

Project Name: Fillmore Gym
Panel Location: Refer to Plans

NAC SCHEDULE / VOLTAGE DROP CALCULATION									
10 % MAXIMUM VOLTAGE DROP									
CIRCUIT OUTPUT VOLTAGE = 20.4 (FOR CALCULATIONS)									
CIRCUIT	DESCRIPTION	ESTIMATED CIRCUIT LENGTH	Stroke 15cd 0.066	Stroke 30cd 0.094	Spkr Stroke 15cd 0.066	Spkr Stroke 30cd 0.094	Spkr Stroke 75cd 0.158	Spkr Stroke 110cd 0.202	TOTAL CKT. LOAD (AMPS)
#N1	V1	350 ft	0	0	12	0	2	0	1.108
#N2	V2	300 ft	0	0	3	3	0	1	0.682
#N3	V3	600 ft	0	0	1	0	0	3	0.672
#N4	V4	236 ft	0	0	0	0	0	0	0.666
#N5	V5	450 ft	0	0	1	2	0	4	1.062
#N6	V6	250 ft	0	0	4	2	0	4	1.260
Appliance Summary									
			0	0	31	7	2	12	

METHOD USED TO CALCULATE PERCENT OF VOLTAGE DROP:
CIRCUIT LENGTH IN FEET X 2 (AMPS X OHMS/FOOT) X 100
20.4 VOLTS

FILLMORE Gym				
Panel Location: Refer to Plans				
Panel: FAPS				
Regulated Load in Standby				
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)	
SMOKE DETECTOR	71	X 0.000000300	=	0.0000213
BEAM DETECTOR	6	X 0.000000350	=	0.0000021
CONTROL RELAY MODULE	10	X 0.000000230	=	0.0000023
DUCT DETECTOR	10	X 0.00000030	=	0.000003
POWER SUPPLY	1	X 0.002	=	0.002
IDP-MINIMON	6	X 0.00035	=	0.0021
STANDBY LOAD			=	0.0041287
Regulated Load in ALARM				
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)	
SMOKE DETECTOR	71	X 0.000000300	=	0.0000213
CONTROL RELAY MODULE	10	X 0.000000230	=	0.0000023
BEAM DETECTOR	10	X 0.000000300	=	0.000003
IDP-MINIMON	6	X 0.002450000	=	0.0147
DUCT DETECTOR	10	X 0.000550000	=	0.0055
15cd SPEAKER/STROBE	39	X 0.066	=	2.574
30cd SPEAKER/STROBE	10	X 0.094	=	0.94
75cd SPEAKER/STROBE	8	X 0.158	=	1.264
WP SPEAKER	8	X 0.083	=	0.664
POWER SUPPLY	1	X 1.5	=	1.5
ALARM LOAD			=	7.643

