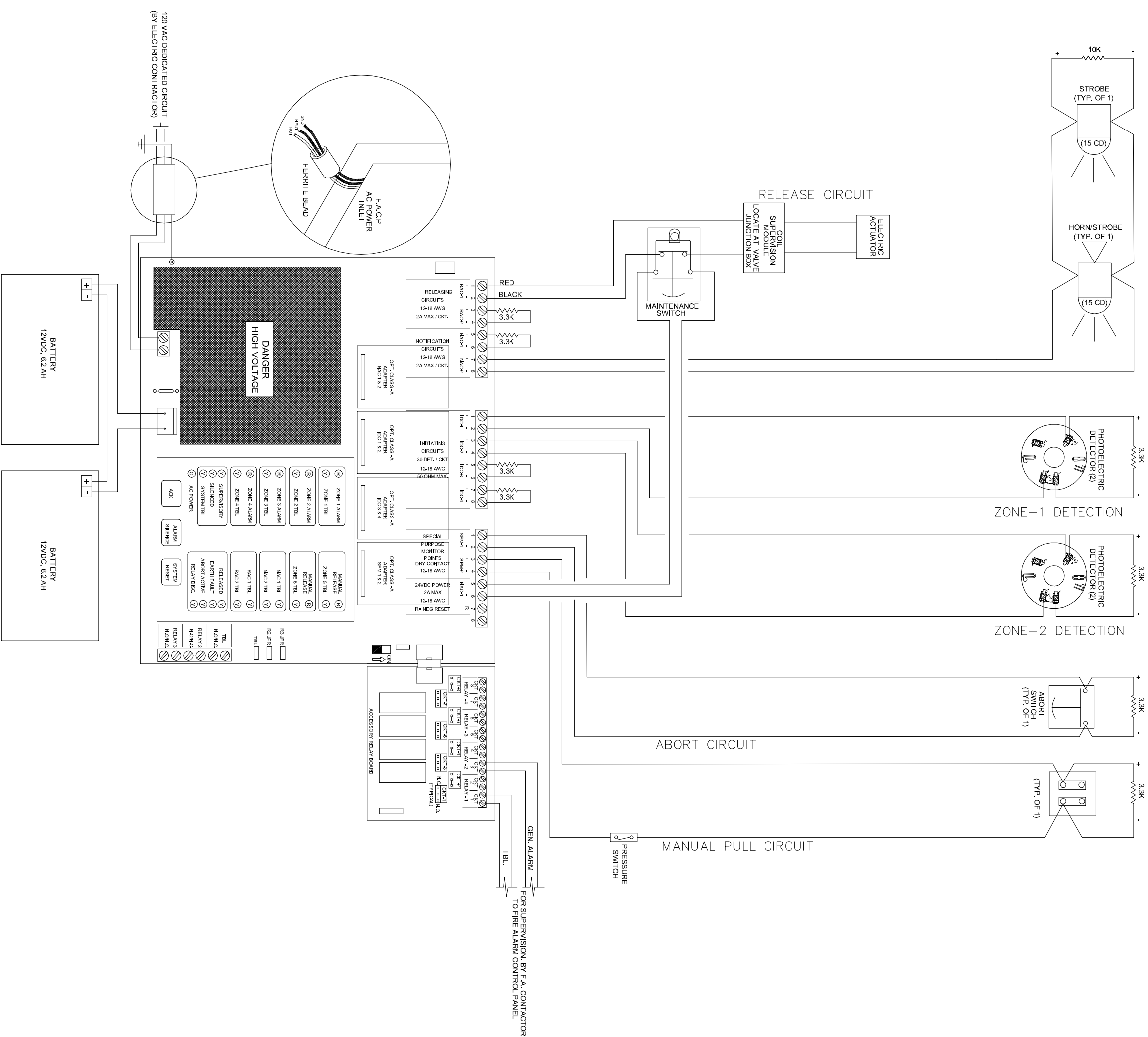


**SIMPLEX  
4004R**



**WIRING SCHEMATIC**

**CONTROL PANEL SCHEMATIC N.T.S.**

**SEQUENCE OF OPERATION:**

- 1) FIRST DETECTOR INTO ALARM.
  - A) GENERAL ALARM HORNSTRONG IS ACTIVATED
  - B) RED ALARM T.L.E.D. ON CONTROL PANEL IS ILLUMINATED
  - C) SIGNAL IS SENT TO BUILDING F.A.C.P.
- 2) SECOND DETECTOR INTO ALARM/PROTECT ZONE.
  - A) 30 SECOND TIME DELAY IS ACTIVATED
  - B) FIRE DISCHARGE HORNSTRONG IS ACTIVATED (20 BHM)
  - C) RED FIRE DISCHARGE T.L.E.D. ON CONTROL PANEL IS ILLUMINATED
- 3) 30 SECOND TIME DELAY REACHES ZERO.
  - A) AGENT IS DISCHARGED (HORNSTRONG IS STOPPED)
  - B) FIRE DISCHARGE HORNSTRONG IS ACTIVATED (ON STROBY)
  - C) RED SYSTEM ALERT T.L.E.D. ON CONTROL PANEL IS ILLUMINATED
- 4) AGENT SWITCH OPERATION.
  - A) COUNT DOWN CONTINUES DURING AGENT ACTIVATION. RELEASE OF AGENT OCCURS WHEN BOTH THE COUNTDOWN IS COMPLETED AND THE AGENT SWITCH IS DEACTIVATED
  - NOTE: CONTROL PANEL MUST BE RESET DURING AGENT OPERATION
  - FAILURE TO RESET PANEL WILL RESULT IN DISCHARGE OF AGENT
- 5) MANUAL PULL OPERATION.
  - A) AGENT IS DISCHARGED (IMMEDIATELY)
  - B) HORNSTRONGS ARE ACTIVATED (ON STROBY)
  - C) RED SYSTEM ALERT T.L.E.D. ON CONTROL PANEL IS ILLUMINATED
  - D) SIGNAL IS SENT TO BUILDING F.A.C.P.

**CABLE LEGEND**

DESIGNATION	DESCRIPTION	TYPE	MANF.
