Part 1 General

1.1 SECTION INCLUDES

.1 Door Controllers

.2 Network Controllers

.3 Proximity Readers

.4 Power Supplies

.5 Request to Exit Motion Detectors

.6 Wiring

1.2 SYSTEM DESCRIPTION

.1 Provide access control at all controlled door locations as indicated on the drawings, complete with door controllers, proximity readers, interconnection to door hardware, request to exit motion sensors, and power supplies.

.2 Monitor all controlled doors for door status.

.3 Integrate with the intrusion alarm system to arm or disarm the intrusion system at arming station locations only, as indicated on the plans.

.4 Interface with City's network Johnson Controls Cardkey/Pegasys platform.

1.3 SUBMITTALS FOR REVIEW

.1 Section 01 33 00: Submittal Procedures.

.2 Product Data: Provide electrical characteristics and connection requirements.

.3 Shop Drawings: Indicate system wiring diagram showing each device and wiring connection required.

1.4 SUBMITTALS FOR INFORMATION

.1 Section 01 33 00: Submittal Procedures.

.2 Test Reports: Indicate satisfactory completion of required tests and inspections.

.3 Installation Data: Manufacturer's special installation requirements.

.1 Indicate application conditions and limitations of use stipulated by Product testing agency.

.2 Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.

1.5 CLOSEOUT SUBMITTALS

.1 Section 01 78 00: Closeout Procedures

.2 Maintenance Contracts: Provide service and maintenance of intrusion detection system for one (1) year from Date of Substantial Completion.

.3 Operation Data: Operating instructions.

.4 Maintenance Data: Maintenance and repair procedures.

.5 Record Documentation: Record all device locations including cable runs complete with cable identification scheme. Include riser diagrams indicating all interconnected components.

1.6 QUALITY ASSURANCE

.1 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum ten (10) years experience and with service facilities within 160 km(100 miles) of Project.

1.7 REGULATORY REQUIREMENTS

.1 Products Requiring Electrical Connection: Listed and classified by ULC as suitable for the purpose specified and indicated.

Part 2 Products

2.1 GENERAL

.1 The system shall be capable of interfacing with the City's Johnson Controls Cardkey/Pegasys platform.

.2 Substitutions: Not permitted unless noted otherwise.

.3 A typical controlled door shall consist of an electric strike or magnetic lock, complete with a proximity reader, door contact or door position switch, and a request- to-exit motion detector. Where doors include a magnetic lock, a local vandal-proof audible alarm shall be included.

2.2 ACCESS CONTROL PANEL DOOR CONTROLLER

.1 Manufacturer: Mercury Security EP1502 intelligent controller.

.2 The access control panel shall be capable of controlling two (2) connected doors, and managing up to 64 doors/openings complete with Ethernet port.

2.3 PROXIMITY READER

.1 Manufacturer: HID Multiclass SE

.1 Mullion mounted: SE RP10

.2 Wall mounted SE RP40

.2 Proximity reader shall be complete with status LED:

.1 Normal: No LED

.2 Valid Read: Green LED

.3 Invalid Read/Error: Red LED

2.4 PROXIMITY CARD

.1 Provide one hundred (100) compatible proximity cards.

2.5 ARMING STATION

.1 Refer to section 28 16 00 for further requirements.

2.6 NETWORK CONTROLLER

.1 Manufacturer: Johnson Controls CK721-A

.2 Intelligent network controller complete with Ethernet connection and RS-485 communications link.

2.7 POWER SUPPLIES

.1 Manufacturer: AlarmSaf

.2 Power supply shall be sized such that total load does not exceed 70% of nominal rating.

2.8 REQUEST TO EXIT DETECTOR

.1 Manufacturer: Interlogix RCR-REX

.2 Dual technology adjustable detector for door lock release and door shunt complete with built-in sounder.

2.9 LOCAL VANDAL-PROOF AUDIBLE ALARM

.1 Armoured siren complete with white finish. Alarms shall be located at doors with mag-locks only.

2.10 WIRING

.1 All wiring shall be premium quality stranded cable Belden or equal. Confirm wiring with manufacturer.

Part 3 Execution

3.1 INSTALLATION

.1 Install to manufacturer's written instructions.

.2 Mercury network controllers shall be located in the same room as the intrusion alarm system equipment.

.3 Equipment enclosures shall be built as per Johnson Controls specifications.

.4 Install enclosures within IT Room on plywood backboards. Enclosures shall be mounted at an accessible height minimum 915mm(36inch) to maximum 1825mm(72inch) above finished floor.

.5 Provide conduit for interconnection between all enclosures. All conduit shall be sized to allow a minimum of 40% future fill capacity. Minimum size conduit shall be 19mm(3/4inch) EMT.

.6 Connect tamper switches to both the intrusion system tamper inputs and the access control network controller.

.7 All wiring shall be run in conduit.

.8 Daisy chaining of devices is not permitted. Each device shall be home run back to the head end location. Cable splicing is not acceptable.

.9 Install power supplies in a dedicated enclosure each. Enclosures shall be located within the same room as the access control panel and door control panels.

.10 Power supplies shall be fed from a dedicated circuit. Circuit breaker shall be lockable in the on position. Each power supply shall be loaded to 70% capacity maximum nominal load.

.11 Install door contacts within 1/4inch alignment with the door contact. Secure door contacts using a bracket or woodblock.

.12 Use minimum 4/C 22 AWG minimum size conductors for door contact connections. Door contact cabling shall be recessed at all transition points from the wall, ceiling, basement, crawlspace, etc.

.13 Terminations and connections shall be soldered.

.14 All cables shall be uniquely and clearly identified at both ends. Labels shall be permanent, and not susceptible to thermal or mechanical influence.

.15 Label cables in ascending order in a clockwise direction relative to the floor plans. The labelling sequence shall start at the device installed at the primary entrance to the building or partition.

.16 Status changing field devices shall have DEOL (Double End Of Line) supervision.

3.2 SYSTEM PROGRAMMING AND TRAINING

.1 Programming: The sub-contractor shall initially configure the system in accordance with the design shown in the drawings.

.2 Training and System Setup: Provide a minimum of ten (10) hours of training and system setup to City's specific requirements at a time suitable to the City. Provide sign-off sheet from City personnel to confirm acceptance of training and system setup.

3.3 SYSTEM TESTING

.1 System Testing: The sub-contractor shall demonstrate the functionality of the system upon completion of installation, and shall document the result of all tests and provide these results to the City.

3.4 MANUFACTURER'S FIELD SERVICES

.1 Include services of technician to supervise installation, adjustments, final connections, system testing, and City training.

3.5 DEMONSTRATION

.1 Demonstrate normal and abnormal modes of operation, and required responses to each.

END OF SECTION