

GENERAL:

The scope of this document is to provide instruction for the installation of junction boxes, control conduit and pull rope to be run along with chilled water piping.

DESIGN GUIDELINES:

1. Materials

1.1. Junction Boxes

- 1.1.1. Junction Boxes: Minimum dimensions shall be 24" x 18" x 18" (L x W x D).
- 1.1.2. Roadway, Parking Lots and Service Drives: Heavy duty, cast iron box with hot-dip galvanized finish. Removable cover shall be checkered ductile iron with stainless steel cover screws. Junction box shall have an H-20 load rating and be suitable for installation in roadway. Junction box shall be ER series, as manufactured by Spring City Electrical Mfg. Co. or approved equal.
- 1.1.3. Grass and Sidewalks: High strength, light duty, composite box and cover with 8,000# design rating. Removable cover shall be skid resistant and labeled AFiber Optics A with stainless steel cover screws. Junction box shall be suitable for sidewalks or grass areas. Junction box shall be PG style, as manufactured by Quazite, or approved equal.

1.2 Controls Conduit and Pull Rope

- 1.2.1 Buried Conduit: PVC, Schedule 40, rated for 90 degrees C. cable and shall comply with NEMA Standards for electrical non-metallic conduit. PVC conduit shall be as manufactured by Carlon Electrical Sciences, Inc. Cleveland, Ohio or approved equal.
- 1.2.2 Exposed Conduit: Exposed conduit shall consist of all metal raceway, long radius fittings and hardware, EMT type. Conduit shall be hot dipped galvanized.
 - 1.2.2.1 Fittings shall consist of die cast, metal alloy bodies, device boxes, insulated bushings, seal fittings, cord fittings etc. as manufactured by Appleton Electric Co. Or approved equal.
 - 1.2.2.2 Hardware shall consist of all malleable iron conduit clamps, beam clamps and hangers required to install the raceway system. Raceway support spacing shall not exceed 10 feet.
- 1.2.3 Pull Rope: Low stretch polyester braided rope rated for 800 lbs. Greenlee model 78-3310-34122 or approved equal.

2. Installation

2.1. Control Conduit and Pull Rope

- 2.1.1. All direct buried PVC conduit shall be straight, level runs to prevent conduit damage during cable installation.
- 2.1.2. Install PVC bell end fittings at each PVC termination. Bell fittings shall be grouted flush with the inside of the wall.

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- 2.1.3. All offsets and turns shall be constructed with LONG RADIUS (36" minimum) conduit fittings.

- 2.1.4. All joints shall be sealed with approved joint solvent cement to prevent conduit joints from separating during construction.
- 2.1.5. After installation, contractor shall swab out conduit to remove any rocks and debris. Swabbing shall be conducted with the Owner's Representative present. Owner Representative shall be notified 24 hours prior to swabbing.
- 2.1.6. Install pull rope in conduit. Terminate in junction boxes and in buildings.