Fire Alarm System Design

TESLA - SAN JOSE
CPO REFURBISHMENT CENTER

1460 MABURY ROAD
SAN JOSE, CA 95133

SHEET SCHEDULE

SHEET NO.	TITLE
FA0.00	COVER SHEET
FA1.01	PARTIAL FLOOR PLAN - A
FA1.02	PARTIAL FLOOR PLAN - B
FA2.00	RISER DIAGRAM
FA4.00	PANEL DETAILS
FA4.01	INITIATING DEVICE WIRING DETAILS
FA4.02	NOTIFICATION DEVICE WIRING DETAILS

PROJECT INFORMATION

BUILDING OCCUPANCY
B (OFFICE)
S1 (REPAIR GARAGE)

AUTOMATIC SPRINKLER SYSTEM
FULLY SPRINKLERED

NUMBER OF STORIES
1 STORY

CONSTRUCTION TYPE
III-B - NOT RATED

CENTRAL STATION MONITORING INFORMATION
RAPID RESPONSE MONITORING SERVICES
400 E RINCON
CORONA, CA 92879
(800) 544-5746
UUPX.53282-3

ALARM SERVICE COMPANY
CONVERGINT TECHNOLOGIES
6634 OWENS DRIVE
PLEASANTON, CA 94588
(510) 300-2800

ELECTRICAL CONTRACTOR
CONVERGINT TECHNOLOGIES
6634 OWENS DRIVE
PLEASANTON, CA 94588
(510) 300-2800

SCOPE OF WORK

THE SCOPE OF THIS WORK IS TO PROVIDE A NEW FIRE ALARM SYSTEM FOR TESLA.

THE PROJECT WILL INCLUDE THE FOLLOWING:

1. REPLACE FIRE ALARM CONTROL UNIT AND ADDRESSABLE DEVICES.
2. REPLACE REMOTE ANNUNCIATOR.
3. REPLACE POWER SUPPLY.
4. SMOKE DETECTION THROUGHOUT THE CAR SERVICE AREA.
5. DETECTION AND CONTROL FOR HVAC EQUIPMENT.
6. AUDIBLE / VISUAL NOTIFICATION APPLIANCES.
7. DUAL INPUT MODULES FOR WATER FLOW & VALVE TAMPER SWITCHES.

APPROVED ARCHITECTURALS: _____

APPROVED MECHANICALS: _____

CODE COMPLIANCE

1. 2016 CALIFORNIA BUILDING CODE (2015 IBC AND 2016 CALIFORNIA AMENDMENTS)
2. 2016 CALIFORNIA FIRE CODE (2015 IFC AND 2016 CALIFORNIA AMENDMENTS)
3. 2016 CALIFORNIA ELECTRICAL CODE (2014 NEC AND 2016 CALIFORNIA AMENDMENTS)
4. 2016 CALIFORNIA MECHANICAL CODE (2015 UMC AND 2016 CALIFORNIA AMENDMENTS)
5. 2016 NFPA 72 NATIONAL FIRE ALARM CODE
6. DESIGNED AND INSTALLED IN ACCORDANCE WITH THE CITY OF SAN JOSE REQUIREMENTS

GENERAL NOTES

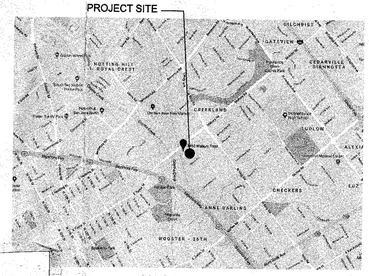
1. ALL DEVICE LOCATIONS, WIRING, CONDUITS SHOWN ON DRAWINGS ARE SUBJECT TO FIELD VERIFICATION. ANY DEVIATION MUST BE APPROVED BY THE FIRE ALARM CONTRACTOR AND MUST COMPLY WITH THE NATIONAL AND LOCAL CODES LISTED ON THIS SHEET.
2. 120VAC PRIMARY POWER SOURCE TO FIRE ALARM PANELS AND POWER SUPPLIES MUST BE ON A MECHANICALLY PROTECTED DEDICATED BRANCH CIRCUIT WITH DISCONNECTING MEANS PERMANENTLY IDENTIFIED AT THE CONTROL UNIT. DISCONNECTING MEANS TO BE IDENTIFIED AS "FIRE ALARM CIRCUIT" IN RED MARKING AND ACCESSIBLE ONLY TO AN AUTHORIZED PERSONNEL.
3. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME CONDUIT.
4. AFTER COMPLETION OF WORK, ELECTRICAL CONTRACTOR MUST PROVIDE TO THE FIRE ALARM CONTRACTOR A COMPLETE SET OF "RECORD DRAWINGS" SHOWING ALL DEVICE LOCATIONS, DEVICE ADDRESSES, CIRCUIT NUMBERS AND WIRING (IF APPLICABLE).
5. SEE DETAIL SHEETS FOR DEVICE MOUNTING HEIGHTS AND INSTALLATION INFORMATION. ANY DEVIATION MUST BE APPROVED BY THE FIRE ALARM CONTRACTOR AND MUST COMPLY WITH THE NATIONAL AND LOCAL CODES LISTED ON THIS SHEET.
6. BACKBOXES, JUNCTION BOXES AND TERMINAL CABINETS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. TERMINAL CABINETS FOR FIRE ALARM USE MUST BE LABELED "FATC" AND JUNCTION BOXES TO HAVE RED COVERS.
7. AUDIBLE DEVICES TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR MORE THAN 110 DBA AT THE MIN. HEARING DISTANCE . SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECONDS AND 15 DBA MUST BE MAINTAINED.
8. VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
9. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.

