

PART 1 - GENERAL

1.1 SYSTEM  
DESCRIPTION

- .1 Door access control system shall include programmable control panel, input modules, output modules, power supplies, communication devices, card readers, control station, and related equipment and software, as well as wiring and conduit that will provide features and functionalities as indicated below:
- .1 Allow for minimum 100 card users.
  - .2 Maintain entry records for card users.
  - .3 Programmable scheduled control.
  - .4 Provision for connection to fire alarm and intrusion systems.
  - .5 User friendly interface with system control panel via software to allow for access to entry records, adjustment on scheduled control and priority events and administrative control for card users.
  - .6 System shall be programmed as per below required control schemes:
    - .1 Unless the system is operated on scheduled control, all doors under the control of the system shall be locked at all times and the equipped automatic door operators are disabled unless access is granted by authorized card users or via control station.
    - .2 Upon granting access the electric exit device on door shall release the lock and the automatic door operator becomes operational. The system shall have adjustable time delay ranging from 1 - 120 seconds to ensure the equipment to be maintained in the "accessible" state. Exact time delay to be determined during the commissioning.
    - .3 Key switch (supplied and installed by Arch. Division) shall be interlocked to the control of the automatic door operators. Refer to section 08 71 00 for detail requirements.
    - .4 Upon manual activation of the school "lock-down" mode at control station in general office, all card readers are disabled and the amber light starts flashing. At control station an indicator light shall illuminate to

- |  |  |
|--|--|
| <u>1.1 SYSTEM DESCRIPTION (Cont'd)</u> | <p>.1 (Cont'd)</p> <p>.6 (Cont'd)</p> <p>.4 (Cont'd)</p> <p>indicate the "lock-down" mode has been activated for staff. Deactivation of such mode shall only be done manually at control station.</p> <p>.5 Unless the system is in the "lock-down" mode, it shall operate as per above notes 1 to 4.</p> <p>.7 Must be compatible and capable of reading existing Eastern School District cards. Coordinate with Owner.</p> |
|--|--|

PART 2 - PRODUCTS

- |                                |  |
|--------------------------------|--|
| <u>2.1 SYSTEM CONTROLLERS</u>  | <p>.1 Each controller shall be microprocessor based and provided with locking metal cabinet and circuit board back plane.</p> <p>.2 Provide all wiring harnesses, connectors, and cabling required for properly interconnecting controller and accessories.</p> <p>.3 Install all controller(s) in NEMA 1 sprinkler proof keyed metal enclosure. Enclosure shall be manufactured by Hoffman or approved equal.</p> <p>.4 Must be compatible and capable of reading existing ?????????????????????? cards. Coordinate with Owner.</p> |
| <u>2.2 12 VDC POWER SUPPLY</u> | <p>.1 12 VDC power supply with 9 ampere minimum capacity and integral battery charger.</p> <p>.2 To be used to power controller(s) as well as card readers, control station, and other devices as required.</p> <p>.3 ULC listed.</p> <p>.4 Power supply shall provide dry-contact power fault output.</p>   |

- 2.2 12 VDC POWER SUPPLY  
(Cont'd)
- .5 Voltage regulation, ripple current, and other such tolerances shall be in accordance with manufacturer's guidelines.
  - .6 Provide backup batteries to maintain system operation for minimum 24 hours.
  - .7 Provide battery wiring harness as needed to properly connect batteries to power supply. Wiring harness shall provide in-line fuses or other type of over-current protection.
- 2.3 ENCLOSURES
- .1 Unless specified otherwise all control equipment, relays, modules, circuit boards, and other such devices shall be contained within NEMA 1 sprinkler proof enclosures of all-metal construction.
- 2.4 CARD READER
- .1 Provide and install proximity card reader as indicated, proximity card reader shall be KANTECH ioProx series or approved equal.
  - .2 Provide all necessary accessories, including mounting brackets, mounting kits, connectors, cables, installation tools, and other such components necessary for a complete installation.
  - .3 Contractor shall provide trim plates, adapters, or back boxes for card readers as needed. The color and finish of all trim plates, adapters or back boxes used shall match that of card reader.
  - .4 Each card reader shall be single stage reader and communicate to controller via shield cable up to 2000 feet without any additional power supplies.
- 2.5 ACCESS CARDS
- .1 Passive, no-battery design allows for infinite number of reads.
  - .2 Compatible with both XSF and 26-bit Wiegand formats.
-

- |                                     |    |  |
|-------------------------------------|----|--|
| <u>2.5 ACCESS CARDS</u><br>(Cont'd) | .3 | Strong, flexible and resistant to cracking and breaking.   |
|                                     | .4 | Capable of being programmed to customer-specified ID number.   |
|                                     | .5 | 100 cards shall be supplied to owner.  |
| <u>2.6 OUTPUT RELAY</u>             | .1 | Output relay shall be supplied and installed for energizing amber light in "lock-down" mode.   |
|                                     | .2 | Contact rating: 120Vac, 20Amp minimum.   |
|                                     | .3 | Control voltage: required by control system.   |
| <u>2.7 WIRING</u>                   | .1 | Provide and install wiring between all control system equipment in accordance with manufacturer's requirements. All control and communication wiring shall be shielded unless otherwise specified by manufacturer.       |
|                                     | .2 | Wire and cable shall be sized to provide minimum resistance and minimum voltage drop to the devices being supplied. Voltage delivered to all devices shall be within the tolerance specified by the device manufacturer. |
|                                     | .3 | No conductor shall be smaller than #22 AWG.  |
|                                     | .4 | All wiring shall be installed in conduit.  |
| <u>2.8 DOOR CONTACTS</u>            | .1 | Magnetic door contacts.  |
|                                     | .2 | Maximum gap of 32 mm.  |
|                                     | .3 | Form C relay contacts.   |
|                                     | .4 | Must be compatible with system components.   |

- 2.9 SOFTWARE
- .1 Capable of interrupting and integrating all system components.
  - .2 Shall be a complete package fully installed and operational.
  - .3 Must be operational on the computer indicated, and fully capable of being integrated into the network.
  - .4 Shall be password protected.
  - .5 Refer to system description, functions in specification section and detail on drawings for full system requirements.
  - .6 Must be a complete end to end system.

PART 3 - EXECUTION

- 3.1 INSTALLATION
- .1 Install system in accordance with manufacturer's instructions.

- 3.2 FIELD QUALITY CONTROL
- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical and Section 01 91 13 - General Commissioning (Cx) Requirements.
  - .2 Perform intelligibility tests.
  - .3 Shall be a complete, operational and functional end to end system.