connection with this bid solicitation. All addenda issued for this event must be acknowledged in order for a bid to be considered.

6.6 Affidavit of Payment: Before final payment is due, the contractor shall submit evidence satisfactory to the City, that all payrolls, material bills, and other indebtedness connected with the work have been paid. (See Affidavit of Payment – Section 01215)

6.7 Bidders shall have demonstrated experience manufacturing and installing safety rigging on at least five arenas or large public theaters during the last three years. Please see ATTACHMENT 1.

6.8 To be awarded bids, vendors must be registered as suppliers on the City of Savannah's website at [www.savannahga.gov](http://www.savannahga.gov).

6.9 Satisfaction of LDBE Goals; Good Faith Effort

The process by which the City determines whether an Offeror has met the City's DBE goal is set forth in the guidelines below:

a. A bid/proposal shall be considered non-responsive unless a bidder/proposer meets either the DBE goal established for the contract or demonstrates good faith effort to meet the DBE goal.

b. In order to meet the DBE goal of a solicitation, a bidder/proposer entity must submit the following information:

- i. The names and addresses of each DBE that will participate in the contract;
- ii. A description of the work that each DBE will perform;
- iii. The percentage of the contract value that each DBE will receive.

- iv. Written documentation, in a form acceptable to OBO, of the bidder's commitment to use each DBE whose participation the bidder/proposer submits to meet the contract goal; and
  - v. Written confirmation, in a form acceptable to OBO, from each DBE that it will participate in the contract as indicated by the bidder/proposer.
- c. The bidder/proposer should submit the above information as follows:
- i. Under sealed bid procedures, the information should be provided with the sealed bid response; or
  - ii. Under requests for letters of interest or requests for proposals, the information should be provided with the initial letter of interest or proposal.
- d. If the information required by section (b) above is not provided in accordance with section (c) above, the information must be provided to the City of Savannah within three (3) business days after the Office of Business Opportunity notifies the bidder/proposer that it has not provided all the required information with its response. Failure to provide the City of Savannah with this information within such three (3) business days may be cause for the response to the solicitation to be deemed non-responsive.
- e. Determination of Good Faith Effort.
- i. A bidder/proposer shall not be denied award of a contract due to failure to meet the assigned contract goal if the bidder timely (within the timeframes provided in paragraphs (c) and (d) above, as applicable) provides documentation demonstrating the bidder's/proposer's good faith effort to meet the goal, as determined by the Program Coordinator. In making such determination, the Program Coordinator shall consider the quality, quantity, and extent of the various efforts that the bidder/proposer has made to meet the goal.
  - ii. The efforts that may be considered by the Program Coordinator include, but are not limited to:
    - 1. Soliciting through activities such as attendance at pre-bid meetings, advertising, or written notices, the interest of certified DBEs (or DBEs eligible for certification) that have the ability and capacity to perform the contract work. The bidder/proposer must solicit this interest in a timely manner to allow the DBEs to respond to the solicitation. The bidder/proposer must take appropriate steps to follow up initial solicitations of DBEs.
    - 2. Identifying the portions of the contract that could reasonably be performed by a DBE in order to increase the likelihood that the DBE goals will be achieved. This may include, where appropriate and commercially practicable, separating contract work items into segments more appropriate for participation by DBEs.
    - 3. Providing each interested DBE with adequate information about the plans, specifications, and requirements of the contract in a timely manner.

4. Negotiating in good faith with each interested DBE. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and explaining why an agreement could not be reached with an interested DBE to perform the work. The fact that there may be some additional costs involved in subcontracting with DBEs is not in itself sufficient reason for a bidder's/proposer's failure to meet the contract DBE goal, as long as such additional costs are reasonable, as determined by the Program Coordinator in his or her sole discretion.

iii. In determining whether a bidder/proposer has made a good faith effort, the Program Coordinator may also consider the level of participation proposed by the bidder/proposer and the level of participation proposed by other bidders/proposers. The closer the bidder's/proposers proposed participation is to the goal or to the proposed participation by other bidders/proposers, the greater the indication of good faith by the bidder/proposer.