SYMBOL LEGEND

SYM.	MFG.	MODEL #	TOTAL QTY.	DESCRIPTION	BACKBOX	CSFM
FACU		IO1000GD	1	FIRE ALARM CONTROL PANEL WITH DIALER		7165-1657:0244
		SA-232	1	RS-232 SERIAL PORT		7165-1657:0244
		PS-12120	2	12 AH BATTERY		
		RA-ENC1	1	REMOTE ANNUNCIATOR ENCLOSURE	4" SQ. BOX	7120-1657:0254
		RLED-C	1	16 PAIR LED ZONE ANNUNCIATOR WITH COMMON CONTROLS	RLCD	7120-1657:0254
P	EST	SIGA-278	1	DUAL ACTION MANUAL PULL STATION	4" SQ. DEEP BOX WITH 1 GANG RING	7150-1657:0129
CC	EST	SIGA-CC1S	1	SYNCHRONIZATION OUTPUT MODULE	4" SQ. DEEP BOX WITH 2 GANG RING	7300-1657:0121
CR	EST	SIGA-CR	3	CONTROL RELAY	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
CT2	EST	SIGA-CT2	10	DUAL INPUT MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
RM	EST	SIGA-RM1	1	RISER MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0210
	EST	SIGA-SD	2	DUCT SMOKE DETECTOR	INCLUDED	3242-1657:0223
		SD-TBX	2	SAMPLING TUBE	-	-
RTS		SIGA-TRK	2	REMOTE TEST STATION - KEYED	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1483:0170
IMAGER / EMITTER	XTRALIS	OSI-10	8	OSID IMAGER - 7 DEGREE COVERAGE	INCLUDED	7260-1728:0121
		OSE-SPW	8	OSID STANDARD POWER EMITTER, WIRED	INCLUDED	
	EST	SIGA-PS	1	PHOTO SMOKE DETECTOR	SIGA-SB4	7272-1657:0128
		SIGA-SB4	1	4" DETECTOR MOUNTING BASE	4" OCTAGON BOX	7300-1657:0120
BPS6A	EST	BPS6A	1	6.5 AMP BOOSTER POWER SUPPLY	INCLUDED	7300-1657:0229
	POWER SONIC	PS-1270	2	7AH BATTERY		
XWCD	EST	G1F-HDVM	2	WALL MOUNT HORN-STROBE (15, 30, 75, 110 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-1657:0202
XWCD	EST	GCF-HDVM	5	CEILING MOUNT HORN-STROBE (15, 30, 75, 95 SELECTABLE CANDELA OUTPUT)	4" SQ. DEEP BOX	7125-1657:0202
XWCD	EST	GCF-HDVMH	21	CEILING MOUNT HORN-STROBE (95, 115, 150, 177 SELECTABLE CANDELA OUTPUT)	4" SQ. DEEP BOX	7125-1657:0202
XWCD	EST	G1F-VM	3	WALL MOUNT STROBE (15, 30, 75, 110 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-1657:0218
XWCD	EST	GCF-VM	8	CEILING MOUNT STROBE (15, 30, 75, 95 SELECTABLE CANDELA OUTPUT)	4" SQ. DEEP BOX	7125-1657:0219
WP 15CD	EST	CS405-7A-T	1	WEATHERPROOF STROBE 15/75CD	449	7125-1657:0184
		449	1	WEATHERPROOF BOX	-	-
	BY OTHERS	-	1	120V WATERFLOW BELL	-	-
WF	BY OTHERS	-	2	WATERFLOW SWITCH	-	-
VS	BY OTHERS	-	2	VALVE TAMPER SWITCH	-	-

VICINITY MAP

PROJECT SITE



SAN JOSE FIRE DEPARTMENT
Approved as submitted subject to our requirements and inspections
By: KTEE Date: 12/13/2017
The San Jose Fire Department is not responsible for enforcement of the Americans with Disabilities Act (ADA). Compliance with the ADA is required. These plans have not been reviewed for compliance with the ADA.

THE FOLLOWING IS REQUIRED AT THE FINAL INSPECTION:
1. A SET OF SJFD APPROVED AND STAMPED PLANS
2. RECORD DRAWINGS THAT INCLUDE AS-BUILT DOCUMENTATION
3. PRINTOUT FROM MONITORING COMPANY OF COMPLETE PRE-TEST OF SYSTEM
4. ALL FIELD DEVICES SHALL HAVE LABELS
5. RECORD OF COMPLETION
6. UL CERTIFICATION – Required

FIRE ALARM OPERATIONAL MATRIX

	ANNUNCIATE AT FACP AND ANNUNCIATOR			SIGNAL TO SUPERVISORY STATION			NOTIFICATION			ALL OTHER CONTROL	
SYSTEM INPUTS	ALARM	TROUBLE	SUPERVISORY	ALARM	TROUBLE	SUPERVISORY	ACTIVATE AUDIBLE/VISUALS (GENERAL ALARM)	ACTIVATES EXTERIOR BELL (PROVIDED BY OTHERS)	ACTIVATE 120V WATERFLOW BELL	SHUTDOWN FAN	SHUTDOWN SF-1
	A	B	C	D	E	F	G	I	J	V	W
ALARM CONDITIONS											
1 SMOKE DETECTOR - AREA	•			•			•			•	•
10 PULL STATION	•			•			•			•	•
13 WATER FLOW SWITCH	•			•			•			•	•
TROUBLE CONDITIONS											
1 FIRE ALARM SYSTEM GENERAL TROUBLE (POWER FAILURE, OPEN CIRCUIT, LOW BATTERY, ETC.)		•			•						
SUPERVISORY CONDITIONS											
1 VALVE TAMPER SWITCH			•			•					
3 DUCT DETECTOR ASSOCIATED WITH FAN			•			•				•	

Shutdown Big overhead ceiling Fans

PATHWAY CLASS DESIGNATIONS PER NFPA 72, 2016

PERFORMANCE OF INITIATING DEVICE CIRCUITS (IDCs) - CLASS B	
PERFORMANCE OF SIGNALING LINE CIRCUITS (SLCs) - CLASS B	
PERFORMANCE OF NOTIFICATION APPLIANCE CIRCUITS (NACs) - CLASS B	

PIV ? OS&Y ? } Field Verify if these exist on site to be monitored by FACU

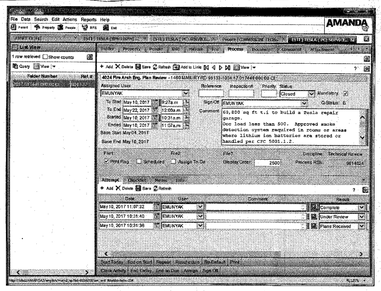
****New Fire Alarm system with 24 hours of standby battery****

Permit #17-045792

Notes:
1. Perform a complete '**PRETEST**' of F/A system components (devices/appliances) and provide the inspector a pre-test report from the monitoring station prior to start of each inspection. *Inspection will not be conducted without report.*
2. Trouble-test new **FACU** and **Power Supply.**
3. Test the following devices:
   a. (1) smoke detector & (1) pull station at FACU location.
   b. (1) sprinkler riser water flow & (1) control valve tamper.
   c. (1) paint booth water flow & (1) control valve tamper.
   d. (8) pairs of projected beam smoke detectors.
   e. (2) air handlers duct smoke detectors for unit shutdown.
4. Perform **5-min alarm test** at final inspection. Turn off circuit breaker(s) for the **FACU** & **Power Supply** 24 hours prior to scheduled test/inspection.
5. Verify audibility & synchronization of notification appliances.
6. Provide a documentation cabinet labeled '**SYSTEM RECORD DOCUMENTS**'.
7. **As-built** required to address plan redlines or reflect in-field changes.

