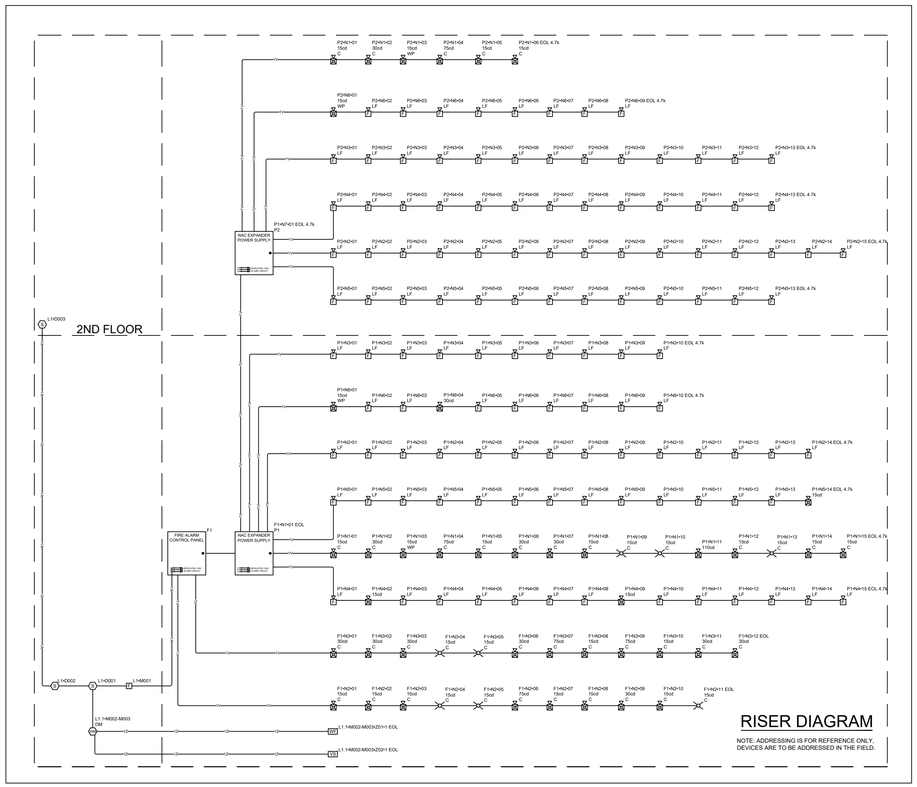
SHEET SIZE 36" X 24"

DEVICE LEGEND

DEVICE LEGEND				
SYMBOL	QTY	MANUFACTURER	PART NO	DESCRIPTION
FACU	1	GAMEWELL FCI	SLP-BLK	S3 SERIES PANEL W/BACKBOX, HON-CGW-MBB, SLC-PM, LCD-SLP AND 7.0 A POWER SUPPLY
	1	GAMEWELL FCI	SLP-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD
	1	GAMEWELL FCI	FLPS-7-RB	7 AMP POWER SUPPLY
	1	GAMEWELL FCI	SLC-PM	SLC LOOP EXPANDER FOR SECOND LOOP
	1	GAMEWELL FCI	LCD-SLP	LCD TOUCHSCREEN ANNUNCIATOR DISPLAY, MAIN BOARD
NAC	2	GAMEWELL FCI	HPF-PS10	10.0 A, 120 VAC REMOTE CHARGER POWER SUPPLY IN A LOCKABLE, METAL ENCLOSURE
	2	GAMEWELL FCI	HPF-PS10 MAIN BOARD	FIRE ALARM POWER SUPPLY MAIN BOARD
DACT	1	AES	7707P-88-M	INTELLINET 2.0 FIRE SUBSCRIBER, 8 ZONE WITH MULTIPLE COMMUNICATION TECHNOLOGIES (MCT), RED ENCLOSURE
F	1	GAMEWELL FCI	MS-7AF	VELOCITI ADDRESSABLE DOUBLE ACTION STATION
AIM DM	1	GAMEWELL FCI	AMM-2IF	ADDRESSABLE DUAL MONITOR MODULE W/ FLASHSCAN, 2 CLASS B
S	3	GAMEWELL FCI	ASD-PL3 W/B300-6	PHOTOELECTRIC SMOKE DETECTOR, BRIGHT WHITE, VELOCITI W/ 6" FLANGED MOUNTING BASE, BRIGHT WHITE
WF	1	GENERIC	WATERFLOW SWITCH	
VS	1	GENERIC	VALVE TAMPER SUPERVISORY SWITCH	
F LF	120	SYSTEM SENSOR	HWL-LF-LOW	LF SOUNDER, WALL, WHITE (LOW)
WP	4	SYSTEM SENSOR	P2RK	2-WIRE HORN STROBE, STANDARD CD, RED, OUTDOOR
	5	SYSTEM SENSOR	P2WL	2-WIRE, HORN STROBE, WHITE
C	33	SYSTEM SENSOR	PC2WL	2-WIRE, HORN STROBE, WHITE
C	8	SYSTEM SENSOR	SCWL	STROBE, WHITE



SYSTEM OUTPUTS

SYSTEM INPUTS

		Actuate General Alarm Audible	Actuate General Alarm Visual Indicator	Actuate Supervisory Alarm Audible Sounder	Actuate Supervisory Alarm Visual Indicator	Actuate Trouble Alarm Audible Sounder	Actuate Trouble Alarm Visual Indicator	Actuate Point Identification Visual Indicator	Transmit Signal to Monitoring Service	Actuate Trouble Indicator At FACP	Actuate Exterior Audible/Visual General Alarm
1	All Building Smoke Detectors	●	●					●	●		
2	Manual Pull Stations	●	●					●	●		
3	All Sprinkler Waterflow	●	●					●	●	●	
4	All Sprinkler Supervisory Iniating Device			●	●			●	●		
5	Ground Fault					●	●	●	●		
6	Open Circuit					●	●	●	●		
7	Notification Appliance Short Circuit					●	●	●	●		
8	Low Battery			●	●				●		
9	AC Power Failure					●	●	●	●		
10	Dialer Fault					●	●	●	●		
11	Remote Power Supply Trouble Contact					●	●	●	●		

SEQUENCE OF OPERATION MATRIX

Table 1. Battery Size Requirements

System Configuration Description	Current (mA)	Battery Size (12 V)
7707 7711 (8 zone input card)	See Current Consumption under Technical Specifications on page 8 and 7711 Installation and Operation Manual	10 Ah
7707 7712 (8 zone input card - 4 ea. EOL and 4 ea. reverse polarity)	See Current Consumption under Technical Specifications on page 8 and 7712 Installation and Operation Manual	10 Ah
7707P-88-ULP-M 7794A (IntelliPro Fire Module) 7711 (8 zone input card)	See Current Consumption under Technical Specifications on page 8, 7794A Installation and Operation Manual, and 7711 Installation and Operation Manual	12 Ah
7707 7794A (IntelliPro Fire Module) 7712 (8 zone input card - 4 ea. EOL and 4 ea. reverse polarity)	See Current Consumption under Technical Specifications on page 8, 7794A Installation and Operation Manual and 7712 Installation and Operation Manual	12 Ah
7707 7794A (IntelliPro Fire Module)	See Current Consumption under Technical Specifications on page 8 and 7794A Installation and Operation Manual	12 Ah

