

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	8/26/2014

RESERVED FOR CITY STAMP

SYMBOL	DESCRIPTION	MOUNTING
FCP	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66"
FPS	FIRE ALARM POWER SUPPLY	FIELD VERIFY
FSA	FIRE SYSTEM ANNUNCIATOR	WALL-TOP @ 66"
FSD	FIRE/SMOKE DAMPER	BY OTHERS
SD	SMOKE DETECTOR	CEILING
SDC	DUCT SMOKE DETECTOR	BY OTHERS
HTD	HEAT DETECTOR	CEILING
AM	ADDRESSABLE CONTROL MODULE	FIELD VERIFY
MM	ADDRESSABLE MONITOR MODULE	FIELD VERIFY
PS	MANUAL PULL STATION	WALL @ 48"
RL	CONTROL RELAY (MULTI-VOLTAGE)	FIELD VERIFY
RM	ADDRESSABLE RELAY MODULE	FIELD VERIFY
MD	MAGNETIC DOOR HOLDER	FIELD VERIFY
WFS	WATER FLOW SWITCH	BY OTHERS
VTS	VALVE TAMPER SWITCH	BY OTHERS
B	BELL	BY OTHERS
CS	CEILING MOUNT STROBE	FIELD VERIFY
CH	CEILING MOUNT HORN / STROBE	FIELD VERIFY
CS/S	CEILING MOUNT SPEAKER / STROBE	FIELD VERIFY
H	HORN	WALL @ 10'-0"
H/S	HORN / STROBE	WALL 80"-96"
S/S	SPEAKER / STROBE	WALL 80"-96"
S	SPEAKER	WALL @ 90"
S/S	STROBE	WALL 80"-96"

SYMBOL	DESCRIPTION	MOUNTING
E	EXISTING	
G	WITH GUARD	
P	PERDENT MOUNT	
R	RESIDENTIAL (T10V)	
S	FOUNDATION	
WP	WEATHER PROOF	
EDL	END OF LINE RESISTOR	
AWG	AMERICAN WIRE GAUGE	
TWSP	TWISTED SHIELDED PAIR	
PLP	FIRE POWER LIMITED PLENUM	
PLR	FIRE POWER LIMITED RISER	

SYMBOL	DESCRIPTION	MOUNTING
SPK	SPEAKER	WALL @ 90"
STR	STROBE	WALL 80"-96"

SYMBOL	DESCRIPTION	MOUNTING
ANN-80	REMOTE ANNUNCIATOR	WALL @ 90"
MAC-1	ADDRESSABLE (SIGNALLING LINE) CIRCUIT	WALL @ 90"
MAC-2	ADDRESSABLE (SIGNALLING LINE) CIRCUIT	WALL @ 90"

WIRE TYPE: #16/2 TWP (CLASS B)
WIRE TYPE: #14/2 AWG (CLASS B)
WIRE TYPE: #12/4 AWG (CLASS B)

