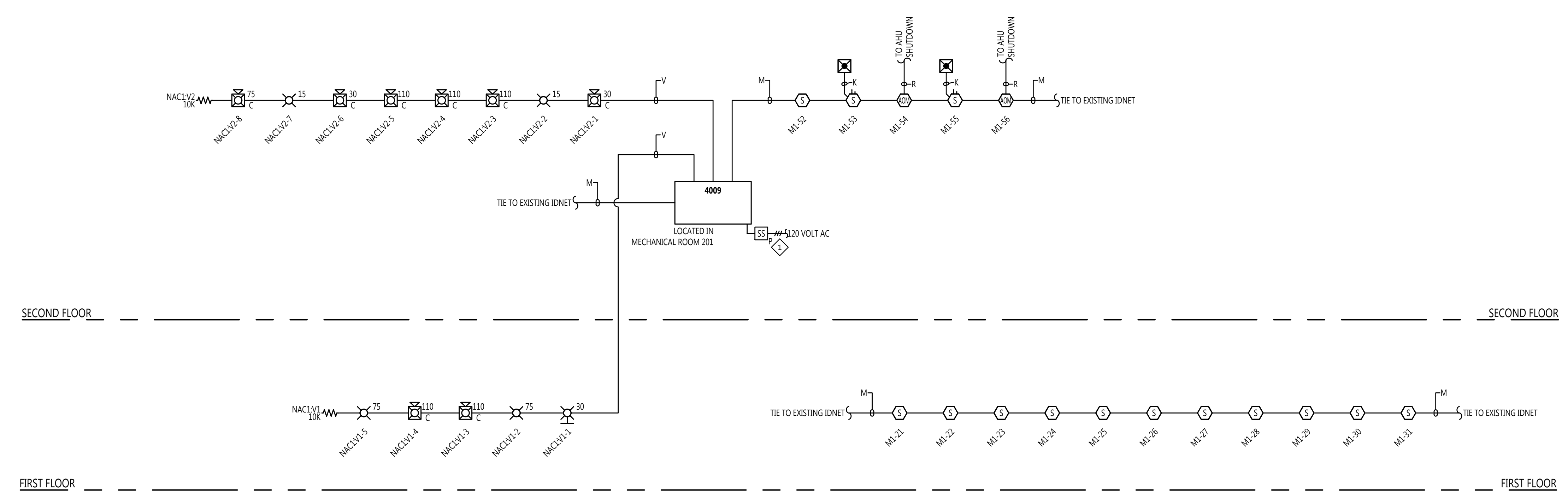


- GENERAL NOTES:**
1. ALL CEILING ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
 2. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.



