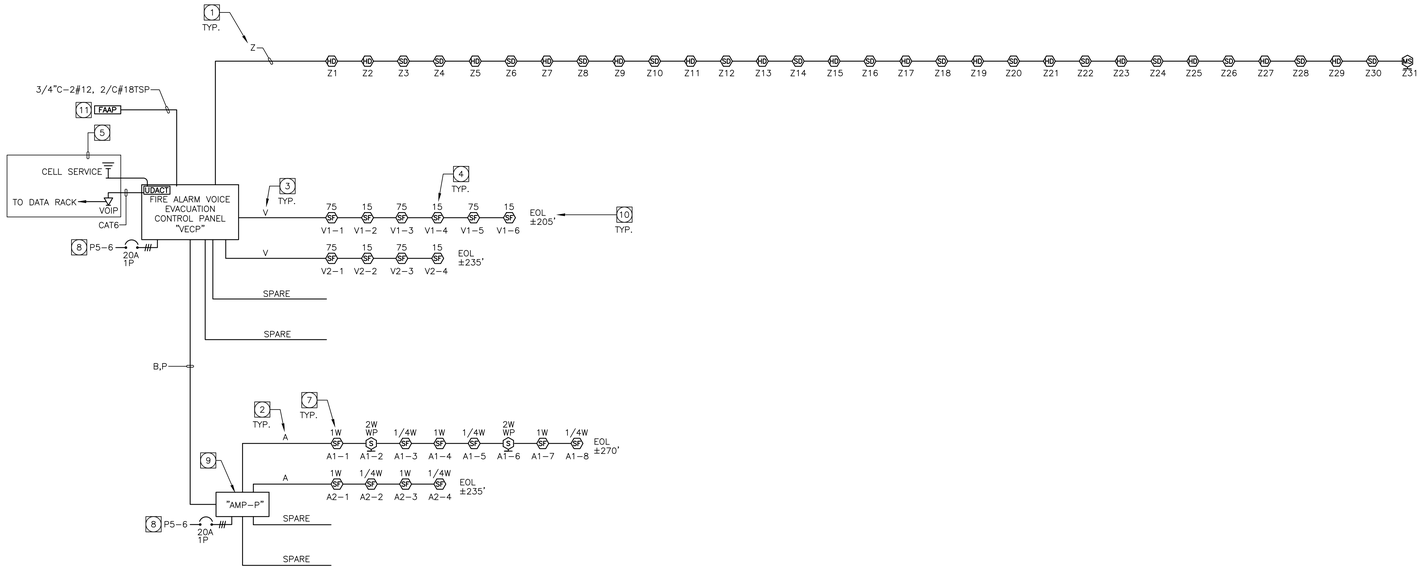

RISER DIAGRAM SPECIFIC NOTES:

1. 'Z' INDICATES ZONABLE/ADDRESSABLE CIRCUIT, PROVIDE 2#18 TWISTED PAIR PER CIRCUIT. SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.
2. 'A' INDICATES AUDIBLE SPEAKER CIRCUIT, SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.
3. 'V' INDICATES VISIBLE STROBE CIRCUIT, SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.
4. NUMBER INDICATES CANDELA RATING OF STROBE DEVICE.
5. PROVIDE (2) SEPARATE DEDICATED APPROVED MEANS OF COMMUNICATION/TRANSMISSION PER NFPA 72 FOR FIRE ALARM SYSTEM MONITORING. CONTRACTOR TO SUPPLY UDACT (UNIVERSAL DIGITAL ALARM COMMUNICATOR TRANSMITTER) WHEN NOT SUPPLIED WITH CONTROL PANEL.
6. FIRE ALARM ANNUNCIATOR PANEL (FAAP), VERIFY WITH DISTRICT REPRESENTATIVE, A.H.J. AND ARCHITECT FOR EXACT LOCATION
7. INDICATES WATTAGE FOR SPEAKER.
8. PROVIDE 3/4"C. WITH 2#12, 1#12 GRD. TO 120V DEDICATED CIRCUIT FOR POWER. PROVIDE 20AMP, 1-POLE CIRCUIT BREAKER WITH APPROVED LOCK-ON DEVICE, RED INDICATOR AND IDENTIFIED AS "FIRE ALARM CONTROL CIRCUIT" (NFPA 72, SECTION 10.6.5.2). CONNECT AS REQUIRED. PROVIDE ALL REQUIRED MOUNTING HARDWARE. MATCH A.I.C. RATING OF DEVICES USED.
9. FIRE ALARM DIGITAL AUDIO AMPLIFIER (AMP). SEE SYMBOL LIST FOR ADDITIONAL INFORMATION.
10. INDICATES LENGTH OF WIRE IN FEET. SEE WIRING DIAGRAM FOR WIRE TYPES. SEE VOLTAGE DROP CALCULATIONS FOR PERCENT DROPPED AND ADDITIONAL INFORMATION.
11. FIRE ALARM ANNUNCIATOR PANEL (FAAP), VERIFY WITH DISTRICT REPRESENTATIVE, A.H.J. AND ARCHITECT FOR EXACT LOCATION

