GONSALVES & STRONCK
Construction Company Inc.
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SUBMITTAL COVER

Project Name:	ESUHSD - Districtwide FA Modernization
Address:	830 North Capitol
	San Jose, CA 95133
Owner:	East Side Union High School District
Address:	830 N. Capitol Ave
	San Jose, CA 95133
CIP Project #:	1-XXX-810
Architect / CM:	
Address:	
Arch. Project #:	n/a
DSA Project #:	

Subcontractor, Fabricator or Supplier: Akerman-Practicon

Submittal #: 012831-03
Sequential #:

	Date Sent	Date Required
Subcontracto To G&S:	9/12/2016	
Date to Arch / CM:	9/12/2016	
Arch / CM to Consultant:		
Consultant to Arch / CM:		
Arch / CM to G&S:		
G&S to Subcontractor:		

Specifications Section: 012831

Submittal Description: Design Documents

Item(s) Submitted

- LEED ☐
- PRODUCT DATA ☑
- SHOP DRAWINGS ☑
- CERTIFICATES ☐
- MOCK-UP ☐
- SAMPLES-COLOR ☐
- TEST REPORTS ☐
- QA / QC ☐
- O&M ☐
- AS-BUILT ☐
- EXTRA STOCK ☐
- WARRANTY ☐
- INSPECTION ☐
- TRAINING ☐
- OTHER ☐

Silver Creek 96% CD

Gonsalves & Stronck Construction has review the attached submittal and :	REVIEWER STAMP(S):
☑ **AS SPECIFIED** We have verified that the material or equipment contained in this submittal meets all the requirements specificed or shown. ☐ **SUBSTITUTION** We have verified that the material or equipment contained in this submittal meets all the requirements specificed or shown except for the following devations *(List Items):* **Reviewed By:** William Hutchinson Bill Hutchinson, Project Manager **Detail dimension(s) not checked. Subcontractor is responsible for correctness of dimensions and fitting of parts.**	

FIRE ALARM LEGEND

SYMBOL	QTY	MODEL NO.	DESCRIPTION	CSFM LISTING NO.
A	1 EA.	GAMEWELL–FCI E3 SERIES	ADDRESSABLE FIRE ALARM CONTROL PANEL, LETTER ADJACENT INDICATES STYLE OF PANEL AS FOLLOWS: STYLE 'A' INCLUDES: 600XL RETROFIT, E3–1L1–C PLATE, IL195–MB–E3, PM–9, 100–0450, RPT–E3–UTP, FML–E3(X2). STYLE 'B' INCLUDES: IF600 RETROFIT, IL195–MB–E3, PM–9, RPT–E3–UTP, FML–E3(X2) STYLE 'D' INCLUDES: E3BB–RD/INCC, E3–INCC–D PLATE E3102–D, LCD–E3, PM–9, IL195–MB–E3, 1100–0450(X4), 1100–0455, DACT–E3, RPT–E3–UTT(X2), FML–E3(X2) STYLE 'G' INCLUDES: E3BB–RC/INX, E3–INX–C PLATE, 90375, PM–9, 1100–1323, AM–50–70, 90521, IL195–MB–E3	7165–1703:0125
LOC	1	GAMEWELL–FCI E3 SERIES LOC	LOCAL OPERATING CONSOLE	7165–1703:0125
		GAMEWELL–FCI XP95–P	SMOKE DETECTOR, ADDRESSABLE, PHOTOELECTRONIC TYPE	7272–1703:0155
(AC)		GAMEWELL–FCI XP95–T	ADDRESSABLE HEAT DETECTOR, LETTERS ADJACENT INDICATE ABOVE CEILING	7270–1703:0156
		GAMEWELL–FCI XP95–PD	DUCT SMOKE DETECTOR + HOUSING	7272–1703:0155
RFU		AES – 7788W	RF SUBSCRIBER UNIT	7300–1516:1018
MM		GAMEWELL–FCI PID–95	ADDRESSABLE MONITOR MODULE	7300–1288:147
EOL			END OF LINE DEVICE	.
HP		GAMEWELL–FCI MS–7AF	ADDRESSABLE MANUAL PULL STATION	7150–1703:0119
F 30cd		GAMEWELL–FCI SCW	CEILING MOUNTED MULTI–CANDELA STROBE, NUMBERS & LETTERS ADJACENT INDICATE CANDELA SETTING	7125–1653:0188
HF 30cd		GAMEWELL–FCI SR	WALL MOUNTED MULTI–CANDELA STROBE, NUMBERS & LETTERS ADJACENT INDICATE CANDELA SETTING	7125–1653:0188
1/4W F 30cd		GAMEWELL–FCI SPSCW	CEILING MOUNTED MULTI–CANDELA SPEAKER/STROBE DEVICE NUMBERS & LETTERS ADJACENT INDICATE CANDELA SETTING OF STROBE AND SPEAKER SOUND OUTPUT	7300–1653:201
1/4W HF 30cd		GAMEWELL–FCI SPSR	SAME AS CEILING MOUNTED MULTI–CANDELA SPEAKER/STROBE DEVICE, EXCEPT WALL MOUNTED	7300–1653:201
1/4W F		GAMEWELL–FCI SPCW	CEILING MOUNTED FIRE ALARM SPEAKER, NUMBERS & LETTERS ADJACENT INDICATE SPAEKER SOUND OUTPUT	7300–1653:201
1/4W HF		GAMEWELL–FCI SPR	WALL MOUNTED INDOOR FIRE ALARM SPEAKER, NUMBERS & LETTERS ADJACENT INDICATE SPEAKER SOUND OUTPUT	7300–1653:201
1/2W HF WP		GAMEWELL–FCI SPRK	WALL MOUNTED INDOOR FIRE ALARM SPEAKER, NUMBERS & LETTERS ADJACENT INDICATE SPEAKER SOUND OUTPUT	7300–1653:201

DRAWING INDEX

PROJECT DESCRIPTION

1. OCCUPANCY TYPE: E (SCHOOL)
2. SYSTEM TYPE: CLASS B, AUTOMATIC ADDRESSABLE SYSTEM.
3. STYLE OF CIRCUITS:
   A. INITIATING CIRCUIT, SLC LOOP CLASS B/STYLE 4.
   B. NOTIFICATION APPLIANCE CIRCUITS, NAC CLASS B/STYLE Y.
4. METHOD OF COMMUNICATION: RADIO TRANSMISSION.
5. PROVIDE UL CENTRAL STATION MONITORING.

SCOPE OF WORK

1. REPLACE ALL EXISTING FIRE ALARM CONTROL PANELS WITH NEW GAMEWELL–FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT AS SHOWN ON DRAWINGS.
2. CONNECT ALL EXISTING DEVICES AND APPLIANCES IN BUILDING NOT UNDERGOING DETECTION AND NOTIFICATION MODERNIZATIONS. PROVIDE POWER SUPPLIES, CONTROL UNITS AND OTHER EQUIPMENT AS NEEDED AND AS INDICATED ON CONTRACT DOCUMENTS TO ACCOMMODATE THESE CONNECTIONS.
3. REPLACE THE EXISTING OFF–SITE NOTIFICATION TRANSMITTER SYSTEM WITH A NEW RADIO MESH TRANSMITTER SYSTEM TO BE MONITORED BY SCHOOL DISTRICT'S CENTRAL MONITORING STATION.
4. PERFORM COMPLETE FIRE ALARM MODERNIZATION IN BUILDINGS AS SHOWN ON CONTRACT DOCUMENTS INCLUDING BUT NOT BE LIMITED TO:
   A. REPLACE OR INSTALL NEW GAMEWELL–FCI E3 SERIES EQUIPMENT AS SHOWN ON DRAWINGS.
   B. INSTALL ALL NEW NOTIFICATION DEVICES THROUGHOUT, U.O.N.
   C. REPLACE ALL EXISTING INITIATING SMOKE AND HEAT DETECTOR HEADS WITH NEW AND RECONNECT ALL EXISTING DETECTOR BASES AND THEIR ASSOCIATED INITIATING CIRCUIT WIRING TO REMAIN AS SHOWN ON DRAWINGS.
   D. DOCUMENT AND TEST FIRE ALARM SYSTEM OPERATION AFTER COMPLETION OF INSTALLATION.

SYMBOL LIST

CEILING	WALL	
	RP	NAC REMOTE POWER SUPPLY
	A	FIRE ALARM CONTROL PANEL, LETTER ADJACENT INDICATES PANEL STYLE AS REFERENCED IN FIRE ALARM LEGEND
	FATC	FIRE ALARM TERMINAL CABINET
	LOC	LOCAL OPERATING CONSOLE
	RFU	OFF–SITE NOTIFICATION TRANSMITTER
		SMOKE DETECTOR
		HEAT DETECTOR
(AC)		ABOVE CEILING HEAT DETECTOR
		DUCT DETECTOR
	HP	MANUAL PULL STATION AT +42" MIN. TO 48" M.A.F.F. TO HIGHEST PART OF ACTIVATING HANDLE
	MM	MONITOR MODULE
	SS	SUPERVISORY SWITCH ON "OS&Y" VALVE
	AM	(E) MONITORING MODULE
F	HF	CEILING OR WALL FIRE ALARM STROBE. WALL MOUNTED TYPE SHALL BE MOUNTED WITH ENTIRE LENS MOUNTED AT NOT LESS THAN 80" AND NOT GREATER THAN 96" AFF.
F	HF	CEILING OR WALL FIRE ALARM SPEAKER. WALL MOUNTED TYPE SHALL BE MOUNTED AT NOT LESS THAN 96" TO TOP OF DEVICE.
F	HF	CEILING OR WALL FIRE ALARM SPEAKER/STROBE. WALL MOUNTED TYPE SHALL BE MOUNTED WITH ENTIRE LENS MOUNTED AT NOT LESS THAN 80" AND NOT GREATER THAN 90" AFF.
	WP HF	FIRE ALARM STROBE – WEATHERPROOF, WITH ENTIRE LENS MOUNTED BETWEEN +80" TO 96" AFF
	WP HF	FIRE ALARM SPEAKER – WEATHERPROOF AT NOT LESS THAN 90" AFF TO TOP OF DEVICE.
	HF	(E) HORN/STROBE
	HF	(E) HORN
	RCE	RELAY MODULE RCE 95
	SCE	SIGNAL CONTROL RELAY
	EOL	END–OF–LINE DEVICE
	1	SHEET NOTE REFERENCE MARKER, NOTE #1 SHOWN.
		WIRES IN CONDUIT CONCEALED UNDERFLOOR OR UNDERGROUND.
		WIRES IN CONDUIT.

ABBREVIATIONS

ARCH.	ARCHITECT	**(N)**	NEW
AWG	AMERICAN WIRE GAUGE	**NAC**	NOTIFICATION APPLIANCE CIRCUITS
BKR	BREAKER	**NIC**	NOT IN CONTRACT
CB	CIRCUIT BREAKER	**NO**	NUMBER
CKT	CIRCUIT	**SLC**	SIGNALING LINE CIRCUITS
CLG	CEILING	**TYP**	TYPICAL
(E)	EXISTING	**UON**	UNLESS OTHERWISE NOTED
FA	FIRE ALARM	**WP**	WEATHERPROOF
FACP	FIRE ALARM CONTROL PANEL	**SWBD**	SWITCHBOARD
IOR	INSPECTOR OF RECORD		
IDC	INITIATING DEVICE CIRCUITS		

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A–P PROJECT NUMBER: 16021

REGISTERED PROFESSIONAL ENGINEER
Y. B. KUNG
No. 11726
EXP. 9–30–16
ELECTRICAL
STATE OF CALIFORNIA

Revision:	Date:
96% CD	8/26/16

FIRE ALARM MODERNIZATION
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Job No.:	16021
Drawn By:	AP
Date:	05–23–2016
Eng. Approval:	DAVID KUNG
PM Approval:	DAVID KUNG
Scale:	AS SHOWN

Sheet Title:
FIRE ALARM GENERAL INFORMATION

Sheet No.:
FA0.0

DEVICE AND CABLE DESIGNATION LEGEND

FOR FIRE ALARM INITIATING DEVICES

EXAMPLE: (5) A 1D–5

- 5 — DEVICE REFERENCE NUMBER
- A — SIGNALING LINE CIRCUIT (LOOP) NUMBER
- 1D — FACP ID, A: COPT FACP–A
- (5) — DEVICE SYMBOL

ABOVE EXAMPLE MEANS "5TH DEVICE IN LOOP 1D"

FOR FIRE ALARM NOTIFICATION APPLIANCES

EXAMPLE: (F) 1S–1

- 1 — DEVICE REFERENCE NUMBER
- S — CIRCUIT DESIGNATION (N FOR STROBE, S FOR SPEAKER)
- (F) — DEVICE SYMBOL (SPEAKER/STROBE)

ABOVE EXAMPLE MEANS "1st" DEVICE IN CKT. "1S"

CABLE DESIGNATION

EXAMPLE: 1A

- 1 — CABLE QTY.
- A — CABLE TYPE

WIRING SCHEDULE

WIRE SYMBOL	WIRE DESCRIPTION	APPLICATION
A	2#16 AWG, TWISTED SHIELDED PAIR (USE AQUASEAL UNDERGROUND)	DATA AND INITIATING CIRCUIT SLC LOOP
B	2#16 AWG TWISTED PAIR	AUDIBLE CIRCUIT
C	2#12 AWG THHN	NOTIFICATION CIRCUIT
D	2#14 AWG THHN	NOTIFICATION CIRCUIT
E	2#12 AWG THHN	FCPS ACTIVATION

GENERAL CONSTRUCTION NOTES

1. CONDUIT AND WIRING SHOWN ON DRAWINGS ARE DIAGRAMMATIC, EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD TO SUIT SITE CONDITIONS.
2. LOCATION OF DEVICES SHOWN ON DRAWINGS ARE AS ACCURATE AS POSSIBLE, IF DEVICES CANNOT BE INSTALLED EXACTLY AS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL INSTALL THEM AS CLOSE AS POSSIBLE TO THE INDICATED LOCATION. THE FINAL LOCATIONS OF ALL DEVICES SHALL BE RECORDED AND INCORPORATED INTO THE AS–BUILT DRAWINGS.
3. PROVIDE ALL REQUIRED CUTTING, PATCHING, BACKFILL AND REPAIRS NECESSARY TO RESTORE DAMAGED SURFACES TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS EXISTING. COORDINATE ALL WORK IN FIELD WITH GENERAL CONTRACTOR IN FIELD PRIOR TO START OF WORK.
4. ALL NEW RACEWAYS AND CONDUCTORS SHALL BE INSTALLED CONCEALED WHERE POSSIBLE. FOR CONDUITS THAT ARE TO BE INSTALLED EXPOSED AND SURFACE MOUNTED ON EXISTING WALLS, CEILINGS AND/OR CONCRETE SURFACES SHALL BE NEATLY ROUTED AND SHALL RUN PARALLEL TO OR AT RIGHT ANGLES TO BUILDING LINES.
5. WHERE DEVICES ARE INACCESSIBLE ABOVE THE CEILING, PROVIDE 24"X24" ACCESS PANEL IN THE CEILING AS REQUIRED BY CODE, WHETHER OR NOT SPECIFICALLY INDICATED ON DRAWINGS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE LOCATING ALL EXISTING UNDERGROUND SYSTEM IN THE AREA OF UNDERGROUND WORK. REPAIR ALL DAMAGED SYSTEMS TO OWNERS SATISFACTION. MAINTAIN EXTREME CARE DURING TRENCHING AS EXISTING SYSTEMS ARE KNOWN TO EXIST IN THE AREA. THE DRAWINGS AND SPECIFICATIONS ARE FOR THE ASSISTANCE AND GUIDANCE OF THE CONTRACTOR. EXACT LOCATIONS, DISTANCE AND ELEVATIONS SHALL BE GOVERNED BY ACTUAL CONDITIONS, COORDINATE THE CONTRACT DOCUMENTS AND FIELD CONDITIONS TO DETERMINE EXACT ROUTING AND FINAL TERMINATIONS FOR ALL WORK.
7. SUFFICIENT ACCESS AND WORKING SPACE SHALL BE PROVIDED AND MAINTAINED ABOUT ALL ELECTRIC EQUIPMENT TO PERMIT READY AND SAFETY OPERATION AND MAINTENANCE OF SUCH EQUIPMENT PER CEC ARTICLE 110–16.
8. ALL CONDUITS SHALL BE MINIMUM 3/4", U.O.N. POWER BRANCH CIRCUITS SHALL BE A MINIMUM TWO (2) #12 AWG AND ONE (1) #12 AWG GROUND TYPE THWN/THHN.
9. ALL ELECTRICAL EQUIPMENT INSTALLED OUTDOORS SHALL BE WEATHERPROOF, EXTERIOR CONDUIT RUNS INTO BUILDING SHALL INSTALLED WITH FLASHING, CAULKED AND SEALED. CONDUITS FOR EXTERIOR ELECTRICAL DEVICES SHALL BE RUN INSIDE BUILDING, UNLESS OTHERWISE NOTED ON DRAWINGS.
10. ALL INSTALLATION OF EXPOSED SURFACE MOUNTED RACEWAYS IN OFFICES, CLASSROOMS AND IN PUBLIC AREAS SHALL BE VERIFIED AND DETERMINED IN FIELD FOR THE BEST POSSIBLE WAY OF CONDUIT ROUTING PRIOR TO ROUGH–IN. CONTRACTOR IS TO DETERMINE THE ACCESSIBILITY OF ATTIC, FURRED SPACES, HOLLOW MILLIONS AND SOFFIT, ETC. IN SUCH AREA IF THE SYSTEM CAN BE ROUTED EITHER BY FISHING OR ACCESSIBILITY, CONTRACTOR IS TO DO SO, IF INACCESSIBILITY IS DETERMINED, CONTRACTOR SHALL INSTALL SURFACE MOUNTED RACEWAY IN THE MOST AESTHETICALLY PLEASING MEANS AS POSSIBLE IN FIELD.
11. FOR ALL EXISTING FIRE ALARM EQUIPMENT CONTROL PANELS AND REMOTE POWER SUPPLIES THAT ARE TO BE REPLACED WITH NEW, RETAIN ALL EXISTING DEDICATED 120V CIRCUITS IN PLACE AND REUSE THEM FOR DEDICATED POWER CONNECTIONS TO ALL NEW REPLACEMENT PANELS AND POWER SUPPLIES WHEREVER AVAILABLE.
12. CONTRACTOR SHALL FIELD VERIFY THE EXTENT OF ELECTRICAL DEMOLITION WORK AND QUANTITIES OF ELECTRICAL TO BE REMOVED AS DICTATED BY THE REQUIREMENTS OF THE PROJECT. ALL EXISTING WALL, ABOVE AND BELOW CEILING MOUNTED FIRE ALARM DEVICES, EQUIPMENT, ASSOCIATED FIRE ALARM J–BOXES, CONDUITS AND WIRES SHALL BE REMOVED, DISPOSED, AND/OR SALVAGED AS DIRECTED BY THE SCHOOL DISTRICT, UNLESS OTHERWISE NOTED ON DRAWINGS TO REMAIN AND/OR TO BE RECONNECTED, CONTRACTOR TO VERIFY IN FIELD AND TO DETERMINE FOR THE POSSIBILITY OF UTILIZING SOME OF THE EXISTING REMAINING SURFACE CONDUITS AND BOXES AND MAY REUSE THEM TO FACILITATE FOR THE INSTALLATION OF NEW FIRE ALARM DEVICES AND WIRING WHERE POSSIBLE.
13. ALL EXISTING RECESSED OUTLET BOXES AND RACEWAYS IN EXISTING WALLS THAT ARE TO REMAIN MAY BE ABANDONED IN PLACE, REMOVE WIRING IN RACEWAY AND PROVIDE A BLANK COVER PLATE OVER EXISTING OUTLET BOX. THE EXISTING REMAINING CONCEALED BOXES AND RACEWAYS MAY BE REUSED FOR NEW WORK PROVIDED THEY MEET ALL REQUIREMENTS OF THESPECIFICATION FOR NEW WORK.

GENERAL FIRE ALARM NOTES

1. THE INSTALLATION OF THE FIRE ALARM SYSTEM SHALL BE MADE IN COMPLIANCE WITH THE FOLLOWING CODES AND STANDARDS:
   A. 2013 CALIFORNIA BUILDING CODE – PART 2, TITLE 24, CCR.
   B. 2013 CALIFORNIA ELECTRICAL CODE – PART 3, TITLE 24, CCR.
   C. 2013 CALIFORNIA MECHANICAL CODE – PART 4, TITLE 24, CCR.
   D. 2013 CALIFORNIA PLUMBING CODE – PART 5, TITLE 24, CCR.
   E. 2013 CALIFORNIA FIRE CODE – PART 9, TITLE 24, CCR.
   F. TITLE 19, CCR, PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS.
   G. APPLICABLE STANDARD NFPA 72 NATIONAL FIRE ALARM CODE 2013 EDITION.
2. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
3. UPON COMPLETION OF THE INSTALLATION OF THE SYSTEMS, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
4. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
5. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
6. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TOO THE FINAL INSPECTION AND/OR TESTING.
7. ALL PENETRATIONS THROUGH RATED ASSEMBLIES, REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPE OF MATERIALS SHALL BE IDENTIFIED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
8. WALL MOUNTED VISUAL NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
9. WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THEN 6" TO A HORIZONTAL STRUCTURE.
10. AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (Dba) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 Dba ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.
11. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
12. THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
13. 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 CANDELLA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
14. ALL FIRE ALARM WIRING SHALL BE FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
15. PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZES PER CEC.
16. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
17. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUIT ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
18. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURER SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS. IT IS THE INTENT OF THIS PROJECT THAT THE EXISTING FACP BE PROTECTED AND RECONNECTED IN PLACE.
19. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
20. THE INSTALLING CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION PER NFPA 72, FIGURE 10.18.2.1.1.
21. CONTROL PANELS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48".
22. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
23. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
24. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.
25. FIRE ALARM WIRING ABOVE THE ACCESSIBLE CEILINGS TO BE PLENUM RATED FPLP ON J–KOOKS, UON.
26. ALL FIRE ALARM DEVICES SHALL BE CALIFORNIA STATE FIRE MARSHALL (CSFM) LISTED).
27. THE FIRE ALARM SYSTEM SHALL BE INSTALLED COMPLETELY IN CONFORMANCE WITH ALL REQUIREMENTS OF SB575 GREEN OAK FAMILY ACADEMY ELEMENTARY SCHOOL FIRE PROTECTION ACT.
28. SUPERVISORY STATION: AUTOMATIC FIRE ALARM SYSTEM SHALL TRANSMIT THE ALARM, SUPERVISORY, AND TROUBLE SIGNALS TO AN APPROVAL SUPERVISING STATION AS REQUIRED BY NFPA 72, AS AMENDED BY ARTICLE 91, THE FIRE ALARM SYSTEM IS TO BE MONITORED BY SCHOOL DISTRICT'S, AN OFF–SITE U.L. CERTIFIED CENTRAL MONITORING STATION.

FIRE ALARAM SYSTEM OPERATION MATRIX

CAUSE	EFFECT: ALARM AT FACP	ALARM AT ANNUNCIATOR	ALARM AT OFF SITE REPORTING	ACTIVATE F.A. PANEL	ACTIVATE AUDIBLES	ACTIVATE VISUALS	ACTIVATE AUDIO/VISUALS	TROUBLE AT FACP	TROUBLE AT ANNUNCIATOR	TROUBLE AT OFF SITE REPORTING	SUPERVISORY AT FACP	SUPERVISORY AT ANNUNCIATOR	SUPERVISORY AT OFF SITE REPORTING	FAN SHUT DOWN	DEACTIVATE ASSEMBLY AREA AUDIO SYSTEM	RETURN ASSEMBLY AREA LIGHTING TO 100%	RELEASE SECURED DOORS	ELEVATOR RECALL & ELEVATOR SHUNT TRIP	DOOR HOLDER RELEASE	SHUT FIRE SMOKE DAMPERS	REMARKS
DUCT SMOKE DETECTORS											•	•	•		•					•	B, D
SMOKE DETECTORS	•	•	•	•	•	•	•								•	•	•		•	•	•	A
HEAT DETECTORS	•	•	•	•	•	•	•								•	•	•		•	•	•	A
MANUAL PULL STATIONS	•	•	•	•	•	•	•								•	•	•	•	•	•	•	A
FIRE RISER FLOW SWITCH	•	•	•	•	•	•	•								•	•	•	•	•	•	•	A
FIRE RISER TAMPER SWITCH											•	•	•									B
SYSTEM RESET																						
SIGNAL SILENCE								•	•	•												C
AC POWER FAILURE								•	•	•												C
FIRE ALARM TROUBLE (OPEN, SHORTS, OR GROUNDS) ON INITIATION OR SIGNALING CIRCUITS								•	•	•												C

REMARKS:

A. MANUAL "ACKNOWLEDGE" FUNCTION AT CONTROL UNIT AND REMOTE ANNUNCIATOR, SILENCE AUDIBLE ALARM L, VISUAL ALARM REMAINS UNTIL INITIATING ALARM IS CLEARED.

B. MANUAL "ACKNOWLEDGE" FUNCTION AT CONTROL UNIT AND REMOTE ANNUNCIATOR, SILENCE AUDIBLE SUPERVISORY SIGNAL, VISUAL SIGNAL REMAINS DISPLAYED UNTIL INITIATING SUPERVISORY IS CLEARED.