Field Verifications:
1. Verify sprinkler water flow **time-to-alarm** is within **45 – 90 seconds**.
2. Verify **activation** of exterior sprinkler bell upon water flow alarm.
3. Verify that **documentation cabinet** contains all pertinent documentations including:
   a) Owner's manual and manufacturer's published instructions covering all system equipment
   b) Record drawings
   c) Record of Completion
4. Verify global shutdown of Big overhead fans upon general alarm.

Labeling:
1. **Batteries** shall be marked with the **month** and **year** of manufacture using the **month/year format**.
2. **Location** and **circuit #** of the disconnecting means **(breaker)** shall be labeled on corresponding FACU and power supplies. Fire alarm system circuit breaker shall be identified as "**FIRE ALARM**" in red marking and provided with lock.
3. Label all **devices** and **appliances**. Provide clear and legible labels using **3/8 inch characters** in black with white contrasting background.
4. Fire protection equipment shall be identified in an approved manner. **Rooms containing controls for air-conditioning systems, sprinkler risers and valves, or other fire detection, suppression or control elements shall be identified for the use of the fire department.** Approved signs required to identify fire protection equipment and equipment location shall be constructed of durable materials, permanently installed and readily visible.



60,800 sq ft t.i to build a Tesla repair garage.
Occ load less than 500. Approved smoke detection system required in rooms or areas where lithium ion batteries are stored or handled per CFC 5001.1.2.
S-1 occupancy can have up to 6,000 lbs of batteries with out one hour enclosure
Extra hazard group 1 required in battery storage room.
Paint spray booth including sprinkler protection will be separate plan check number.
An approved turn around with 96 foot diameter bulb needs to be painted and kept clear.
Large diameter ceiling fans need to shut down upon fire alarm signal

1 story warehouse/storage
Sprinklers
40 foot high Bldg

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	IO100GD	FIRE ALARM CONTROL PANEL WITH DIALER	0.2670	0.267	0.1720	0.172
1	-	PRIMARY LOOP CARD - MAXIMUM DEVICE LOAD	0.125	0.125	0.055	0.055
1	SA-232	RS-232 CARD	0.013	0.013	0.013	0.013
1	SA-DACT	DIALER	0.041	0.041	0.041	0.041
8	OSI-10	OSID DETECTOR IMAGER	0.008	0.064	0.008	0.064
8	OSE-SPW	OSID DETECTOR EMITTER	0.00035	0.0028	0.00035	0.0028
1	RLED-C	16-PAIR LED ZONE ANNUNCIATOR	0.062	0.062	0.028	0.028
1	NAC1	NOTIFICATION CIRCUIT #V1.1	0.9070	0.987		
1	NAC2	NOTIFICATION CIRCUIT #V1.2	0.7200	0.72		
			TOTAL	2.2618	TOTAL	0.3758

IT CLOSET 1
IO1000GD
FIRE ALARM CONTROL UNIT BATTERY CALCULATIONS

Total Alarm Current (A)	2.2618
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.189991
Total Standby Current (A)	0.3758
Standby Hours (B)	24
Total for Standby (A) X (B)	9.0192
Alarm Current + Standby Current (C)	9.209
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	11.051
Battery Size	12AH

BPS6A #V2

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	BPS6A	Booster Power Supply	0.2700	0.27	0.0700	0.07
1	GCF-VM	Ceiling Strobe 15CD	0.0830	0.083	0.0000	
21	GCF-HDVMH	Ceiling Horn-Strobe 115CD	0.2520	5.292	0.2520	
			TOTAL	5.625	TOTAL	0.07

IT CLOSET 1
BPS6A #V2
BATTERY CALCULATIONS
CIRCUITS:
V2.1, V2.2, V2.3, V2.4

Total Alarm Current (A)	5.625
Hours of Alarm - 15 Minutes (B)	0.25
Total for Alarm (A) X (B)	1.40625
Total Standby Current (A)	0.07
Standby Hours (B)	24
Total for Standby (A) X (B)	1.68
Alarm Current + Standby Current (C)	3.086
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	3.704
Battery Size	7AH

VOLTAGE DROP CALCULATIONS

MODEL																					
			G1F-VM	G1F-HDVM	G1F-HDVM	GCF-VM	GCF-HDVM	GCF-HDVM	GCF-HDVM	GCF-HDVMH	CS405-7A-T	OSI-10	OSE-SPW								
TYPE			FA-ST/D-15	FA-HS-75	FA-HS-110	FA-ST/SC-15	FA-ST/SC-30	FA-HS/C-15	FA-HS/C-30	FA-HS/C-75	FA-HS/CH-115	FA-ST/BWP-15	FA-ST/BEAM-T	FA-ST/BEAM-R							
			STB	HS	HS	STB	STB	NS	HS	HS	HS	STB-WP	DET	DET							
			Wall	Wall	Wall	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Wall	Wall	Wall							
CANDELA			15CD	75CD	110CD	15CD	30CD	15CD	30CD	75CD	115CD	15/75CD	n/a	n/a							
CURRENT DRAW			0.0590	0.1610	0.2030	0.0630	0.0900	0.0850	0.1050	0.1850	0.2520	0.0900	0.0080	0.00035							
POWER SOURCE	POWER SOURCE LOCATION	CIRCUIT ID													TOTAL DEVICES	(A) TOTAL CKT. LOAD	(B) CIRCUIT DISTANCE (FEET)	(C) WIRE RESISTANCE 12AWG	(A X (B) X (C) VOLTS DROPPED (VD)	(D) SUPPLY VOLTAGE	((VD) / (D)) X 100 VOLTAGE DROP %
IO1000 #V1	IT CLOSET 1	V1.1	1	1	1	3		1		1		1			9	0.987	230	0.0032	0.711712	20.4	3.4888
		V1.2	2			2	2	1	2						9	0.729	155	0.0032	0.36712	20.4	1.7506
		P1.1											8	8	16	0.067	1000	0.0032	0.21376	20.4	1.0478
		V1.4																0.0032		20.4	
BPS6A #V2	IT CLOSET 1	V2.1									6				6	1.512	220	0.0032	1.064448	20.4	5.2179
		V2.2									5				5	1.260	445	0.0032	1.79424	20.4	8.7953
		V2.3									5				5	1.260	395	0.0032	1.59264	20.4	7.8071
		V2.4				1					5				6	1.323	245	0.0032	1.063963	20.4	5.2351

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C10 License No: 986407

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PLEASANTON, CA 94588
(925) 300-2800

STAMP:

LICENSED FIRE ALARM CONTRACTOR — CONVERGINT TECHNOLOGIES LLC — CLASSIFICATION C-10 — EXP. 09/31/19 — LICENSE # 986407 — STATE OF CALIFORNIA

SYSTEM DESIGNER

RAFAEL ALVAREZ
NICET NO. 137658
FIRE ALARM SYSTEMS, LEVEL III
RAFAEL.ALVAREZ@CONVERGINT.COM
(510) 300-2800

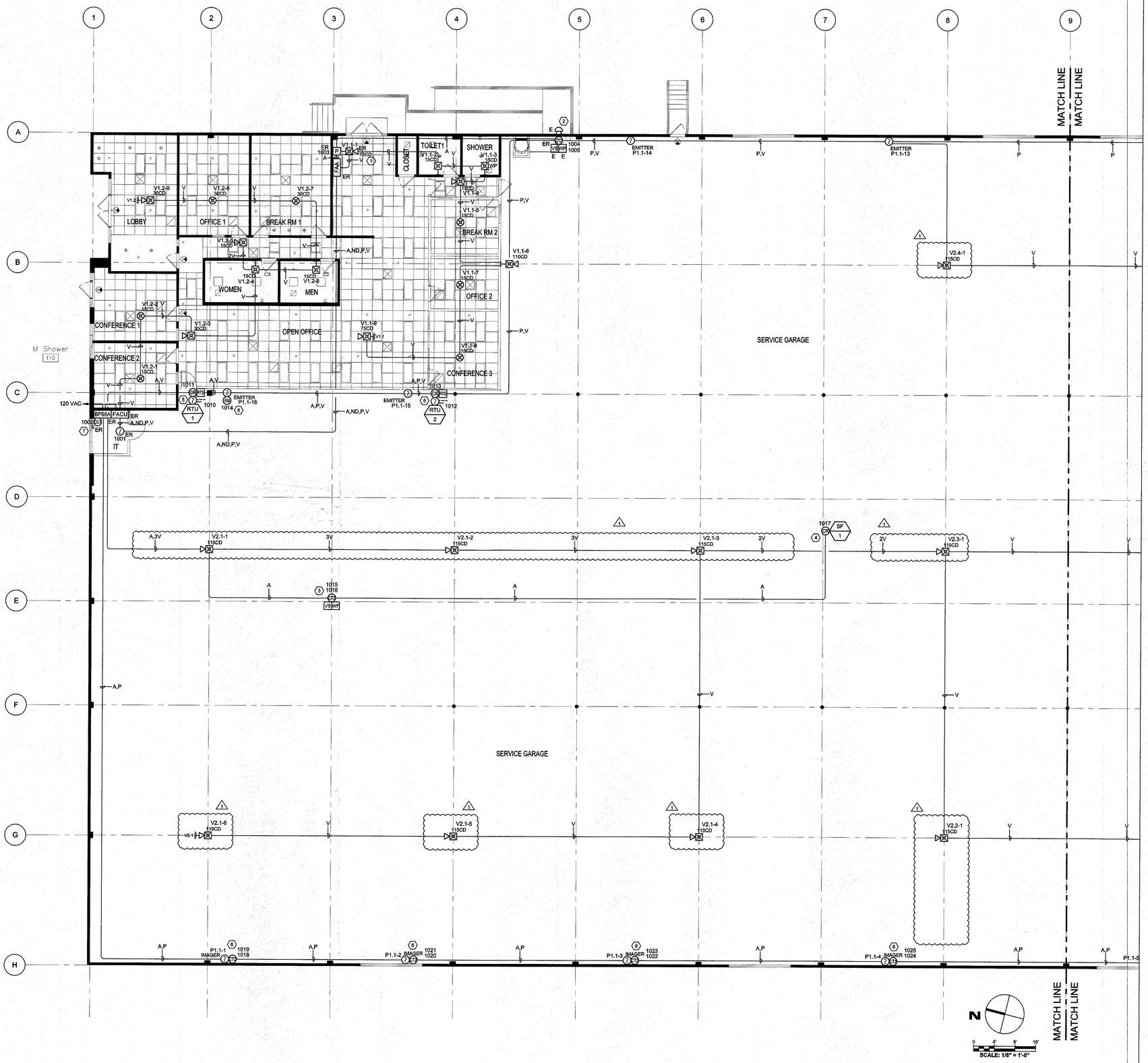
REV	DESCRIPTION	DATE
0	PERMIT SET	12/01/2017
1	FIRE DEPARTMENT COMMENTS	12/12/2017

DRAWN BY: RA
PROJECT ENGINEER: RAFAEL ALVAREZ
PROJECT MANAGER: CHRIS BOWMAN
JOB NUMBER: 602FNG0492
SCALE: NONE

FIRE ALARM SYSTEM

TITLE:
COVER SHEET

DRAWING:
FA0.00



A PARTIAL FIRE ALARM PLAN

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
P	PULL STATION
SYNC S	SYNCHRONIZATION OUTPUT MODULE
CR	CONTROL RELAY
DI	DUAL INPUT MODULE
RM	RISER MONITOR MODULE
DUCT SMOKE DETECTOR	
RTS	REMOTE TEST SWITCH
IMAGER	OSID IMAGER
EMITTER	OSID EMITTER
SMOKE DETECTOR	
BPS6A	6.5 AMP BOOSTER POWER SUPPLY
XXCD	WALL MOUNT HORN-STROBE XXCD = CANDELA
XXCD	CEILING MOUNT HORN-STROBE XXCD = CANDELA
XXCD	WALL MOUNT STROBE XXCD = CANDELA
XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP XXCD	WEATHERPROOF WALL MOUNT STROBE XXCD = CANDELA
	120V WATERFLOW BELL
WF	WATER FLOW SWITCH
VS	VALVE TAMPER SWITCH

SUBSCRIPTS: E = EXISTING
SUBSCRIPTS:ER = EXISTING TO REPLACE W/NEW
SUBSCRIPTS:ED = EXISTING TO DEMO

CABLE LEGEND

(NON-PLENUM)
CABLE PROVIDED BY OTHERS
SIZE RACEWAYS TO THE NEC 40% FILL LIMIT

SYM.	TYPE	AWG/CONDUCTOR/ STYLE	T-TAPS
A	DATA	16/2 TWISTED MAX. DISTANCE: 3,608 FEET MAX. RESISTANCE: 66 OHMS MAX. CAPACITANCE: 0.5 µF	YES, PER AGREEMENT MAX. 124
ND	NETWORK DATA	16/2 TWISTED	NO
P	24VDC POWER	12/2 TWISTED	NO
V	VISUAL	12/2 TWISTED	NO