RISER DIAGRAM
SCALE: NTS

FIRE ALARM SYMBOL LEGEND

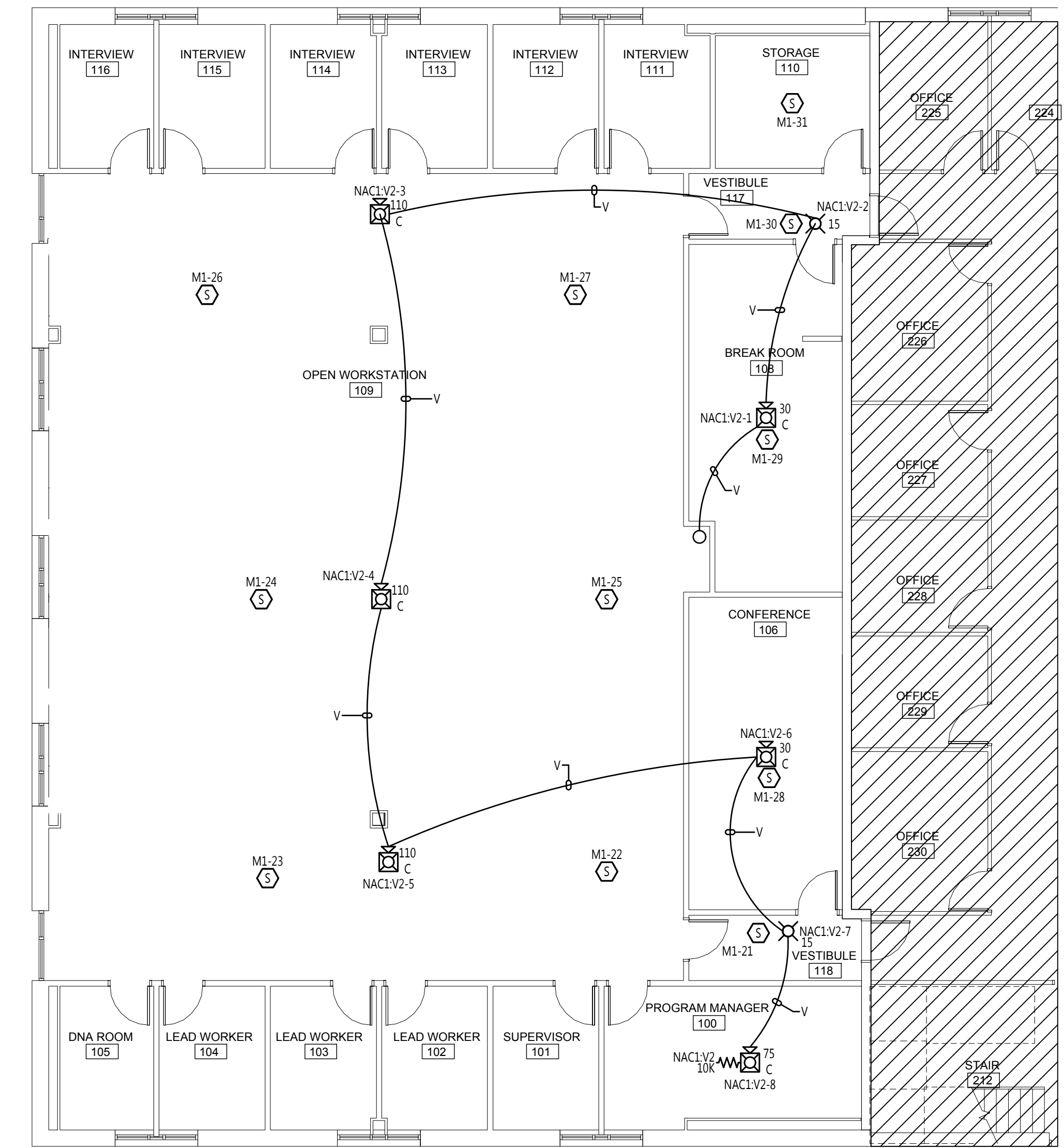
SYMBOL	DESCRIPTION	BRAND	MODEL	BOX CODE	WIRE TYPE
PANELS & ANNUNCIATORS					
NACF	4009 IDNET NAC EXTENDER PANEL, BEIGE, 120 VAC	SIMPLEX	4009-9201	MFG	
INITIATING DEVICES					
⊕	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR WITH STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4K 1C	M
⊕	ADDRESSABLE DUCT SMOKE DETECTOR	SIMPLEX	4098-9755	MDW	M
MODULES & RELAYS					
⊕	RELAY IAM	SIMPLEX	4090-9002	4H R	M R
NOTIFICATION APPLIANCES					
⊕	STROBE, WALL MOUNT, RED, FIRE, CLEAR LENS	SIMPLEX	4906-9101	1A 4A	V
⊕	STROBE, CEILING MOUNT, WHITE, FIRE, CLEAR LENS	SIMPLEX	4906-9104	1E HB	V
⊕	MULTI-CANDELA HORN/STROBE, CEILING MOUNT, WHITE, FIRE, CLEAR LENS	SIMPLEX	4906-9130	4A 1B	V
MISCELLANEOUS DEVICES					
⊕	REMOTE TEST STATION W/ LED AND KEY SWITCH	SIMPLEX	2098-9806	4D	K
BACKBOX CODES					
CODE BOX SPECIFICATIONS		CODE BOX SPECIFICATIONS			
4A	4" SQ. BOX 1 1/2" DEEP	1E	SINGLE GANG BOX 2 1/2" DEEP		
4B	4" SQ. BOX 1 1/2" DEEP W/ COVER	1F	SINGLE GANG BOX 2 1/2" DEEP W/COVER		
4C	4" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	1G	SINGLE GANG BOX 2 3/4" DEEP		
4D	4" SQ. BOX 2 1/8" DEEP	1H	SINGLE GANG BOX 3 1/2" DEEP		
4E	4" SQ. BOX 2 1/8" DEEP W/ COVER	2A	DOUBLE GANG BOX 2" DEEP		
4F	4" SQ. BOX 2 1/8" DEEP W/ 1 1/2" EXT. RING	2B	TWO GANG BOX 2 1/2" DEEP		
4G	4" SQ. BOX 2 1/8" DEEP W/ SINGLE GANG COVER	2C	TWO GANG BOX 2 3/4" DEEP		
4H	4" SQ. BOX 2 1/8" DEEP W/ TWO GANG COVER	5A	5 GANG BOX 2 1/2" DEEP		
4J	4" SQ. BOX 2 1/2" DEEP	6A	SINGLE GANG BOXES 3 1/2" DEEP		
4K	4" OCT. BOX 1 1/2" DEEP	6B	6 GANG BOX		
4L	4" OCT. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	6C	6 GANG BOX 3 1/2" DEEP		
4M	4 11/16" SQ. BOX 2 1/8" DEEP	6D	6 GANG BOX 3 1/2" DEEP		
4N	4 11/16" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	6E	FURNISHED BY OTHERS		
4P	4 11/16" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	MFG	SUPPLIED BY MANUFACTURER		
4Q	4" SQ. BOX 1 1/2" DEEP W/ 4098-9882 ADAPTER	MBD	MOUNTS IN BOX BEHIND DETECTOR		
4R	4" SQ. BOX 1 1/2" DEEP W/ RACO 787 OR EQUIV.	WM	WALL MOUNT		
4S	4" SQ. BOX 1 1/2" DEEP W/ 4098-9883 ADAPTER	DT	DESK TOP MOUNT		
1A	SINGLE GANG BOX 1 1/2" DEEP	DS	REFER TO PRODUCT DATASHEET		
1B	SINGLE GANG BOX 2" DEEP	NR	NO BACKBOX REQUIRED		
1C	SINGLE GANG BOX 2 1/8" DEEP	TRM	35" WIDE SNAP TRACK W/ MOUNTING SCREWS		
1D	SINGLE GANG BOX 2 1/8" DEEP W/ COVER		FOR ADDITIONAL BACK BOX OPTIONS, REFER TO THE XX-700 SERIES DRAWINGS OR PRODUCT DATA SHEETS AND INSTALLATION INSTRUCTIONS.		