A	INDICATING CIRCUIT	14GA./2-COND.	ATLAS CABLE
B	INITIATING CIRCUIT	16GA./2-COND.	ATLAS CABLE
*x,A	"x" = QTY. OF (A) CABLES		
*x,B	"x" = QTY. OF (B) CABLES		

**BATTERY CALCULATION:**

Battery Calculation Worksheet  
(all currents stated in A)

Device Description	Quantity of Devices	Standby A	Alarm A	Tot. Device Standby A	Tot. Device Alarm A
Control Panel	1	0.10000	0.26400	0.10000	0.26400
Auxiliary Devices (List All)					
Electric Pull Station 120 VAC	1	0.00000	1.00000	0.00000	1.00000
Abort Station 24 VDC	1	0.00000	1.00000	0.00000	1.00000
Photoelectric Sensor	4	0.00000	2.00000	0.00000	2.00000
Turbidisc Sensor	1	0.00000	0.20000	0.00000	0.20000
Electric Actuator	1	0.00000	2.00000	0.00000	2.00000
Call Supervision	1	0.01200	0.07000	0.01200	0.07000
Auxiliary Relay Module	11	0.07000	0.11240	0.11240	0.97900
Notification Appliances (List All)					
Hornstroke 24 VDC 15 cd	1	N/A	0.115	N/A	0.115
Stroke 24 VDC 15 cd	1	N/A	0.080	N/A	0.17500
Notification Appliance Totals	2			N/A	0.17500
Total Alarm Ah				0.112	7.153

Summary Section	Standby Hrs. Required	Alarm Hrs. Required
Alarm Sounding Minutes	5	5
Total System Standby Ah	0.115	0.115
Total System Alarm Ah	0.115	0.115
Total System Standby in Ah	2.69700	2.69700
Total System Alarm in Ah	0.58083	0.58083
Min. Ah Battery Required	3.28	3.28
20% DERATING FACTOR		
Recommended Ah Battery	3.95	3.95