C. MANUAL "ACKNOWLEDGE" FUNCTION AT CONTROL UNIT AND REMOTE ANNUNCIATOR, SILENCE AUDIBLE TROUBLE SIGNAL, VISUAL SIGNAL REMAINS DISPLAYED UNTIL INITIATING TROUBLE IS CLEARED.

D. CAUSE GLOBAL SHUT DOWN OF ASSOCIATED HVAC EQUIPMENT WITHIN THE BUILDING WHEN HVAC DUCT SMOKE DETECTORS ARE ACTIVATED AND SHALL ACTIVATE LOCAL FIRE/SMOKE DAMPERS THROUGHOUT THE AFFECTED AREAS.

EAST SIDE HIGH SCHOOL DISTRICT
Silicon Valley

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Revision:	Date:
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FIRE ALARM MODERNIZATION
SILVER CREEK HIGH SCHOOL
3434 SILVER CREEK ROAD
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OWNER:
East Side Union
High School District
830 North Capital Ave
San Jose, CA 95133
P: (408)347–5000
F: (408)347–5045

GENERAL CONTRACTOR:
Gonsalves & Stronck Const. Co., Inc.
1000 Washington Street
San Carlos, CA 94070–5319
P:

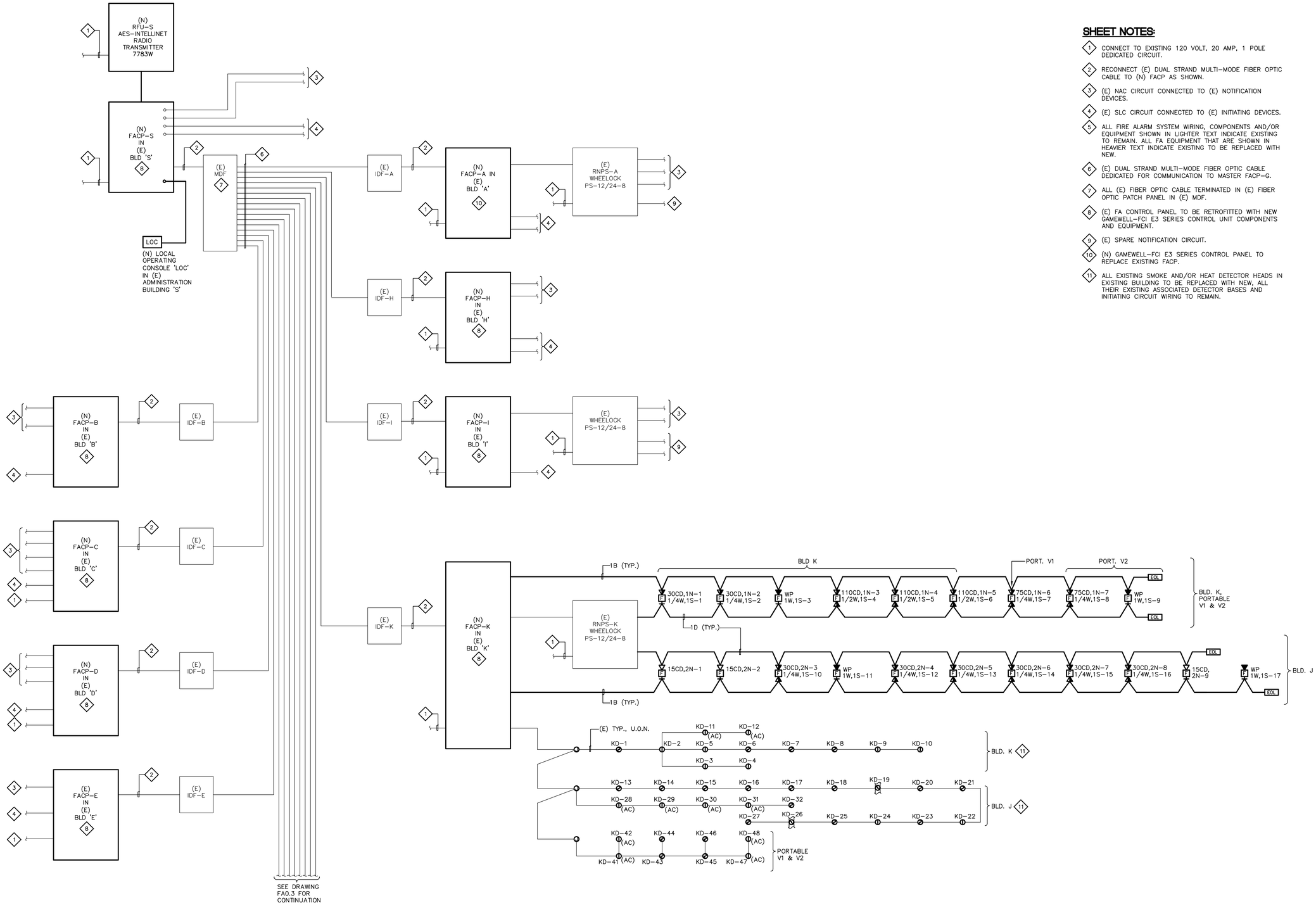
FIRE ALARM CONTRACTOR:
INTREPID
6300 San Ignacio Ave.
San Jose, CA 95119–1213
P: (510) 597–9966
F: (510) 597–9980

ELECTRICAL CONTRACTOR:
Smith & Sons Electric, Inc.
44081 South Grimmer Blvd.
Fremont, CA 94538–6382
P: (510) 651–4994

Job No.:	16021
Drawn By:	AP
Date:	05–23–2016
Eng. Approval:	DAVID KUNG
PM Approval:	DAVID KUNG
Scale:	AS SHOWN

Sheet Title:
FIRE ALARM GENERAL INFORMATION

Sheet No.:
FA0.1



SHEET NOTES:

1. CONNECT TO EXISTING 120 VOLT, 20 AMP, 1 POLE DEDICATED CIRCUIT.
2. RECONNECT (E) DUAL STRAND MULTI-MODE FIBER OPTIC CABLE TO (N) FACP AS SHOWN.
3. (E) NAC CIRCUIT CONNECTED TO (E) NOTIFICATION DEVICES.
4. (E) SLC CIRCUIT CONNECTED TO (E) INITIATING DEVICES.
5. ALL FIRE ALARM SYSTEM WIRING, COMPONENTS AND/OR EQUIPMENT SHOWN IN LIGHTER TEXT INDICATE EXISTING TO REMAIN. ALL FA EQUIPMENT THAT ARE SHOWN IN HEAVIER TEXT INDICATE EXISTING TO BE REPLACED WITH NEW.
6. (E) DUAL STRAND MULTI-MODE FIBER OPTIC CABLE DEDICATED FOR COMMUNICATION TO MASTER FACP-G.
7. ALL (E) FIBER OPTIC CABLE TERMINATED IN (E) FIBER OPTIC PATCH PANEL IN (E) MDF.
8. (E) FA CONTROL PANEL TO BE RETROFITTED WITH NEW GAMEWELL-FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT.
9. (E) SPARE NOTIFICATION CIRCUIT.
10. (N) GAMEWELL-FCI E3 SERIES CONTROL PANEL TO REPLACE EXISTING FACP.
11. ALL EXISTING SMOKE AND/OR HEAT DETECTOR HEADS IN EXISTING BUILDING TO BE REPLACED WITH NEW, ALL THEIR EXISTING ASSOCIATED DETECTOR BASES AND INITIATING CIRCUIT WIRING TO REMAIN.

1 FIRE ALARM RISER DIAGRAM ◇5

NOT TO SCALE

EAST SIDE HIGH SCHOOL DISTRICT
Silicon Valley

ACKERMAN PRACTICON
CONSOLIDATED TECHNICAL SERVICES
501 E. CHARLESTON ROAD
PALO ALTO, CA 94303
650 . 965 . 1000 FAX: 650 . 494 . 9312
A-P PROJECT NUMBER: 16021

REGISTERED PROFESSIONAL ENGINEER
Y. B. KUNG
No. 11726
EXP. 9-30-16
ELECTRICAL
STATE OF CALIFORNIA

Revision:	Date:
96% CD	8/26/16

FIRE ALARM MODERNIZATION
SILVER CREEK HIGH SCHOOL
3434 SILVER CREEK ROAD
SAN JOSE, CA 95121

OWNER:
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High School District
830 North Capital Ave
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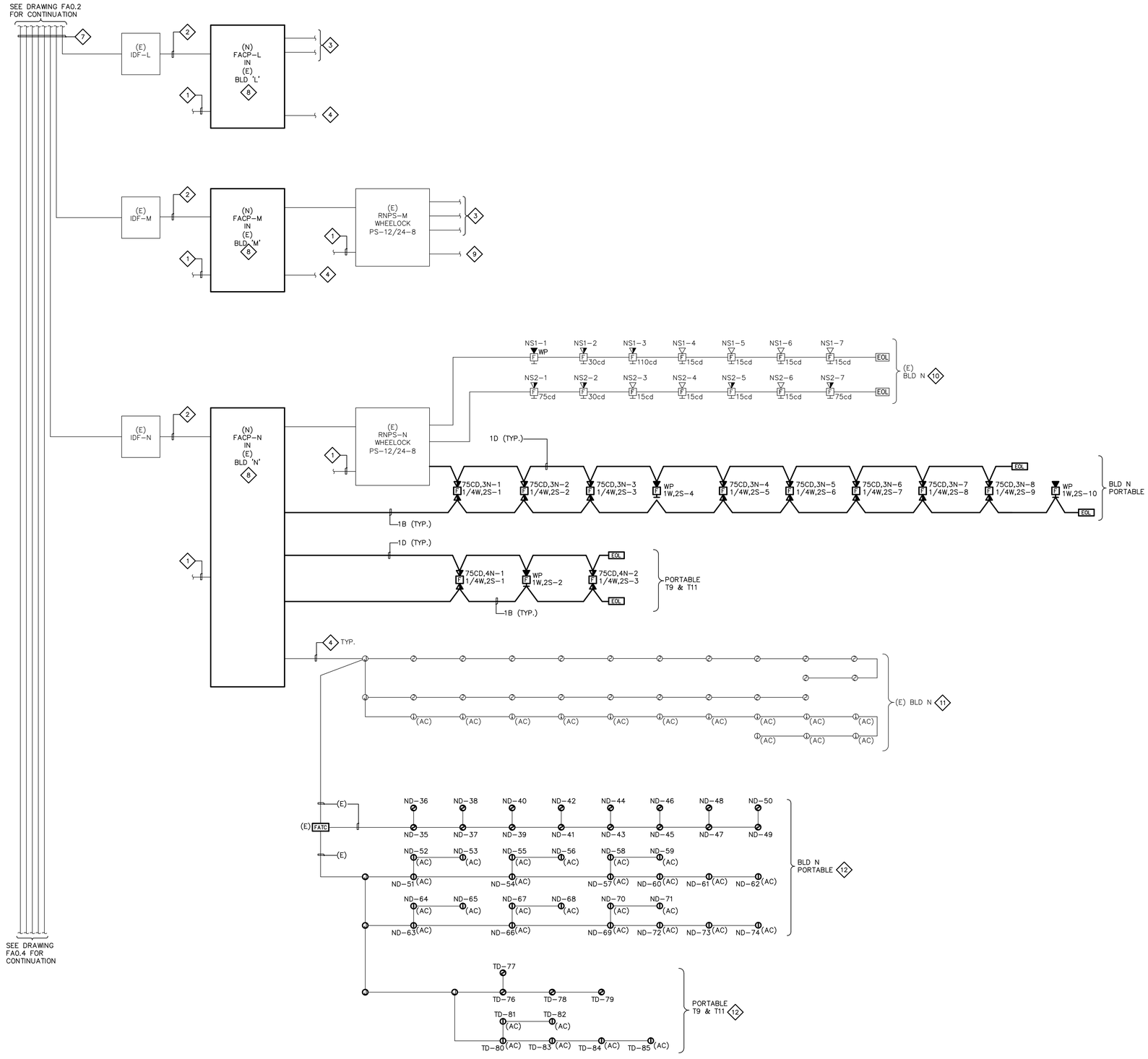
FIRE ALARM RISER DIAGRAM

Sheet No.:
FA0.2



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2. RECONNECT (E) DUAL STRAND MULTI-MODE FIBER OPTIC CABLE TO (N) FACP AS SHOWN.
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5. ALL FIRE ALARM SYSTEM WIRING, COMPONENTS AND/OR EQUIPMENT SHOWN IN LIGHTER TEXT INDICATE EXISTING TO REMAIN. ALL FA EQUIPMENT THAT ARE SHOWN IN HEAVIER TEXT INDICATE EXISTING TO BE REPLACED WITH NEW.
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8. (E) FA CONTROL PANEL TO BE RETROFITTED WITH NEW GAMEWELL-FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT.
9. (E) SPARE NOTIFICATION CIRCUIT.
10. ALL (E) NOTIFICATION DEVICES IN (E) BLDG. N TO REMAIN.
11. ALL (E) INITIATING DEVICES IN (E) BLDG. N TO REMAIN.
12. ALL EXISTING SMOKE AND/OR HEAT DETECTOR HEADS IN EXISTING PORTABLE BUILDING TO BE REPLACED WITH NEW, ALL THEIR EXISTING ASSOCIATED DETECTOR BASES AND INTIATING CIRCUIT WIRING TO REMAIN.

1 FIRE ALARM RISER DIAGRAM 5
NOT TO SCALE

EAST SIDE HIGH SCHOOL DISTRICT
Silicon Valley

ACKERMAN PRACTICON
CONSOLIDATED TECHNICAL SERVICES
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A-P PROJECT NUMBER: 16021

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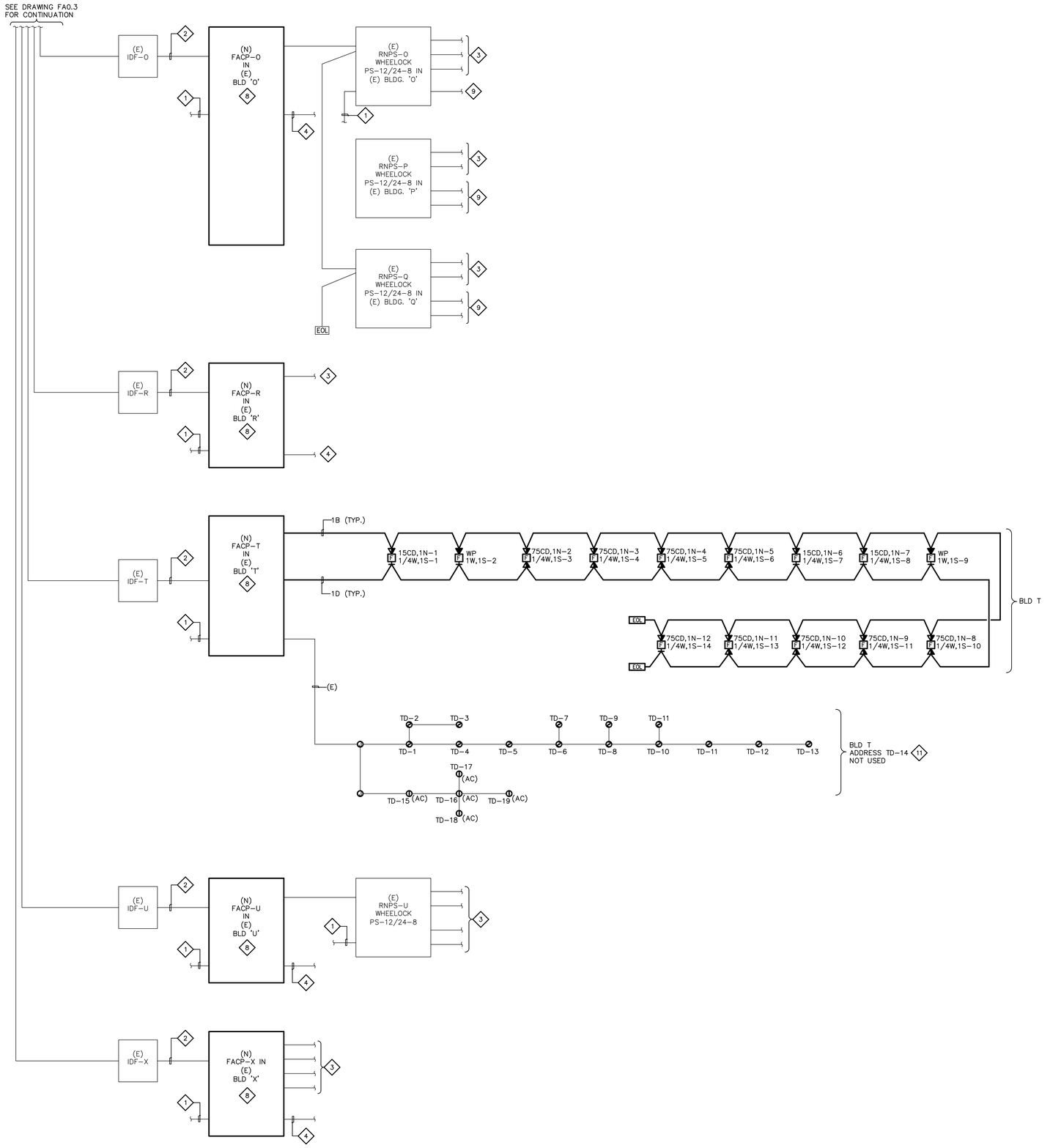
Sheet Title:
FIRE ALARM RISER DIAGRAM

Sheet No.:
FA0.3



1 **FIRE ALARM RISER DIAGRAM** ◇5
NOT TO SCALE

SHEET NOTES:

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8. (E) FA CONTROL PANEL TO BE RETROFITTED WITH NEW GAMEWELL-FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT.
9. ALL (E) INITIATING DEVICES IN (E) BLDG. T TO REMAIN.
10. ALL (E) INITIATING DEVICES IN (E) PORTABLE 'T' TO REMAIN.
11. ALL EXISTING SMOKE AND/OR HEAT DETECTOR HEADS IN EXISTING BUILDING TO BE REPLACED WITH NEW. ALL THEIR EXISTING ASSOCIATED DETECTOR BASES AND INITIATING CIRCUIT WIRING TO REMAIN.

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Sheet Title:
FIRE ALARM RISER DIAGRAM

Sheet No.:
FA0.4

BATTERY CALCULATION - FACP - I STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	XP95-T	HEAT DETECTOR	0.00025	0.00825	0.004	0.132
(E)	XP95-T	HEAT DETECTOR	0.00025	0.00675	0.004	0.15624
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.0068	0.00434	0.11
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.2408		
		PANEL ALARM CURRENT				0.65824

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.2408	
X 24HOUR STANDBY	5.7792	
TOTAL ALARM CURRENT (B)		0.65824
5 MINUTES OF ALARM (X 0.083)		0.0546
TOTAL BATTERY REQUIREMENT (A+B)		5.8338
SAFETY MARGIN (25%)		7.2923
BATTERY SUPPLIED (2) 12V		18AH

BATTERY CALCULATION - FACP - D STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	XP95-T	HEAT DETECTOR	0.00025	0.00075	0.004	0.012
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.01122	0.00434	0.14322
(E)	PID-95	ADDRESSABLE MONITOR MODULE	0.0005	0.02	0.0015	0.06
(E)	AS-24MCW-FR	75 CD HORN/STROBE	0	0	0.157	1.727
(E)	AS-24MCW-FR	30 CD HORN/STROBE	0	0	0.114	0.114
(E)	AH24WP	WEATHER PROOF HORN	0	0	0.041	0.123
(E)	RSS-24MCW-FR	30 CD STROBE	0	0	0.065	0.13
(E)	RSS-24MCW-FR	15 CD STROBE	0	0	0.041	0.041
(E)	AS-24MCW-FR	110 CD HORN/STROBE	0	0	0.179	0.179
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.23975		
		PANEL ALARM CURRENT				2.78922

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.23975	
X 24HOUR STANDBY	5.754	
TOTAL ALARM CURRENT (B)		2.78922
5 MINUTES OF ALARM (X 0.083)		0.2315
TOTAL BATTERY REQUIREMENT (A+B)		5.9855
SAFETY MARGIN (25%)		7.4819
BATTERY SUPPLIED (2) 12V		18AH

BATTERY CALCULATION - FACP - A STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
(E)	XP95-T	HEAT DETECTOR	0.00025	0.0015	0.004	0.024
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.00714	0.00434	0.09114
(E)	XP95-PD	DUCT SMOKE DETECTOR	0.01	0.02	0.055	0.11
(E)	MS-95	PULL STATION	0.0005	0.0015	0.0015	0.0045
(E)	PID95	ADDRESSABLE MODULE	0.0005	0.001	0.0015	0.003
				0		0
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.25014		
		PANEL ALARM CURRENT				0.49264

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.25014	
X 24HOUR STANDBY	6.00336	
TOTAL ALARM CURRENT (B)		0.49264
5 MINUTES OF ALARM (X 0.083)		0.0409
TOTAL BATTERY REQUIREMENT (A+B)		6.0442
SAFETY MARGIN (25%)		7.5553
BATTERY SUPPLIED (2) 12V		18AH

BATTERY CALCULATION - FACP - K STYLE G

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
				0		0
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
1	AM-50-70	Amplifier 70V 50W	0.049	0.049	2.3	2.3
1	1100-1323	TRANSPONDER VOICE GATEWAY F0 (INI-VG)	0.15	0.15	0.15	0.15
				0		0
(E)	GAMEWELL PEER TO PEER	NETWORK INTERFACE	0.15	0.15	0.15	0.132
18	XP95-P	SMOKE DETECTOR	0.00034	0.00612	0.00434	0.078
26	XP95-T	HEAT DETECTOR	0.00025	0.0065	0.004	0.104
2	XP95-PD	DUCT SMOKE DETECTOR	0.00034	0.00068	0.004	0.008
	PID-95	ADDRESSABLE MONITOR MODULE	0.0005	0.0005	0.0015	0.11
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.5688		
		PANEL ALARM CURRENT				3.129

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.5688	
X 24HOUR STANDBY	13.6512	
TOTAL ALARM CURRENT (B)		3.129
5 MINUTES OF ALARM (X 0.083)		0.2597
TOTAL BATTERY REQUIREMENT (A+B)		13.9109
SAFETY MARGIN (25%)		17.3886
BATTERY SUPPLIED (2) 12V		18AH

BATTERY CALCULATION - FACP - E STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	PEER TO PEER	NETWORK INTERFACE	0.15	0.15	0.15	0.15
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.00748	0.00434	0.09548
(E)	GAMEWELL PID-95	ADDRESSABLE MONITOR MODULE	0.0005	0.015	0.0015	0.045
(E)	AS-24MCW-FR	30 CD HORN/STROBE	0	0	0.114	1.254
(E)	AS-24MCW-FR	75 CD HORN/STROBE	0	0	0.157	0.471
(E)	AS-24MCW-FR	15 CD HORN/STROBE	0	0	0.065	0.065
(E)	AH24WP	WEATHER PROOF HORN	0	0	0.041	1.23
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.39148		
		PANEL ALARM CURRENT				3.57048

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.39148	
X 24HOUR STANDBY	9.39552	
TOTAL ALARM CURRENT (B)		3.57048
5 MINUTES OF ALARM (X 0.083)		0.2963
TOTAL BATTERY REQUIREMENT (A+B)		9.6919
SAFETY MARGIN (25%)		12.1148
BATTERY SUPPLIED (2) 12V		18AH

BATTERY CALCULATION - FACP - B STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.00816	0.00434	0.10416
(E)	PID95	ADDRESSABLE MODULE	0.0005	0.02	0.0015	0.06
(E)	AS-24MCW-FR	HORN/STROBE (110CD)	0	0	0.179	1.253
(E)	AH24WP	WEATHER PROOF HORN	0	0	0.041	0.082
(E)	RSS-24MCW-FR	STROBE (15CD)	0	0	0.041	0.041
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.24716		
		PANEL ALARM CURRENT				1.80016

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.24716	
X 24HOUR STANDBY	5.93184	
TOTAL ALARM CURRENT (B)		1.80016
5 MINUTES OF ALARM (X 0.083)		0.1494
TOTAL BATTERY REQUIREMENT (A+B)		6.0813
SAFETY MARGIN (25%)		7.6016
BATTERY SUPPLIED (2) 12V		18AH

BATTERY CALCULATION - FACP - L STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	XP35-T	HEAT DETECTOR	0.00025	0.0005	0.004	0.008
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.01088	0.00434	0.13868
(E)	GAMEWELL P1D-95	ADDRESSABLE MONITOR MODULE.	0.0005	0.0165	0.0015	0.0495
(E)	AS-24MCW-FR	110 CD HORN/STROBE	0	0	0.197	1.182
(E)	#VALUE!	75 CD HORN/STROBE	0	0	0.157	1.099
(E)	AS-24MCW-FR	30 CD HORN/STROBE	0	0	0.114	0.228
(E)	RSS-24MCW-FR	15CDSTROBF	0	0	0.041	0.082
(E)	AH24WP	WEATHERPROOF HORN	0	0	0.041	0.123
(E)	DSM-24-R	DUAL SYNC MODULE .	0	0	0.035	0.035
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.24688		
		PANEL ALARM CURRENT				3.20518

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.24688	
X 24HOUR STANDBY	5.92512	
TOTAL ALARM CURRENT (B)		3.20518
5 MINUTES OF ALARM (X 0.083)		0.2660
TOTAL BATTERY REQUIREMENT (A+B)		6.1911
SAFETY MARGIN (25%)		7.7389
BATTERY SUPPLIED (2) 12V		18AH