DEVICE ADDRESS LEGEND

001 (7) = 1 = LOOP NUMBER, 001 = DEVICE NUMBER

V1.2-3 = V1 = POWER SUPPLY NUMBER, .2 = POWER SUPPLY CIRCUIT NUMBER, -3 = DEVICE NUMBER

GENERAL SHEET NOTES

1. WIRING ON FLOOR PLANS SHOWN FOR REFERENCE ONLY. ACTUAL WIRE PATHS TO BE DETERMINED UPON FIELD VERIFICATION AND ANY DEVIATION(S) MUST BE DISCUSSED PRIOR TO INSTALLATION AND NOTED ON "AS-BUILT" DRAWINGS.
2. ANY DEVICE EXPOSED TO OUTSIDE ENVIRONMENT MUST BE IN A WEATHERPROOF ENCLOSURE PROVIDED BY OTHERS.
3. HORN/STROBES IN THE CAR SERVICE AREA SHALL BE MOUNTED AT THE BOTTOM OF THE BEAM. THE LENS HEIGHT SHALL BE 25' ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. REMOVE END OF LINE RESISTOR FROM EXISTING DEVICE AND LOCATE IT AT NEW DEVICE AT END OF CIRCUIT AS SHOWN ON THE PLANS.
2. EXISTING 120V WATERFLOW BELL.
3. PAINT BOOTH WATERFLOW AND TAMPER MONITOR. FIELD VERIFY EXACT LOCATION.
4. RELAY FOR FAN SHUTDOWN. UNIT DETECTION IS PER AREA DETECTION IN SERVICE AREA.
5. DUCT DETECTOR AND RELAY FOR ROOF TOP UNIT. MOUNT REMOTE TEST STATION AT AN ACCESSIBLE LOCATION. SEE DETAIL J ON SHEET FA4.01 FOR EXACT WIRING.
6. DUAL MONITOR MODULE FOR ALARM AND FAULT SUPERVISION. MOUNT IMAGER ON A SECURE SURFACE DIRECTLY OPPOSITE THE EMITTER AND ENSURE A CLEAR LINE OF SIGHT BETWEEN IMAGER AND EMITTER. DO NOT MOUNT ON GLASS OR REFLECTIVE SURFACES. OBJECTS SHOULD BE KEPT A MINIMUM OF 18 INCHES AWAY FROM THE CENTER OF THE DETECTOR BEAM DOWN THE ENTIRE LENGTH OF THE BEAM PATH.
7. SIGNAL MODULE FOR POWER SUPPLY ACTIVATION.
8. RISER MONITOR MODULE FOR AUX CIRCUIT SUPERVISION. CIRCUIT SHALL NOT BE T-TAPPED.

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SYSTEM DESIGNER

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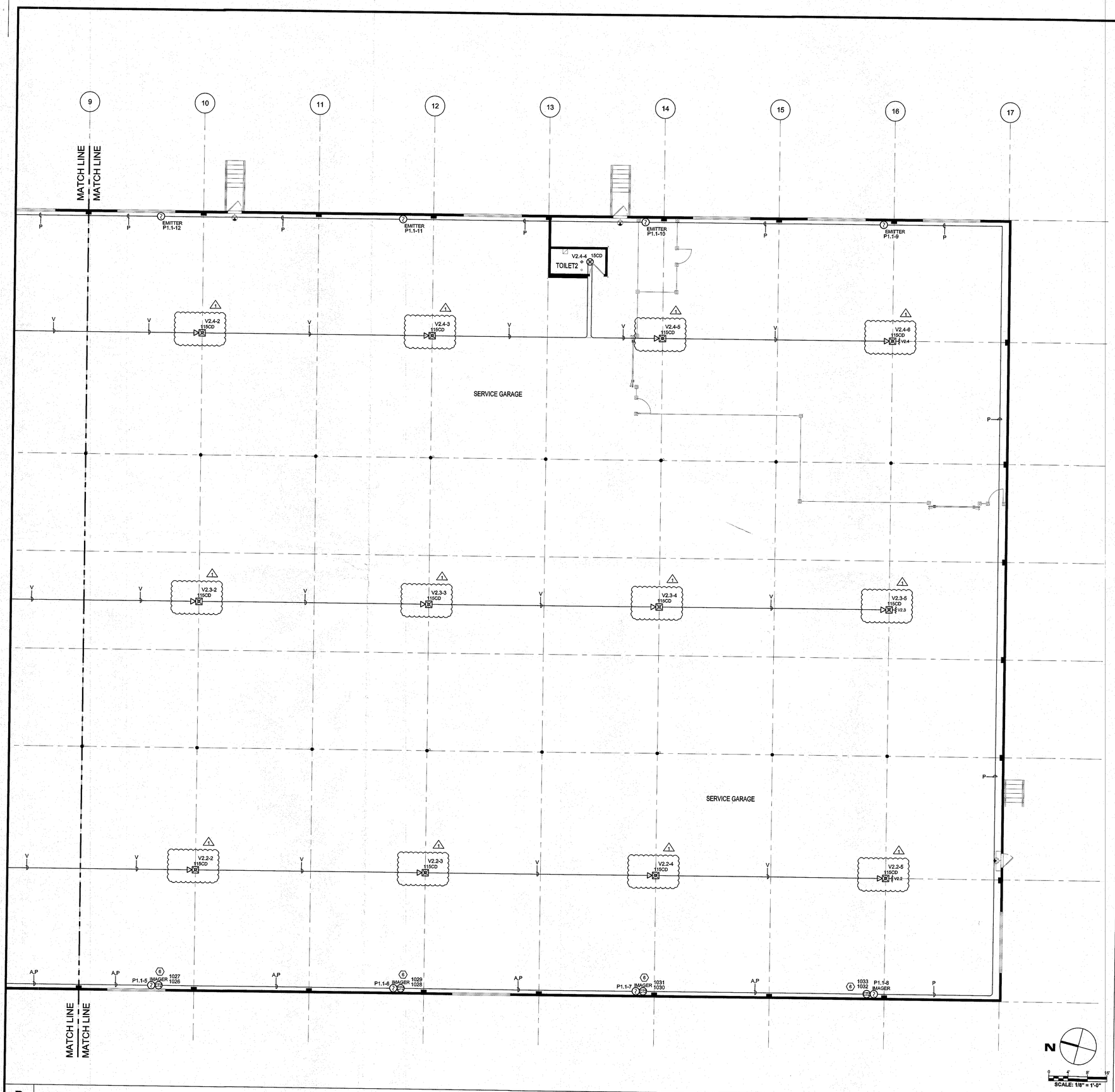
REV	DESCRIPTION	DATE
0	PERMIT SET	12/01/2017
1	FIRE DEPARTMENT COMMENTS	12/12/2017

