#### 1100 N. Ham Ln., Lodi, Ca 95242 FIRE ALARM REPLACEMENT PROJECT CODE INFORMATION PROVIDE THE INTENT OF THE CONSTRUCTION DOCUMENTS IS REPLACE EQUIPMENT IN VOICE AMF ACCORDANCE WITH THE CBC 2016. SHOULD ANY CONDITION DEVELOP NOT AND MONIT COVERED BY THE CONSTRUCTION DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE CBC 2016, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. ANCHORAGE AND SUPPORTS OF ALL EQUIPMENT TO BE INSTALLED, AS A PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS EXCEPT THOSE EXEMPT BY 2016 CBC SECTION 1616A.1.18. EQUIPMENT SUPPORTS AND ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE THIS PROJ DESIGN PROFESSIONAL OF RECORD AND DSA AS A PART OF FIELD NOTIFICAT REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD (IOR) SHALL ASSURE NEW GAME THAT THE ABOVE REQUIREMENTS ARE ENFORCED. ALL EXISTIN ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PATHWAY APPLICABLE REGULATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: CABLE ABO 48" WITH J 2016 CALIFORNIA ADMINISTRATIVE CODE (CAC) PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR) NEW DEVIC 2016 CALIFORNIA BUILDING CODE (CBC) ARE LOCAT PART 2, TITLE 24, CCR DEVICE BOX BASED ON THE 2015 INTERNATIONAL BUILDING CODE (IBC) DEMOLISH A 2016 CALIFORNIA ELECTRICAL CODE (CEC) PART 3, TITLE 24, CCR ALL CABLE BASED ON THE 2014 NATIONAL ELECTRICAL CODE (NEC) THIS PROJE 2016 CALIFORNIA MECHANICAL CODE (CMC) DEVICES. PART 4, TITLE 24, CCR BASED ON THE 2015 UNIFORM MECHANICAL CODE (UMC) FIRE ALARM 2016 CALIFORNIA PLUMBING CODE (CPC) IDC: CLASS PART 5, TITLE 24, CCR SLC CIRCUI BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC) NOTIFICATI 2016 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2015 INTERNATIONAL FIRE CODE (IFC) 2016 NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE COMPLIANCE WITH 2016 CALIFORNIA FIRE CODE, CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION. DSA ANCHORAGE AND BRACING NOTES

# LAKEWOOD ELEMENTARY SCHOOL

FIRE ALARM SCOPE OF WORK	PROJECT TEA
A MANUALLY AND AUTOMATICALLY ACTIVATED FIRE ALARM SYSTEM INCLUDING FACP, IPLIFIERS, POWER SUPPLIES, ANNOUNCING MICROPHONE, INITIATION, NOTIFICATION, CONTROL ITORING DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS.	OWNER LODI UNIFIED SCHOOL DISTRICT 1305 E. VINE ST. LODI, CA 95240
EXAMPLE A SUBJECT IS TO REPLACE THE EXISTING FIRE ALARM PANELS, INITIATING DEVICES, TION DEVICES, MODULES, POWER SUPPLIES AND REMOTE ANNUNCIATOR PANEL WITH A NEWELL E3 FIRE ALARM SYSTEM WITH EMERGENCY VOICE EVACUATION. TING PATHWAY WILL BE RE-USED WHERE POSSIBLE AND NEW WHERE REQUIRED. NEW Y WILL BE PROVIDED IN AREAS WHERE CABLE CAN NOT BE CONCEALED ABOVE CEILING. BOVE CEILING WHEN NOT IN EXISTING CONDUIT WILL BE FREE AIR AND SUPPORTED EVERY J-HOOKS, PAINTED RED.	CONTACT: LEONARD KAHN (209)331-7225 E-MAIL CONTACT: VBRUM@LODIUSD.NET
ATED AND A DEVICE IS NOT REQUIRED, THEN PROVIDE COVER PLATES. REMOVE EXISTING OXES WHEN ADDING A NEW DEVICE. H ALL OLD CABLE, FIRE ALARM COMPONENTS AND BACK BOXES FROM SITE. E AND COMPONENTS WILL BE NEW. JECT IS TO REPLACE EXISTING FIRE ALARM HEAD END UNIT AND ALL ASSOCIATED RM SYSTEM: CLASS B S B UIT: CLASS B TION CIRCUIT: CLASS B	
DEFERRED APPROVALS	NOTES
N/A	<ol> <li>THE FIRE ALARM SYSTEM SHALL CONFORM TO 2016 CALIFORNIA 760 AND 2016 CALIFORNIA FIRE CODE (CFC) SECTION 907.</li> <li>PROVIDE CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS SYSTEM INCLUDING MANUFACTURER CUT SHEETS FOR REVIEW</li> <li>BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION T SHALL FURNISH A WRITTEN STATEMENT TO THE DSA PROJECT THE SYSTEM HAS BEEN INSTALLED AND TESTED IN ACCORDANC SECTION 14.4.1.</li> <li>UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM OF THE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE DS/</li> <li>PROVIDE A RECORD OF COMPLETION PER CBC 907.7.2.</li> <li>AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRE THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OF THE REQUIREMENTS OF FM STANDARD 3011.</li> <li>TEST, INSPECTION AND MAINTENANCE SHALL COMPLY WITH NF</li> <li>EACH BUILDING TO BE A SEPARATE SPEAKER ZONE. (CFC, 907.6)</li> <li>THE EXISTING SYSTEM SHALL REMAIN IN SERVICE UNTIL THE NEI A FIRE WATCH IN COMPLIANCE WITH THE CALIFORNIA FIRE CODE</li> </ol>

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AUBURN, CA 95603				HEM	SIGN
CONTACT: SCOTT WHEELER: 530-305-927-5784	SHEET NO. G0.0	COVER SHEET	NAME	sC	B
FAX: 530-886-8557 EMAIL: SCOTT@ENGENT.COM	E0.00 E0.01	SYMBOLS, LEGENDS, NOTES, & LEGENDS FIRE ALARM MATRIX, SCHEDULES & NOTES	3		
	E1.00	SITE PLAN	, 		
CONTACT: JESSE WHEELER: 530-927-5630 FAX: 530-886-8557	E2.00 E2.01	FIRE ALARM PLAN - A, B & C FIRE ALARM PLAN - D, E & PORTABLES F, G	1 & G2		
EMAIL: JESSE.WHEELER@ENGENT.COM	E3.00 E4.00	FIRE ALARM RISER FIRE ALARM CALCULATIONS			
	ED1.00 ED1.01	FIRE ALARM DEMO PLAN - SITE PLAN FIRE ALARM DEMO PLAN - A, B & C			
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FOR EACH COMPONENT OF THE HE INSTALLING CONTRACTOR NSPECTOR TO THE EFFECT THAT E WITH THE (2016) NFPA 72 SYSTEM, A SATISFACTORY TEST PROJECT INSPECTOR. , SUPERVISORY AND TROUBLE D BY NFPA 72 AND CBC 907.6.5.2. R UUIS BY UL OR SHALL MEET PA 72 CHAPTER 14 REQUIREMENTS. 3).	OCCU FIRE YEAF	PUS BUILDING SQUARE FOOTAGE: UPANCY GROUP: SPRINKLER:	34,241 E: K-6 BLDGS.D		
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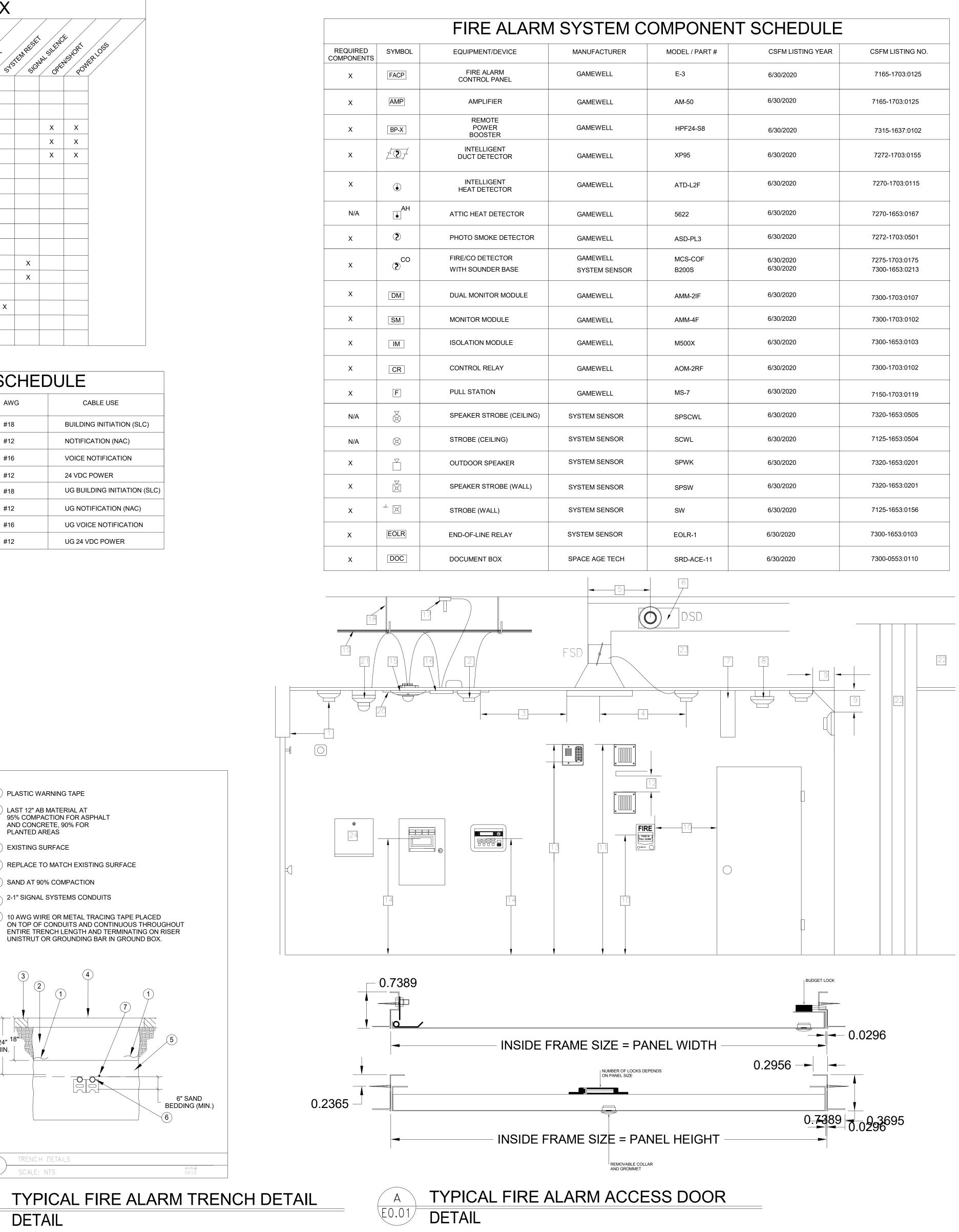
# FIRE ALARM SYSTEM MATRIX

		_8- /	CTOP 2			/ /				
RESULT OF OPERATION	SNC	NE DETECTOR COSMONEDE	ECTO PUCT DE LECTOR	JUL STATION	A LATERTON	MPER ST	STEN RESE	WAL SHEN	E POWER OSS	
FACP ALARM	X	X	X	X						
ANNUNCIATE ALARM	Х	Х	Х	Х						
OFF SITE REPORTING ALARM	X	х	х	х						
FACP TROUBLE								х	X	
ANNUNCIATE TROUBLE								х	X	
OFF SITE REPORTING TROUBLE								х	Х	
AUDIBLE ALARM	Х	Х	х	Х						
VISUAL ALARM	X	X	x	х						
FACP SUPERVISORY		х	х		X					
ANNUNCIATE SUPERVISORY		х	x		х					
OFF SITE REPORTING SUPERVISORY		Х	х		x					
SOUNDER BASE		х								
DEACTIVATE VISUALS							х			
DEACTIVATE AUDIBLES							Х			
HVAC SHUTDOWN			x							
SYSTEM NORMAL						x				
DAMPER CLOSURE			x							
AUDIO RACK SHUTDOWN	Х	Х	х	Х						

	FIRE ALARM SYSTEM CABLE SCHEDULE							
REQUIRED CABLES	CABLE TAG	CABLE	NO. OF CONDUCTORS	COLOR	AWG	CABLE USE		
Х	A	GENESIS	2(1PR)	RED/BLACK	#18	BUILDING INITIATION		
Х	В	GENESIS	2(1PR)	RED/BLACK	#12	NOTIFICATION (NAC)		
Х	S	GENESIS	2(1PR)	RED/BLACK	#16	VOICE NOTIFICATION		
Х	F	GENESIS	2(1PR)	RED/BLACK	#12	24 VDC POWER		
N/A	С	AQUA SEAL	2(1PR)	RED/BLACK	#18	UG BUILDING INITIATI		
N/A	D	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG NOTIFICATION (NA		
N/A	E	AQUA SEAL	2(1PR)	RED/BLACK	#16	UG VOICE NOTIFICAT		
N/A	G	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG 24 VDC POWER		

#	NUMBERED SHEET NOTES	
<ol> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> <li>6.</li> <li>7.</li> </ol>	MOUNT DOOR HOLDER SMOKE DETECTOR MAXIMUM 3' FROM DOOR AND A MINIMUM OF 1'. MAXIMUM DISTANCE BETWEEN SMOKE DETECTORS IS 30' AND 15' FROM WALLS, MAXIMUM DISTANCE FROM A CORNER IS 21' WITH CEILING LESS 10' OR LESS. MOUNT SMOKE DETECTOR MINIMUM OF 3' AWAY FROM DIFFUSER VENT. MOUNT SMOKE DETECTOR FOR FIRE SMOKE DAMPER (FSD) WITHIN 3' OF SUPPLY VENT. DUCT SMOKE DETECTOR SHALL BE MOUNTED 6 TO 10 TIMES THE DIAMETER OF DUCT FROM BEND OR OBSTRUCTION. WHERE DUCT SMOKE DETECTORS ARE INSTALLED IN CONCEALED LOCATIONS OR GREATER THAN 10' AFF, DETECTORS SHALL BE PROVIDED WITH A REMOTE INDICATOR OR SUPERVISORY INDICATION ACCEPTABLE WITH AUTHORITY HAVING JURISDICTION (AHJ). ALL HVAC GREATER THAN 2000cfm SHALL HAVE A DUCT DETECTOR IN THE SUPPLY AIR DUCT. GREATER THAN 15,000cfm SHALL HAVE ONE IN BOTH SUPPLY AND RETURN AIR DUCTS. HOWEVER SHALL NOT BE REQUIRED WHERE THE ENTIRE SPACE SERVED BY THE AIR DISTRIBUTION SYSTEM IS PROTECTED BY SMOKE DETECTORS THAT TRIGGER HVAC SHUT-DOWN BEAM POCKET SPOT DETECTOR ARE REQUIRED FOR BEAMS GREATER THAN 18" BELOW CEILING AND	
7.1. 7.2.	SPACED MORE THAN 8' ON CENTER. EACH BAY FORMED BY BEAM SHALL BE TREATED AS A SEPARATE AREA. BEAMS LESS THAN 12" IN DEPTH AND SPACED LESS THAN 8' ON CENTER SHALL HAVE DETECTORS INSTALLED ON THE BOTTOM OF THE BEAM. OR, CEILINGS WITH BEAM DEPTHS LESS THAN 10 PERCENT OF THE CEILING HEIGHT, SMOOTH CEILING SPACING IS PERMITTED AND DETECTORS PLACED ON THE BOTTOM OF THE BEAM. BEAMS EQUAL TO OR GREATER THAN 10 PERCENT OF CEILING HEIGHT WITH BEAM SPACING GREATER THAN 40 PERCENT OF CEILING HEIGHT, SPOT DETECTORS SHALL BE LOCATED IN EACH CELL. NFPA 72	<ol> <li>PLASTIC WARNING TAPE</li> <li>LAST 12" AB MATERIAL AT 95% COMPACTION FOR ASPHALT AND CONCRETE, 90% FOR PLANTED AREAS</li> </ol>
8. 9.	17.7.3.2.4.2 BEAMS PROJECTING LESS THAN 4" SHALL BE TREATED AS A SMOOTH CEILING. SMOKE DETECTORS SHALL BE MOUNTED ON THE CEILING MINIMUM 4" FROM WALL, AND 4" MINIMUM TO 12" MAXIMUM FROM CEILING MOUNTED ON WALL.	<ul> <li>3 EXISTING SURFACE</li> <li>4 REPLACE TO MATCH EXISTING SUF</li> <li>5 SAND AT 90% COMPACTION</li> </ul>
10. 11. 12.	MOUNT MANUAL PULL STATIONS AT 48" TO TOP OF BOX AFF, AND NO GREATER THAN 5' FROM DOOR. MOUNT EXTERNAL HORN AT 90" MINIMUM AND 100" MAXIMUM TO THE TOP OF THE DEVICE. FOR APPLICATIONS WHERE THE STRUCTURE IS BELOW 90", MOUNT HORN AS HIGH AS WITH A MINIMUM OF 6" CLEARANCE TO THE TOP OF THE DEVICE.	<ul> <li>6 2-1" SIGNAL SYSTEMS CONDUITS</li> <li>7 10 AWG WIRE OR METAL TRACING ON TOP OF CONDUITS AND CONTIN</li> </ul>
13. 14. 15.	MOUNT HORN / SPEAKER STROBE AND STROBE ONLY THE THE ENTIRE LENS IS WITHIN 80" AND 96" AFF. MOUNT FIRE ALARM CONTROL PANELS AND ANNUNCIATORS AT A MAXIMUM OF 60" TO THE TOP OF THE CONTROL PANEL OR KEY BOARDS. CBC 11B-308 CEILING MOUNTED HORN / SPEAKER STROBE	ENTIRE TRENCH LENGTH AND TER UNISTRUT OR GROUNDING BAR IN
16. 17. 18. 19. 20.	MONITOR MODULE RATE ANTICIPATOR HEAT DETECTOR, MOUNTED IN ABOVE CEILING / ATTIC SPACE. APPROVED WIRE MANAGEMENT, ie J-HOOK OR D-RING. ABOVE CEILING CIRCUITS ROUTING IN AN ACCESSIBLE ATTIC SPACE. NON-ACCESSIBLE CEILINGS MUST USE EITHER EMT OR APPROVED WIREMOLD RACEWAY, AS SHOWN ON PLANS.	
21. 22. 22.1 22.2 22.3	. CONCEALED SPACE IS ENTIRELY FILLED WITH NON-COMBUSTIBLE INSULATION.	24" 18 MIN.
22.4	<ul> <li>SPACES FORMED BY FACING STUDS OR SOLID JOISTS IN WALLS, FLOORS, OR CEILINGS WHERE THE FACING STUD OR SOLID JOIST IS LESS THAN 6".</li> <li>INACCESSIBLE SPACES THAT DO NOT MEET THIS CRITERIA MUST BE MADE ACCESSIBLE AND DETECTION MUST BE INSTALLED. NFPA72 17.5.3.1.1</li> <li>DETECTION FOR CONCEALED ACCESSIBLE SPACES ABOVE SUSPENDED CEILING USED AS A RETURN</li> </ul>	
23. 24.	PLENUM SHALL BE PROVIDED AT EACH CONNECTION FROM RETURN AIR PLENUM AT CENTRAL AIR HANDLING UNIT. NFPA 72 17.5.3.1.4 WITH EVERY NEW FIRE ALARM SYSTEM A DOCUMENTATION CABINET SHALL BE INSTALLED AT THE FIRE	
∠7.	ALARM CONTROL PANEL OR AT ANOTHER LOCATION APPROVED BY AHJ. THE CABINET SHALL BE PROMINENTLY LABELED "SYSTEM RECORD DOCUMENTS".	TRENCH DETAILS SCALE: NTS





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CSFM LISTING YEAR	CSFM LISTING NO.
6/30/2020	7165-1703:0125
6/30/2020	7165-1703:0125
6/30/2020	7315-1637:0102
6/30/2020	7272-1703:0155
6/30/2020	7270-1703:0115
6/30/2020	7270-1653:0167
6/30/2020	7272-1703:0501
6/30/2020 6/30/2020	7275-1703:0175 7300-1653:0213
6/30/2020	7300-1703:0107
6/30/2020	7300-1703:0102
6/30/2020	7300-1653:0103
6/30/2020	7300-1703:0102
6/30/2020	7150-1703:0119
6/30/2020	7320-1653:0505
6/30/2020	7125-1653:0504
6/30/2020	7320-1653:0201
6/30/2020	7320-1653:0201
6/30/2020	7125-1653:0156
6/30/2020	7300-1653:0103
6/30/2020	7300-0553:0110

#### FIRE ALARM NOTES WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: STATE CALIFORNIA CODE OF REGULATIONS (CCR) 201 6 TITLE 24 CALIFORNIA BUILDING CODE PART 2, 2016 CALIFORNIA BUILDING CODE (CBC), 201 5 IBC. PART 3, 2016 CALIFORNIA ELECTRICAL CODE (CEC), 201 5 NEC. PART 4, 2016 CALIFORNIA MECHANICAL CONDE (CMC), 201 5 UMC. PART 5, 2016 CALIFORNIA PLUMBING CODE (CPC), 201 5 UPC. PART 9, 2016 CALIFORNIA FIRE CODE (CFC) BASED 0N 201 5 IFC. 2016 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13, 72, 80, 90A, 99, AND 101. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTATION AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHALL LISTING SHEETS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA. UPON COMPLETION OF INSTALLATION OF THE SYSTEMS, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF RECORD. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/ OR TESTING. ALL PENETRATIONS THROUGH RATED ASSEMBLIES, REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION. AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15DECIBLES (Dba) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 Dba ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIED SPACE WITHIN THE BUILDING. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN. THE CONTRACTOR SHALL ADJUST/INSTALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS. 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. UNDERGROUND AND EXTERIOR CONDUIT TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS. ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN. 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 SIZED PER CEC.

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- 15. SMOKE DETECTORS SHALL BE NOT CLOSER THAN 1' FROM SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION OF NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL AREA IS READY TO BE TURNED OVER TO THE OWNER. 16. ALL FIRE ALARM CIRCUITS ARE TO BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN
- ABOVE THE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANNER AS INDICATED ON THE DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS. 17 FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
- 18. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM A COMMON USE AREA PANEL AND SHALL HAVE 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/EXPANDERS.
- THE INSTALLER CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION PER NFPA 72, 19. FIGURE 10.18.2.1.1. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR 20. SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
- 21. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING 22. CONTRACT OR PROVISIONS, AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM. SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72 AND CBC 907.6.5.2. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OR UUIS BY UL OR SHALL MEET THE REQUIREMENTS OF FM STANDARD 3011.
- BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION THE INSTALLING CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT TO THE DSA PROJECT INSPECTOR TO THE EFFECT THAT THE SYSTEM HAS BEEN INSTALLED AND TESTED IN ACCORDANCE WITH THE 6)(2007-12 SECTION 14.4.1.
- TEST, INSPECTION AND MAINTENANCE SHALL COMPLY WITH NFPA 72 CHAPTER 14 REQUIREMENTS.

