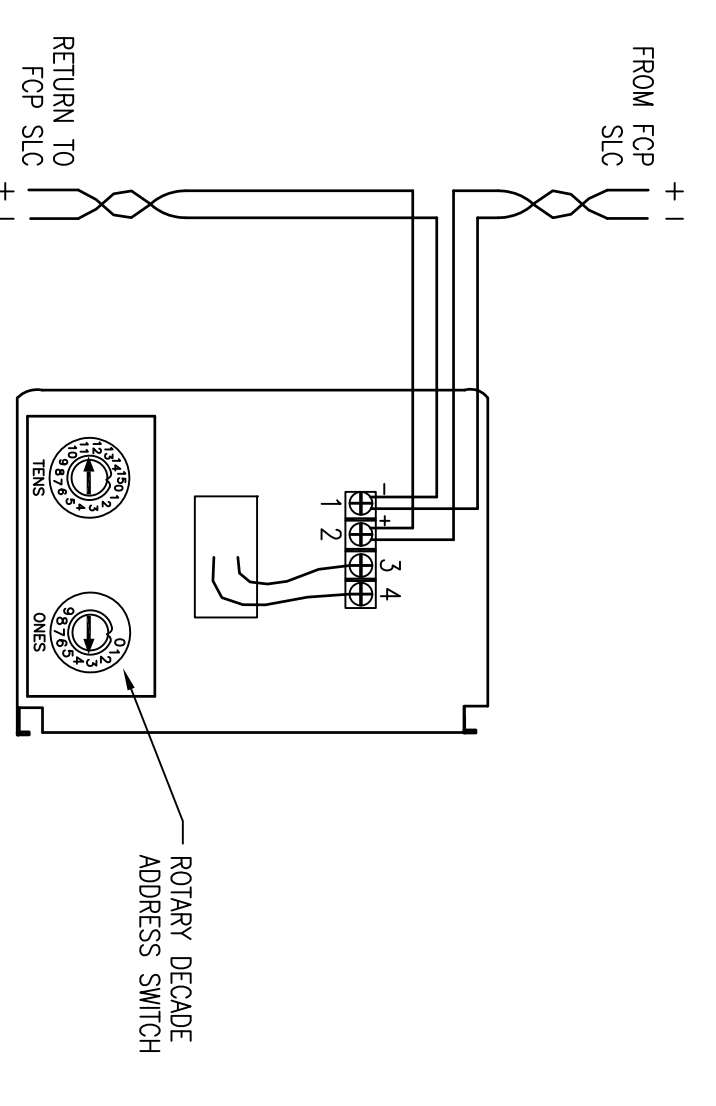
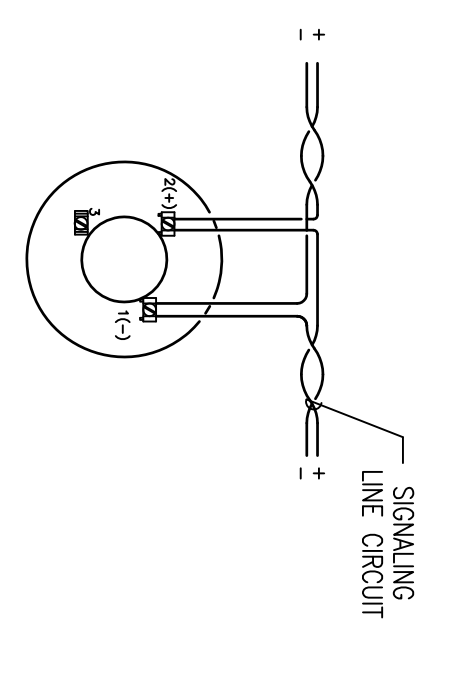


