

TO: Rick Holt, Vice President Cumming Corporation
FROM: John Lowe, Director of Technology Projects
SUBJECT: Update to Technology Design Specifications
DATE: November 12, 2014

BACKGROUND:

Charleston County School District's Technology Design Specifications For New Construction, Version 2012.0 contains guidance for configuring access control to telecommunications room (TR) doors. Construction experiences during the last wave have revealed a need to change from the practice of installing magnetic strikes on TR doors to using electrified strikes. SC Office of School Facilities expressed concern during inspection that a person unable to press the exit button is locked in. The concern does not apply when electrical strikes are employed.

DISCUSSION:

Attachment 1 includes five pages that document the overall intent of both the Technical Design Specification and Facility Security Design Specification is to employ electrical strikes on access doors. One reference in Attachment 1 refers to magnetic strikes.

Attachment 2 is the one red-line change required to align the two documents to require only electrical strikes.

Upon approval Attachment 2 will be incorporated into the next update to Technology Design Specification Version 2012.0 along with all other approved changes. The revised specification will then be identified fully as Technology Design Specifications For New Construction, Version 2013.0 and include a modified Revisions page.

These changes may result in a Change Order to current construction projects if stakeholders determine these modifications should immediately apply. Cost of change to electrical strikes is estimated at \$70 per door.

APPROVALS:

| | | |
|--|----------|--|
| _____ Signature redacted | X Concur | <input type="checkbox"/> Do Not Concur |
| Thomas Nawrocki – Director, Network Operations | | |
| _____ Signature redacted | X Concur | <input type="checkbox"/> Do Not Concur |
| John McCarron – Chief Information Officer | | |
| _____ Signature redacted | X Concur | <input type="checkbox"/> Do Not Concur |
| Jeffrey Borowy – Deputy, Capital Programs | | |

Dr. Nancy J. McGinley
Superintendent of Schools

Michael L. Bobby
Chief Financial and
Operations Officer
Operations Division

John W. McCarron
Executive Director
Information Technology

3999 Bridge View Drive
North Charleston, SC 29405
Tel. (843) 566-8145
Fax (843) 529-3929

Charleston County School District

- Install one 4" conduit from a site location (to be coordinated with the telecommunications service provider) to the Main TR.

TR dimensions

Note: These dimensions are literal. Do not use the dimensions as a square footage calculation. The literal dimensions of a TR can never be less than 6'W x 9'L. Final decisions regarding the classification of TRs are the responsibility of the CCSD/IT Project Manager.

- MTR—12'Wx14'L
- TR—6'Wx9'L

TR doors

- Provide an access control door with a proximity card reader on the exterior wall of the TR and hinged to open outward (code permitting). See the CCSD Design Specifications for Facility Security for requirements for an access control door.
- Door dimensions must be a minimum of 36"W x 80"H without a doorsill. Never use a double, center opening door.
- Mag locks are to be installed on all TR doors.
- Install a gasket or sweep to prevent water, wax, and dirt from entering the TR.
- Locate the door in a corner of the room to maximize usable wall space.

TR floors

TR floors must be sealed concrete.

- Locate floor cores at the backboard location.

TR HVAC

- Do not use variable air volume (VAV) devices or allow any air handling units in the TR.
- Do not place supply grilles over the racks.
- Plan for 24 hours a day and 7 days a week operation.
- Maintain a positive pressure with a minimum of one air change per hour.
- Place the thermostat as far away from the equipment as possible.

Access control general specifications

Access control designs should provide a limited amount of access control entry into the school. Use the following specifications when you plan for access control doors and panels.

