

## South Carolina Business Opportunities

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Published by Division of Procurement Services - Delbert H. Singleton, Jr., Division Director

**Ad Category:** Equipment

**Ad Start Date:** July 24, 2018

**Title:** Football Scoreboard 18'x8'

**Purchasing Agent/Entity:** City of Mullins

**Bid/Submittal Due Date:** August 15, 2018 - 2:00pm

**Description:**

Football Scoreboard 18'x8'

Spec Inquiries please email to [fsawyer@mullinssc.us](mailto:fsawyer@mullinssc.us)

**Solicitation #:** 2018-08-15

**Direct Inquiries To:** Felicia Sawyer

**Buyer Phone#:** 843-464-5661

**Buyer Email:** [fsawyer@mullinssc.us](mailto:fsawyer@mullinssc.us)

**Pre-Bid Information:**

n/a

**Delivery Point:** Mullins, SC

**Full Details / Download:** [www.mullinssc.us](http://www.mullinssc.us)

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## SECTION 116843

### MODEL LX3340 OUTDOOR SCOREBOARD

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Single-face electronic scoreboard display for outdoor use, packaged with control console and other accessories.

##### 1.02 REFERENCES

- A. Standard for Electric Signs, UL 48, 15th Edition.
- B. Standard for Electric Sign Components, UL 879, 9th Edition.
- C. Federal Communications Commission Regulation Part 15.
- D. National Electric Code.

##### 1.03 SUBMITTALS

- A. Scoreboard owner's handbook provides drawings and other information needed for installation, operation, and maintenance of the scoreboard display. Information related specifically to the control console and other accessories may be supplied in additional documents.

##### 1.04 QUALITY ASSURANCE

- A. Source limitation: Obtain all components including scoreboard display, control console, data cable, mounting hardware, and other accessories from a single manufacturer.
- B. Manufacturer qualifications.
  - 1. Specialization in manufacturing electronic scoreboards.
  - 2. Minimum of ten years of experience.
- C. Adherence to nationally recognized standards.
  - 1. ETL listed to UL Standards 48 and 879.
  - 2. NEC compliant.
  - 3. FCC compliant.

##### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Product delivered to installation site unless otherwise specified.
- B. Scoreboard cabinets and accessories to be stored in a clean, dry environment.
- C. Special precautions for the scoreboard face.
  - 1. The face of the scoreboard display will be protected during shipment by a layer of cardboard or other sheet material. Avoid removing this protective sheet until the installation begins.
  - 2. Never lay a scoreboard cabinet face down or stack other objects on top of it.

3. Avoid sliding objects (like another scoreboard) along the plane of the scoreboard face even if the protective sheet is in place. This can result in LEDs being sheared.

#### 1.06 PROJECT CONDITIONS

- A. Scoreboard display and surrounding accessories should not be installed until the mounting posts are secure and the concrete footings have set.
- B. The customer determines location of scoreboard display, control console, and other accessories.
- C. The customer is responsible for verifying that the mounting structure is capable of supporting the weight and wind load of the scoreboard display, additional ID panels, and other accessories.
- D. The customer is responsible for making certain the installation meets any requirements set forth in local, state, and national codes. These requirements may include limitations on the height of the structure, specifications of footings, standards for wind loads, approvals by a locally licensed professional engineer, etc.
- E. Installation of outdoor scoreboards and accessories is dependent upon suitable weather conditions.
- F. The scoreboard display location requires 120 VAC controlled by a dedicated breaker switch mounted within sight of the scoreboard.
- G. The control console location requires one standard grounded 120 VAC electrical outlet.

#### 1.07 WARRANTY

- A. Five-year limited warranty includes factory labor and material costs for repairing or replacing defective parts. Refer to the warranty document included in the scoreboard owner's handbook for specific information.
- B. Warranty coverage based on the date of manufacture.

#### 1.08 MAINTENANCE

- A. Replacement parts and factory repair options are available from manufacturer.
- B. Product support provided by experienced technicians is available via phone, web, and e-mail at no additional cost to customer.
- C. Standard documentation is provided in printed or electronic form at no additional cost to customer.