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

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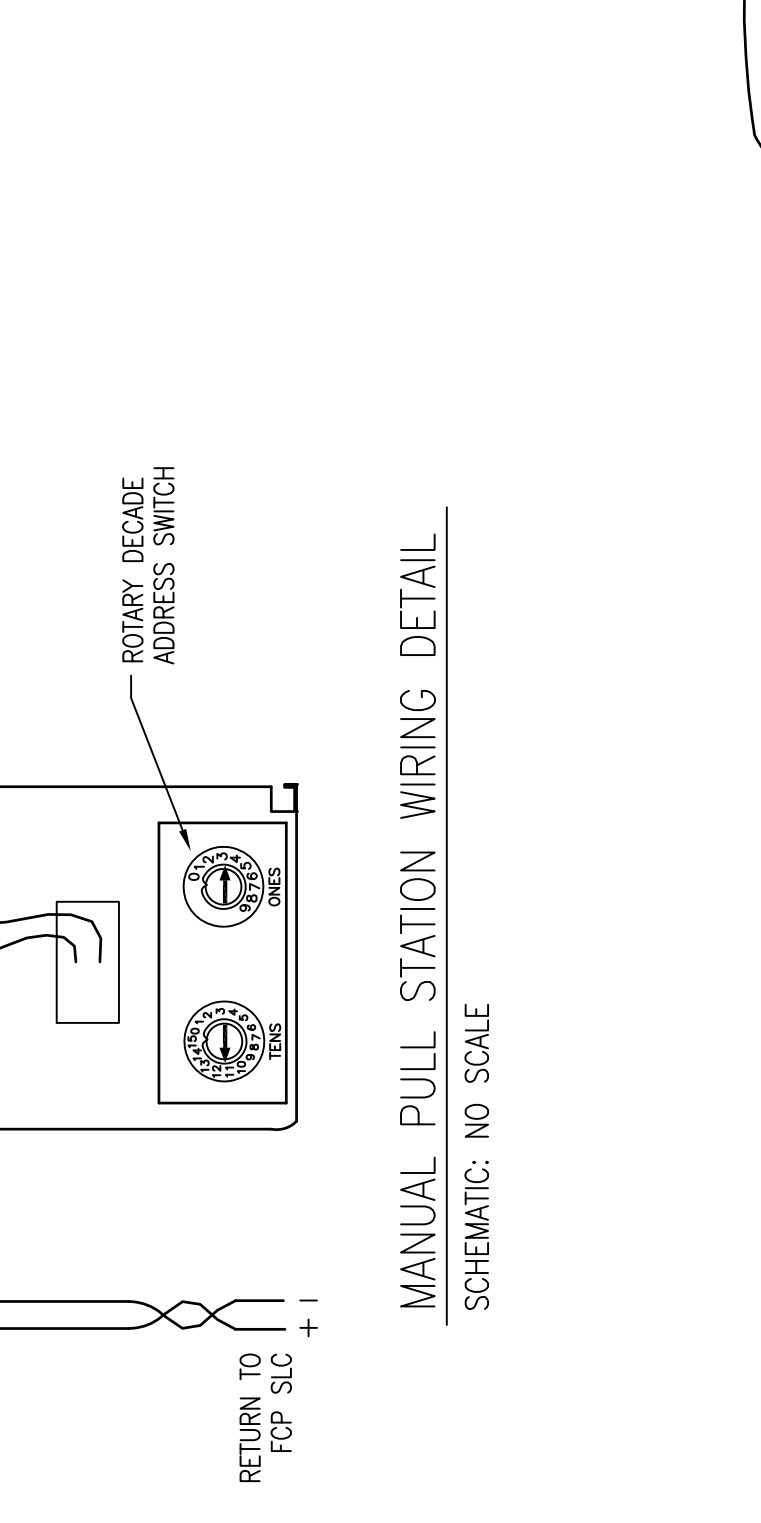
GENERAL NOTES:

- 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 CABINET. 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 LOCATED A MINIMUM OF 4" AND A MAXIMUM 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 (WHEN WIRING CLASS 'B'). THESE LABELS SHALL BE IN PLACE PRIOR TO START-UP AND TESTING.

APPLICABLE CODES:

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

FIRE ALARM SYMBOL LEGEND

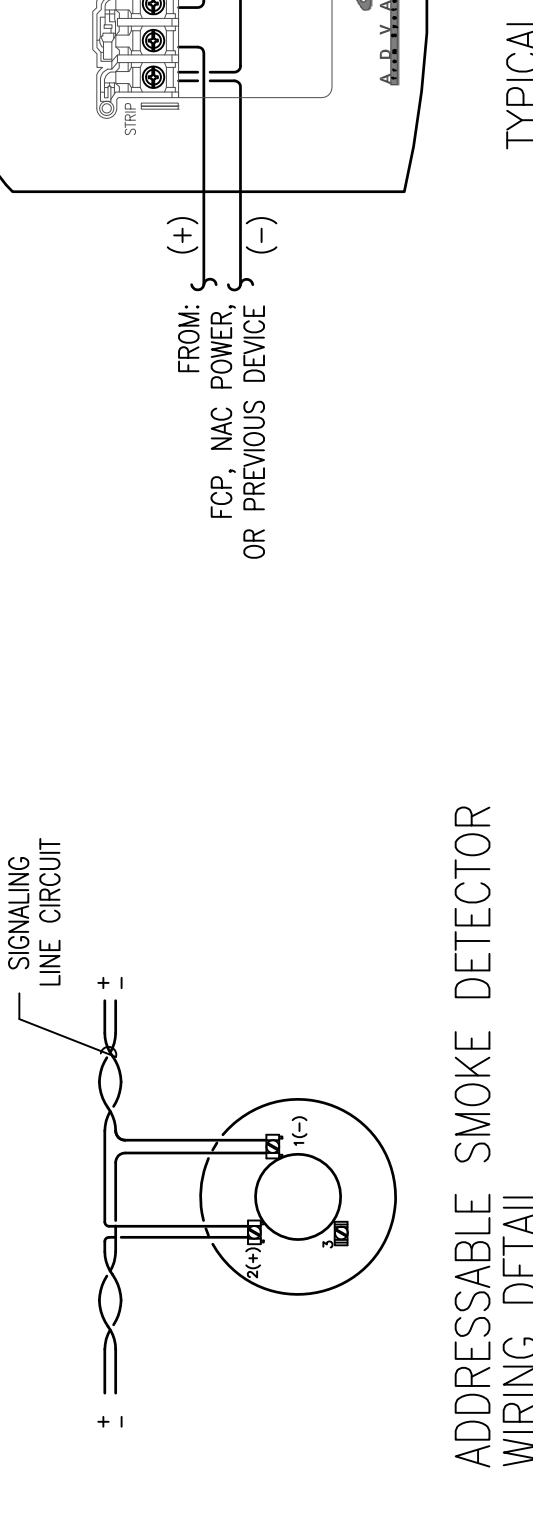
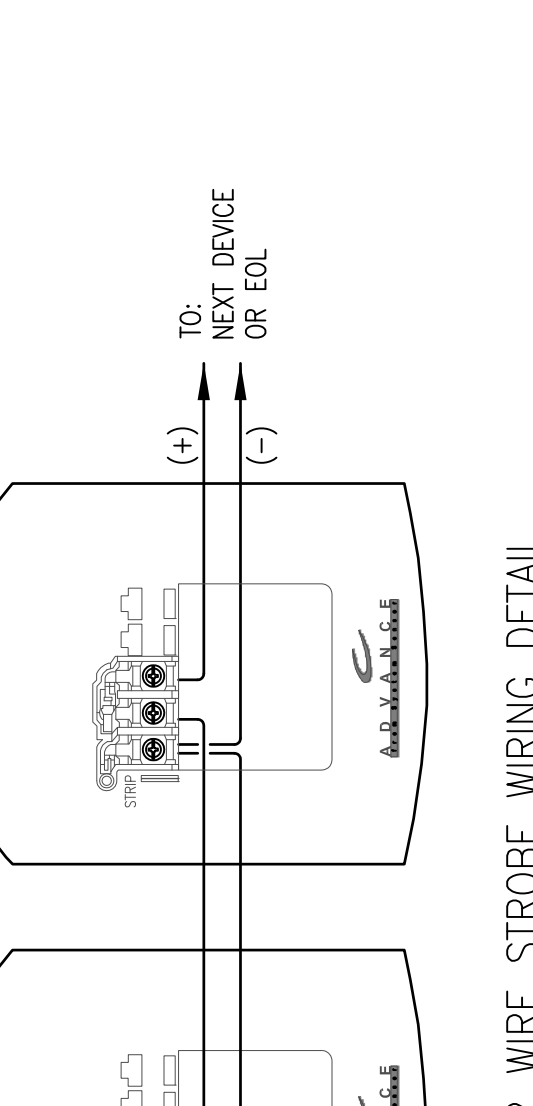


