

**PART 1 - GENERAL**

<b><u>1.1 RELATED REQUIREMENTS</u></b>	.1	Section 01 33 00 - Submittal Procedures.
	.2	Section 01 61 00 - Common Product Requirements
	.3	Section 01 74 00 - Cleaning.
	.4	Section 01 78 00 - Closeout Submittals.
	.5	Section 26 05 00 - Common Work Results for Electrical
<b><u>1.2 REFERENCES</u></b>	.1	Treasury Board of Canada Secretariat (TBS), Occupational Safety and Health (OSH)
	.1	Fire Protection Standard-10.
	.2	Underwriter's Laboratories of Canada (ULC)
	.1	CAN/ULC S524-14, Standard for the Installation of Fire Alarm Systems.
<b><u>1.3 ACTION AND INFORMATIONAL SUBMITTALS</u></b>	.2	CAN/ULC S537-13, Standard for the Verification of Fire Alarm Systems.
	.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 multiplex fire alarm system and include product characteristics, performance criteria, physical size, finish and limitations.
	.3	Shop Drawings:
	.1	Submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario, Canada.
	.2	Indicate on shop drawings:
<b><u>1.4 CLOSEOUT SUBMITTALS</u></b>	.1	Details for devices.
	.1	Submit in accordance with Section 01 78 00 - Closeout Submittals.
	.2	Operation and Maintenance Data: submit operation and maintenance data for fire alarm system for incorporation into manual.
	.3	Include:
	.1	Instructions for complete fire alarm system to permit effective operation and maintenance.
	.2	Technical data - illustrated parts lists with parts catalogue numbers.
	.3	Copy of approved shop drawings with corrections completed and marks removed except review stamps.
	.4	List of recommended spare parts for system.

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| <u>1.5 MAINTENANCE<br/>MATERIAL SUBMITTALS</u>    | .1 | Submit maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.  |
| <br>  |    |  |
| <u>1.6 DELIVERY,<br/>STORAGE AND<br/>HANDLING</u> | .1 | Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.  |
|   | .2 | Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.  |
|   | .3 | Storage and Handling Requirements:<br>.1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.<br>.2 Store and protect materials from nicks, scratches, and blemishes.<br>.3 Replace defective or damaged materials with new. |
|   | .4 | Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan.   |

## **PART 2 - PRODUCTS**

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| <u>2.1 WIRING</u>                     | .1 | Twisted copper conductors: rated 600 V.   |
|                                       | .2 | To initiating circuits: 18 AWG minimum, and in accordance with manufacturer's requirements. |
|                                       | .3 | To signal circuits: 16 AWG minimum, and in accordance with manufacturer's requirements.     |
|                                       | .4 | To control circuits: 14 AWG minimum, and in accordance with manufacturer's requirements.    |
| <br>                                  |    |   |
| <u>2.2 AUDIBLE SIGNAL<br/>DEVICES</u> | .1 | Bells: Flush mounted, single stroke, 24 V DC, 150 mm, 90 dB.                                |

## **PART 3 - EXECUTION**

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| <u>3.1 EXAMINATION</u> | .1 | Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for fire alarm installation in accordance with manufacturer's written instructions.<br>.1 Visually inspect substrate in presence of Departmental Representative.<br>.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery. |
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| <u>3.1 EXAMINATION<br/>(Cont'd)</u>  | .1 (Cont'd)<br>.3                      | Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.  |
| <br>                                 |  |   |
| <u>3.2 INSTALLATION</u>              | .1<br>.2<br>.3<br>.4<br>.5<br>.6<br>.7 | Install systems in accordance with CAN/ULC S524 and TB Fire Protection Standard.<br>Install horns and connect to signalling circuits.<br>Splices are not permitted.<br>Provide necessary raceways, cable and wiring to make interconnections to terminal boxes, annunciator equipment and CCU, as required by equipment manufacturer.<br>Ensure that wiring is free of opens, shorts or grounds, before system testing and handing over.<br>Identify circuits and other related wiring at central control unit, annunciators, and terminal boxes.<br>The existing fire alarm system shall remain in operation during the construction period. |
| <br>                                 |  |   |
| <u>3.3 FIELD QUALITY<br/>CONTROL</u> | .1<br>.2                               | Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical and CAN/ULC S537.<br>Verification report shall include measured sound pressure levels in dB.   |
| <br>                                 |  |   |
| <u>3.4 CLEANING</u>                  | .1<br>.1<br>.2<br>.3<br>.1<br>.2       | Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.<br>Leave Work area clean at end of each day.<br>Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00 - Cleaning.<br>Waste Management: separate waste materials for reuse and recycling.<br>Remove recycling containers and bins from site and dispose of materials at appropriate facility.<br>Place materials defined as hazardous or toxic waste in designated containers.   |
| <br>                                 |  |   |
| <u>3.5 PROTECTION</u>                | .1<br>.2                               | Protect installed products and components from damage during construction.<br>Repair damage to adjacent materials caused by fire alarm system installation.   |

END OF SECTION