### PART 2 PRODUCTS

#### 2.01 MANUFACTURER

- A. Electro-Mech Scoreboard Co., 72 Industrial Blvd., Wrightsville, GA 31096.
  1. Phone 800-445-7846.
  2. Fax 478-864-0212.
  3. E-mail [score@electro-mech.com](mailto:score@electro-mech.com)
  4. Click [www.electro-mech.com](http://www.electro-mech.com)

## 2.02 SCOREBOARD

### A. General.

1. Functions and Features: Model LX3340 Outdoor Scoreboard is designed to present information pertinent to American football. Information presented includes:
  - a. Four-digit Period Clock that can count up in MM:SS format, count down in MM:SS or SS.T format, or show time of day in HH:MM format. Period Clock digits are 24 inches tall.
  - b. Guest and Home Points capable of scoring from 0 to 99. Points digits are 24 inches tall.
  - c. Guest and Home football-shaped Possession indicators.
  - d. Down count to 4. Digit is 24 inches tall.
  - e. Yards To Go to 99. Digits are 24 inches tall.
  - f. Ball On to 99. Digits are 24 inches tall.
  - g. Quarter to 4. Digit is 24 inches tall.
2. Additional Features:
  - a. Fifty levels of LED brightness, selectable via the control console.
  - b. Internally mounted Horn with manual control or automatic activation when the Period Clock counts down to zero.
  - c. All serviceable components accessible from the front of the cabinets.
  - d. Eye bolts for lifting.
  - e. Integrated mounting points.
3. Cabinet Size:
  - a. Standard configuration ships in two cabinets.
  - b. Top cabinet dimensions: 216.2 inches wide, 50.2 inches tall, 6 inches deep (5491 mm x 1275 mm x 153 mm).
  - c. Bottom cabinet dimensions: 216.2 inches wide, 45 inches tall, 6 inches deep (5491 mm x 1143 mm x 153 mm).
  - d. Overall assembly size: 216.2 inches wide, 95.2 inches tall, 6 inches deep (5491 mm x 2418 mm x 153 mm).
  - e. Additional ID panels or other accessories may be provided as separate assemblies, adding to the overall size.
4. Cabinet Weight:
  - a. Standard configuration ships in two cabinets.
  - b. Top cabinet weight: 220 pounds (100 kg).
  - c. Bottom cabinet weight: 180 pounds (82 kg).
  - d. Overall assembly weight: 400 pounds (182 kg).
  - e. Additional ID panels or other accessories may be provided as separate assemblies, adding to the overall weight.
5. Electrical Requirements.
  - a. One circuit providing 120 VAC, 60 Hz, 2.3 amp service.
  - b. When upgraded to include Electronic Team Names (ETNs, referenced below), one circuit providing 120 VAC, 60 Hz, 4.8 amp service.

- c. Electro-Mech recommends mounting a disconnect switch and convenience receptacle in line with incoming AC power on one of the support posts beneath the scoreboard display.
- 6. Optional Display Features: Electronic Team Names (ETNs).
  - a. Two ETN displays (one for Guest, one for Home) integrated into the scoreboard cabinet, internally powered, and controlled through the standard scoreboard control console.
  - b. Specifications for each ETN display:
    - 1) 7-inch tall x 47-inch wide active display area (7-inch character height).
    - 2) 9 x 56 pixels at 22 mm pitch.
    - 3) Shows up to 11 characters, including upper and lower case letters.
    - 4) Regular, bold, and condensed fonts.

## 2.03 ACCESSORIES

- A. Standard accessories.
  - 1. Control Console.
    - a. Supports features of Electro-Mech LX3000 series of football scoreboards (including Models LX3230, LX3250, LX3320, LX3360, LX3620, LX3630, LX3640, LX3650, LX3680, LX3690, LX3740, LX3780, LX3840, and LX3880) without the need to enter codes or other information to configure the device.
    - b. Provides direct data output ports for up to four scoreboard or play clock displays, all synchronized to the data (including the time) generated by the control console. Additional displays may be controlled in synchronization by daisy chaining from the data output terminal blocks of displays connected to the control console.
    - c. Constructed of a heavy-duty ABS plastic housing holding a 0.1-inch thick keypad panel with stainless steel metal dome switches that provide tactile feedback and are rated for more than one million actuations.
    - d. Integrated LCD screen provides key game data along with interactive prompts for editing data and configuring the behavior of the scoreboard display and accessories.
    - e. Embedded software includes a Practice Segment Timer mode to allow the main scoreboard display to be used as a practice timer. Users may create, save, and recall up to 45 different schedules, each containing up to 90 timed segments.
    - f. Electrical Requirements: One circuit providing 0.5 amps, 120 VAC, 60 Hz via a standard (NEMA 5-15R) grounded power receptacle.
  - 2. Wired Handheld Period Clock Start/Stop Controller.
    - a. Plugs into connector on the main football scoreboard control console.
    - b. Allows an operator to start, stop, the Period Clock without touching the main control console.
  - 3. Patch Cable (for systems with hardwired data cable): 10-foot long shielded data cable with male stereo connectors at each end allows the control console to be connected to a junction box at the point of operation and later unplugged for storage.
  - 4. Junction Box (for systems with hardwired data cable): Termination point for data cable, includes a stereo socket for quick connection to the control console.