FIRE ALARM NOTES

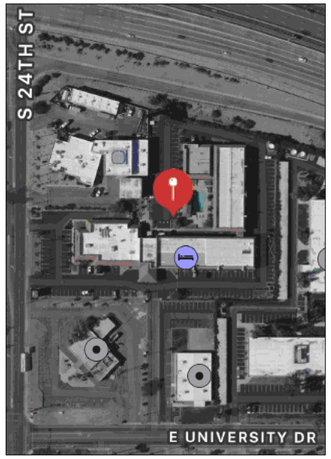
1. ALL WIRE AND CONDUIT MUST BE INSTALLED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND MUST MEET ALL APPLICABLE CODES.
2. ALL WIRE AND CABLE MUST BE RATED FOR FIRE ALARM USE PER THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE SECTION 760. THIS IS A POWER LIMITED FIRE ALARM SYSTEM. ALL CABLE MUST BE MARKED FPL, FPLR OR FPLP.
3. THE FIRE ALARM CONTROL PANEL SHALL BE MOUNTED APPROXIMATELY 75" A.F.F. (TOP OF PANEL).
4. TO RETAIN WARRANTY, THE FIRE ALARM EQUIPMENT MUST BE POWERED UP UNDER THE DIRECTION OF A QUALIFIED MANUFACTURER'S TECHNICIAN.
5. THE LIFE SAFETY SYSTEM IS A COMPLETELY SUPERVISED SYSTEM.
6. INSTALLING CONTRACTOR SHALL COORDINATE ALL FIELD CHANGES WITH THE MANUFACTURER INCLUDING CHANGES IN DEVICES, WIRE, CONDUIT RUNS AND OPERATION IN THE SYSTEM. MANUFACTURER SHALL NOT BE HELD RESPONSIBLE FOR UNDOCUMENTED CHANGES, OR THE RESULTS CAUSED BY THOSE CHANGES.
7. LIFE SAFETY AUDIBLE SHALL BE AUDIBLE THROUGHOUT THE SPACE AND SHALL HAVE A SOUND PRESSURE LEVEL NOT LESS THAN 15db ABOVE AMBIENT NOISE LEVEL MEASURED AT 4'0" ABOVE FINISHED FLOOR.
8. SYSTEM SHALL BE EITHER CLASS "A" OR "B" IN CONFIGURATION. REFER TO DRAWING FOR PROPER METHOD.
9. LOCATE ALL PULL STATIONS AND AUDIBLE/VISUALUNITS AT SPECIFIED HEIGHTS PER NFPA 72.
10. SMOKE DETECTOR LOCATIONS ARE FOR REFERENCE ONLY AND SHALL BE INSTALLED PER NFPA 72.
11. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ROUGH-IN INSTALLATIONS WITH THE FIRE ALARM CONTRACTOR.
12. PER NFPA SPACING RECOMMANDATIONS, AREAS PROTECTED BY SMOKE DETECTORS SHALL NOT HAVE ANY POINT ON THE CEILING GREATER THAN 0.7 TIMES THE LISTED SPACING OF THE DETECTOR (21 FT.)
13. ALL FIRE ALARM DEVICE SHALL BE RIGIDLY AND SECURELY FASTENED TO WALLS OR CEILINGS.
14. NO SMOKE DETECTOR SHALL BE LOCATED CLOSER THAN 36" TO ANY AIR REGISTER OR DIFFUSER.
15. NO HEAT DETECTOR SHALL BE LOCATED CLOSER THAN 18" TO ANY PART OF ANY LIGHT FIXTURE.
16. INITIATING AND SIGNALING CIRCUITS ARE SEPARATE YET MAY BE RUN IN SAME CONDUIT.
17. ALL CONDUCTOR'S SHALL BE LABELED BY ZONE AND ALL COLOR CODES SHALL MATCH.
18. ALL CIRCUIT FEED AND RETURNS SHALL BE SEPARATED BY A MINIMUM OF 6'.
19. ALL PANELS AND JUNCTION BOXES WILL BE LABELED "POWER LIMITED FIRE ALARM SYSTEM" PER NEC 760.
20. WRITTEN OPERATING INSTRUCTIONS SHALL BE LEFT AT THE FACP.
21. THE SYSTEM PRIMARY POWER SOURCE IS ON A DEDICATED CIRCUIT, THE CIRCUIT DISCONNECTING MEANS HAS A RED MARKING IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL", THE DISCONNECTING MEANS IS IN A LOCKABLE CABINET, AND LOCATION OF THE CIRCUIT DISCONNECTING MEANS IS PROVIDED AT THE FACP.
22. MANUFACTURERS TESTING INSTRUCTIONS FOR DETECTORS WILL BE PROVIDED TO THE INSPECTOR AT THE TIME OF INSPECTION.
23. DUCT DETECTORS WILL BE ACCESSIBLE AND PROPERLY SIGNED WHEN REQUIRED PER NFPA 72.
24. ANY DEVIATIONS FROM THESE DRAWINGS MUST BE RECORDED IN THE FIELD, AND NOTATED ON THE "AS-BUILT" DRAWINGS. ALL CHANGES MUST BE COORDINATED WITH THE FIRE ALARM CONTRACTOR.
25. THESE DRAWINGS ARE NOT VALID FOR INSTALLATION UNLESS THEY BEAR AN APPROVAL SEAL FROM THE AHJ FOR THIS PROJECT. SOME PROJECTS MAY REQUIRE MORE THAN ONE AHJ APPROVAL.

SCOPE OF WORK

INSTALLATION OF NEW FIRE ALARM SYSTEM IN CONJUNTION WITH EXPANSION OF THE EXISTING SPRINKLER SYSTEM INTO THE R-2 SECTIONS OF THE BUILDING. FIRE ALARM DESIGNED FOR COMPLETE SPRINKLER COVERAGE.