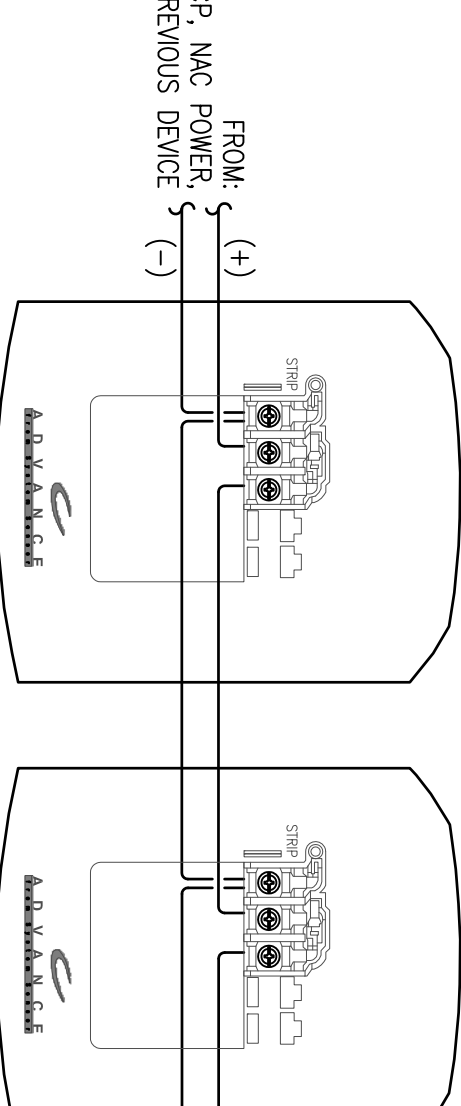
ADDRESSABLE MINI MONITOR  
WIRING DETAIL  
SCHEMATIC: NO SCALE



MANUAL PULL STATION WIRING DETAIL  
SCHEMATIC: NO SCALE



ADDRESSABLE SMOKE DETECTOR  
WIRING DETAIL  
SCHEMATIC: NO SCALE



TYPICAL 2 WIRE STROBE WIRING DETAIL  
SCHEMATIC: NO SCALE

GENERAL NOTES:

- THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
- INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- WIRING DEPICTED ON THESE PLANS IS SCHEMATIC - ACTUAL WIRE LOCATIONS MAY DIFFER FROM THESE PLANS. WIRING SHALL BE PERFORMED AS ACTUAL BUILDING CONSTRUCTION CONDITIONS ALLOW AND TO MINIMIZE PENETRATIONS THROUGH AREA SEPARATION WALLS AND FIRE WALLS. THE USE OF A RACEWAY IS PERMITTED AS LONG AS NO 110V OR HIGHER VOLTAGE CABLES ARE IN THE SAME RACEWAY.
- FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
- POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT.
- POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST REMAIN SEPARATED IN CABINETS. ALL POWER-LIMITED CIRCUIT WIRING MUST REMAIN AT LEAST 0.25" AWAY FROM ANY NONPOWER-LIMITED CIRCUIT WIRING. FURTHERMORE, ALL POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST ENTER AND EXIT THE CABINET THROUGH DIFFERENT KNOCK OUTS AND/OR SEPARATE CONDUITS.
- WHEN UTILIZING CLASS "A" CIRCUITS, SEPARATE OUTGOING AND RETURN CONDUCTORS OF CLASS "A" CIRCUITS BY A MINIMUM OF 12" WHERE RUN VERTICALLY AND 48" WHERE RUN HORIZONTALLY.
- WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
- ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE.
- SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
- LOCATE SMOKE DETECTORS A MINIMUM OF THREE (3) FEET FROM MECHANICAL DIFFUSERS. WALL-MOUNTED SMOKE DETECTORS SHALL BE COATED A MINIMUM OF 12" FROM CEILING. CEILING-MOUNTED SMOKE DETECTORS SHALL BE MOUNTED ON CEILINGS AND NOT ON THE BOTTOMS OF BEAMS OR JOISTS.
- PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS.
- PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
- VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
- UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION AND PROGRAMMING, THE INSTALLING CONTRACTOR SHALL PERFORM FINAL TESTING OF THE ENTIRE SYSTEM PER ALL APPLICABLE CODES, AND SHALL COORDINATE AND PERFORM A FINAL FIRE ALARM SYSTEM INSPECTION.
- PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.15 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
- INSTALLING CONTRACTOR SHALL PHYSICALLY LABEL ALL INITIATING DEVICES AND NOTIFICATION APPLIANCE CIRCUIT END OF LINE (WIRE WIRING CLASS "B"). THESE LABELS SHALL BE IN PLACE PRIOR TO START-UP AND TESTING.