6.10 This contract will be awarded to the vendor with the lowest net cost to the City and who meets or exceeds all City specifications.

6.11 Bidders must comply with Section 2-4078 of the City Code regarding wage rates, Title VI of the Civil Rights Act of 1964, the Davis-Bacon Act, the Anti-Kickback Act, and the Contract Work Hours Standard Act. See attached wage decision.

6.12 Warranty Requirements: (Check where applicable)

(A) Provisions of item 2.12 in regards to quality shall apply.

(B) Warranty required.

(a) Standard Warranty shall be offered with bid.

(b) Extended Warranty shall be offered with bid.

6.13 Bonding:

(Check where applicable)

(A) Each bidder shall post a bid bond, certified check or money order made payable to the City in the amount of 5% of the bid price. A company check is not acceptable. No bids shall be read or considered without a proper form of security.

(B) No bond, certified check, or U.S. Money Order is required.

(C) Bidder shall post a payment / performance bond, certified check or money order payable to the City in the amount of 100% of the bid price if awarded the purchase. Such bond(s) are due prior to contract execution as a guarantee that goods meet requirements of the contract including timely delivery, performance specifications and warranty requirements. Such bonds will also guarantee quality performance of services and timely payment of invoices to any subcontractors.

(D) Bidder shall post a performance bond, certified check or money order in the amount of % of the bid price if awarded the purchase. Such bond(s) are due prior

to contract execution as a guarantee of timely delivery and that equipment, materials and /or goods are delivered according to specifications.

Whenever a bond is provided, it shall be executed by a surety authorized to do business in the State of Georgia, approved by the City, and must be executed on the attached forms. At the discretion of the City, other forms of security may be considered in lieu of a performance bond.

**ADDENDA ACKNOWLEDGEMENT**

My signature below confirms my receipt of all addenda issued for this proposal.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**\*This acknowledgement is separate from my signature on the fee proposal form. My signature on the fee proposal form will not be deemed as an acknowledgement of addenda.**

**THE UNDERSIGNED PROPOSES TO FURNISH THE FOLLOWING ITEMS IN STRICT CONFORMANCE TO THE BID SPECIFICATIONS AND BID INVITATION ISSUED BY THE CITY OF SAVANNAH FOR THIS BID. ANY EXCEPTIONS ARE CLEARLY MARKED IN THE ATTACHED COPY OF BID SPECIFICATIONS.**

**RIGGING FALL PROTECTION SYSTEM**  
\$ \_\_\_\_\_

**TOTAL BID**

**PAYMENT TERMS: PLEASE CHECK ONE AND FILL IN BLANKS**  
(Minimum of 10 working days must be allowed for discount to be considered in bid award)

\_\_\_ Less \_\_\_ % \_\_\_ Days Prompt Payment Discount (if offered) (\_\_\_\_\_)

\_\_\_ Net - 30 Days (no discount offered) - 0 -

**TOTAL NET BID** \$ \_\_\_\_\_

**TIME REQUIRED FOR COMPLETION AFTER RECEIPT OF ORDER:**  
\_\_\_\_\_ DAYS

**CAN YOU MEET THE INSURANCE REQUIREMENTS?** \_\_\_\_\_

**CAN YOU MEET THE TIME CONSTRAINTS FOR COMPLETION PER SECTION 4.2?** \_\_\_\_\_

**HAVE YOU INCLUDED A BID BOND WITH YOUR BID RESPONSE?** \_\_\_\_\_

**PERFORMANCE AND PAYMENT BONDS ARE REQUIRED IF AWARDED THIS CONTRACT. CAN YOU MEET THESE REQUIREMENTS?** \_\_\_\_\_

I certify this bid complies with the general and specific specifications and conditions issued by the City except as clearly marked in the attached copy.

\_\_\_\_\_  
Please Print Name

\_\_\_\_\_  
Authorization Signature

\_\_\_\_\_  
Date