5. Mounting hardware: Standard mounting hardware allows the scoreboard cabinet to be clamped at any height along the support posts without the need for drilling holes or fabricating brackets onsite. Standard hardware accommodates round pipes, I-beams, or other post styles with an exterior cross-section no greater than seven inches. Optional hardware may be substituted where local codes require larger posts.
- B. Optional accessories.
1. Data Cable: A shielded two-conductor cable with a drain line is the typical means of providing a path for data from the control console to a scoreboard display.
  2. ScoreLink Wireless RF Modem System: This RF communications system may be substituted for the data cable at the time of installation or as a replacement for the data cable at any time after the installation. Some ScoreLink configurations require a standard electrical outlet for the transmitter at the point of operation.
  3. ID Panels: This scoreboard may be ordered with one or more ID panels provided as separate cabinets to mount above, below, or beside the scoreboard display. These panels may be purchased blank, with simple text, or with multi-colored text and graphics applied to their faces.
  4. Carrying Case for Control Console: Hard-sided suitcase-style case includes foam cutouts for the console and various accessories.
  5. Team Name in Place of "HOME" cut from vinyl and applied permanently to the scoreboard display face.
  6. Wireless Handheld Period Clock Controller: Battery operated RF device allows for sideline start/stop of the Period Clock. Requires ScoreLink RF system.

#### 2.04 FINISH

- A. Standard scoreboard display faces and digit masks are coated with low gloss black polyester resin paint for maximum contrast and resistance to scratches.
1. For the scoreboard display face, the customer may choose from a selection of at least twelve standard paint colors offered by the manufacturer.
  2. Standard paint colors are applied at the factory using baked on automotive grade low gloss paint.
  3. Non-standard colors and finishes may, for an additional charge, be applied to the scoreboard face at the customer's request.
- B. Scoreboard framing and back are mill-finished aluminum.
- C. Captions and other decorative elements on the face of the scoreboard are vinyl.

#### 2.05 SOURCE QUALITY CONTROL

- A. Tests and inspection.
1. Manufacturer requires sub-contracted printed circuit board subassemblies to undergo functional testing at the point of manufacture.
  2. Manufacturer inspects incoming components prior to installation in scoreboard and accessories.
  3. Manufacturer functionally tests major electrical subcomponents prior to installation in scoreboard and accessories.

4. Manufacturer inspects and tests scoreboard displays and accessories at full power prior to shipment.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify mounting posts are correctly sized and positioned to match the mounting points on the scoreboard cabinets and any optional ID panels.
- B. Verify concrete footings have properly cured.
- C. Verify the scoreboard cabinets are grounded to one or more 5/8-inch by 8-foot copper ground rods, driven into the soil and connected to the ground lugs or elsewhere on the scoreboard cabinets.
- D. Verify 120 VAC power supplying the scoreboard display is properly grounded.
- E. Verify 120 VAC outlet at the control console location is properly grounded.
- F. If data cable is used, verify continuity from scoreboard display to control console location.
- G. Verify data and AC power cables are not run in the same conduit or within six inches of each other in the same trench.
- H. Verify data cable and AC power cable are secure and run in conduits where they might otherwise be exposed to abuse or where local, state, or national codes require.
- I. Verify location of all scoreboard displays, junction boxes, and accessories with customer.

### 3.02 INSTALLATION

- A. Refer to scoreboard owner's handbook for installation instructions.

### 3.03 PROTECTION

- A. The most common sources of damage to scoreboard displays and accessories are electrical surges running through power or data connections. The usual causes are lightning, power equipment problems (floating neutrals, bad transformers, etc.), and improper connections. To minimize these problems:
  1. Ensure electrical wiring is properly grounded.
  2. Ensure the scoreboard display is correctly grounded using one or more 5/8-inch by 8-foot copper ground rods driven into the soil near the display.
  3. Unplug control console from power outlet and from data cable when not in use.
  4. Turn off the breaker to disconnect scoreboard display from power when not in use.
  5. Label scoreboard data cable junction boxes and all connectors near junction boxes, scoreboard displays, and accessories so that public address systems and other devices employing similar connectors are not accidentally plugged into any part of the scoreboard system.
- B. Avoid loss or damage of the control console, patch cable, and other accessories by storing when not in use.