FIRE ALARM SYSTEM DESCRIPTION

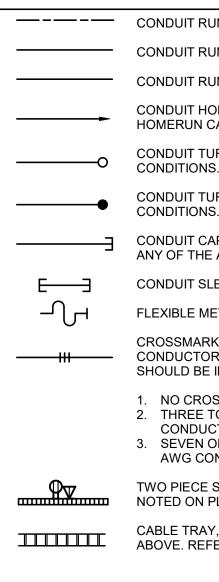
SCOPE OF THIS PROJECT IS TO PROVIDE A NEW FIRE ALARM PANEL WITH NEW VOICE EVACUATION PANEL, INCLUDING FACP, VOICE AMPLIFIERS, POWER SUPPLIES, MICROPHONE, INITIATION, NOTIFICATION AND CONTROL DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS. PROVIDE ALL NEW CABLING; CABLING SHALL BE INSTALLED IN CONDUIT OR SURFACE RACEWAY, OR EXPOSED IN ACCESSIBLE CEILING SPACE.

FIRE ALARM SYSTEM: CLASS B IDC: CLASS B SLC CIRCUIT: CLASS B NOTIFICATION CIRCUIT: CLASS B

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 02-118025 INC: REVIEWED FOR SS FLS ACS DATE: DATE:
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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242
REVISIONS     Image: marked state     REVISIONS     Image: marked state     DESIGNER:Designer     SCALE: NTS     DATE:2019.12.20     TITLE:     FIRE ALARM   MATRIX,   SCHEDULES &   NOTES      DRAWING NO.



0	SMOKE DETECTOR IN JUNCTION BOX.
Q	SMOKE DETECTOR IN MAXIMUM 6" BELOW (
2	SMOKE DETECTOR IN SUSPENDED CEILING IN FRONT OF RETURN
2-	SMOKE DETECTOR IN LOCATED AT SUPPLY
<u>f@</u>	SMOKE DETECTOR IN AIR FIRE/SMOKE DAM
<b>୦ ଏ</b>	PROJECTED BEAM SM TRANSMITTER, RECEI FLUSH JUNCTION BO ARE EITHER CEILING
٢	HEAT DETECTOR INIT JUNCTION BOX.
$\Phi$	HEAT DETECTOR INIT MAXIMUM 6" BELOW C
٢	HEAT DETECTOR INIT
Ē	MANUAL PULL STATIC
∞ ø	SPRINKLER SYSTEM V FOR MONITORING CO
• •	SPRINKLER SYSTEM 1 MONITORING CONNEC
Å	SPRINKLER SYSTEM F INTERFACE FOR MON REMOTE MOUNTED A
SM	REMOTE MOUNTED S
DM	REMOTE MOUNTED D
CR	REMOTE MOUNTED P CONTROL.
DPS	DIFFERENTIAL PRESS MONITORING CONNEC OPERATION. INCLUDE AT EACH LOCATION.
EOL	END-OF-LINE RESISTO
CT FRAP	CURRENT TRANSFOR
₽	MAGNETIC TYPE DOO SYMBOL DENOTES IN FIRE ALARM SYSTEM.
D	DOOR HOLD OPEN/RE EQUIPMENT, NIEC. SY CONNECTIONS FROM
Ţ	AUDIBLE NOTIFICATIC AFF, WHICHEVER IS L
函	VISIBLE NOTIFICATION WHICHEVER IS LOWE RATING OF STROBE.
函	AUDIBLE/VISIBLE NOT +80" AFF, WHICHEVEF CANDELA RATING OF
ð	AUDIBLE NOTIFICATIC
8	VISIBLE NOTIFICATION ASSOCIATED WITH 'cc
8	AUDIBLE/VISIBLE NOT NUMBER ASSOCIATED
Ē	FIRE ALARM BELL FOR INSTALLED BY ELECT
Ŷ	THERMISTOR SENSOR WALL MOUNTED 6" BE
$\mathbf{S}$	SMOKE ALARM FOR R DEVICE WITH BATTER JUNCTION BOX.
Ŷ	SMOKE ALARM FOR R DEVICE WITH BATTER FLUSH JUNCTION BOX
C€	COMBINATION SMOKE DWELLING UNITS, NO CEILING MOUNTED IN
с <b>Ф</b>	COMBINATION SMOKE DWELLING UNITS, NO MOUNTED MAXIMUM (
순	REMOTE 2-WAY COM



FIRE ALARM		ABBREV	ΊΑΤΙΟ	NS
OR INITIATING DEVICE, CEILING MOUNTED IN FLUSH OR SURFACE	А	AMPERES	LCP	LIGHTING CONTROL PANEL
DR INITIATING DEVICE, WALL MOUNTED IN FLUSH JUNCTION BOX,	AFI AF	ARC FAULT CIRCUIT INTERRUPTER AMPERE OVERCURRENT FRAME SIZE	MBGB MCB	MAIN BUILDING GROUND BUS MAIN CIRCUIT BREAKER
OW CEILING.		(WHEN APPLIED TO CIRCUIT BREAKERS) OR AMPERE FUSE SIZE (WHEN APPLIED TO FUSES)	MCC	MOTOR CONTROL CENTER
OR INITIATING DEVICE, MOUNTED TO STRUCTURE ABOVE LING IN SURFACE JUNCTION BOX OR SUSPENDED IN JUNCTION BOX FURN AIR FIRE/SMOKE DAMPERS.	AFF	(WHEN APPLIED TO FUSES) ABOVE FINISHED FLOOR	MLO	
OR INITIATING DEVICE, DUCT-MOUNTED TYPE WITH SAMPLING TUBE, PPLY AIR FANS 2000cfm AND LARGER.	AIC	ASYMMETRIC INTERRUPTING CURRENT	MT MTS	EMPTY MANUAL TRANSFER SWITCH
DR INITIATING DEVICE, IN-DUCT MOUNTED TYPE AT DUCTED SUPPLY DAMPERS.	AL AT	ALUMINUM AMPERE OVERCURRENT TRIP (WHEN	(N)	NEW
M SMOKE DETECTOR INITIATING DEVICES TO INCLUDE		APPLIED TO CIRCUIT BREAKERS)	NC	NORMALLY CLOSED
ECEIVER AND REMOTE INDICATOR STATION, WALL MOUNTED IN I BOX BELOW BEAM DETECTOR AT +42" AFF. BEAM DETECTORS ING OR WALL MOUNTED 6" BELOW CEILING.	ATS BAS	AUTOMATIC TRANSFER SWITCH BUILDING AUTOMATION SYSTEM	NF NIEC	NON-FUSED NOT IN ELECTRICAL CONTRACT
INITIATING DEVICE, CEILING MOUNTED IN FLUSH OR SURFACE	BPS	BOLTED PRESSURE CONTACT SWITCH	NO	NORMALLY OPEN
INITIATING DEVICE, WALL MOUNTED IN FLUSH JUNCTION BOX,	С		NTS	NOT TO SCALE
OW CEILING.	CCTV	CLOSED CIRCUIT TELEVISION CALIFORNIA ELECTRICAL CODE	OC OFCI	ON CENTER OWNER FURNISHED CONTRACTOR
ACE JUNCTION BOX. ATION INITIATING DEVICE, WALL MOUNTED AT +48" UON.	CL	CURRENT LIMITING CIRCUIT BREAKER OR FUSE	PDZ	INSTALLED PRIMARY DAYLIGHT ZONE
EM WATER FLOW SWITCH, NIEC. SYMBOL DENOTES INTERFACE	СР	CIRCULATION PUMP	PNL	PANEL
G CONNECTION FROM FIRE ALARM SYSTEM. TEM TAMPER SWITCH, NIEC. SYMBOL DENOTES INTERFACE FOR	СТ	CURRENT TRANSFORMER	PQM	POWER QUALITY METER
NNECTION FROM FIRE ALARM SYSTEM.	CU DF	COPPER DRINKING FOUNTAIN	PT PVC	POTENTIAL TRANSFORMER POLYVINYL CHLORIDE
MONITORING CONNECTION FROM FIRE ALARM SYSTEM. INCLUDE A ED ADDRESSABLE MONITORING MODULE AT PIV.	(E)	EXISTING TO REMAIN	(R)	EXISTING TO BE REMOVED
ED SINGLE INPUT, ADDRESSABLE, MONITORING MODULE FOR IIT CONNECTION.	EC	ELECTRICAL CONTRACTOR	(RR)	REMOVE AND RELOCATE
ED DUAL INPUT, ADDRESSABLE, MONITORING MODULE FOR	EF EP	EXHAUST FAN EXPLOSION PROOF	SAD TC	SEE ARCHITECTURAL DRAWINGS
IIT CONNECTION. ED PROGRAMMABLE CONTROL RELAY MODULE FOR ADDRESSABLE	EP	EMERGENCY POWER OFF	TP	TWISTED-PAIR
RESSURE SWITCH, NIEC. SYMBOLS DENOTES INTERFACE FOR	EMT	ELECTRICAL METALLIC TUBING	SDZ	SECONDARY DAYLIGHT ZONE
NNECTION FROM FIRE ALARM SYSTEM TO ANNUNCIATE FAN LUDE A REMOTE MOUNTED ADDRESSABLE MONITORING MODULE	EWH F	ELECTRIC WATER HEATER	SPD TX	SURGE PROTECTION DEVICE
ON. BISTOR.	F (F)	FUTURE	TYP	TYPICAL
FORMER FOR MONITORING AVAILABLE POWER.	FACP	FIRE ALARM CONTROL PANEL	UON	UNLESS OTHERWISE NOTED
TE ANNUNCIATOR PANEL FRAP, FLUSH WALL MOUNTED, +42" UON.	FFCP FLA	FIREMAN'S FAN CONTROL PANEL	UPS V	UNINTERRUPTIBLE POWER SUPPLY
DOOR HOLD OPEN/RELEASE DEVICE, WALL MOUNTED, NIEC. IS INTERFACE FOR POWER AND CONTROL CONNECTIONS FROM TEM.	FLA	FULL LOAD AMPERES	V VA	VOLTS-AMPS
N/RELEASE DEVICE INTEGRATED IN DOOR HARDWARE CLOSURE C. SYMBOL DENOTES INTERFACE FOR POWER AND CONTROL	FSD	FIRE/SMOKE DAMPER	VFD	VARIABLE FREQUENCY DRIVE
ATION APPLIANCE, WALL MOUNTED, 6" BELOW CEILING OR +80"	FRAP	FIREMAN'S REMOTE ANNUNCIATOR PANEL	VM WAP	VENDING MACHINE WIRELESS ACCESS POINT
IS LOWER.	G		WP	WEATHERPROOF
∖TION APPLIANCE, WALL MOUNTED, 6" BELOW CEILING OR +80" AFF, DWER. NUMBER ASSOCIATED WITH 'cd' REPRESENTS CANDELA BE.	GB GFCI	GROUND BUS GROUND FAULT CIRCUIT INTERRUPTER	2SP	TWO SPEED
NOTIFICATION APPLIANCE, WALL MOUNTED, 6" BELOW CEILING OR EVER IS LOWER. NUMBER ASSOCIATED WITH 'cd' REPRESENTS	GND	GROUND	1Ø 3Ø	1-PHASE 3-PHASE
G OF STROBE.	GRAP	GENERATOR REMOTE ANNUNCIATOR PANEL	1P	1-POLE
ATION APPLIANCE, CEILING MOUNTED IN FLUSH BACK BOX.	GRC		2P	2-POLE
"H 'cd' REPRESENTS CANDELA RATING OF STROBE. NOTIFICATION APPLIANCE, CEILING MOUNTED IN FLUSH BACK BOX.	HNC HPC	HOME NETWORK CABINET	3P 3W	3-POLE 3-WIRE
ATED WITH 'cd' REPRESENTS CANDELA RATING OF STROBE.	IG	ISOLATED GROUND	4W	4-WIRE
L FOR SPRINKLER FLOW ANNUNCIATOR, NIEC, POWERED AND . ECTRICAL, WALL MOUNTED ON EXTERIOR OF BUILDING.	IMC	INTERMEDIATE METAL CONDUIT		
NSOR DEVICE IN FSAE LOBBIES FOR TEMPERATURE MONITORING, 6" BELOW CEILING.	<b> </b>	APPLI	ANCES	
OR RESIDENTIAL DWELLING UNITS, NON-ADDRESSABLE, 120V ITERY BACK-UP, CEILING MOUNTED IN FLUSH OR SURFACE	DO	DOUBLE OVEN	MW	MICROWAVE
OR RESIDENTIAL DWELLING UNITS, NON-ADDRESSABLE, 120V	DW ED	DISHWASHER ELECTRIC DRYER	RF RH	REFRIGERATOR RANGE HOOD
ITERY BACK-UP, WALL MOUNTED MAXIMUM 6" BELOW CEILING IN I BOX.	EO	ELECTRIC OVEN/RANGE	UR	UNDERCOUNTER REFRIGERATOR
MOKE AND CARBON MONOXIDE ALARM FOR RESIDENTIAL 9, NON-ADDRESSABLE, 120V DEVICE WITH BATTERY BACK-UP, 20 IN FLUSH OR SURFACE JUNCTION BOX.	GD	GARBAGE DISPOSER	WC	
IOKE AND CARBON MONOXIDE ALARM FOR RESIDENTIAL	GR	GAS RANGE		WASHING MACHINE
, NON-ADDRESSABLE, 120V DEVICE WITH BATTERY BACK-UP, WALL IUM 6" BELOW CEILING IN FLUSH JUNCTION BOX.		CONVE	NTIONS	
COMMUNICATION STATION, WALL MOUNTED, +42" AFF.				
				WING CONTAINING NOTES ONLY.
RACEWAYS	-	LOCATION OF PROTECTIVE OR OD DISTRIBUTION BOARDS, MOTOR	CONTROL I	DEVICE WITHIN SWITCHBOARDS,
RUN CONCEALED IN SLAB, UNDER SLAB OR UNDERGROUND.		EQUIPMENT IDENTIFICATION TAG ANOTHER SECTION AND WIRED		RNISHED AND INSTALLED UNDER IIS SECTION.
RUN CONCEALED IN WALL OR ABOVE CEILING.	2004	FEEDER SIZE. REFER TO FEEDE	R SCHEDU	LE.
HOMERUN, CONTINUOUS RUN TO PANEL OR EQUIPMENT CABINET. IN CAN OCCUR ON ANY OF THE ABOVE ROUTING CONDITIONS.	1 E-80	DETAIL REFERENCE:		
TURNED UP, CAN OCCUR ON ANY OF THE ABOVE ROUTING ONS.		DETAIL DESIGNATION		
TURNED DOWN, CAN OCCUR ON ANY OF THE ABOVE ROUTING ONS.	<u>2</u> - <u>F</u>			
CAPPED OR STUBBED WITH INSULATED BUSHINGS, CAN OCCUR ON THE ABOVE ROUTING CONDITIONS.		FIXTURE TYPE QUANTITY		
SLEEVE, WITH INSULATING BUSHINGS.	754 ▲▲▲		<u>SNATION:</u>	
E METALLIC CONDUIT, EQUIPMENT CONNECTION.		CONDUIT SIZE IN INCHES CONDUIT SYSTEM DESIGNAT P: PRIMARY POWER	ΓΙΟΝ	
ARKS ON BRANCH CIRCUIT CONDUIT RUNS INDICATE THE QUANTITY OF TORS AS FOLLOWS (GROUND CONDUCTORS ARE NOT NOTED, BUT BE INCLUDED IN EVERY CONDUIT WITH POWER CONDUCTORS):		S: SECONDARY POWER T: TELECOMMUNCATION QUANTITY OF CONDUITS	S	
ROSSMARKS INDICATES TWO #12 AWG CONDUCTORS, UON.	2 <u>E</u> H2	A SWITCHBOARDS, DISTRIBUTION	BOARDS,	AND PANELBOARDS:
E TO SIX CROSSMARKS INDICATES THE OHANTITY OF #12 AMC		LBOARD DESIGNATION FLOOR NUMBER		
DUCTORS, UON. IN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10		VOLTAGE CLASSIFICATION PS : PRIMARY SUBSTATIO MS : MAIN SWITCHBOARI		SECONDARY SUBSTATION 277/480 DIST. BOARD
DUCTORS, UON. IN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS			LD :	120/208 DIST. BOARD
DUCTORS, UON. IN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS IN PLANS.		H : 277/480 PANELBOARD L : 120/208 PANELBOARD		
DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS ON PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE	2 <u>∈</u> MC	L : 120/208 PANELBOARD		
EE TO SIX CROSSMARKS INDICATES THE QUANTITY OF #12 AWG DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE REFER TO PLANS FOR SIZE AND MOUNTING.		L : 120/208 PANELBOARD		
DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE	$\frac{2 \in MC}{4}$	L : 120/208 PANELBOARD		
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DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE		L : 120/208 PANELBOARD <u>C / 1B</u> <u>MOTOR CONTROL CENTERS:</u> MCC DESIGNATION FLOOR NUMBER MOTOR CONTROL CENTER / 2A <u>TRANSFORMERS:</u> TRANSFORMER DESIGNATIO		C : CRITICAL
DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE		L : 120/208 PANELBOARD		C : CRITICAL S : LIFE SAFETY
DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE		L : 120/208 PANELBOARD		
DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE		L : 120/208 PANELBOARD		
DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE		L : 120/208 PANELBOARD <u>MOTOR CONTROL CENTERS:</u> MCC DESIGNATION FLOOR NUMBER MOTOR CONTROL CENTER <u>MOTOR CONTROL CENTER</u> <u>MOTOR CONTROL CENTER</u> <u>MOTOR CONTROL CENTER</u> <u>MOTOR CONTROL CENTER</u> <u>MOTOR NUMBER</u> <u>TRANSFORMER</u> <u>POWER SOURCE</u> <u>INORMAL</u> <u>E</u> : EMERGENCY or ESSE <u>U</u> : UP <u>MOTOR SIGNAL SYSTEM TERMINALS:</u> <u>TERMINAL DESIGNATION</u> <u>FLOOR NUMBER</u> <u>TERMINAL DESIGNATION</u> <u>FLOOR NUMBER</u> <u>TERMINAL DESIGNATION</u> <u>FLOOR NUMBER</u> <u>TERMINAL DESIGNATION</u> <u>MOTOR CONTROL CENTER</u>		
DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE		L : 120/208 PANELBOARD  C / 1BMOTOR CONTROL CENTERS:MCC DESIGNATIONMOTOR CONTROL CENTERMOTOR CONTROL CENTER /2ATRANSFORMERTRANSFORMER DESIGNATICTRANSFORMERTRANSFORMERTRANSFORMERTRANSFORMERTRANSFORMERTRANSFORMERTRANSFORMERTRANSFORMERTRANSFORMERTRANSFORMERTURNSFORMERTERMINAL DESIGNATIONTERMINAL DESIGNATIONTERMINAL DESIGNATIONTERMINAL DESIGNATIONTERMINAL DESIGNATIONTERMINAL DESIGNATIONTERMINAL CLASSIFICATIONTERMINAL CLASSIFICATION		
DUCTORS, UON. EN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 CONDUCTORS, UON. CE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS DN PLANS. RAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE		L : 120/208 PANELBOARD  C / 1BMOTOR CONTROL CENTERS: MCC DESIGNATION FLOOR NUMBER MOTOR CONTROL CENTER  / 2ATRANSFORMERS:TRANSFORMER POWER SOURCETRANSFORMER POWER SOURCENORMAL E : EMERGENCY or ESSE U : UP  / 2ASIGNAL SYSTEM TERMINALS:TERMINAL DESIGNATION FLOOR NUMBERTERMINAL DESIGNATION FLOOR NUMBER		

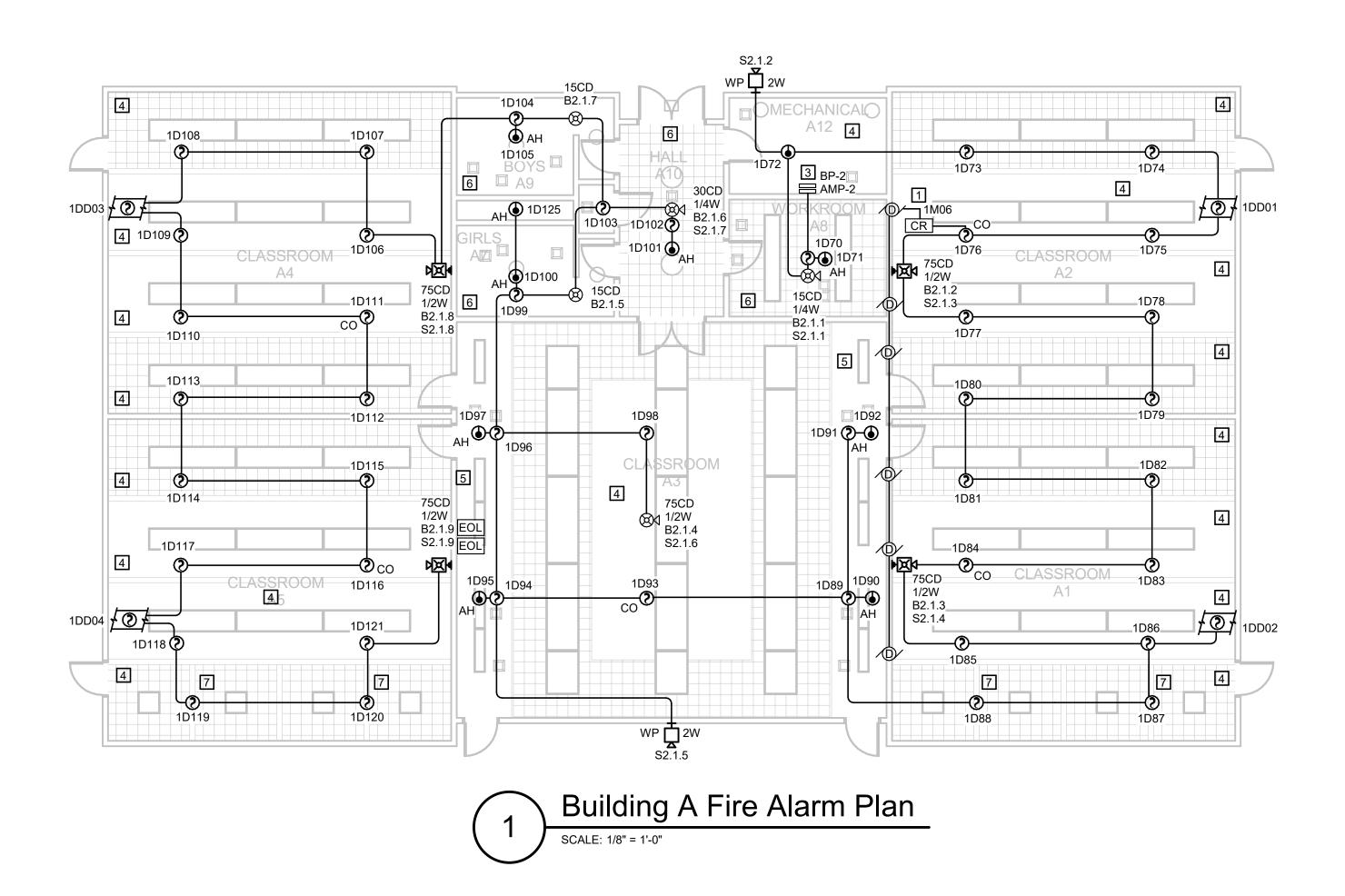
IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 02-118025 INC:
APP. 02-116023     INC:       REVIEWED FOR       DIV. OF THE S       APPL # 02.1         DATE:       02/27/2020
APPL. # 02-1 DATE: 02/27/2020 REVIVEWED FOR SS FLS ACS
DATE:
The Engineering Enterprise
CONSULTING ENGINEERS 1305 MARINA VILLAGE PARKWAY ALAMEDA, CA 94501
(530) 886-8556
(530) 886-8556 PROFESS/0N4/ SOTT WHEELS No. E015491 Exp. 96/20/21
OF CALIFORNIA
CAL III
REVISIONS
DESCRIPTION     DATE
DESIGNER:Designer
SCALE:
DATE:2019.12.20 TITLE:
SYMBOLS, LEGENDS, NOTES,
& LEGENDS
DRAWING NO. E0.00