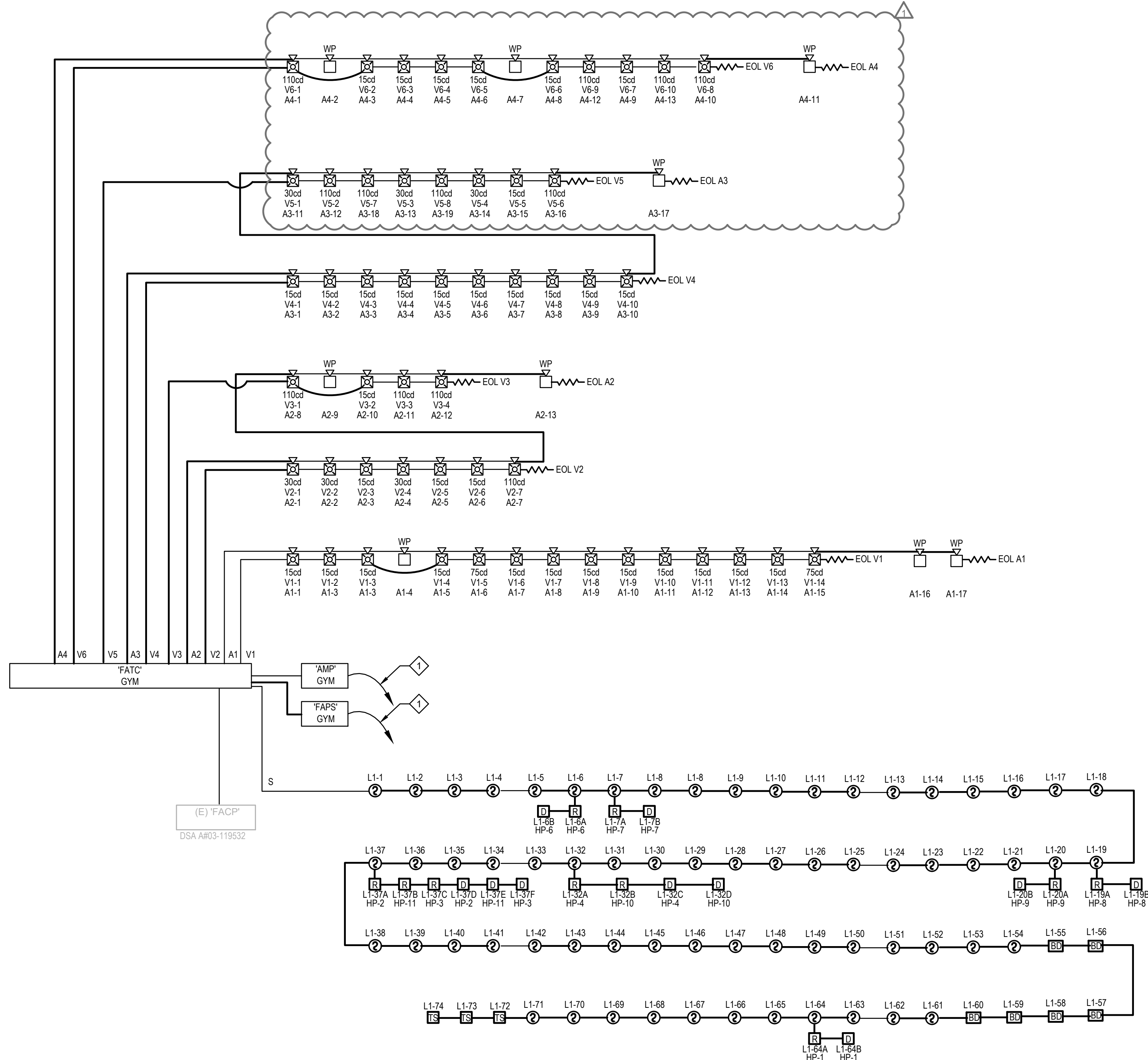
Battery Amp Hour Calculation			
Standby Load Current (Amps)	0.0041287	X	Required Standby Time (Typically 24 or 60 Hours)
			24 = 0.0990888 AH
Alarm Load Current (Amps)	7.6432266	X	Required Alarm Time (Typically 5 or 10 Minutes)
			15 = 1.91 AH
Sub Total Standby / Alarm Amp Hours			2.01 AH
Multiply by the Derating Factor			X 1.25
PROVIDE 7AH BATTERY.			

SPEAKER CIRCUIT LOAD CALCULATION									
SPEAKER CIRCUIT DESCRIPTION	PANEL CIRCUIT NUMBER	WIRE GAUGE (18, 16, 14, 12)	CIRCUIT VOLTAGE (25 OR 70 VRMS)	APPLIANCES QUANTITIES / TAP VALUES					TOTAL CIRCUIT LOAD (WATTS)
				SPEAKER TAP	SPEAKER TAP	SPEAKER TAP	SPEAKER TAP	SPEAKER TAP	
Spkr	A1	12	70 VRMS	12	0	2	3	0	11 Watts
Spkr	A3	12	70 VRMS	14	0	4	1	0	9.5 Watts
Spkr	A4	12	70 VRMS	8	0	4	2	0	9.5 Watts
Spkr	A5	12	70 VRMS						Watts
Appliance Summary									Total Load (Watts)
									39.75

NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE MAXIMUM ALLOWABLE CIRCUIT LENGTH. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS.

Amplifier Calculation				
FILLMORE Gym				
Description	Quantity	AMP		Total Alarm (Amps)
		Standby (Amps)	Total Standby (Amps)	
AMP	1	x 0.085000	0.085000	1.000000
WATTS @ 25Vrms	0	x 0.000000	0.000000	0.000000
WATTS @ 70.7Vrms	35.75	x 0.000000	0.000000	0.014000
Total:			0.085000	1.500000
Battery Calculation		Time Multiplier	Amp Hours	Total Watts
Supervisory Hours	24	x 0.085000	= 2.040000	Used Spare
Alarm Hours	0.250	x 1.500000	= 0.375125	35.75
Total Amp Hours			= 2.415125	
Battery Supplied (AH)			= 7.000000	
Battery Spare (AH)			= 4.584875	

PROVIDE 7AH BATTERY.



SHEET NOTES:

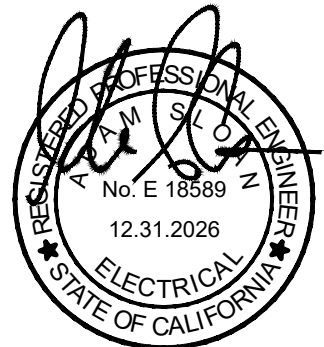
PROVIDE 120V, DEDICATED CIRCUIT. REFER TO FIRE ALARM PLANS FOR ADDITIONAL INFORMATION.