FIRE ALARM GENERAL NOTES:

1. NOTIFICATION DEVICES IN ROOMS CONTAINING (2) OR MORE AUDIBLE AND/OR (2) OR MORE VISUAL DEVICES SHALL BE SYNCHRONIZED PER NFPA 72. THIS SHALL INCLUDE AUDIBLE AND VISUAL DEVICES LOCATED IN ADJACENT/ADJOINING SPACES.
2. DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM SYSTEM SUPPLIER / ENGINEER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC. THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIR-FLOW, NOR CLOSER THAN 3 FEET (915 mm) FROM ANY AIR SUPPLY DIFFUSER.
4. THE AUDIBLE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIED SPACE WITHIN THE BUILDING PER CFC SECTION 907.5.2.1.1. THE MINIMUM SOUND PRESSURE LEVEL SHALL BE 60 dBA PER NFPA 72, TABLE A.18.4.3.
5. THE AUDIBLE ALARM SIGNAL SHALL BE THE STANDARD FIRE ALARM EVACUATION SIGNAL, ANSI S3.41 AUDIBLE EMERGENCY EVACUATION SIGNAL, "THREE PULSE TEMPORAL PATTERN", AS DESCRIBED IN NFPA 72. EXCEPTION: THE USE OF THE EXISTING EVACUATION SIGNALING SCHEME SHALL BE PERMITTED WHERE APPROVED BY THE ENFORCING AGENT. (CFC, SECTION 907.5.2.1.3)
6. THE EXISTING CAMPUS FIRE ALARM SYSTEM SHALL BE MAINTAINED AND OPERATIONAL AT ALL TIMES DURING ALTERATIONS AND CONSTRUCTION. WHEN PORTIONS OF THE SYSTEM REQUIRE ALTERATIONS, THE REMAINDER OF THE SYSTEM SHALL BE KEPT IN SERVICE. IF NECESSARY TO SHUT DOWN ENTIRE FIRE ALARM SYSTEM, CONTRACTOR SHALL PROVIDE A FIRE WATCH FOR ALL OCCUPIED AREAS OF WORK WHERE THE REQUIRED FIRE ALARM SYSTEM IS OUT OF SERVICE FOR THE DURATION OF THE SYSTEM OUTAGE. FIRE WATCH AND SYSTEM/EQUIPMENT IDENTIFICATIONS SHALL BE PER CFC, SECTION 901.7. LOCAL FIRE AUTHORITY SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY SHUT DOWN.
7. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 72. THE OPERATION OF ANY AUTOMATIC FIRE DETECTOR, SPRINKLER WATERFLOW DEVICE OR MANUAL FIRE ALARM BOX SHALL AUTOMATICALLY SOUND AN ALERT TONE FOLLOWED BY VOICE INSTRUCTIONS GIVING APPROVED INFORMATION AND DIRECTIONS FOR A GENERAL OR STAGED EVACUATION IN ACCORDANCE WITH THE FIRE SAFETY EVACUATION PLANS REQUIRED BY CFC SECTION 404 PER CBC/CFC SECTION 907.5.2.2.
8. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL HAVE THE CAPABILITY TO BROADCAST LIVE VOICE MESSAGES BY PAGING ZONES ON A SELECTIVE AND ALL-CALL BASIS PER CBC/CFC, SECTION 907.5.2.2.2.
9. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL BE PROVIDED WITH AN APPROVED EMERGENCY POWER SOURCE PER CBC/CFC, SECTION 907.5.2.2.5.

BATTERY SIZING CALCULATION

PROJECT NAME: WEDGEWORTH ES NEW BUILDING
PANEL LOCATION: PORTABLE GROUP P
DATE PERFORMED: November 3, 2021

VECP

QTY.	DEVICE NAME	STD-BY (AMPS)		ALARM (AMPS)	
1	CONTROL PANEL	0.1400	0.1400	0.2600	0.2600
1	INITIATION MODULE	0.1250	0.1250	0.1250	0.1250
15	SMOKE DETECTOR	0.0006	0.0083	0.0006	0.0083
20	HEAT DETECTOR	0.0006	0.0110	0.0006	0.0110
0	PULL STATION	0.0003	0.0000	0.0003	0.0000
5	15cd STROBE (CEILING)	0.0000	0.0000	0.0410	0.2050
0	30cd STROBE (CEILING)	0.0000	0.0000	0.0630	0.0000
5	75cd STROBE (CEILING)	0.0000	0.0000	0.1110	0.5550
2	SYNC MODULE	0.0000	0.0000	0.0350	0.0700
1	ANNUNCIATOR	0.0200	0.0200	0.1350	0.1350
1	COMMUNICATOR	0.0500	0.0500	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
	TOTALS =		0.3543		1.3693

STAND-BY LOAD = 0.3543 ALARM LOAD = 1.3693 AMPS
STAND-BY TIME = 24 ALARM TIME = 15 / 60 HRS

STAND-BY = 8.5020 ALARM = 0.3423 AMP HRS

TOTAL = STAND-BY + ALARM
= 8.50 + 0.34
= 8.84 Ah (AMP HRS)
MULTIPLY BY DERATING FACTOR OF 1.25 = 11.06 Ah (AMP HRS)