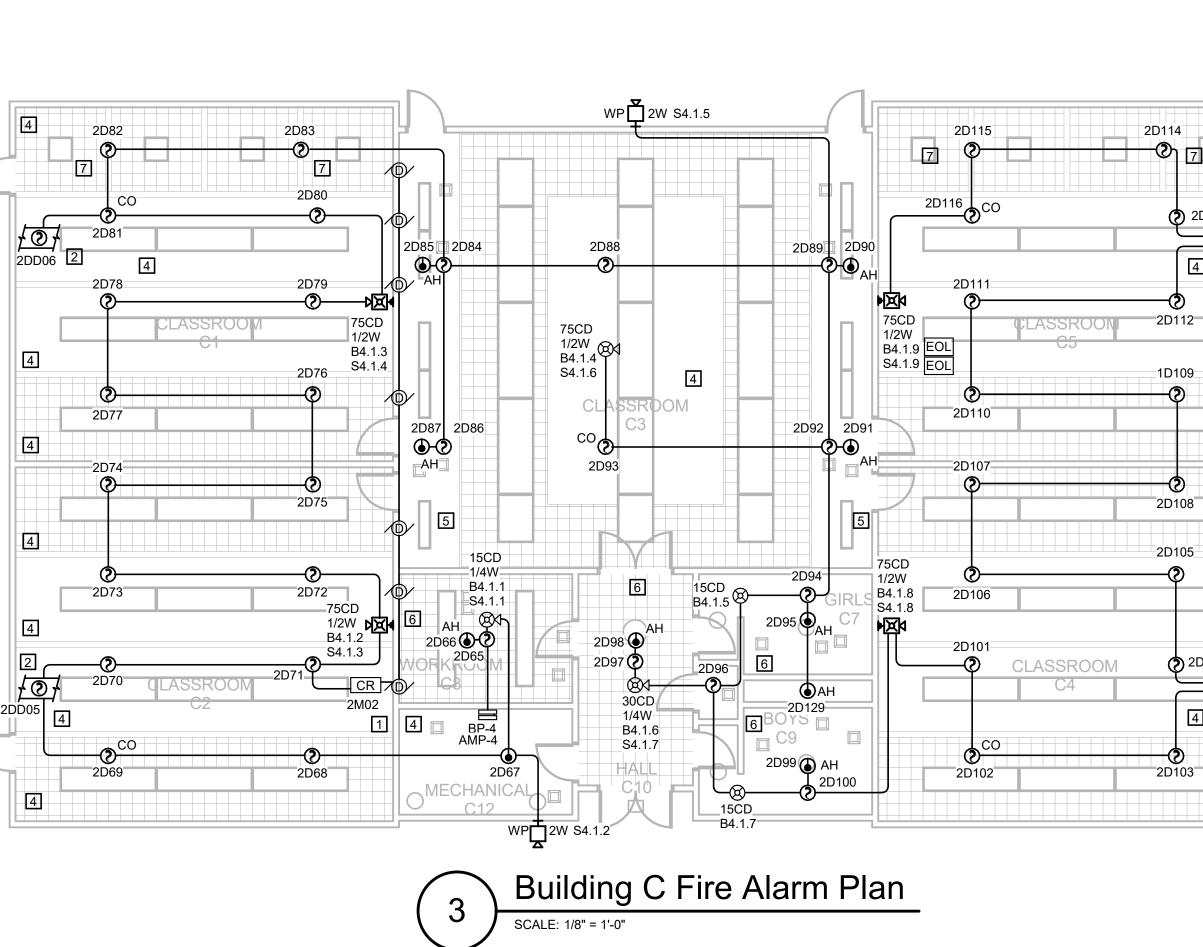


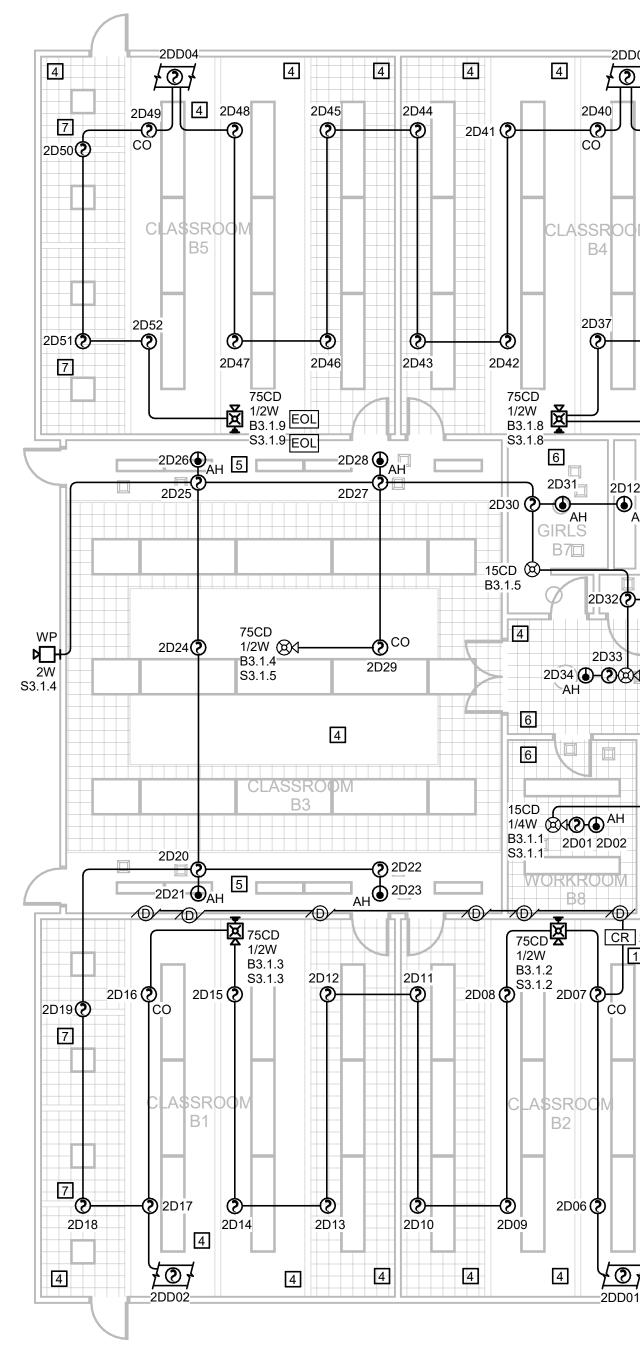
# NUMBERED SHEET NOTES

EXISTING PATHWAYS.
 TRENCHING REQUIRED- PROVIDE TWO 1" CONDUIT (UG) FROM BLDG. D TO BLDG E.


IDENTIFICATION STAMP   IDENTIFIC   DENTIFIC   DENTIFIC  <	
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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242	
REVISIONS	
DESCRIPTION DATE	
SIGNER:Designer	
<b>ALE:</b> 1/32" = 1'-0"	
re:2019.12.20	
SITE PLAN	
AWING NO. E1.00	

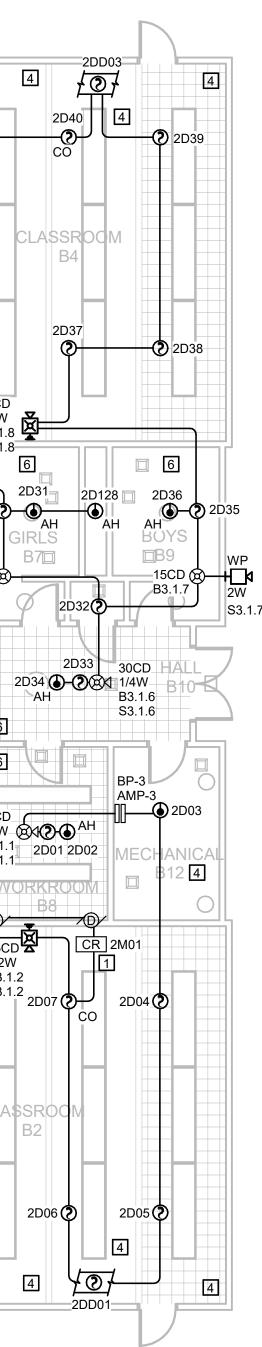






2

Building B Fire Alarm Plan

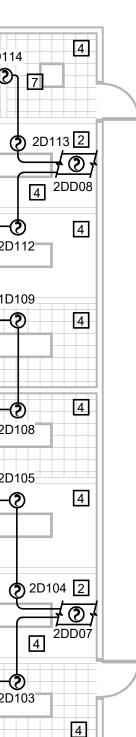




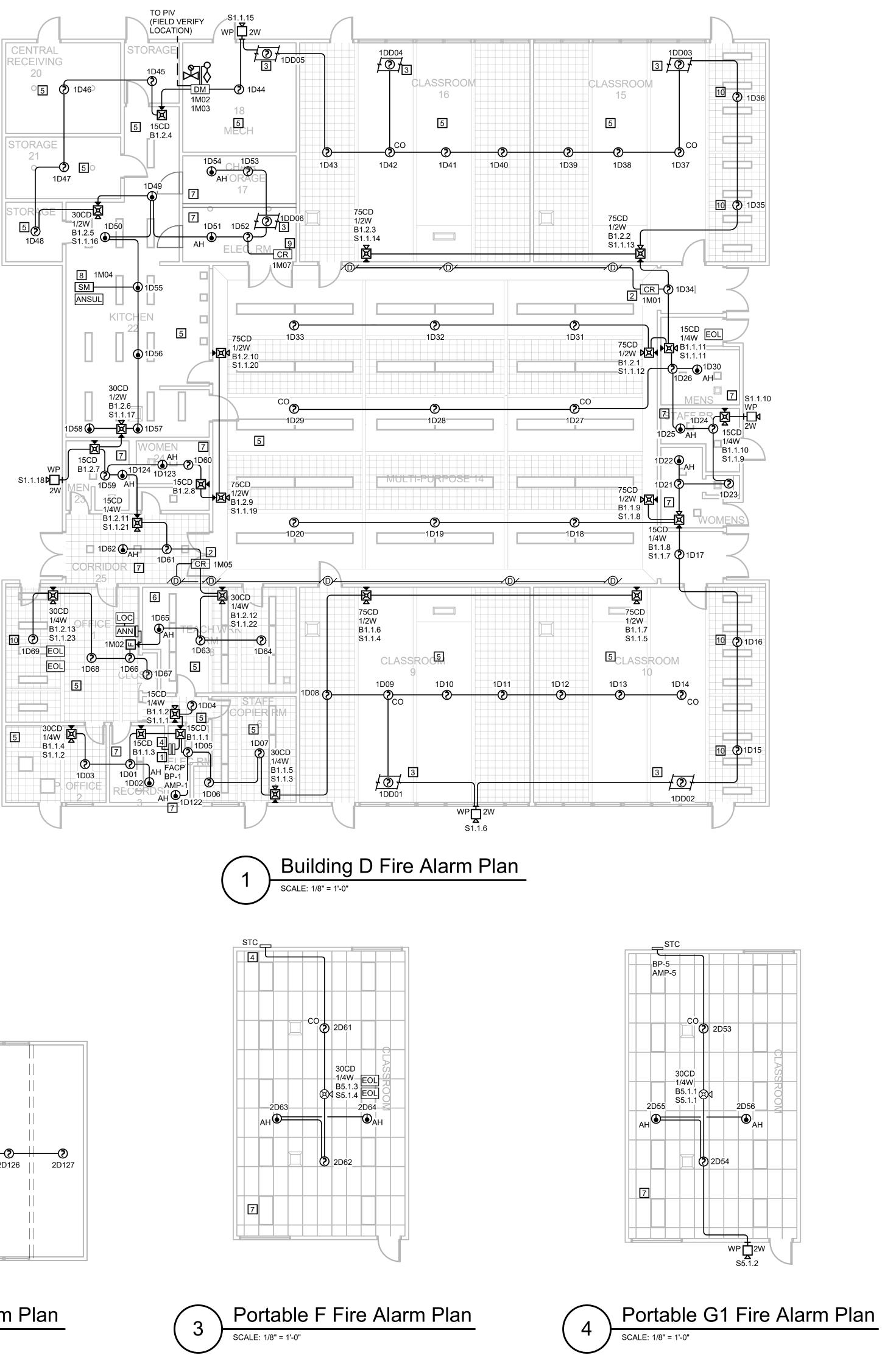
- A. FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B. FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- . COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D. DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH
- J-HOOKS. ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE.
- . ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX, FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURES DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE. H. REFER TO E3.00 FOR RISER DIAGRAMS.
- CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
- THE FIRE ALARM SYSTEM WILL BE DEMOLISHED AND REPLACED TO THE CURRENT 2016 CFC. THE SYSTEM WILL BE A FULLY AUTOMATIC SYSTEM WITH EMERGENCY VOICE ANNUNCIATION. FULL COVERAGE IN EACH BUILDING SHALL BE PROVIDED. COMMUNICATION WILL BE PROVIDED
- TO A CENTRAL MONITORING STATION. K. EXPOSED CEILINGS. USE EXISITING WIRE MOLD WHEN POSSIBLE.

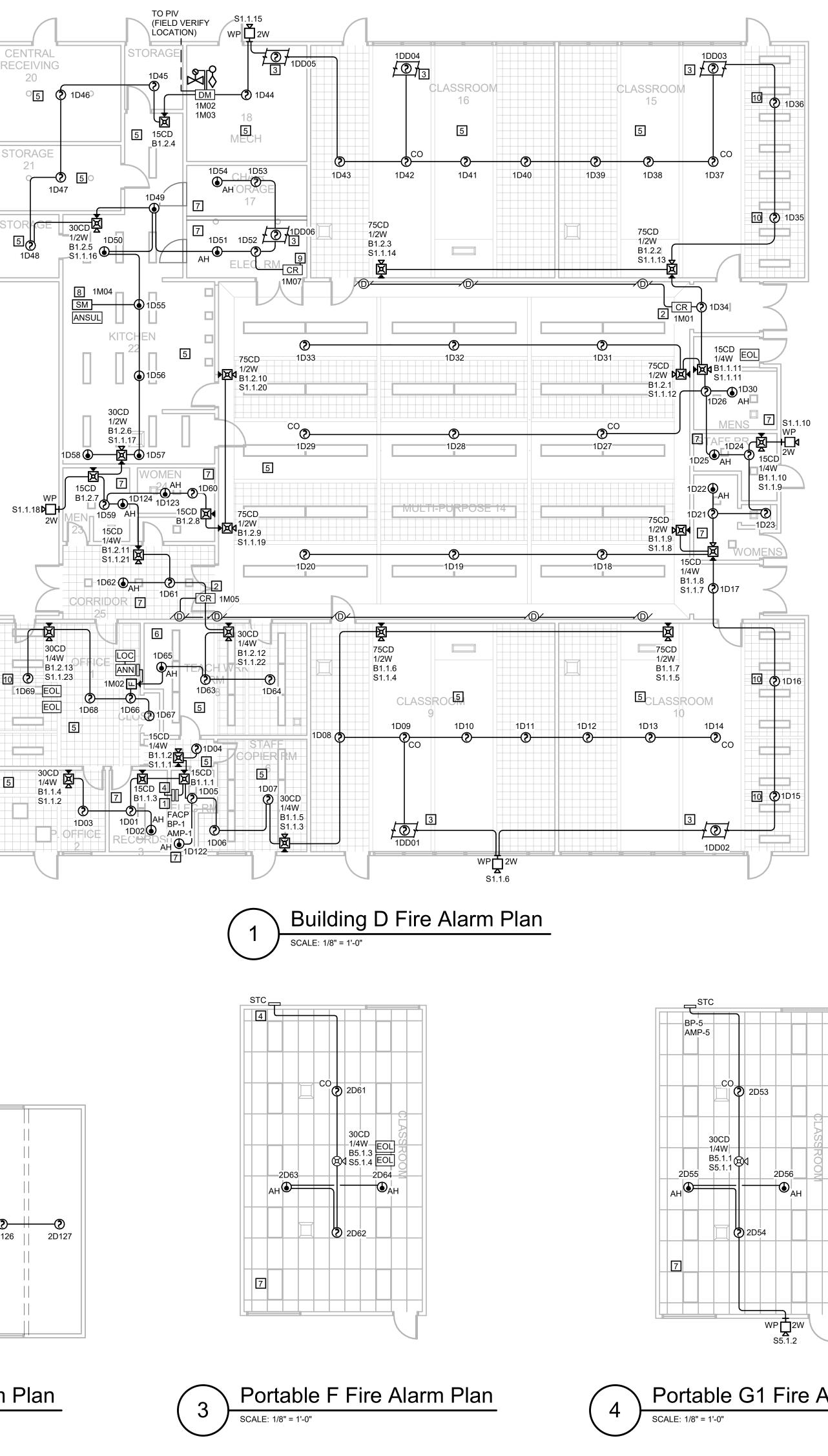
### NUMBERED SHEET NOTES

- 1 AREA DETECTOR TO INITIATE (CR) CONTROL RELAY TO ACTIVATE (FSD) FIRE SMOKE DAMPER CLOSURE.
- 2 DUCT SMOKE DETECTOR TO ACTIVATE HVAC SHUT DOWN.
- 3 SEE SITE SHEET E1.0 AND RISER DIAGRAM E3.0 FOR CONDUIT PATHWAY.
- 4 RAISED CEILING DIRECTLY BELOW ROOF DECK WITH EXPOSED CEILINGS; NO AH HEATS REQUIRED.
- 5 SOFFIT SPACE REQUIRING AH HEAT COVERAGE.
- 6 LOWERED CEILING WITH ATTIC SPACE ABOVE. AH HEAT COVERAGE REQUIRED.
- 7 PLACE SMOKE DETECTOR ON BOTTOM OF BEAM.



IDENTIFIC   IDENTIFIC   DENTIFIC   DENTIFIC   DATE:   02/27/2020
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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242
DESCRIPTION DATE     DESIGNER:Designer   SCALE: 1/8" = 1'-0"   DATE:2019.12.20   TITLE:   FIRE ALARM PLAN - A, B & C   DRAWING NO.





15CD B4.2.1	BEAMS			
2D118 2D118 2D117 AH 75CD 1/2W EOL 84.2.4 EOL 84.2.4 EOL 84.2.4 EOL 84.2.4 EOL 84.2.4 EOL 84.2.1 EOL 2D120 2D120 2D120 2D123 AH 2D121 7 RESTROOM 15CD 84.2.3 AH 2D121 7 RESTROOM	     2D124   	CLASSROOM	2D126                	<b>(2</b> 2D1
Build	ing E	Fire Al	arm Pl	an

2

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

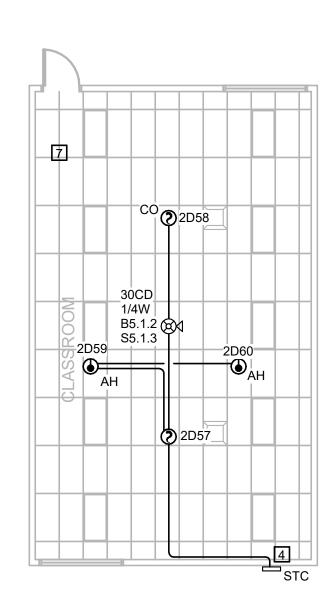
# GENERAL SHEET NOTES

- A. FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- 3. FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT
- SUPERVISION. COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D. DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE. ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX, FOR
- SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURES DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE. H. REFER TO E3.00 FOR RISER DIAGRAMS.
- CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
- THE FIRE ALARM SYSTEM WILL BE DEMOLISHED AND REPLACED TO THE CURRENT 2016 CFC. THE SYSTEM WILL BE A FULLY AUTOMATIC SYSTEM WITH EMERGENCY VOICE ANNUNCIATION. FULL COVERAGE IN EACH BUILDING SHALL BE PROVIDED. COMMUNICATION WILL BE PROVIDED TO A CENTRAL MONITORING STATION.
- EXPOSED CEILINGS. USE EXISITING WIRE MOLD WHEN POSSIBLE.

### NUMBERED SHEET NOTES

- 1 DACT WILL TRASMIT SIGNALS TO OFF SITE MONITORING VIA PHONE LAND LINE WITH A CELLULAR BACK UP.
- 2 AREA DETECTOR TO INITIATE (CR) CONTROL RELAY TO ACTIVATE (FSD) FIRE SMOKE DAMPER CLOSURE.
- **3** DUCT DETECTOR TO ACTIVATE HVAC SHUT DOWN.
- 4 SEE SITE SHEET E1.0 AND RISER DIAGRAM E3.0 FOR CONDUIT PATHWAYS.
- 5 RAISED CEILING DIRECTLY BELOW ROOF DECK WITH EXPOSED CEILINGS; NO AH HEATS REQUIRED.
- 6 SOFFIT SPACE REQUIRING AH HEAT COVERAGE.
- 7 LOWERED CEILING WITH ATTIC SPACE ABOVE. AH HEAT COVERAGE REQUIRED. 8 MONITOR MODULE TO MONITOR KITCHEN ANSUL SYSTEM.
- 9 AREA SMOKE DETECTOR TO INITIATE (CR) CONTROL RELAY TO ACTIVATE A/V RACK SHUT OFF. 10 PLACE SMOKE DETECTOR ON BOTTOM OF BEAM.

