SEQUENCE OF OPERATIONS																			
SEQUENCE OF OPERATIONS																			
		ANNUNCIATE/DISPLAY AT FACP (ALARM, TROUBLE OR SUPERVISORY)	SOUND FACP TROUBLE BUZZER (ALARM, TROUBLE OR SUPERVISORY)	ANNUNCIATE AT REMOTE FIRE ALARM ANNUNCIATOR (ALARM, TROUBLE OR SUPERVISORY)	ACTIVATE RELAY FOR CENTRAL STATION MONITORING. (ALARM, TROUBLE OR SUPERVISORY)	ACTIVATE AUDIBLEVISUAL ALARM SIGNAL THROUGHOUT BUILDING.								SYSTEM WILL BE 100% OPERATIONAL (UP TO 24 HOURS) ON BATTERY BACKUP					SHUT DOWN AIR HANDLER UNITS
		Α	В	С	D	Ε	F	G	Н	ı	J	К	L	М	N	0	Р	Q	R
1	MANUAL PULL STATIONS	•		•															
2	SMOKE DETECTORS	•	•	•															
3	FIRE ALARM SYSTEM AC POWER FAIL	•	9	•	•														
4	FIRE ALARM SYSTEM LOW BATTERY		•	•	•										-				
5	OPEN CIRCUIT				•														
6	GROUND FAULT	•		•	•														
8	HEAT DETECTORS	•				٠													
9	NOTIFICATION CIRCUIT SHORT			•	•														
10																			

FIRE ALARM SYSTEM **INSTALLATION NOTES**

ALL DRAWINGS ARE DIAGRAMMATIC ONLY, AND SHALL NOT BE USED IN DETERMINING ACTUAL CONDUIT ROUTING. THE CONTRACTOR SHALL VERIFY ALL CONDUIT ROUTING CONDITIONS AT THE PROJECT SITE AS CONSTRUCTION PROGRESSES.

ALL FIRE ALARM DATA COMMUNICATIONS AND INITIATING CIRCUITS SHALL BE INSTALLED UTILIZING SOLID COPPER CONDUCTORS WITH OUTER COVERING COLORS PER THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS. ALL SMOKE DAMPER AND REMOTE TROUBLE INDICATOR CIRCUITS SHALL BE YELLOW. ALL CIRCUITS SHALL BE INDIVIDUALLY LABELED, BOTH AT THE DEVICE END AND AT THE SIGNAL TERMINAL CABINET AND/OR FIRE ALARM MASTER PANEL TERMINATION POINT.

ALL FIRE ALARM CIRCUITS SHALL BE CONTINUOUS FROM DEVICE TO DEVICE. SPLICES ARE NOT ALLOWED UNLESS IN COVERED JUNCTION BOXES ON APPROVED TERMINAL BLOCKS. 'T' TAPPING IS ALLOWED ONLY UNDER THESE CONDITIONS.

		FIRE ALARM EQUIPME	NT SPECIFIC	CATIONS SCH	HEDULE	en e	eccentral and the second and the sec	
SYMBOL	MODEL. NO	DESCRIPTION	MANUFACTURER	CSFM. LISTING #	BACKBOX REQUIREMENTS	MOUNTING HEIGHT (TO CENTER U.O.N.)	REMARKS	
[FACP]	81 11 / Lan 1 / Lan 1	FIRE ALARM CONTROL PANEL W/ DIGITAL ALARM COMMUNICATOR FN-DAC	носнікі	7165-0410:159		+60	56	
EVAC-MP	FNVMP-16-R-120	MASTER VOICE PANEL HEAD END CONTROL	носнікі	6911-0410:175	·	+60	LOCATED IN ADMIN. BLDG.	
ANN	FN-LCD-S	SERIAL LCD ANNUNCIATOR	носнікі	7120-0410:165	·		LOCATED IN ADMIN. BLDG.	
TAPS I	1 - N - GA 2 - 1 11 A 1 1 A	FIRE ALARM REMOTE POWER SUPPLY	носнікі	7315-0410:166	•	+60	LOCATED IN RELO R11	
90	ALK-V HSB-NSA-6	ADDRESSABLE SMOKE DETECTOR W/6" BASE	носнікі	7272-0410:0173 7300-0410:0132	4" SQ. X. 2 1/8" DP. OUTLET BOX WITH S.G. RAISED RING			
HD	ATJ-EA HSB-NSA-6	ADDRESSABLE HEAT DETECTOR W/6" BASE	НОСНІКІ	7270-0410:0203 7300-0410:0132	4" SQ. X. 2 1/8" DP. OUTLET BOX WITH S.G. RAISED RING		2	
М	DCP-SOM-A	SUPERVISED OUTPUT MODULE	носнікі	73000-0410:0150	4" SQ. X. 2 1/8" DP. OUTLET BOX			
C	DCP-FRCME-P	FAST RESPONSE CONTACT MODULE	носнікі	7300-0410:150	4" SQ. X. 2 1/8" DP. OUTLET BOX			
V S	WSSPKR	OUTDOOR WALL MOUNT SPEAKER	GENTEX	7320-0569:0141	GBLP OUTDOOR BACKBOX		2 WATT	
O S	HSSPK24WLPR	WALL MOUNTED COMBINATION SPEAKER & STROBE LIGHT (CANDELA VALUE AS SHOWN ON PLANS)	HOCHIKI	7320-0410:0195	4" SQ. X 2 1/8" DP. OUTLET BOX		4	
EVAC-DF	FNVDP- 100RP120	DISTRIBUTED VOICE PANEL (100W)	носнікі	6911-0410:175				
E R		END OF LINE RESISTOR 1			4" SQ. X 2 1/8" DP. OUTLET BOX			
R	DCP-R2ML	DUAL RELAY MODULE	носнікі	7300-0410:0150	4" SQ. X. 2 1/8" DP. OUTLET BOX			