FIRE ALARM RISER DIAGRAM

SCHEMATIC: NO SCALE

OPERATIONS MATRIX

OPERATION	FIRE ALARM INPUT	ACTIVATE ALARM INDICATOR	ACTIVATE AUDIBLE ALARM	ACTIVATE TROUBLE INDICATOR	TRANSMIT TROUBLE SIGNAL
SMOKE DETECTORS	●	●	●	●	●
PULL STATIONS	●	●	●	●	●
FIRE ALARM AC POWER FAIL	●	●	●	●	●
FIRE ALARM LOW BATTERY	●	●	●	●	●
OPEN CIRCUIT	●	●	●	●	●
GROUND FAULT	●	●	●	●	●
MAC SHORT CIRCUIT	●	●	●	●	●
LOSS OF AC TO BUILDING	●	●	●	●	●



MANUAL PULL STATION WIRING DETAIL

SCHEMATIC: NO SCALE

FCP Battery Calculation

PROJECT NAME:	NORWAY SAVINGS BANK - 446 FOREST AVE
Required Standby Time:	24 Hours
Required Alarm Time:	3 Minutes

Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
MS-9050UD Main Circuit Board	1	X 0.12000	= 0.12000
ANN-80 Remote Annunciator	1	X 0.01500	= 0.01500
SD355 Smoke Detectors	8	X 0.00030	= 0.00240
BC-12LX Pull Stations	3	X 0.00023	= 0.00069
TOTAL STANDBY LOAD			0.13809

Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
MS-9050UD Main Circuit Board	1	X 0.20000	= 0.20000
ANN-80 Remote Annunciator	1	X 0.04000	= 0.04000
Max Alarm Draw - All Addressable Devices	1	X 0.40000	= 0.40000
MAC-1 (See voltage drop calcs for device quantity)	1	X 0.46600	= 0.46600
MAC-2	1	X 0.53000	= 0.53000
TOTAL ALARM LOAD			1.63600

Standby Load	Required Standby Time in Hours
0.13809 X	24.0000
3.31416	

Alarm Load	Required Alarm Time in Hours
1.63600 X	0.08333
0.13633	
3.45049	

TOTAL AMPERE HOURS REQUIRED = 4.14059

BATTERIES TO BE PROVIDED (2 - 12v) = 7 AH

NAC Circuit Voltage Drop Calculation

PROJECT NAME:	NORWAY SAVINGS BANK - 446 FOREST AVE
Project Number:	MAC-1

Device	Distance from source	Wire Gauge	Resistance Per 1000
Device 1	20.4	14	6.14
Device 2	16	14	6.14
Device 3	20	14	6.14
Device 4	20	14	6.14
Device 5	20	14	6.14
Totals			

Device	Distance from source	Wire Gauge	Resistance Per 1000
Device 1	20.4	14	6.14
Device 2	16	14	6.14
Device 3	20	14	6.14
Device 4	20	14	6.14
Device 5	20	14	6.14
Totals			

NAC Circuit Voltage Drop Calculation

PROJECT NAME:	NORWAY SAVINGS BANK - 446 FOREST AVE
Project Number:	MAC-2

Device	Distance from source	Wire Gauge	Resistance Per 1000
Device 1	20.4	14	6.14
Device 2	16	14	6.14
Device 3	20	14	6.14
Device 4	20	14	6.14
Device 5	20	14	6.14
Totals			

Device	Distance from source	Wire Gauge	Resistance Per 1000
Device 1	20.4	14	6.14
Device 2	16	14	6.14
Device 3	20	14	6.14
Device 4	20	14	6.14
Device 5	20	14	6.14
Totals			