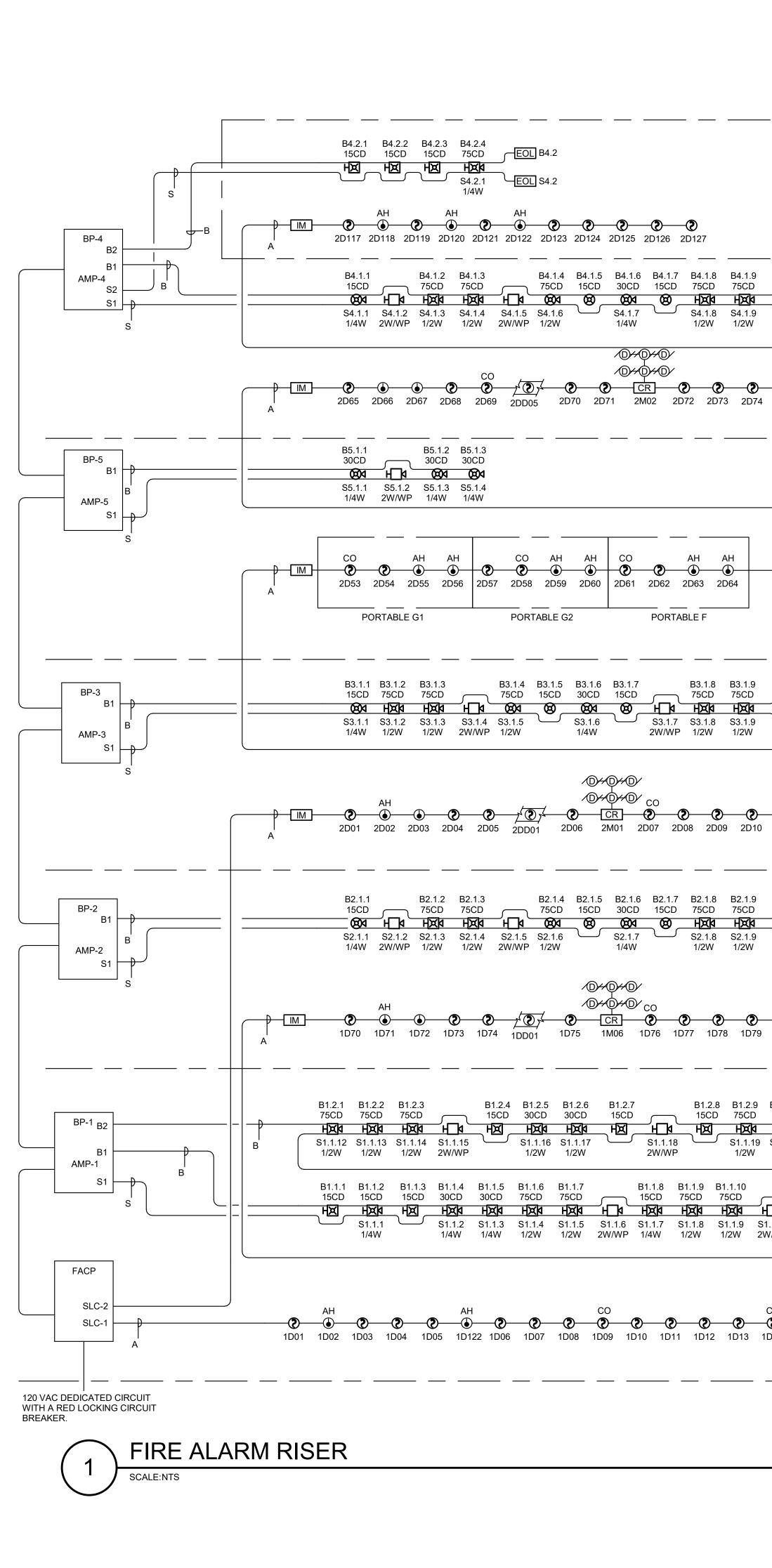






Portable G2 Fire Alarm Plan 5 SCALE: 1/8" = 1'-0"

IDENTIFIC   IDENTIFIC   DENTIFIC   DK. OF THE   MPL. # 02-1     REVIVEWED FOR   S	
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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242	
REVISIONS	
DESCRIPTION DATE	
SIGNER:Designer	
ALE: 1/8" = 1'-0" TE:2019.12.20	
FIRE ALARM PLAN - D, E & PORTABLES F, G1 & G2	
awing no. E2.01	



	B4.1 S4.1	2D77	<b>2</b> D78	<b>2</b> D79	CO 2D81	2DD06	_	2D83	2D84	AH 	2D86	AH 	<b>?</b> 2D88	2D89	AH 	AH 	2D92	CO 2D93	2D94	AH 	AH 	2D96	<b>2</b> D97
	]B3.1 ]S3.1																						
0 2D11	2D12	2D13	2D14	2D15	CO 2D16	2D17	2DD02	2D18	2D19	2D20	AH 	2D22	AH 	2D24	2D25	AH  2D26	2D27	AH 2D28	CO 2D29	2D30	AH  2D31	AH 2D128	2D32
	] B2.1 ] S2.1																						
9 1D80	<b>@</b> 1D81	<b>(2)</b> 1D82	1D83	CO 2 1D84	1D85	1D86	1DD02	1D87	<b>@</b> 1D88		AH	1D91	AH 	CO 2 1D93	1D94	AH 1D95	1D96	AH 	1D98	<b>2</b> 1D99	AH 1D100 1	AH 	AH 
B1.2.10 75CD HXA 9 S1.1.20 1/2W	15CD Hxt S1.1.21 1/4W	30CI <b>HX</b>	<b>1 Ң)</b> 22 S1.′	CD <b>CD</b> <b>CD</b> 1.23	-EOL :																		
$\int$ 1	1.1.11 ISCD <b>FX4</b> 1.1.11 I/4W	EOLE	31.1											<b>2</b> 1D69	<b>2</b> 1D68	1D67	<b>2</b> 1D66	F 1M02	AH • 1D65	<b>?</b>	/ 1D63	D++  CR 1M05	
CO 2 / 1D14 1[	() ) DD01		<b>₹(</b> 1D		<b>)(</b> 16 1D	<b>)(</b> 17 1D	<b>) ()</b> 18 1D19	<b>@</b> 1D20	<b>@</b> 1D21	AH  1D22	<b>@</b> 1D23	<b>@</b> 1D24	AH  1D25	<b>@</b> 1D26	CO 2 1D27	<b>@</b> 1D28	CO 2 1D29	AH  1D30	<b>@</b> 1D31	<b>@</b> 1D32	<b>@</b> - 1D33	-0-	(D**D** CR 1M01

\_\_\_\_\_ **BUILDING E** 2D98 2D99 2D100 2D101 2D102 2D103 2D07 2D104 2D105 2D106 2D107 2D108 2D109 2D110 2D111 2D112 2D08 2D113 2D114 2D115 2D116 BUILDING C PORTABLE G1,G2,F 2D33 2D34 2D35 2D36 2D37 2D38 2D39 2D03 2D40 2D41 2D42 2D43 2D44 2D45 2D46 2D47 2D48 2D04 2D49 2D50 2D51 2D52 BUILDING B 1D102 1D103 1D104 1D105 1D106 1D107 1D108 1DD03 1D109 1D110 1D111 1D112 1D113 1D114 1D105 1D116 1D117 1DD04 1D118 1D119 1D120 1D121 **BUILDING A** A/V RACK AH 1D61 1D60 1D124 1D123 1D59 1D58 1D57 1D56 1D55 <sup>1M04</sup> 1D54 1D53 1M07 1D52 1DD06 1D51 1D50 1D49 ₩D/ CO 

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 BUILDING D 

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 02-118025 INC: REVIEWED FOR SS ☐ FLS Ø ACS DATE: 02/27/2020 REVIVEWED FOR SS
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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242
REVISIONS
A DESCRIPTION DATE
DESIGNER:Designer SCALE: NTS
DATE:2019.12.20
TITLE: FIRE ALARM RISER
DRAWING NO. E3.00

Gamowoll	Suntan Ourset Draw			
	System Current Draw E3 Series Control Panel with Broadband	LAKEWOOD AMPLIFIER 1	LAKEWOOD AMPLIFIER 2	LAKEWOOD AMPLIFIER 3
	Total Standby 0.780 A Total Alarm 8.253 A	Standby Current (amps) Alarm Current (amps)	Standby Current (amps) Alarm Current (amps)	Standby Current (amps) Alarm Current (amps)
	Standby Current Alarm Current	Device Type QTY Watts Current Draw Total Qty Current Draw Total	Device Type QTY Watts Current Draw Total Qty Current Draw Total	Device Type QTY Watts Current Draw Total Qty Current Draw Total
Device 1. System Device	Qty Draw Standby Qty Draw Alarm	1. System	1. System	1. System
Intel. Loop Interface, Main Board (ILI-M Intel. Loop Interface Supplement Board	AB-E3} 1 x 0.08100 0.08100 1 x 0.15000 0.15000 d (ILI-S-E3) 0 x 0.08100 0 x 0.15000	AM-50 1 50 X 0.0860 = 0.0860 0 X 2.2060 = 2.2060	AM-50 1 50 X 0.0860 = 0.0860 0 X 2.2060 = 2.2060	AM-50 1 50 X 0.0860 = 0.0860 0 X 2.2060 = 2.2060
Intel, Loop Interface Main Board - Apolic Intel, Loop Interface Supplement Board		X = 0 X = 0.0000	X = 0 X = 0.0000	X = 0 X = 0.0000
7100 Panel, 1 SLC 7100 Panel, 1 SLC 7100 Panel, 1 SLC with DACT	1 x 0.05600 0.05600 1 x 0.07600 0.07600	X = 0 X = 0.0000	X = 0 X = 0.0000	X = 0 X = 0.0000
7100 Panel, 2 SLC	0 x 0.06500 0 x 0.08500	2. Speakers	2. Speakers	2. Speakers
7100 Panel, 2 SLC with DACT 2, E3 Optional Modules	0 x 0.08500 0 x 0.10500	Total Speaker Watts @ 25Vrms 15.5 0.6200 = 0.6200	Total Speaker Watts @ 25Vrms 7 0.2800 = 0.2800	Total Speaker Watts @ 25Vrms 7 0.2800 = 0.2800
120V Power Supply Sub-Assembly (PM		Total Speaker Watts @ 70.7Vrms 0.0000 = 0.0000	Total Speaker Watts @ 70.7Vrms         0.0000         =         0.0000	Total Speaker Watts @ 70.7Vrms 0.0000 = 0.0000
240V Power Supply Sub-Assembly (PM LCD Display & Switch Control (LCD-E3)	<b>u</b> n <b>u</b> n	Total Standby Load 0.0860 Total Alarm Load 2.8260	Total Standby Load 0.0860 Total Alarm Load 2.4860	Total Standby Load 0.0860 Total Alarm Load 2.4860
ARCNET Repeater (RPT-E3) Digital Communicator (DACT-E3)	0 x 0.01300 0 x 0.01300 1 x 0.01800 0.01800 1 x 0.01800 0.01800	0	0	0
Optional Remote Serial Annunicator (LC Network LCD Annunicator (NGA)	CD-7100) 0 x 0.05000 0 x 0.07500 0 x 0.20000 0 x 0.20000	Required Standby Time in Hours	Required Standby Time in Hours	Required Standby Time in Hours
Auxiliary Switch Sub-Assembly (ASM-10		Standby Load Current (Amps) 0.0860 Amps X 24 = 2.064 AH	Standby Load Current (Amps) 0.0860 Amps X 24 = 2.064 AH	Standby Load Current (Amps)         0.0860 Amps         X         24         =         2.064 AH
Remote LED Driver Module (ANU-48) Addressable Node Expander (ANX)	0 x 0.06500 0 x 0.06500	Required Alarm Time in Hours	Required Alarm Time in Hours	Required Alarm Time in Hours
3. 7100 Optional Modules Intelligent Network Inferface Module (IN	NI-7100) 0 x 0.04000 0 x 0.04000	Alarm Load Current (Amps)         2.8260 Amps         X         15         =         0.707 AH	Alarm Load Current (Amps) 2.4860 Amps X 15 = 0.622 AH	Alarm Load Current (Amps) 2.4860 Amps X 15 = 0.622 AH
Printer Transient Module (PTRM) Remote LED Driver Module (LDM-7100)	0 x 0.02000 0 x 0.02000	Total Current Load 2.77 AH	Total Current Load 2.69 AH	Total Current Load 2.69 AH
Class A Option Module (CAOM) Municipal Circuit Option Module (MCOM)	0 x 0.00100 0 x 0.00100	*Multiply by the Derating Factor = x 1.20	*Multiply by the Derating Factor = x 1.20	*Multiply by the Derating Factor = x 1.20
4. INI-VGC Command Center		Total Ampere Hours Required 3.32 AH	Total Ampere Hours Required 3.22 AH Recommended Batteries: 7AH BATTERIES	Total Ampere Hours Required 3.22 AH
Intel. Network Command Center (INI-V0 Addressable Switch Sub-assembly (ASI	SM-16) 0 x 0.01100 0 x 0.01100	Recommended Batteries: 7AH		Recommended Batteries: 7AH BATTERIES
Voice Paging Microphone (Microphone) Firefighter's Telephone (Handset)	e) 0 x 0.00100 0 x 0.00100 0 x 0.02000 0 x 0.02000	*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.	*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.	*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.
Addressable Output Module-Telephone 5. INI-VGX Voice Gateway	e (AOM-TEL) 0 x 0.00200 0 x 0.00650			
Intel. Network Voice Gateway (INI-VGX)	X; 0 x 0.15000 0 x 0.15000 M-9) 0 x 0.05000 0 x 0.05000			
120V Power Supply Sub-Assembly (PM 240V Power Supply Sub-Assembly (PM Amelifier Sub-Assembly (PM		LAKEWOOD AMPLIFIER 4	LAKEWOOD AMPLIFIER 5	
Amplifier Sub-assembly, 50 watt 25V (A Amplifier Sub-assembly, 50 watt 70V (A	AM-50-70) 0 x 0.04900 0 x 2.30000			
Addressable Output Module-Signal (AO Addressable Output Module-Telephone	e (AOM-TEL) 0 x 0.00200 0 x 0.00650	Standby Current (amps) Alarm Current (amps)	Standby Current (amps) Alarm Current (amps)	
Addressable Output Module-Audio (AOM 6. INI-VGE Command Center Voice Gr		Device Type QTY Watts Current Draw Total Qty Current Draw Total	Device Type QTY Watts Current Draw Total Qty Current Draw Total	
Intel. Network Command Voice Gatewar	ay (INI-VGE) 0 x 0.15000 0 x 0.15000	1. System	1. System	
Addressable Switch Sub-assembly (ASI Voice Paging Microphone (Microphone)	e) 1 x 0.00100 0.00100 1 x 0.00100 0.00100	AM-50 1 50 X 0.0860 = 0.0860 0 X 2.2060 = 2.2060	AM-50 1 50 X 0.0860 = 0.0860 0 X 2.2060 = 2.2060	
Firefighter's Telephone (Handset) Addressable Output Module Signal (AO	0 x 0.02000 0 x 0.02000 OM-2SF) 0 x 0.00200 0 x 0.00650	X = 0 X = 0.0000	X = 0.0000 - 0.0000 - 2.2000 - 2.2000 - 2.2000	
Addressable Output Module-Telephone Addressable Output Module-Audio (AOR	e (AOM-TEL) 0 x 0.00200 0 x 0.00650	X = 0.0000	X = 0.0000	
7. Smoke Detectors/Modules		2. Speakers	2. Speakers	
ATD-L2F HEAT DETECTOR PHOTO SMOKE DETECTOR	0 x 0.00030 0 x 0.00650 138 x 0.00200 0.27600 138 x 0.00850 1.17300	Total Speaker Watts @ 25Vrms 7.25 0.2900 = 0.2900	Total Speaker Watts @ 25Vrms 2.75 0.1100 = 0.1100	
XP95 DUCT DETECTOR MCS-COF CO/SMOKE DETECTOR	18 x 0.00400 0.07200 0 x 0.20000 5 x 0.00030 0.00150 5 x 0.00650 0.03250	Total Speaker Watts @ 70.7Vrms 0.0000 = 0.0000	Total Speaker Watts @ 70.7Vrms         0.0000         =         0.0000	
AMM2IF DUAL MONITOR MODULE AMM-4F MONITOR MODULE	1 x 0.00750 0.00750 1 x 0.00570 0.00570	Total Standby Load 0.0860 Total Alarm Load 2.4960	Total Standby Load 0.0860 Total Alarm Load 2.3160	
M500X ISOLATION MODULE	0 x 0.00500 0 x 0.00500	0		
AOM-2RF RELAY MODULE MS7 PULL STATION	5 x 0.00038 0.00188 5 x 0.00660 0.03250 1 x 0.00030 0.00030 1 x 0.00300 0.00300	Required Standby Time in Hours	Required Standby Time in Hours	
ADDRESSABLE HEAT DETECTOR 8. Notification Appliances	22 x 0.00030 0.00660 22 x 0.00650 0.14300	Standby Load Current (Amps) 0.0860 Amps X 24 = 2.064 AH	Standby Load Current (Amps) 0.0860 Amps X 24 = 2.064 AH	
or reaction reprinted	0 x 0.00000 0 x 0.00000 0 x 0.00000 0 x 0.00000	Required Alarm Time in Hours	Required Alarm Time in Hours	
	0 x 0.00000 0 x 0.00000 0 x 0.00000 0 x 0.00000	Alarm Load Current (Amps) 2.4960 Amps X 15 = 0.624 AH	Alarm Load Current (Amps) 2.3160 Amps X 15 = 0.579 AH	
-	0 x 0.00000 0 x 0.0000	Total Current Load 2.69 AH	Total Current Load 2.64 AH	
	0 x 0.00000 0 x 0.00000	*Multiply by the Derating Factor = x 1.20	*Multiply by the Derating Factor = x 1.20	
	0 × 0.00000 0 × 0.00000		manpy by the bolding radio – X 1.20	
	0 x 0.00000 0 x 0.00000 0 x 0.00000 0 x 0.00000	Total Ampere Hours Required 3.23 AH	Total Ampere Hours Required 3 17 AH	
	0 x 0.00000 0 x 0.00000 0 x 0.00000 0 x 0.00000	Total Ampere Hours Required 3.23 AH Recommended Batteries: 7AH BATTERIES	Total Ampere Hours Required 3.17 AH Recommended Batteries: 7AH BATTERIES	
	0 x 0.00000 0 x 0.00000		Total Ampere Hours Required         3.17 AH           Recommended Batteries:         7AH BATTERIES           *Derating Factor required to compensate for the non-linear discharge characteristic of a battery.         *	

Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-1 MODEL NUMBER: HPF24S8 BRAND: HPP VOLTS: 20.4 AWG: 12 POWER: DC AMPS: 3

CLASS: CLASS B TOTAL DEVICES: 10 36.13 % (1.084) AMPS USED 3.27 % (0.668) VOLTAGE DROP

#	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
	1 SPSW (Stro	15				0.066	25	20.291	20.227	20.125	19.962
	2 SPSW (Stro	15				0.066	25	20.189	20.065	19.866	19.551
	3 SPSW (Stro	15				0.066	25	20.093	19.913	19.624	19.166
	4 SPSW (Stro	30				0.094	25	20.004	19.772	19.399	18.808
	5 SPSW (Stro	30				0.094	25	19.924	19.646	19.198	18.488
	6 SPSW (Stro	75				0.158	25	19.854	19.535	19.021	18.206
	7 SPSW (Stro	75				0.158	25	19.800	19.449	18.884	17.988
	8 SPSW (Stro	75				0.158	25	19.762	19.388	18.787	17.834
	9 SPSW (Stro	75				0.158	25	19.739	19.352	18.730	17.744
	10 SW	15				0.066	25	19.732	19.341	18.713	17.717
							VOLTAGE I	0.668	1.059	1.687	2.683

#### Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-3 MODEL NUMBER: HPF24S8 BRAND: HPP VOLTS: 20.4 AWG: 12 POWER: DC AMPS: 3

CLASS: CLASS B TOTAL DEVICES: 9 32.63 % (0.979) AMPS USED

2.49 % (0.507) VOLTAGE DROP

#	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
	1 SPSCWL	15				0.041	25	20.302	20.244	20.151	20.004
	2 SPSCWL	75				0.111	25	20.208	20.094	19.913	19.625
	3 SPSCWL	30				0.063	25	20.125	19.962	19.703	19.291
	4 SPSW (S	trc 75				0.158	25	20.048	19.840	19.509	18.982
	5 SPSW (S	trc 75				0.158	25	19.987	19.743	19.355	18.737
	6 SPSW (S	trc 75				0.158	25	19.942	19.672	19.241	18.556
	7 SPSW (S	trc 75				0.158	25	19.913	19.626	19.167	18.439
	8 SCW	15				0.066	25	19.900	19.605	19.133	18.386
	9 SCW	15				0.066	25	19.893	19.594	19.116	18.359
							VOLTAGE I	0.507	0.806	1.284	2.041

OD AM	IPLIF	IER	1				LA	K	EW	00	DD A	Μ	PLIF	IEF	<b>२</b> (
Current (amps)		Alarm	Current (amp	s)					Standb	y Cu	rrent (amps	s)		Alarn	m C
urrent Draw	Total		urrent Draw		Total	Device Type	QT	ΓY			rent Draw		Fotal	Qty	Cu
	0.0860 = 0.0860 0 X 2 = 0 X = 0 X 0 X					1. System			•	•					<u> </u>
0.0860 =	0.0860	0 X	2.2060	=	2.2060	AM-50		1	50	Х	0.0860	=	0.0860	0	Х
=		0 X		=	0.0000					Х		=		0	Х
=		0 X		=	0.0000					Х		=		0	Х
						2. Speakers									
			0.6200	=	0.6200	Total Speaker Wat	ts @ 25Vrms		7						Т
			0.0000	=	0.0000	Total Speaker Wat	ts @ 70.7Vrm	າຣ							Т
Standby Load	0.0860	То	tal Alarm Lo	ad	2.8260				Tot	tal St	tandby Loa	ad	0.0860	Т	Tota
0											0				
		Requir	ed Standby T	īme	in Hours									Requ	uire
0.0860	Amps	Х	24	=	2.064 AH	Standby Load Cu	rrent (Amps)				0.08	60 A	mps	Х	
		Requir	ed Alarm Tim	ne in	Hours									Requ	uire
2.8260	Amps	Х	15	=	0.707 AH	Alarm Load Curre	ent (Amps)				2.48	60 A	mps	Х	
		Tota	I Current Lo	ad	2.77 AH									То	otal
	*Multiply I	by the De	erating Factor	r =	x 1.20								*Multiply I	,	
	Total Ampere Hours Required 3.32 AH												Total Amp	pere H	our
Recommende	d Batteries:		7AF	1						I	Recomme	nded	Batteries:	1	
linear discharge ch						*Derating Factor requ	uired to comper	nsate	for the no	on-lin	ear discharg	e cha	aracteristic of	f a batte	ery.