**FACP Battery Calculation** 8/19/2015

PROJECT NAME: PORTHOLE RESTAURANT  
Required Standby Time: 5 Minutes  
Required Alarm Time: X

AC Branch Current: \_\_\_\_\_ Amps

Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
FACP MAINBOARD	1	0.14500	0.14500
SMOKE DETECTOR MONITOR MODULE	1	0.00039	0.00039
PULL STATION	1	0.00039	0.00039
PULL STATION	1	0.00039	0.00039
TOTAL STANDBY LOAD 0.14673			

Regulated Load in Alarm

Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
FACP MAINBOARD	1	0.14500	0.14500
SMOKE DETECTOR MONITOR MODULE	1	0.00060	0.00060
PULL STATION	1	0.00060	0.00060
PULL STATION	1	0.00060	0.00060
NAC-1 (See Voltage Drop Calculations)	1	0.38900	0.38900
NAC-2 (See Voltage Drop Calculations)	1	0.00000	0.00000
NAC-3 (See Voltage Drop Calculations)	1	0.00000	0.00000
NAC-4 (See Voltage Drop Calculations)	1	0.00000	0.00000
TOTAL ALARM LOAD 0.73480			

Battery Requirements

Standby Load	0.14673	X	Required Standby Time in Hours	3.52140
Current (Amps)			24.00000	=
Alarm Load	0.73480	X	Required Alarm Time in Hours	0.06123
Current (Amps)			0.08333	=
Total Amper Hours (before derating factor)				3.58263
Derating Factor				1.2
				4.29916
				7.41H

BATTERIES TO BE PROVIDED (2 - 12V)

