Reviewed for Code Compliance
Inspection Services Division
Approved with Conditions
Date: 07/29/15

GENERAL PROJECT I

1. ALL DEVICES SHALL BE NEW UNLES NOTED.
2. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE, AND IN ACCORDANCE WITH ALL APPLICABLE CODES, INCLUDING, BUT NOT LIMITED TO NFPA 70, 72, 90A, AND DIRECTION OF AUTHORITY HAVING JURISDICTION.
3. EXISTING AND NEW FIRE ALARM DEVICES ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR SHALL REVIEW THE BUILDING, AND FIELD VERIFY, TO DETERMINE EXACT MOUNTING LOCATIONS FOR FIRE ALARM DEVICES AND EQUIPMENT. CARE SHALL BE TAKEN TO AVOID EXISTING ELECTRICAL, MECHANICAL, SPRINKLER AND OTHER CEILING AND WALL MOUNTED DEVICES AND EQUIPMENT.
4. ALL PENETRATION THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH A U.L. LISTED AND APPROVED FIRE SEALANT MATERIAL TO MAINTAIN THE RATING OF THE SEPARATION.

FIRE ALARM SEQUENCE OF OPERATIONS

SYSTEM INPUTS	SYSTEM OUTPUTS: ACTUATE COMMON ALARM SIGNAL	IDENTIFY ALARM AT FIRE ALARM CONTROL PANEL	IDENTIFY ALARM AT FIRE ALARM ANNUNCIATOR	IDENTIFY INITIATION DEVICE IN ALARM AT FIRE ALARM CONTROL PANEL	IDENTIFY INITIATION DEVICE IN ALARM AT FIRE ALARM ANNUNCIATOR	TRANSMIT FIRE ALARM TO REMOTE ALARM RECEIVING STATION	RELEASE DOORS HELD OPEN BY MAGNETIC DOOR HOLDERS	ACTIVATE EMERGENCY SHUTOFF FOR GAS AND FUEL SUPPLIES	RECORD EVENTS IN FIRE ALARM CONTROL PANEL MEMORY	TRANSMIT SUPERVISORY SIGNAL TO REMOTE ALARM RECEIVING STATION	RECALL ASSOCIATED ELEVATOR TO DESIGNATED RECALL FLOOR (PRIMARY OR ALTERNATE)	SHUNT TRIP ASSOCIATED ELEVATOR (DISCONNECT ALL AC POWER)	SHUT DOWN ASSOCIATED EQUIPMENT
MANUAL FIRE ALARM PULL STATIONS	X	X	X	X	X	X	X	X	X				
HEAT DETECTORS - ELEVATOR MACHINE ROOMS	X	X	X	X	X	X	X	X	X			X	
HEAT DETECTORS (OTHER)	X	X	X	X	X	X	X	X	X				
SPOT SMOKE DETECTORS - ELEVATOR MACHINE ROOMS	X	X	X	X	X	X	X	X	X		X		
SPOT SMOKE DETECTORS @ MAGNETIC DOOR HOLDER(S)	X	X	X	X	X	X	X	X	X				
SPRINKLER WATERFLOW	X	X	X	X	X	X	X	X	X				
KITCHEN HOOD FIRE-EXTINGUISHING SYSTEM OPERATION	X	X	X	X	X	X	X	X	X				
SPRINKLER CONTROL VALVE				X	X				X	X			
ELEVATOR SHUNT TRIP				X	X				X	X		X	
DISABLED DEVICE				X	X				X	X			
LOST COMMUNICATION WITH AUXILIARY PANEL				X	X				X	X			
DUCT SMOKE DETECTORS	X	X	X	X	X				X	X			X
OPEN CIRCUIT				X	X				X	X			
SHORT CIRCUIT				X	X				X	X			
GROUND FAULT				X	X				X	X			
LOST COMMUNICATION WITH PERIPHERAL DEVICE				X	X				X	X			
FIRE ALARM AC POWER FAILURE				X	X				X	X			
ABNORMAL AC VOLTAGE AT FIRE ALARM CONTROL PANEL				X	X				X	X			
FIRE ALARM SYSTEM LOW BATTERY				X	X				X	X			
ABNORMAL SWITCH POSITION AT FIRE ALARM CONTROL PANEL				X	X				X	X			
ABNORMAL SWITCH POSITION AT FIRE ALARM ANNUNCIATOR				X	X				X	X			
VOICE SIGNAL AMPLIFIER FAILURE				X	X				X	X			