FIRE ALARM WIRE LIST

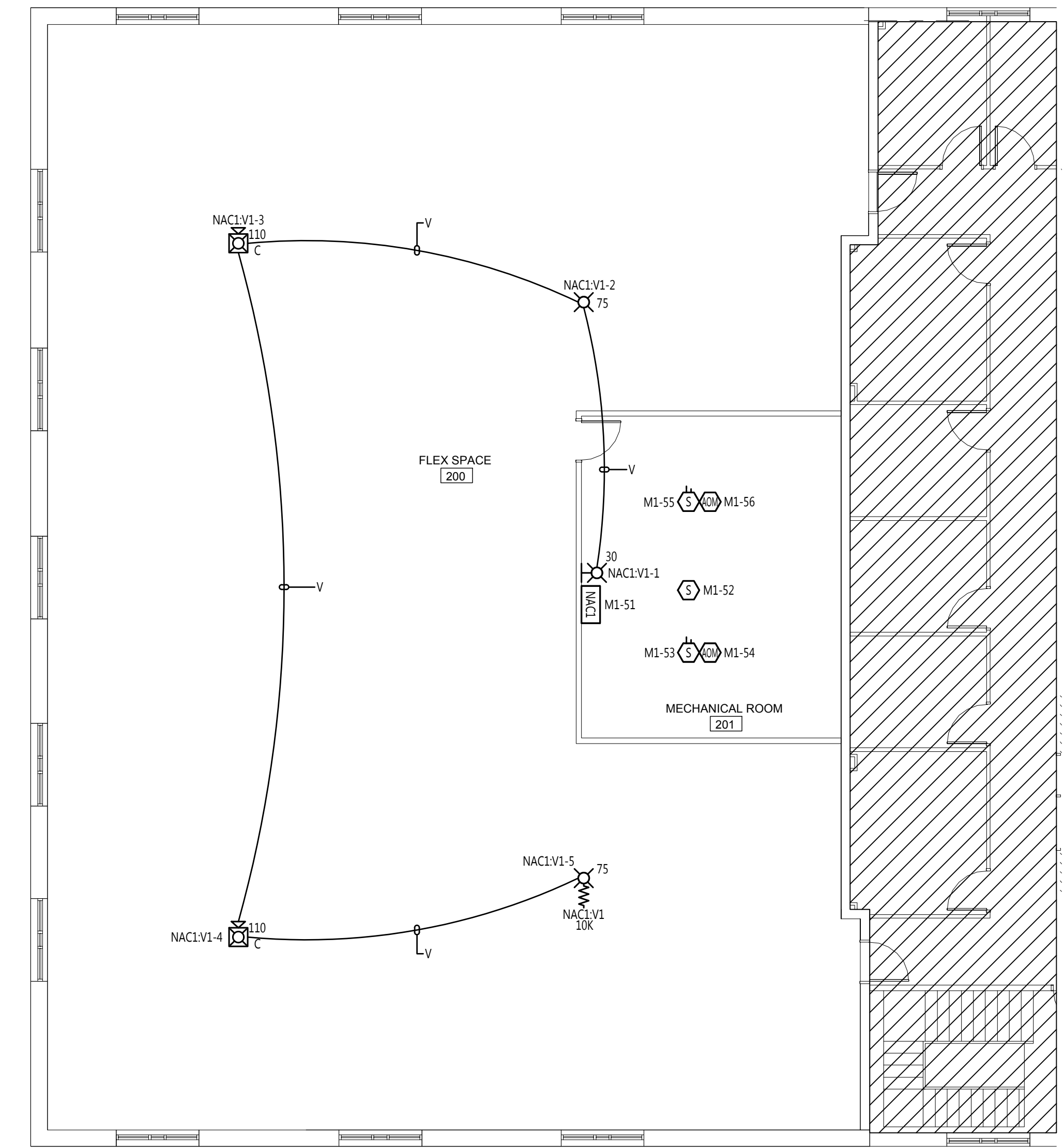
CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES				
				PLR	TRN	THIN	TRFN	OUTDOOR
K REMOTE TEST SWITCH/LED	(2) 2 COND. SOLID	14 AWG		X	X			
M MAPNET/IDNET	TSP SOLID	18 AWG		X	X			
V VISUAL SIGNAL	2 COND. SOLID	14 AWG		X	X	X		

CONDUIT SIZE	MAX CONDUCTOR AREA	CONDUIT SIZE	MAX CONDUCTOR AREA	NOTES
1/2"	0.32 SQ INCH *	1-1/4"	0.60 SQ INCH *	*40% FILL PER N.E.C.
3/4"	0.21 SQ INCH *	1-1/2"	0.82 SQ INCH *	SUBSCRIPT "V": UNSHIELDED CABLES MIXED WITH SHIELDED CABLES OF SAME CIRCUIT DESIGNATION.
1"	0.34 SQ INCH *	2"	1.34 SQ INCH *	

*OUTDOOR AERIAL CABLE REQUIRES MESSENGER
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM. INSTALLATION, THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.



PARTIAL FIRST FLOOR DEVICE PLACEMENT PLAN
SCALE: 1/8" = 1'-0"



PARTIAL SECOND FLOOR DEVICE PLACEMENT PLAN
SCALE: 1/8" = 1'-0"

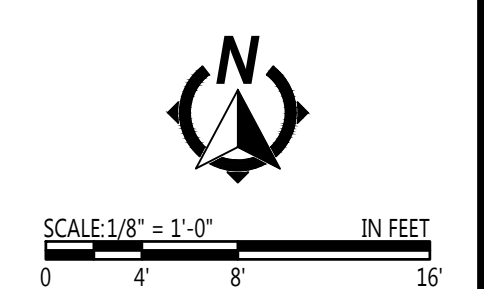
HARNETT DSS ADDITION

HARNETT COUNTY HEALTH & SOCIAL SERVICES
801 SOUTH 1ST STREET
LILLINGTON, NC 27546

ISSUE LOG	MARK	DATE	BY	DESCRIPTION

DRAWN BY:	T PALCZUK
CHECKED BY:	J SIMMONS
ISSUE DATE:	12/10/19
JOB #:	250-441708
PROJECT #:	19516048001
SYSTEM:	JOHNSON CONTROLS © 2019

FIRE ALARM SYSTEM
DEVICE PLACEMENT PLAN



FILE NO: J:\2019\2019-10-15-1508003 - HARNETT DSS ADDITION\DWG\2019-10-15-1508003-FA-101.dwg
 LAST SAVED BY: PALCZUK
 LAST PRINTED: 12/11/2019 9:46:44 AM
 30" x 42" - Auto EIT 30x

MECHANICAL ROOM 201.4009 NAC							
Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm	
Panel Equipment							
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC	0.0850	0.0850	0.1850	0.1850	
Panel Totals				0.0850	0.1850	0.1850	
Notification Appliances							
Setting							
4906-9101	2	V/O MC NON-ADDRESS, RED, WALL	15	0.0000	0.0000	0.0600	0.1200
4906-9101	1	V/O MC NON-ADDRESS, RED, WALL	30	0.0000	0.0000	0.0940	0.0940
4906-9104	2	V/O MC NON-ADDRESS, WHI, CEILING	75	0.0000	0.0000	0.2330	0.4660
4906-9130	5	AV MC NON-ADDRESS, WHI, CEILING	110	0.0000	0.0000	0.3200	1.6000
4906-9130	2	AV MC NON-ADDRESS, WHI, CEILING	30	0.0000	0.0000	0.1320	0.2640
4906-9130	1	AV MC NON-ADDRESS, WHI, CEILING	75	0.0000	0.0000	0.2500	0.2500
Peripheral Totals				0.0000	0.0000	2.7940	2.7940
RUI Totals			0	0.0000	0.0000	0.0000	0.0000
Address Totals			0	0.0000	0.0000	0.0000	0.0000
System Totals*				0.0850		2.9790	2.9790

Battery Set #1 (Cabinet/Charger #1)							
Select ALL Power Supplies on this battery set:							
4009				0.0850		2.9790	
Sub Total				0.0850		2.9790	
Total				0.0850		2.9790	
Standby Time = 24 Hrs x 0.0850 = 2.0400 Standby Ah							
Alarm Time = 5 Min 0.08333 x 2.979 = 0.2463 Alarm Ah							
Additional Spare Battery Capacity = 0% = 0.0000							
Battery Discharge Factor = 20% = 2.2883							
Minimum Battery Required 2081-9272 6.2AH (2x) = 2.7459							
Battery Supplied 2081-9274 10AH (2x)							

* System Totals represent total system current requirements. Those currents may be distributed between multiple battery sets or power supplies as shown above.

