

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 26 05 00 – Common Work Results – Electrical
- .2 Section 28 31 00 – Multiplex Fire Alarm System

1.2 REFERENCE STANDARDS

- .1 Underwriters Laboratories of Canada (ULC)

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section [01 33 00 - Submittal Procedures].
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for [access controls and equipment] and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit:
 - .1 Functional description of equipment.
 - .2 Technical data for all devices.
 - .3 Device location plans and cable lists.
 - .4 Devices mounting location detail drawings.
 - .5 Typical devices connection detail drawings.
 - .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Newfoundland and Labrador, Canada.
 - .2 Shop drawings to indicate project layout, including details.
 - .1 Shop drawings to indicate, mounting heights and locations, wiring diagrams.
 - .2 Submit zone layout drawing indicating number and location of zones and areas covered.
 - .3 Submit wiring diagrams.
 - .4 Submit complete equipment list.
- .4 Manufacturer's Instructions: submit manufacturer's installation instructions.

1.4 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for access controls and equipment for incorporation into manual.

- .1 Include:
 - .1 System configuration and equipment physical layout.
 - .2 Functional description of equipment.
 - .3 Instructions of operation of equipment.
 - .4 Illustrations and diagrams to supplement procedures.
 - .5 Operation instructions provided by manufacturer.
 - .6 Cleaning instructions.

1.5 WARRANTY

- .1 Each piece of equipment installed is warranted by the manufacturer to be free of defects in operation, material and workmanship for a period of 12 months from substantial completion.
- .2 Manufacturer's Warranty: submit, for Departmental Representative's acceptance, manufacturer's standard warranty document executed by authorized company official.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Door activation units:
 - .1 Fully complement and function and match door manufacturer's magnetic controls and hardware.
 - .2 Fully function with OEM supplied door controls and hardware to activate system in routine and emergency conditions.
 - .3 Fully function within supplied electrical supervision circuits as specified.
- .2 Control Panel:
 - .1 Fully compatible, compliment and operate door magnets provided by door manufacturer of system or OEM supplied door operating hardware.
 - .2 Complete with push button or electronic key pad to release and secure each door.
 - .3 Identify each door control function with lamp electronically identified on panel or associated display unit.
 - .4 Permanently label (paper labels are not acceptable) or electronically identified each door location on panel or associated display unit.
 - .5 Fully function within supplied electrical supervision circuits as specified.
- .3 Control Signal Standards:
 - .1 Input and Output Signal: 0.0 dBmV + 1.0 dBmV Level.
 - .2 Input and Output Signals: terminated on each control unit.
 - .3 Input and Output Impedance: 120 Ohms, BAL.
 - .4 Channel Bandwidth:
 - .1 Data: 300 Hz to 3.5 kHz (9.6 kilo bits per second rate).
 - .2 DC: 0.5 Hz to 100 Hz, + 5.0%, MIN.
 - .5 S/N Ratio: 60 dBmV + 1.0 dBmV.
- .4 Intercom System:
 - .1 Design door answering system with door and interior stations including door release where indicated.
 - .2 System to be complete with system calls, [with privacy handsets,] audio and video, and

mounting requirements as specified.

- .2 Door controls items and panels:
 - .1 Include standard "off the shelf" equipment items to form a complete and operating DRS system.
 - .2 Include: equipment cabinet, equipment panels, AC power strips, power line conditioner, system power supply, junction box, door control panels, door activation units, electronic supervising master panel, electronic supervising remote panel, system connectors, and system cables.
- .3 Provide system cables including coaxial cable, multiconductor control cable, audio and AC power cable required.
- .4 Power supplies: to CAN/ULC-S318.
- .5 Connectors and switches: to ULC-C634.
- .6 Basic System Criteria:
 - .1 Card readers:
 - .1 Type: proximity.
 - .2 Quantity of card readers required: 2.
 - .3 Proximity technology.
 - .4 Fitted with LED indicator light.
 - .5 Reading distance 50 - 200 mm.
 - .6 Compatible with access card model.
 - .7 Personal Identification Number (PIN) number access:
 - .2 Keypads:
 - .1 Quantity of keypads required: 2.
 - .2 Fitted with LED indicator light.
 - .3 Cards: standard, plastic, credit-card size, sealed and highly resistant to normal handling and weather.
 - .1 Quantity of cards required:
 - .2 Guaranteed for 5 years against all defects and protected against:
 - .1 Magnetic encoded cards.
 - .2 Metal objects including coins and keys.
 - .3 Retail shoplifting detection equipment.
 - .4 Communication equipment.
 - .3 Coding:
 - .1 Designed with highly secure codification of card information.
 - .2 Card life: minimum period of 10 years for cards in same family.
 - .3 Use 1 series of cards for all areas protected by access control system.
 - .4 Number of access levels (assigned to cardholders): 1.
 - .5 Schedules:
 - .1 Number of date schedules required: 100.
 - .2 Number of holiday schedules required: 180.
 - .3 Allow full schedule description label of 30 alphanumeric characters.
 - .4 Include 4 time intervals/day.
 - .5 Infrared detection.
 - .6 Continuous low-voltage operation.
 - .7 Fitted with indicator light.
 - .8 Integrated with local audio alarm (electronic buzzer).
 - .9 Adjustable coverage.