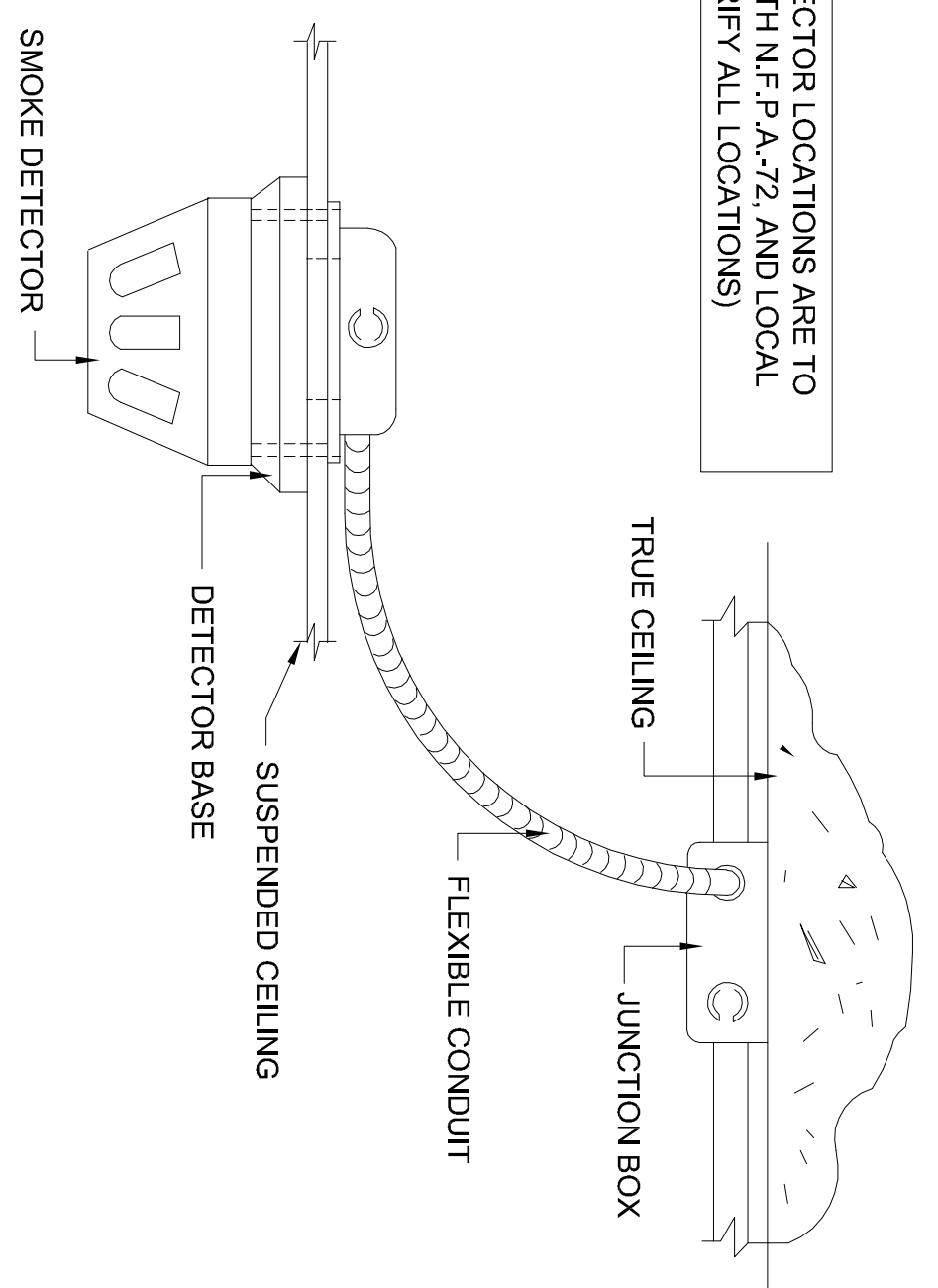
**VOLTAGE DROP CALCULATION:**

Device Description	Alarm A Per Device	Distance	Volts Dropped
Horn/Stroke 24 VDC 15 cd	0.115	30	0.01813
Stroke 24 VDC 15cd	0.080	20	0.00831
Total V Dropped:			0.02
% Dropped:			0.10%

