

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 26 05 00 - Common Work Results for Electrical.

1.2 REFERENCES

- .1 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .2 Underwriters Laboratories of Canada (ULC)
 - .1 CAN/ULC-S304-2006, Signal Receiving Centre and Premise Burglar Alarm Control Units.
 - .2 CAN/ULC-S306-M1989, Intrusion Detection Units.
 - .3 ULC-S318-1996, Standard for Power Supplies for Burglar Alarm Systems.
 - .4 ULC-C634-M1986, Guide for the Investigation of Connectors and Switches for Use with Burglar Alarm Systems.
- .3 Underwriters' Laboratories (UL)
 - .1 UL 603-2008, Power Supplies For Use With Burglar-Alarm Systems.

1.3 SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Manufacturer's instructions, printed product literature and data sheets for control panels, detection accessory devices and include product characteristics and performance criteria.
 - .1 Include:
 - .1 Functional description of equipment.
 - .2 Technical data for 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 Province of Ontario, Canada.
 - .2 Shop drawings to indicate project layout, mounting heights and locations, and wiring diagrams.
 - .3 Submit zone layout drawing indicating number and location of zones and areas covered.
- .4 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .1 Submit UL Product Safety Certificates.

- .2 Submit verification Certificate that intrusion alarm system is Certified Alarm System.
- .5 Test and Evaluation Reports:
 - .1 Submit certified test reports from approved independent testing laboratories indicating compliance with specifications for specified performance characteristics and physical properties.
- .6 Manufacturer's Instructions: submit manufacturer's installation instructions.
- .7 Manufacturer's Field Reports: submit manufacturer's written reports verifying compliance of Work.

1.4 CLOSEOUT SUBMITTALS

- .1 Operation and Maintenance Data:
 - .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.

Part 2 Products

2.1 MATERIALS

- .1 Design Criteria:
 - .1 Design intrusion and fire detection system using only ULC/UL listed products.
 - .2 Design intrusion detection system as a ULC/UL certified alarm system.
 - .3 Design system as a modular access control, alarm monitoring system expandable, and easily modified for inputs, outputs and remote control stations.
 - .1 Design components in accordance with CAN/ULC-S306 and be capable of:
 - .1 Annunciating undesirable, abnormal or dangerous condition.
 - .2 Prioritizing alarms by alarm type; intrusion and tamper.
 - .3 Determining zone where alarm occurred.
 - .4 Annunciating power failure and power restoration.
 - .5 Annunciating low battery condition.
 - .6 Operate continuously for minimum period of 8 hours in the event of a power failure.
 - .4 Equip control panels with continuous tamper detection on door and wall.
 - .1 Tamper detection to trigger alarm.

- .5 Design system with:
 - .1 Alarm masking.
 - .2 Unique identifier for each authorized person.
 - .3 Arming and disarming capabilities: manual or by operator command.
 - .4 Support both manual and automatic responses to alarms entering system.
 - .5 Zone or alarm location annunciated at monitoring station.
- .6 Alarm condition: design system to provide maximum time for an alarm to be communicated of 60 seconds from alarm initiation to annunciation at remote monitoring location.
- .7 Junction boxes: tamperproof.
- .8 Design system power supplies rated to provide cumulative load of all systems components plus safety factor of 50% or greater.
- .2 Control Panel: ULC approved, expandable.
 - .1 Fixed zones: 8.
 - .2 Number of user codes required: TBD.
 - .3 Number of areas/partitions required: TBD.
 - .4 Keypads: fixed icon.
 - .5 Alarm: monitored.
 - .6 System: wired.
 - .7 Number of programmable outputs required: 1.
 - .8 System supervision: battery and AC power.
 - .9 Siren output (provisional).
 - .10 Number of devices per zone: 1 device per zone.
- .3 Detection Accessories:
 - .1 Passive infrared detectors (PIRs): ULC approved.
 - .2 Glass break detector: ULC approved, complete with tamperproof switch and be designed to meet temperature and mounting requirements of project.
 - .3 Contacts: ULC approved.
 - .1 Mounting: surface.
 - .2 Mounting locations: door.
 - .3 Operating gap: 12.7 mm.
 - .4 Type: magnetic.
 - .4 Notification devices (provisional):
 - .1 Siren: 20 watts.
- .4 Communications: telephone line.
- .5 Environmental Monitoring: design system for detection of smoke/heat.
- .6 Connectors and Switches: to ULC-C634.
- .7 Power Supplies: to ULC-S318.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections are acceptable for intrusion detection installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 INSTALLATION

- .1 Install panels, intrusion detection system and components in accordance with manufacturer's written installation instructions to locations, heights and surfaces shown on reviewed shop drawings.
- .2 Install panels, intrusion detection system and components secure to walls, ceilings or other substrates.
- .3 Install required boxes in inconspicuous accessible locations.
- .4 Surface mount conduit and wiring.

3.3 SITE TEST AND INSPECTION

- .1 Perform verification inspections and test in the presence of Departmental Representative.
- .2 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 Nonexistence 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.
- .3 Technical Verification: purpose to ensure that all systems and devices are properly installed and free of defects and damage. Technical verification includes:
 - .1 Measurements of coverage patterns.
 - .2 Connecting joints and equipment fastening.
 - .3 Compliance with manufacturer's specification, product literature and installation instructions.
- .4 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.

3.4 FIELD QUALITY CONTROL

- .1 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 of product installation in accordance with manufacturer's instructions.
 - .3 Ensure manufacturer's representative is present during testing.

3.5 ADJUSTING

- .1 Adjust all components for correct function.

3.6 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by intrusion detection installation.

END OF SECTION