CIRCUIT NAME: NAC Circuit 2 POWER SOURCE: BPS-1 MODEL NUMBER: HPF24S8

BRAND: HPP VOLTS: 20.4

AWG: 12 POWER: DC

AMPS: 3

CLASS: CLASS B TOTAL DEVICES: 11 43.27 % (1.298) AMPS USED 3.25 % (0.662) VOLTAGE DROP

#	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSW (Stro	75				0.158	25	20.270	20.193	20.070	19.876
2	SPSW (Stro	75				0.158	25	20.155	20.011	19.780	19.415
3	SPSW (Stro	75				0.158	25	20.056	19.854	19.531	19.018
4	SPSW (Stro	75				0.158	25	19.973	19.723	19.322	18.685
5	SPSW (Stro	75				0.158	25	19.906	19.617	19.153	18.416
6	SPSW (Stro	30				0.094	25	19.855	19.536	19.024	18.211
7	SPSW (Stro	30				0.094	25	19.813	19.470	18.919	18.044
8	SPSW (Stro	30				0.094	25	19.781	19.419	18.838	17.915
9	SPSW (Stro	30				0.094	25	19.758	19.383	18.781	17.824
10	SPSW (Stro	15				0.066	25	19.745	19.362	18.747	17.771
11	SW	15				0.066	25	19.738	19.351	18.730	17.744
							VOLTAGE I	0.662	1.049	1.670	2.656

Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-4 MODEL NUMBER: HPF24S8 BRAND: HPP VOLTS: 20.4

AWG: 12

POWER: DC AMPS: 3

CLASS: CLASS B TOTAL DEVICES: 4 11.87 % (0.356) AMPS USED .51 % (0.104) VOLTAGE DROP

#	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SW	15				0.066	25	20.364	20.343	20.310	20.256
2	SW	15				0.066	25	20.335	20.297	20.236	20.139
3	SW	15				0.066	25	20.312	20.261	20.179	20.049
4	SPSW (Stro	75				0.158	25	20.296	20.236	20.139	19.985
							VOLTAGE [	0.104	0.164	0.261	0.415



VOLTS: 20.4 AWG: 12 POWER: DC AMPS: 3

#

BRAND: HPP VOLTS: 20.4 AWG: 12 POWER: DC

Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1

POWER SOURCE: BPS-2 MODEL NUMBER: HPF24S8

BRAND: HPP

CLASS: CLASS B TOTAL DEVICES: 9 32.63 % (0.979) AMPS USED 2.51 % (0.512) VOLTAGE DROP

ŧ	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSCWL	15				0.041	25	20.302	20.244	20.151	20.004
2	SPSCWL	30				0.063	25	20.208	20.094	19.913	19.625
3	SPSCWL	75				0.111	25	20.120	19.954	19.691	19.271
4	SPSW (Stro	75				0.158	25	20.043	19.832	19.497	18.962
5	SPSW (Stro	75				0.158	25	19.982	19.735	19.343	18.717
6	SPSW (Stro	75				0.158	25	19.937	19.664	19.229	18.536
7	SPSW (Stro	75				0.158	25	19.908	19.618	19.155	18.419
8	SCW	15				0.066	25	19.895	19.597	19.121	18.366
9	SCW	15				0.066	25	19.888	19.586	19.104	18.339
							VOLTAGE [	0.512	0.814	1.296	2.061

#### Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1

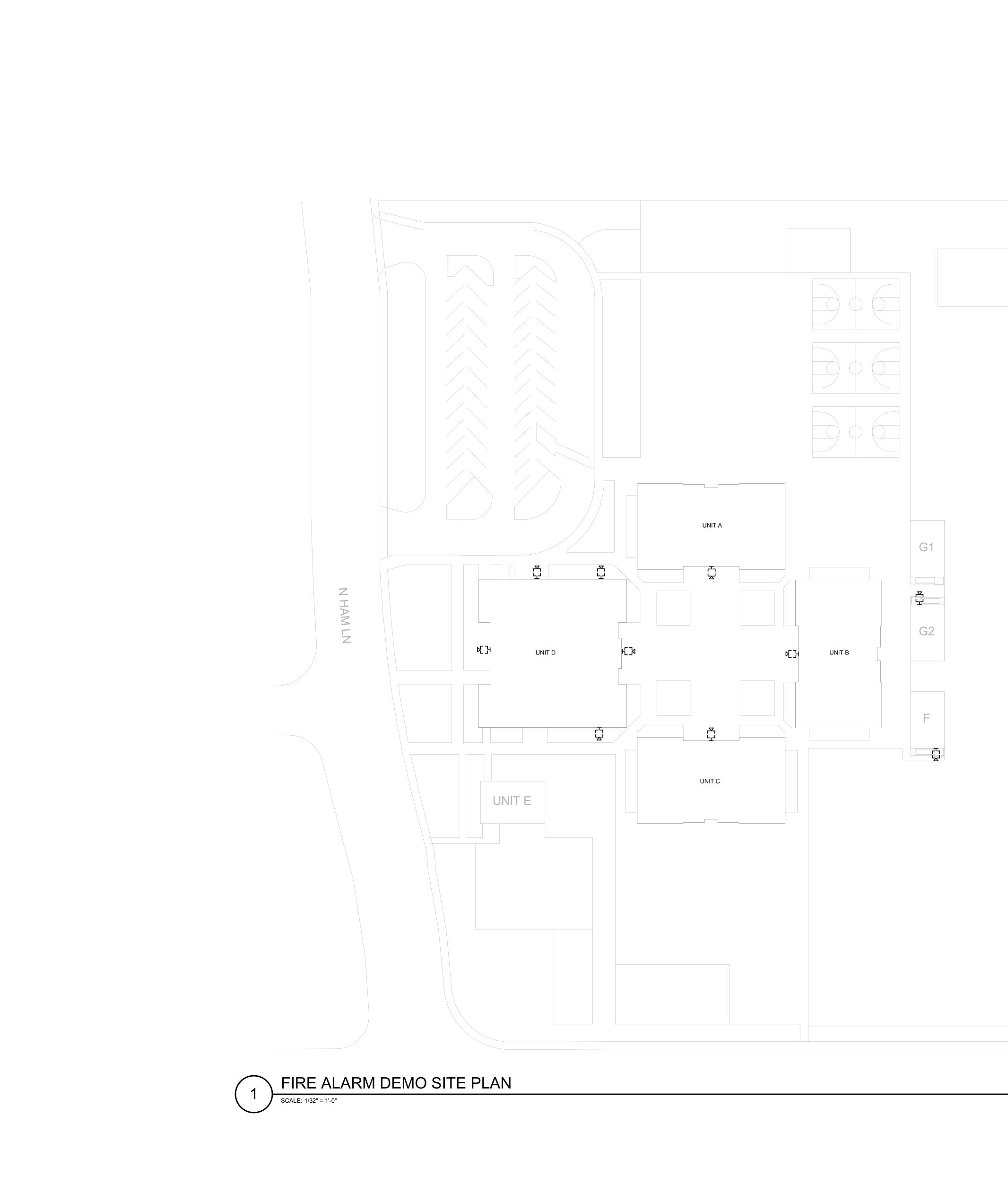
POWER SOURCE: BPS-5 MODEL NUMBER: HPF24S8

- AMPS: 3

CLASS: CLASS B TOTAL DEVICES: 3 6.3 % (0.189) AMPS USED .19 % (0.038) VOLTAGE DROP

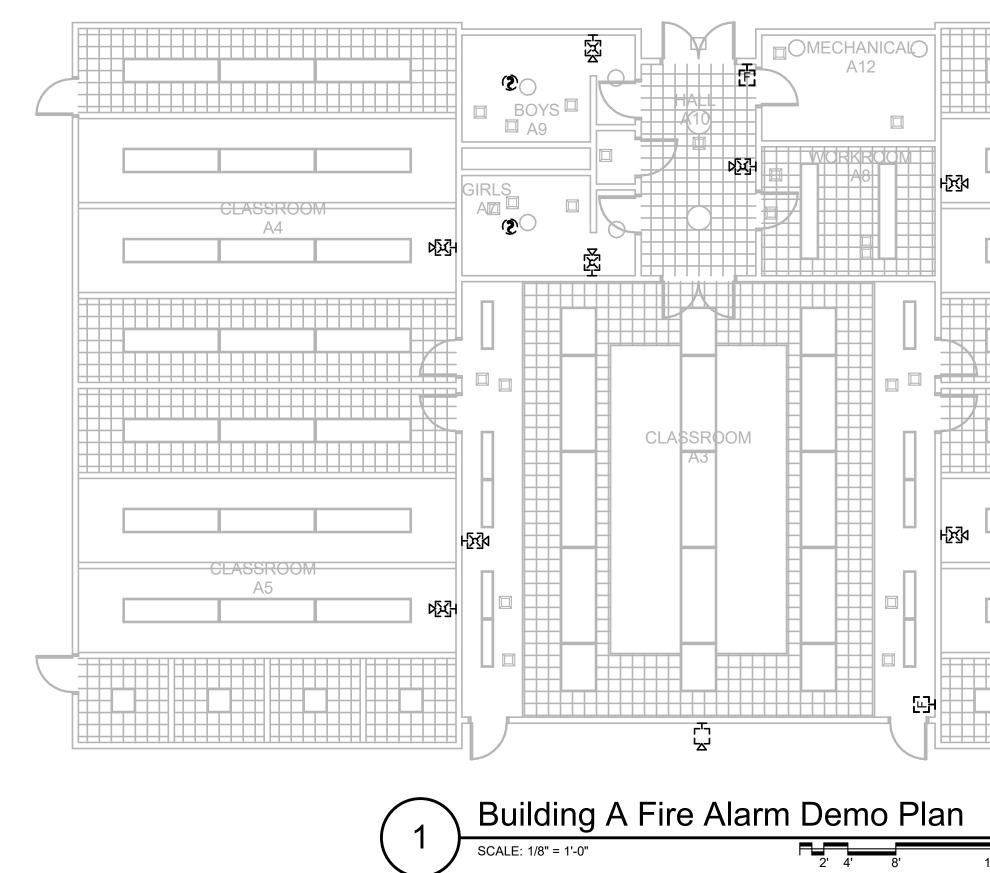
	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSCWL	30				0.063	25	20.381	20.370	20.352	20.324
2	SPSCWL	30				0.063	25	20.368	20.350	20.320	20.273
3	SPSCWL	30				0.063	25	20.362	20.340	20.304	20.248
							VOLTAGE [	0.038	0.060	0.096	0.152

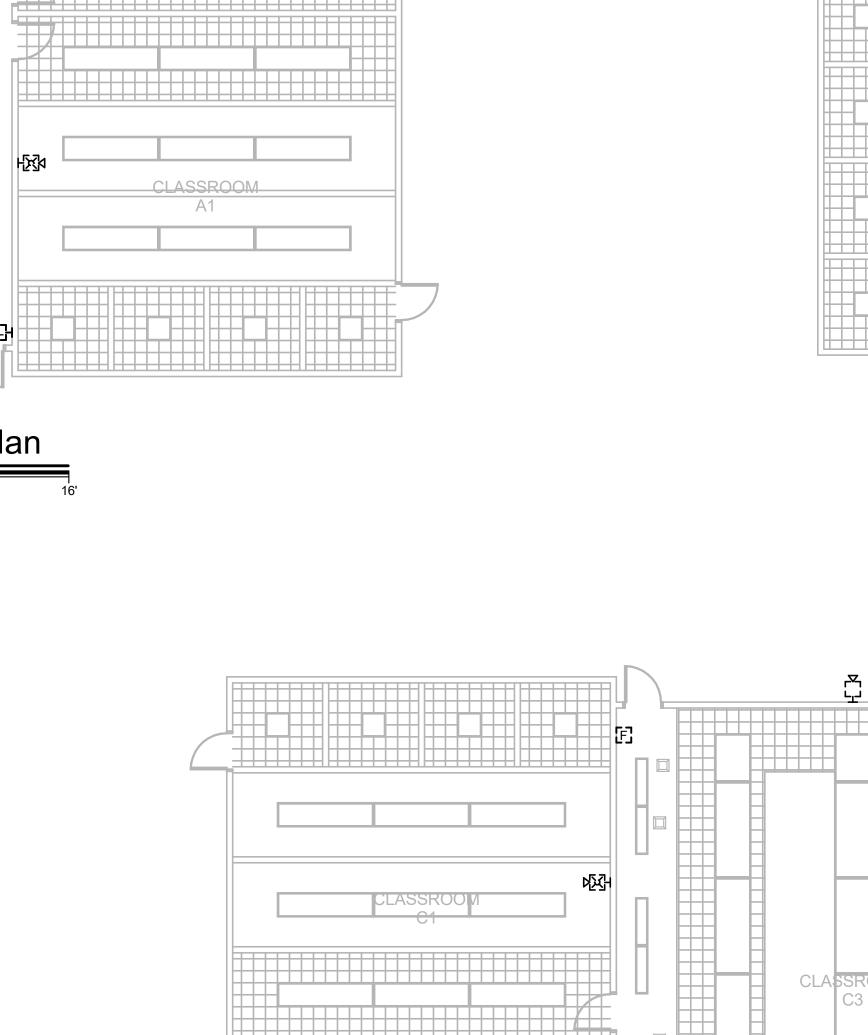
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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242	
REVISIONS     E     E     DESIGNER:Designer     SCALE:   DATE:2019.12.20     TITLE:     FIRE ALARM   CALCULATIONS	
FIRE ALARM	

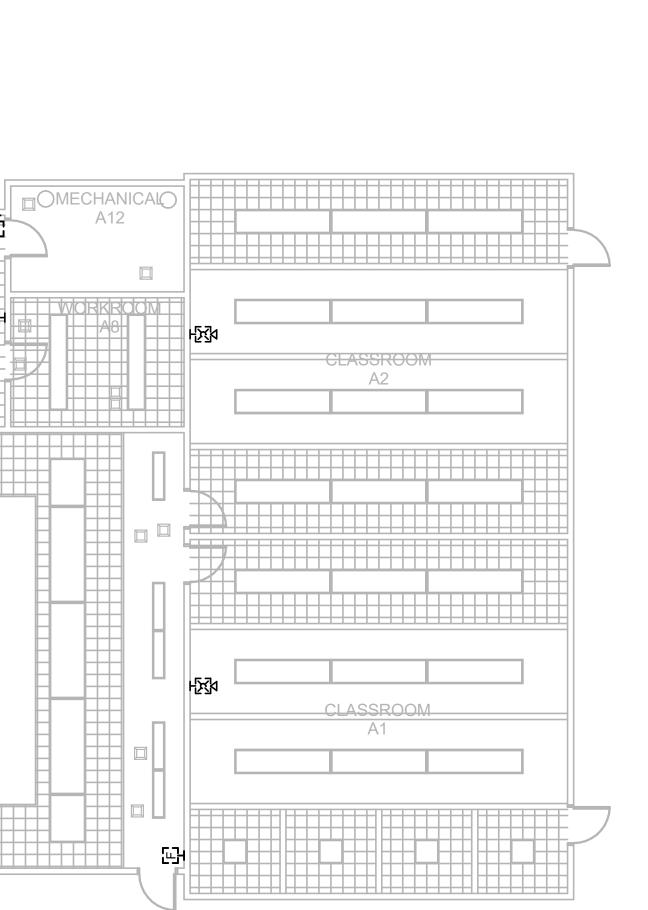


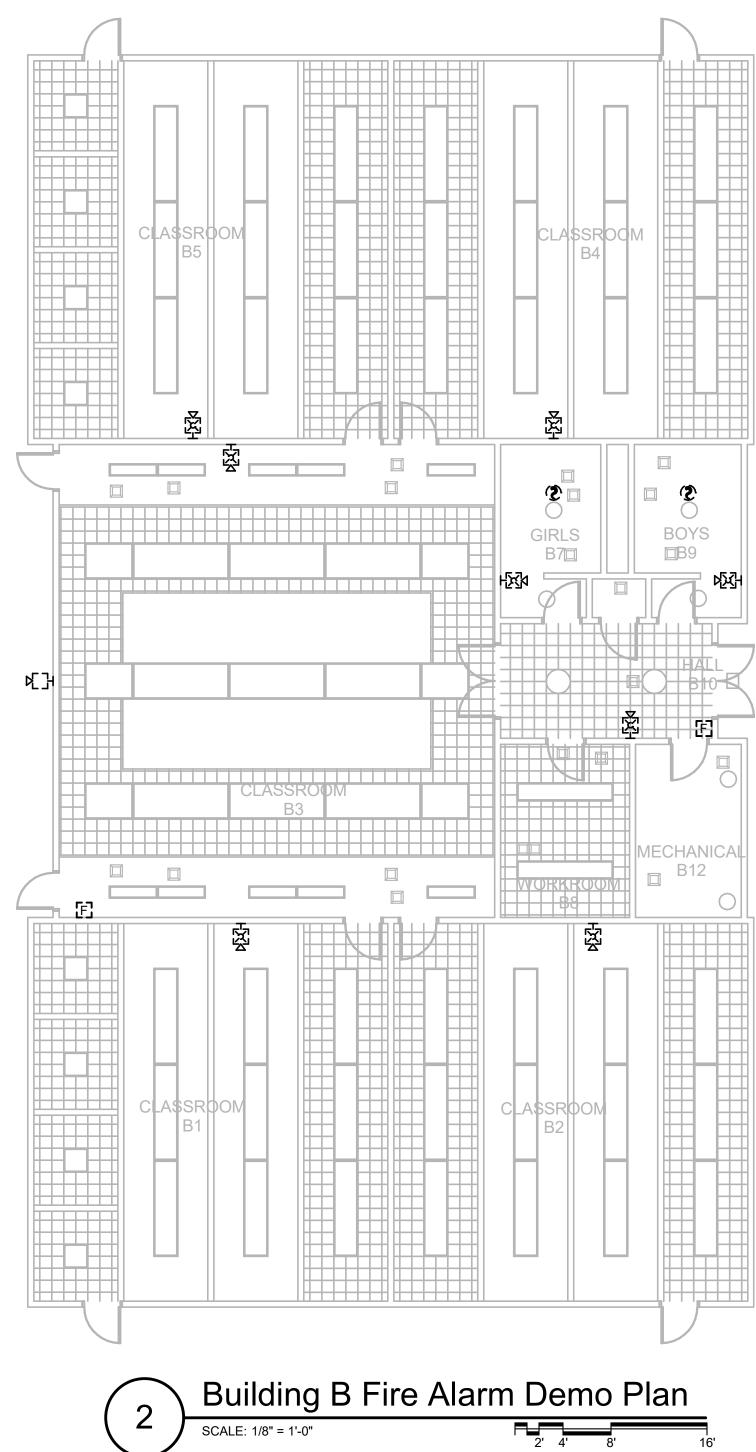


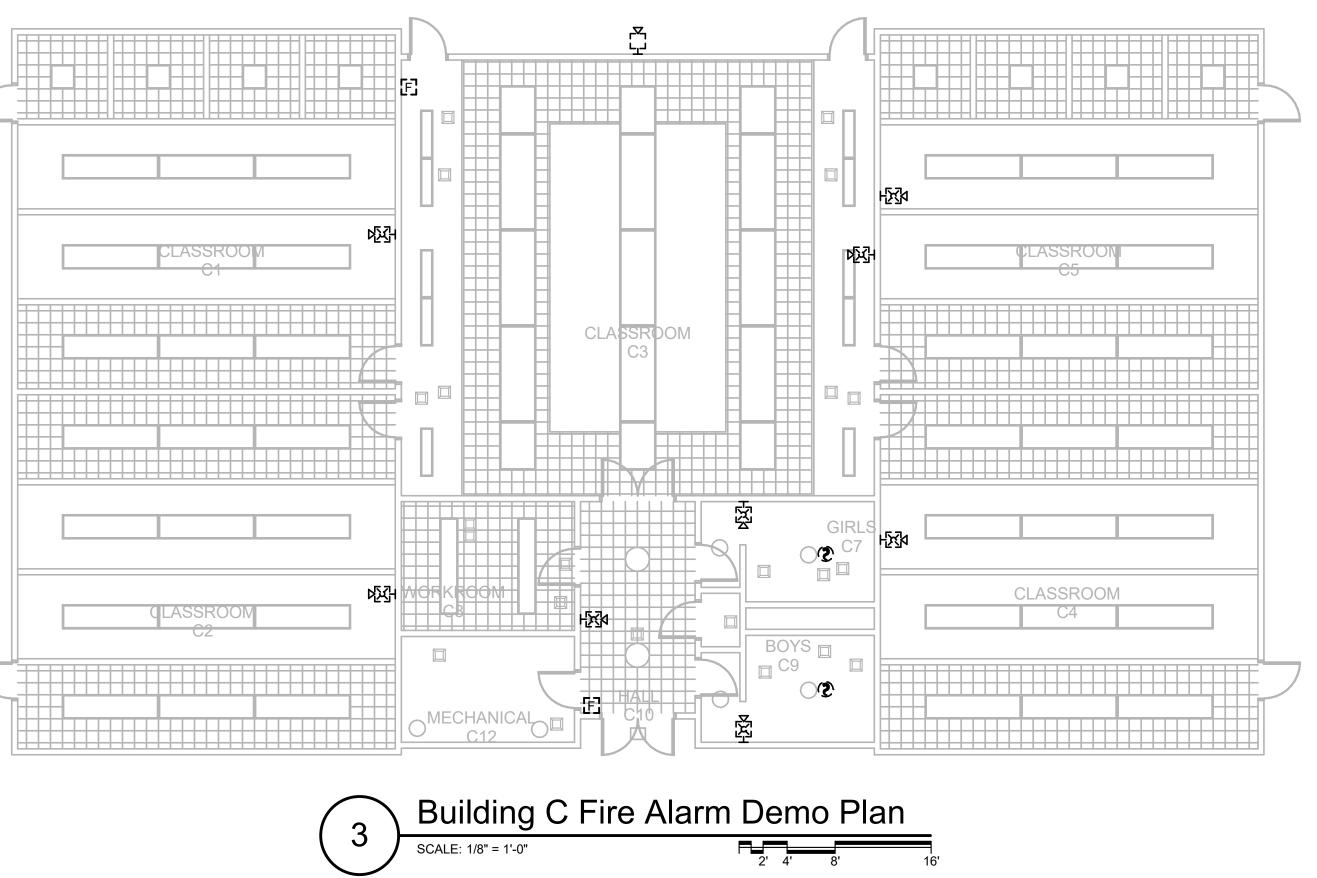
IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT         APP. 02-118025       INC: REVIEWED FOR         SS       FLS         APPL. # 02-1       DATE:         02/27/2020         REVIVEWED FOR         SS
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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242
REVISIONS
DESCRIPTION     DATE
DESIGNER:Designer
SCALE: 1/32" = 1'-0" DATE:2019.12.20 TITLE: FIRE ALARM DEMO PLAN - SITE PLAN
DRAWING NO. ED1.00