BATTERY CALCULATION - FACP - H STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	XP95-T	HEAT DETECTOR	0.00025	0.00625	0.004	0.1
(E)	GAMEWELL XP95-P	SMOKE DETECTOR	0.00034	0.00544	0.00434	0.06944
(E)	XP95-PD	DUCT SMOKE DETECTOR	0.01	0.15	0.055	0.825
(E)	DSM-24-R	DUAL SYNC MODULE	0	0	0.038	0.038
(E)	RSS-24MCW-FR	STROBE (15CD)	0	0	0.041	0.123
(E)	RSS-24MCW-FR	STROBE (75CD)	0	0	0.116	0.116
(E)	AS-24MCW-FR	HORN/STROBE (15CD)	0	0	0.093	0.186
(E)	AS-24MCW-FR	HORN/STROBE (110CD)	0	0	0.157	0.157
			0	0	0.197	1.576
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.38069		
		PANEL ALARM CURRENT				3.45044

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.38069	
X 24HOUR STANDBY	9.13656	
TOTAL ALARM CURRENT (B)		3.45044
5 MINUTES OF ALARM (X 0.083)		0.2864
TOTAL BATTERY REQUIREMENT (A+B)		9.4229
SAFETY MARGIN (25%)		11.7787
BATTERY SUPPLIED (2) 12V		18AH

BATTERY CALCULATION - FACP - C STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	XP95-T	HEAT DETECTOR	0.00025	0.00025	0.004	0.004
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.0085	0.00434	0.1085
(E)	RID9S	ADDRESSABLE MODULE	0.0005	0.012	0.0015	0.036
(E)	AS-24MCW-FR	HORN/STROBE (110CO)	0	0	0.179	1.074
(E)	AH24WP	WEATHER PROOF HORN	0	0	0.041	0.082
(E)	RSS-24MCW-FR	STROBE (15CD)	0	0	0.041	0.041
(E)	RSS-24MCW-FR	STROBE (110CO)	0	0	0.155	0.31
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.23975		
		PANEL ALARM CURRENT				1.9155

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
TOTAL STANDBY CURRENT (A)	0.23975	
X 24HOUR STANDBY	5.754	
TOTAL ALARM CURRENT (B)		1.9155
5 MINUTES OF ALARM (X 0.083)		0.1590
TOTAL BATTERY REQUIREMENT (A+B)		5.9130
SAFETY MARGIN (25%)		7.3912
BATTERY SUPPLIED (2) 12V		18AH

EAST SIDE HIGH SCHOOL DISTRICT
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650 . 965 . 1000 FAX: 650 . 494 . 9312
A-P PROJECT NUMBER: 16021

REGISTERED PROFESSIONAL ENGINEER
Y. B. KUNG
No. 11726
EXP. 9-30-16
ELECTRICAL
STATE OF CALIFORNIA

Revision:	Date:
96% CD	8/26/16

FIRE ALARM MODERNIZATION
SILVER CREEK HIGH SCHOOL
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Eng. Approval:	DAVID KUNG
PM Approval:	DAVID KUNG
Scale:	AS SHOWN

Sheet Title:
FIRE ALARM BATTERY CALCULATIONS

Sheet No.:
FA0.5

BATTERY CALCULATION - FACP - U — STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		
				0		
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.219		
		PANEL ALARM CURRENT				0.26

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		ALARM
TOTAL STANDBY CURRENT (A)		0.219		
X 24HOUR STANDBY		5.256		
TOTAL ALARM CURRENT (B)				0.26
5 MINUTES OF ALARM (X 0.083)				0.0216
TOTAL BATTERY REQUIREMENT (A+B)				5.2776
SAFETY MARGIN (25%)				6.5970
BATTERY SUPPLIED (2) 12V				18AH

BATTERY CALCULATION - FACP - R — STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	XP95-T	HEAT DETECTOR	0.00025	0.0015	0.004	0.024
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.00476	0.00434	0.06076
(E)	PID-95	ADDRESSABLE MODULE	0.0005	0.0005	0.0015	0.0015
(E)	RSS-24MCW-FR	15 CD STROBE	0	0	0.041	0.082
(E)	AS-24MCW-FR	HORN/STROBE (30CD)	0	0	0.114	0.228
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.22576		
		PANEL ALARM CURRENT				0.65626

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		ALARM
TOTAL STANDBY CURRENT (A)		0.22576		
X 24HOUR STANDBY		5.41824		
TOTAL ALARM CURRENT (B)				0.65626
5 MINUTES OF ALARM (X 0.083)				0.0545
TOTAL BATTERY REQUIREMENT (A+B)				5.47
SAFETY MARGIN (25%)				6.84
BATTERY SUPPLIED (2) 12V				18AH

BATTERY CALCULATION - FACP - M — STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	XP95-T	HEAT DETECTOR	0.00025	0.00075	0.004	0.15624
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.01632	0.00434	0.11
(E)	PID95	ADDRESSABLE MODULE	0.0005	0.0005	0.0015	0.0015
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.23657		
		PANEL ALARM CURRENT				0.52774

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		ALARM
TOTAL STANDBY CURRENT (A)		0.23657		
X 24HOUR STANDBY		5.67768		
TOTAL ALARM CURRENT (B)				0.52774
5 MINUTES OF ALARM (X 0.083)				0.0438
TOTAL BATTERY REQUIREMENT (A+B)				5.7215
SAFETY MARGIN (25%)				7.1519
BATTERY SUPPLIED (2) 12V				18AH

BATTERY CALCULATION - FACP - X — STYLE B

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	MS-95	PULL STATION	0.0008	0.004	0.0015	0.0075
(E)	XP95-P	SMOKE DETECTOR/BASE	0.0003	0.0211	0.0043	0.2691
(E)	PID95-P	MONITOR M00ULE	0.0008	0.0016	0.0015	0.003
(E)	AS-241575W	15/75C0 HCRNSTR08E	0	0	0.121	0.605
(E)	AS-24MCW	75CD HORNSTK08E	0	0.00001	0.2	1.2
(E)	AS-24MCW	110CD HORNSTROBE	0	0	0.267	1.602
(E)	RSS-241575W	15/75C0 STROBE	0	0	0.09	1.17
(E)	RSS-MCW	75CD STROBE	0	0	0.09	0.36
(E)	MT-12/24-R	WEATHERPROOF HORN	0	0	0.108	0.432
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.24571		
		PANEL ALARM CURRENT				5.9086

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		ALARM
TOTAL STANDBY CURRENT (A)		0.24571		
X 24HOUR STANDBY		5.89704		
TOTAL ALARM CURRENT (B)				5.9086
5 MINUTES OF ALARM (X 0.083)				0.4904
TOTAL BATTERY REQUIREMENT (A+B)				6.39
SAFETY MARGIN (25%)				7.98
BATTERY SUPPLIED (2) 12V				18AH

BATTERY CALCULATION - FACP - S — STYLE D

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	RPT-E3-UTP	ARCNET REPEATER	0.013	0.026	0.013	0.026
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
1	DACT-E3	DIGITAL ALARM COMMUNICATOR TRANSMITTER	0.018	0.018	0.018	0.018
1	LCD-E3	LCD KEYPAD DISPLAY	0.024	0.024	0.028	0.028
1	LOC	LOCAL OPERATING CONSOLE WITH NGA AND ASM-16	0.211	0.211	0.211	0.211
				0		0
				0		0
(E)	MS-95	PULL STATION	0.00025	0.00025	0.0015	0.0015
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.01496	0.00434	0.19096
(E)	XP95-T	HEAT DETECTOR	0.00025	0.00125	0.004	0.02
(E)	DSM-24-R	DUAL SYNC MODULE	0	0	0.038	0.038
(E)	RSS-24MCW-FR	STROBE (15CD)	0	0	0.041	0.328
(E)	AS-24MCW-FR	HORN/STROBE (15CD)	0	0	0.093	0.372
(E)	AS-24MCW-FR	HORN/STROBE (30CD)	0	0	0.114	0.228
(E)	AS-24MCW-FR	HORN/STROBE (75CD)	0	0	0.157	0.314
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.50146		
		PANEL ALARM CURRENT				2.02246

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		ALARM
TOTAL STANDBY CURRENT (A)		0.50146		
X 24HOUR STANDBY		12.03504		
TOTAL ALARM CURRENT (B)				2.02246
5 MINUTES OF ALARM (X 0.083)				0.1679
TOTAL BATTERY REQUIREMENT (A+B)				12.20
SAFETY MARGIN (25%)				15.25
TOTAL A.H. REQUIRED FOR BATTERY BACK-UP				26AH

BATTERY CALCULATION - FACP - N — STYLE G

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
				0		0
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
1	AM-50-70	AMPLIFIER 70V 50W	0.049	0.049	2.3	2.3
1	1100-1323	TRANSPONDER VOICE GATEWAY F0 (INI-VG)	0.15	0.15	0.15	0.15
(E)	GAMEWELL PEER TO PEER	NETWORK INTERFACE	0.15	0.15	0.15	0.132
20	XP95-P	SMOKE DETECTOR	0.00034	0.0068	0.00434	0.0868
30	XP95-T	HEAT DETECTOR	0.00025	0.0075	0.004	0.12
19		SMOKE DETECTOR	0.00034	0.0005	0.00434	0.11
13		HEAT DETECTOR	0.00025	0.0005	0.004	0.11
2	SPSCW	SPEAKER/STROBE (75CD)	0	0	0.158	0.316
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.5703		
		PANEL ALARM CURRENT				3.5718

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		ALARM
TOTAL STANDBY CURRENT (A)		0.5703		
X 24HOUR STANDBY		13.6872		
TOTAL ALARM CURRENT (B)				3.572
5 MINUTES OF ALARM (X 0.083)				0.296
TOTAL BATTERY REQUIREMENT (A+B)				13.98
SAFETY MARGIN (25%)				17.48
BATTERY SUPPLIED (2) 12V				26AH

BATTERY CALCULATIONS - SILVER CREEK

FAS BATTERY CALCULATION - RFU - S

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	Transmit EACH	Transmit TOTAL
1	AES 7788 W	RF SUBCRIBER	0.30000	0.3000	1.6	1.6
		PANEL STANDBY CURRENT		0.30		
		PANEL ALARM CURRENT				1.6

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		Transmit
TOTAL STANDBY CURRENT (A)		0.3000		
X 24HOUR STANDBY		7.2		
TOTAL ALARM CURRENT (B)				1.6
5 MINUTES OF transmit (X 0.083)				0.1328
TOTAL BATTERY REQUIREMENT (A+B)				7.3328
SAFETY MARGIN (25%)				9.1660
BATTERY SUPPLIED (2) 12V				12AH

BATTERY CALCULATION - FACP - T — STYLE G

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
				0		0
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
1	AM-50-70	AMPLIFIER 70V 50W	0.049	0.049	2.3	2.3
1	1100-1323	TRANSPONDER VOICE GATEWAY F0 (INI-VG)	0.15	0.15	0.15	0.15
				0		0
14	XP95-P	SMOKE DETECTOR	0.00034	0.00476	0.00434	0.0608
5	XP95-T	HEAT DETECTOR	0.00025	0.00125	0.004	0.02
3	SPSCW	SPEAKER/STROBE (15CD)	0	0	0.066	0.198
9	SPSCW	SPEAKER/STROBE (75CD)	0	0	0.158	1.422
		PANEL STANDBY CURRENT		0.41101		
		PANEL ALARM CURRENT				4.3978

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		ALARM
TOTAL STANDBY CURRENT (A)		0.41101		
X 24HOUR STANDBY		9.86424		
TOTAL ALARM CURRENT (B)				4.3978
5 MINUTES OF ALARM (X 0.083)				0.3650
TOTAL BATTERY REQUIREMENT (A+B)				10.23
SAFETY MARGIN (25%)				12.79
BATTERY SUPPLIED (2) 12V				26AH

BATTERY CALCULATION - FACP - O — STYLE A

QTY	MODEL NO	DEVICE DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	ES SERIES	ADDRESSABLE FA CONTROL UNIT EQUIPMENT:				
1	IL95-MB-E3	INTELLIGENT LOOP INTERFACE-MAIN BOARD	0.05	0.05	0.091	0.091
1	RPT-E3-UPT	ARCNET REPEATER	0.013	0.013	0.013	0.013
1	PM-9	120V POWER SUPPLY SUB-ASSEMBLY	0.05	0.05	0.05	0.05
2	FML-E3	FIBER OPTIC MODULE	0.053	0.106	0.053	0.106
				0		0
				0		0
(E)	MS-95	PULL STATION	0.0005	0.002	0.0015	0.006
(E)	XP95-P	SMOKE DETECTOR	0.00034	0.01632	0.00434	0.20832
(E)	XP95-T	HEAT DETECTOR	0.00025	0.0075	0.004	0.12
(E)	PID95	ADDRESSABLE MODULE	0.0005	0.0025	0.0015	0.0075
(E)	SENSOR 6424	BEAM SMOKE DETECTOR	0.02	0.1	0.0384	0.192
				0		0
				0		0
				0		0
				0		0
		PANEL STANDBY CURRENT		0.34732		
		PANEL ALARM CURRENT				0.79382

TOTAL SYSTEM CURRENT

DESCRIPTION		STANDBY		ALARM
TOTAL STANDBY CURRENT (A)		0.34732		
X 24HOUR STANDBY		8.33568		
TOTAL ALARM CURRENT (B)				0.79382
5 MINUTES OF ALARM (X 0.083)				0.0659
TOTAL BATTERY REQUIREMENT (A+B)				8.40
SAFETY MARGIN (25%)				10.50
BATTERY SUPPLIED (2) 12V				18AH

EAST SIDE HIGH SCHOOL DISTRICT
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PM Approval:	DAVID KUNG
Scale:	AS SHOWN

Sheet Title:
FIRE ALARM BATTERY CALCULATIONS

Sheet No.:
FA0.6

Voltage Drop Calculations

VOLTAGE DROP FOR A GIVEN LENGTH OF CONDUCTOR = I x FEET X 21.6/ C.M

WHERE: I = AMPERES PER TERMINAL OF LOAD

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE OF SUPPLY TO LOAD

21.6 = CONSTANT (RESISTANCE OF CONDUCTOR @ 10.8 OHMS L.M. FOR TWICE THE LENGTH

C.M. = CROSS SECTION AREA IS RECTANGULAR MILS (SEE CHART BELOW)

WIRE SIZE (AWS)	12	14	16	18	20
CIRCULAR MILS (C.M.)	6530	4110	2580	1620	1020

SYSTEM SENSOR

		STROBE ONLY MULTI-CANDELA SR SERIES				SPEAKER/STROBE MULTI-CANDELA SERIES SPS									
Circuit Number	Circuit Description	15cd 0.066	30cd 0.094	75cd 0.158	110cd 0.202	15cd 0.066	30cd 0.094	75cd 0.158	110cd 0.202	Total Dev. Current	Distance / foot	Wire awg. 12=6530, 14=4110	Volts dropped	Volts at End	% Volt Drop
1N	BLD K, PORT. V1 & V2						2	2	3	1.110	359	4110	2.094	21.906	8.73%
2N	BLD J					2	6			0.696	253	4110	0.925	23.075	3.86%
3N	BLD N PORTABLES							8		1.264	520	6530	2.174	21.826	9.06%
4N	PORTABLE V9 & V11							2		0.316	110	4110	0.183	23.817	0.76%
1N	BLD T					3		9		1.620	350	6530	1.876	22.124	7.81%

FIRE ALARM SPEAKER LOAD CALCULATION

Circuit Number	BLD	Number of Speakers 0.125w	0.25W	0.5W	1W	2W	Total speaker load (W)	Amplifier Capacity (W)
FACP K								
1S	K		4	3	2		4.5	
1S	J		6		1		2.5	
							7	50
FSCP N								
1S	N		8		2		4	
2S	PORT T		2		1		1.5	
							5.5	50
FSCP T								
1S	BLD T		12		2		5	
1S	PORT. V1/V2		2		1		1.5	
							6.5	50

EAST SIDE HIGH SCHOOL DISTRICT
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501 E. CHARLESTON ROAD
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A–P PROJECT NUMBER: 16021

REGISTERED PROFESSIONAL ENGINEER
Y. B. KUNG
No. 11726
EXP. 9–30–16
ELECTRICAL
STATE OF CALIFORNIA

Revision:	Date:
96% CD	8/26/16

FIRE ALARM MODERNIZATION
SILVER CREEK HIGH SCHOOL
3434 SILVER CREEK ROAD
SAN JOSE, CA 95121

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Drawn By: AP
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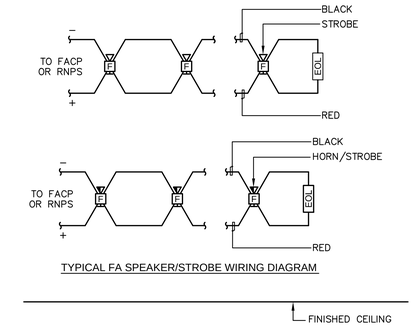
Eng. Approval: DAVID KUNG
PM Approval: DAVID KUNG
Scale: AS SHOWN
Sheet Title:

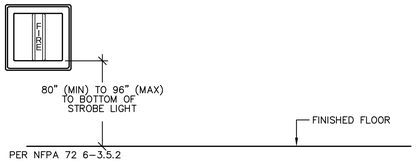
FIRE ALARM VOLTAGE DROP & SPEAKER LOAD CALCULATIONS

Sheet No.:

FA0.7

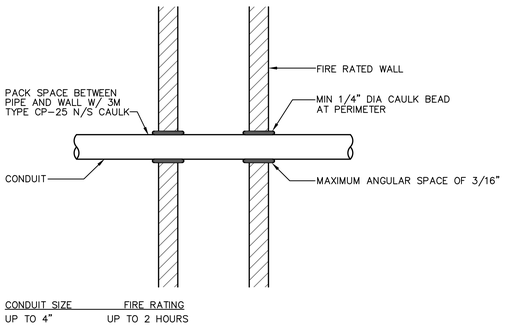


TYPICAL FA SPEAKER/STROBE WIRING DIAGRAM



7 FA SPEAKER/STROBE INSTALLATION

NOT TO SCALE



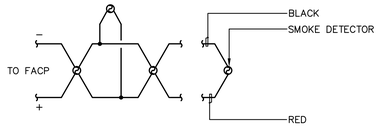
CONDUIT SIZE	FIRE RATING
UP TO 4"	UP TO 2 HOURS

DETAIL NOTES

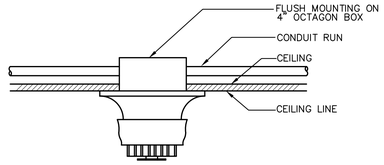
1. SIMILAR TO U.L. FIRE RESISTANCE DIRECTORY SYSTEM W-L-1001.

8 THROUGH-PENETRATION FIRESTOP SYSTEM DETAIL

NOT TO SCALE

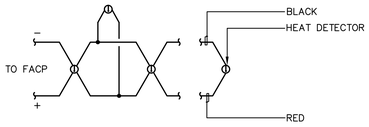


TYPICAL SMOKE DETECTOR WIRING DIAGRAM

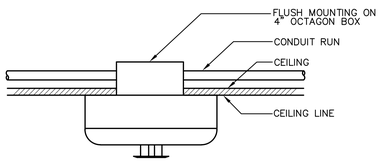


4 ADDRESSABLE SMOKE DETECTOR INSTALLATION

NOT TO SCALE



TYPICAL HEAT DETECTOR WIRING DIAGRAM



5 ADDRESSABLE HEAT DETECTOR INSTALLATION

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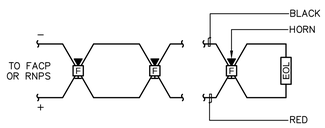
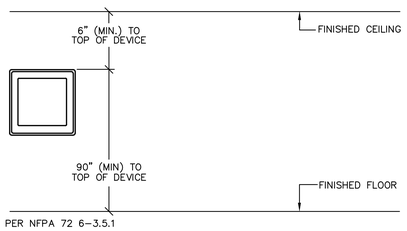
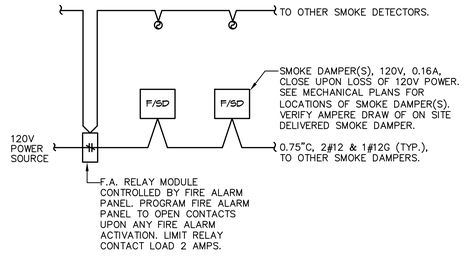


TYPICAL FA SPEAKER WIRING DIAGRAM



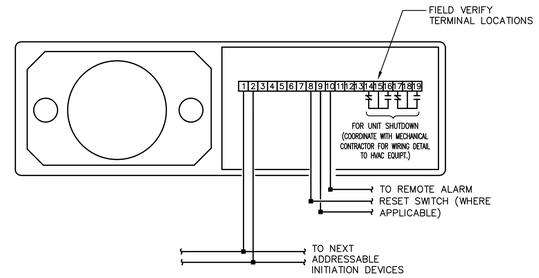
6 FA SPEAKER INSTALLATION

NOT TO SCALE



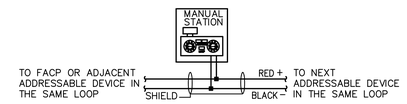
1 FIRE/SMOKE DAMPER DETAIL

NOT TO SCALE

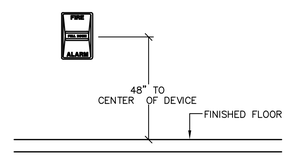


2 TYPICAL DUCT SMOKE DETECTOR WIRING DIAGRAM

NOT TO SCALE



TYPICAL ADDRESSABLE MANUAL PULL STATION WIRING DIAGRAM



3 PULL STATION MOUNTING DETAIL

NOT TO SCALE

EAST SIDE HIGH SCHOOL DISTRICT
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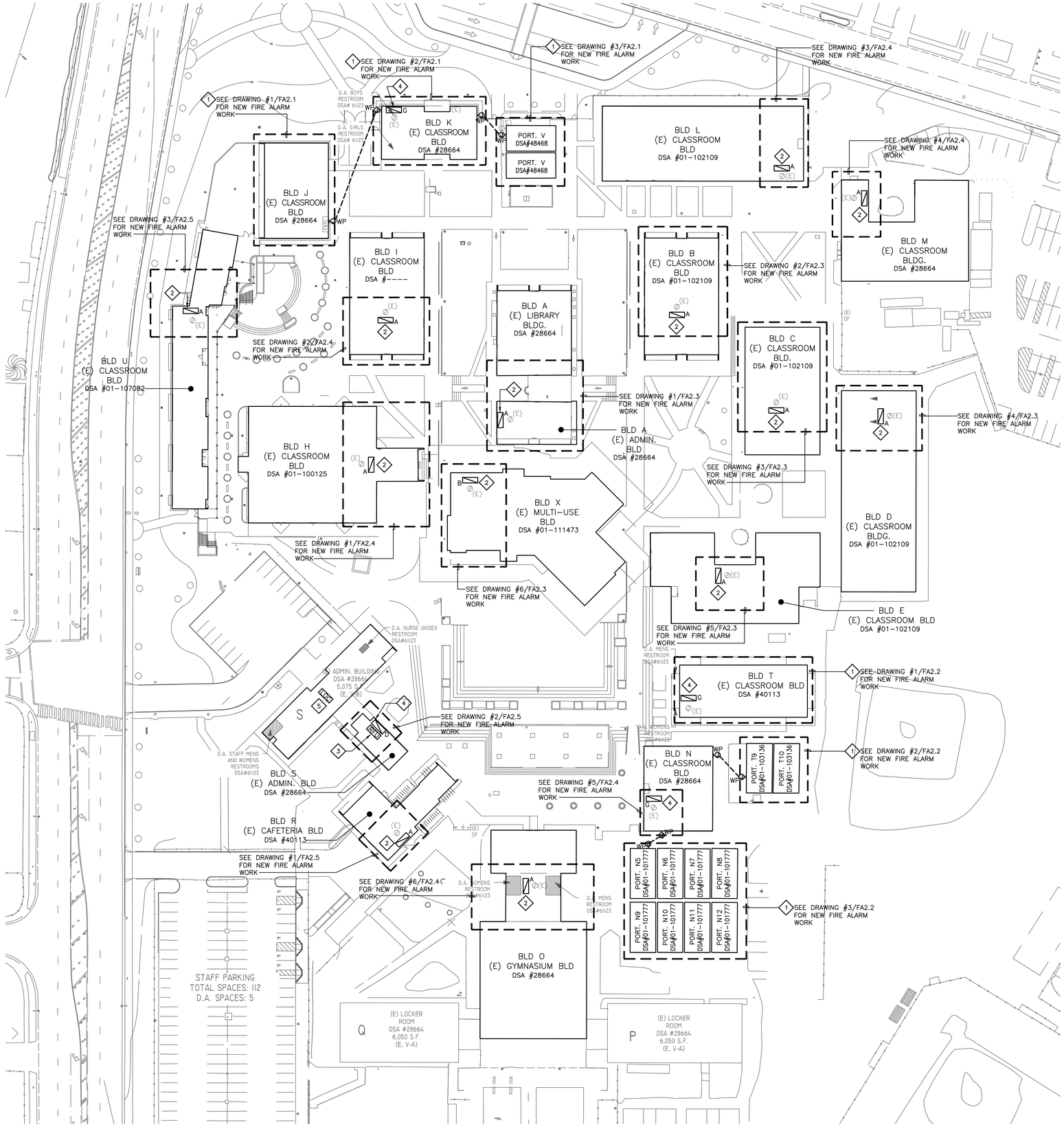
Sheet Title:
FIRE ALARM DETAILS

Sheet No.:
FA0.8



1 FIRE ALARM SITE PLAN

SCALE: 1"=40'-0"

GENERAL NOTES:

1. SEE SHEET FA0.0 AND FA0.1 FOR GENERAL PROJECT INFORMATION.

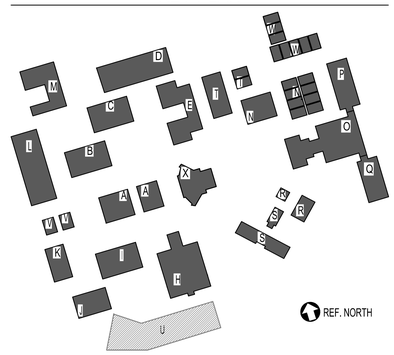
SHEET NOTES:

1. (E) BUILDING FIRE ALARM SYSTEM TO BE MODERNIZED WITH ALL NEW FIRE ALARM NOTIFICATION DEVICES, ALL EXISTING FIRE ALARM INITIATING SMOKE AND HEAT DETECTOR BASES AND THEIR ASSOCIATED INITIATING CIRCUIT WIRING TO REMAIN, EXCEPT ALL DETECTOR HEADS ARE TO BE REPLACED WITH NEW.
2. EXISTING FACP TO BE RETROFITTED WITH NEW GAMEWELL-FCI E3 SERIES FIRE ALARM CONTROL UNIT COMPONENTS AND EQUIPMENT.
3. REPLACE THE EXISTING OFF-SITE NOTIFICATION TRANSMITTER SYSTEM WITH A NEW RADIO MESH TRANSMITTER.
4. NEW GAMEWELL-FCI E3 SERIES FIRE ALARM CONTROL PANEL TO REPLACE EXISTING FACP.
5. NEW 'LOC' LOCAL OPERATING CONSOLE TO REPLACE EXISTING REMOTE ANNUNICATOR.