VOLTAGE DROP SUMMARY			
Plan Circuit	Description	Load	% Drop
NAC1-V1	2FL	SIG1 1.200A	4.05%
NAC1-V2	1FL	SIG2 1.594A	7.78%
		Total	

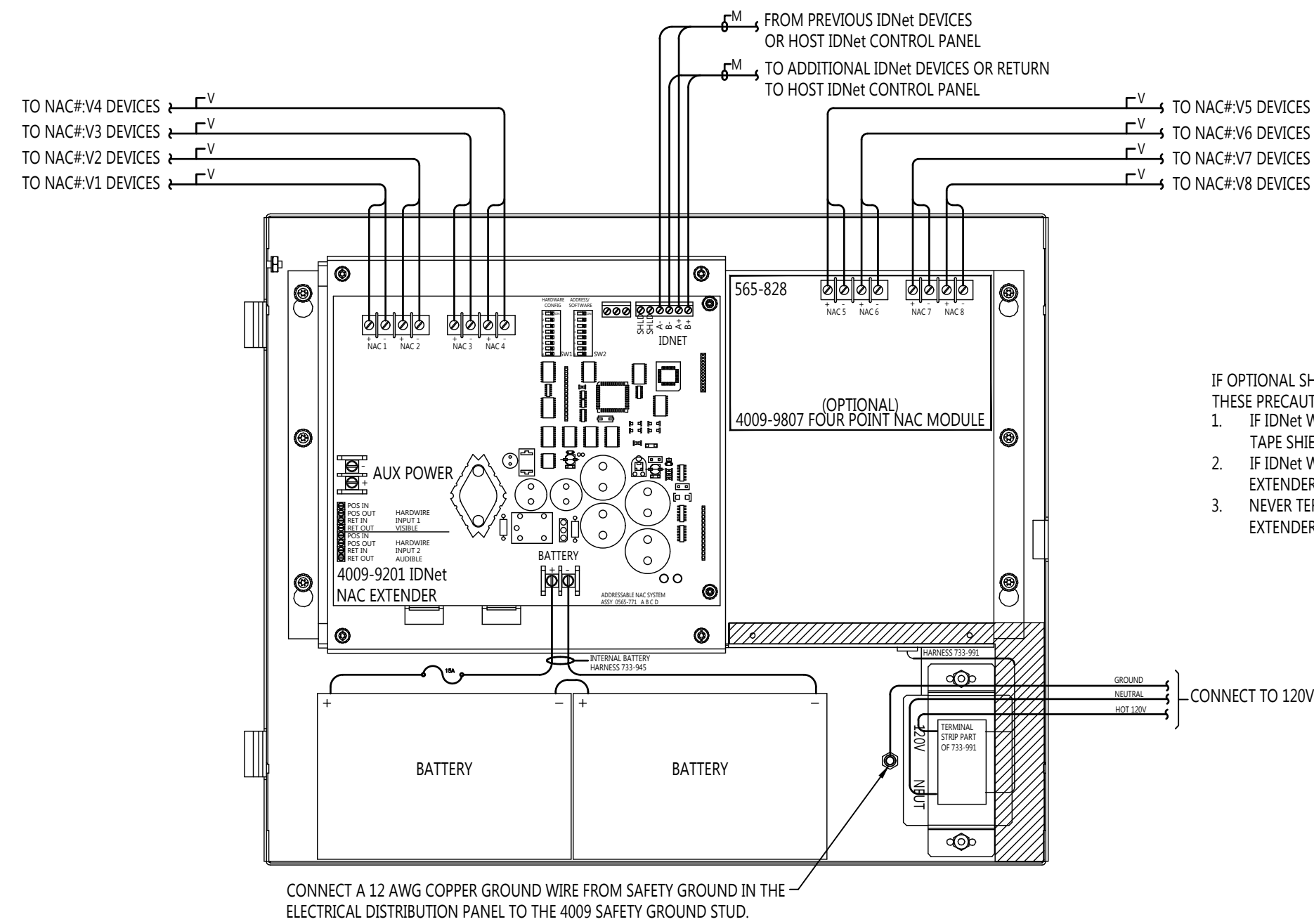
POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

NAC1-V1 Distributed Load Voltage Drop							
Allowable % Drop:		21.6%	Wire Res. Per Ft.:		0.003070	@ 75° Celsius	
Wire Gauge:		14ga	Min. Device Voltage:		16.vdc		
Starting Voltage:		20.vdc	% Voltage Drop:		4.05%		
Circuit Capacity:		2.A					
Device #	PID	Setting	Distance (Feet)	Device Current	Voltage Drop	Voltage At Device	
NAC1-V1-1	4906-9101	30cd	20	0.094	0.147	20.25	
NAC1-V1-2	4906-9104	75cd	30	0.233	0.351	20.05	
NAC1-V1-3	4906-9130	110cd	40	0.320	0.565	19.83	
NAC1-V1-4	4906-9130	110cd	60	0.320	0.769	19.63	
NAC1-V1-5	4906-9104	75cd	40	0.233	0.826	19.57	
Totals:			190 Ft.	1.200A			