MINIMUM BATTERY SIZE = 11.06 AMPERE HOURS
PROVIDE MIN. (2) 25 Ah 12VDC BATTERIES AS REQUIRED FOR 24VDC OPERATION

BATTERY SIZING CALCULATION

PROJECT NAME: WEDGEWORTH ES NEW BUILDING
PANEL LOCATION: PORTABLE GROUP P
DATE PERFORMED: September 16, 2021

AMP-P

QTY.	DEVICE NAME	STD-BY (AMPS)		ALARM (AMPS)	
1	AUDIO AMPLIFIER (50W)	0.2200	0.2200	3.8000	3.8000
5	1/4W SPEAKER	0.0000	0.0000	0.0035	0.0175
0	1/2W SPEAKER	0.0000	0.0000	0.0071	0.0000
5	1W SPEAKER	0.0000	0.0000	0.0142	0.0710
2	2W SPEAKER	0.0000	0.0000	0.0283	0.0566
2	SYNC MODULE	0.0000	0.0000	0.0350	0.0700
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
	TOTALS =		0.2200		4.0151

STAND-BY LOAD = 0.2200 ALARM LOAD = 4.0151 AMPS
STAND-BY TIME = 24 ALARM TIME = 15 / 60 HRS

STAND-BY = 5.2800 ALARM = 1.0038 AMP HRS

TOTAL = STAND-BY + ALARM
= 5.28 + 1.00
= 6.28 Ah (AMP HRS)
MULTIPLY BY DERATING FACTOR OF 1.25 = 7.85 Ah (AMP HRS)

MINIMUM BATTERY SIZE = 7.85 AMPERE HOURS
PROVIDE MIN. (2) 12.00 Ah 12VDC BATTERIES AS REQUIRED FOR 24VDC OPERATION

VOLTAGE DROP CALCULATIONS
WEDGEWORTH ES NEW BUILDING

DEVICE	UL MAX. CURRENT AMPS	NO	VISUAL CIRCUIT V1	NO	VISUAL CIRCUIT V2	NO	VISUAL CIRCUIT SPARE	NO	VISUAL CIRCUIT SPARE
STROBE (CEILING) 15 CD	0.041	3	0.123	2	0.082		0.000		0.000
STROBE (CEILING) 30 CD	0.063		0.000		0.000		0.000		0.000
STROBE (CEILING) 75 CD	0.111	2	0.222	3	0.333		0.000		0.000
			0.000		0.000		0.000		0.000
TOTAL CURRENT ON CIRCUIT			0.345 AMPS		0.415 AMPS		0.000 AMPS		0.000 AMPS
TOTAL WIRE LENGTH IN FEET			305		340				
% VOLTAGE DROP			**1.71**		**2.29**		**0.00**		**0.00**
WIRE SIZE			#12		#12		#12		#12
CIRCUIT LOCATION			VECP		VECP		VECP		VECP
VOLTS DROPPED			**0.35**		**0.47**		**0.00**		**0.00**

VOLTAGE DROP CALCULATIONS
WEDGEWORTH ES NEW BUILDING

DEVICE	UL MAX. CURRENT AMPS	NO	AUDIBLE CIRCUIT A1	NO	AUDIBLE CIRCUIT A2	NO	AUDIBLE CIRCUIT SPARE	NO	AUDIBLE CIRCUIT SPARE
SPEAKER 1/4W	0.004	3	0.012	2	0.008		0.000		0.000
SPEAKER 1/2W	0.007		0.000		0.000		0.000		0.000
SPEAKER 1W	0.014	2	0.028	3	0.042		0.000		0.000
SPEAKER 2W(EXTERIOR)	0.028		0.000	2	0.056		0.000		0.000
			0.000		0.000		0.000		0.000
			0.000		0.000		0.000		0.000
TOTAL CURRENT ON CIRCUIT			0.040 AMPS		0.106 AMPS		0.000 AMPS		0.000 AMPS
TOTAL WIRE LENGTH IN FEET			305		460				
% VOLTAGE DROP			**0.50**		**2.00**		**0.00**		**0.00**
WIRE SIZE			#16		#16		#16		#16
CIRCUIT LOCATION			AMP-P		AMP-P		AMP-P		AMP-P
VOLTS DROPPED			**0.10**		**0.41**		**0.00**		**0.00**

COMPLETE FIRE ALARM SUBMITTAL
AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM

CHECKED BY: Checker
DRAWN BY: Author

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-121846 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/05/2021

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Wedgeworth ES Portable Relocation
16949 WEDGEWORTH DR.
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CONSTRUCTION DOCUMENTS
DSA APPL. NO.: 03-121846 DSA FILE NO.: 19-38

ENGINEER

CLIENT
HACIENDA LA PUENTE USD

DATE	PROJECT NUMBER
10/12/2021	######

DRAWING HISTORY

No.	Description	Date

CONSTRUCTION DOCUMENTS

FIRE ALARM RISER DIAGRAM AND CALCULATIONS

EFA0.03