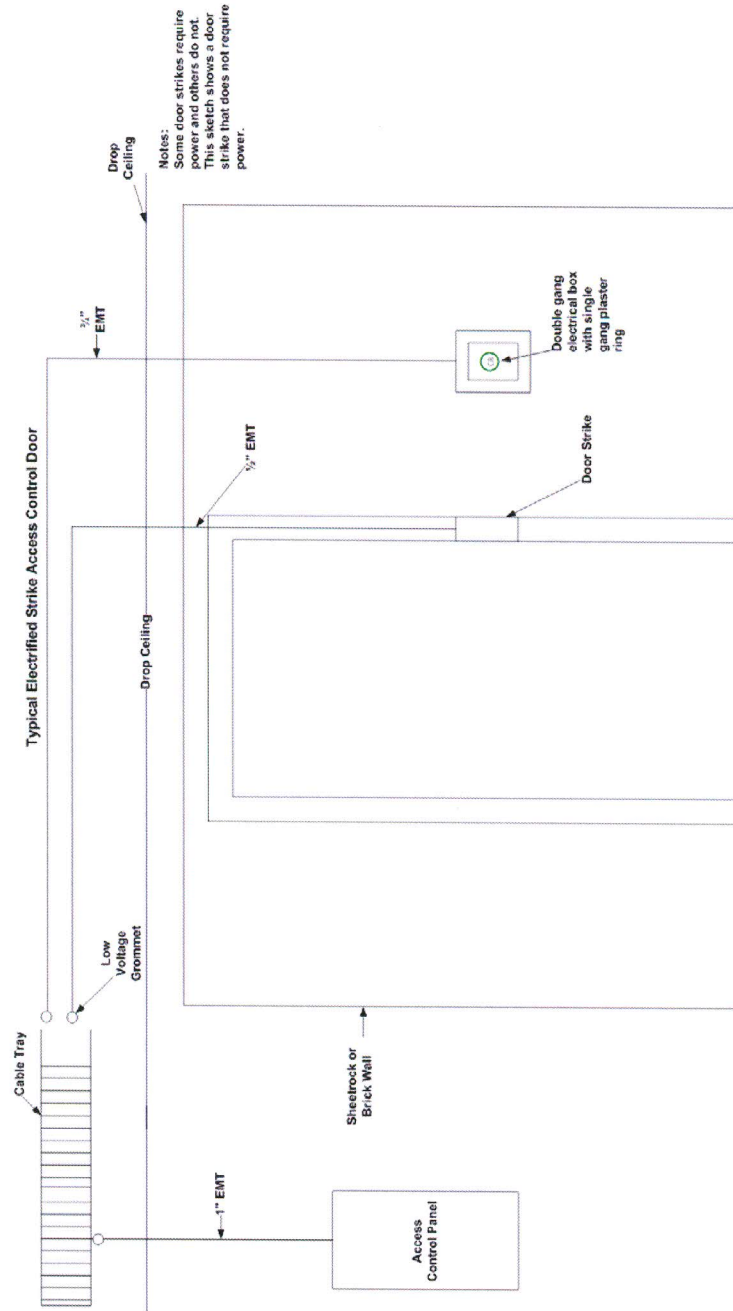
Interior access control doors

- Design all Facility Security Rooms (FSRs), main and intermediate telecommunication rooms (TRs), and the reception office door with the infrastructure for single electrified strike doors with proximity card readers on the exterior wall of the room.
- Provide a double gang electrical box with a single gang plaster ring for the proximity card reader. Mount this box on the exterior of the room's wall near the door at 42" centerline and above finished floor (AFF).
- Provide 3/4" conduit with bushings and pull string stubbed from the cable tray to the card reader on the room's exterior wall.
- Provide 1/2" conduit with bushings and pull string from the power supply to the door strike.

Exterior access control doors

- Use electrified RIM device doors for exterior access control and the doors leading from the vestibule to the main corridor. Double doors require 3/4" conduit with bushings and pull strings on the hinge side of each door for power transfer.
- Ensure that there is a hex dogging device on electrified RIM device doors.
- Verify that the door hardware and electronics are compatible with the RIM device. Failure to do so can void the factory warranty.
- Design access control doors with a proximity card reader that mounts on an exterior wall at 42" centerline AFF or AFG. The card reader mounts on a double gang box with a single gang plaster ring near the door. **Note:** Doors on the exterior of the building must have a weatherproof faceplate and a recessed electrical box.
- Provide 3/4" conduit with bushings and pull string stubbed from the cable tray to the double gang box with a single gang plaster ring for the card reader on an exterior wall.
- Provide 3/4" conduit with bushings and pull string from the power supply to the cable tray.
- Provide 1/2" conduit with bushings and pull string from the power supply to the RIM device.
- Provide a door power supply that connects directly to a 120V circuit. **Note:** If power supply is not available at time of installation, provide a 4"x4" square electrical box above the drop ceiling. Leave enough room for the future installation of the power supply.
- When designing a door frame for a door that meets the requirements for the Americans with Disabilities Act (ADA), verify your design with the Director of Facility Security.