**Point to Point NAC Voltage Drop Calculation** 8/19/2015

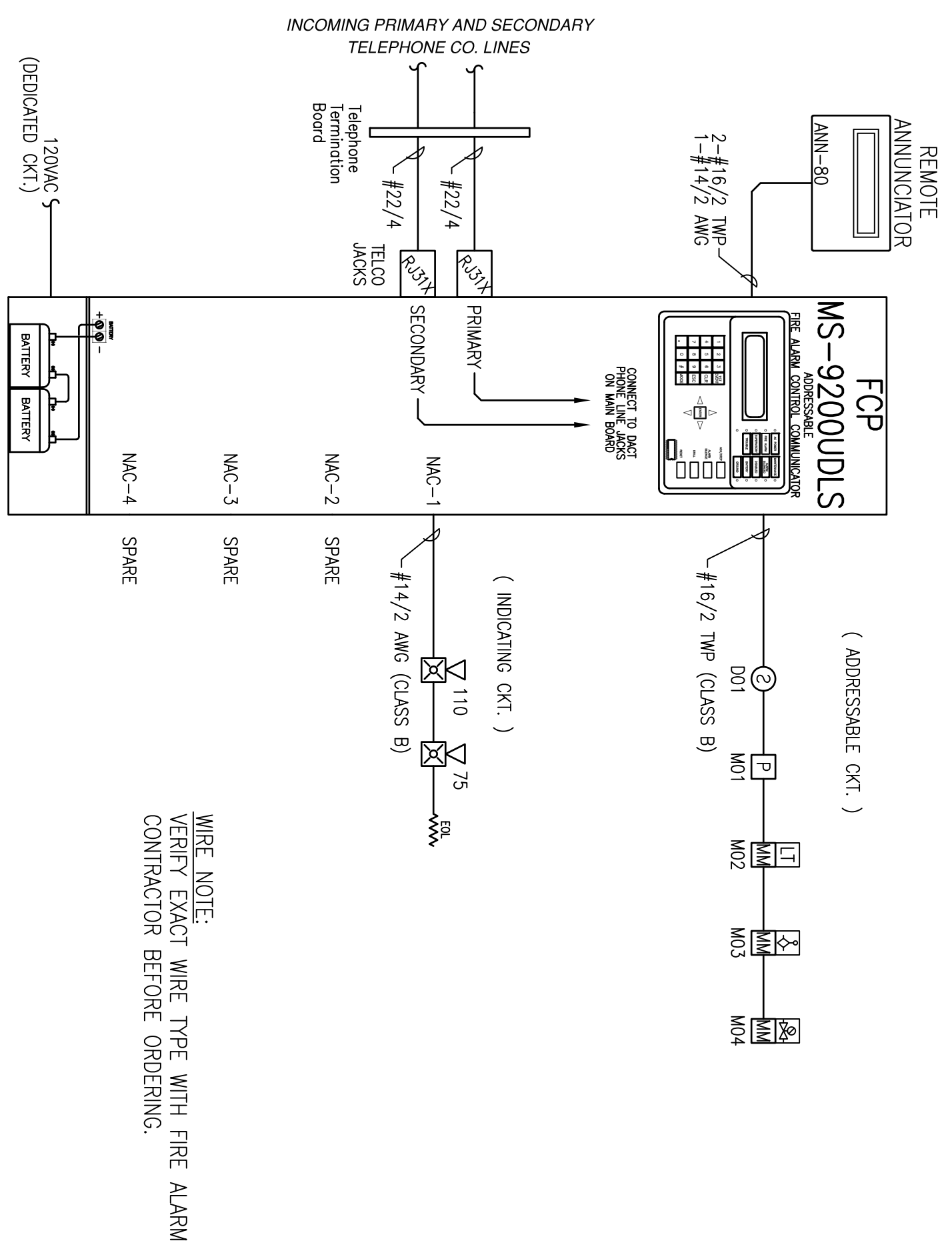
Project Name: PORTHOLE RESTAURANT  
Circuit Number: NAC-1

Nominal System Voltage	20.4	Volts	Wire Gauge	14	Resistance Per 1000 Feet	3.07
Minimum Device Voltage	16.0	Volts				
Distance from source to 1st device	10	feet				
Wire Gauge for balance of circuit						
Max Output Current	1.50	amps				
Total Circuit Current	0.389	amps				
End of Line Voltage	20.32	Volts				

Circuit is within limits

Device	Distance	Device Current	Voltage at Device	Drop from source	Percent Drop
Device 1	10	0.2176	20.38	0.024	0.12%
Device 2	50	0.1776	20.32	0.078	0.38%
Totals		0.388	60		

Notes:  
Wire resistance is doubled in the calculations for two wires (Positive and Negative).  
The voltage calculated to the last device must not be lower than the manufacturer's listed minimum operating voltage (E=IR, rated operating voltage 6-33 VDC, (24 VDC nominal)).