NAC1-V2 Distributed Load Voltage Drop							
Allowable % Drop:		21.6%	Wire Res. Per Ft.:		0.003070	@ 75° Celsius	
Wire Gauge:		14ga	Min. Device Voltage:		16.vdc		
Starting Voltage:		20.vdc	% Voltage Drop:		7.78%		
Ckt Capacity:		2.A					
Device #	PID	Setting	Distance (Feet)	Device Current	Voltage Drop	Voltage At Device	
NAC1-V2-1	4906-9130	30cd	30	0.132	0.294	20.11	
NAC1-V2-2	4906-9101	15cd	30	0.060	0.163	19.84	
NAC1-V2-3	4906-9130	110cd	50	0.320	0.993	19.41	
NAC1-V2-4	4906-9130	110cd	40	0.320	1.259	19.14	
NAC1-V2-5	4906-9130	110cd	30	0.320	1.399	19.00	
NAC1-V2-6	4906-9130	30cd	40	0.132	1.508	18.89	
NAC1-V2-7	4906-9101	15cd	25	0.060	1.556	18.84	
NAC1-V2-8	4906-9130	75cd	20	0.250	1.586	18.81	
Totals:			265 Ft.	1.594A			

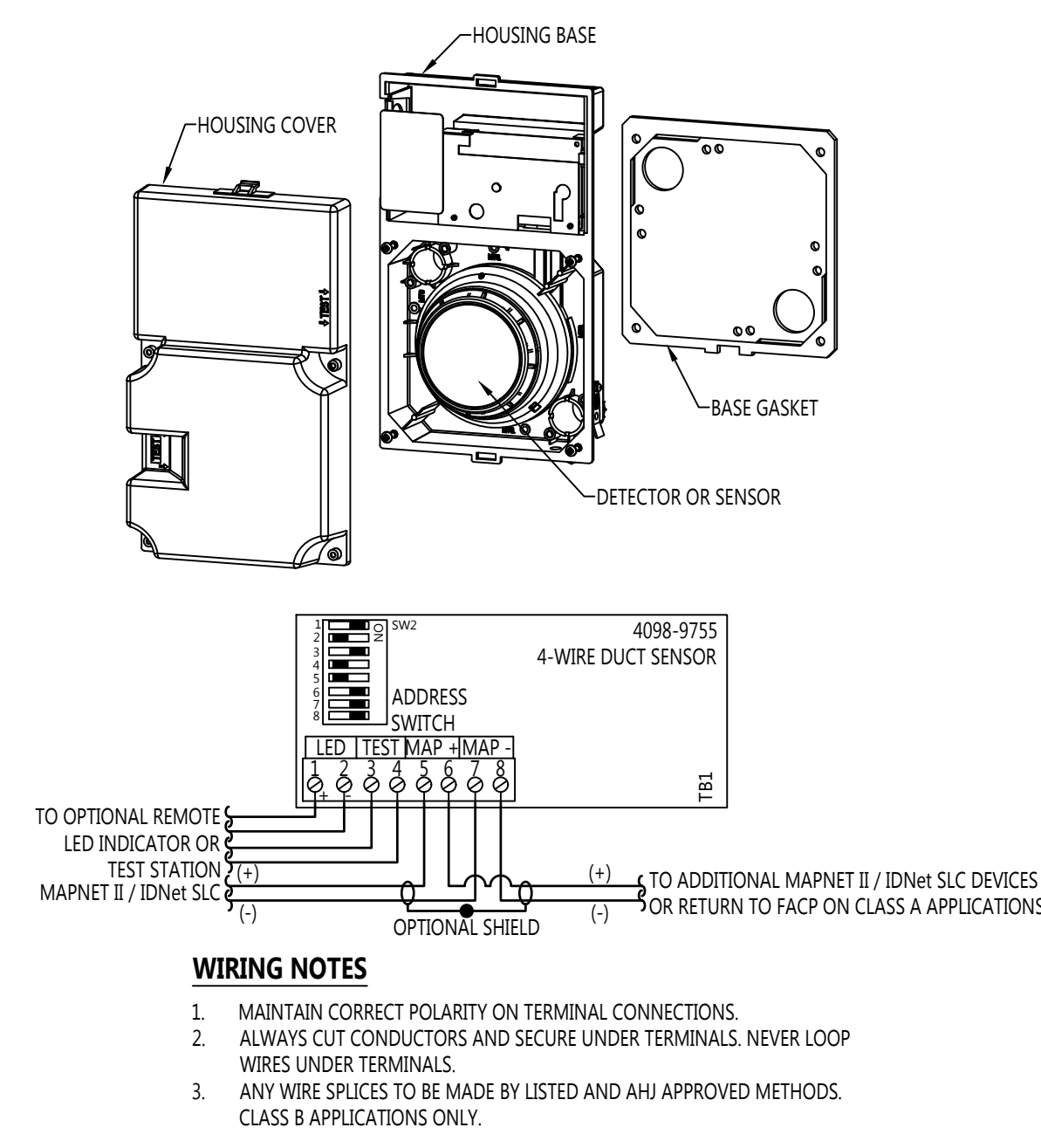
NAC EXTENDER PANEL WIRING

SIMPLEX 4009 SERIES