CABLE AND WIRE LEGEND					
LABEL	PART NO	AWG	RESISTANCE (Ω/KFT)	DESCRIPTION	TOTAL LENGTH
A	16/2 FPLR (SLC)	16	4.89	2 COND. SOLID COPPER FPLR ADDRESSABLE	536'
V	14/2 FPLP/R (NAC)	14	3.07	2 COND. SOLID COPPER FPLP/R ANALOG UNSHIELDED	4880'
Z	18/2 FPLP/R (IDC)	18	7.77	2 COND. SOLID COPPER FPLP/R ANALOG UNSHIELDED	3'

WIRE LEGEND



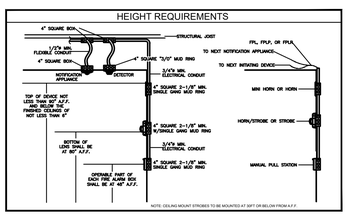
VICINITY MAP

SCALE: NOT TO SCALE

NORTH

DRAWING INDEX

DRAWING INDEX	
1	TITLE SHEET
2	BLDG. #1 FIRE ALARM
3	BLDG. #2 1ST FLOOR FIRE ALARM
4	BLDG. #2 2ND FLOOR FIRE ALARM
5	BLDGS. #3 & #4 1ST FLOOR FIRE ALARM
6	BLDGS. #3 & #4 1ST FLOOR FIRE ALARM
7	SYSTEM CALCULATIONS



DRAWING LAYOUT

- ☐ THIS IS A SPEC JOB DESIGNED BY THE ELECTRICAL ENGINEER LISTED ON THIS PAGE. WE HAVE NOT ATTEMPTED TO MAKE ANY DESIGN CHANGES TO THIS SYSTEM, AND ARE SUBMITTING THIS JOB FOR REVIEW AS-IS.
- ☑ THIS IS A DESIGN BUILD JOB, AND WE BELIEVE TO THE BEST OF OUR KNOWLEDGE THAT THESE DRAWINGS ARE COMPLETE, CORRECT, AND MEET APPLICABLE CODES.

INSTALLATION CONTRACTOR

METRO FIRE EQUIPMENT INC.
63 S. HAMILTON PLACE
GILBERT, AZ 85233
480-464-0509 ROC# 103313

MONITORING COMPANY

PROVIDED BY OWNER

TYPE OF SYSTEM

- ☐ CONVENTIONAL
- ☐ ANALOG ADDRESSABLE
- ☑ CLASS "A"
- ☐ CLASS "B"
- ☑ TEMPORAL 3 SOUNDERS
- ☑ VOICE EVACUATION
- ☑ DIALER

CODES & STANDARDS

NFPA-70 (NEC)
NFPA-72 2016
ADA
IBC 2018
IFC 2018
LOCAL ADOPTED AMENDMENTS
NFPA-12A
NFPA-13
IMC 2018

BUILDING OCCUPANCY

- ☑ GROUP A-3
- ☐ GROUP B
- ☐ GROUP E
- ☐ GROUP F
- ☐ GROUP H
- ☐ NONE (SHELL BUILDING)
- ☐ GROUP I
- ☐ GROUP M
- ☑ GROUP R-2
- ☐ GROUP S
- ☐ GROUP U

SQUARE FOOTAGE

BUILDING #1 (A-3) = +/- 9'893 S.F
BUILDING #2 (R-2) = +/- 28'580 S.F
BUILDING #3 (R-2) = +/- 22'124 S.F
BUILDING #4 (R-2) = +/- 6'378 S.F

ENGINEER
NICET

REVISIONS:

NUM	DATE	BY	DESCRIPTION

METRO FIRE EQUIPMENT
63 S. HAMILTON PL. GILBERT, ARIZONA
ROC #103313

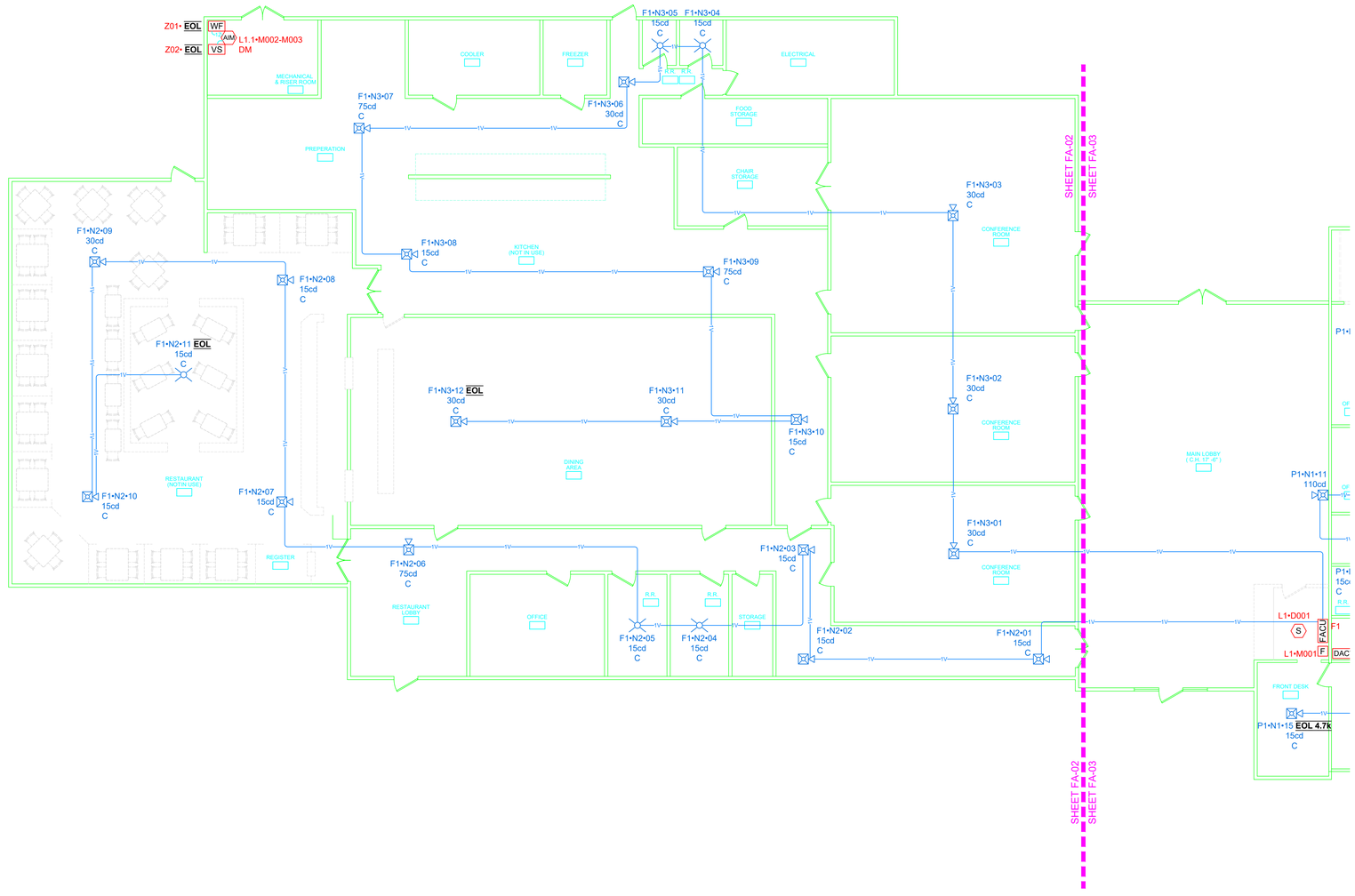
PROJECT:
COMMUNITY BRIDGES - RIO FRESCO
2425 S 24TH STREET
PHOENIX, AZ 85034

SHEET DESCRIPTION:
FIRE ALARM PLAN

DRAWN BY: T.P.
REVIEWED BY: M.F.
SCALE: 1/8" = 1'-0"
DATE: 07/29/2024
SHEET: FA-01 OF 07

SHEET SIZE 36" X 24"