FIRE ALARM RISER DIAGRAM  
SCHEMATIC: NO SCALE

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
Ⓚ	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66"
Ⓛ	FIRE ALARM POWER SUPPLY	FIELD VERIFY
Ⓛ	FIRE SYSTEM ANNUNCIATOR	WALL-TOP @ 66"
Ⓛ	FIRE SMOKE DAMPER	BY OTHERS
Ⓛ	SMOKE DETECTOR	CEILING
Ⓛ	DUCT SMOKE DETECTOR	BY OTHERS
Ⓛ	HEAT DETECTOR	CEILING
Ⓛ	ADDRESSABLE CONTROL MODULE	FIELD VERIFY
Ⓛ	ADDRESSABLE MINI MONITOR MODULE	FIELD VERIFY
Ⓛ	MANUAL PULL STATION	WALL @ 48"
Ⓛ	CONTROL RELAY (MULTI-VOLTAGE)	FIELD VERIFY
Ⓛ	ADDRESSABLE RELAY MODULE	FIELD VERIFY
Ⓛ	REMOTE TEST STATION	FIELD VERIFY
Ⓛ	WATER FLOW SWITCH	BY OTHERS
Ⓛ	VALVE TAMPER SWITCH	BY OTHERS
Ⓛ	LOW TEMPERATURE SWITCH	BY OTHERS
Ⓛ	BELL	BY OTHERS
Ⓛ	CEILING MOUNT STROBE	FIELD VERIFY
Ⓛ	CEILING MOUNT HORN / STROBE	FIELD VERIFY
Ⓛ	CEILING MOUNT SPEAKER / STROBE	FIELD VERIFY
Ⓛ	HORN / STROBE	WALL @ 10'-0"
Ⓛ	SPEAKER / STROBE	WALL 80'-96"
Ⓛ	SPEAKER	WALL 80'-96"
Ⓛ	STROBE	WALL 80'-96"
Ⓛ	KNOX BOX	FIELD VERIFY

APPLICABLE CODES:

MAINE UNIFORM ENERGY & BUILDING CODE  
PORTLAND CITY CODE, CHAPTER 10, FIRE PREVENTION & PROTECTION  
NFPA 1, FIRE CODE, & NFPA 101, LIFE SAFETY CODE

OPERATIONS MATRIX

	FIRE ALARM INPUT	FIRE ALARM OUTPUT	ACTIVATE ALARM INDICATOR	ACTIVATE AUDIBLE ALARM	ACTIVATE SUPERVISORY INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE TROUBLE INDICATOR	ACTIVATE AUDIBLE TROUBLE INDICATOR	TRANSMIT ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL	TRANSMIT TROUBLE SIGNAL
SMOKE DETECTORS	●	●	●	●	●	●	●	●	●	●	●
PULL STATIONS	●	●	●	●	●	●	●	●	●	●	●
WATERFLOW SWITCHES	●	●	●	●	●	●	●	●	●	●	●
VALVE TAMPER SWITCHES	●	●	●	●	●	●	●	●	●	●	●
LOW TEMPERATURE SWITCHES	●	●	●	●	●	●	●	●	●	●	●
FIRE ALARM AC POWER FAIL	●	●	●	●	●	●	●	●	●	●	●
FIRE ALARM LOW BATTERY	●	●	●	●	●	●	●	●	●	●	●
OPEN CIRCUIT	●	●	●	●	●	●	●	●	●	●	●
GROUND FAULT	●	●	●	●	●	●	●	●	●	●	●
NAC SHORT CIRCUIT	●	●	●	●	●	●	●	●	●	●	●
LOSS OF AC TO BUILDING	●	●	●	●	●	●	●	●	●	●	●

RESERVED FOR CITY STAMP

**CUNNINGHAM**  
Security Systems  
10 Princes Point Road, Yarmouth, Maine 04096  
Office: 207.846.3350 • Fax: 207.846.6080

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	8/12/2015
1	REVISED - SPRINKLER MONITORING PLAN	8/20/2015

**PORTHOLE RESTAURANT**  
**20 CUSTOM HOUSE WHARF**  
**PORTLAND, MAINE 04101**  
**BATTERY CALC, DETAILS, LEGEND, MATRIX, NOTES**

DRAWN: JPB UNICAD JOB #15521  
CHECKED: WYATT B. HAYS NICTE # 90486  
DATE: 8/20/2015

UNICAD Inc.  
FA-1