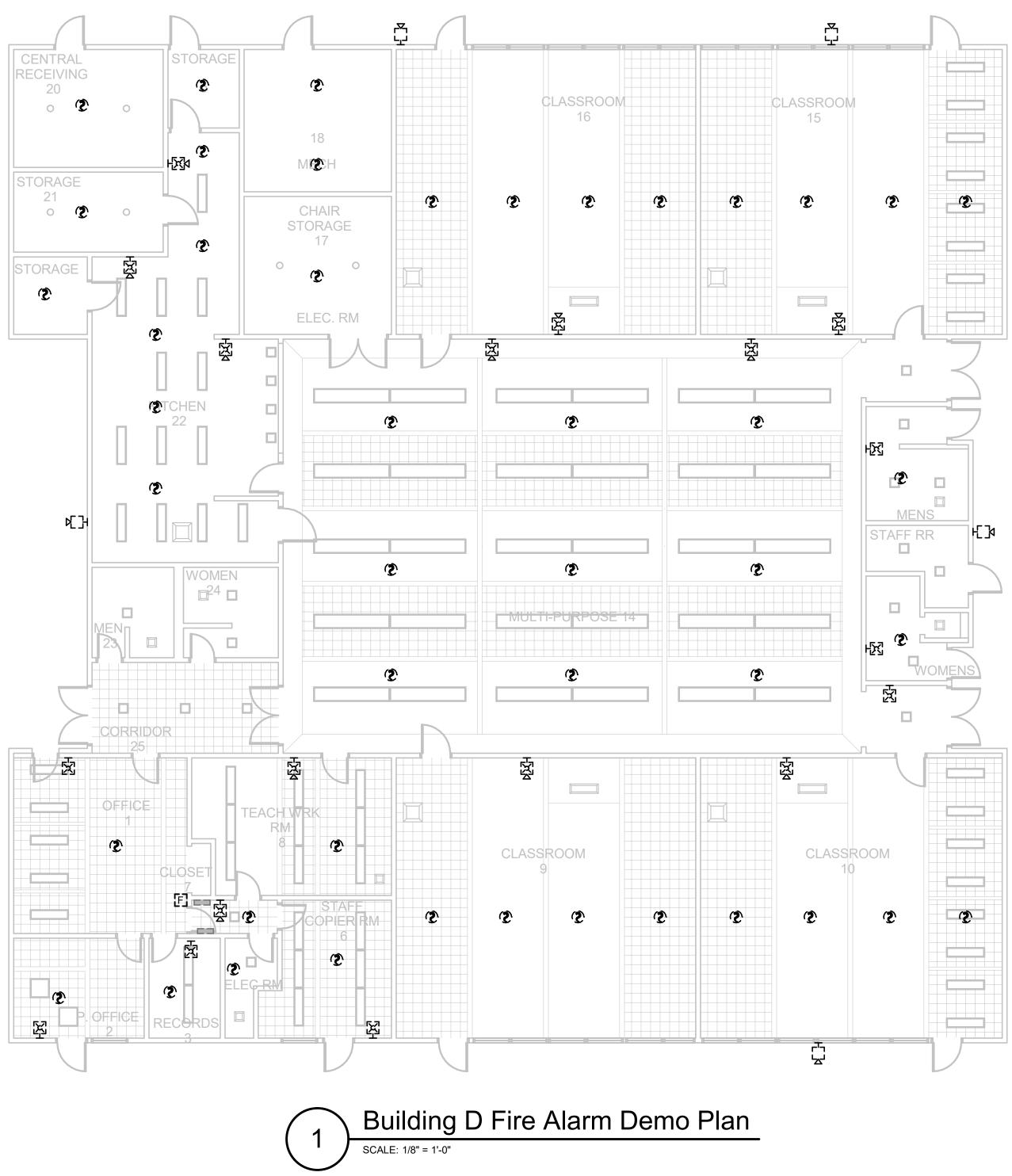


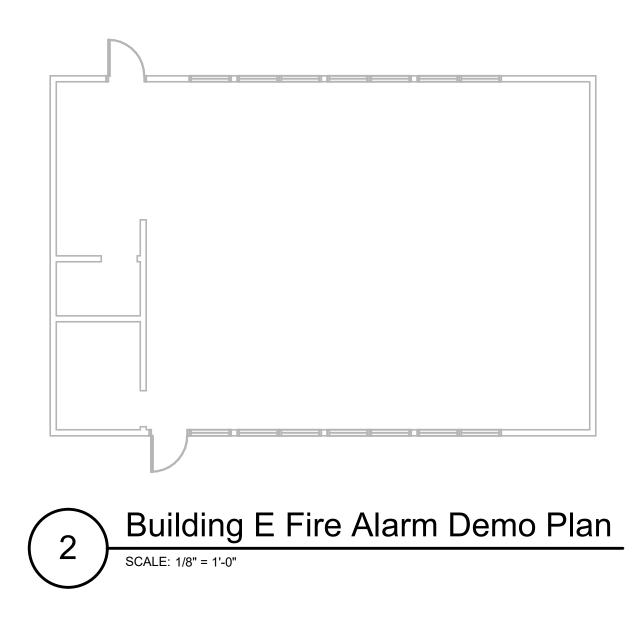


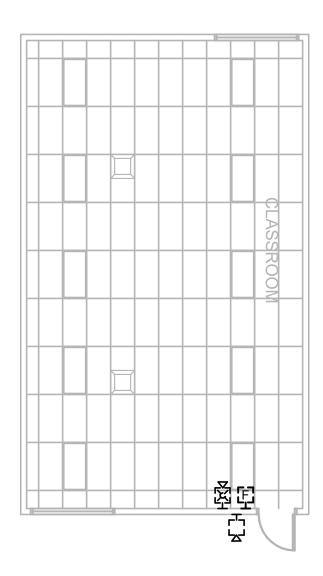
# GENERAL SHEET NOTES

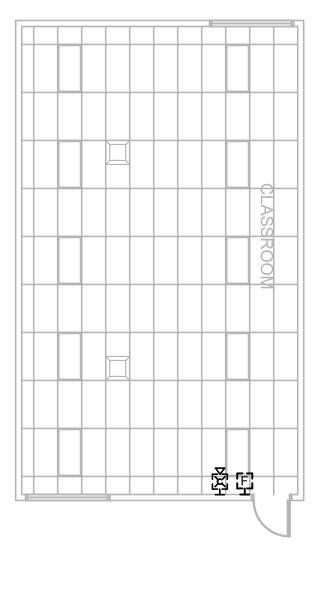
- A. TO REMOVE ALL UNUSED DEVICES, CIRCUITRY AND CONDUIT BACK TO SOURCE.
- B. WHEN A DEVICE IS REMOVED FROM AN EXISTING WALL WHICH WILL REMAIN, PATCH WALL TO MATCH EXISTING OR NEW FINISH.
- C. WHERE EXISTING FIRE ALARM DEVICES ARE TO BE REMOVED, THE CONTRACTOR SHALL ALSO REMOVE ALL CONDUCTORS SERVING THE DEVICE. ABANDONED CONDUITS AND BOXES CAN BE RE-USED TO PULL NEW CONDUCTORS THROUGH FOR SERVICE DEVICES DOWN STREAM. DO NOT SPLICE IN ABANDONED DEVICE BOXES.
- D. REMOVE ALL UNUSED FIRE ALARM CONTROL PANELS, BOOSTER PANELS AND REMOTE ANNUNCIATORS.

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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242	
REVISIONS	
DESCRIPTION DATE	
DESIGNER:Designer SCALE: 1/8" = 1'-0"	
DATE:2019.12.20	
TITLE: FIRE ALARM DEMO PLAN - A, B & C	
DRAWING NO.	
ED1.01	









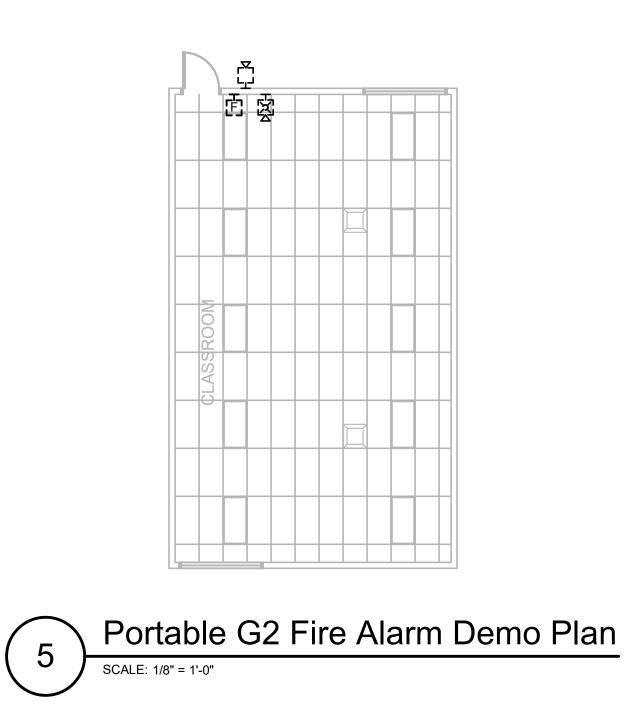


Portable F Fire Alarm Demo Plan SCALE: 1/8" = 1'-0"



# GENERAL SHEET NOTES

- A. TO REMOVE ALL UNUSED DEVICES, CIRCUITRY AND CONDUIT BACK TO SOURCE.
- B. WHEN A DEVICE IS REMOVED FROM AN EXISTING WALL WHICH WILL REMAIN, PATCH WALL TO MATCH EXISTING OR NEW FINISH.
- C. WHERE EXISTING FIRE ALARM DEVICES ARE TO BE REMOVED. THE CONTRACTOR SHALL ALSO REMOVE ALL CONDUCTORS SERVING THE DEVICE. ABANDONED CONDUITS AND BOXES CAN BE RE-USED TO PULL NEW CONDUCTORS THROUGH FOR SERVICE DEVICES DOWN STREAM. DO NOT SPLICE IN ABANDONED DEVICE BOXES.
- D. REMOVE ALL UNUSED FIRE ALARM CONTROL PANELS, BOOSTER PANELS AND REMOTE ANNUNCIATORS.



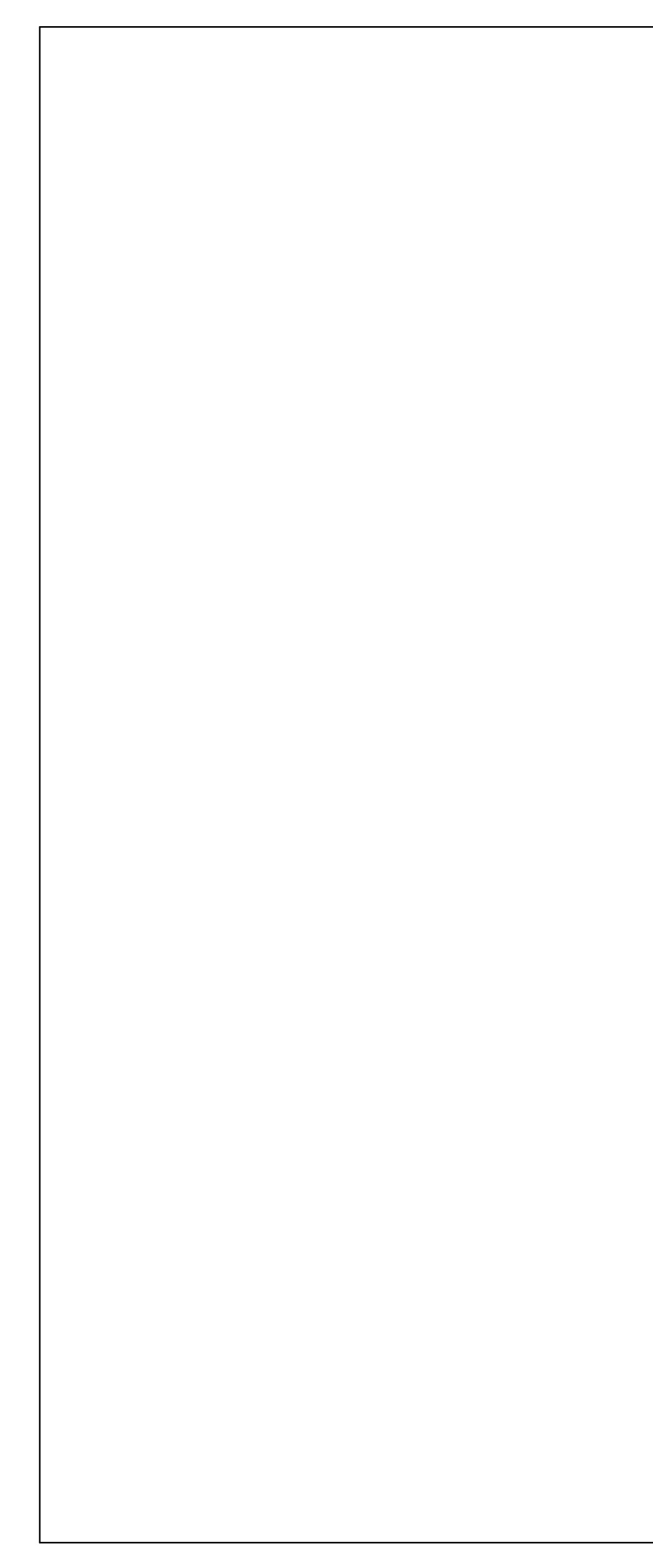
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Lakewood Elementary School 1100 N Ham Ln, Lodi, CA 95242	
REVISIONS	
DESCRIPTION DESIGNER:Designer	DATE
SCALE: 1/8" = 1'-0"	
DATE:2019.12.20 TITLE:	
FIRE ALARM DEMO PLAN - D, E & PORTABLES F, G1 & G2 DRAWING NO.	
ED1.02	

#### VINEWOOD ELEMENTARY SCHOOL 1600 W. Tokay St., Lodi, CA 95242 FIRE ALARM REPLACEMENT PROJECT CODE INFORMATION PROVIDE THE INTENT OF THE CONSTRUCTION DOCUMENTS IS REPLACE EQUIPMENT IN VOICE AMI ACCORDANCE WITH THE CBC 2016. SHOULD ANY CONDITION DEVELOP NOT AND MONIT COVERED BY THE CONSTRUCTION DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE CBC 2016, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. ANCHORAGE AND SUPPORTS OF ALL EQUIPMENT TO BE INSTALLED, AS A PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS EXCEPT THOSE EXEMPT BY 2016 CBC SECTION 1616A.1.18. EQUIPMENT SUPPORTS AND ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE THIS PROJ DESIGN PROFESSIONAL OF RECORD AND DSA AS A PART OF FIELD NOTIFICAT REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD (IOR) SHALL ASSURE NEW GAM THAT THE ABOVE REQUIREMENTS ARE ENFORCED. ALL EXISTI ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PATHWAY APPLICABLE REGULATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: CABLE ABO 48" WITH 、 2016 CALIFORNIA ADMINISTRATIVE CODE (CAC) PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR) NEW DEVIC 2016 CALIFORNIA BUILDING CODE (CBC) ARE LOCAT PART 2, TITLE 24, CCR DEVICE BOX BASED ON THE 2015 INTERNATIONAL BUILDING CODE (IBC) DEMOLISH 2016 CALIFORNIA ELECTRICAL CODE (CEC) PART 3, TITLE 24, CCR ALL CABLE BASED ON THE 2014 NATIONAL ELECTRICAL CODE (NEC) THIS PROJ 2016 CALIFORNIA MECHANICAL CODE (CMC) DEVICES. PART 4, TITLE 24, CCR BASED ON THE 2015 UNIFORM MECHANICAL CODE (UMC) FIRE ALARM 2016 CALIFORNIA PLUMBING CODE (CPC) IDC: CLASS PART 5, TITLE 24, CCR SLC CIRCUI BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC) NOTIFICATI 2016 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2015 INTERNATIONAL FIRE CODE (IFC) 2016 NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE COMPLIANCE WITH 2016 CALIFORNIA FIRE CODE, CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION. DSA ANCHORAGE AND BRACING NOTES NIA ELI S FOR THE T INSF N SYS

FIRE ALARM SCOPE OF WORK	PROJECT TEA
A MANUALLY AND AUTOMATICALLY ACTIVATED FIRE ALARM SYSTEM INCLUDING FACP, IPLIFIERS, POWER SUPPLIES, ANNOUNCING MICROPHONE, INITIATION, NOTIFICATION, CONTROL ITORING DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS.	OWNERELLODI UNIFIED SCHOOL DISTRICTTH1305 E. VINE ST.112LODI, CA 95240AU
FIRE ALARM DESCRIPTION	CONTACT: LEONARD KAHN (209)331-7225 CO E-MAIL CONTACT: VBRUM@LODIUSD.NET FA
JECT IS TO REPLACE THE EXISTING FIRE ALARM PANELS, INITIATING DEVICES, TION DEVICES, MODULES, POWER SUPPLIES AND REMOTE ANNUNCIATOR PANEL WITH A IEWELL E3 FIRE ALARM SYSTEM WITH EMERGENCY VOICE EVACUATION. INIG PATHWAY WILL BE RE-USED WHERE POSSIBLE AND NEW WHERE REQUIRED. NEW WILL BE PROVIDED IN AREAS WHERE CABLE CAN NOT BE CONCEALED ABOVE CEILING. INVE CEILING WHEN NOT IN EXISTING CONDUIT WILL BE FREE AIR AND SUPPORTED EVERY JHOOKS, PAINTED RED. INCE BOXES WILL BE REQUIRED AT ALL NEW DEVICES. WHERE EXISTING DEVICE BOXES ATED AND A DEVICE IS NOT REQUIRED, THEN PROVIDE COVER PLATES. REMOVE EXISTING OXES WHEN ADDING A NEW DEVICE. I ALL OLD CABLE, FIRE ALARM COMPONENTS AND BACK BOXES FROM SITE. I E AND COMPONENTS WILL BE NEW. JECT IS TO REPLACE EXISTING FIRE ALARM HEAD END UNIT AND ALL ASSOCIATED IN SYSTEM: CLASS B IS B UIT: CLASS B ITON CIRCUIT: CLASS B	
DEFERRED APPROVALS	NOTES
N/A	<ol> <li>THE FIRE ALARM SYSTEM SHALL CONFORM TO 2016 CALIFORNIA E 760 AND 2016 CALIFORNIA FIRE CODE (CFC) SECTION 907.</li> <li>PROVIDE CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FO SYSTEM INCLUDING MANUFACTURER CUT SHEETS FOR REVIEW.</li> <li>BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION THI SHALL FURNISH A WRITTEN STATEMENT TO THE DSA PROJECT INS THE SYSTEM HAS BEEN INSTALLED AND TESTED IN ACCORDANCE SECTION 14.4.1.</li> <li>UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SY OF THE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE DSA P</li> <li>PROVIDE A RECORD OF COMPLETION PER CBC 907.7.2.</li> <li>AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, S SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED I THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OR THE REQUIREMENTS OF FM STANDARD 3011.</li> <li>TEST, INSPECTION AND MAINTENANCE SHALL COMPLY WITH NFPA</li> <li>EACH BUILDING TO BE A SEPARATE SPEAKER ZONE. (CFC, 907.6.3).</li> <li>THE EXISTING SYSTEM SHALL REMAIN IN SERVICE UNTIL THE NEW S A FIRE WATCH IN COMPLIANCE WITH THE CALIFORNIA FIRE CODE V</li> </ol>

M		ELECTRICAL SH	HEET INDEX	
ELECTRICAL ENGINEER:			Z	MENT
HE ENGINEERING ENTERPRISE 125 HIGH ST.				SCHEMATIC DESIGN DESIGN DEVELOPMENT
JBURN, CA 95603				SIGN D
ONTACT: SCOTT WHEELER: 530-305-927-5784 AX: 530-886-8557	SHEET NO. G0.00	SHEET COVER SHEET		
/AIL: SCOTT@ENGENT.COM	E0.00 E0.01	FIRE ALARM SYMBOLS, NOTES, AND MATRIFIRE ALARM MATRIX, SCHEDULE & NOTES	IX	
ONTACT: JESSE WHEELER: 530-927-5630	E1.00 E2.00	SITE PLAN FIRE ALARM PLAN - NEW A, NEW B & PORT/	ABLES 1-4	
.X: 530-886-8557 1AIL: JESSE.WHEELER@ENGENT.COM	E2.01 E3.00 E4.01	FIRE ALARM PLAN - ADMIN, D, E, & FFIRE ALARM RISERFIRE ALARM CALCULATIONS		
	ED1.00 ED1.01	FIRE ALARM DEMO PLAN - SITE PLAN FIRE ALARM DEMO PLAN - NEW A, NEW B &	PORTABLES 1-4	
	ED1.02	FIRE ALARM DEMO PLAN - A, D, E, & F		
ELECTRICAL CODE (CEC) ARTICLE				
ELECTRICAL CODE (CEC) ARTICLE				
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OR EACH COMPONENT OF THE IE INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT E WITH THE (2016) NFPA 72 YSTEM, A SATISFACTORY TEST				
OR EACH COMPONENT OF THE E INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 (STEM, A SATISFACTORY TEST		EXISTING BUIL	DING DATA	
OR EACH COMPONENT OF THE IE INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 YSTEM, A SATISFACTORY TEST PROJECT INSPECTOR. SUPERVISORY AND TROUBLE		EXISTING BUILDING SQUARE FOOTAGE:	<section-header><section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>	
OR EACH COMPONENT OF THE E INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 (STEM, A SATISFACTORY TEST PROJECT INSPECTOR. SUPERVISORY AND TROUBLE BY NFPA 72 AND CBC 907.6.5.2.				
DR EACH COMPONENT OF THE HE INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 YSTEM, A SATISFACTORY TEST PROJECT INSPECTOR. SUPERVISORY AND TROUBLE BY NFPA 72 AND CBC 907.6.5.2. A UUIS BY UL OR SHALL MEET	occ	PUS BUILDING SQUARE FOOTAGE:	35,006	
OR EACH COMPONENT OF THE E INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 YSTEM, A SATISFACTORY TEST PROJECT INSPECTOR. SUPERVISORY AND TROUBLE BY NFPA 72 AND CBC 907.6.5.2. UUIS BY UL OR SHALL MEET	OCC	PUS BUILDING SQUARE FOOTAGE: UPANCY GROUP:	35,006 E: K-6	
OR EACH COMPONENT OF THE E INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 (STEM, A SATISFACTORY TEST ROJECT INSPECTOR. SUPERVISORY AND TROUBLE BY NFPA 72 AND CBC 907.6.5.2. UUIS BY UL OR SHALL MEET	OCC FIRE YEAF	PUS BUILDING SQUARE FOOTAGE: UPANCY GROUP: SPRINKLER:	35,006 E: K-6 BLDGS., NONE	
OR EACH COMPONENT OF THE E INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 (STEM, A SATISFACTORY TEST PROJECT INSPECTOR. SUPERVISORY AND TROUBLE BY NFPA 72 AND CBC 907.6.5.2. UUIS BY UL OR SHALL MEET A 72 CHAPTER 14 REQUIREMENTS.	OCC FIRE YEAF	PUS BUILDING SQUARE FOOTAGE: UPANCY GROUP: SPRINKLER: R CONSTRUCTED:	35,006 E: K-6 BLDGS., NONE 1966	
OR EACH COMPONENT OF THE E INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 'STEM, A SATISFACTORY TEST PROJECT INSPECTOR. SUPERVISORY AND TROUBLE BY NFPA 72 AND CBC 907.6.5.2. UUIS BY UL OR SHALL MEET A 72 CHAPTER 14 REQUIREMENTS.	OCC FIRE YEAF	PUS BUILDING SQUARE FOOTAGE: UPANCY GROUP: SPRINKLER: R CONSTRUCTED:	35,006 E: K-6 BLDGS., NONE 1966	
OR EACH COMPONENT OF THE E INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT WITH THE (2016) NFPA 72 'STEM, A SATISFACTORY TEST 'ROJECT INSPECTOR. SUPERVISORY AND TROUBLE BY NFPA 72 AND CBC 907.6.5.2. UUIS BY UL OR SHALL MEET	OCC FIRE YEAF	PUS BUILDING SQUARE FOOTAGE: UPANCY GROUP: SPRINKLER: R CONSTRUCTED:	35,006 E: K-6 BLDGS., NONE 1966	
OR EACH COMPONENT OF THE IE INSTALLING CONTRACTOR SPECTOR TO THE EFFECT THAT	OCC FIRE YEAF	PUS BUILDING SQUARE FOOTAGE: UPANCY GROUP: SPRINKLER: R CONSTRUCTED:	35,006 E: K-6 BLDGS., NONE 1966	