SHEET SIZE 24" X 36"



BLDG. #1 - 1ST FLOOR

SCALE: 1/8" = 1'-0" (IN FEET) 0 4' 8' 16'

ENGINEER
NICET

REVISIONS:

NUM	DATE	BY	DESCRIPTION

METRO FIRE EQUIPMENT
63 S. HAMILTON PL. GILBERT, ARIZONA
ROC #103313

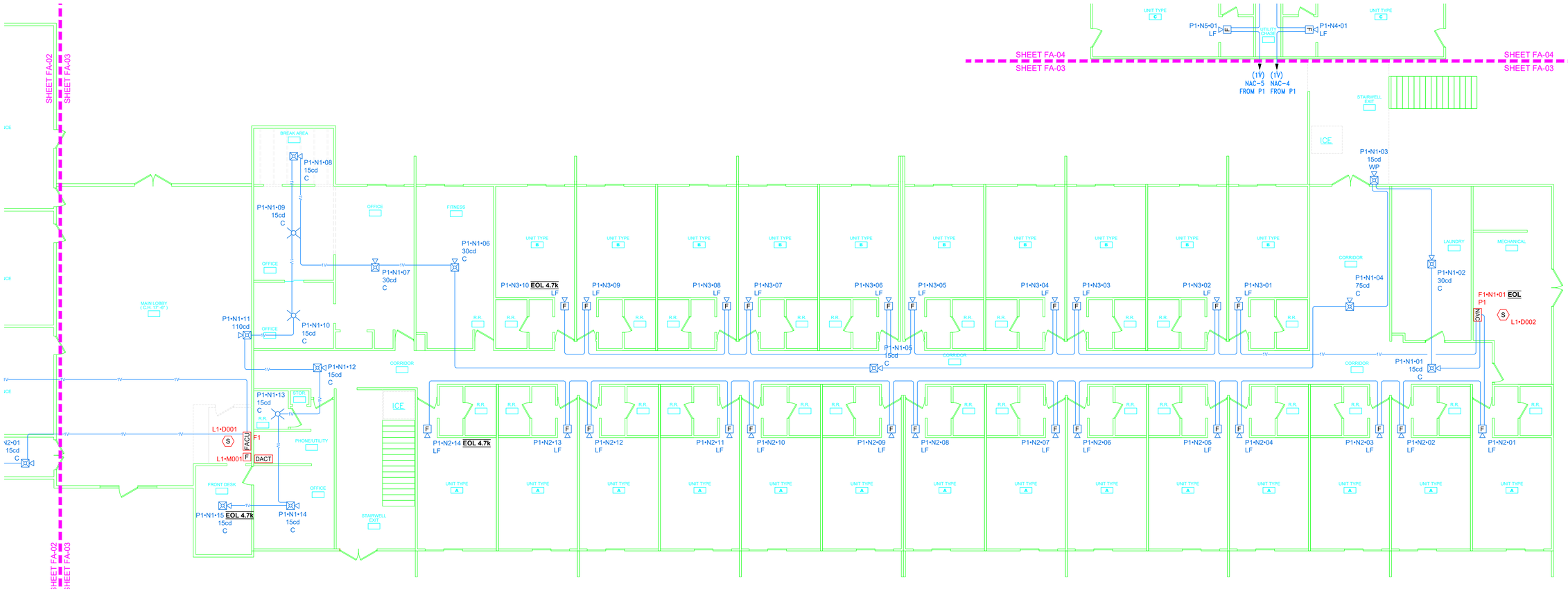
PROJECT:
COMMUNITY BRIDGES - RIO FRESCO
2425 S 24TH STREET
PHOENIX, AZ 85034

SHEET DESCRIPTION:
FIRE ALARM PLAN

DRAWN BY: T.P.
REVIEWED BY: M.F.
SCALE: 1/8" = 1'-0"
DATE: 07/29/2024
SHEET: FA-02 OF 07

SHEET SIZE 24" X 36"

SHEET SIZE 24" X 36"



BLDG. #2 - 1ST FLOOR

SCALE: 1/8" = 1'-0"

0 4' 8' 16' (IN FEET)

ENGINEER
NICET

REVISIONS:

NUM	DATE	BY	DESCRIPTION

METRO®
METRO FIRE EQUIPMENT
63 S. HAMILTON PL. GILBERT, ARIZONA
ROC #103313

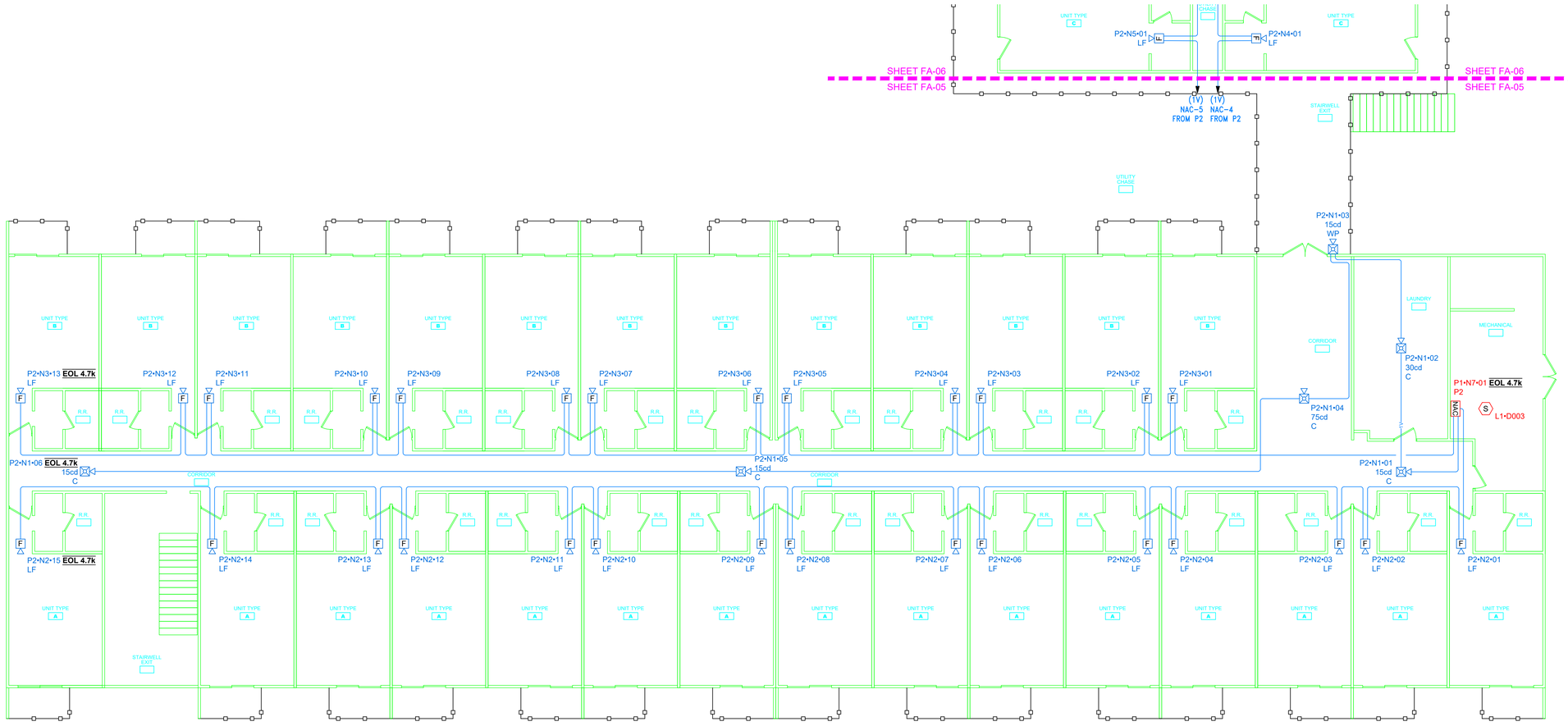
PROJECT:
COMMUNITY BRIDGES - RIO FRESCO
2425 S 24TH STREET
PHOENIX, AZ 85034

SHEET DESCRIPTION:
FIRE ALARM PLAN

DRAWN BY: T.P.
REVIEWED BY: M.F.
SCALE: 1/8" = 1'-0"
DATE: 07/29/2024
SHEET: FA-03 OF 07

SHEET SIZE 24" X 36"

SHEET SIZE 24" X 36"



BLDG. #2 - 2ND FLOOR

SCALE: 1/8" = 1'-0"

0 4' 8' 16' (IN FEET)

ENGINEER
NICET

REVISIONS:			
NUM	DATE	BY	DESCRIPTION

METRO FIRE EQUIPMENT
63 S. HAMILTON PL. GILBERT, ARIZONA
ROC #103313

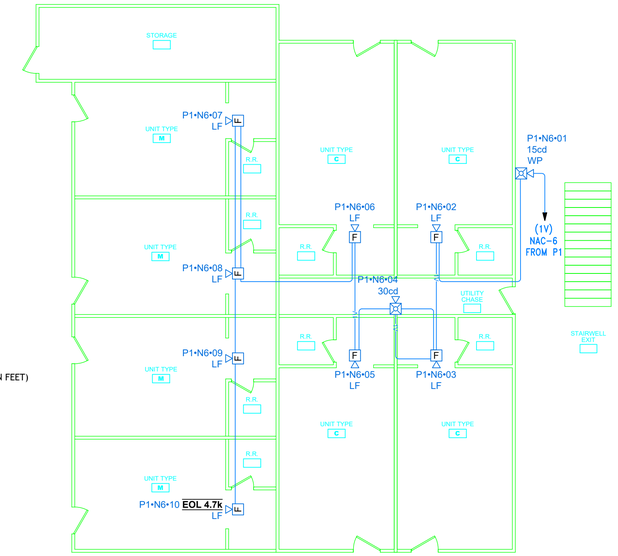
PROJECT:
COMMUNITY BRIDGES - RIO FRESCO
2425 S 24TH STREET
PHOENIX, AZ 85034

SHEET DESCRIPTION:
FIRE ALARM PLAN

DRAWN BY: T.P.
REVIEWED BY: M.F.
SCALE: 1/8" = 1'-0"
DATE: 07/29/2024
SHEET: FA-04 OF 07

SHEET SIZE 24" X 36"

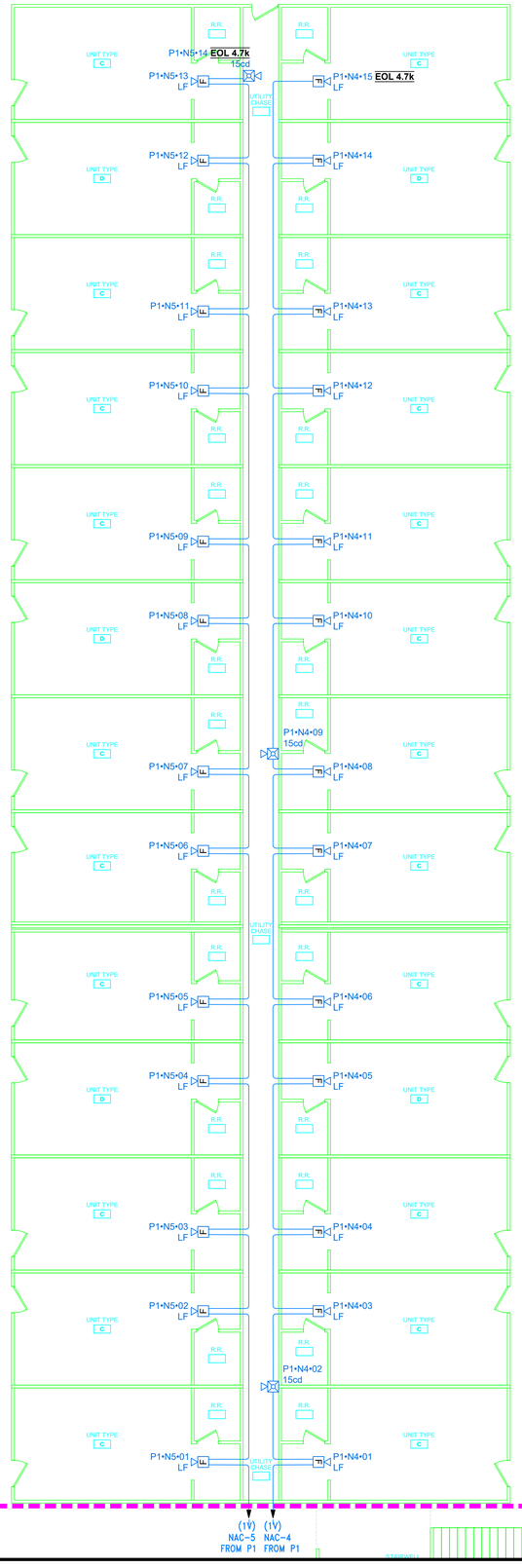
SHEET SIZE 24" X 36"



BLDG. #4 - 1ST FLOOR

SCALE: 1/8" = 1'-0"

0 4' 8' 16' (IN FEET)



BLDG. #3 - 1ST FLOOR

SCALE: 1/8" = 1'-0"

0 4' 8' 16' (IN FEET)

ENGINEER
NICET

REVISIONS:

NUM	DATE	BY	DESCRIPTION

METRO®

METRO FIRE EQUIPMENT
63 S. HAMILTON PL. GILBERT, ARIZONA
ROC #103313

PROJECT:
COMMUNITY BRIDGES - RIO FRESCO
2425 S 24TH STREET
PHOENIX, AZ 85034

SHEET DESCRIPTION:
FIRE ALARM PLAN

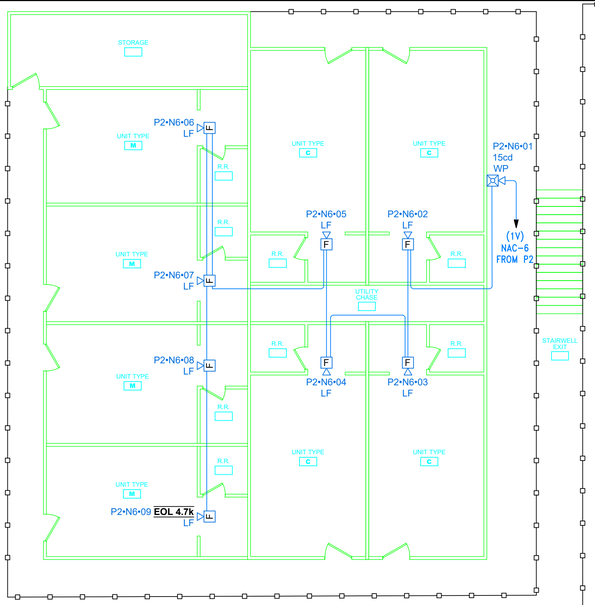
DRAWN BY: T.P.
REVIEWED BY: M.F.
SCALE: 1/8" = 1'-0"
DATE: 07/29/2024
SHEET: FA-05 OF 07

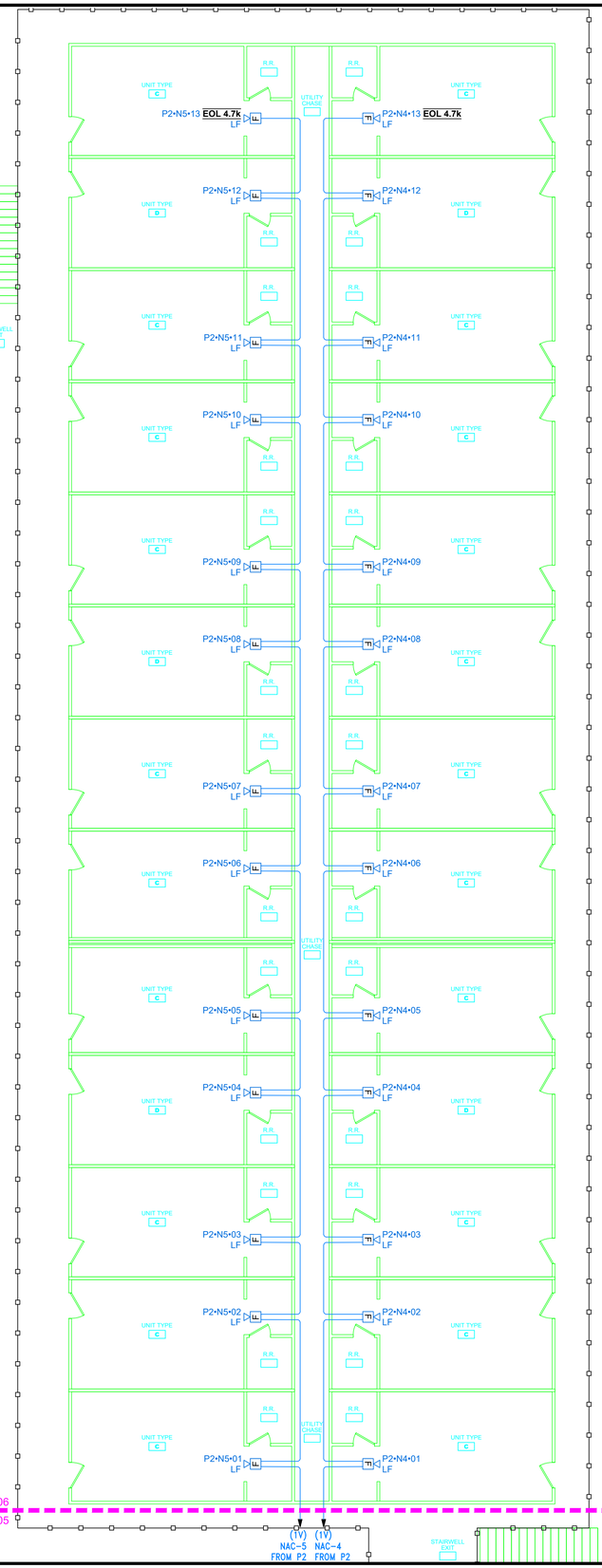
SHEET SIZE 24" X 36"

SHEET SIZE 24" X 36"

BLDG. #4 - 2ND FLOOR

SCALE: 1/8" = 1'-0" 0 4' 8' 16' (IN FEET)





BLDG. #3 - 2ND FLOOR

SCALE: 1/8" = 1'-0" 0 4' 8' 16' (IN FEET)

ENGINEER
NICET

REVISIONS

NUM	DATE	BY	DESCRIPTION

METRO®

METRO FIRE EQUIPMENT
63 S. HAMILTON PL. GILBERT, ARIZONA
ROC #103313

PROJECT:
COMMUNITY BRIDGES - RIO FRESCO
2425 S 24TH STREET
PHOENIX, AZ 85034

SHEET DESCRIPTION:
FIRE ALARM PLAN

DRAWN BY: T.P.
REVIEWED BY: M.F.
SCALE: 1/8" = 1'-0"
DATE: 07/29/2024
SHEET: FA-06 OF 07

SHEET SIZE 24" X 36"

SHEET SIZE 24" X 36"

PANEL F1 (SLP-BLK) SUMMARY REPORT

PANEL LOAD SUMMARY

	QTY	PART NO	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY CURRENT (AMPS) TOTAL (A)	ALARM CURRENT (AMPS) CURRENT DRAW (A)	ALARM CURRENT (AMPS) TOTAL
PANEL COMPONENT SUMMARY	1	FLPS-7-RB	7 amp Power Supply	1 x 0	= 0	1 x 0	= 0
	1	LCD-SLP	LCD Touchscreen Annunciator Display, Main Board	1 x 0.03	= 0.03	1 x 0.065	= 0.065
	1	SLC-PM	SLC LOOP EXPANDER FOR SECOND LOOP	1 x 0.014	= 0.014	1 x 0.014	= 0.014
	1	SLP-E3	Intelligent Loop Interface-Main Board	1 x 0.1	= 0.1	1 x 0.18	= 0.18
CIRCUIT SUMMARY			CIRCUIT				
			L1	1 x 0.0016	= 0.0016	1 x 0.0212	= 0.0212
			N1	1 x 0.014	= 0.014	1 x 0.014	= 0.014
			N2	1 x 0	= 0	1 x 0.782	= 0.782
			N3	1 x 0	= 0	1 x 1.05	= 1.05
				TOTAL STANDBY CURRENT	0.1596	TOTAL ALARM CURRENT	2.1262

