

PART 1 - GENERAL

1.1 RELATED WORK

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 78 00 - Closeout Submittals
- .3 Section 01 91 13 - General Commissioning Requirements
- .4 Section 26 05 00 - Common Work Results for Electrical
- .5 Section 26 05 21 - Wires and Cables (0 - 1000V).
- .6 Section 26 05 34 - Conduits, Conduit Fittings and Fastenings.

1.2 REFERENCES

- .1 CAN/ULC S524-19, Installation of Fire Alarm Systems.
- .2 CAN/ULC S537-13, Verification of Fire Alarm Systems.
- .3 NBC, National Building Code of Canada, 2015.

1.3 SYSTEM
DESCRIPTION

- .1 Integrate new fire alarm system devices consisting of fire alarm horn/strobes with existing fire alarm system.
- .2 New devices to be compatible with existing fire alarm system.
- .3 Determine the location of existing fire alarm panel.
- .4 System to carry out fire alarm and protection functions; including receiving alarm signals; initiating general alarm; supervising components and wiring; actuating annunciators and auxiliary functions; initiating trouble signals and signalling to monitoring agency.
- .5 System to include:
 - .1 Initiating/input circuits.
 - .2 Output circuits.
 - .3 Auxiliary circuits.
 - .4 Wiring.

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| 1.3 SYSTEM DESCRIPTION
(Cont'd) | .5 | (Cont'd) |
| | .5 | Manual and automatic initiating devices. |
| | .6 | Audible and visual signaling devices. |
| | .7 | End-of-line resistors. |
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| 1.4 REQUIREMENTS OF REGULATORY AGENCIES | .1 | System components: listed by ULC and comply with applicable provisions of the National Building Code Local/Provincial Building Code, and meet requirements of local authority having jurisdiction. |
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| 1.5 SHOP DRAWINGS | .1 | Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures. |
| | .2 | Include: |
| | .1 | Details for devices. |
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| 1.6 OPERATION AND | .1 | Provide operation and maintenance data for fire specified in Section 01 78 00 - Closeout Submittals. |
| | .2 | Include: |
| | .1 | Instructions for fire alarm horn/strobs 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. |
| | .5 | Complete list of all points and a description for each. |

PART 2 - PRODUCTS 2

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| 2.1 MATERIALS | .1 | Equipment and devices: ULC listed and labelled and supplied by single manufacturer. |
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| 2.2 POWER SUPPLIES | .1 | 120 V, 60 Hz as primary source of power for system. |
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2.2 POWER SUPPLIES
(Cont'd)

- .2 Voltage regulated, current limited distributed system power.
- .3 Primary power failure or power loss (less than 102 V) will activate common trouble sequence.
- .4 Interface with battery charger and battery to provide uninterruptible transfer of power to standby source during primary power failure or loss.
- .5 During normal operating conditions fault in battery charging circuit, short or open in battery leads to activate common trouble sequence and standby power trouble indicator.
- .6 Standby batteries: sealed, maintenance free.
- .7 Continuous supervision of wiring for external initiating and alarm circuits to be maintained during power failure.
- .8 Provide TVSS protected point integral to fire alarm panel for power source termination.

2.3 WIRING

- .1 Twisted copper conductors: rated 300 V.
- .2 To signal circuits: 14 AWG minimum, and in accordance with manufacturer's requirements.
- .3 Install wiring in an approved conduit system. Install initiating and signalling wiring in separate conduit.

2.4 HORN DEVICES

- .1 Temporal horn and strobe, same manufacturer as existing strobes and compatible with existing fire alarm system.
- .2 Semi-flush mounted, adjustable candella output and adjustable audio output.
- .3 Alarm output synchronizing module(s) as required to synchronize tone and strobe throughout facility.

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2.5 END OF LINE
DEVICES

- .1 Size end-of-line devices to control supervisory current in alarm circuits and signalling circuits, to maintain correct supervisory current for each circuit. Open, short or ground fault in any circuit will alter supervisory current in that circuit, producing audible and visible alarm at main control panel.

PART 3 - EXECUTION

3.1 INSTALLATION

- .1 Install system components in accordance with CAN/ULC-S524.
- .2 Install devices and connect to signalling circuits.
- .3 Install new signalling devices either on a new dedicated signalling loop, or integrated into the existing signalling loop within their areas.
- .4 Supply and install all required power supplies, synchronizing modules, wiring etc. as required for a complete and functional system.
- .5 Connect signalling circuits to main control panel.
- .6 Install end-of-line devices at end of alarm and signalling circuits as required.
- .7 Splices are not permitted.
- .8 Provide necessary raceways, cable and wiring to make interconnections.
- .9 Confirm wiring is free of opens, shorts or grounds, before system testing and handing over.
- .10 Identify all circuits and other related wiring at central control unit, annunciators, and terminal boxes.

3.2 FIELD QUALITY
CONTROL

- .1 Perform tests in accordance with Section 26 05 00 and CAN/ULC-S537.
- .2 Fire alarm system:

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FIRE DETECTION
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- 3.2 FIELD QUALITY CONTROL
(Cont'd)
- .2 (Cont'd)
- .1 Simulate grounds and breaks on alarm and signaling circuits to ensure proper operation of systems.
- .3 Verification agency to provide Verification Certification to the Departmental Representative upon completion of all testing.
- 3.3 COMMISSIONING
- .1 Refer to Section 01 91 13 - General Commissioning Requirements.