DRAWN BY: RA
PROJECT ENGINEER: RAFAEL ALVAREZ
PROJECT MANAGER: CHRIS BOWMAN
JOB NUMBER: 602FNG0492
SCALE: 1/8" = 1'-0"

FIRE ALARM SYSTEM

TITLE:
PARTIAL FLOOR PLAN - A

DRAWING:
FA1.01



B PARTIAL FIRE ALARM PLAN

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
P	PULL STATION
SOS	SYNCHRONIZATION OUTPUT MODULE
CR	CONTROL RELAY
DIM	DUAL INPUT MODULE
RM	RISER MONITOR MODULE
DUCT SMOKE DETECTOR	
RTS	REMOTE TEST SWITCH
IMAGER	OSID IMAGER
EMITTER	OSID EMITTER
	SMOKE DETECTOR
BPS6A	6.5 AMP BOOSTER POWER SUPPLY
XXCD	WALL MOUNT HORN-STROBE XXCD = CANDELA
XXCD	CEILING MOUNT HORN-STROBE XXCD = CANDELA
XXCD	WALL MOUNT STROBE XXCD = CANDELA
XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP XXCD	WEATHERPROOF WALL MOUNT STROBE XXCD = CANDELA
	120V WATERFLOW BELL
WF	WATER FLOW SWITCH
VS	VALVE TAMPER SWITCH

SUBSCRIPTS: E = EXISTING
SUBSCRIPTS:ER = EXISTING TO REPLACE W/NEW
SUBSCRIPTS:ED = EXISTING TO DEMO

CABLE LEGEND

(NON-PLENUM)
CABLE PROVIDED BY OTHERS
SIZE RACEWAYS TO THE NEC 40% FILL LIMIT

SYM.	TYPE	AWG/CONDUCTOR/ STYLE	T-TAPS
A	DATA	18/2 TWISTED MAX. DISTANCE: 3,608 FEET MAX. RESISTANCE: 66 OHMS MAX. CAPACITANCE: 0.5 µF	YES, PER AGREEMENT MAX. 12d
ND	NETWORK DATA	18/2 TWISTED	NO
P	24VDC POWER	12/2 TWISTED	NO
V	VISUAL	12/2 TWISTED	NO

DEVICE ADDRESS LEGEND

001	1 = LOOP NUMBER 001 = DEVICE NUMBER
V1.2-3	V1 = POWER SUPPLY NUMBER .2 = POWER SUPPLY CIRCUIT NUMBER -3 = DEVICE NUMBER

GENERAL SHEET NOTES

1. WIRING ON FLOOR PLANS SHOWN FOR REFERENCE ONLY. ACTUAL WIRE PATHS TO BE DETERMINED UPON FIELD VERIFICATION AND ANY DEVIATION(S) MUST BE DISCUSSED PRIOR TO INSTALLATION AND NOTED ON "AS-BUILT" DRAWINGS.
2. ANY DEVICE EXPOSED TO OUTSIDE ENVIRONMENT MUST BE IN A WEATHERPROOF ENCLOSURE PROVIDED BY OTHERS.
3. HORN/STROBES IN THE CAR SERVICE AREA SHALL BE MOUNTED AT THE BOTTOM OF THE BEAM. THE LENS HEIGHT SHALL BE 25' ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. REMOVE END OF LINE RESISTOR FROM EXISTING DEVICE AND LOCATE IT AT NEW DEVICE AT END OF CIRCUIT AS SHOWN ON THE PLANS.
2. EXISTING 120V WATERFLOW BELL.
3. PAINT BOOTH WATERFLOW AND TAMPER MONITOR. FIELD VERIFY EXACT LOCATION.
4. RELAY FOR FAN SHUTDOWN. UNIT DETECTION IS PER AREA DETECTION IN SERVICE AREA.
5. DUCT DETECTOR AND RELAY FOR ROOF TOP UNIT. MOUNT REMOTE TEST STATION AT AN ACCESSIBLE LOCATION. SEE DETAIL J ON SHEET FA4.01 FOR EXACT WIRING.
6. DUAL MONITOR MODULE FOR ALARM AND FAULT SUPERVISION. MOUNT IMAGER ON A SECURE SURFACE DIRECTLY OPPOSITE THE EMITTER AND ENSURE A CLEAR LINE OF SIGHT BETWEEN IMAGER AND EMITTER. DO NOT MOUNT ON GLASS OR REFLECTIVE SURFACES. OBJECTS SHOULD BE KEPT A MINIMUM OF 18 INCHES AWAY FROM THE CENTER OF THE DETECTOR BEAM DOWN THE ENTIRE LENGTH OF THE BEAM PATH.
7. SIGNAL MODULE FOR POWER SUPPLY ACTIVATION.
6. RISER MONITOR MODULE FOR AUX CIRCUIT SUPERVISION. CIRCUIT SHALL NOT BE T-TAPPED.

TESLA SAN JOSE
CPO REFURBISHMENT CENTER
1460 MABURY ROAD
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FIRE ALARM CONTRACTOR:
Convergint TECHNOLOGIES
5860 W. Las Positas, Suite #7 Pleasanton, CA 94588
Phone: (510) 300-2800 Fax: (925) 225-1101
C10 License No: 986407

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(925) 300-2800

STAMP:
LICENSED FIRE ALARM CONTRACTOR
CONVERGINT TECHNOLOGIES LLC
CLASSIFICATION C-10
EXP. 08/31/19
LICENSE IS RENEWED
STATE OF CALIFORNIA

SYSTEM DESIGNER
RAFAEL ALVAREZ
NICET NO. 137658
FIRE ALARM SYSTEMS, LEVEL III
RAFAEL.ALVAREZ@CONVERGINT.COM
(510) 300-2800

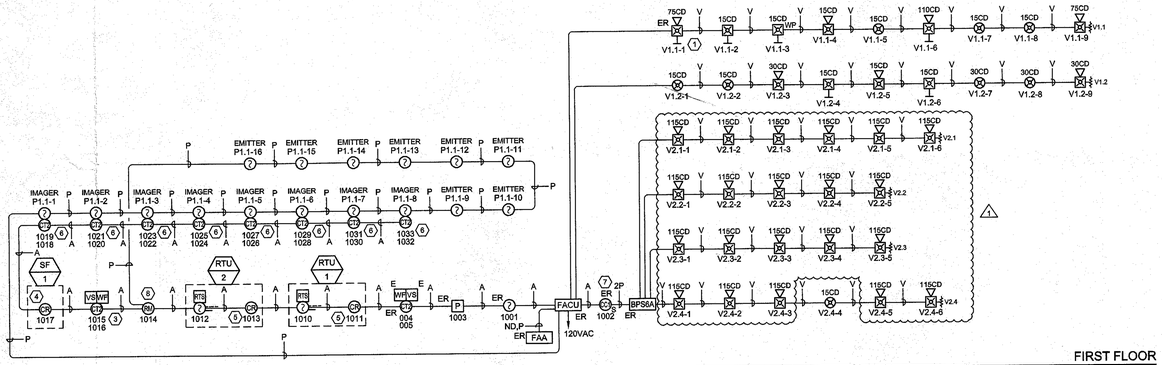
REV	DESCRIPTION	DATE
0	PERMIT SET	12/01/2017
1	FIRE DEPARTMENT COMMENTS	12/12/2017