CIRCUIT DETAILS AND CALCULATIONS

SOURCE	MAX CAPACITY	TOTAL USED CAPACITY	AVAILABLE CAPACITY	CIRCUIT	AWG	SYMBOL	QTY	PART NO	DEVICE SETTING	CIRCUIT LENGTH	CIRCUIT RESISTANCE (Ω/ft)	STANDBY CURRENT CURRENT DRAW (A)	STANDBY CURRENT TOTAL (A)	ALARM CURRENT CURRENT DRAW (A)	ALARM CURRENT TOTAL (A)	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY STARTING CALCULATION VOLTAGE	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY END OF LINE VOLTAGE	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY VOLTAGE DROP	SPEAKER POWER/DB LOSS CALCULATIONS TOTAL USED WATTS	SPEAKER POWER/DB LOSS CALCULATIONS STARTING CALCULATION VOLTAGE	SPEAKER POWER/DB LOSS CALCULATIONS END OF LINE VOLTAGE	SPEAKER POWER/DB LOSS CALCULATIONS POWER LOSS PERCENT	SPEAKER POWER/DB LOSS CALCULATIONS TOTAL DB LOSS
SLP-E3				L1	16	DM	1	AMM-2IF		536'	0.00489	1 x 0.0007	= 0.0007	1 x 0.0007	= 0.0007								
						S	3	ASD-PL3 w/B300-6				3 x 0.0002	= 0.0006	3 x 0.0045	= 0.0135								
						F	1	MS-7AF				1 x 0.0003	= 0.0003	1 x 0.007	= 0.007								
				N1	14	NAC	1	HPF-PS10		239'	0.00307	1 x 0.014	= 0.014	1 x 0.014	= 0.014	20.4v	20.38v	0.02v					
				N2	14		6	PC2WL	15cd	297'	0.00307	6 x 0	= 0	6 x 0.071	= 0.426	20.4v	19.62v	0.78v					
							1	PC2WL	30cd			1 x 0	= 0	1 x 0.09	= 0.09								
							1	PC2WL	75cd			1 x 0	= 0	1 x 0.143	= 0.143								
							3	SCWL	15cd			3 x 0	= 0	3 x 0.041	= 0.123								
				N3	14		2	PC2WL	15cd	350'	0.00307	2 x 0	= 0	2 x 0.071	= 0.142	20.4v	19.05v	1.35v					
							6	PC2WL	30cd			6 x 0	= 0	6 x 0.09	= 0.54								
						C	2	PC2WL	75cd			2 x 0	= 0	2 x 0.143	= 0.286								
						C	2	SCWL	15cd			2 x 0	= 0	2 x 0.041	= 0.082								

SECONDARY POWER SOURCE REQUIREMENTS

		REQUIRED STANDBY TIME = 24 HOURS	
		REQUIRED ALARM TIME = 5 MINUTES	
SECONDARY STANDBY LOAD	0.1596	x 24	= 3.83 AH
SECONDARY ALARM LOAD	2.1262	x 0.08	= 0.18 AH
STANDBY AND ALARM LOAD SUBTOTAL			4.01 AH
DERATING FACTOR			x 1.2
SECONDARY LOAD REQUIREMENTS (AMP HOURS)			4.81 AH

PROVIDE (2) 12V 7AH BATTERIES @ 24VDC

PANEL P1 (HPF-PS10) SUMMARY REPORT
PANEL POWER SUPPLY MAX CURRENT = 10A
TOTAL USED CAPACITY = 6.241A (62.41 %)

PANEL LOAD SUMMARY

	QTY	PART NO	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY CURRENT (AMPS) TOTAL (A)	ALARM CURRENT (AMPS) CURRENT DRAW (A)	ALARM CURRENT (AMPS) TOTAL
PANEL COMPONENT SUMMARY	1	HPF-PS10 MAIN BOARD	Fire Alarm Power Supply Main Board	1 x 0.156	= 0.156	1 x 0.185	= 0.185
CIRCUIT SUMMARY			CIRCUIT				
			N1	1 x 0	= 0	1 x 1.261	= 1.261
			N2	1 x 0	= 0	1 x 1.064	= 1.064
			N3	1 x 0	= 0	1 x 0.76	= 0.76
			N4	1 x 0	= 0	1 x 1.096	= 1.096
			N5	1 x 0	= 0	1 x 1.042	= 1.042
			N6	1 x 0	= 0	1 x 0.819	= 0.819
			N7	1 x 0.014	= 0.014	1 x 0.014	= 0.014
				TOTAL STANDBY CURRENT	0.17	TOTAL ALARM CURRENT	6.241

CIRCUIT DETAILS AND CALCULATIONS

SOURCE	MAX CAPACITY	TOTAL USED CAPACITY	AVAILABLE CAPACITY	CIRCUIT	AWG	SYMBOL	QTY	PART NO	DEVICE SETTING	CIRCUIT LENGTH	CIRCUIT RESISTANCE (Ω/ft)	STANDBY CURRENT CURRENT DRAW (A)	STANDBY CURRENT TOTAL (A)	ALARM CURRENT CURRENT DRAW (A)	ALARM CURRENT TOTAL (A)	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY STARTING CALCULATION VOLTAGE	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY END OF LINE VOLTAGE	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY VOLTAGE DROP	SPEAKER POWER/DB LOSS CALCULATIONS TOTAL USED WATTS	SPEAKER POWER/DB LOSS CALCULATIONS STARTING CALCULATION VOLTAGE	SPEAKER POWER/DB LOSS CALCULATIONS END OF LINE VOLTAGE	SPEAKER POWER/DB LOSS CALCULATIONS POWER LOSS PERCENT	SPEAKER POWER/DB LOSS CALCULATIONS TOTAL DB LOSS
HPF-PS10 MAIN BOARD				N1	14		1	P2RK	15cd	413'	0.00307	1 x 0	= 0	1 x 0.137	= 0.137	20.4v	18.58v	1.82v					
							1	P2WL	110cd			1 x 0	= 0	1 x 0.162	= 0.162								
							6	PC2WL	15cd			6 x 0	= 0	6 x 0.071	= 0.426								
							3	PC2WL	30cd			3 x 0	= 0	3 x 0.09	= 0.27								
						C	1	PC2WL	75cd			1 x 0	= 0	1 x 0.143	= 0.143								
						C	3	SCWL	15cd			3 x 0	= 0	3 x 0.041	= 0.123								
				N2	14	F	14	HWL-LF-LOW		208'	0.00307	14 x 0	= 0	14 x 0.076	= 1.064	20.4v	19.68v	0.72v					
				N3	14	F	10	HWL-LF-LOW		162'	0.00307	10 x 0	= 0	10 x 0.076	= 0.76	20.4v	19.92v	0.48v					
				N4	14	F	13	HWL-LF-LOW		272'	0.00307	13 x 0	= 0	13 x 0.076	= 0.988	20.4v	19.21v	1.19v					
							2	P2WL	15cd			2 x 0	= 0	2 x 0.054	= 0.108								
				N5	14	F	13	HWL-LF-LOW		273'	0.00307	13 x 0	= 0	13 x 0.076	= 0.988	20.4v	19.2v	1.2v					
							1	P2WL	15cd			1 x 0	= 0	1 x 0.054	= 0.054								
				N6	14	F LF	8	HWL-LF-LOW		444'	0.00307	8 x 0	= 0	8 x 0.076	= 0.608	20.4v	18.56v	1.84v					
						WP	1	P2RK	15cd			1 x 0	= 0	1 x 0.137	= 0.137								
							1	P2WL	30cd			1 x 0	= 0	1 x 0.074	= 0.074								
				N7	14	NAC	1	HPF-PS10		519'	0.00307	1 x 0.014	= 0.014	1 x 0.014	= 0.014	20.4v	20.36v	0.04v					