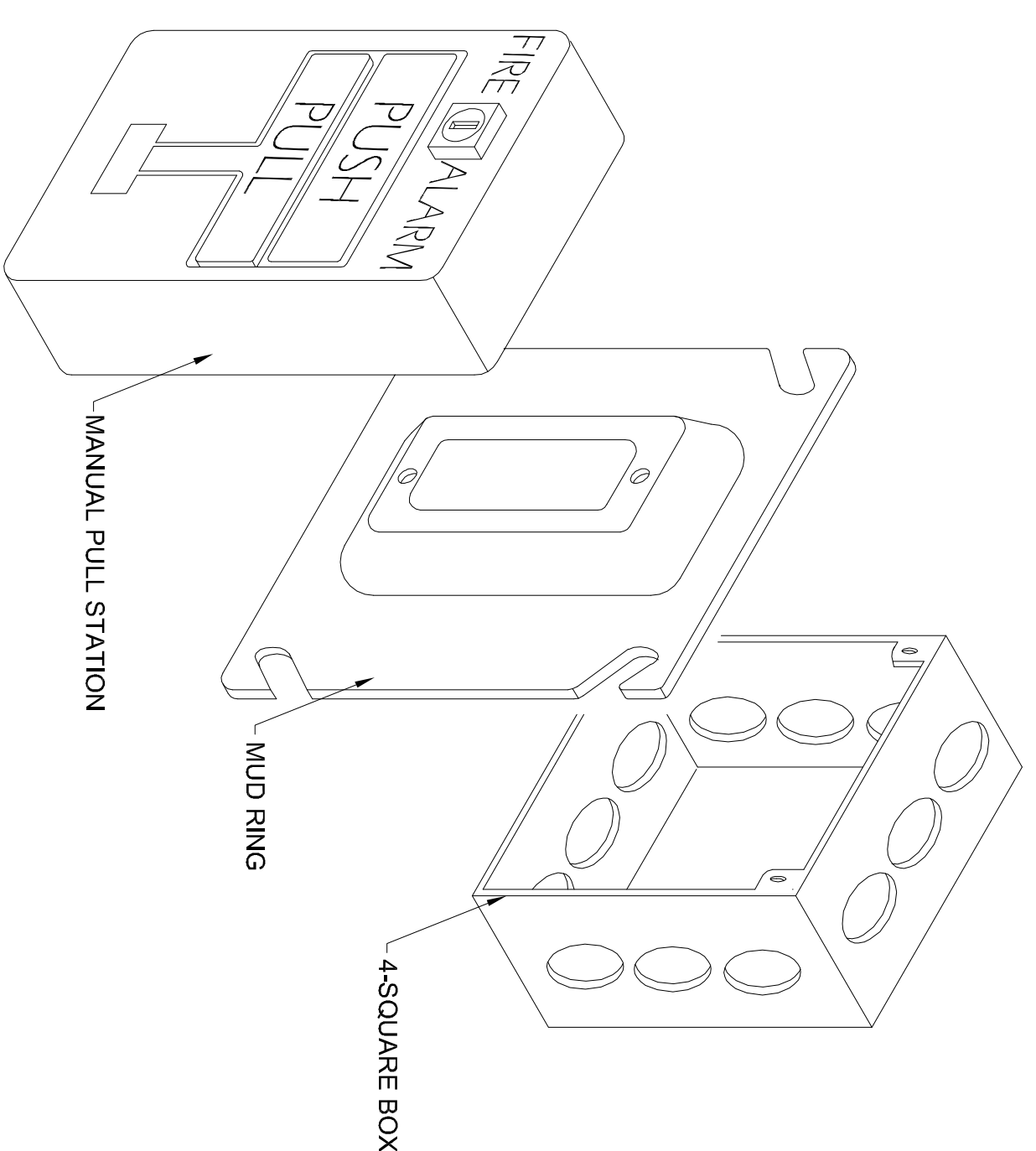
Percentage Drop Not to Exceed 10%  
Volts Dropped = Wire Distance X Current X 21.6/110 (Circular Mills For #14 Wire)