FIRE ALARM RISER DIAGRAM

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ISSUED FOR:

REVISIONS:

FA CHANGES 1-29-25

REGISTRATION/SIGNATURE:

SHEET TITLE:

FIRE ALARM
RISER DIAGRAM

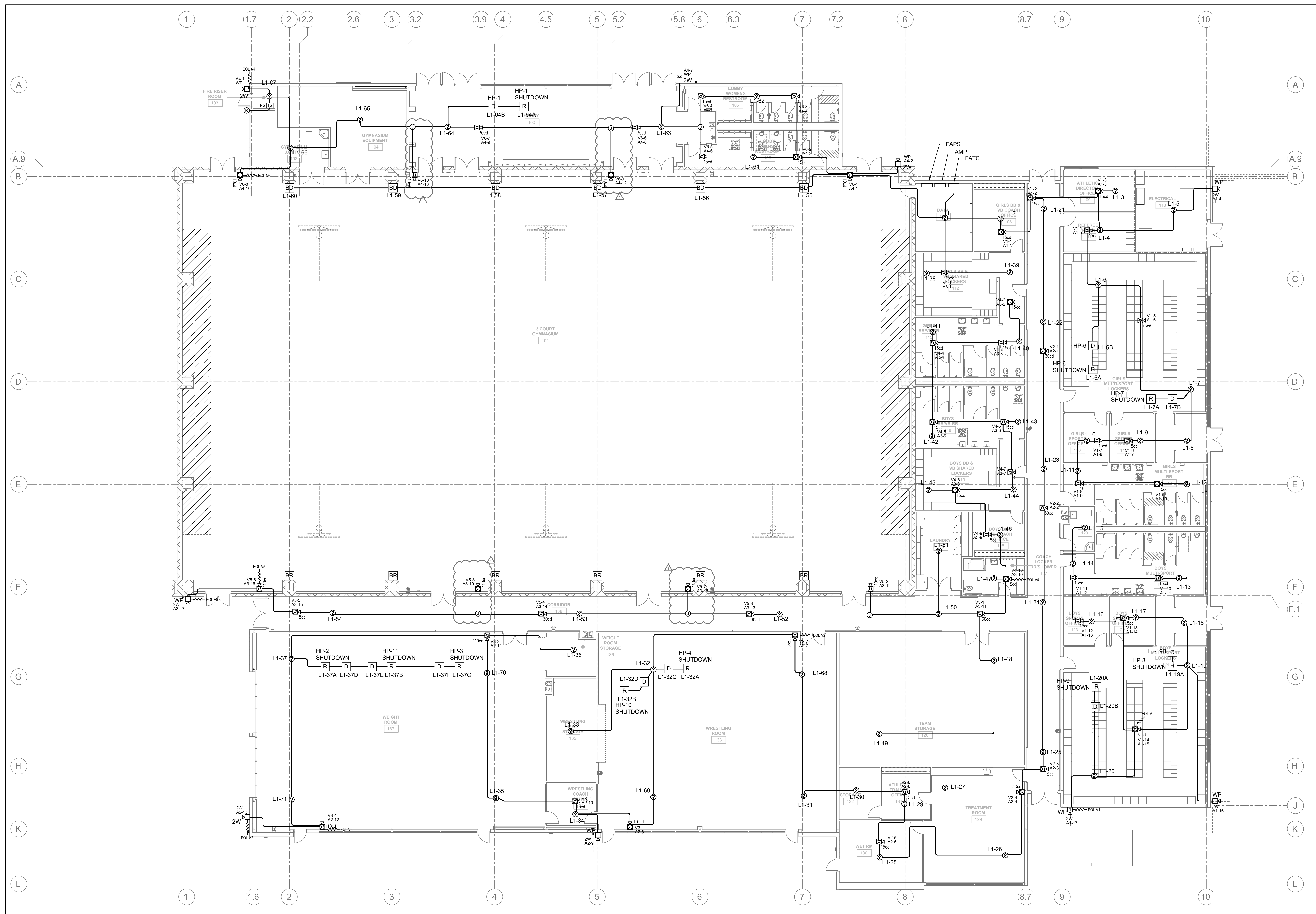
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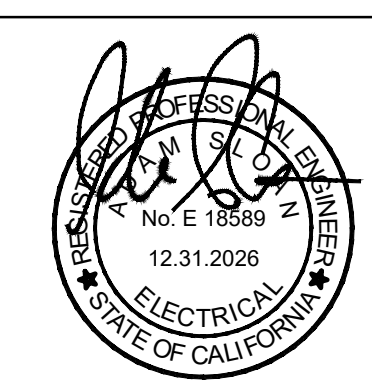
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GENERAL NOTES:
NO COMBUSTIBLE MATERIALS IN ATTIC SPACE. NO HEAT
DETECTOR COVERAGE OR SPRINKLER IN ATTIC SPACE.



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ISSUED FOR:	
REVISIONS:	
FA CHANGES	1/28/25
REGISTRATION/SIGNATURE:	

SHEET TITLE:
FIRE ALARM PLAN
SHEET NUMBER:
FA101
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FIRE ALARM PLAN
1
1/8" = 1'-0"

NOT FOR CONSTRUCTION