EXISTING BUILDING CLASSIFICATION

BUILDING NAME	OCCUPANCY TYPE	CONSTRUCTION TYPE
BLD A	E	V-B
BLD B	E	V-B
BLD C	E	V-B
BLD D	E	V-B
BLD E	E	V-B
BLD H	E	V-B
BLD J	E	V-B
BLD K	E	V-B
BLD L	E	V-B
BLD M	E	V-B
BLD N	E	V-B
BLD O	A-4	V-A
BLD P	E	V-A
BLD Q	E	V-A
BLD R	A-2	V-B
BLD S	E	V-B
BLD T	E	V-B
BLD U	E	V-B
BLD Y	E	V-B
BLD X	E, A-1	V-B
PORTABLES	E	V-B

KEY PLAN



NORTH 0 4 8 16

EAST SIDE HIGH SCHOOL DISTRICT
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PM Approval:	DAVID KUNG
Scale:	AS SHOWN

Sheet Title:
FIRE ALARM SITE PLAN

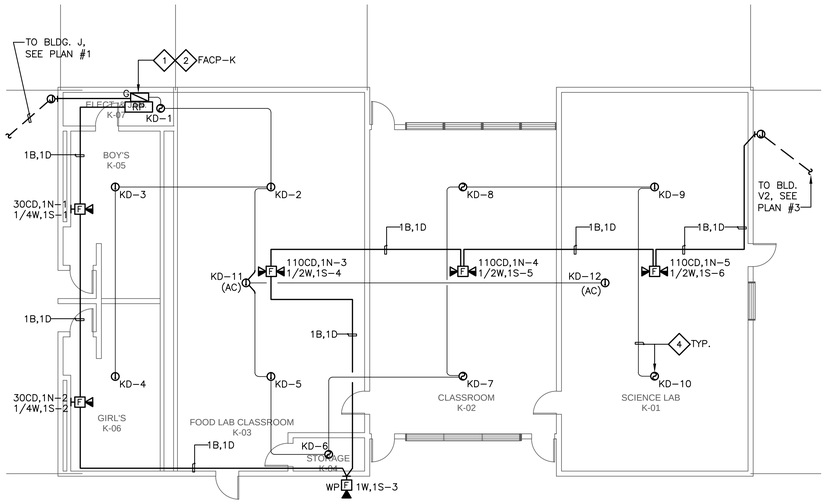
Sheet No.:
FA1.0

GENERAL NOTES:

1. LIGHT, THIN LINES INDICATE EXISTING. DARK, HEAVY LINES INDICATE NEW WORK
2. SEE SHEET FA0.0 AND FA0.1 FOR GENERAL PROJECT INFORMATION.

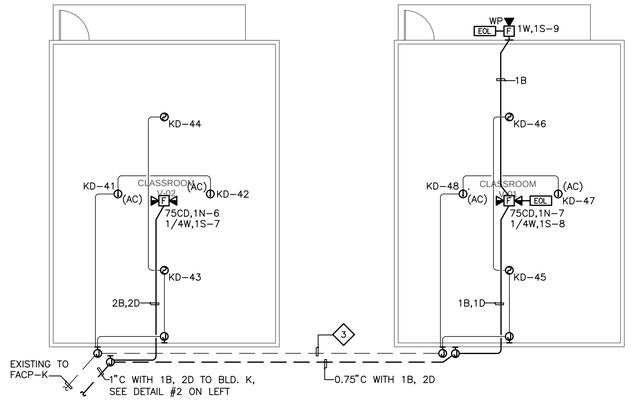
SHEET NOTES:

1. EXISTING GAMEWELL FIRE ALARM CONTROL PANEL TO BE REPLACED WITH NEW GAMEWELL–FCI E3 SERIES CONTROL PANEL.
2. RECONNECT ALL EXISTING REMAINING REMOTE POWER SUPPLY, INITIATING DEVICES AND CONNECT NEW NOTIFICATION APPLIANCES IN EXISTING BUILDING TO NEW FACP.
3. EXISTING UNDERGROUND CONDUIT AND WIRING.
4. EXISTING INITIATING SMOKE AND/OR HEAT DETECTOR HEAD TO BE REPLACED WITH NEW, EXISTING DETECTOR BASE AND ITS ASSOCIATED INITIATING CIRCUIT WIRING TO REMAIN AS SHOWN.
5. REPLACE (E) DUCT SMOKE DETECTOR WITH NEW IN THE SUPPLY SIDE DUCT OF (E) HVAC UNIT. VERIFY IN FIELD.



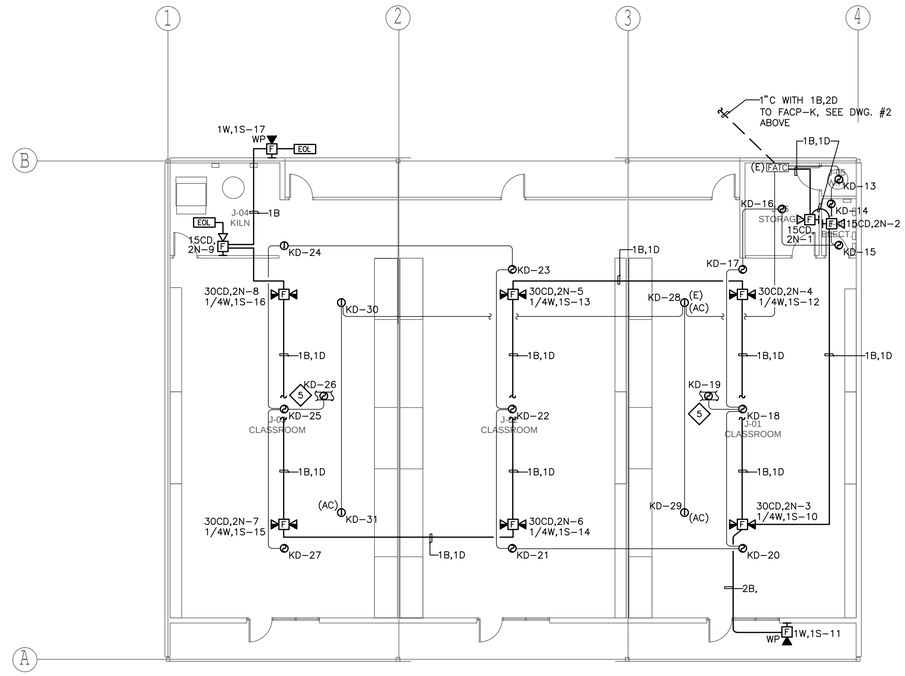
2 BLD. K FIRE ALARM FLOOR PLAN

SCALE: 1/8"=1'–0"



3 BLD. V1 & V2 FIRE ALARM FLOOR PLAN

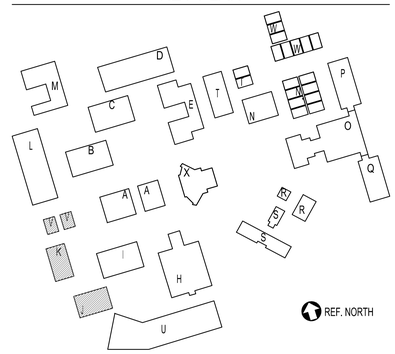
SCALE: 1/8"=1'–0"



1 BLD. J FIRE ALARM FLOOR PLAN

SCALE: 1/8"=1'–0"

KEY PLAN



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Sheet Title:
FIRE ALARM FLOOR PLAN MISC. BLD

Sheet No.:
FA2.1

GENERAL NOTES:

1. LIGHT, THIN LINES INDICATE EXISTING. DARK, HEAVY LINES INDICATE NEW WORK
2. SEE SHEET FA0.0 AND FA0.1 FOR GENERAL PROJECT INFORMATION.

SHEET NOTES:

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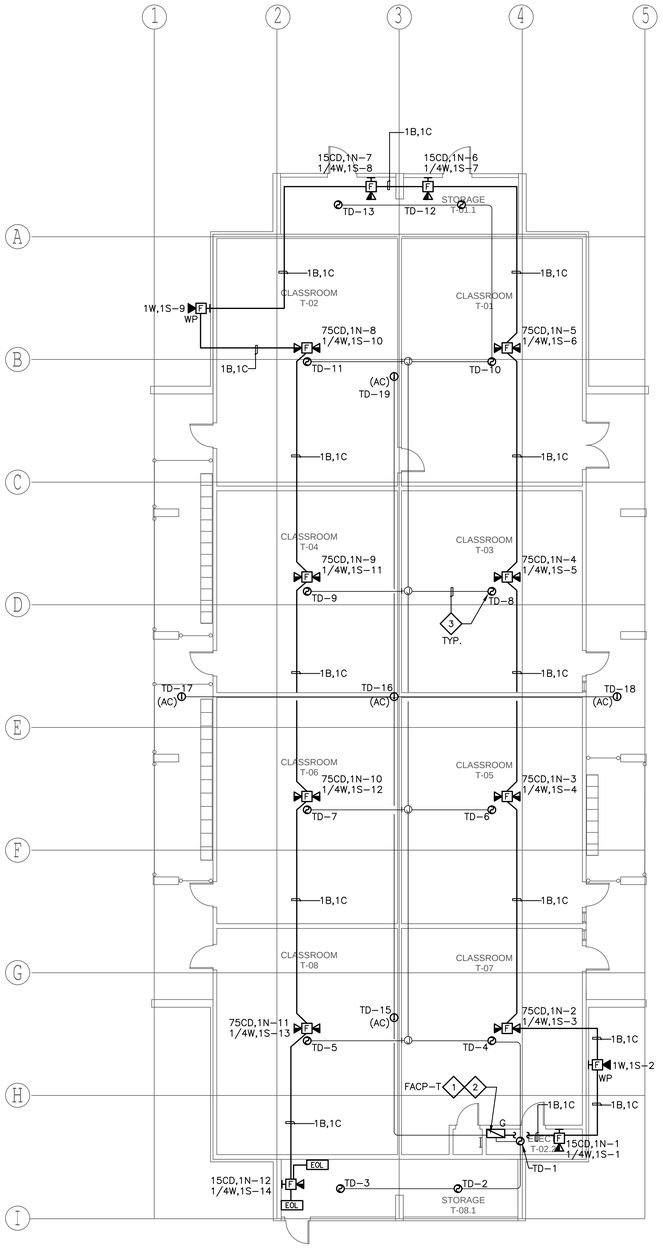
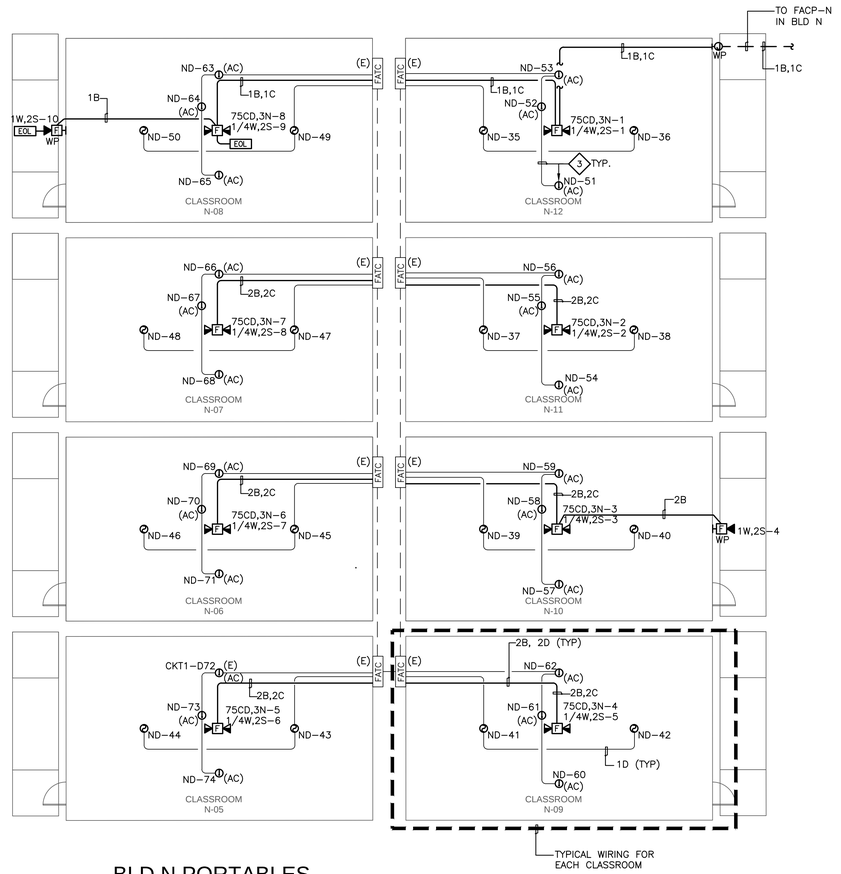
2. RECONNECT ALL EXISTING REMAINING REMOTE POWER SUPPLY, INITIATING DEVICES AND CONNECT NEW NOTIFICATION APPLIANCES IN EXISTING BUILDING TO NEW FACP.
3. EXISTING INITIATING SMOKE AND/OR HEAT DETECTOR HEAD TO BE REPLACED WITH NEW, EXISTING DETECTOR BASE AND ITS ASSOCIATED INITIATING CIRCUIT WIRING TO REMAIN AS SHOWN.



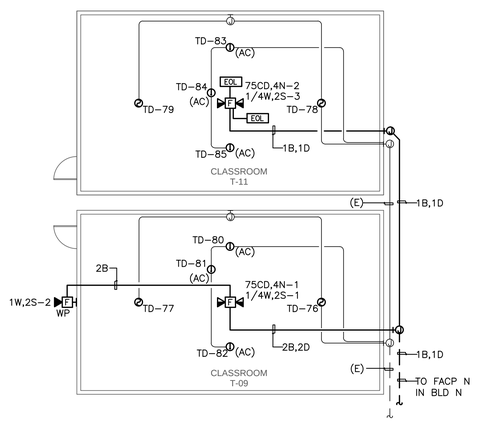
1 BLD T FIRE ALARM FLOOR PLAN

SCALE: 1/8"=1'–0"



3 BLD N PORTABLES FIRE ALARM FLOOR PLAN

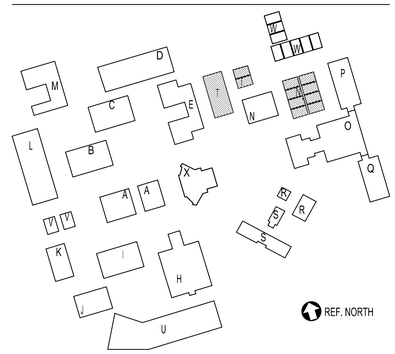
SCALE: 1/8"=1'–0"



2 BLD T9 & T11 PORTABLES FIRE ALARM FLOOR PLAN

SCALE: 1/8"=1'–0"

KEY PLAN



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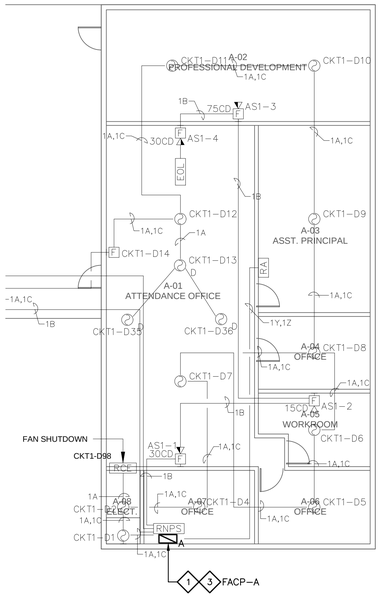
Sheet Title:
FIRE ALARM FLOOR PLAN MISC. BLD

Sheet No.:
FA2.2

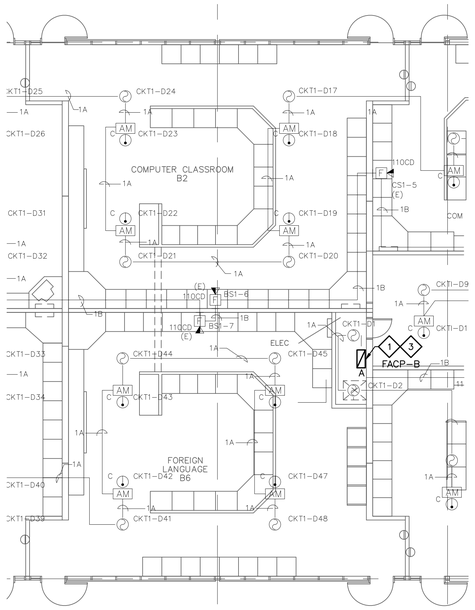
M:\16021 ESUHSD Silver Creek HS\DWGS\FA21-22.dwg, 9/12/2016 3:04:01 PM, Carlos



1 PARTIAL BLD A
FIRE ALARM FLOOR PLAN

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

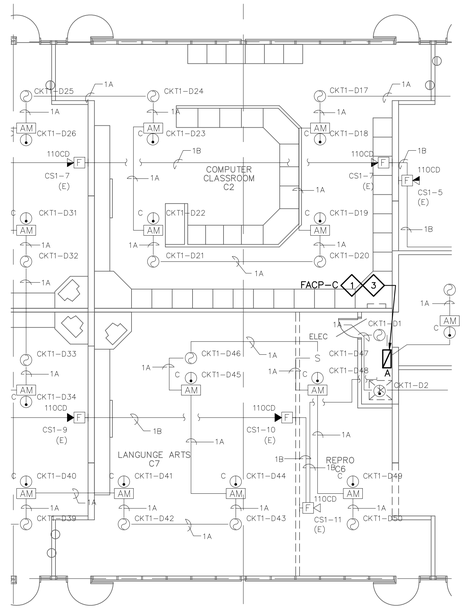
NORTH



2 PARTIAL BLD B
FIRE ALARM FLOOR PLAN

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

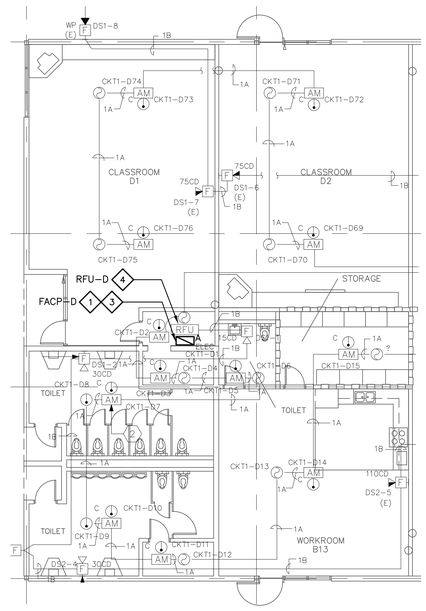
NORTH



3 PARTIAL BLD C
FIRE ALARM FLOOR PLAN

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

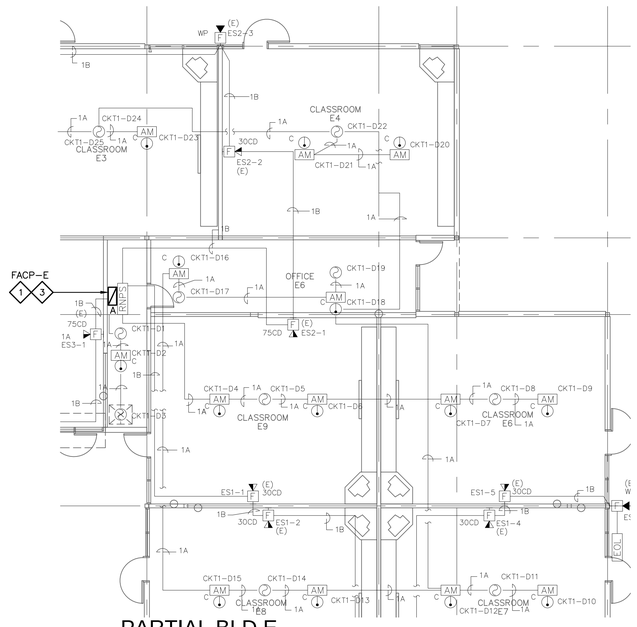
NORTH



4 PARTIAL BLD D
FIRE ALARM FLOOR PLAN

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

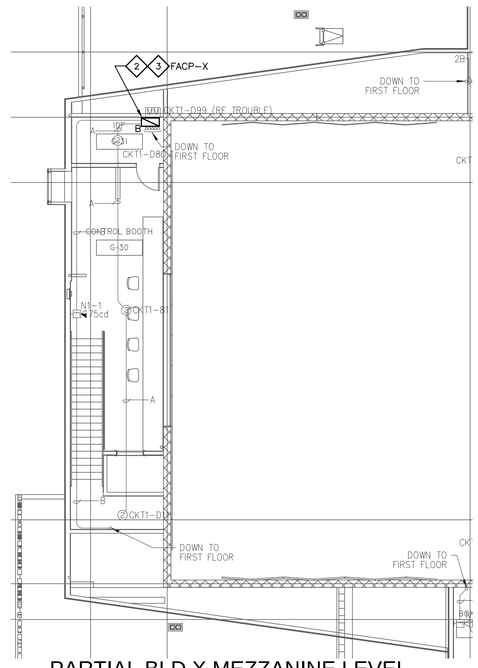
NORTH



5 PARTIAL BLD E
FIRE ALARM FLOOR PLAN

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

NORTH



6 PARTIAL BLD X MEZZANINE LEVEL
FIRE ALARM FLOOR PLAN

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

NORTH

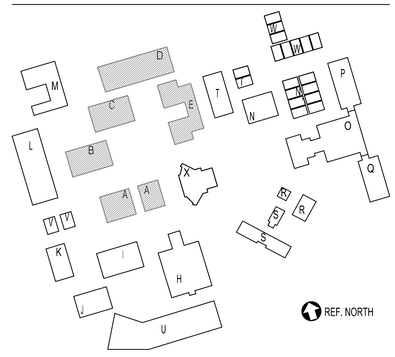
GENERAL NOTES:

1. LIGHT, THIN LINES INDICATE EXISTING. DARK, HEAVY LINES INDICATE NEW WORK
2. SEE SHEET FA0.0 AND FA0.1 FOR GENERAL PROJECT INFORMATION.

SHEET NOTES:

1. EXISTING GAMEWELL–FCI 600XL SERIES FIRE ALARM CONTROL PANEL TO BE REPLACED AND RETROFITTED WITH NEW GAMEWELL–FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT.
2. EXISTING GAMEWELL IF600 SERIES FIRE ALARM CONTROL PANEL TO BE RETROFITTED WITH NEW GAMEWELL–FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT.
3. RECONNECT ALL EXISTING REMAINING REMOTE POWER SUPPLY, INITIATING DEVICES AND NOTIFICATION APPLIANCES IN EXISTING BUILDING TO NEW FACP.
4. EXISTING OFF–SITE NOTIFICATION TRANSMITTER AND ANTENNA TO REMAIN AS A REPEATER BOOSTER.