**SEQUENCE OF OPERATION/LEGEND/BATTERY CALCS.**

NOTE: ALL SMOKE DETECTOR LOCATIONS ARE TO BE IN ACCORDANCE WITH NFPA 72 AND LOCAL AUTHORITY. (FIELD VERIFY ALL LOCATIONS)

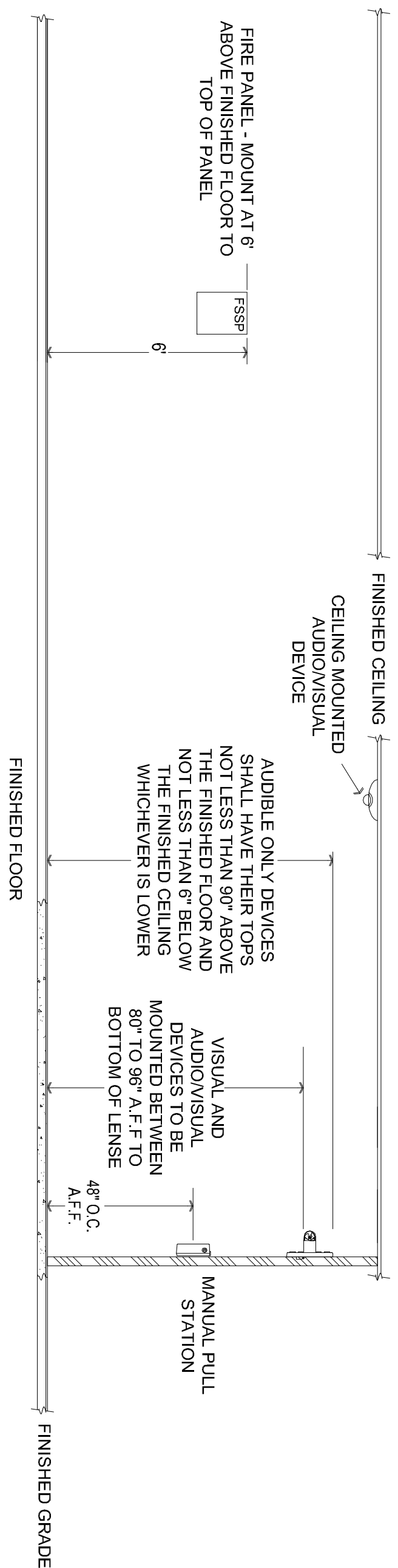


**SMOKE DETECTOR DETAIL**



**MANUAL RELEASE STATION**

**DEVICE LOCATION REQUIREMENTS**

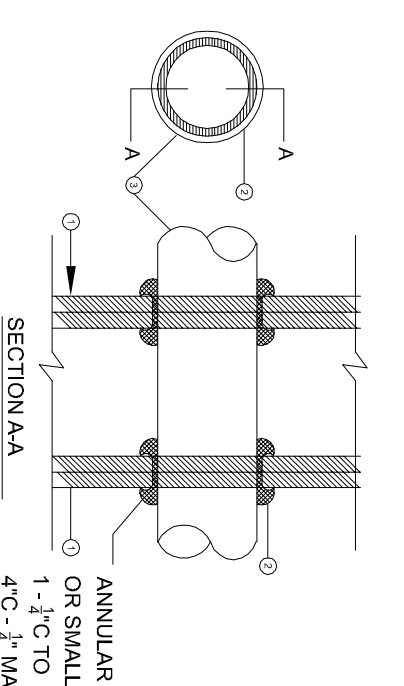


**ELECTRICAL COMPONENTS N.T.S.**

**ELECTRICAL NOTES:**

1. 120 VAC/90 Hz POWER TO BE FROM A DEDICATED BRANCH CIRCUIT USING #14 THIN WIRE. THE CIRCUIT IS TO BE MECHANICALLY PROTECTED.
2. 120 VAC CIRCUITS TO BE IN SEPARATE CONDUIT AND JUNCTION BOXES.
3. THE SELECTION AND INSTALLATION OF ALL WIRING SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE LOCAL STANDARDS APPROVED BY THE AUTHORITY HAVING JURISDICTION FIRE DEPARTMENT FIRE AND ALL CODES TO BE RUN PARALLEL OR AT RIGHT ANGLES TO BUILDING EQUIPMENT LOCATION & CONDUITS ARE TO BE FIELD VERIFIED. ADJUST DETECTORS TO BE LOCATED 3'-0" MIN. AWAY FROM SUPPLY AIR OUTLETS.
4. POLARITY MUST BE OBSERVED ON ALL CIRCUITS.
5. ALL WIRING TO BE IDENTIFIED BY COLOR AND NUMBERED OUT AND CONNECTED IN A NEAT AND ORDERLY MANNER.
6. IDENTIFICATION NUMBER ADJACENT TO INITIATING OR INDICATING DEVICES DENOTES ORDER OF WIRING. EXAMPLE: DETECTOR 12 WOULD IDENTIFY THE WIRE REFERRED ON THE ST2N.
7. IDENTIFICATION NUMBER AND CONDUIT IDENTIFICATION IS SHOWN IN SUPERVISORY CONDITION.
8. TROUBLE RELAY IS SHOWN IN NORMAL, NON-TROUBLE CONDITION (ENERGIZED).
9. IDENTIFICATION NUMBERS ARE OBTAIN FROM THE MANUFACTURER'S LISTS. DISCONNECT BATTERIES FIRST THEN SWAGE POWER BEFORE ATTEMPTING ANY TYPE OF MAINTENANCE ON SYSTEM. CONNECT 120VAC PWR. FIRST AND THEN BATTERIES WHEN POWERING UP SYSTEM.