Example of a typical electric strike access control door



FSR access control door

Use the following specifications for the FSR door.

- Provide an electrified strike, access control door with a proximity card reader at 42" centerline AFF near the door and on the exterior wall of the FSR. See general specifications on page 8.
- Key the door lock differently from the rest of the doors in the building.
- Provide a gasket or sweep to prevent water, wax, and dirt from entering the room.
- Place in the corner of the room to maximize the usable wall space when possible.
- Provide a door frame that is a minimum of 36"Wx80"H without a doorsill and hinged to open outward.

FSR HVAC

Use the following specifications for the FSR HVAC.

- Maintain a temperature equal to or less than 80 °F with 60% to 70% humidity.
- Do not use variable air volume devices.
- Design the FSR for an operating period of 24 hours a day and 7 days a week.

FSR ladder racks

- Use ladder racks to connect cable trays to the top of the equipment rack.
- Mount ladder racks a minimum of 3" off the wall to enable interconnection with each service.

Note: CCSD/IT contractors install the ladder racks.

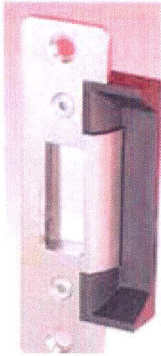
FSR Power

Use the following specifications for the FSR power.

- Support power distribution using a building based transient voltage surge suppression (TVSS) system. Install a separate panel inside to feed only this room. The CCSD/IT Project Manager is responsible for approving the TVSS.
- Provide TVSS protection at each power panel in renovations that do not allow for a building based protection system.
- Provide one single receptacle at the rack location with one 120V circuit to feed this receptacle. Mount the receptacle next to the rack. Coordinate with CCSD/IT Project Manager for location and scheduling.
- Provide each rack location and server rack with two 4-plex receptacles, each on a dedicated 20-amp circuit. Mount receptacles on the rack. Coordinate with CCSD/IT Project Manager for location and scheduling.

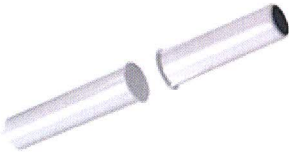
Door, electrified strike

This is an example of an electrified strike device. Use this type of door in TRs, FSRs, and Visitors entrance. Supply 1/2" EMT conduit with bushings and pull string from the single gang junction box above the ceiling to the door strike plate. Door hardware vendors supply this item and general contractors provide installation.



Door position switch or recessed door contact

This is an example of a DPS or recessed door contact. The DPS requires 3/4" conduit with bushings and pull string from the DPS box to the cable tray. Other vendors supply and install this equipment.



Charleston County School District

- Install one 4" conduit from a site location (to be coordinated with the telecommunications service provider) to the Main TR.

TR dimensions

Note: These dimensions are literal. Do not use the dimensions as a square footage calculation. The literal dimensions of a TR can never be less than 6'Wx 9'L. Final decisions regarding the classification of TRs are the responsibility of the CCSD/IT Project Manager.


- MTR—12'Wx14'L
- TR—6'Wx9'L

TR doors

- Provide an access control door with a proximity card reader on the exterior wall of the TR and hinged to open outward (code permitting). See the CCSD Design Specifications for Facility Security for requirements for an access control door.
- Door dimensions must be a minimum of 36"W x 80"H without a doorsill. Never use a double, center opening door.

J. Lowe

11/14/2014

- ~~Mag locks are to be installed on all TR doors.~~ 
- Install a gasket or sweep to prevent water, wax, and dirt from entering the TR.
- Locate the door in a corner of the room to maximize usable wall space.

TR floors

TR floors must be sealed concrete.

- Locate floor cores at the backboard location.

TR HVAC

- Do not use variable air volume (VAV) devices or allow any air handling units in the TR.
- Do not place supply grilles over the racks.
- Plan for 24 hours a day and 7 days a week operation.
- Maintain a positive pressure with a minimum of one air change per hour.
- Place the thermostat as far away from the equipment as possible.