DRAWN BY: RA
PROJECT ENGINEER: RAFAEL ALVAREZ
PROJECT MANAGER: CHRIS BOWMAN
JOB NUMBER: 602FNG0492
SCALE: 1/8" = 1'-0"

FIRE ALARM SYSTEM

TITLE:
PARTIAL FLOOR PLAN - B

DRAWING:
FA1.02



SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
P	PULL STATION
SYNC S	SYNCHRONIZATION OUTPUT MODULE
CR	CONTROL RELAY
DIM	DUAL INPUT MODULE
RM	RISER MONITOR MODULE
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RTS	REMOTE TEST SWITCH
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VS	VALVE TAMPER SWITCH

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SUBSCRIPTS:ER = EXISTING TO REPLACE W/NEW
SUBSCRIPTS:ED = EXISTING TO DEMO

CABLE LEGEND

(NON-PLENUM)
CABLE PROVIDED BY OTHERS
SIZE RACEWAYS TO THE NEC 40% FILL LIMIT

SYM.	TYPE	AWG/CONDUCTOR/ STYLE	T-TAPS
A	DATA	16/2 TWISTED MAX. DISTANCE: 3,908 FEET MAX. RESISTANCE: 66 OHMS MAX. CAPACITANCE: 0.5 µF	YES, PER AGREEMENT MAX. 124
ND	NETWORK DATA	16/2 TWISTED	NO
P	24VDC POWER	12/2 TWISTED	NO
V	VISUAL	12/2 TWISTED	NO

DEVICE ADDRESS LEGEND

001 (?)
1 = LOOP NUMBER
001 = DEVICE NUMBER

V1.2-3
V1 = POWER SUPPLY NUMBER
.2 = POWER SUPPLY CIRCUIT NUMBER
-3 = DEVICE NUMBER

GENERAL SHEET NOTES

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3. HORN/STROBES IN THE CAR SERVICE AREA SHALL BE MOUNTED AT THE BOTTOM OF THE BEAM. THE LENS HEIGHT SHALL BE 25' ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. REMOVE END OF LINE RESISTOR FROM EXISTING DEVICE AND LOCATE IT AT NEW DEVICE AT END OF CIRCUIT AS SHOWN ON THE PLANS.
2. EXISTING 120V WATERFLOW BELL.
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RAFAEL.ALVAREZ@CONVERGINT.COM
(510) 300-2800

REV	DESCRIPTION	DATE
0	PERMIT SET	12/01/2017
1	FIRE DEPARTMENT COMMENTS	12/12/2017

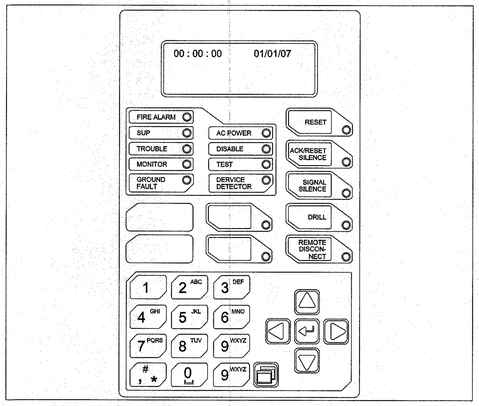
DRAWN BY: RA
PROJECT ENGINEER: RAFAEL ALVAREZ
PROJECT MANAGER: CHRIS BOWMAN
JOB NUMBER: 602FNG0492
SCALE: 1/8" = 1'-0"