10. ALL WIRING TO BE IDENTIFIED BY COLOR AND NUMBERED OUT AND CONNECTED IN A NEAT AND ORDERLY MANNER.
11. SECONDARY POWER SUPPLY SHALL PROVIDE SHIELDS OR STAINLESS AND SAINTEITS OF ALUMINUM.
12. ALL WIRING TO BE RUN IN CONDUIT. ALL LOW VOLTAGE WIRE TO BE #14 PARALLEL BRANCHED OR SUPERSEDED CIRCUITS IS NOT ALLOWED.

**FIRE STOP DETAIL**



1. GYP BOARD, 5/8" THICK, 1-LAYER, 2HR, 2-LAYERS.
2. FILL VOID OR CAVITY MATERIAL, GASK, GULF FILL, INTERLOCK, FIBERED INTO ANNULAR SPACE TO MAX. EXTENT POSSIBLE AND WITH A MIN. 1/4" AT ITS EDGES FROM THE WALL. MINERCO/FAMINCO & MANUFACTURING CO. TYPES SP-28 SL, CP-25 WS.
3. CONDUIT, NOM. 4" DIA. FIBER OR SMALLER STEEL LEAD CONDUIT OR NOM. 1" DIA. FIBER OR SMALLER FLEXIBLE STEEL CONDUIT. MAX. OF ONE PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STVD CAVITY WIDTH AND TO BE HORIZ. TO BE SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
4. FIRE STOP SYSTEM, INSTALLED OVER/UNDER/ON BOTH SIDES OF WALL ASSEMBLY. THE HORIZ. FIRE RATING OF THE WALL ASSEMBLY IS EITHER 2HR OR 1HR. THE HORIZ. FIRE RATING OF THE WALL ASSEMBLY IN ARE DEPENDENT UPON THE SIZE OF THE CONDUIT. THE FIRE STOP SYSTEM SHALL BE INSTALLED NEAR CENTER OF THE STVD CAVITY WIDTH AND TO BE HORIZ. TO BE SUPPORTED ON BOTH SIDES OF THE WALL ASSEMBLY.

SEE DRAWING IN SET  
F RATINGS - 1 AND 2 HR. SEE NOTE 4)

**ELECTRICAL NOTES**

NO.	DATE	REVISION DESCRIPTION	CHG BY

**INERGEN-FIRE SUPPRESSION-SYSTEM**

**MEDICAL MUTUAL (LAN ROOM)**

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