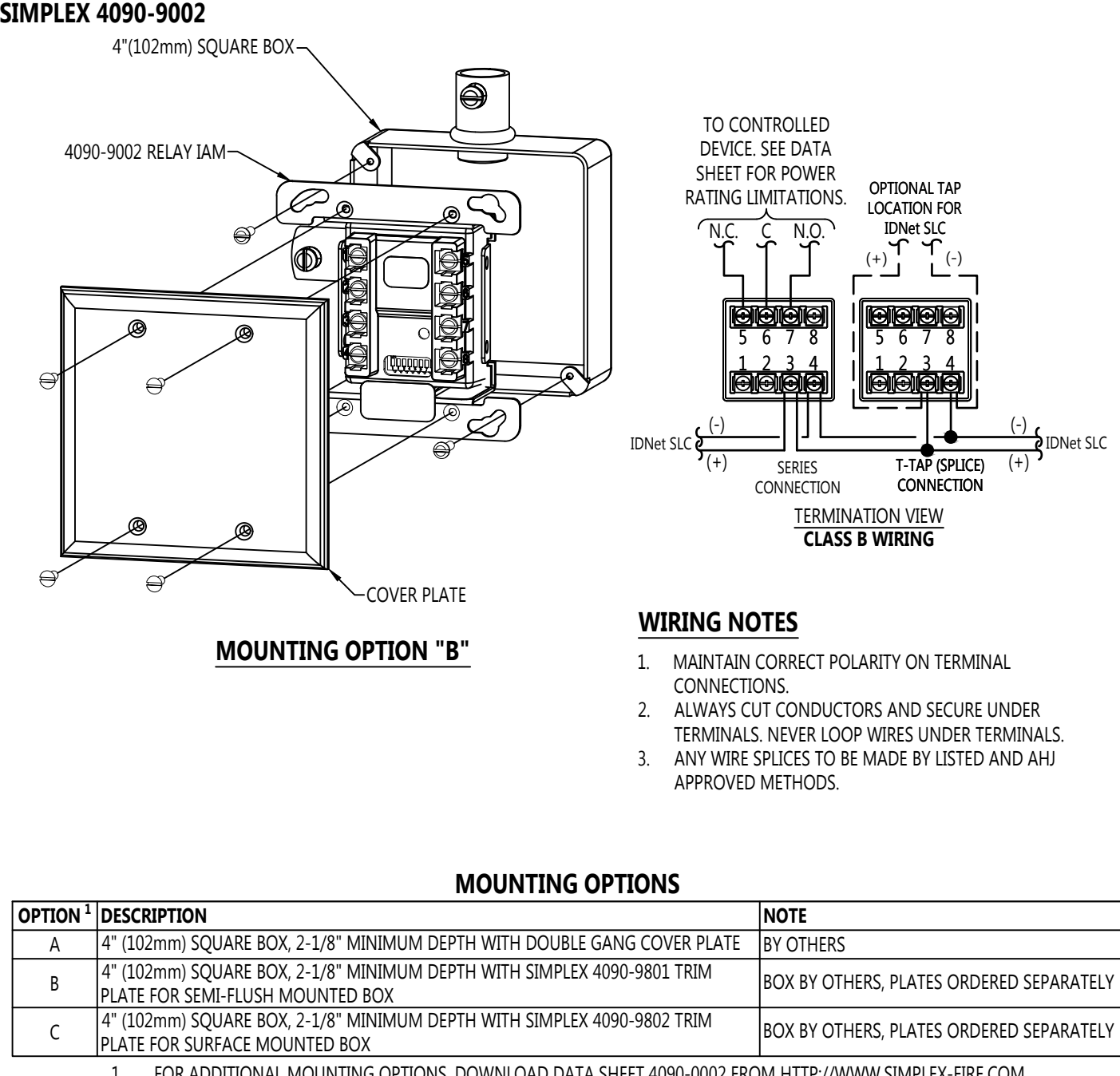
DUCT SMOKE DETECTOR

SIMPLEX 4098-9755 ANALOG 2-WIRE DUCT SENSOR



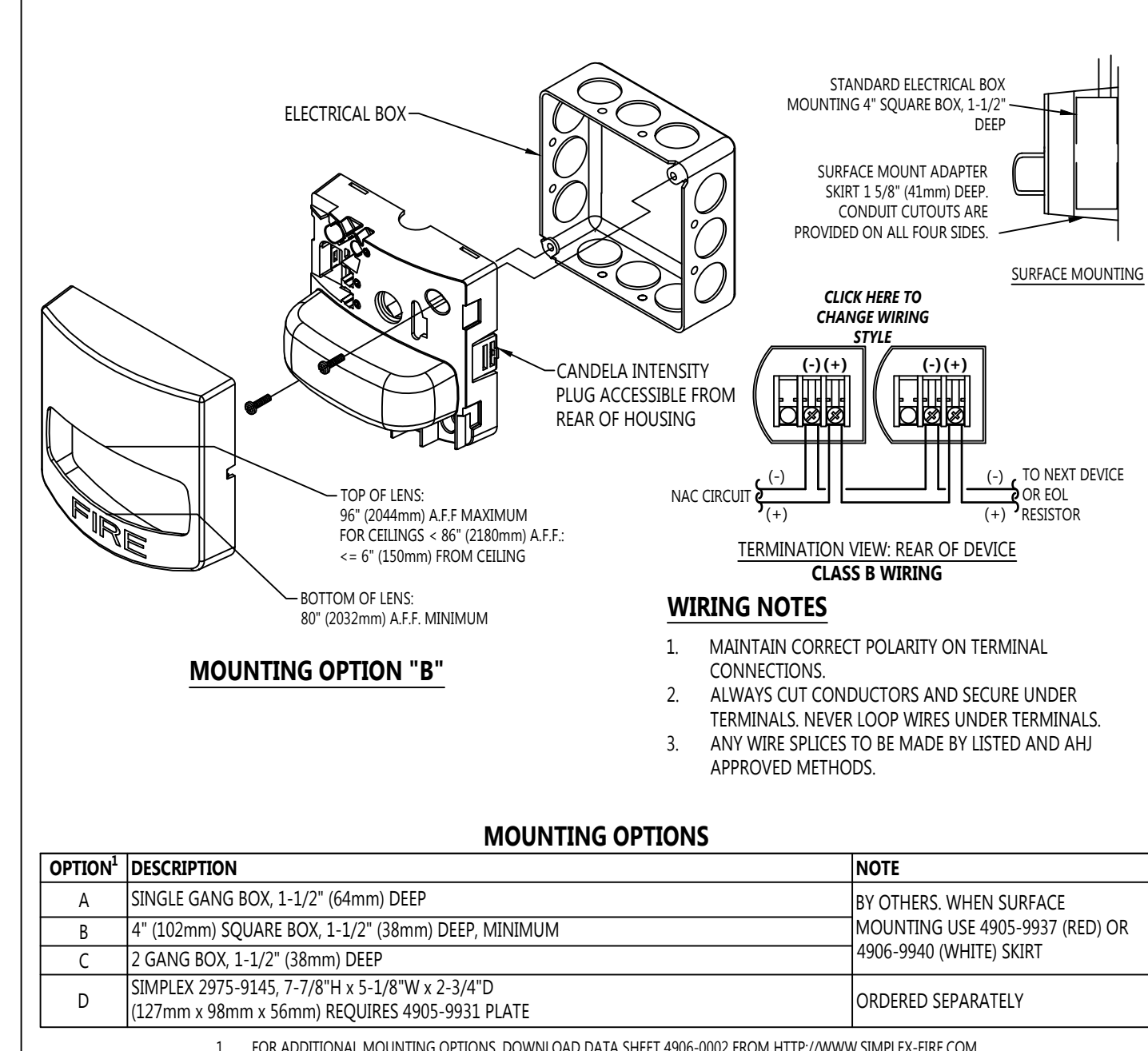
ADDRESSABLE RELAY MODULE

SIMPLEX 4090-9002



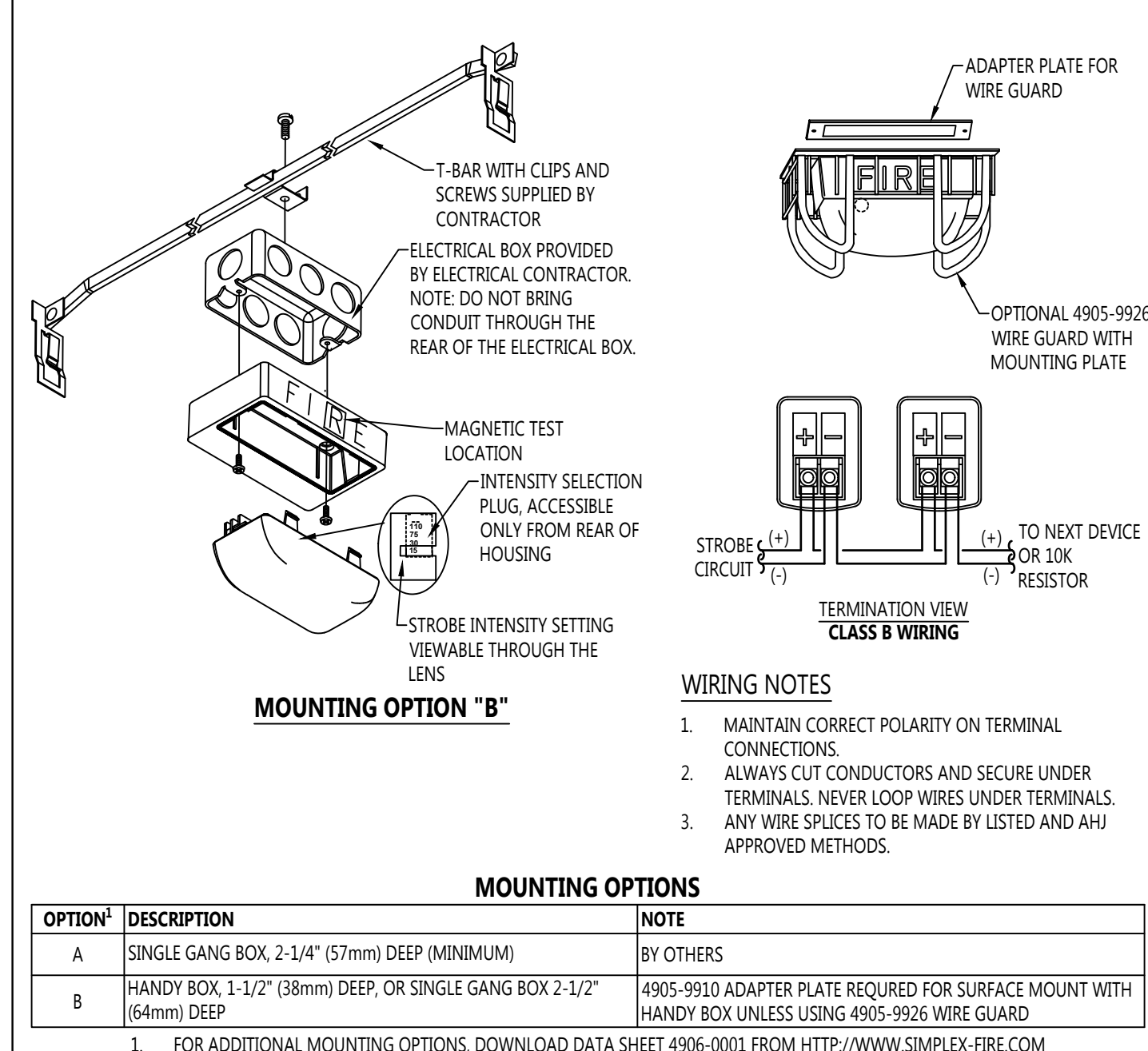
TrueAlert CONVENTIONAL APPLIANCES

SIMPLEX 4906 SERIES WALL MOUNTED VISUAL



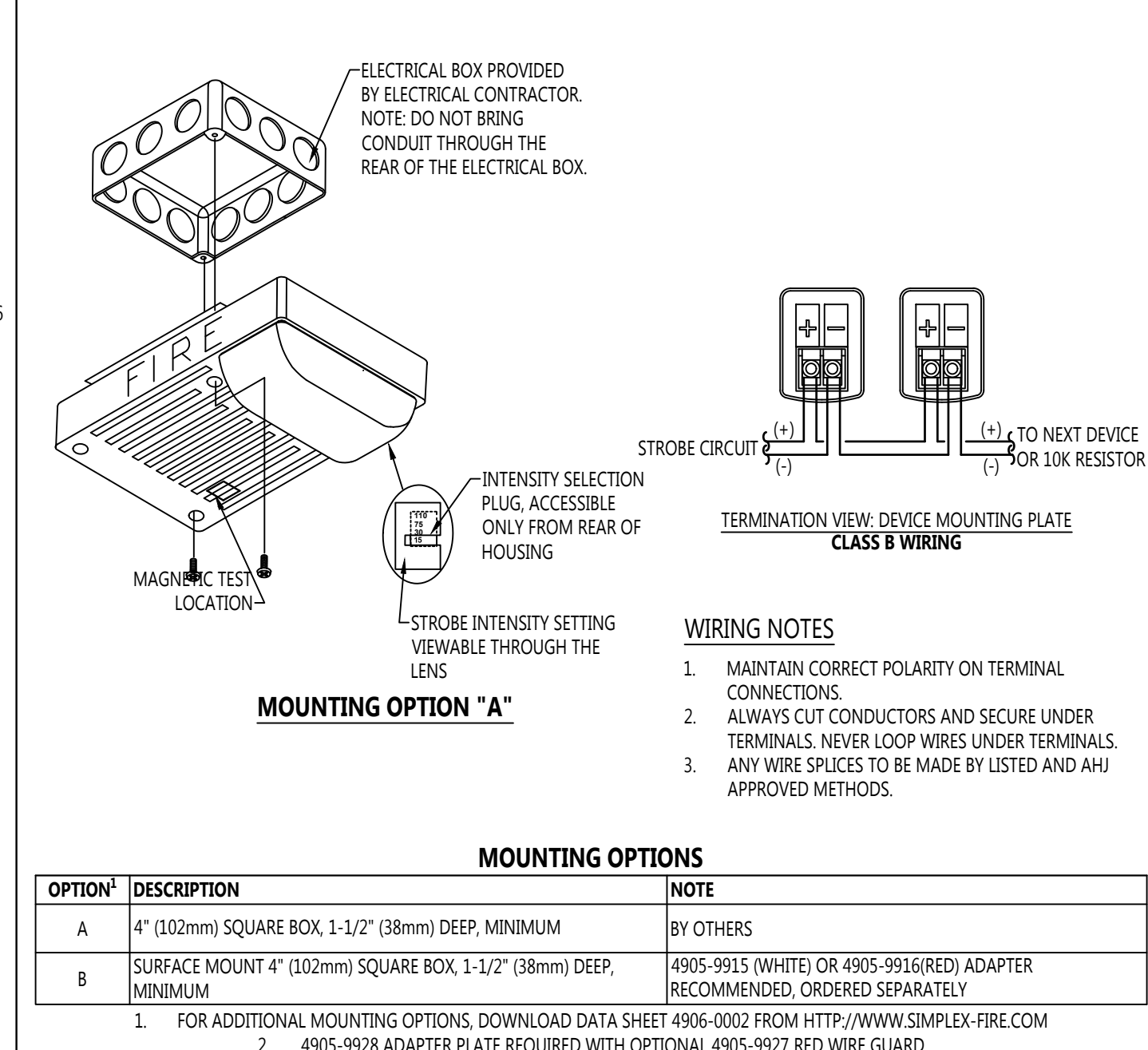
TrueAlert CONVENTIONAL APPLIANCES

SIMPLEX 4906 SERIES CEILING MOUNTED VISUAL