KEY PLAN



EAST SIDE HIGH SCHOOL DISTRICT
Silicon Valley

ACKERMAN PRACTICON
CONSOLIDATED TECHNICAL SERVICES
521 E. CHARLESTON ROAD
PALO ALTO, CA 94303
650 . 965 . 1000 FAX: 650 . 494 . 9312
A–P PROJECT NUMBER: 16021

REGISTERED PROFESSIONAL ENGINEER
Y. B. KUNG
No. 11726
EXP. 9–30–16
ELECTRICAL
STATE OF CALIFORNIA

Revision:	Date:
96% CD	8/26/16

FIRE ALARM MODERNIZATION
SILVER CREEK HIGH SCHOOL
3434 SILVER CREEK ROAD
SAN JOSE, CA 95121

OWNER:
East Side Union
High School District
830 North Capital Ave
San Jose, CA 95133
P: (408)347–5000
F: (408)347–5045

GENERAL CONTRACTOR:
Gonsalves & Stronck Const. Co., Inc.
1000 Washington Street
San Carlos, CA 94070–5319
P:

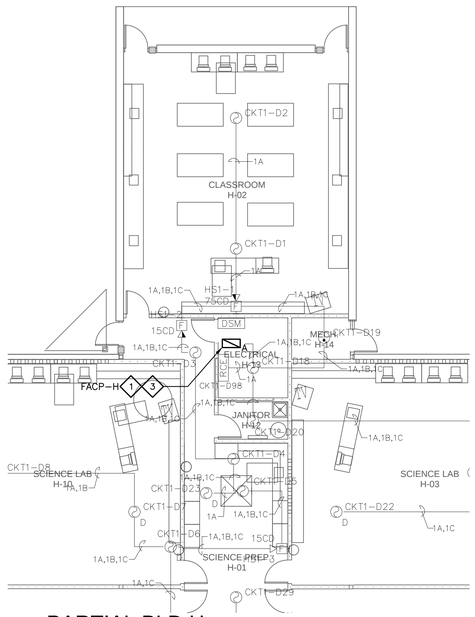
FIRE ALARM CONTRACTOR:
INTREPID
6300 San Ignacio Ave.
San Jose, CA 95119–1213
P: (510) 597–9966
F: (510) 597–9980

ELECTRICAL CONTRACTOR:
Smith & Sons Electric, Inc.
44081 South Grimmer Blvd.
Fremont, CA 94538–6382
P: (510) 651–4994

Job No.:	
	16021
Drawn By:	Date:
AP	05–23–2016
Eng. Approval:	
	DAVID KUNG
PM Approval:	
	DAVID KUNG
Scale:	
	AS SHOWN

Sheet Title:
PARTIAL FIRE ALARM FLOOR PLANS BLD A, B, C, D, E & G

Sheet No.:
FA2.3

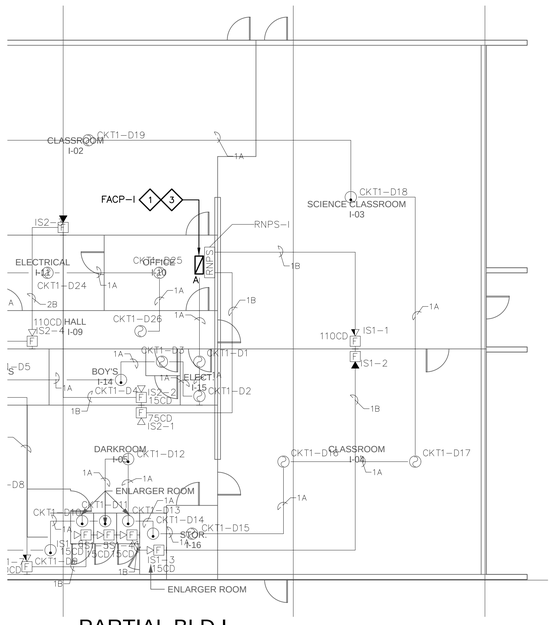


PARTIAL BLD H
FIRE ALARM FLOOR PLAN

1

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

NORTH

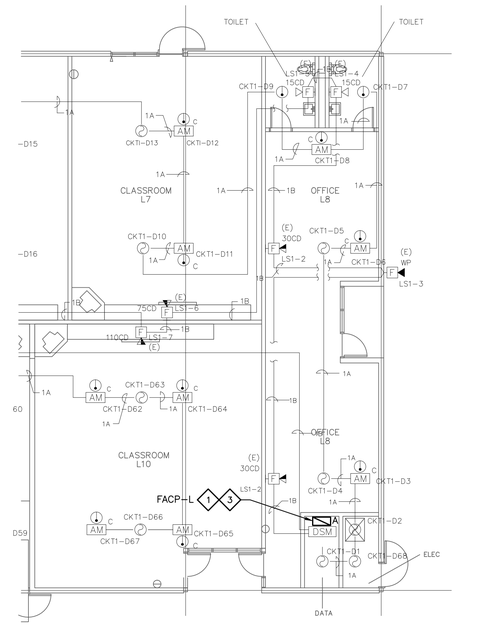


PARTIAL BLD I
FIRE ALARM FLOOR PLAN

2

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

NORTH



PARTIAL BLD L
FIRE ALARM FLOOR PLAN

3

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

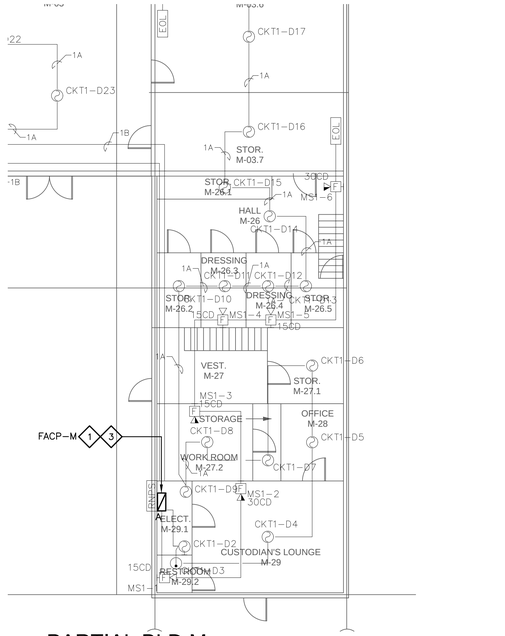
NORTH

GENERAL NOTES:

1. LIGHT, THIN LINES INDICATE EXISTING. DARK, HEAVY LINES INDICATE NEW WORK
2. SEE SHEET FA0.0 AND FA0.1 FOR GENERAL PROJECT INFORMATION.

SHEET NOTES:

1. EXISTING GAMEWELL–FCI 600XL SERIES FIRE ALARM CONTROL PANEL TO BE REPLACED AND RETROFITTED WITH NEW GAMEWELL–FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT.
2. EXISTING GAMEWELL IF600 SERIES FIRE ALARM CONTROL PANEL TO BE RETROFITTED WITH NEW GAMEWELL–FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT.
3. RECONNECT ALL EXISTING REMAINING REMOTE POWER SUPPLY, INITIATING DEVICES AND NOTIFICATION APPLIANCES IN EXISTING BUILDING TO NEW FACP.
4. NEW GAMEWELL–FCI E3 SERIES CONTROL PANEL TO REPLACE EXISTING FACP.

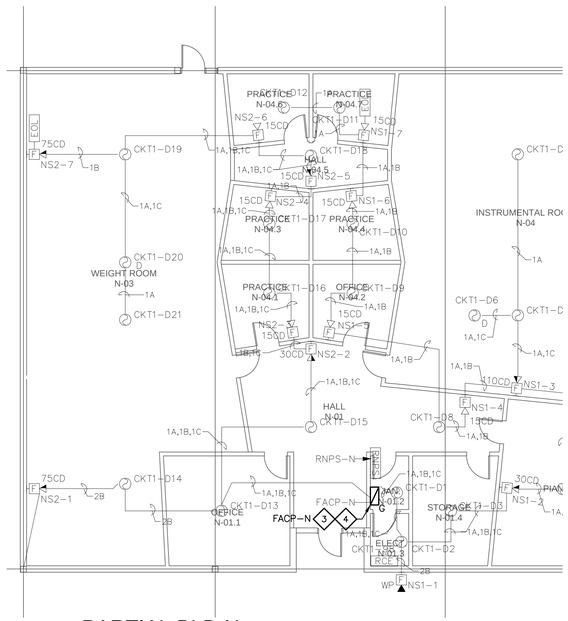


PARTIAL BLD M
FIRE ALARM FLOOR PLAN

4

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

NORTH

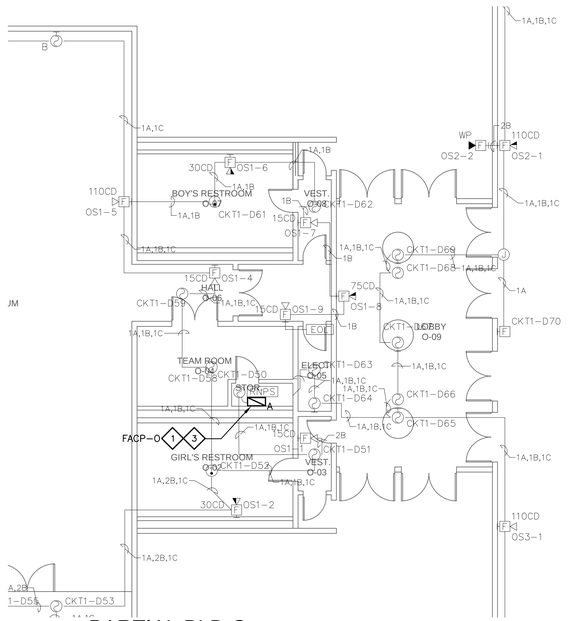


PARTIAL BLD N
FIRE ALARM FLOOR PLAN

5

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

NORTH



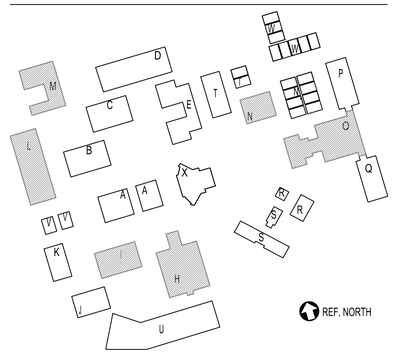
PARTIAL BLD O
FIRE ALARM FLOOR PLAN

6

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

NORTH

KEY PLAN



EAST SIDE HIGH SCHOOL DISTRICT
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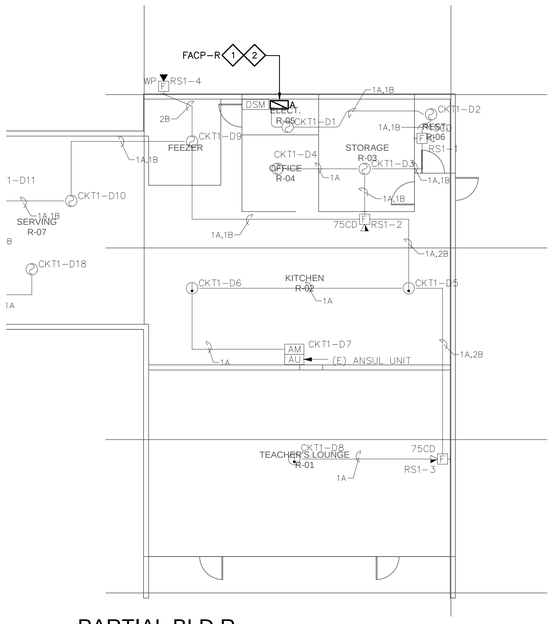
PM Approval:	DAVID KUNG
Scale:	AS SHOWN

Sheet Title:
PARTIAL FIRE ALARM FLOOR PLANS BLD H, I, L, M, N & O

Sheet No.:
FA2.4

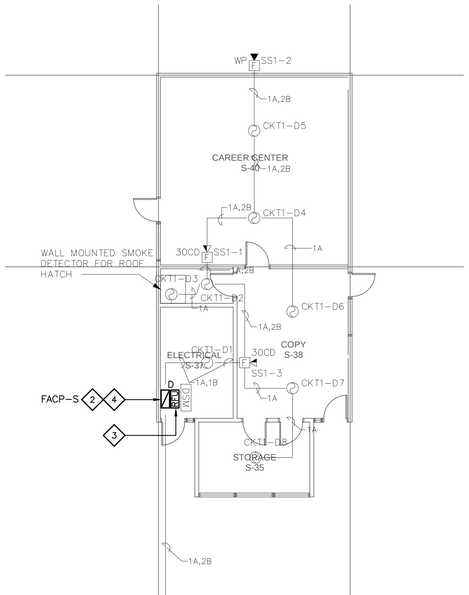
M:\16021 ESUHSD Silver Creek HS\DWGS\FA23-24-25.dwg, 9/12/2016 3:05:08 PM, Carlos

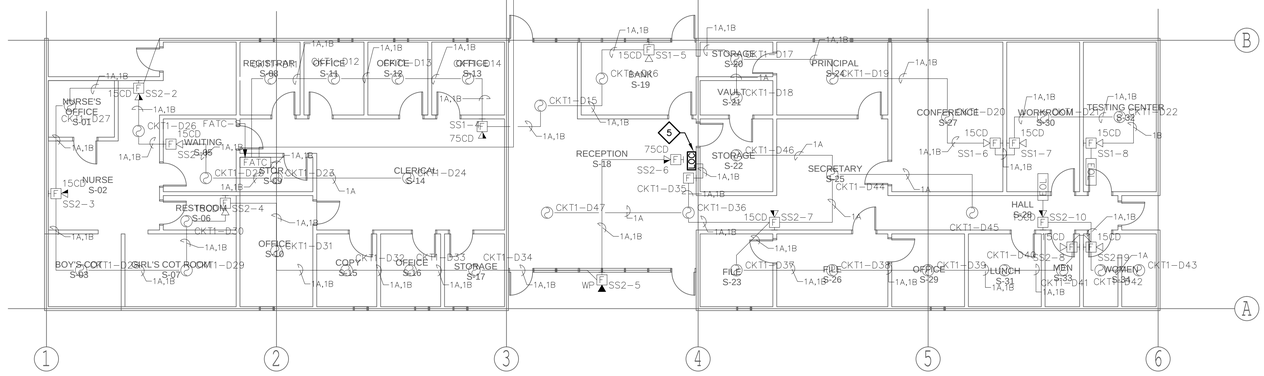


1 PARTIAL BLD R
FIRE ALARM FLOOR PLAN

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

NORTH

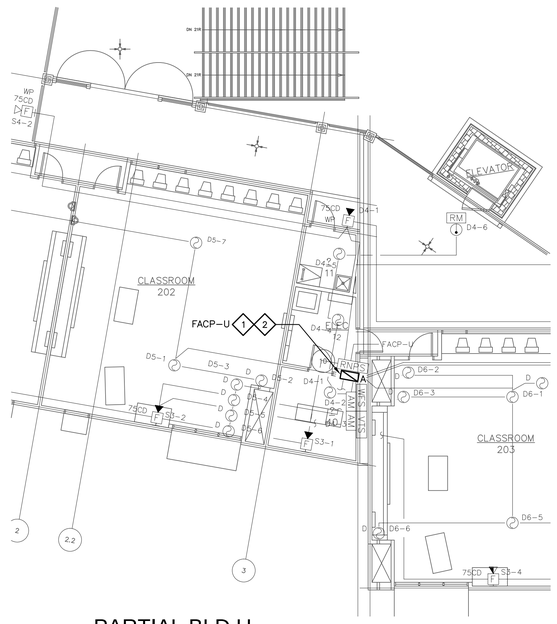




2 BLD S FIRE ALARM FLOOR PLAN

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

NORTH



3 PARTIAL BLD U
FIRE ALARM SECOND FLOOR PLAN

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

NORTH

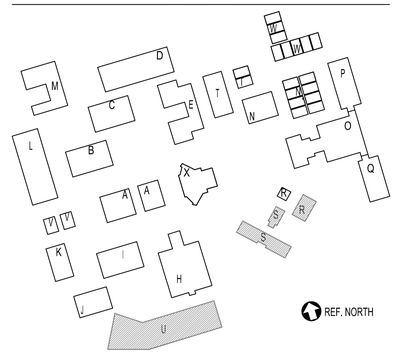
GENERAL NOTES:

1. LIGHT, THIN LINES INDICATE EXISTING. DARK, HEAVY LINES INDICATE NEW WORK
2. SEE SHEET FA0.0 AND FA0.1 FOR GENERAL PROJECT INFORMATION.

SHEET NOTES:

1. EXISTING GAMEWELL FIRE ALARM CONTROL PANEL TO BE REPLACED AND RETROFITTED WITH NEW GAMEWELL-FCI E3 SERIES CONTROL UNIT COMPONENTS AND EQUIPMENT.
2. RECONNECT ALL EXISTING REMAINING REMOTE POWER SUPPLY, INITIATING DEVICES AND NOTIFICATION APPLIANCES IN EXISTING BUILDING TO NEW FACP.
3. REPLACE THE EXISTING OFF-SITE NOTIFICATION TRANSMITTER SYSTEM WITH A NEW RADIO MESH TRANSMITTER SYSTEM BEING MONITORED BY SCHOOL DISTRICT'S CONTROL MONITORING STATION.
4. NEW GAMEWELL-FCI E3 SERIES CONTROL PANEL TO REPLACE EXISTING FACP.
5. REPLACE (E) REMOTE ANNUNCIATOR WITH NEW LOCAL OPERATING CONSOLE 'LOC' AND RECONNECT. VERIFY IN FIELD.

KEY PLAN



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Scale:	AS SHOWN

Sheet Title:
PARTIAL FIRE ALARM FLOOR PLANS BLD R, S AND U

Sheet No.:
FA2.5

Gamewell FCI FIRE CONTROL INSTRUMENTS

by Honeywell

Gamewell Retrofit Kits

Description

The Gamewell Retrofit Kits offered by Gamewell-FCI provide a simple way to convert the following existing Gamewell legacy Systems to a new E3 Series® fire alarm panel.

- IF602 panel
- IF610 panel
- IF632 panel

The Retrofit Kits offer a cost-effective solution to change the Gamewell legacy panels without replacing the existing Gamewell backbox. This solution eliminates the expensive cost of repairing walls, buying new cabinets or replacing the existing Gamewell backbox.

All retrofit kits provide backplates that mount directly into the Gamewell backboxes. Each backplate includes mounting patterns to allow an easy installation of the E3 Series plates and sub-assemblies. The front panel displays can be retrofitted to the E3 Series LCD-E3/LCD-SLP using a simple mounting plate. IF600XL retrofit kits include a 3-bay slot door for addressable switch buttons, LED drivers, and a paging microphone.

Gamewell RAN annunciator can also be retrofitted to accommodate an E3 Series supported annunicator by reusing the existing backbox.

Retrofitting is a cost effective way to upgrade your facilities' fire alarm control panel without swapping out smoke detectors and notification devices. Changing your legacy Gamewell System to the Gamewell-FCI, E3 Series System converts your fire alarm system, so that it is compliant with the most current UL® and NFPA codes and standards.

Installation

To retrofit from a Gamewell panel to an E3 Series System, refer to the following time-saving steps which can save a lot in setup and labor costs.

1. Remove all field wiring from the legacy Gamewell control boards that are installed inside the cabinet.
2. Remove the front door or inner doors.
3. Unscrew the Gamewell panel mounting plate from the backbox.
4. Install the new retrofit mounting plate for E3 Series sub-assemblies or plates.
5. Install the new E3 Series panels and connect with the existing wiring.
6. Auto configure the system or custom program the E3 Series.

Gamewell to E3 Series®

IF600XL B-Slim

Features

- Listed under UL® Standard 864, 9th edition.
- Cost effective solution for upgrading an existing system without buying a complete E3 Series System.
- Upgrades to the state-of-the-art E3 Series fire alarm control panels.
- Offers a simple plate system for easy installation.
- Allows the existing cabinet to remain mounted on the wall.
- Reuses the existing System Sensor or Apollo detectors/modules, and notification devices.
- Remote annunciator retrofit available.

E3 Series Features

For additional information on the E3 Series features, refer to the E3 Series Data Sheet Part Number: 9020-0637.

SIGNALING
UL
LISTED
S1869

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

Gamewell RAN2 Retrofit

Figure 1.1 illustrates the Gamewell RAN2 retrofit.

Figure 1 Gamewell RAN-7100

Retrofit Cabinet Installation

Figure 2 shows an IF600XL/632 configuration.

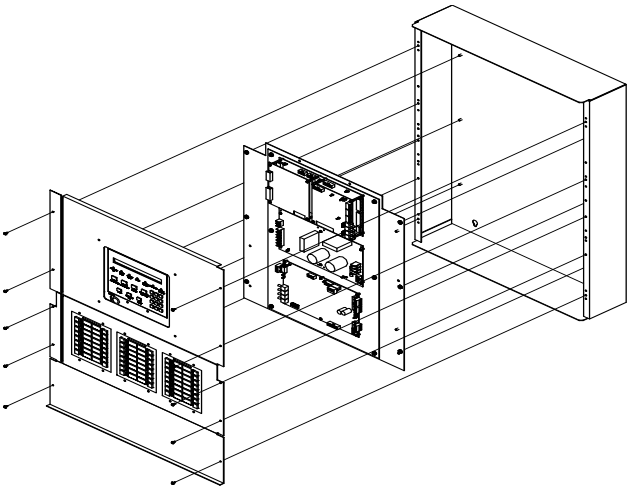


Figure 2 IF600XL/632

Figure 3 shows an IF600 configuration.

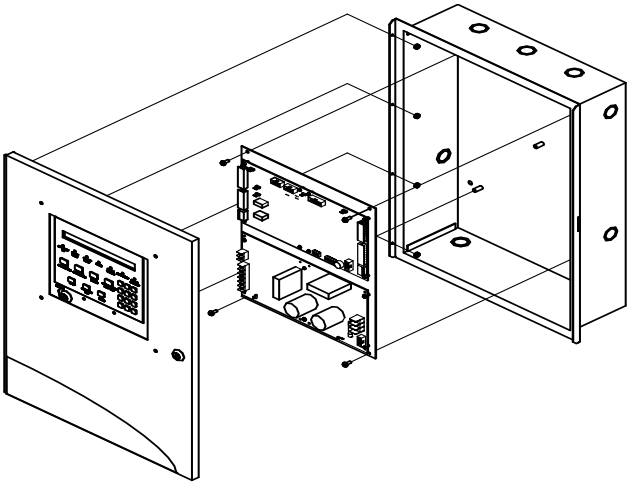


Figure 3 IF600

Ordering Information

Part Number	Description
IF600-RETROFIT	Gamewell IF602/IF610 (System Sensor or Apollo Retrofit)

The Retrofit Kit includes the following:

- Front door
- Backbox mounting plate
- Display plate

Loop Cards

The IF600 Retrofit Kit supports up to two ILI loop cards:

- ILI-MB-E3
- ILI95-MB-E3
- ILI-S-E3
- ILI95-S-E3

The following E3 Series sub-assemblies can be used in the IF600 Retrofit Kit.

- PM-9/PM-9G Power Supply (required)
- LCD-E3 LCD Display (required)
- LCD-SLP LCD Touchscreen Display (optional)
- DACT-E3 Dialer (optional)
- RPT-E3-FO/RPT-E3-UTP Network Repeater (optional)

IF600XL-RETROFIT	Gamewell IF602XL,IF610XL, IF632 (System Sensor or Apollo Retrofit)

The Retrofit Kit includes the following plates:

- Inner display door
- Inner dead front cover
- Inner 3-bay door
- Backbox mounting plate

The above mounting plates support one of the following E3 Series mounting plates (sold separately).

- E3-ILI-C
- E3-INCC-C

E3-ILI-C Mounting Plate:

E3-ILI-C Mounting Plate accommodates the following:

- Choice of two ILI loop cards
- ILI-MB-E3
- ILI95-MB-E3
- ILI-S-E3
- ILI95-S-E3

E3-INCC-C Mounting Plate:

E3-INCC-C Mounting Plate accommodates the following:

- Choice of one ILI loop cards:
- ILI-MB-E3
- ILI95-MB-E3
- ILI-S-E3
- ILI95-S-E3

Optional-Select One of the following INI-VG Series boards:

- INI-VGC Command Center
- INI-VGX Voice Gateway
- INI-VGE Bulk Voice Gateway

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7300-1516:0108

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: AES CORPORATION285 NEWBURY ST, PEABODY, MA 01960
Contact: Owais Hassan (978) 535-7310 Ext: 263 Fax (978) 535-7313
Email: OHassan@aes-intellinet.com

DESIGN: *Model 7788F Subscriber Unit, RF transceiver. Unit is intended for use with listee's separately listed Model IntelliNet 7705i system (7300-1516:104) and 7170-EM IPLinks, Remote Transcievers (7300-1516:105). Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 120 VAC, 16.5 VAC 40VA Secondary, 12 VDC nominal

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, and UL label.

APPROVAL: Listed as a two-way transceiver unit for use with separately listed compatible fire alarm control units.

* 07-12-2013 bh

Date Issued: **July 01, 2016** *Listing Expires* **June 30, 2017**

Authorized By: ***DAVID CASTILLO**, Program Coordinator*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7125-1653:0188

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Trish Linhart (630) 762-5025 Fax (630) 377-7245
Email: trish.linhart@systemsensor.com

DESIGN: Models CHSR and CHSW Chime/Strobes.
Models P2R, P2W, P2RH and P2WH Horn/Strobes two-wire type, rectangular enclosure.
Models PC2R, PC2W, PC2RH and PC2WH Horn/Strobes two-wire type, round enclosure
Models P4R, P4W, P4RH and P4WH Horn/Strobes four-wire type, rectangular enclosure.
Models PC4R, PC4W, PC4RH and PC4WH Horn/Strobes* four-wire type, round enclosure.
All models are intended for indoor use only unless other wise indicated. Models may be followed by the suffix “K” indicating indoor or outdoor use, or may be followed by suffix “P” for plain housing with no lettering. “K” suffix models are suitable for outdoor applications at temperatures from -40°F to +151°F (-40°C to +66°C) and are rated NEMA 4X when used with the System Sensor weather proof back boxes models SA-WBB (Wall), SA-WBBW (Wall), SA-WBBC (Ceiling) and *SA-WBBCW (Ceiling). Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: Standard Horn/Strobes and Chime/Strobes 8 - 17.5 or 16-33 VDC/FWR
Hi CD Horn/Strobes 16-33 VDC/FWR

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as *horn/strobes or chime/strobes suitable for signaling appliances and equipment for the hearing impaired applications when used with separately listed compatible fire alarm control units. Horn/strobes with -K suffix are suitable for indoor or outdoor use, ceiling or wall mount. Chime section is suitable for private mode and indoor use only.
Horn/Strobes or chime/strobes* can generate the distinctive three-pulse audible Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 2010 Edition. Refer to listee’s Installation Instruction Manual for details.

