

**SECTION 28 13 00
CARD ACCESS SYSTEMS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes new access control and security system utilizing owner furnished access control panels, and specifies sensors, signal equipment, and system controls.

1.3 DEFINITIONS

- A. Hard-Wired System: Alarm, supervisory, and detection devices are directly connected, through individual dedicated conductors, to distributed control panels.

1.4 SYSTEM DESCRIPTION

- A. The system is an existing modular Johnson Control access control, and alarm monitoring network that allows for easy expansion or modification of inputs, outputs, and remote control stations. The system is controlled at a central computer location.

1.5 FUNCTIONAL PERFORMANCE

- A. The system shall consist of intelligent controllers used in a distributed processing configuration. Each controller shall retain all data necessary for system operation in it's own RAM. Each controller will contain an integrated real time clock that continues to govern events even if communication with the host computer is interrupted.

1.6 SUBMITTALS

- A. General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.
- B. Product data for new system components, controllers and operation description for added devices.
- C. Record of field tests of system.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firms with a minimum of 5 years experience in manufacturing equipment of the types and capacities indicated that have a record of successful in-service performance. The prime system manufacturer shall maintain a service center capable of providing training, parts, and emergency maintenance and repairs for the overall system.
- B. Installer Qualifications: The installer shall be a factory authorized sales and services representative of the system submitted. At the time of bid, the bidder shall have a minimum of 5 years of experience installing systems of similar size, complexity, and general operation as the system described in this specification. When requested to do so, the installer shall furnish, in writing, proof of compliance with system manufacturers service and installation certification programs. Installer must be capable of providing emergency maintenance and repairs for the overall system at the project site with 24 hours maximum response time. The installer shall have a local office staffed with factory trained technicians, fully capable of supervising installation, system start-up, providing training and servicing of both hardware and software for systems of similar complexity and function as the system described in this specification.
- C. Comply with NFPA 70, "National Electrical Code."
- D. Listing and Labeling: Provide system and components that are listed and labeled for their indicated use and location on the Project.
 - 1. The Terms "Listed" and "Labeled": As defined in the "National Electrical Code," Article 100.
- E. Listing and Labeling Agency Qualifications: A "Nationally Recognized Testing Laboratory" (NRTL) as defined in OSHA Regulation 1910.7.
- F. Comply with UL Standard 609, 1023, and 1076.
- G. FM Compliance: Provide FM-approved card access system and components.
- H. Single-Source Responsibility: Obtain system components from a single source (the prime system manufacturer) that assumes

responsibility for system components and for their compatibility.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

Johnson Controls (Match existing)

2.2 ACCESS CONTROL SYSTEM EQUIPMENT, GENERAL ELECTRICAL POWER

- A. Normal System Power Supply: 120 V 60 Hz from locked disconnect device. System components are supplied with power through the system control panel.
- B. Power Source Transfer: When normal power is interrupted, system is automatically switched to backup supply without degradation of critical system function or loss of signals or status data.
- C. Backup Source: Batteries in power supplies of individual system components. Such batteries are an integral part of power supplies of the components.
- D. Annunciation: Switching of the system or any system component to backup power is indicated as a change in system condition.
- E. Card Readers: The access control panel shall support card readers using Magstripe, Barcode, Wiegand, Proximity and Biometrics technologies.
1. Proximity Readers: Provide proximity readers that match existing readers on campus only. The reader shall be powered by an external +12VDC regulated power supply. The card shall use 26 bits and have a label indicating the encoded number. The reader shall meet the following specifications:
 - a. Electrical: Voltage +12 VDC nominal voltage (10.5-14 volts), 130 mA.
 - b. Environmental: Outdoor operating temperature -30 to +65 degrees. Indoor operating temperature 0 to +50 degrees.

2.3 POWER SUPPLIES.

- A. Provide the necessary access control power supplies as per manufacturers written recommendations with total number of powered devices for each power supply restricted to only consuming 75 percent of the power supplies rated amperage. Provide separate power supplies for access controllers and for

access locking devices. Coordinate with electronic lock provider.

2.4 WIRE AND CABLE

- A. General: Stranded copper. Size conductors as required by system manufacturer.
- B. Comply with Division 26 Section "Wires and Cables" except as indicated.
- C. Plenum cable: Provide plenum rated cable throughout.

2.5 RACEWAY

- A. Run in ¾" conduit to cable tray

2.6 FINISHES

- A. Color: Match existing

2.7 TAMPERPROOF FASTENERS

- A. Provide fasteners with Torx center rejection pin heads in high security areas.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install system according to NFPA 70, applicable codes, and manufacturer's printed instructions.
- B. Wiring Method: Install wiring in raceways and cable trays. Conceal raceways except in unfinished indoor spaces. Conduit fill shall not exceed 40%.
- C. Wiring Within Panels And Enclosures: Bundle, lace, and train the conductors to terminal points with no excess. Provide and use lacing bars and distribution spools.
- D. Number of Conductors: As recommended by system manufacturer for functions indicated.
- E. Splices, Taps, and Terminations: Make splices, taps, and terminations on numbered terminal strips in junction, pull and outlet boxes, terminal cabinets, and equipment enclosures.
- F. Tighten connections to comply with tightening torques specified in UL Standard 486A.
- G. Identification of Conductors and Cables: Color-code conductors and apply wire and cable marking tape to designate wires and cables so media are identified and coordinated with system wiring

diagrams.

- H. Install additional power supplies and other auxiliary components for detection devices at the access control panel or at a data-gathering panel as required by manufacturer. Do not install such items in the vicinity of the devices they serve.

3.2 GROUNDING

- A. Ground system components and conductor and cable shields to eliminate shock hazard and to minimize ground loops, common mode returns, noise pickup, cross talk, and other impairments.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Provide services of a factory-authorized service representative to supervise the field assembly and connection of components and system pretesting, testing, adjustment, and programming.
- B. Inspection: Verify that units and controls are properly labeled and interconnecting wires and terminals are identified.
- C. Operational Tests: Perform operational system tests to verify conformance with specifications. Test all modes of system operation and intrusion detection. Methodically test for false alarms.
- D. Retesting: Correct deficiencies and retest until the total system meets the requirements of the Specifications and complies with applicable standards.

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