N1 -- NTS --

N5 -- NTS --

N15 -- NTS --

WIRING DIAGRAM

NOTES:

1. MAINTAIN EXISTING SHUNT TRIP DEVICE.
2. REFER TO NFPA 72-2013 SECTION 21.3 FOR SMOKE DETECTOR ELEVATOR CONTROL CIRCUIT REQUIREMENTS. ACTIVATION OF SMOKE DETECTORS TO CAUSE ELEVATOR CONTROL TO RECALL CAR TO DESIGNATED FLOOR AND OPEN DOORS.
3. FIRE ALARM SYSTEM SHALL BE ADDRESSABLE TYPE. PROVIDE ANY NECESSARY INTERFACE RALAYS BETWEEN 120V AND FIRE ALARM COMPONENTS. LOBBY AND MACHINE DETECTORS MAY BE 4-WIRE TYPE HARDWIRED TO ELEV. CNTL OR USE ADDRESSABLE CONTROL MODULES TO PROVIDE CONTROL OUTPUTS TO ELEAVTORE MACHINE.
4. HEAT DETECTOR ALARM TEMPERATURE TO BE MINIMUM 10°F LOWER THAN SPRINKLER HEAD, PER NFPA 72-2013. MOUNT HEAT DETECTOR WITHIN 2'-0" OF SPRINKLER HEAD.
5. REFER TO NFPA 72-2013 SECTION 21.4 FOR ELEVATOR SHUTDOWN SEQUENCE. ACTIVATION OF ANY HEAT DETECTOR TO ACTIVATE SHUNT TRIP TO POWER DOWN ELEVATOR EQUIPMENT AND ELEVATOR BATTERY POWER. MONITOR 120V AND INITIATE FIRE ALARM TROUBLE IN EVENT OF LOSS OF SHUNT TRIP POWER.

ELEMENTARY DIAGRAM

J1 -- NTS --

J5 -- NTS --

J8 FIRE ALARM SEQUENCE FOR OPERATIONS NTS --

E1 -- NTS --

E5 -- NTS --

E8 -- NTS --

E12 MOUNTING HEIGHT DETAIL NTS --

E15 ELEVATOR SHUNT TRIP WIRING DIAGRAM NTS --

A1 -- NTS --

A5 -- NTS --

A8 FIRE ALARM RISER DIAGRAM NTS --

REV.	DESCRIPTION	DATE
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0	ISSUED FOR BID	06.12.15

CURRENT ISSUE STATUS: ISSUED FOR BID 06.12.15

STATE OF MAINE STEPHANIE J. LAPLANT No. 10272 LICENSED PROFESSIONAL ENGINEER
06.12.15

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PROJECT: PORTLAND HIGH SCHOOL FIRE ALARM UPGRADES
PORTLAND, ME

SHEET TITLE: ELECTRICAL DETAILS

WBRC CAD FILE: 404100 – FA501
PROJECT No. 404100
SCALE: AS NOTED
PROJECT MANAGER: SJL
DRAWN BY: KRM
CHECKED BY: SJL
GRAPHIC SCALE: 0" 1"
SHEET No. FA501

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6/16/2015 2:44 PM I:\404100\404100 PORTLAND HIGH SCHOOL FIRE ALARM SYSTEM\2 DESIGN\DWGS\BLDG\PORTLAND SCHOOL EXISTING DRAWINGS\SHEETS\FA501 ELECTRICAL DETAILS.DWG KYLE.MAHAR