END OF SECTION

## SECTION 116843

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- A. Scoreboard owner's handbook provides drawings and other information needed for installation, operation, and maintenance of the scoreboard display. Information related specifically to the control console and other accessories may be supplied in additional documents.

##### 1.04 QUALITY ASSURANCE

- A. Source limitation: Obtain all components including scoreboard display, control console, data cable, mounting hardware, and other accessories from a single manufacturer.
- B. Manufacturer qualifications.
  - 1. Specialization in manufacturing electronic scoreboards.
  - 2. Minimum of ten years of experience.
- C. Adherence to nationally recognized standards.
  - 1. ETL listed to UL Standards 48 and 879.
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##### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Product delivered to installation site unless otherwise specified.
- B. Scoreboard cabinets and accessories to be stored in a clean, dry environment.
- C. Special precautions for the scoreboard face.
  - 1. The face of the scoreboard display will be protected during shipment by a layer of cardboard or other sheet material. Avoid removing this protective sheet until the installation begins.
  - 2. Never lay a scoreboard cabinet face down or stack other objects on top of it.



3. Avoid sliding objects (like another scoreboard) along the plane of the scoreboard face even if the protective sheet is in place. This can result in LEDs being sheared.

## 1.06 PROJECT CONDITIONS

- A. Scoreboard display and surrounding accessories should not be installed until the mounting posts are secure and the concrete footings have set.
- B. The customer determines location of scoreboard display, control console, and other accessories.
- C. The customer is responsible for verifying that the mounting structure is capable of supporting the weight and wind load of the scoreboard display, additional ID panels, and other accessories.
- D. The customer is responsible for making certain the installation meets any requirements set forth in local, state, and national codes. These requirements may include limitations on the height of the structure, specifications of footings, standards for wind loads, approvals by a locally licensed professional engineer, etc.
- E. Installation of outdoor scoreboards and accessories is dependent upon suitable weather conditions.
- F. The scoreboard display location requires 120 VAC controlled by a dedicated breaker switch mounted within sight of the scoreboard.
- G. The control console location requires one standard grounded 120 VAC electrical outlet.

## 1.07 WARRANTY

- A. Five-year limited warranty includes factory labor and material costs for repairing or replacing defective parts. Refer to the warranty document included in the scoreboard owner's handbook for specific information.
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## 2.02 SCOREBOARD

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  - c. Guest and Home football-shaped Possession indicators.
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  - e. Yards To Go to 99. Digits are 24 inches tall.
  - f. Ball On to 99. Digits are 24 inches tall.
  - g. Quarter to 4. Digit is 24 inches tall.
2. Additional Features:
  - a. Fifty levels of LED brightness, selectable via the control console.
  - b. Internally mounted Horn with manual control or automatic activation when the Period Clock counts down to zero.
  - c. All serviceable components accessible from the front of the cabinets.
  - d. Eye bolts for lifting.
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3. Cabinet Size:
  - a. Standard configuration ships in two cabinets.
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  - b. When upgraded to include Electronic Team Names (ETNs, referenced below), one circuit providing 120 VAC, 60 Hz, 4.8 amp service.

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  - a. Supports features of Electro-Mech LX3000 series of football scoreboards (including Models LX3230, LX3250, LX3320, LX3360, LX3620, LX3630, LX3640, LX3650, LX3680, LX3690, LX3740, LX3780, LX3840, and LX3880) without the need to enter codes or other information to configure the device.
  - b. Provides direct data output ports for up to four scoreboard or play clock displays, all synchronized to the data (including the time) generated by the control console. Additional displays may be controlled in synchronization by daisy chaining from the data output terminal blocks of displays connected to the control console.
  - c. Constructed of a heavy-duty ABS plastic housing holding a 0.1-inch thick keypad panel with stainless steel metal dome switches that provide tactile feedback and are rated for more than one million actuations.
  - d. Integrated LCD screen provides key game data along with interactive prompts for editing data and configuring the behavior of the scoreboard display and accessories.
  - e. Embedded software includes a Practice Segment Timer mode to allow the main scoreboard display to be used as a practice timer. Users may create, save, and recall up to 45 different schedules, each containing up to 90 timed segments.
  - f. Electrical Requirements: One circuit providing 0.5 amps, 120 VAC, 60 Hz via a standard (NEMA 5-15R) grounded power receptacle.
- 2. Wired Handheld Period Clock Start/Stop Controller.
  - a. Plugs into connector on the main football scoreboard control console.
  - b. Allows an operator to start, stop, the Period Clock without touching the main control console.
- 3. Patch Cable (for systems with hardwired data cable): 10-foot long shielded data cable with male stereo connectors at each end allows the control console to be connected to a junction box at the point of operation and later unplugged for storage.
- 4. Junction Box (for systems with hardwired data cable): Termination point for data cable, includes a stereo socket for quick connection to the control console.

