

The School District of Palm Beach County

Project Name:

SDPBC Project No.:

SECTION 27 53 11
FACILITY RADIO REPEATER SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Conduit and boxes
- B. Power wiring

1.2 SYSTEM DESCRIPTION

- A. Facility Radio Repeater Systems shall include the furnishing and installation of raceway systems, Data, Power feeds, grounding bar, weather head, and Facility Radio Repeater backboard at each Radio Repeater System location.

1.3 SUBMITTALS

- A. Submit under the provisions of Section 01 33 00.
- B. Shop Drawings: Indicate layout, raceway diagrams, and equipment dimensions.
- C. Product Data: Provide data sheets for each item of equipment, depicting equipment capacity.

1.4 RECORD DRAWINGS

- A. Submit under the provisions of Section 01 77 00.
- B. Accurately indicate actual locations of power receptacles, boxes, and conduit runs.

PART 2 PRODUCTS

2.1 CONDUIT AND BOXES

A. ALL SITES IN ALL BUILDINGS

- 1. Provide & install a 1½" raceway to the outside of building through the roof at each Facility Radio Repeater Systems Repeater antenna location, terminate with a weather head.
- 2. The penetrating portion of conduit shall be a contiguous 10' piece of rigid, with 6' firmly supported at two joist points below the roof penetration and 4' above the roof. This conduit shall act as an antenna support and be firmly attached to joist to meet or exceed all Hurricane certification requirements.
- 3. Continue this raceway and terminate with a 1-1/2-inch chase nipple with a plastic bushing centered and at 4-inches below the top of the Facility Radio Repeater backboard in building with a single floor.
- 4. In buildings with multiple floors provide a 1-1/2-inch conduit from the center and at 4-inches above the bottom of this floors Facility Radio Repeater backboard and terminate with a 1-1/2-inch chase nipple with a plastic bushing. Continue the 1-1/2-inch conduit from this backboard to the top of the next down floor Facility Radio Repeater backboard and terminate with a 1-1/2-inch chase nipple with a plastic bushing. Continue until each floor has a Facility Radio Repeater backboard with a 1-1/2-inch conduit between floors.

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5. Provide and install a Facility Radio Repeater Backboard typically a $\frac{3}{4}$ -inch 8'H x 4' W fireproof plywood board painted light gray, mounted vertical at all Facility Radio Repeater System locations. *(Typically located in Electrical Rooms in each Building and on each floor of a building. Data rooms could also possibly be used, But only with the approval of the District's Data Services Department. Also if approved the Radio Equipment shall be in its own data rack separate from all other data equipment)*

2.2 POWER FEEDS

- A. Provide and install a dedicated duplex 120-volt power receptacle fed from the life safety branch of emergency generator power source in each of the designated Facility Radio Repeater System locations.
- B. Locate on the Facility Radio Repeater System backboard at typical electrical outlet mounting height.

2.3 DATA JACK

- A. Provide and install a Data Jack at each Facility Radio Repeater System backboard location and above the electrical outlet.

2.4 GROUND BAR

- A. Provide and install a 6 lug ground bar at the right hand top of each Facility Radio Repeater System backboard with a #10 green ground wire connected to building electrical ground,

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install systems in accordance with NECA "Standard of Installation" and Section 26 05 33.
- B. Obtain a copy of the Facility Radio Repeater systems detail drawing from the S.D.P.B.C. School Police Department Security Section for system specifics.
- C. Install a 200 lb. strength pull string throughout the raceway systems.
- D. Mount all junction boxes located above ceiling with the opening facing down, and with a reasonable immediate access pathway provided.
 1. Note: The requiring of the removing of a light fixture or other similar ceiling equipment is not a reasonable access pathway).
- E. Antenna raceways shall not exceed 100' from the weather head to the designated "head-end" locations.

3.2 AVAILABLE SPACE FOR RF EQUIPMENT

- A. Insure that there is available space reserved to install a data rack in front of the Facility Radio Repeater System backboard at each location and adequate space to provide services and repair of the equipment (Typical a 4' x 4' feet square area.)

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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.
- B. Provide demonstration and training for all types of emergency communications systems installed in this project.

END OF SECTION