FIRE ALARM SYSTEM

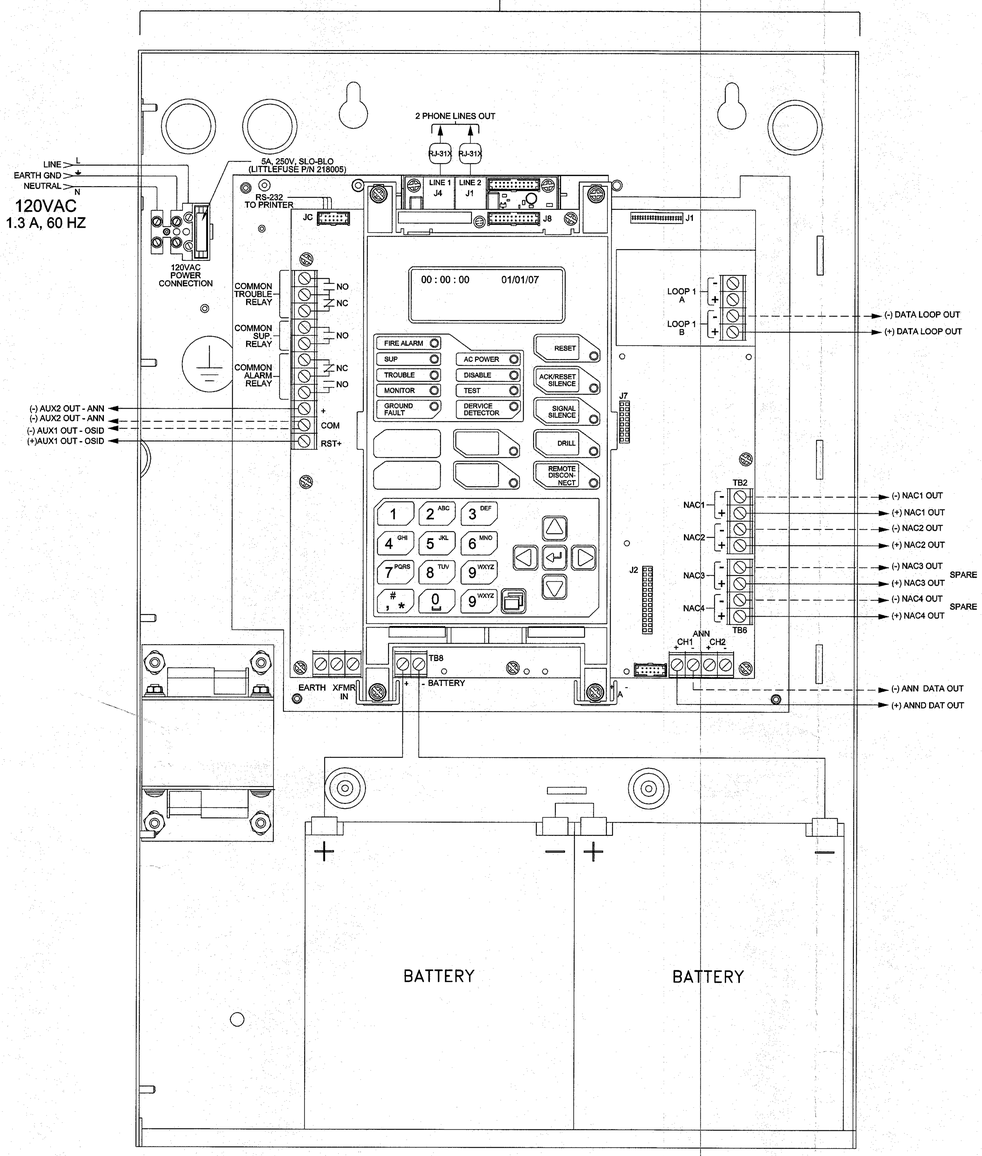
TITLE:
RISER DIAGRAM

DRAWING:
FA2.00

FACE PLATE



INTERNAL



DIMENSIONS
28"H X 15.75"W X 3.85"D

MOUNTING
72" FROM FINISHED FLOOR TO TOP OF FACP.

A	iO1000GD FIRE ALARM CONTROL PANEL DETAILS

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DRAWN BY: RA
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PROJECT MANAGER: CHRIS BOWMAN
JOB NUMBER: 602FNG0492
SCALE: N/A

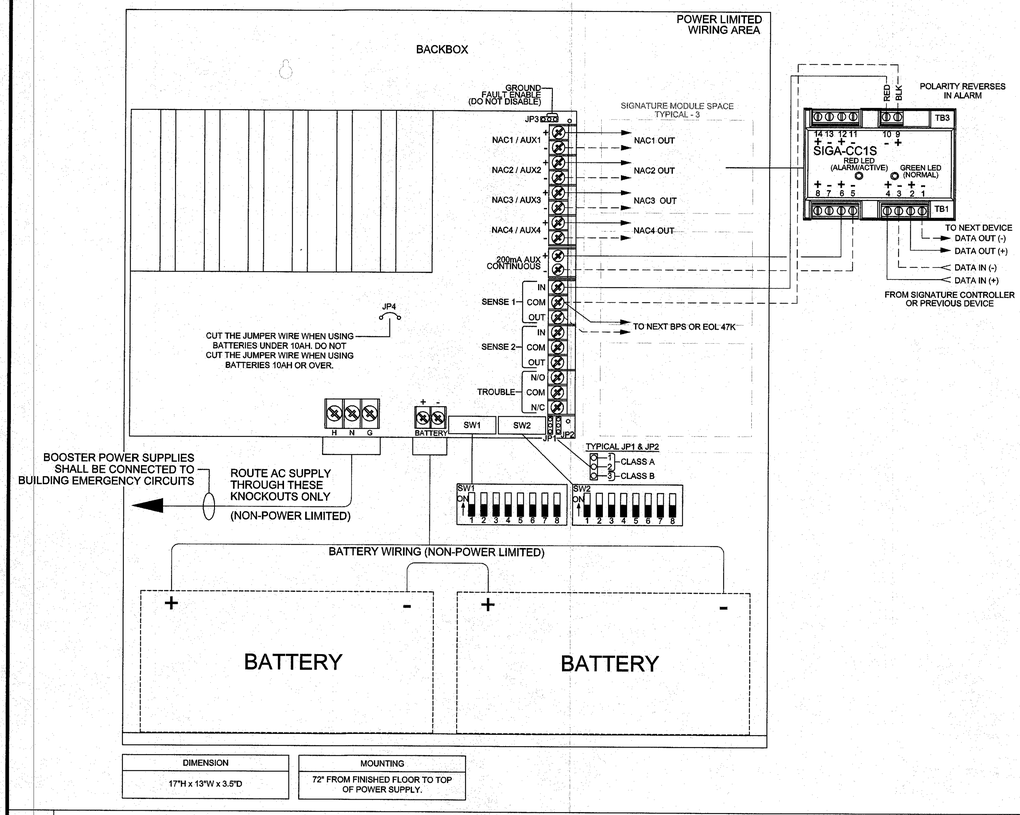
FIRE ALARM SYSTEM

TITLE:

PANEL DETAILS

DRAWING:

FA4.00

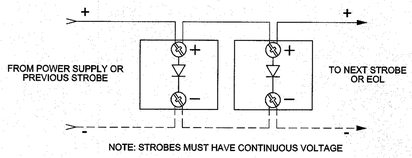


DIMENSION	MOUNTING
17"H x 13"W x 3.5"D	72" FROM FINISHED FLOOR TO TOP OF POWER SUPPLY.

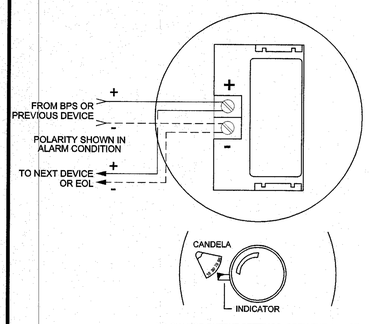
A BPS6A / BPS10A BOOSTER POWER SUPPLY WITH SIGA-CC1S SYNCHRONIZATION MODULE WIRING DETAIL

BACKBOX
449 OUTDOOR BACKBOX ONLY

MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.

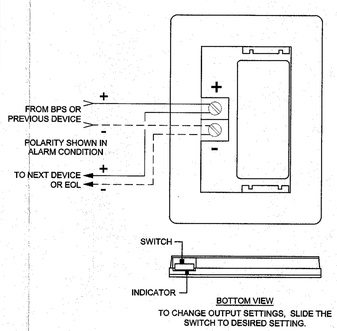


B CS405 SERIES WEATHERPROOF STROBE WIRING DETAIL



C GENESIS SERIES CEILING MOUNT STROBE & HORN/STROBE WIRING DETAIL

MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.



D GENESIS SERIES WALL MOUNT STROBE & HORN/STROBE WIRING DETAIL

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JOB NUMBER: 602FNG0492
SCALE: 1/8" = 1'-0"

FIRE ALARM SYSTEM

TITLE:
NOTIFICATION DEVICES WIRING DETAILS

DRAWING:
FA4.02