PART 3 - EXECUTION

3.1 INSTALLATION: SECURITY ACCESS

- .1 Install security access systems and components in accordance with CAN/ULC-S302.
- .2 Install components in accordance with manufacturer's written installation instructions to locations, heights and surfaces shown on reviewed shop drawings.
- .3 Install components secure to walls, ceilings or other substrates.
- .4 Install required boxes in inconspicuous accessible locations.
- .5 Conceal conduit and wiring.

3.2 SITE TEST AND INSPECTION

- .1 Perform verification inspections and test in presence of Departmental Representative.
- .1 Provide all necessary tools, ladders and equipment.
- .2 Ensure appropriate subcontractors , and manufacturer's representatives are present for verification.
- .2 Pretesting procedure:
 - .1 Verify (utilizing an approved spectrum analyzer and test equipment) that system is fully operational and meets all system performance requirements of this specification.
 - .2 Measure and record, control (and/or voice) carrier levels of every system channel at each of following points in the system:
 - .1 Door located actuating devices.
 - .2 Door control panel functions.
 - .3 Electronic supervisory control units inputs and outputs.
 - .4 Distribution system input and output.
 - .5 Telephone system interface input and output.
 - .3 Submit to Departmental Representative 2 copies of recorded system pretest measurements, along with pretest certification.
- .3 Performance testing:
 - .1 Test procedure: perform test on a "go-no-go" basis.
 - .1 Make only operator adjustments required to show proof of performance.
 - .2 Test to demonstrate and verify that installed system complies with installation and technical requirements of this specification under operating conditions.
 - .3 Test results to be evaluated by Departmental Representative as either acceptable or unacceptable using following procedures.
 - .2 Documentation review:
 - .1 This review will determine if information provided is sufficient to meet requirements of this specification.
 - .2 Provide for review all System manuals, as installed drawings, pretest forms, antenna

radiation patterns, equipment cabinet pictorials, antenna pictorial, antenna mount pictorial, video and audio equipment details.

- .4 Visual verification: objective is to assess quality of installation and assembly and overall appearance to ensure compliance with Contract Documents. Visual inspection to include:
 - .1 Sturdiness of equipment fastening.
 - .2 Non-existence of installation related damages.
 - .3 Compliance of device locations with reviewed shop drawings.
 - .4 Compatibility of equipment installation with physical environment.
 - .5 Inclusion of all accessories.
 - .6 Device and cabling identification.
 - .7 Application and location of ULC approval decals.
- .5 Technical verification: purpose to ensure that all systems and devices are properly installed and free of defects and damage. Technical verification includes:
 - .1 Validate sensitivity of readers and applicability and application of cards.
 - .2 Connecting joints and equipment fastening.
 - .3 Compliance with manufacturer's specification, product literature and installation instructions.
- .6 Operational verification: purpose to ensure that devices and systems' performance meet or exceed established functional requirements. Operational verification includes:
 - .1 Operation of each device individually and within its environment.
 - .2 Operation of each device in relation with programmable schedule and or/specific functions.

3.3 FIELD QUALITY CONTROL

- .1 Manufacturer Services:
 - .1 Manufacturer of products, supplied under this Section, to review Work involved in the handling, installation/application, protection and cleaning, of its product[s] and submit written reports, in acceptable format, to verify compliance of Work with Contract.
 - .2 Manufacturer's Field Services:
 - .1 Obtain written reports from manufacturer verifying compliance of Work, in handling, installing, applying, protecting and cleaning of product.
 - .2 Submit manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
 - .3 Ensure manufacturer's representative is present before and during testing.

END OF SECTION