FORMULAS USED FOR CALCULATIONS:

FORMULA FOR BATTERY SIZING:

FOR FACP/FAPS - 24 HOURS STANDBY & 15 MIN IN ALARM:

AMP HOUR = 1.25 [(24 HOURS X I(S)) + (15/60 HOUR X I(A))] X 1.30

FOR EVAC - 24 HOURS STANDBY & 15 MIN IN ALARM:

AMP HOUR = 1.25 [(24 HOURS X I(S)) + (15/60 HOUR X I(A))] X 1.30

WHERE

1.25 = BATTERY DERATING VALUE I(S) = TOTAL SUPERVISORY CURRENT (O FOR NOTIFICATION DEVICES AND 48 mA FOR FCPS-24)

I(A) = TOTAL ALARM CURRENT 1.30 = 30% SPARE BATTERY CAPACITY

FORMULA FOR VOLTAGE DROP CALCULATIONS

TOTAL DC RESISTANCE = # OF WIRES X Rdc/1000 X ONE-WAY LOOP LENGTH FROM POWER SUPPLY TO MIDDLE OF LOAD

TOTAL VD = TOTAL DC RESISTANCE X TOTAL ALARM CURRENT

MINIMUM VOLTAGE AT DEVICES = 20.4V - TOTAL VD 20.4V = MINIMUM VOLTAGE AT END OF USEFUL BATTERY LIFE (85% OF 24VDC)

NOTE:
THE MANUFACTURER'S OPERATING VOLTAGE IS BETWEEN 16VDC AND 33 VDC (FOR 24VDC NOMINAL)

END OF LINE RESISTORS SHALL BE 10K FOR NOTIFICATION APPLIANCE CIRCUITS FEEDING FORM FIRE ALARM CONTROL PANEL AND 2.2K FOR NOTIFICATION APPLIANCE CIRCUITS FEEDING FROM FIRE ALARM POWER EXPANDER PANELS.

SCHEDULE)

2 SET FOR 190 DEGREES.

PROVIDE WEATHERPROOF FLUSH WALL PLATE #WFP-R.

4 15cd DEVICES SET FOR 1/2 WATT. 75cd DEVICES SET FOR 1 WATT.