*Corrected 12-15-11 bh

Date Issued: **July 01, 2016** *Listing Expires* **June 30, 2017**

Authorized By: ***DAVID CASTILLO**, Program Coordinator*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7150-1703:0119

CATEGORY: 7150 -- FIRE ALARM PULL BOXES

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6124 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Model MS-7AF dual action fire alarm pull box. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, rating, and UL label.

APPROVAL: Listed as fire alarm pull boxes for use with separately listed compatible fire alarm control units. Refer to listee's Installation Instruction Manual for details.

* These manual pull boxes meet the requirements of UL Standard 38, 1999 Edition and California amendments.

NOTE: Formerly: 7150-0694:261

XLF: 7150-0028:0199

*Updated 09-08-2009 fm

Date Issued: **July 01, 2016** *Listing Expires* **June 30, 2017**

Authorized By: ***DAVID CASTILLO**, Program Coordinator*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7165-1703:0125

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Brian Reynolds (203) 484-6124 Fax (203) 484-7309
Email: brian.reynolds2@honeywell.com

DESIGN: Model E3 Series® BROADBAND and E3 Series® CLASSIC Voice Evacuation System. The E3 Systems may also work in conjunction with all the sub-assemblies of listee's 7100 Series Control Panel and NetSOLO systems (CSFM Listing No. 7165-1703:105 and 6911-1703:116, and 6911-1703:118).

Unit conveys all fire alarm, audio evacuation, voice paging, and fire fighter communications. Power-limited; non-coded, automatic, manual, smoke control, water flow, sprinkler supervisory, local auxiliary, central station, remote station, and proprietary service. Refer to listee's data sheet for additional detailed product description and operational considerations.

System components:

ILI-MB-E3; Intelligent Loop Interface Master Board
PM-9, PM-9G*; Power Supply
ILI-95-MB-E3, ILI-95-S-E3; Loop Interface Subassemblies
E3BB-FLUSH-LCD; Enclosure for ICD-E3
E3BB-BA/-RA/-BAA/-RAA/-BB/-RB/-BC/-RC/-BD; Cabinets*
RPT-E3-FO or; Repeater Sub-assembly, Fiber Optic or
RPT-E3-UTP; Repeater Sub-assembly, Unshielded twisted pair wire
LCD-E3; LCD Keypad Display
DACT-E3 sub-assembly; Digital alarm communicator transmitter
ILI-S-E3; Intelligent Loop Unit, Expansion Board
ANX-SR, ANX-MR-FO, ANX-MR-UTR; Addressable Node Expanders Sub Assembly*
INCC-E; Intelligent Network Enclosure*
INCC; Intelligent Network Central Command*
INI-VG, INI-VGC-UTP, INI-VGC-FO, INI-VGX-UTP; Intelligent Network Interface Sub Assembly*
INI-VGX-FO, INI-VGE-UTP, INI-VGE-FO; Intelligent Network Interface Sub Assembly*
ASM-16; Annunciator Switch Sub Assembly*
INX; Network Audio Transponder Enclosure*
ANU-48; Annunciator Sub Assembly*
NGA; Touch Screen LCD Display Sub Assembly*
LCD-7100; Remote LCD Display*
SBB-C4, SBB-D4; Backbox*

*Rev. 03-18-11bh

Date Issued: **July 01, 2016** *Listing Expires* **June 30, 2017**

Authorized By: ***DAVID CASTILLO**, Program Coordinator*

Fire Engineering Division

FCI-VDR-D4B, FCI-DR-C4B, FCI-CR-D4B; Doors with locks*
AA-100, AA-120; Amplifiers*
AM-50-25, AM-50-70; Amplifier Sub Assembly*
CHG120; Battery Charger with Cabinet*
BC-1/FCI-LBB; Backbox*
IPDACT-2; IP Digital Alarm Communicator*
FPJ; Firefighters's Telephone Jack Receptacle*
FHS; Portable Firefighters's Telephone Handset*
7100 Series#; Fire Alarm Control Panel or
INI-7100 UTP#; Intelligent Network Interface Sub-assembly, [Twisted, unshielded wire] or
INI-7100 FO#; Intelligent Network Interface

RATING: 120 V, 60 Hz, 3.5 A Primary; 24 V dc, 9A Secondary

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as fire alarm control unit for use with separately listed electrically and functionally compatible initiating and indicating devices. Suitable for high-rise applications when used with the above voice evacuation systems.

This control unit can generate a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NPFA 72, 2002 Edition.

This control unit meets the requirements of UL Standard 864, 9th Edition.

NOTE: For Fire Alarm Verification Feature (delay of alarm signaling), the Retard/Reset/Restart period shall be 30 seconds or less.

*Rev. 03-18-11bh

Date Issued: **July 01, 2016** *Listing Expires* **June 30, 2017**

Authorized By: ***DAVID CASTILLO**, Program Coordinator*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7272-1703:0155

CATEGORY: 7272 -- SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6124 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: XP95-P Model 55000-650 photoelectric smoke detector. Refer to listee's data sheet for additional detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as a photoelectric smoke detector for use with listee's separately listed compatable fire alarm control units and listed Apollo XP95A Models 45681 Series detector bases (CSFM Listing No. 7300-1394:114). Refer to listee's Installation Instruction Manual for details.

NOTE: The photoelectric type detectors are generally more effective at detecting slow, smoldering fires which smolder for hours before bursting into flames. Sources of these fires may include cigarettes burning in couches or bedding. The ionization type detectors are generally more effective at detecting fast, flaming fires that consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a waste container or a grease fire in the kitchen

XLF: 7272-1394:0104

Date Issued: **July 01, 2016** *Listing Expires* **June 30, 2017**

Authorized By: ***DAVID CASTILLO**, Program Coordinator*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7270-1703:0156

CATEGORY: 7270 -- HEAT DETECTOR

LISTEE: GAMEWELL-FCI12 Clintonville Road, Northford, CT 06472
Contact: Vladimir Kireyev (203) 484-6124 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Model XP95-T combination electronic/fixed temperature heat detector. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: Fixed Temperature: 131°F -194°F
Electrical: 17 to 28 VDC, 5 to 9 V protocol

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as a heat detector for use with listee's separately listed compatible fire alarm control units and listed Apollo XP95A Models 45681 Series detector bases (CSFM Listing No. 7300-1394:114). Refer to listee's Installation Instruction Manual for details.

NOTE: Formerly:7270-1288:175

XLF: 7270-1394:0105

Date Issued: **July 01, 2016** *Listing Expires* **June 30, 2017**

Authorized By: ***DAVID CASTILLO**, Program Coordinator*

Fire Engineering Division

aes-corp.com

Smart Subscribers for Commercial Fire Alarm Systems

7788F/7744F Series Fire Subscribers

Features

- AES-*IntelliNet*® smart mesh radio networks are self-forming, self-healing, and highly scalable
- AES-*IntelliNet* alarm communications technology never sunsets compared to cellular alternatives
- Each Smart Subscriber enables multiple paths to a central monitoring station
- Option to transmit full data from FACP digital dialer to AES-*MultiNet* receiver
- Simple and fast activation on AES-*IntelliNet* network

Benefits

- Most stable and profitable fire alarm communication technology
- Network owner-operators retain virtually all RMR
- Meets UL 864 Commercial Fire Alarm requirements for primary standalone communication
- Ideal drop-in full-function replacement for phone lines
- Universal wireless Smart Subscriber Transceivers support all new and legacy FACPs

Advanced Wireless Fire Alarm Monitoring

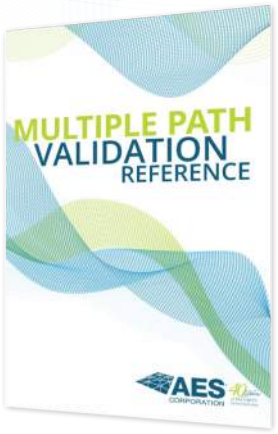
AES 7788F/7744F Series Subscribers are the ideal universal wireless communicators for any new or existing fire alarm system. AES-*IntelliNet* networks are built using AES Corporation's patented mesh radio communications technology. A Smart Subscriber at each alarm site acts as transmitter, receiver, and repeater of alarm signals across the network. This creates a smart long-range radio network with multiple pathways between each alarm site and the central receiver. Multiple pathways mean multiple redundancies assuring the most reliable delivery of signals and compliance with rigorous industry standards. AES-*IntelliNet* networks self-adjust to network changes and assure that signals automatically follow the shortest path available as the network of Subscribers grows.

Highest Long Term Stability and Profitability

AES-*IntelliNet* remains the most stable and profitable fire alarm communication technology available today in the rapidly changing world of communications. AES private wireless networks never sunset compared to cellular technology and traditional phone lines. AES-*IntelliNet* networks maximize RMR generated from network alarm communication services because signals are delivered without the need for a costly operations center or cellular service providers.

UL 864 Edition 9 Compliant – Primary Standalone Communicators

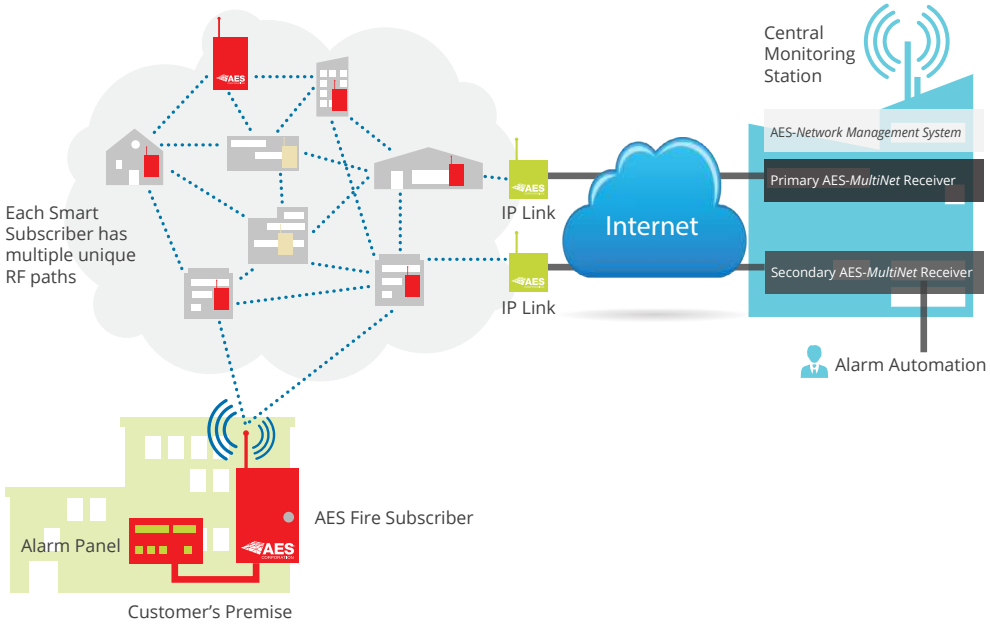
In order to meet UL approval and NFPA compliance, most fire alarm communicators require either a second communication technology or a costly service plan included with sole path cellular alternatives. With AES-*IntelliNet* alarm communications technology, each standalone AES 7788F/7744F Subscriber provides multiple RF pathways across the mesh radio network to the central monitoring station. To meet compliance standards, only 2 RF paths are required. Please refer to the official NFPA 72 National Fire Alarm and Signaling Code handbook, Chapter 26 (26.6.3.3.2 One-Way Private Radio Alarm Systems/Technology Reference Comparison Table A.26.6.1).



Multiple RF Path Reference Guide

AES provides a *Multiple Path Validation Reference* guide detailing how to easily validate multiple RF paths at each AES 7788F/7744F Series Fire Subscriber. The guide also provides a complete listing of the codes and standards to which AES-*IntelliNet* products have been tested. To assist Authorities Having Jurisdiction (AHJs) with the fire alarm inspection process, the guide and other valuable installer tools are available for download from the company website. Visit our Fire Marshal Resources page at (http://www.aes-intellinet.com/products/fire/fire-marshal-resources/).

AES-*IntelliNet*® Private Wireless Mesh Network



Each Smart Subscriber acts as transmitter, receiver, and repeater creating a smart long-range radio network with multiple pathways and multiple redundancies. The AES-*IntelliNet* network is self-forming, self-healing, highly scalable and assures that signals follow the shortest path available as the network expands.

Cost Free Supervised Operation

AES Subscribers offer fully-supervised operation that includes monitoring of primary and back-up operating power as well as the radio connection to the AES-*IntelliNet* network. Each Subscriber performs "Check-ins" with the AES central station receiver at least once every 24 hours which complies with the UL 864 standard for commercial fire alarm communications. The supervision Check-in time can be set to as often as needed for the application. Because the central station owns and operates the long-range wireless network, there is no cost for air time to transmit supervisory signals. This is very different from cellular alternatives which require an aggressive supervision Check-in schedule in order to comply with UL 864 listing. The high monthly cost for cellular service fees significantly reduce RMR profit.

> Unlike cellular, there is no cost for air time to transmit supervisory signals.

Full Data Module Option - Ideal replacement for Phone Lines

AES Subscribers transmit consolidated alarm, trouble, and supervisory signals triggered by a FACP output relay. Subscribers with an integrated AES-*IntelliPro* Fire full data module transmit full alarm zone and event codes captured from a panel's digital communicator. Both options individually meet UL and NFPA 72 requirements. AES Fire Subscribers with built-in full data module are the ideal drop-in full-function replacement for phone lines for communicating signals from both new and existing UL commercial fire alarm systems. Replacing phone lines with AES-*IntelliNet* maximizes RMR profit with significant bottom line impact, unlike with cellular technologies that charge high monthly service fees.

How to Order

AES Fire Subscribers	
7788F	8 Zone Fire Subscriber, 8 Supervised Zones, Red Enclosure.
7744F	4x4 Zone Fire Subscriber, 4 Reversing Polarity, 4 Supervised Zones, Red Enclosure.
7788F-ULP	8 Zone Fire Subscriber, 8 Supervised Zones, includes 7794 AES-*IntelliPro* Fire, Red Enclosure.
7744F-ULP	4x4 Zone Fire Subscriber, 4 Reversing Polarity, 4 Supervised, includes 7794 AES-*IntelliPro* Fire, Red Enclosure.
7788F-ULP-P	8 Zone Fire Subscriber, 8 Supervised Zones, includes 7795 AES-*IntelliPro* Fire, Red Enclosure. UL listed for primary standalone communication with fire radios.
7744F-ULP-P	4x4 Zone Fire Subscriber, 4 Reversing Polarity, 4 Supervised Zones, includes 7795 AES-*IntelliPro* Fire, Red Enclosure. UL listed for primary standalone communication with fire radios.
7788F-C	8 Zone Fire Alarm Subscriber. ULC listed for Canada.
7788F-C-ULP	7788F-C Fire Alarm Subscriber with AES-*IntelliPro* Fire full data module. ULC listed for Canada.
Add-on AES-*IntelliPro* Fire Modules	
7794	AES-*IntelliPro* Fire Full Data Module. UL listed for supplemental communication with fire radios.
7795	AES-*IntelliPro* Fire Full Data Module (7794) with 7762 Hardware Supervisory Module and 7740 AES Local Annunciator. UL listed for primary standalone communication with fire radios.
7742	7762 Hardware Supervisory Module and 7740 AES Local Annunciator. 7762 module provides power and supervision of the 7740 AES Local Annunciator.
AES Local Annunciator	
7740	7740 AES Local Annunciator. UL listed for use with 7795 module or 7742 module.

Technical Specifications

7788F/7744F

Dimensions
- 13.25"H x 8.5"W x 4.3"D (34cm H x 21.5cm W x 11cm D)

Weight
- Approx. 7 pounds (3.2 kilograms), excludes battery

Radio Frequency
- Standard Frequency Range: 450-470MHz (others available in 400-512MHz range
- Output Power – 2 Watts and 5 Watts

Antenna
- Included 2.5 db tamper resistant antenna mounts on enclosure
- Multiple remote antenna options available

Power Input
- 16.5VAC, 40VA transformer (not included) (AES 1640, ELK TRG1640, MG Electronics MGT1640 – UL Listed for use)

Backup Battery
- Will charge 12V battery up to 7.5 - 12 AH,
- Requires 12VDC 7.5 AH battery for UL 864

Alarm Signal Inputs (subscriber)
- 7788F – 8 individually programmable zones
- 7744F – 4 individually programmable zones and 4 reverse polarity inputs

UL Standards
- UL 864 Edition 9 – Standard for Control Units and Accessories for Fire Alarm Systems
- UL 365 – Standard for Police Station Connected Burglary Alarm Units and Systems
- UL 1681 – Standard for Central Station Burglary Alarm Units

Antenna Cut/Communication Trouble Output
- Form C relay; fail secure; rated for 24 VDC 1A resistive

Reset Button
- Located on main circuit board

Operating Temperature
- 0° to 50° C (32° to 122°F)

Storage Temperature
- –10° to 60° C (14° to 140°F)

Relative Humidity
- 0 to 85% RHC, Non-Condensing

7794

- Transmits full data to AES-*MultiNet* receiver using Contact ID or Pulse formats
- Formats Supported: Contact ID, Pulse 3+1, Pulse 4+1, Pulse 4+2, Modem IIe, and Modem IIIa2

Input/Output Connections
- AES Subscriber – data and power
- Handheld/PC programming port
- Plain Old Telephone Service (POTS) incoming phone line
- Phone output connection from alarm panel
- Trouble output (form C relay)

Size
- 4.875" x 5" (12.3cm x 12.7cm)

Power Requirements
- 12 VDC nominal, primary and backup power provided by the AES RF Transceiver Unit

Current Consumption
- 350 mA nominal

7795

- P/N 40-7795 is a kit that includes 7794 module and 7762 Hardware Supervisory module. For 7794, please see Technical Specifications above

7762

- Hardware Supervisory Module

Input/Output Connections
- J1 - AES 7794 (J2) or Subscriber (J1) - data and power
- Input for Subscriber J4 Output
- Input for AES 7740 Local Annunciator - data and power
- AES 7740/AES 7794 Trouble Output to Subscriber input zone

Size
- 2.5" x 4.9375" (6.3cm x 12.5cm)

Power Input
- 12VDC nominal, power supplied from AES 7794 module or AES 7788F/7744F Subscribers

Current Consumption
- 40 mA average; 100 mA peak

Specifications Subject to Change Without Notice

About AES Corporation

Established in 1974, AES Corporation empowers companies to grow profitable alarm monitoring businesses, and government agencies to enhance security anywhere in the world. By providing the industry's only patented owner operated and controlled private wireless mesh networks, AES ensures superior reliability, low Total Cost of Ownership (TCO) and optimal Recurring Monthly Revenue (RMR) while reducing dependence on service provider infrastructures. The company's flagship AES-*IntelliNet*® systems are deployed in over a half million locations worldwide.

For more information, go to **www.aes-corp.com** or call **(800) 237-6387** or contact us at **sales@aes-corp.com**

Gamewell FCI FIRE CONTROL INSTRUMENTS

by Honeywell

E3 Series® Control Panel

Description

The E3 Series® Expandable Emergency Evacuation System by Gamewell-FCI is in the forefront of the latest generation of fire alarm control panels. Employing the new high-speed Velociti® sensors, the E3 Series provides previously unattainable polling speed and response together with the flexibility demanded by today's emergency evacuation systems. In addition to their high-speed polling rate, the Velociti Series of sensors feature bi-polar LEDs that flash green for normal polling, and light red steadily to indicate an alarm.

The E3 Series is equipped with an 80-character LCD-E3 alphanumeric LCD display that allows 40 characters to be user-defined for custom installations. Up to six keyboard LCD displays may also be remotely located. In addition, you can install five of the familiar LCD-7100/RAN-7100 remote displays. The displays show instant system status information and can be connected in any desired area of an installation.

A high-speed 32-bit processor easily tackles a wide array of applications from small office buildings to multi-complex, high-rise installations.

The 64 node networking is made possible by 625K baud/ ARCNET communications using twisted-pair copper cable, fiber-optic cable, or a combination of both. In addition, the Addressable Node Expander (ANX) board expands the network to 122 nodes.

The basic E3 Series is equipped with an ILI-MB-E3/ILI95-MB-E3 Intelligent Loop Interface-Main Board, ILI-S-E3/ ILI95-S-E3 Intelligent Loop Interface Expansion Board, ANX, and ASM-16 Addressable Switch Module that features 16 software programmable switches, each accompanied by red, green and yellow LEDs that can be programmed to indicate operation of the switches. Additional ASM-16 modules may be added to expand the operation to a plateau previously unimagined.

The Intelligent Loop Interface - Expansion Board (ILI-S-E3/ ILI95-S-E3 provides the E3 Series control panel with two additional electrically isolated signaling line circuits. The layout is similar to the ILI-MB-E3/ILI95-MB-E3 with the exception that a number of components are omitted. It occupies one node on the Broadband network.

Expandable Emergency Evacuation System

E3 Series

Features

- IBC Seismic Certified.
- Listed under UL® Standard 864, 9th Edition.
- UL Listed for smoke control (dedicated and non-dedicated) when properly configured.
- UL Listed and FM Approved for Pre-action/Deluge and Agent Releasing.
- Styles 4, 6, or 7* signaling line circuits.
- Two to 244 SLCs each supporting 159 sensors, 159 modules and 159 addressable sounder bases.
- 625K baud ARCNET communications using wire, fiber, or mixed configurations for installation flexibility.
- High-speed 32 bit processor and 8100 event history log.
- Advanced Boolean logic-based programming such as AND, OR, NOT, time delay and calendar functions configurable via computer programming.
- Supports up to (16), ASM-16 addressable switch or ANU-48 LED driver modules per ILI-MB-E3/ILI95-MB-E3.
- Two Class A, Style Z or Class B, Style Y, notification appliance circuits rated at 2.0 amps. per circuit.
- Integral city connection.
- Flexible 115,200 baud high speed RS-232 interface.
- 40 character user-defined text per device.
- 15 LCD-SLP displays/annunciators, 6 LCD-E3 displays/ annunciators, 5 LCD-7100/RAN-7100 remote LED annunciators per ILI-MB-E3/ILI95-MB-E3.

**Style 7 wiring requires the use of System Sensor M500X Isolator Modules.*

SIGNALING

UL LISTED S1869

FM APPROVED 3025415

MEA Approved FDNY #: 6175 COA # 231-06-E

7165-1703:0125

City of Chicago Approved Class1 Class2 High Rise

City of Denver Approved

THE VMC GROUP Reference Certificate of Compliance VMA-45894-02C (Revision 1)

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

GAMEWELL-FCI

12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

www.gamewell-fci.com

Description (Continued)

Each ILI-MB-E3/ILI95-MB-E3 can support as many as sixteen ANU-48 LED Driver modules supporting hundreds of LEDs on a 3rd party graphic annunciator for remote annunciation. The ANU-48 modules may be installed in any Listed remote annunciator. It can be remotely located via an RS-485 serial interface.

An array of cabinets allows for neat, compact, attractive installations.

Installation

The E3 Series expandable emergency evacuation system offers four cabinet size options. A typical cabinet includes a backbox, an inner door, and an outer door. The E3 Series cabinet assembly is a compact 19 3/8" (49 cm) wide. wall-mounted enclosure.

Cabinet A includes the following four options:

- Cabinet A1 inner door mounted to the backbox. The backbox houses one NGA module.
- Cabinet A2 inner door mounted to the backbox. The backbox houses one LCD-E3 module.
- Two or three-bay inner door mounted to the backbox. The backbox typically houses one LCD-E3, or one NGA, and one or two ASM-16 modules.

Cabinet B contains a space for the ILI-MB-E3/ILI95-MB-E3, PM-9/PM-9G modules and batteries set inside the backbox. Additional module options mounted on the backbox include the DACT-E3, and RPT-E3 or ILI-S-E3/ILI95-S-E3/ANX. The 2-bay inner door houses one LCD-E3 module and one ASM-16 module.

Both Cabinets C and D include the following:

- Pre-assembled outer door that gives visibility to the fire fighter's phone handset and a microphone voice messaging system.
- Two inner door panel selections that may contain optional modules to meet the facility operation requirements.

In the Cabinet B, C and D backboxes, the ANX appears in the same place as the ILI-MB-E3/ILI95-MB-E3 and PM-9/PM-9G. For information on the installation instructions for any of the E3 Series cabinets, refer to the E3 Series® Expandable Emergency Evacuation Manual
Part Number: LS10080-051GF-E.

Specifications

Operating Voltage:	24 VDC
Operating Temperature:	Not to exceed the range of 32° to 120° F (0 to 49° C)
Relative Humidity:	Not to exceed 93% non-condensing at 90° F (32° C)

Features (Continued)

Velociti® Intelligent Sensor Features:

- Poll 318 devices in less than two seconds.
- Activate up to 159 outputs in less than five seconds.
- LED's blink associated device address during Walk Test.
- Fully digital, hi-precision protocol.
- Up to 9 levels of sensitivity adjustment.
- Pre-Alarm adjustable between 15 levels for both Alert and Action.
- Day/night automatic sensing adjustment.
- Sensitivity windows:
  - Ion .05 to 2% obscuration.
  - Photo 1 to 3% obscuration.
  - Laser .02 to 2% obscuration.
  - MCS Acclimate2F .5 to 4%, also self-adjustable options 1 to 2%, 2 to 3%, and 3 to 4%.
  - HARSH 1 to 3% obscuration.
- Drift compensation.
- Each Loop Card has its own integral processor providing maximum survivability on loss of any other component. SLC provides full response on loss of any other system processor.
- Optional programmable switches can be configured to enable, disable or group any combination of output devices.
- Integrated point or Grouped Cross Zoning allows for numerous devices installed at any location to cooperate and determine alarm condition.
- Automatic detector sensitivity testing.
- DIRTY and VERY DIRTY detector maintenance alerts.

