

The School District of Palm Beach County

Project Name:

SDPBC Project No.:

**SECTION 26 40 00
LIGHTNING DETECTION SYSTEM**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Control panel/data receiver
- B. Horns and LED strobe lights
- C. Sensors and antennas
- D. Interconnecting conductors and/or fiber optic connection

1.2 REFERENCES

- A. NEC – National Electrical Code
- B. UL – Underwriters Laboratories third party certification

1.3 SYSTEM DESCRIPTION

- A. Lightning detection system and/or lightning prediction system shall be a stand-alone ground based system using antenna(s) to detect lightning produced by thunderstorms.
- B. Provide a complete system of control panel, sensors, antennas, horns, and LED strobe lights for prediction and detection technology for early warning of impending lightning strike.
- C. System shall include settings for lightning alarm ranges of 5 miles to 15 miles and alarm timeout.
- D. Control panel/data receiver shall be programmable to fully configure alarm distances and duration, have status monitor for countdown to all clear mode.

1.4 SUBMITTALS

- A. Section 01 33 00 – Submittals Procedures for submittals.
- B. Shop Drawings:
 - 1. Indicate location of horn(s), strobe light(s), sensors, antennas, and control panel.
 - 2. Mounting detail of lightning antenna, processor, and interconnection wiring.
- C. Product Data: Provide dimensions and materials of each component, and include indication of listing in accordance with UL.

1.5 PROJECT RECORD DOCUMENTS

- A. Submit under Provisions of Section 01 33 00.
- B. Record the actual locations of horns, strobe lights, processor, control panel bonding connections, and routing of system conductors in project record documents.

1.6 QUALITY ASSURANCE

- A. Perform work in accordance with NFPA 70.
- B. Perform work in accordance with UL listings and approval.
- C. Maintain one copy of each document on site.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in lightning detection/prediction equipment with minimum three years documented experience.
- B. Installer: Authorized installer of manufacturer with minimum three years documented experience.

1.8 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on shop drawings.

1.9 COORDINATION

- A. Coordinate work with roofing, exterior walls, and interior finish installations.

1.10 WARRANTY

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- A. Provide manufacturer's 3 year warranty under provisions of Section 01 77 00.

1.11 MAINTENANCE SERVICE

- A. Provide service maintenance of the entire system including all required cleaning of the exterior mounted equipment for 3-years from date of Substantial Completion.
- B. Provide lifetime software upgrades for the system

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Strike Guard
- B. Thor Guard
- C. Earth Networks

2.2 COMPONENTS

- A. Control Panel/Data Receiver: stainless steel enclosure, 120 volts AC, battery back-up, with audible and visual alarms, listed and labeled by an approved NRTL, with required software and 7 days, 24-hour time clock to allow system operating times (days/hours).
- B. Horns
- C. LED strobe lights
- D. Sensors

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with NFPA 70 and manufacturer's instructions.
- B. All exterior boxes shall be NEMA 4X.
- C. Equipment installed on the walls or roofs shall withstand hurricane wind force.
- D. Provide lightning detection protection for covered walkways, press box, playgrounds, and sports fields.
- E. Provide 120 volts power for the system from life safety branch of emergency generator power system.

3.2 FIELD QUALITY CONTROL

- A. Provide sensor and communication testing evidenced by owner's representatives.
- B. Provide control panel/data receiver with new batteries.
- C. Provide up to date software for the control panel/data receiver.
- D. Lightning alarm range settings shall be approved and documented with owner.
- E. Contractors' tests shall be scheduled and documented in accordance with the commissioning requirements.
 - 1. Refer to Section 01 91 00 - Commissioning, for further details.

3.3 DEMONSTRATION AND TRAINING

- A. Training of the Owner's operation and maintenance personnel is required in cooperation with the Owner's Representative.
 - 1. Provide competent, factory authorized personnel to provide instruction to operation and maintenance personnel concerning the location, operation, and troubleshooting of the installed systems.
 - 2. Schedule the instruction in coordination with the Owner's Representative after submission and approval of formal training plans.
 - 3. Refer to Section 01 91 00, Commissioning, for further contractor training requirements.

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- B. Provide demonstration and training for lightning detection system installed in this project.

END OF SECTION