SECONDARY POWER SOURCE REQUIREMENTS

		REQUIRED STANDBY TIME = 24 HOURS	
		REQUIRED ALARM TIME = 5 MINUTES	
SECONDARY STANDBY LOAD	0.17	x 24	= 4.08 AH
SECONDARY ALARM LOAD	6.241	x 0.08	= 0.52 AH
STANDBY AND ALARM LOAD SUBTOTAL			4.6 AH
DERATING FACTOR			x 1.2
SECONDARY LOAD REQUIREMENTS (AMP HOURS)			5.52 AH

PROVIDE (2) 12V 7AH BATTERIES @ 24VDC

BATTERY & VOLTAGE CALCS

PANEL P2 (HPF-PS10) SUMMARY REPORT
PANEL POWER SUPPLY MAX CURRENT = 10A
TOTAL USED CAPACITY = 5.617A (56.17 %)

PANEL LOAD SUMMARY

	QTY	PART NO	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY CURRENT (AMPS) TOTAL (A)	ALARM CURRENT (AMPS) CURRENT DRAW (A)	ALARM CURRENT (AMPS) TOTAL
PANEL COMPONENT SUMMARY	1	HPF-PS10 MAIN BOARD	Fire Alarm Power Supply Main Board	1 x 0.156	= 0.156	1 x 0.185	= 0.185
CIRCUIT SUMMARY			CIRCUIT				
			N1	1 x 0	= 0	1 x 0.583	= 0.583
			N2	1 x 0	= 0	1 x 1.14	= 1.14
			N3	1 x 0	= 0	1 x 0.988	= 0.988
			N4	1 x 0	= 0	1 x 0.988	= 0.988
			N5	1 x 0	= 0	1 x 0.988	= 0.988
			N6	1 x 0	= 0	1 x 0.745	= 0.745
				TOTAL STANDBY CURRENT	0.156	TOTAL ALARM CURRENT	5.617

CIRCUIT DETAILS AND CALCULATIONS

SOURCE	MAX CAPACITY	TOTAL USED CAPACITY	AVAILABLE CAPACITY	CIRCUIT	AWG	SYMBOL	QTY	PART NO	DEVICE SETTING	CIRCUIT LENGTH	CIRCUIT RESISTANCE (Ω/ft)	STANDBY CURRENT CURRENT DRAW (A)	STANDBY CURRENT TOTAL (A)	ALARM CURRENT CURRENT DRAW (A)	ALARM CURRENT TOTAL (A)	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY STARTING CALCULATION VOLTAGE	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY END OF LINE VOLTAGE	POINT-TO-POINT VOLTAGE DROP CALCULATION SUMMARY VOLTAGE DROP	SPEAKER POWER/DB LOSS CALCULATIONS TOTAL USED WATTS	SPEAKER POWER/DB LOSS CALCULATIONS STARTING CALCULATION VOLTAGE	SPEAKER POWER/DB LOSS CALCULATIONS END OF LINE VOLTAGE	SPEAKER POWER/DB LOSS CALCULATIONS POWER LOSS PERCENT	SPEAKER POWER/DB LOSS CALCULATIONS TOTAL DB LOSS
HPF-PS10 MAIN BOARD				N1	14		1	P2RK	15cd	278'	0.00307	1 x 0	= 0	1 x 0.137	= 0.137	20.4v	20.05v	0.35v					
							3	PC2WL	15cd			3 x 0	= 0	3 x 0.071	= 0.213								
							1	PC2WL	30cd			1 x 0	= 0	1 x 0.09	= 0.09								
						C	1	PC2WL	75cd			1 x 0	= 0	1 x 0.143	= 0.143								
				N2	14	F	15	HWL-LF-LOW		237'	0.00307	15 x 0	= 0	15 x 0.076	= 1.14	20.4v	19.57v	0.83v					
				N3	14	F	13	HWL-LF-LOW		215'	0.00307	13 x 0	= 0	13 x 0.076	= 0.988	20.4v	19.65v	0.75v					
				N4	14	F	13	HWL-LF-LOW		260'	0.00307	13 x 0	= 0	13 x 0.076	= 0.988	20.4v	19.34v	1.06v					
				N5	14	F	13	HWL-LF-LOW		273'	0.00307	13 x 0	= 0	13 x 0.076	= 0.988	20.4v	19.26v	1.14v					
				N6	14	F LF	8	HWL-LF-LOW		440'	0.00307	8 x 0	= 0	8 x 0.076	= 0.608	20.4v	18.72v	1.68v					
						WP	1	P2RK	15cd			1 x 0	= 0	1 x 0.137	= 0.137								

SECONDARY POWER SOURCE REQUIREMENTS

		REQUIRED STANDBY TIME = 24 HOURS	
		REQUIRED ALARM TIME = 5 MINUTES	
SECONDARY STANDBY LOAD	0.156	x 24	= 3.74 AH
SECONDARY ALARM LOAD	5.617	x 0.08	= 0.47 AH
STANDBY AND ALARM LOAD SUBTOTAL			4.21 AH
DERATING FACTOR			x 1.2
SECONDARY LOAD REQUIREMENTS (AMP HOURS)			5.05 AH

PROVIDE (2) 12V 7AH BATTERIES @ 24VDC

ENGINEER
NICET

REVISIONS:

NUM	DATE	BY	DESCRIPTION

METRO FIRE EQUIPMENT
63 S. HAMILTON PL. GILBERT, ARIZONA
ROC #103313

PROJECT:
COMMUNITY BRIDGES - RIO FRESCO
2425 S 24TH STREET
PHOENIX, AZ 85034

SHEET DESCRIPTION:
FIRE ALARM PLAN

DRAWN BY: T.P.

REVIEWED BY: M.F.

SCALE: 1/8" = 1'-0"

DATE: 07/29/2024

SHEET: FA-07 OF 07

SHEET SIZE 24" X 36"