Ordering Information

Part Number	Description
ILI-MB-E3	Intelligent Loop Interface-Main Board
ILI95-MB-E3	Intelligent Loop Interface-Main Board
ILI-S-E3	Intelligent Loop Interface-Expansion Board
ILI95-S-E3	Intelligent Loop Interface-Expansion Board
ANX-SR	Addressable Node Expander-Single Ring
ANX-MR-FO	Addressable Node Expander-Multi-Ring Fiber Optic
ANX-MR-UTP	Addressable Node Expander-Multi-Ring Twisted-pair
LCD-E3	LCD-E3, LCD Keypad Display
RPT-E3-UTP	Network Repeater, unshielded, twisted-pair
FML-E3	Multi-Mode Fiber-Optic Module
FSL-E3	Single-Mode Fiber-Optic Module
DACT-E3	Digital Alarm Communicator Transmitter
ANU-48	ANU-48 LED Driver Module
ASM-16	Addressable Switch Module
NGA	LCD Network Graphic Annunciator
PM-9	Power Supply Module
PM-9G	Power Supply Module
LCD-7100	Remote LCD Display
RAN-7100	Remote LCD Display

For additional information on the cabinets, refer to the E3 Series Cabinets data sheet (Part Number: 9020-0649).

Seismic Battery Bracket Kits

For information on the types of Seismic Battery Bracket Kits that are available, the Seismic Battery Bracket Kit Part Numbers and the installation instructions, refer to the following documents:

- Seismic Battery Bracket Installation Guide, P/N: 53839
- E3 Series Cabinets Data Sheet, P/N: 9020-0649

E3 Series LOC

Description

The Gamewell-FCI, E3 Series®, Local Operating Console (LOC) is a paging component that provides emergency notification and can be remotely distributed in real-time via pre-recorded messages, live voice paging, or text messages. It is used in the following E3 Series Systems.

- E3 Series Expandable Emergency Evacuation System
- E3 Series Combined Fire and Mass Notification System to comply with the DOD, United Facilities Criteria (UFC) guidelines
- E3 Series Broadband Voice Evacuation Systems

The LOC's robust distributed messaging capabilities allow users to program the system to broadcast messages that automatically change as the situation changes. This versatile feature makes it possible for the system to simultaneously distribute different emergency communications to zones, floors, multiple buildings, large outdoor campuses or facility areas.

The Local Operating Console uses a state-of-the-art Digital Signal Processor (DSP) that produces reliable, high fidelity audio messaging and it allows live voice instructions. The Network Touchscreen Graphic Annunciator (NGA) provides the LOC with the capability to display text messaging over the network to all Local Operating Consoles within a protected area. The Addressable Switch Module (ASM-16) includes 16 programmable switches for message, control, and zone paging.

The E3 Series LOC communicates over the network, allowing full communication and control over a single pair of wires or fiber-optic cable. This E3 distributed architecture, including Style 7 wiring configuration, provides complete supervision and survivability if a fault condition occurs or the system is compromised. All LOCs on the network are supervised.

The Local Operating Console comprises the following:

- AA Cabinet with mounting patterns for the INI-VG Series
- 3-slot inner door for mounting the following:
  - One INCC-MIC paging microphone
  - One or two ASM-16s
  - One ASM-16 and one NGA

Note: Gamewell-FCI recommends you install the speakers at 4 ft. (1.2 m) or more from the microphone.

Ordering Information

Part Number	Description
E3BB-BAA	AA Cabinet
E3ID3-A	Inner Door, 3 Slots
1100-1321	INI-VGC, Voice Gateway
1100-0452	INCC-MIC, Paging Microphone
1100-0455	ASM-16, Addressable Switch Module
Optional Components	
1100-0505	NGA, Network Graphic Annunciator
Thumb lock	Thumb quarter turn latch
E3-TRIMKIT-A	Trim Ring

Local Operating Console

E3 Series LOC

Features

- Listed under UL® Standard UL2572 for Mass Notification.
- IBC Seismic Certified.
- Offers instantaneous audio or text messaging.
- Includes 16 message capacity with up to a 3 minute duration per each LOC.
- Supports up to 2 ASM-16 modules for a total of 32 switches for each LOC.
- Allows messages to be easily field-configured via a laptop computer.
- Built of 16-gauge steel backbox with a full Lexan® window and keylock on the door.
- Includes an optional thumb quarter turn latch and trim ring available.
- Provides all communication signals and control-by-event sequences connected over twisted, unshielded pair of wires or fiber-optic cable.
- Uses E3 Series distributed architecture, including Style 7 wiring configuration.
- Transmits at a network data transfer rate of 625K baud.

SIGNALING

LISTED S1869 APPROVED 3025415 MEA Approved FDNY: COA # 231-06-E 7165-1703:0125 7170-1703:0126 City of Chicago Approved Class1 Class2 High Rise City of Denver Approved Reference Certificate of Compliance VMA-45894-02C (Revision 1)

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118

MS-7 Series

Description

The Gamewell-FCI, MS-7 Series manual fire alarm stations are available in a wide variety of configurations. The Stations comply with the Americans with Disabilities Act (ADA) 5-lb. maximum pull force requirement. Operating instructions and Braille text are engraved in the handle. All stations have a key lock/reset which is keyed alike with Gamewell-FCI fire alarm control panels and other manual fire alarm stations.

MS-7AF Velociti Addressable Station

The MS-7AF Velociti® Series addressable station is a double action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

MS-7ASF Velociti Addressable Station

The MS-7ASF Velociti® Series addressable station is a single action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

The Velociti® Series stations use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and focuses on the single device. The net effect is response speed up to five times greater than earlier designs.

MS-7 Double Action Station

The MS-7 double action station is used with conventional fire alarm control panels. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.

Non-Coded, Manual Fire Alarm Stations

MS-7

Features

- Addressable stations compatible with all Gamewell-FCI analog addressable fire alarm controls
- Conventional stations suitable for use with any UL® Listed control panel
- Both single and double action stations available
- Tumbler lock for test and reset keyed alike with Gamewell-FCI controls
- Surface or semi-flush mounting
- Shock and vibration resistant
- Stations (MS-7LOB) Listed for outdoor applications
- Complies with ADA pull force requirements

*Only the red LED is operative in panels that do not operate in Velociti mode.

SIGNALING
UL LISTED S2465
FM APPROVED 3023594
MEA Approved 67-02-E Vol.VIII
7150-1703:0119
7150-1703:0170
7150-1703:0109

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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MS-7S Single Action Station

The MS-7S single action station is used with conventional fire alarm control panels. It features a set of single pole contacts and wire leads for connection to an initiating circuit.

MS-7SP Double Action Station

The MS-7SP is a double action station similar to the MS-7 station, with the additional feature of both English and Spanish instructions molded into the unit.

MS-7LR Dual-action Agent Release Station

The MS-7LR is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.

MS-7LRA Agent Release Station with Abort

The MS-7LRA is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems where system abort capabilities are required. It consists of an MS-7LR mounted on a plate with an abort switch and LED indicators for system normal, and system activated status.

MS-7LOB Double Action Station (Listed for Outdoor Applications)

The MS-7LOB station must be mounted on a Model SB-I/O backbox. In retrofit applications, the station is UL Listed for use with the WP-10 backbox. It is intended for use with conventional control panels and has a set of single pole contacts and screw terminals.

Mounting

The MS-7 interior stations may be surface mounted or semi-flush mounted on a standard double-gang, or 4-inch (10.2 cm) square electrical box. An optional trim ring (BG12TR) may also be used for semi-flush mounting.

NYC-Plate

The NYC-Plate provides the backplate for the manual pull station. (See Figure 1).

Figure 1 NYC-Plate

Specifications

Material:	Lexan®
Contact Ratings:	0.25 amps. @ 30 VAC/VDC (resistive)
Dimensions:	5 5/8" H x 4 1/4" W x 1 1/4" D (14 x 10.1 x 3.2 cm)
Operating Temperature	
(MS-7AF, MS-7ASF):	32° to 120° F (0° to 49° C)
(MS-7LOB):	-30° to 150° F (-35° to 66° C)
Relative Humidity	
(MS-7AF, MS-7ASF):	10 to 93% (non-condensing)
(MS-7LOB):	85% ± 5% @ 86° ± 3.6° (30° ± 2° C)
Alarm Current:	.0030 amp. 0.007 for LED
Supervisory Current	
(MS-7AF, MS-7ASF):	.00030 amps.

Ordering Information

Part Number	Description
MS-7	Double action station
MS-7AF**	Velociti addressable double action station
MS-7ASF**	Velociti addressable single action station
MS-7S	Single action station, wire leads
MS-7SP	Double action station, English and Spanish instructions
MS-7LR	Agent release station, dual-action
MS-7LRA	Agent release station with abort switch, LED indicators, dual- action
MS-7LOB	Double action station, outdoor use (Includes SB-I/O - Indoor/outdoor use backbox)
SB-I/O	Indoor/outdoor use backbackbox
SB-10	Surface backbox
BG12TR	Trim ring for semi-flush mount, plastic
NY-PLATE	NYC backplate for manual pull station

**For use with the Gamewell-FCI analog addressable control panels only.

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www.gamewell-fci.com

Gamewell FCI FIRE CONTROL INSTRUMENTS

by Honeywell

SpectrAlert® Advance Indoor Notification Appliances

Description

The SpectrAlert® Advance Series speakers are UL® 464 Compliant for the 520 Hz low frequency signal and is compatible with the E3 Series® Voice Evacuation panels that use the AM-50 Series amplifiers. These speakers and speaker strobes are designed for ease of installation and to reduce ground faults. The plug-in construction allows the installer to pre-wire mounting plates and dress the wires before plugging in the speakers. The plastic cover prevents nicked wires by covering exposed speaker components.

This unique design allows faster installations that provide instant feedback to ensure that the following conditions are met.

- Wiring is properly connected.
- Rotary switches are set to the selected voltage and power settings.
- 11 field selectable candela settings are used for wall and ceiling speaker strobes.

The low total harmonic distortion of the SP model speaker offers high fidelity sound output. The SP model speaker maintains a low frequency alert tone (that is compatible with the E3 Series Voice System), and is compliant with the low frequency requirements defined in the UL Standard 464, Section 24.3

SpectrAlert Advance makes installation easy

1. Attach a universal mounting plate to a 4” x 4” x 2-1/8” back box. Flush mount applications are achievable without the need for an extension ring.
2. Connect the notification appliance circuit or speaker wiring to the PEMS terminals on the mounting plate.
3. To attach the speaker or speaker strobe to the mounting plate, insert the product tabs into the mounting plate grooves.
4. Rotate the device into position to lock the product pins into the mounting plate terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

520 Hz Low Frequency, Selectable Output Speaker Strobes and Dual Voltage Evacuation Speakers

SpectrAlert Advance

Features

- Complies with UL® Standard 464 for 520 Hz Low Frequency.
- Offers a plug-in design.
- Protective cover isolates speaker components, reduces ground faults.
- Electrical compatibility with existing SpectrAlert products
- Field selectable candela settings on wall & ceiling units:
  - Standard: 15, 15/75, 30, 75, 95, 110, 115
  - High: 135, 150, 177, 185
- Shorting spring on mounting plate tests continuity before installation.
- Rotary switch simplifies field selection of speaker voltage and power settings.
- Universal mounting plate for wall- & ceiling-mount units.
- Compatible with System Sensor synchronization protocol.
- SP model speakers offer high fidelity sound output.
- Automatic selection of 12 or 24 volt operation at 15 and 15/75 candela.
- No extension ring required.
- Includes a ceiling and a wall mount application.
- Optional tamper resistant Torx head screw included.

SIGNALING
UL LISTED S4048
MEA Approved 10-08-E 7300-1653:201
Vol. 1, Sec. 2

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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Architectural/Engineering Specifications

General

SpectrAlert Advance speaker and speaker strobes shall mount to a 4" x 4" x 2-1/8" (10.16 x 10.16 x 5.5 cm) backbox. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Indoor SpectrAlert Advance products shall operate between 32°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Speaker strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

Speaker

The speaker shall be a System Sensor SpectrAlert Advance model dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal V_{RMS}. It should be listed to UL® 1480 and shall be approved for fire protective service. The speaker shall have a frequency range of 400 to 4000Hz and shall have an operating temperature between 32°F and 120°F. Speaker shall have power taps and voltage that are selected by rotary switches.

Speaker Strobe Combination

The speaker strobe shall be a System Sensor SpectrAlert Advance model Listed to UL 1480 and UL 1971 and be approved for fire protective signaling systems. Speaker shall be capable of operating at 25.0 or 70.7 nominal V_{RMS} selected via rotary switch, and shall have a frequency range of 400 to 4000Hz. Speaker shall have power taps which are selected by rotary switch. The strobe shall comply with the NFPA 72 requirements for visible signaling appliances, flashing at 1Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Synchronization Module

The module shall be a System Sensor Sync Circuit model MDL listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1Hz. The module shall mount to a 4-11/16" x 4-11/16" x 2-1/8" (10.4 x 10.4 x 5.5 cm) backbox. The module shall also control two Style Y (Class B) circuits or one Style Z (Class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

UL Maximum Strobe Current Draw (mA RMS)					
	Candela	8 to 17.5 Volts		16 to 33 Volts	
		DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

Table 1: UL Maximum Strobe Current Draw (mA RMS)

Sound Output				
UL Reverberant (dBA@10 ft)	2 W	1 W	1/2 W	1/4 W
Wall Mount SP Series	86	83	80	77
Ceiling Mount SPC Series	86	83	80	77
Wall Mount SPS Series	85	82	79	76
Ceiling Mount SPSC Series	85	82	79	76

Table 2: Sound Output

Specifications

Physical Specifications

Operating Temperature:	32°F to 120°F (0°C to 49°C)
Humidity Range:	10 to 93% non-condensing
Wall-Mount Dimensions:	
SP Speaker:	6.0”L x 5.0”W x 2.8”D
SPS Speaker/Strobe:	6.0”L x 5.0”W x 4.7”D
Ceiling-Mount Dimensions:	
SPC Speaker:	6.8”Dia x 2.8”D
SPSC Speaker/Strobe:	6.8”Dia x 4.7”D

Electrical/Operating Specifications:

Nominal Voltage (speakers):	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (speakers):	50VDC
Strobe Flash Rate:	1 flash per second
Nominal Voltage (Strobes):	Regulated 12VDC/FWR or regulated 24VDC/FWR
Operating Voltage Range (includes fire panels with built-in sync):	8 to 17.5V (12V nominal) or 16 to 33V (24 nominal)
Operating Voltage with MDL Sync Module:	9 to 17.5V (12V nominal) or 17 to 33V (24V nominal)
Frequency Range:	400 to 4000Hz
Power:	¼, ½, 1, 2 watts

Ordering Information

Wall Mount

Part Number	Description

NOTE1: Add -P to model number for plain housing (no ‘FIRE’ marking on the cover), e.g. SPSW-P.

NOTE2: (W) indicates white coloring; (R), red.

SP(W)(R):	Speaker only (white/red)
SPS(W)(R)*:	Speaker strobe, selectable candela (15, 15/75, 30, 75, 95, 100, 115)
SPS(W)(R)H*:	Speaker strobe, selectable candela, high cd (135, 150, 177, 185)
SPSR-P:	High fidelity speaker strobe (red)
SPSRH-P:	Speaker strobe, high candela (red)
SPSW-ALERT:	Speaker strobe, amber lens, ALERT, (white)
SPSW-CLR-ALERT:	Speaker strobe, clear lens, ALERT, (white)
SPSW-P:	Speaker strobe, plain, (red)
SPSWH:	Speaker strobe, high candela, (white)
SPSWH-P:	Speaker strobe, high candela, plain (red)

Ceiling Mount

Part Number	Description
SPC(W)(R):	Speaker only
SPSC(W*)(R):	Speaker strobe, selectable candela (15, 15/75, 30, 50, 75, 95, 110, 115)
SPSC(W*)(R)H:	Speaker strobe, selectable candela, high cd (135, 150, 177, 185)
SPSCW-CLR-ALERT:	Speaker strobe, clear lens, ALERT, (white)
SPSCW-P:	Speaker strobe plain, (white)
SPSCWH-P:	Speaker strobe, high candela, plain (white)

Accessories

Part Number	Description
RFP:	Retrofit plate, red
RFPW:	Retrofit plate, white
SPBBSC:	Ceiling mount backbox skirt, red
SPBBSCW:	Ceiling mount backbox skirt, white
SPBBS:	Wall mount backbox skirt, red
SPBBSW:	Wall mount backbox skirt, white
TR:	Wall mount trim ring, red
TRW:	Wall mount trim ring, white
TRC:	Ceiling mount trim ring, red
TRCW:	Ceiling mount trim ring, white

Gamewell FCI FIRE CONTROL INSTRUMENTS

by Honeywell

SpectrAlert® Advance Outdoor Notification Appliances

Outdoor Selectable Output Speaker Strobes and Dual Voltage Evacuation Speakers

Description

The SpectrAlert® Advance series offers the broadest line of outdoor speakers and speaker strobes in the industry. From metal and plastic outdoor back boxes, to white and red plastic housings, to wall and ceiling mounting options, virtually every application is covered. SpectrAlert Advance outdoor speakers and speaker strobes offer reliable operation over the entire temperature range of -40°F to 151°F. They may be used indoors or outdoors in wet or dry applications. In addition, these speakers provide a broad frequency response range and low harmonic distortion to provide an accurate and intelligible broadcast of evacuation messages. High sound pressure level at all tap settings ensures that messages are clearly heard.

The plug-in design allows the installer to pre-wire mounting plates and dress the wires before plugging in the speakers to help reduce ground faults. This design also allows faster installations with instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and field selectable candela settings for wall and ceiling speaker strobes.

The weatherproof back boxes have plastic and metal versions. They are designed to accommodate in-and-out wiring for daisy chaining outdoor devices. The plastic weatherproof back boxes are shipped with the product feature removable side flanges and have improved resistance to salt water corrosion. The screw hole knockouts, located on the back of the weatherproof back box, eliminate the need to drill holes for screw-in mounting. Both weatherproof back boxes are available with 3/4 inch top and bottom conduit entries and 3/4 inch knock-outs at the back. Included with each back box is a screw-in NPT plug with an O-ring gasket for a watertight seal. Metal back boxes are available separately.

SpectrAlert Advance

Features

- Plug-in design
- Electrical compatibility with existing SpectrAlert products
- Shorting spring on mounting plate tests continuity before installation
- Rotary switch simplifies field selection of speaker voltage and power settings
- Universal mounting plate for wall- and ceiling-mount units
- Weatherproof per NEMA 4x, IP56
- Compatible with System Sensor synchronization protocol
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field selectable candela settings on wall and ceiling units
- Ceiling and wall mount application

An ISO 9000-2000 Company

SIGNALING UL LISTED S4048 Vol. 1, Sec. 2 MEA Approved 10-08-E 7300-1653:201

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Architectural/Engineering Specifications

General
SpectrAlert Advance outdoor speaker and speaker strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Outdoor SpectrAlert Advance products shall operate between –40°F and 151°F from a regulated DC, or full-wave rectified, unfiltered power supply.

Speaker
The Speaker shall be a System Sensor SpectrAlert Advance Model _____ dual voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. Speaker shall be Listed to UL® Standard S4048 for outdoor fire protective signaling systems. Speaker shall have a frequency range of 400 to 4000 Hz and shall have an operating temperature from –40°F to 150.8°F. Speaker shall have power taps and wattage settings which are selected by rotary switches. The speaker must be installed with its weatherproof backbox in order to remain outdoor approved per UL listing S4048. The speaker shall be suitable for use in air handling spaces, as well as wet environments.

Speaker Strobe Combination
The Speaker Strobe shall be a System Sensor Model _____listed to UL 1638 and UL 1480 and be approved for fire protective signaling systems. Speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms, and shall have a frequency range of 400 to 4000 Hz. Speaker shall have power taps that are selected by rotary switch. The strobe shall consist of a xenon flash tube with associated lens/reflector system and operate on either 12V or 24V. The strobe shall also feature selectable candela output, providing options for 15 or 15/75 candela when operating on 12V and 15, 15/75, 30, 75, 110, 115, 135, 150, 177 or 185 when operating on 24V. The strobe shall comply with the Americans with Disabilities Act requirement for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The speaker strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The speaker strobe shall be suitable for use in wet environments.

Sound Output				
UL Reverberant (dBA@10 ft)	**2 W**	**1 W**	**1/2 W**	**1/4 W**
Outdoor Speaker	90	87	84	81
Outdoor Speaker/Speaker Strobe	89	86	83	80

UL Maximum Strobe Current Draw (mA RMS)					
	Candela	**8 to 17.5 Volts**		**16 to 33 Volts**	
		DC	**FWR**	**DC**	**FWR**
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	vmvm95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

Candela Derating

NOTE: For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)	
Listed Candela	**Candela Rating at -40 F**
15	Do not use below 32 F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

Specifications

Physical Specifications

Operting Temperature:	-40°F to 151°F (-40°C to 66°C)
Wall-Mount Dimensions:	
SPS Speaker Strobe:	6.0”L x 5.0”W x 4.9”D (including lens and speaker)
SP Speaker:	6.0”L x 5.0”W x 2.9”D
Ceiling Mount Dimensions:	
SPS Speaker Strobe:	6.8”Dia x 4.8”D (including lens and speaker)
SP Speaker:	6.8”L x 2.9”D
Wall-Mount Weatherproof Backbox:	
Dimensions:	6.5”L x 5.5”H x 2.9”D
Ceiling-Mount Weatherproof Backbox:	
Dimensions:	7.2”Dia x 2.9”D

Electrical/Operating Specifications:

Nominal Voltage (speakers):	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (speakers):	50VDC
Strobe Flash Rate:	1 flash per second
Nominal Voltage (Strobes):	Regulated 12VDC/FWR or 24VDC/FWR
Operating Voltage Range (includes fire panels with built-in sync):	8 to 17.5V (12V nominal) or 16 to 33V (24 nominal)
Operating Voltage with MDL Sync Module:	9 to 17.5V (12V nominal) or 17 to 33V (24V nominal)
Frequency Range:	400 to 4000Hz
Power:	¼, ½, 1, 2 watts

Ordering Information

Part Number	**Description**
SPWK:	Wall mount outdoor speaker; white
SPRK:	Wall mount outdoor speaker; red
SPSWK:	Wall mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 75, 95, 100, 115); white
SPSRK:	Wall mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 75, 95, 100, 115); red
SPCWK:	Ceiling mount outdoor speaker; white.
SPSCWK:	Ceiling mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 50, 75, 95, 110, 115); white
SPSCWHK:	Ceiling mount outdoor speaker strobe, selectable candela, high cd (135, 150, 177, 185); white
Accessories	
MWBB:	Wall, metal weatherproof backbox; red
MWBBW:	Wall, metal weatherproof backbox; white
MWBBCW:	Ceiling, metal weatherproof backbox; white
PWBB:	Wall, plastic weatherproof backbox; red
PWBBW:	Wall, plastic weatherproof backbox; white
PWBBCW:	Ceiling, plastic weatherproof backbox; white

Gamewell FCI FIRE CONTROL INSTRUMENTS

by Honeywell

SpectrAlert® Advance

Description

SpectrAlert® Advance selectable-output horns, strobes and horn/strobes are rich with features guaranteed to decrease installation times and maximize profits. The SpectrAlert Advance Series of notification appliances is designed to simplify your installations that offer the following features:

- Plug-in designs.
- Instant feedback messages to ensure correct installation of individual devices.
- Eleven field-selectable candela settings for wall, ceiling strobes and horn/strobes.

Installation

More specifically, to install the Advance products, do the following:

1. Attach a universal mounting plate to a four-inch square, four-inch octagon, or double-gang junction box.
   The two-wire mounting plate attaches to a single-gang junction box.
2. Connect the notification appliance circuit wiring to the SEMS terminals on the mounting plate.
3. To attach the horn, strobe, or horn/strobe to the mounting plate, insert the product's tabs in the mounting plate's grooves.
4. Rotate the device into position, locking the product's pins into the mounting plate's terminals.
5. The device temporarily holds in place with a catch until you secure it with a captured mounting screw.

SpectrAlert Advance products offer the following options:

- 12 or 24 volts.
- At 24 volts, 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, or 185 candela by way of rear-mounted slide switch and front viewing window.
- Horn tones and volume by way of rotary switch.

The SpectrAlert Advance series includes outdoor notification appliances. Outdoor strobes and horn/strobes (two-wire and four-wire) are available for wall or ceiling. Outdoor horns are available for wall only. All System Sensor outdoor products are rated between –40°F and 151°F (–40°C and 66°C) in wet or dry applications.