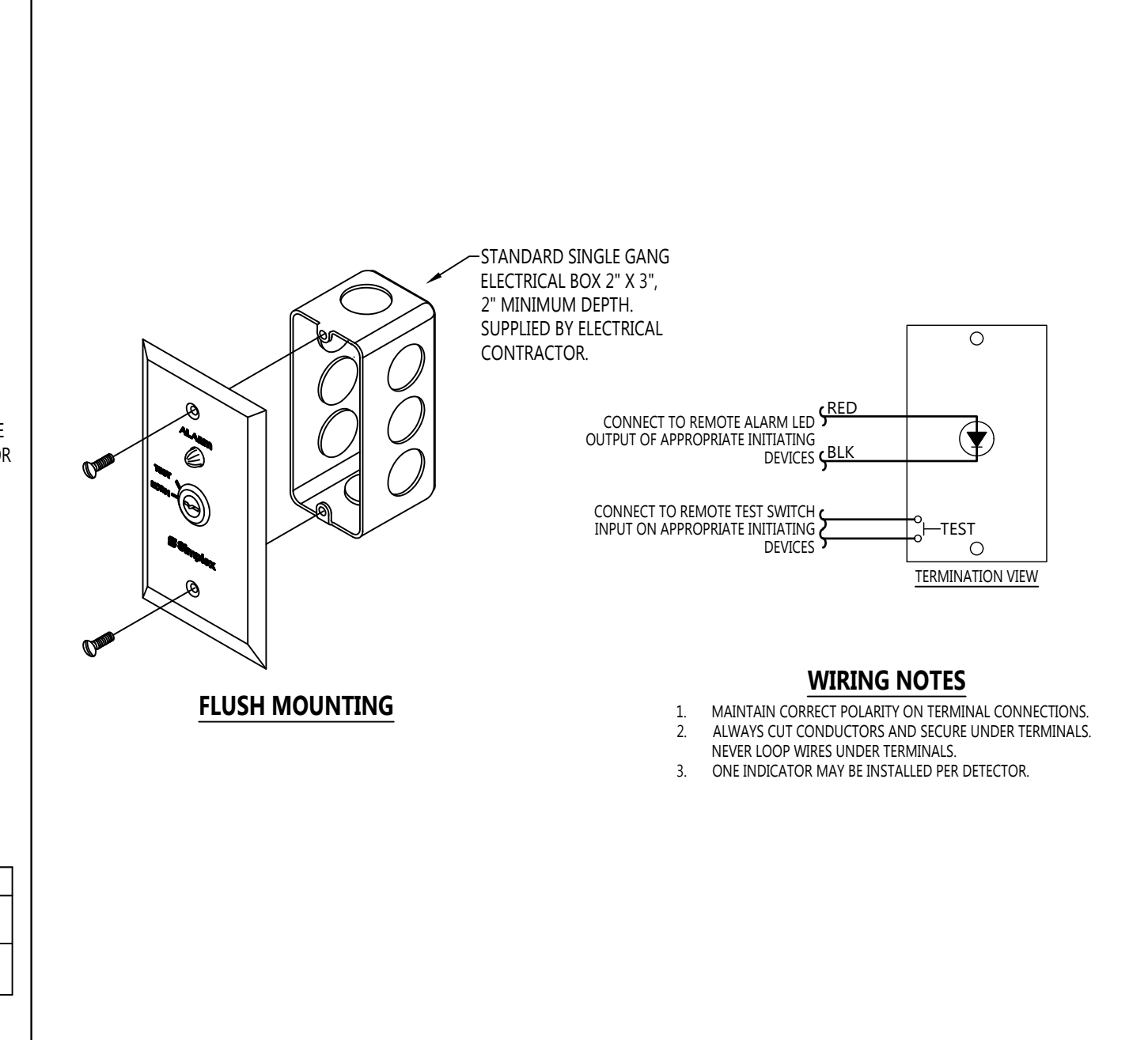
TrueAlert CONVENTIONAL APPLIANCES

SIMPLEX 4906 SERIES CEILING MOUNTED AUDIBLE / VISUAL



REMOTE ALARM INDICATOR / KEY SWITCH

SIMPLEX 2098-9806



ISSUE LOG	MARK	DATE	CHK	DESCRIPTION

DRAWN BY:	T.PALCZUK
CHECKED BY:	J.SIMMONS
ISSUE DATE:	12/10/19
JOB #:	250-441708
PROJECT #:	190516048003
	JOHNSON CONTROLS © 2019

SYSTEM: FIRE ALARM SYSTEM

FA-601