NOTES (FIRE ALARM

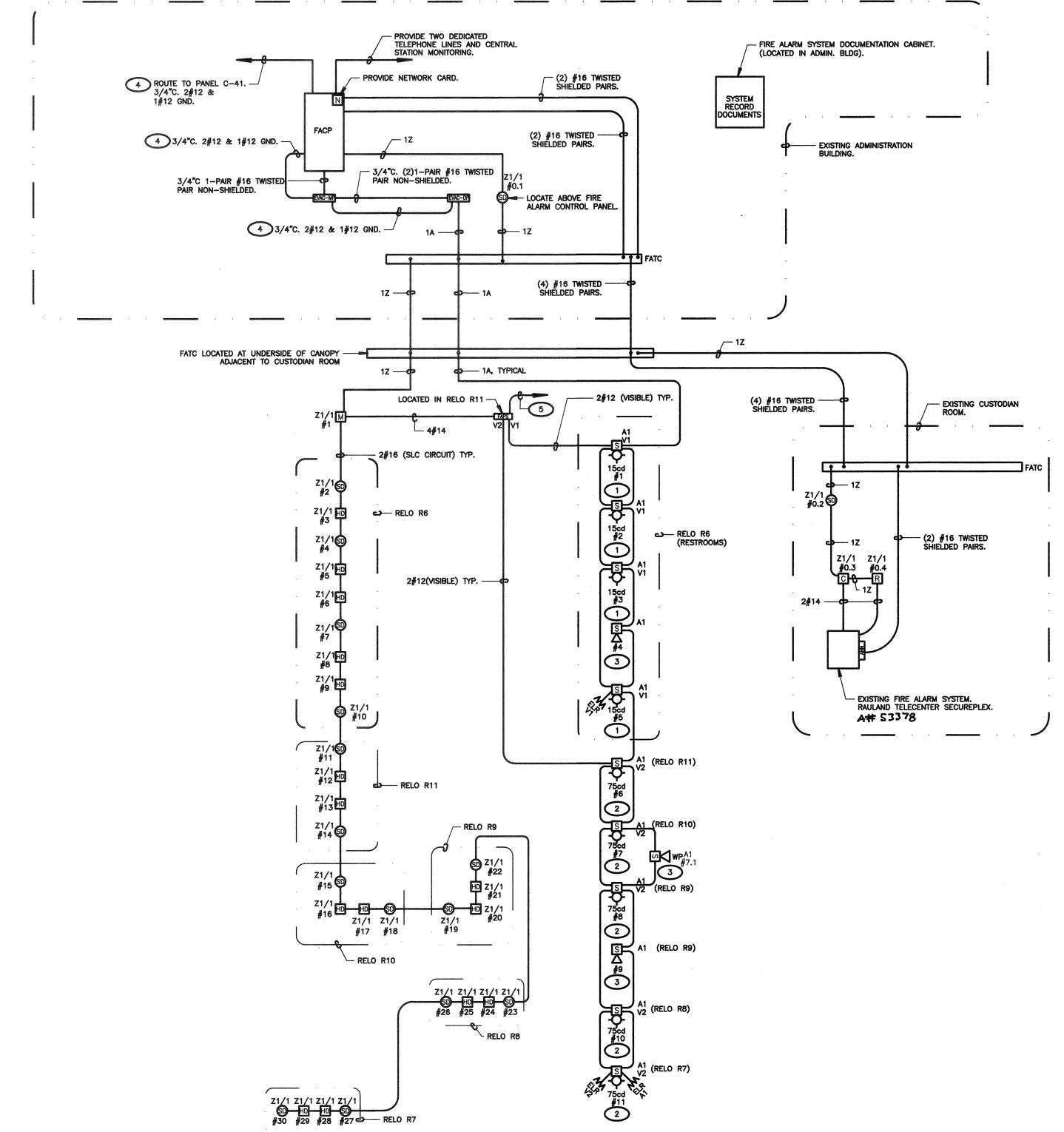
EQUIPMENT SPECIFICATIONS

(NOTE: THESE NOTES MAY NOT APPEAR ON ALL SHEETS)

PROVIDE FIRE ALARM CONTROL PANEL WITH TWO SLC LOOPS. PANEL SHALL BE EXPANDABLE TO FOUR LOOPS IM THE FUTURE. PROVIDE DIGITAL ALARM COMMUNICATOR, FN—DAC.

6 PROVIDE TRANSIENT SUPPRESSORS.

7 LOCATE IN ADMINISTRATION BUILDING.



FIRE ALARM SYSTEM RISER DIAGRAM (PROJECT AREA) NOT TO SCALE

KEY NOTES (RISER DIAGRAM)
(NOTE: THESE NOTES MAY NOT APPEAR ON ALL SHEETS)

1/2 WATT

2 1 WATT

3 2 WATT 4 120 V POWER.

120V DEDICATED CIRCUIT.

PROVIDE 3/4°C. 2#16(SLC CIRCUIT) & 2#16(24VDC POWER) 6

EXISTING CONDUIT & FIRE ALARM CONDUCTORS TO EXISTING CONVENTIONAL DEVICES. PROTECT IN PLACE.

CONTRACTOR SHALL PROVIDE ALL
REQUIRED WORK & MATERIALS IN ORDER
TO INTERCEPT EXISTING CONVENTIONAL
FIRE ALARM CIRCUIT & CONNECT TO ZONE
MODULE.

9 NOTE: EXISTING CONDUIT & FIRE ALARM CABLING MAY BE RE-USED IF IN COMPLIANCE WITH FIRE ALARM CODE & APPROVED BY AHJ. EXISTING CONDUIT & FIRE ALARM CABLING TO EXISTING NOTIFICATION DEVICES. PROTECT IN PLACE.

PROVIDE 3/4" C. 2#14 THHN/THWN TO FIRST DEVICE IN EXISTING CONVENTIONAL SYSTEM ZONE.

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MENTS

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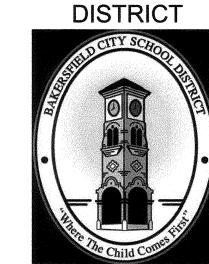
AGENCY INFORMATION:

PRIME CONSULTANT

AGENCY TRACKING NO. 63321-241

FILE NO. 15-6 IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES AC___FLS__SS__CL_ DATE__CCT__2 5 2017

BAKERSFIELD CITY SCHOOL



BESSIE OWENS INTERMEDIATE RELOCATABLES A101 - A106

815 EUREKA ST. BAKERSFIELD CA, 93305

OPSC or OSHPD PROJ. NO: PROJECT NO: 16241.000 DRAWN BY: VZ CHK'D BY: ISSUE DATE: 8/29/2017

SHEET TITLE

FIRE ALARM RISER, **AND FIRE ALARM EQUIPMENT** SCHDULE

SHEET NUMBER

E3.0