Selectable Output Notification Appliances

7087pho1.jpg

Indoor Ceiling Horn/Strobe

7087pho2.jpg

Outdoor Ceiling Strobe

7087pho3.jpg

Indoor Wall Horn/Strobe

7087pho4.jpg

Indoor Ceiling Strobe

7087pho5.jpg

Indoor Wall Horn

7087pho6.jpg

Outdoor Wall Strobe

Features

- Provides a plug-in design.
- Comprises an assortment of outdoor wall and ceiling products.
- Has tamper-resistance capability with minimal intrusion into the backbox.
- Offers the same mounting plate for wall- and ceiling-mount units.
- Includes a shorting spring on the mounting plate for a continuity check before installation and a captive mounting screw.
- Field-selectable candela settings on wall or ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.
- Contains an automatic selection of 12 or 24 volt operation at 15 and 15/75 candela.
- Outdoor products rated from –40°F and 151°F (–40°C and 66°C).
- Horn rated at 88+ dbA at 16 volts.
- Provides a rotary switch for tone selection.
- Offers three horn volume settings.
- Electrically compatible with SpectrAlert® products.

SIGNALING

UL LISTED S4011

MEA Approved FDNY 452-05-E 7125-1653:0188

ISO 9001 certified ENGINEERING & MANUFACTURING QUALITY SYSTEMS

GAMEWELL-FCI
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Available Models:

- Indoor wall-mount: horn, strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Indoor ceiling-mount: strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Outdoor wall-mount: horn, strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Outdoor ceiling-mount: strobe, 2-wire horn/strobe, 4-wire horn/strobe.

Engineering Specifications

SpectrAlert Advance horns, strobes, and horn/strobes shall mount on a standard 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) backbox, 4.0" (10.16 cm) octagonal backbox, or a double-gang backbox. Two-wire products shall also mount on a single-gang 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm) backbox. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32°F and 120°F (0°C and 49°C) from a regulated DC, or full-wave-rectified, unfiltered power supply. Strobes and horn/strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ Listed to UL STD 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn/Strobe Combination

The horn/strobe shall be a System Sensor SpectrAlert Advance Model _____ Listed to UL Standards 1971 and 464 and shall be approved for fire protective service. The horn/strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a Temporal 3 pattern and a Non-Temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn/strobe models shall operate on a coded or non-coded power supply.

Outdoor Products

SpectrAlert Advance outdoor horns, strobes and horn/strobes shall be listed for outdoor use by UL and shall operate between –40°F and 151°F (–40°C and 66°C). The products shall be listed for use with a System Sensor outdoor/weatherproof backbox with half-inch and three-fourths-inch conduit entries.

Synchronization Module

The module shall be a System Sensor Sync•Circuit _____ Listed to UL STD 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at Temporal 3. Also, while operating the strobes, the module shall silence the horns on horn/strobe models over a single pair of wires. The module shall mount to a 4.688" x 4.688" x 2.125" (11.906 x 11.906 x 5.398 cm) backbox. The module shall also control two Style Y (Class B) circuits or one Style Z (Class A) circuit. The module shall synchronize multiple zones. Daisy-chaining two or more synchronization modules together will synchronize all the zones the modules control. The module shall not operate on a coded power supply.

Operating Specifications

Standard operating temperature:	32° F to 120° F (0° C to 49° C)
K Series operating temperature:	-40° F and 151° F (-40° C and 66° C)
Humidity range:	10% to 93% non-condensing (indoor products).
Strobe flash rate:	1 flash per second.
Nominal voltage:	regulated 12 VDC/FWR or regulated 24 VDC.FWR. **Note:** Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
Operating voltage range:	8 V to 17.5 V (12 V nominal); or 16 V to 33 V (24 V nominal). **Note:** P, S, PC, and SC products will operate at 12 V nominal only for 15 cd and 15/75 cd.
Input terminal wire gauge:	12 to 18 AWG (3.31 to 0.821 mm2).
Ceiling-mount dimensions (including lens):	6.8" diameter x 2.5" deep (17.3 diameter x 6.4 deep cm)
Wall-mount dimensions (including lens):	5.6" H x 4.7" W x 2.5" D (14.2 H x 11.9 W x 6.4 D cm)
Horn dimensions:	5.6" H x 4.7" W x 1.3" D (14.2 H x 11.9 W x 3.3 D cm)

Strobe Current Draw, UL Maximum (mA RMS)

Candela		8 - 17.5 V		16 - 33 V	
		DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

Horn Current Draw, UL Maximum (mA RMS)

Sound Pattern	dB	8 - 17.5 V		16 - 33 V	
		DC	FWR	DC	FWR
Temporal	High	57	55	69	75
Temporal	Medium	44	49	58	69
Temporal	Low	38	44	44	48
Non-temporal	High	57	56	69	75
Non-temporal	Medium	42	50	60	69
Non-temporal	Low	41	44	50	50
Coded	High	57	55	69	75
Coded	Medium	44	51	56	69
Coded	Low	40	46	52	50

Horn and Horn/Strobe Rotary Switch Setting

Setting	Repetition Rate	dB Level
1	Temporal Horn	High
2	Temporal horn	Medium
3	Temporal horn	Low
4	Normal horn	Low
5	Normal horn	Medium
6	Normal horn	Low
7*	Externally coded	High
8*	Externally coded	Medium
9*	Externally coded	Low

*__NOTE:__ Settings 7, 8 and 9 are not available on 2-wire horn/strobe

Horn and Horn/Strobe Output (dBA)

Switch Position	Sound Pattern	dB	8 - 17.5 V		16 - 33 V	
			DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84
2	Temporal	Medium	74	74	80	80
3	Temporal	Low	71	73	76	76
4	Non-temporal	High	82	82	88	88
5	Non-temporal	Medium	78	78	85	85
6	Non-temporal	Low	75	75	81	81
7*	Coded	High	82	82	88	88
8*	Coded	Medium	78	78	85	85
9*	Coded	Low	75	75	81	81

*__NOTE:__ Settings 7, 8, and 9 are not available on 2-wire horn/strobe.

Two-Wire Horn/Strobe, *STANDARD* Candela Range (15 - 115 cd), UL Maximum Current Draw (mA RMS)									
	8 - 17.5 V		16 - 33 V						
Input, Sound Pattern, dB Level	**15**	**15/75**	**15**	**15/75**	**30**	**75**	**95**	**110**	**115**
DC Input, Temporal High	137	147	79	90	107	176	194	212	218
DC Input, Temporal, Medium	132	144	69	80	97	157	182	201	210
DC Input, Temporal, Low	132	143	66	77	93	154	179	198	207
DC Input, Non-temporal, High	141	152	91	100	116	176	201	221	229
FWR Input, Non-temporal Medium	133	145	75	85	102	163	187	207	216
DC Input, Non-temporal, Low	131	144	68	79	96	156	182	201	210
FWR Input, Temporal, High	136	155	88	97	112	168	190	210	218
FWR Input, Temporal, Medium	129	152	78	88	103	160	184	202	206
FWR Input, Temporal, Low	129	151	76	86	101	160	184	194	201
FWR Input, Non-temporal, High	142	161	103	112	126	181	203	221	229
FWR Input, Non-temporal, Medium	134	155	85	95	110	166	189	208	216
FWR Input, Non-temporal, Low	132	154	80	90	105	161	184	202	211

Two-Wire Horn/Strobe, *HIGH* Candela Range (135 - 185 cd), UL Maximum Current Draw (mA RMS)									
	16 - 33 V					16 - 33 V			
DC Input	**135**	**150**	**177**	**185**	**FWR Input**	**135**	**150**	**177**	**185**
DC, Temporal High	245	259	290	297	FWR, Temporal, High	215	231	258	265
DC, Temporal Medium	235	253	288	297	FWR, Temporal, Medium	209	224	250	258
DC, Temporal Low	232	251	282	292	FWR, Temporal, Low	207	221	248	256
DC, Non-temporal, High	255	270	303	309	FWR, Non-temporal, High	233	248	275	281
DC, Non-temporal, Medium	242	259	293	299	FWR, Non-temporal, Medium	219	232	262	267
DC, Non-temporal, Low	238	254	291	295	FWR, Non-temporal, Low	214	229	256	262

Ordering Information:

Model	**Description**	**Model**	**Description**
WALL HORNS/STROBES		**CEILING HORN/STROBES**	
P2R	2-wire horn/strobe, standard cd, red.	**PC2R**	2-wire horn/strobe, standard cd, red.
P2RH	2-wire horn/strobe, high cd, red.	**PC2RH**	2-wire horn/strobe, high cd, red.
P2RK	2-wire horn/strobe, standard cd, red, outdoor.	**PC2RK**	2-wire horn/strobe, standard cd, red, outdoor.
P2RHK	2-wire horn/strobe, high cd, red, outdoor (includes backbox).	**PC2RHK**	2-wire horn/strobe, high cd, red, outdoor.
P2W	2-wire horn/strobe, standard cd, white.	**PC2W**	2-wire horn/strobe, standard cd, white.
P2WH	2-wire horn/strobe, high cd, white.	**PC2WH**	2-wire horn/strobe, high cd, white.
P2WK	2-wire horn/strobe, standard cd, white, outdoor, (includes backbox).	**PC4R**	4-wire horn/strobe, standard cd, red.
P4R	4-wire horn/strobe, standard cd, red.	**PC4RH**	4-wire horn/strobe, high cd, red.
P4RH	4-wire horn/strobe, high cd, red.	**PC4RK**	4-wire horn/strobe, standard cd, red, outdoor, (ceiling mount).
P4RK	4-wire horn/strobe, standard.	**PC4RHK**	4-wire horn/strobe, high cd, red, outdoor.
P4RHK	4-wire horn/strobe, high cd, red, outdoor.	**PC4W**	4-wire horn/strobe, standard cd, white.
P4W	4-wire horn/strobe, standard cd, white.	**PC4WH**	4-wire horn/strobe, high cd, white.
P4WH	4-wire horn/strobe, high cd, white.		
WALL STROBES		**CEILING STROBES**	
SR	Strobe, standard cd, red.	**SWHK**	Strobe, high cd, white, outdoor.
SRH	Strobe, high cd, red.	**SCR**	Strobe, standard cd, red.
SRK	Strobe, standard cd, red, outdoor.	**SCRH**	Strobe, high cd, red.
SRHK	Strobe, high cd, red, outdoor.	**SCRK**	Strobe, standard cd, red, outdoor.
SW	Strobe, standard cd, white.	**SCRHK**	Strobe, high cd, red, outdoor.
SWH	Strobe, high cd, white.	**SCW**	Strobe, standard cd, white.
SWK	Standard, white, outdoor	**SCHW**	Strobe, high cd, white.
SPEAKER STROBES/HORNS			
SPSCWV-P	Unmarked Speaker Strobe, ceiling-mount, standard candela, high dBA, white.	**SPWK**	Outdoor Speaker, includes backbox, wall-mounted, white.
SPSR-P	Unmarked Speaker Strobe, indoor, wall-mounted, standard candela, red.	**SR-P**	Unmarked Horn, wall-mounted, standard candela, red.
SPSR-P	Unmarked Speaker Strobe, indoor, wall-mounted, standard candela dBA, red.		
ACCESSORIES		**HORNS**	
SBBR	Backbox skirt, wall, red.	**HR**	Horn, red.
SBBW	Backbox skirt, wall, white.	**HRK**	Horn, red, outdoor.
SBBCR	Backbox skirt, ceiling, red.	**HW**	Horn, white.
SBBCW	Backbox skirt, ceiling, white.		

NOTE: "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings.

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XP95-P

Photoelectric Smoke Sensor

Description

The Gamewell-FCI XP95-P analog addressable photoelectric sensor operates with the Gamewell-FCI, 600 Series and ILI95-E3 Series Fire Alarm Control Panels (FACPs). The photoelectric sensor digitally transmits its address and the chamber's analog values to the FACP for analysis. The photoelectric sensor is distinguished by the clear status LED, which flashes red briefly when the device is polled and turns on continuously when the device is in alarm.

Operation

The XP95-P photoelectric sensor constantly monitors its sensing chamber and its internal electronics. The results are then reported along with the unit's address through the integral communications electronics located in the sensor head. The XP95 photoelectric sensor utilizes a patented smoke chamber and infrared smoke sensing design. The infrared emitter generates a burst of light every second, or in response to direct interrogation.

In clean air, the photo diode receives no light from the emitter because of the arrangement of the chamber. When smoke enters the chamber, it scatters light from the emitter onto the photo diode receptor in proportion to smoke characteristics and density. As the smoke content in the chamber increases, the signal from the photo diode receptor increases. This information is processed and conditioned by an on-board, advanced-technology ASIC and digitally transmitted to the FACP.

Trouble and Alarm conditions of the XP95 sensors are actually determined at the control panel. The status information of each sensor is analyzed for off-normal conditions by the FACP. If the sensor reports a condition that matches its programmed trouble signature, the FACP will detect that the sensor is in trouble and will follow its programmed response sequence. If the status reported matches the alarm signature, the FACP will follow the programmed alarm response for the specific device in alarm. When a sensor is in alarm, the integral LED in the sensor's housing will light continuously.

XP95-P

Features

- Compatible with the following Gamewell-FCI analog addressable fire alarm control panels
  - 600 Series
  - ILI95-E3 Series
- Fits in 4.0" (10.16 cm) or 6.0" (15.24 cm) ultra-low-profile E-Z fit bases
- Includes an audible alarm sounder base
- Contains a four-wire relay base
- Stores the address in the sensor base
- Sets the address by an XPert addressing card
- Provides a two-color status LED
- Offers an infrared smoke sensing design
- Transmits continuous communications
- Includes an optional remote LED

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Operation (Continued)

The XP95-P photoelectric device is connected to a two-wire SLC carrying both data and a 17 to 28 VDC supply voltage. It is insensitive to loop connection polarity. A remote LED indicator may be connected. The device is compatible with point-or group-addressable relay and sounder bases.

Engineer's Specifications

The contractor shall furnish and install, where indicated on the plans, photoelectric smoke sensors with one of the several addressable mounting base options available. The combination sensor head and twist-lock mounting base shall be UL® Listed and UL Listed as compatible with the Gamewell-FCI 600 Series or ILI95-E3 Series analog addressable fire alarm control panels. The base shall permit free interchange of sensor heads without requiring any additional wiring or additional programming of the head or base. The smoke sensor shall contain an integral LED that shall latch in when the unit goes into alarm. RF suppression techniques shall be employed to minimize false alarms. The photoelectric smoke sensor shall be the Gamewell-FCI model XP95-P.

Specifications

Standby Current:	340 µA
Alarm LED Current:	0.00434 A
Remote Alarm Output:	0.004 A @ 5 VDC
Temperature Range:	32°F to 140°F (0° C to 60° C)
Relative Humidity:	(non-condensing) 0% to 95%
Recommended Spacing:	Meets the 30 ft. (9.1 m) spacing guidelines in NFPA 72 Chapter 2. However, this spacing is based on ideal conditions and is to be used as a layout guide only. Appropriate installation-specific engineering is required.

Ordering Information

Part Number	Description
XP95-P	Photoelectric sensor, analog addressable (55000-650)
XP95-B4	4.0" (10.16 cm) mounting base with XPert addressing card (45681-2101)
XP95-B6R4	6.0" (15.24 cm) relay base (four-wire) with XPert addressing card
XP95-B6SNDR	6.0" (15.24 cm) mounting base with XPert addressing card and audible alarm sounder in the base
GW71112	Additional blank XPert addressing cards
GW30203	Remote LED (24 V) on single gang plate

XP95-PD/-PDR, XP95-ID/-IDR

Description

The Gamewell-FCI analog addressable duct smoke detectors provide early detection of smoke and products with combustion present in air moving through an HVAC duct. Fans, blowers and complete systems may be shut down or activated in fire alarm mode by the Fire Alarm Control Panel (FACP) in the event of smoke detection.

The Gamewell-FCI analog addressable duct smoke detectors can use either interchangeable photoelectric or ionization sensor heads. The external alarm indication is a light-emitting diode (LED), easily visible through the housing. A manual reset switch is provided on the front of the sensor.

Duct smoke detectors are also available with auxiliary relay contacts. The relay requires two additional wires for power and will activate when the sensor reaches alarm levels. All wiring must comply with the local codes and regulations.

XP95 Duct Smoke Detectors digitally transmit their address and the chamber's analog value to the FACP for analysis.

Air sampling is accomplished by two tubes which protrude into the duct. An exhaust tube of one standard length 7.5" (19.05 cm) is provided with the sensor housing. Intake sampling tubes, which must be ordered separately, are supplied in three standard lengths: 2.5, 5, or 10 feet (0.762, 1.524, or 3.048 m).

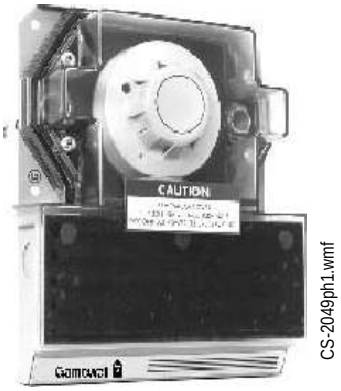
Installation

Duct mounting is accomplished by the use of a template and four sheet metal screws, provided. The duct detectors are compatible with the analog loops on the Gamewell-FCI's 600 Series or ILI95-E3 Series Analog Addressable Fire Alarm Control Panels.

Programming

The only programming required for the XP95 Duct Smoke Sensors is address setting. This is accomplished through the use of the XPert addressing card which is inserted into the sensor base.

Analog Addressable Duct Smoke Detectors



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XP95 Series

Features

- Compatible with the following Gamewell-FCI, analog addressable fire alarm control panels
  - 600 Series
  - ILI95-E3 Series
- Interchangeable "Plug-in" photoelectric or ionization heads
- Address is stored in the sensor base
- Address is set by the XPert addressing card
- Remote alarm LED option available
- Offers two-wire supply- polarity insensitive
- Provides a very low standby current
- Includes an LED alarm indication on the sensor head
- Enclosed in a rugged steel backbox with a clear plastic cover
- Contains large terminal connection screws
- No additional screens or filters to clean or replace
- Relay version available with optional remote test unit
- Three standard tube lengths available: 2.5, 5, or 10 ft. (0.762, 1.524, or 3.048 m)

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7272-1703:0155 (photo)
7271-1703:0157 (ion)

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Programming (Continued)

When the sensor head is inserted into the base, the address is automatically relayed to the sensor. Changing the sensor does not require additional programming since the address remains on the XPert card located in the base. All other sensor-specific programming is accomplished at the FACP.

Engineer's Specifications

The contractor shall furnish and install, where indicated on the plans, analog addressable air duct smoke detectors. The sensors shall be Listed by Underwriter's Laboratories per UL® 268A and UL-Listed as compatible with the Fire Alarm Control Panel (FACP). The sensors shall operate at air velocities from 300 to 4,000 feet (91.44 to 1219.20 m) per minute. The smoke sensor shall contain an integral LED that shall latch-in when the unit goes into alarm, mounted at a 30° slant to provide a wide viewing angle.

A manual reset/test switch shall be located on the front of the device. The housing shall contain a sensor base which will accept photoelectric or ionization heads. All wiring must comply with local codes and regulations. The duct sensor housing shall have a metal chassis with a clear plastic cover and complete mechanical installation may be performed without removal of the cover. The duct smoke detector shall be the Gamewell-FCI model, XP95-ID(R) or XP95-PD(R) analog addressable duct smoke detector.

Specifications

Ambient Temperature:	32° F to 120°F (0°C to 49°C)
Humidity:	10% to 85% R.H
Material:	18 gauge steel backbox, clear plastic cover
Dimensions:	10.0" H x 8.25" W x 2.25" D (25.4 H x 21.0 W x 5.7 D cm)
Maximum Net Weight:	4.0 lbs. (1.814 kg)
Mounting:	Template and necessary hardware supplied
Radioactive Element:	For Ionization versions only: Americium 241 (0.9 microcuries)
Sensitivity:	Factory set (ion); or adjustable via the IF600 control panel (photoelectric)
Air Velocity:	300 to 4,000 feet per minute.
Pressure Differential:	0.01 to 1.2 inches (1.524 to 20.320 meters per second) of water
Standby Current:	Photoelectric: 340 µA Ionization: 280 µA
Alarm LED Current:	Photoelectric: 4 mA Ionization: 2 mA
Remote Alarm Output Range:	20 mA maximum; diode gated

Specifications (Continued)

Relay Versions Only:

Relay Contacts:	Two dry Form-C contacts
Relay Contact Ratings:	10 A @ 24 VDC resistive maximum
Operating Voltage:	24 VDC
Current:	**Standby current:** 0.010 A @ 24 VDC **Alarm current:** 0.055 A @ 24 VDC

Ordering Information

Part Number	Description
XP95-ID	Two-wire air duct, ionization smoke detector 24 VDC (RW-AAN)
XP95-PD	Two-wire air duct, photoelectric smoke detector 24 VDC (RW-AAP)
30203-01	Remote LED alarm indicator (two VDCs); used with XP95-PD and XP95-ID
XP95-IDR	Four-wire air duct, ionization smoke detector 24 VDC with relay (RW-ARN)
XP95-PDR	Four-wire air duct, photoelectric smoke detector 24 VDC with relay (RW-ARP)
30203	Remote LED alarm indicator (24 VDCs); used with relay versions
30007-02	Remote test station with alarm LED; used with relay versions
GW70896-02	Sampling tube, 2.5 feet (0.762 m)
GW70896-05	Sampling tube, 5 feet (1.524 m)
GW70896-10	Sampling tube, 10 feet (3.048 m)
XP95-I	Ionization sensor head (replacement)
XP95-P	Photoelectric sensor head (replacement)
GW72247	Duct detector enclosure (WP-1) (See Data Sheet P/N: CS-2308)

XP95-T

Description

Analog Addressable Thermal Sensor

The Gamewell-FCI, XP95-T Analog Addressable Thermal Sensor operates with the Gamewell-FCI 600 Series and ILI95-E3 Series fire alarm control panels (FACPs). The Series XP95-T thermal sensor digitally transmits its address and the chamber's analog temperature value to the FACP for analysis.

Thermal sensors are readily distinguished from smoke by the open webs in the housing designed to allow for free movement of air around the exposed thermistor.

Operation

The XP95-T thermal sensor constantly monitors its sensing element as well as its internal electronics. The results are digitally reported along with the unit's address through the integral communication electronics located in the sensor head. The thermal sensor monitors temperature by using a single thermistor network which provides a voltage output proportional to the external air temperature. This signal is processed and conditioned by an on-board advanced technology ASIC that digitally transmits the ambient temperature data to the FACP when interrogated.

Trouble and Alarm conditions of the XP95 sensors are determined at the FACP. The status information of each sensor is analyzed for off–normal conditions by the control panel. If the sensor reports a condition that matches its programmed trouble signature, the FACP will report that the sensor is in trouble and will follow its programmed response sequence. Likewise, if the status reported matches the alarm signature, the FACP will follow the programmed alarm response for the specific device in alarm. When a sensor is in alarm, the integral LED in the sensor's housing will light continuously.

The XP95-T thermal sensor is calibrated to return a normal air temperature analog value to the FACP at 77ºF. The device connects to a two–wire loop circuit carrying both data and a 117 to 28 VDC supply voltage, and is insensitive to loop connection polarity.

XP95-T

Features

- Compatible with the following Gamewell-FCI analog addressable fire alarm control panels (FACPs):
  - 600 Series
  - ILI95-E3 Series
- Fits 4.0" (10.16 cm), 6.0" (15.24 cm), or 6.0" (15.24 cm) low & ultra low–profile, & E-Z fit bases
- Includes an audible alarm sounder base
- Stores the address in the sensor base
- Sets the address by the XPert addressing card
- Contains a two-color status LED
- Provides fixed point or rate-of-rise functions
- Offers a timed temperature increase that causes an alarm
- Comprises thermal adjustability programming
- Has an optional remote LED

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Operation (Continued)

A remote LED indicator can be connected. The device is compatible with point or group–addressable relay and sounder bases.

Engineer's Specifications

The contractor shall furnish and install, where indicated on the plans, electronic thermal sensors with one of the several addressable mounting base options available. The combination sensor head and twist–lock mounting base shall be UL® Listed and UL Listed as compatible with the Gamewell-FCI, 600 Series or ILI95-E3 Series analog addressable fire alarm control panels.

The base shall permit free interchange of sensor heads without requiring any additional wiring or additional programming of the head or base. The sensor shall contain an integral LED that shall latch in when the unit goes into alarm. It shall be the Gamewell-FCI model XP95-T.

Specifications

Standby Current: 250 µA

Alarm LED Current: 4 mA

Remote Alarm Output: 4 mA @ 5 VDC

Temperature Range: -4°F to 154°F

Relative Humidity: (non-condensing) 0% to 95%

Recommended Spacing: Smooth ceiling 60ft. (18.288 m) to walls 25 ft. (7.62 m)

Thermal Sensor Performance Features:

1) Thermal sensors have a thermal adjustability programming range from 25°C to 90°C (77°F to 194°F) in 1°C increments.
2) Thermal Sensors have a thermal rate-of-rise feature. When enabled in programming, should the XP95-T sensor increase temperature by greater than 15°F in less than one minute, an alarm will be generated.

Ordering Information

Part Number	Description
XP95-T	Thermal sensor analog addressable (55000-450)
XP95-B6EZ	6.0" (15.24 cm) ultra–low–profile EZ-Fit mounting base with XPert card (45681-250)
XP95-B4	4.0" (10.16 cm) mounting base with XPert Addressing Card (45681-210)
XP95-B6	6.0" (15.24 cm) Mounting Base with XP
XP95 B6LOW	6.0" (15.24 cm) low-profile mounting base with XPert addressing card (45681-234)
XP95-B6R4	6.0" (15.24 cm) relay base (four-wire) with XPert addressing card
XP95-B6SNDR	6.0" (15.24 cm) mounting base with XPert addressing card and audible alarm sounder
GW71112	Additional blank XPert addressing cards
GW30203	Remote LED (24 V)