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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242	
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<b>SIGNER:</b> Designer <b>ALE:</b> 12" = 1'-0"	
<b>TE:</b> 2019.12.20	
AWING NO. G0.00	



	SYMMBOLS LIST							
			ABBREV	ΙΑΤΙΟ	DNS			
	FIRE ALARM	А	AMPERES	LCP	LIGHTING CONTROL PANEL			
0	SMOKE DETECTOR INITIATING DEVICE, CEILING MOUNTED IN FLUSH OR SURFACE	AFI AF	ARC FAULT CIRCUIT INTERRUPTER	MBGB MCB	MAIN BUILDING GROUND BUS MAIN CIRCUIT BREAKER			
	JUNCTION BOX. SMOKE DETECTOR INITIATING DEVICE, WALL MOUNTED IN FLUSH JUNCTION BOX,		(WHEN APPLIED TO CIRCUIT BREAKERS) OR AMPERE FUSE SIZE	MCC	MAIN CIRCOTT BREAKER			
₽ 	MAXIMUM 6" BELOW CEILING.	AFF	(WHEN APPLIED TO FUSES) ABOVE FINISHED FLOOR	MLO	MAIN LUGS ONLY			
2	SMOKE DETECTOR INITIATING DEVICE, MOUNTED TO STRUCTURE ABOVE SUSPENDED CEILING IN SURFACE JUNCTION BOX OR SUSPENDED IN JUNCTION BOX IN FRONT OF RETURN AIR FIRE/SMOKE DAMPERS.	AIC	ASYMMETRIC INTERRUPTING CURRENT	MT MTS				
<b>₽</b> -	SMOKE DETECTOR INITIATING DEVICE, DUCT-MOUNTED TYPE WITH SAMPLING TUBE,	AL	ALUMINUM	(N)	MANUAL TRANSFER SWITCH			
+0+	LOCATED AT SUPPLY AIR FANS 2000cfm AND LARGER. SMOKE DETECTOR INITIATING DEVICE, IN-DUCT MOUNTED TYPE AT DUCTED SUPPLY	AT	AMPERE OVERCURRENT TRIP (WHEN APPLIED TO CIRCUIT BREAKERS)	NC	NORMALLY CLOSED			
	AIR FIRE/SMOKE DAMPERS. PROJECTED BEAM SMOKE DETECTOR INITIATING DEVICES TO INCLUDE	ATS	AUTOMATIC TRANSFER SWITCH	NF	NON-FUSED			
<ul><li>(2)</li><li>(2)</li><li>(3)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li><li>(4)</li></ul>	TRANSMITTER, RECEIVER AND REMOTE INDICATOR STATION, WALL MOUNTED IN FLUSH JUNCTION BOX BELOW BEAM DETECTOR AT +42" AFF. BEAM DETECTORS	BAS BPS	BUILDING AUTOMATION SYSTEM BOLTED PRESSURE CONTACT SWITCH	NIEC NO	NOT IN ELECTRICAL CONTRACT			
	ARE EITHER CEILING OR WALL MOUNTED 6" BELOW CEILING. HEAT DETECTOR INITIATING DEVICE, CEILING MOUNTED IN FLUSH OR SURFACE	С	CONDUIT	NTS	NOT TO SCALE			
	JUNCTION BOX.	CCTV	CLOSED CIRCUIT TELEVISION	OC	ON CENTER			
<b></b>	HEAT DETECTOR INITIATING DEVICE, WALL MOUNTED IN FLUSH JUNCTION BOX, MAXIMUM 6" BELOW CEILING.	CEC CL	CALIFORNIA ELECTRICAL CODE	OFCI	OWNER FURNISHED CONTRACTOR			
<b>I</b>	HEAT DETECTOR INITIATING DEVICE, MOUNTED TO STRUCTURE ABOVE SUSPENDED CEILING IN SURFACE JUNCTION BOX.		OR FUSE	PDZ	PRIMARY DAYLIGHT ZONE			
Ē	MANUAL PULL STATION INITIATING DEVICE, WALL MOUNTED AT +48" UON.	CP CT	CIRCULATION PUMP	PNL PQM	PANEL POWER QUALITY METER			
↔	SPRINKLER SYSTEM WATER FLOW SWITCH, NIEC. SYMBOL DENOTES INTERFACE FOR MONITORING CONNECTION FROM FIRE ALARM SYSTEM.	CU	COPPER	PT	POTENTIAL TRANSFORMER			
	SPRINKLER SYSTEM TAMPER SWITCH, NIEC. SYMBOL DENOTES INTERFACE FOR MONITORING CONNECTION FROM FIRE ALARM SYSTEM.	DF	DRINKING FOUNTAIN	PVC	POLYVINYL CHLORIDE			
	SPRINKLER SYSTEM POST INDICATING VALVE 'PIV', NIEC. SYMBOL DENOTES INTERFACE FOR MONITORING CONNECTION FROM FIRE ALARM SYSTEM. INCLUDE A	(E) EC	EXISTING TO REMAIN ELECTRICAL CONTRACTOR	(R) (RR)	EXISTING TO BE REMOVED			
	REMOTE MOUNTED ADDRESSABLE MONITORING MODULE AT PIV.	EC	EXHAUST FAN	(RR) SAD	SEE ARCHITECTURAL DRAWINGS			
SM	REMOTE MOUNTED SINGLE INPUT, ADDRESSABLE, MONITORING MODULE FOR INITIATING CIRCUIT CONNECTION.	EP	EXPLOSION PROOF	тс	TIME CLOCK			
DM	REMOTE MOUNTED DUAL INPUT, ADDRESSABLE, MONITORING MODULE FOR INITIATING CIRCUIT CONNECTION.	EPO		TP	TWISTED-PAIR			
CR	REMOTE MOUNTED PROGRAMMABLE CONTROL RELAY MODULE FOR ADDRESSABLE CONTROL.	EMT EWH	ELECTRICAL METALLIC TUBING	SDZ SPD	SECONDARY DAYLIGHT ZONE SURGE PROTECTION DEVICE			
DPS	DIFFERENTIAL PRESSURE SWITCH, NIEC. SYMBOLS DENOTES INTERFACE FOR MONITORING CONNECTION FROM FIRE ALARM SYSTEM TO ANNUNCIATE FAN	F	FUSED	тх	TRANSFORMER			
	OPERATION. INCLUDE A REMOTE MOUNTED ADDRESSABLE MONITORING MODULE AT EACH LOCATION.	(F)	FUTURE	TYP	TYPICAL			
EOL	END-OF-LINE RESISTOR.	FACP FFCP	FIRE ALARM CONTROL PANEL	UON UPS	UNLESS OTHERWISE NOTED			
СТ	CURRENT TRANSFORMER FOR MONITORING AVAILABLE POWER.	FLA	FULL LOAD AMPERES	V	VOLTS			
FRAP	FIREMANS REMOTE ANNUNCIATOR PANEL FRAP, FLUSH WALL MOUNTED, +42" UON. MAGNETIC TYPE DOOR HOLD OPEN/RELEASE DEVICE, WALL MOUNTED, NIEC.	FMC	FLEXIBLE METAL CONDUIT	VA	VOLTS-AMPS			
	SYMBOL DENOTES INTERFACE FOR POWER AND CONTROL CONNECTIONS FROM FIRE ALARM SYSTEM.	FSD	FIRE/SMOKE DAMPER	VFD	VARIABLE FREQUENCY DRIVE			
D	DOOR HOLD OPEN/RELEASE DEVICE INTEGRATED IN DOOR HARDWARE CLOSURE EQUIPMENT, NIEC. SYMBOL DENOTES INTERFACE FOR POWER AND CONTROL	FRAP	FIREMAN'S REMOTE ANNUNCIATOR PANEL	VM WAP	VENDING MACHINE WIRELESS ACCESS POINT			
ļ	CONNECTIONS FROM FIRE ALARM SYSTEM. AUDIBLE NOTIFICATION APPLIANCE, WALL MOUNTED, 6" BELOW CEILING OR +80"	G GB	GROUND GROUND BUS	WP	WEATHERPROOF			
_	AFF, WHICHEVER IS LOWER. VISIBLE NOTIFICATION APPLIANCE, WALL MOUNTED, 6" BELOW CEILING OR +80" AFF,	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	2SP	TWO SPEED			
凶	WHICHEVER IS LOWER. NUMBER ASSOCIATED WITH 'cd' REPRESENTS CANDELA RATING OF STROBE.	GND	GROUND	1Ø 3Ø	1-PHASE 3-PHASE			
凶	AUDIBLE/VISIBLE NOTIFICATION APPLIANCE, WALL MOUNTED, 6" BELOW CEILING OR +80" AFF, WHICHEVER IS LOWER. NUMBER ASSOCIATED WITH 'cd' REPRESENTS	GRAP	GENERATOR REMOTE ANNUNCIATOR PANEL	1P	1-POLE			
ð	CANDELA RATING OF STROBE. AUDIBLE NOTIFICATION APPLIANCE, CEILING MOUNTED IN FLUSH BACK BOX.	GRC	GALVANIZED RIGID CONDUIT	2P	2-POLE			
8	VISIBLE NOTIFICATION APPLIANCE, CEILING MOUNTED IN FLUSH BACK BOX. NUMBER	HNC HPC	HOME NETWORK CABINET	3P 3W	3-POLE 3-WIRE			
<b>_</b>	ASSOCIATED WITH 'cd' REPRESENTS CANDELA RATING OF STROBE. AUDIBLE/VISIBLE NOTIFICATION APPLIANCE, CEILING MOUNTED IN FLUSH BACK BOX.	IG	ISOLATED GROUND	4W	4-WIRE			
ا ھ	NUMBER ASSOCIATED WITH 'cd' REPRESENTS CANDELA RATING OF STROBE.	IMC	INTERMEDIATE METAL CONDUIT					
Ê ₽	INSTALLED BY ELECTRICAL, WALL MOUNTED ON EXTERIOR OF BUILDING.		APPLIA	ANCES				
<u>₽</u>	THERMISTOR SENSOR DEVICE IN FSAE LOBBIES FOR TEMPERATURE MONITORING, WALL MOUNTED 6" BELOW CEILING.	DO	DOUBLE OVEN	MW	MICROWAVE			
$\odot$	SMOKE ALARM FOR RESIDENTIAL DWELLING UNITS, NON-ADDRESSABLE, 120V DEVICE WITH BATTERY BACK-UP, CEILING MOUNTED IN FLUSH OR SURFACE	DW ED	DISHWASHER ELECTRIC DRYER	RF RH	REFRIGERATOR RANGE HOOD			
Ŷ	JUNCTION BOX. SMOKE ALARM FOR RESIDENTIAL DWELLING UNITS, NON-ADDRESSABLE, 120V	EO	ELECTRIC OVEN/RANGE	UR	UNDERCOUNTER REFRIGERATOR			
	DEVICE WITH BATTERY BACK-UP, WALL MOUNTED MAXIMUM 6" BELOW CEILING IN FLUSH JUNCTION BOX.	GD	GARBAGE DISPOSER	WC	WINE COOLER			
€	COMBINATION SMOKE AND CARBON MONOXIDE ALARM FOR RESIDENTIAL DWELLING UNITS, NON-ADDRESSABLE, 120V DEVICE WITH BATTERY BACK-UP, CEILING MOUNTED IN FLUSH OR SURFACE JUNCTION BOX.	GR	GAS RANGE	WM	WASHING MACHINE			
c₽	COMBINATION SMOKE AND CARBON MONOXIDE ALARM FOR RESIDENTIAL DWELLING UNITS, NON-ADDRESSABLE, 120V DEVICE WITH BATTERY BACK-UP, WALL		RACE					
 수	MOUNTED MAXIMUM 6" BELOW CEILING IN FLUSH JUNCTION BOX.		CONDUIT RUN EXPOSED ON WA     CONDUIT RUN CONCEALED IN S					
	REMOTE 2-WAY COMMUNICATION STATION, WALL MOUNTED, +42" AFF.		CONDUIT RUN CONCEALED IN W					
	FIRE ALARM SYSTEM DESCRIPTION	l	CONDUIT HOMERUN, CONTINUC HOMERUN CAN OCCUR ON ANY		O PANEL OR EQUIPMENT CABINET. BOVE ROUTING CONDITIONS.			
		-		UR ON AN	NY OF THE ABOVE ROUTING			
GAMEWEL	THIS PROJECT IS TO REPLACE THE EXISTING FIRE ALARM SYSTEM WITH A NEW L VOICE EVACUATION SYSTEM. ALL EXISTING PATHWAY, AND DEVICE BOXES RELISED WHERE DOSSING FOR WATHWAY WILL BE DROVIDED IN AREAS WHERE		CONDUIT TURNED DOWN, CAN	OCCUR OI	N ANY OF THE ABOVE ROUTING			
CABLE CA EXISTING	REUSED WHERE POSSIBLE. NEW PATHWAY WILL BE PROVIDED IN AREAS WHERE N NOT BE CONCEALED ABOVE CEILING. CABLE ABOVE CEILING WHEN NOT IN CONDUIT WILL BE FREE AIR. NEW DEVICE BOXES WILL BE PROVIDED WHERE THE		CONDITIONS.	WITH INS	ULATED BUSHINGS, CAN OCCUR ON			
EXISTING LOCATION	BACK BOXES CAN NOT BE RE-USED OR ARE NOT LOCATED IN THE PROPER OF THE NEW DEVICE. ALL SPEAKER CABLE AND COMPONENTS WILL BE NEW.TX IECT IS TO REPLACE EXISTING FIRE ALARM CONTROL UNIT AND DEVICES AS SHOWN		ANY OF THE ABOVE ROUTING C	ONDITION	S.			
ON PLANS			────────────────────────────────────					
			CROSSMARKS ON BRANCH CIRC CONDUCTORS AS FOLLOWS (GF	CUIT CONI ROUND CO	DUIT RUNS INDICATE THE QUANTITY OF ONDUCTORS ARE NOT NOTED, BUT			
			SHOULD BE INCLUDED IN EVER		,			
IDC: CLAS	M SYSTEM: CLASS B S B JIT: CLASS B		<ol> <li>THREE TO SIX CROSSMARKS CONDUCTORS, UON.</li> <li>SEVEN OR MORE CROSSMA</li> </ol>	S INDICAT	ES THE QUANTITY OF #12 AWG			
	TON CIRCUIT: CLASS B		AWG CONDUCTORS, UON.					

# 

TWO PIECE SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS NOTED ON PLANS. CABLE TRAY, CABLE RUNWAY OR LADDER RACK SUSPENDED FROM STRUCTURE ABOVE. REFER TO PLANS FOR SIZE AND MOUNTING.

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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242	
REVISIONS	
DESCRIPTION     DATE	
DESIGNER:Designer	
SCALE:	
DATE:2019.12.20 TITLE: FIRE ALARM SYMBOLS, NOTES, AND MATRIX DRAWING NO.	
E0.00	

### FIRE ALARM SYSTEM MATRIX

RESULT OF OPERATION	51	OKE CO	a shote DE	ECTOR AT DETECT	OR STATION	5 <sup>11</sup> DU	5.c108	HELTOR 5	ISTEM RES	EI SHET	N <sup>SHORT</sup>
FACP ALARM	X		x	x	X		X				
ANNUNCIATE ALARM	х		х	х	Х		Х				
OFF SITE REPORTING ALARM	x		x	x	х		x				
FACP TROUBLE										x	x
ANNUNCIATE TROUBLE										X	x
OFF SITE REPORTING TROUBLE										Х	Х
UDIBLE ALARM	X		х	х	х		х				
ISUAL ALARM	х		х	х	х		х				
ACP SUPERVISORY		х				х					
NNUNCIATE SUPERVISORY		х				х					
FF SITE REPORTING SUPERVISORY		х				х					
DUNDER BASE		х									
EACTIVATE VISUALS									x		
EACTIVATE AUDIBLES									x		
YSTEM NORMAL								Х			
VAC SHUTDOWN						x					
AMPER CLOSURE						x					
OLL DOWN DOOR							x				
JDIO RACK SHUTDOWN	X		X	x	x		x				

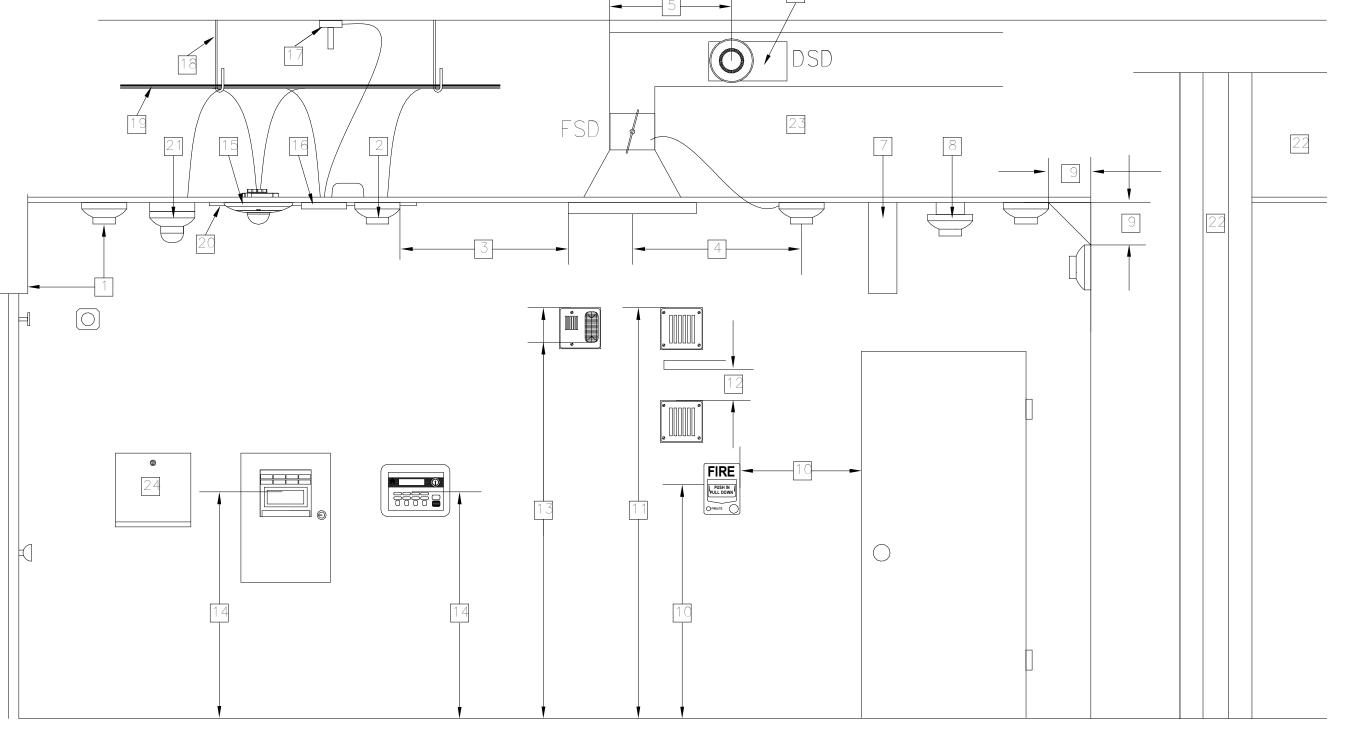
#### FIRE ALARM SYSTEM CABLE SCHEDULE

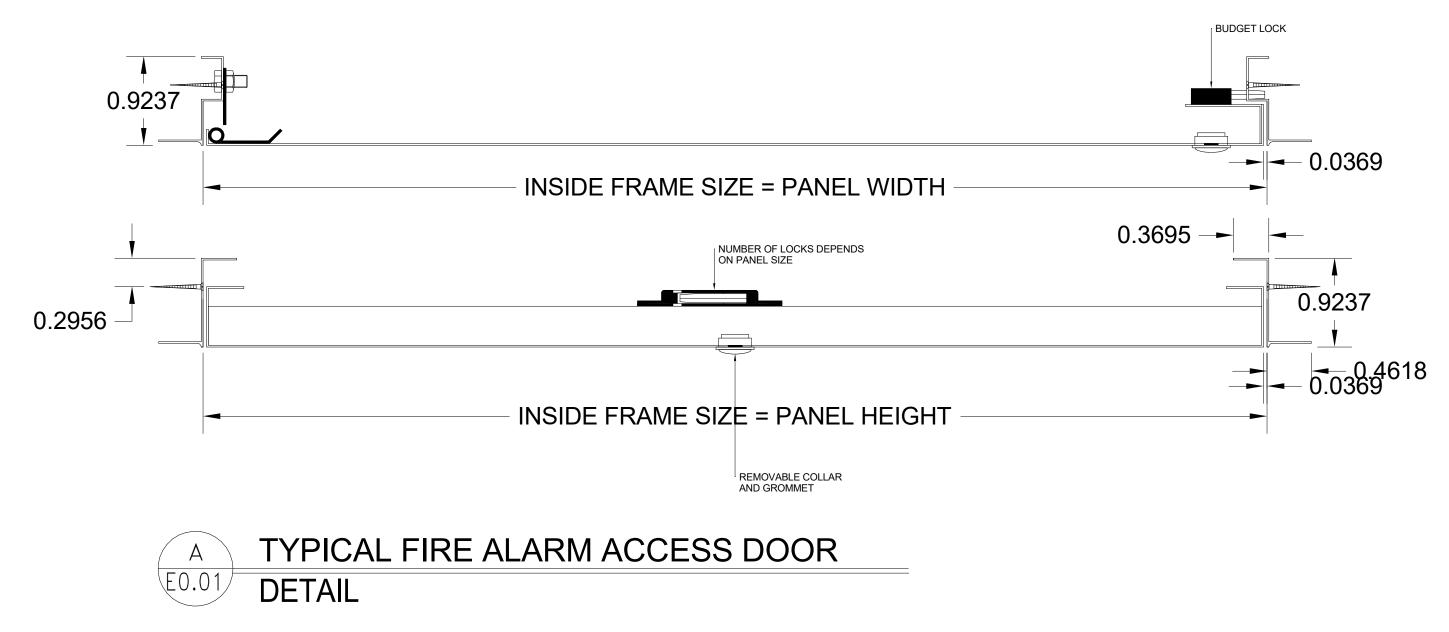
	REQUIRED CABLES	CABLE TAG	CABLE	NO. OF CONDUCTORS	COLOR	AWG	CABLE USE
-	Х	A	GENESIS	2(1PR)	RED/BLACK	#18	BUILDING INITIATION (S
-	Х	В	GENESIS	2(1PR)	RED/BLACK	#12	NOTIFICATION (NAC)
	Х	S	GENESIS	2(1PR)	RED/BLACK	#16	VOICE NOTIFICATION
	Х	F	GENESIS	2(1PR)	RED/BLACK	#12	24 VDC POWER
	N/A	С	AQUA SEAL	2(1PR)	RED/BLACK	#18	UG BUILDING INITIATIO
	N/A	D	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG NOTIFICATION (NAC
	N/A	E	AQUA SEAL	2(1PR)	RED/BLACK	#16	UG VOICE NOTIFICATIO
	N/A	G	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG 24 VDC POWER