5. Mounting hardware: Standard mounting hardware allows the scoreboard cabinet to be clamped at any height along the support posts without the need for drilling holes or fabricating brackets onsite. Standard hardware accommodates round pipes, I-beams, or other post styles with an exterior cross-section no greater than seven inches. Optional hardware may be substituted where local codes require larger posts.
- B. Optional accessories.
1. Data Cable: A shielded two-conductor cable with a drain line is the typical means of providing a path for data from the control console to a scoreboard display.
  2. ScoreLink Wireless RF Modem System: This RF communications system may be substituted for the data cable at the time of installation or as a replacement for the data cable at any time after the installation. Some ScoreLink configurations require a standard electrical outlet for the transmitter at the point of operation.
  3. ID Panels: This scoreboard may be ordered with one or more ID panels provided as separate cabinets to mount above, below, or beside the scoreboard display. These panels may be purchased blank, with simple text, or with multi-colored text and graphics applied to their faces.
  4. Carrying Case for Control Console: Hard-sided suitcase-style case includes foam cutouts for the console and various accessories.
  5. Team Name in Place of "HOME" cut from vinyl and applied permanently to the scoreboard display face.
  6. Wireless Handheld Period Clock Controller: Battery operated RF device allows for sideline start/stop of the Period Clock. Requires ScoreLink RF system.

## 2.04 FINISH

- A. Standard scoreboard display faces and digit masks are coated with low gloss black polyester resin paint for maximum contrast and resistance to scratches.
1. For the scoreboard display face, the customer may choose from a selection of at least twelve standard paint colors offered by the manufacturer.
  2. Standard paint colors are applied at the factory using baked on automotive grade low gloss paint.
  3. Non-standard colors and finishes may, for an additional charge, be applied to the scoreboard face at the customer's request.
- B. Scoreboard framing and back are mill-finished aluminum.
- C. Captions and other decorative elements on the face of the scoreboard are vinyl.

## 2.05 SOURCE QUALITY CONTROL

- A. Tests and inspection.
1. Manufacturer requires sub-contracted printed circuit board subassemblies to undergo functional testing at the point of manufacture.
  2. Manufacturer inspects incoming components prior to installation in scoreboard and accessories.
  3. Manufacturer functionally tests major electrical subcomponents prior to installation in scoreboard and accessories.

4. Manufacturer inspects and tests scoreboard displays and accessories at full power prior to shipment.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify mounting posts are correctly sized and positioned to match the mounting points on the scoreboard cabinets and any optional ID panels.
- B. Verify concrete footings have properly cured.
- C. Verify the scoreboard cabinets are grounded to one or more 5/8-inch by 8-foot copper ground rods, driven into the soil and connected to the ground lugs or elsewhere on the scoreboard cabinets.
- D. Verify 120 VAC power supplying the scoreboard display is properly grounded.
- E. Verify 120 VAC outlet at the control console location is properly grounded.
- F. If data cable is used, verify continuity from scoreboard display to control console location.
- G. Verify data and AC power cables are not run in the same conduit or within six inches of each other in the same trench.
- H. Verify data cable and AC power cable are secure and run in conduits where they might otherwise be exposed to abuse or where local, state, or national codes require.
- I. Verify location of all scoreboard displays, junction boxes, and accessories with customer.

### 3.02 INSTALLATION

- A. Refer to scoreboard owner's handbook for installation instructions.

### 3.03 PROTECTION

- A. The most common sources of damage to scoreboard displays and accessories are electrical surges running through power or data connections. The usual causes are lightning, power equipment problems (floating neutrals, bad transformers, etc.), and improper connections. To minimize these problems:
  1. Ensure electrical wiring is properly grounded.
  2. Ensure the scoreboard display is correctly grounded using one or more 5/8-inch by 8-foot copper ground rods driven into the soil near the display.
  3. Unplug control console from power outlet and from data cable when not in use.
  4. Turn off the breaker to disconnect scoreboard display from power when not in use.
  5. Label scoreboard data cable junction boxes and all connectors near junction boxes, scoreboard displays, and accessories so that public address systems and other devices employing similar connectors are not accidentally plugged into any part of the scoreboard system.
- B. Avoid loss or damage of the control console, patch cable, and other accessories by storing when not in use.

END OF SECTION