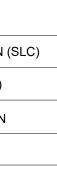
#	NUMBERED SHEET NOTES
1.	MOUNT DOOR HOLDER SMOKE DETECTOR MAXIMUM 3' FROM DOOR AND A MINIMUM OF 1'.
	MAXIMUM DISTANCE BETWEEN SMOKE DETECTORS IS 30' AND 15' FROM WALLS, MAXIMUM DISTANCE
	FROM A CORNER IS 21' WITH CEILING LESS 10' OR LESS.
	MOUNT SMOKE DETECTOR MINIMUM OF 3' AWAY FROM DIFFUSER VENT.
	MOUNT SMOKE DETECTOR FOR FIRE SMOKE DAMPER (FSD) WITHIN 3' OF SUPPLY VENT.
	DUCT SMOKE DETECTOR SHALL BE MOUNTED 6 TO 10 TIMES THE DIAMETER OF DUCT FROM BEND OR OBSTRUCTION.
	WHERE DUCT SMOKE DETECTORS ARE INSTALLED IN CONCEALED LOCATIONS OR GREATER THAN 10' AFF,
	DETECTORS SHALL BE PROVIDED WITH A REMOTE INDICATOR OR SUPERVISORY INDICATION ACCEPTABLE
	WITH AUTHORITY HAVING JURISDICTION (AHJ). ALL HVAC GREATER THAN 2000cfm SHALL HAVE A DUCT
	DETECTOR IN THE SUPPLY AIR DUCT. GREATER THAN 15,000cfm SHALL HAVE ONE IN BOTH SUPPLY AND
	RETURN AIR DUCTS. HOWEVER SHALL NOT BE REQUIRED WHERE THE ENTIRE SPACE SERVED BY THE AIR
	DISTRIBUTION SYSTEM IS PROTECTED BY SMOKE DETECTORS THAT TRIGGER HVAC SHUT-DOWN
	BEAM POCKET SPOT DETECTOR ARE REQUIRED FOR BEAMS GREATER THAN 18" BELOW CEILING AND
	SPACED MORE THAN 8' ON CENTER. EACH BAY FORMED BY BEAM SHALL BE TREATED AS A SEPARATE
	AREA. BEAMS LESS THAN 12" IN DEPTH AND SPACED LESS THAN 8' ON CENTER SHALL HAVE DETECTORS
	INSTALLED ON THE BOTTOM OF THE BEAM.
'.1.	OR, CEILINGS WITH BEAM DEPTHS LESS THAN 10 PERCENT OF THE CEILING HEIGHT, SMOOTH CEILING SPACING IS PERMITTED AND DETECTORS PLACED ON THE BOTTOM OF THE BEAM.
'.2.	BEAMS EQUAL TO OR GREATER THAN 10 PERCENT OF CEILING HEIGHT WITH BEAM SPACING GREATER THAN 40 PERCENT OF CEILING HEIGHT, SPOT DETECTORS SHALL BE LOCATED IN EACH CELL. NFPA 72 17.7.3.2.4.2
	BEAMS PROJECTING LESS THAN 4" SHALL BE TREATED AS A SMOOTH CEILING.
	SMOKE DETECTORS SHALL BE MOUNTED ON THE CEILING MINIMUM 4" FROM WALL, AND 4" MINIMUM TO 12"
	MAXIMUM FROM CEILING MOUNTED ON WALL.
	MOUNT MANUAL PULL STATIONS AT 48" TO TOP OF BOX AFF, AND NO GREATER THAN 5' FROM DOOR.
	MOUNT EXTERNAL HORN AT 90" MINIMUM AND 100" MAXIMUM TO THE TOP OF THE DEVICE.
	FOR APPLICATIONS WHERE THE STRUCTURE IS BELOW 90", MOUNT HORN AS HIGH AS WITH A MINIMUM OF
	6" CLEARANCE TO THE TOP OF THE DEVICE.
	MOUNT HORN / SPEAKER STROBE AND STROBE ONLY THE THE ENTIRE LENS IS WITHIN 80" AND 96" AFF.
	MOUNT FIRE ALARM CONTROL PANELS AND ANNUNCIATORS AT A MAXIMUM OF 60" TO THE TOP OF THE CONTROL PANEL OR KEY BOARDS. CBC 11B-308
	CEILING MOUNTED HORN / SPEAKER STROBE
	MONITOR MODULE
	RATE ANTICIPATOR HEAT DETECTOR, MOUNTED IN ABOVE CEILING / ATTIC SPACE.
	APPROVED WIRE MANAGEMENT, ie J-HOOK OR D-RING.
	ABOVE CEILING CIRCUITS ROUTING IN AN ACCESSIBLE ATTIC SPACE.
	NON-ACCESSIBLE CEILINGS MUST USE EITHER EMT OR APPROVED WIREMOLD RACEWAY, AS SHOWN ON
	PLANS.
•	MULTI-CRITERIA PHOTOELECTRIC SMOKE / CO DETECTOR WITH SOUNDER BASE. MOUNT IN AREAS
	WHERE FOSSIL FUEL IS USED.
	SMOKE / HEAT DETECTION COVERAGE IS REQUIRED IN ALL COMBUSTIBLE AREAS, UNLESS:
2.1	CONCEALED SPACE IS ENTIRELY FILLED WITH NON-COMBUSTIBLE INSULATION.
2.3	FACING STUD OR SOLID JOIST IS LESS THAN 6".
	INACCESSIBLE SPACES THAT DO NOT MEET THIS CRITERIA MUST BE MADE ACCESSIBLE AND DETECTION MUST BE INSTALLED. NFPA72 17.5.3.1.1
•	DETECTION FOR CONCEALED ACCESSIBLE SPACES ABOVE SUSPENDED CEILING USED AS A RETURN
	PLENUM SHALL BE PROVIDED AT EACH CONNECTION FROM RETURN AIR PLENUM AT CENTRAL AIR
	HANDLING UNIT. NFPA 72 17.5.3.1.4
	WITH EVERY NEW FIRE ALARM SYSTEM A DOCUMENTATION CABINET SHALL BE INSTALLED AT THE FIRE
	ALARM CONTROL PANEL OR AT ANOTHER LOCATION APPROVED BY AHJ. THE CABINET SHALL BE

PROMINENTLY LABELED "SYSTEM RECORD DOCUMENTS".

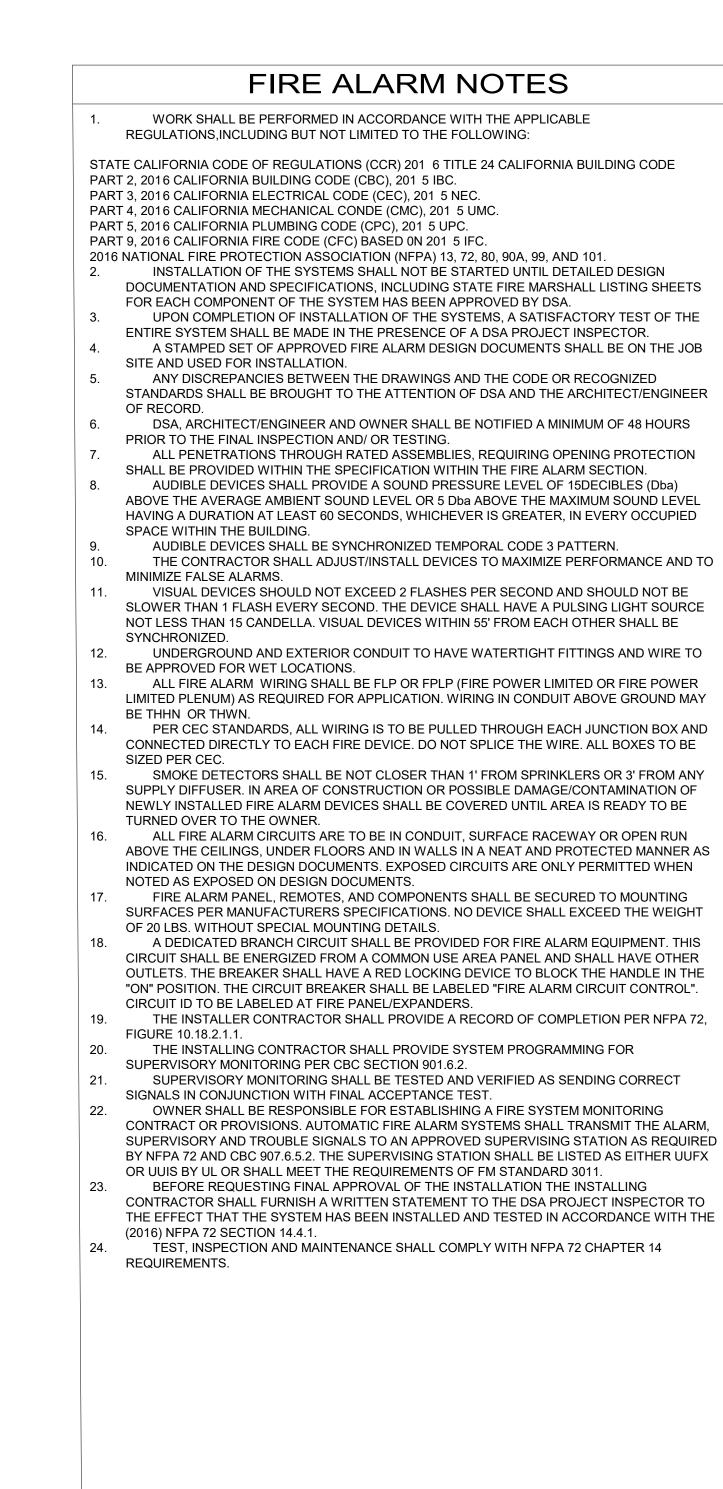
REQUIRED OMPONENTS	SYMBOL	EQUIPMENT/DEVICE	MANUFACTURER	MODEL / PART #	CSFM LISTING YEAR	CSFM LISTING NO.			
х	FACP	FIRE ALARM CONTROL PANEL	GAMEWELL	E-3	6/30/2020	7165-1703:0125			
х	AMP	AMPLIFIER	GAMEWELL	AM-50	6/30/2020	7165-1703:0125			
х	BPS	REMOTE POWER BOOSTER	GAMEWELL	HPF24-S8	6/30/2020	7315-1637:0102			
х	A D A	INTELLIGENT DUCT DETECTOR	GAMEWELL	XP95	6/30/2020	7272-1703:0155			
N/A	•	INTELLIGENT HEAT DETECTOR	GAMEWELL	ATD-L2F	6/30/2020	7270-1703:0115			
х	•	ATTIC HEAT DETECTOR	GAMEWELL	5622	6/30/2020	7270-1653:0167			
х	3	PHOTO SMOKE DETECTOR	GAMEWELL	ASD-PL3	6/30/2020	7272-1703:0501			
Х	٢	FIRE/CO DETECTOR WITH SOUNDER BASE	GAMEWELL SYSTEM SENSOR	MCS-COF B200S	6/30/2020 6/30/2020	7275-1703:0175 7300-1653:0213			
х	2 <sup></sup> 2 <sup>BR</sup>	BEAM DETECTOR	GAMEWELL	ABD-2F	6/30/2020	7260-1703:0120			
N/A	DM	DUAL MONITOR MODULE	GAMEWELL	AMM-2IF	6/30/2020	7300-1703:0107			
х	SM	MONITOR MODULE	GAMEWELL	AMM-4F	6/30/2020	7300-1703:0102			
х	IM	ISOLATION MODULE	GAMEWELL	M500X	6/30/2020	7300-1653:0103			
х	CR	CONTROL RELAY	GAMEWELL	AOM-2RF	6/30/2020	7300-1703:0102			
х	F	PULL STATION	GAMEWELL	MS-7	6/30/2020	7150-1703:0119			
Х	×	SPEAKER STROBE (CEILING)	SYSTEM SENSOR	SPSCWL	6/30/2020	7320-1653:0505			
Х	$\otimes$	STROBE (CEILING)	SYSTEM SENSOR	SCWL	6/30/2020	7125-1653:0504			
х		OUTDOOR SPEAKER	SYSTEM SENSOR	SPWK	6/30/2020	7320-1653:0201			
N/A	X	SPEAKER STROBE (WALL)	SYSTEM SENSOR	SPSW	6/30/2020	7320-1653:0201			
N/A	X	STROBE (WALL)	SYSTEM SENSOR	SW	6/30/2020	7125-1653:0156			
x	EOLR	END-OF-LINE RELAY	SYSTEM SENSOR	EOLR-1	6/30/2020	7300-1653:0103			
Х	DOC	DOCUMENT BOX	SPACE AGE TECH	SRD-ACE-11	6/30/2020	7300-0553:0110			







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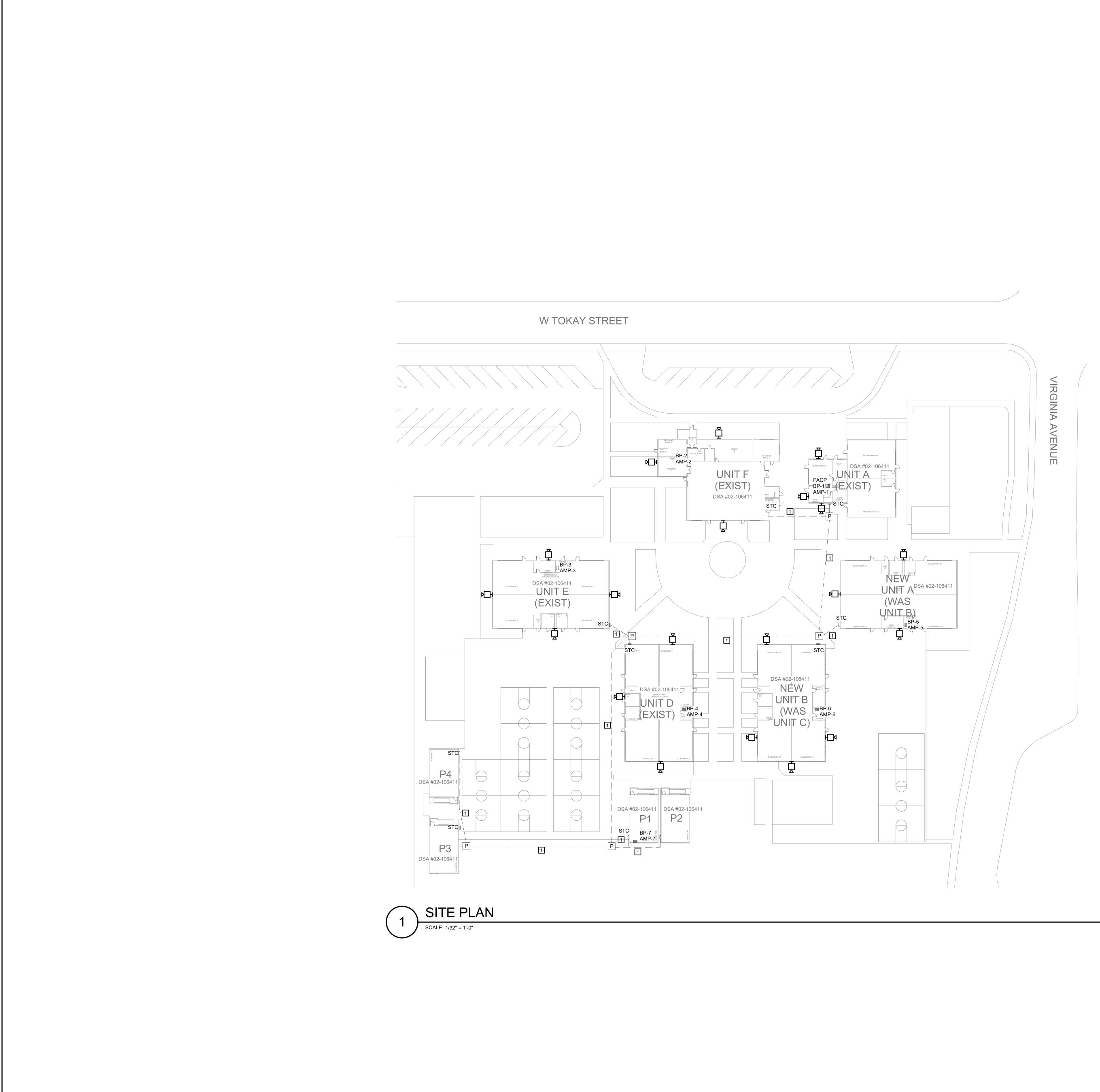


# FIRE ALARM SYSTEM DESCRIPTION

SCOPE OF THIS PROJECT IS TO PROVIDE A NEW FIRE ALARM PANEL WITH NEW VOICE EVACUATION PANEL, INCLUDING FACP, VOICE AMPLIFIERS, POWER SUPPLIES, MICROPHONE, INITIATION, NOTIFICATION AND CONTROL DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS. PROVIDE ALL NEW CABLING; CABLING SHALL BE INSTALLED IN CONDUIT OR SURFACE RACEWAY, OR EXPOSED IN ACCESSIBLE CEILING SPACE.

FIRE ALARM SYSTEM: CLASS B IDC: CLASS B SLC CIRCUIT: CLASS B NOTIFICATION CIRCUIT: CLASS B

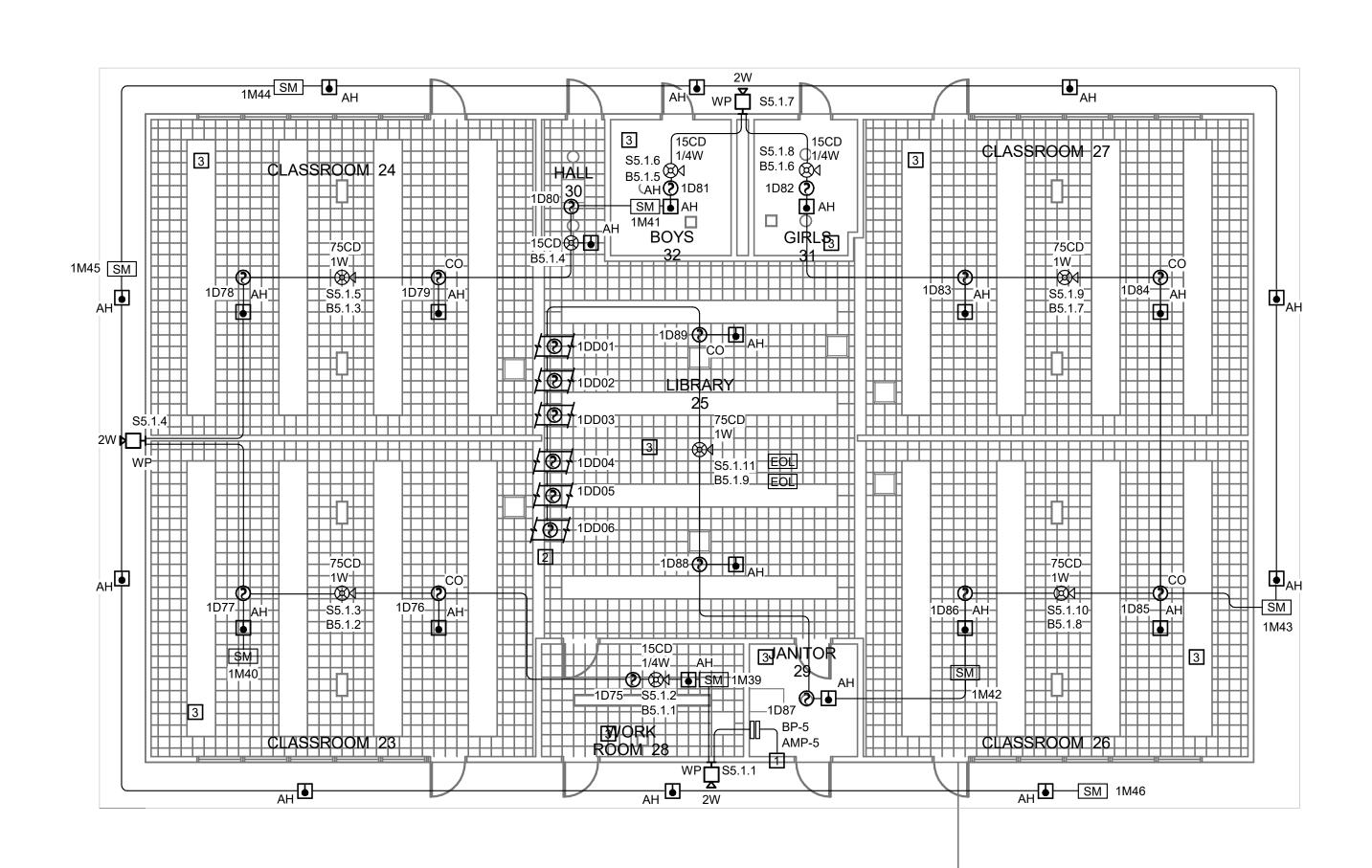
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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242
REVISIONS
DESCRIPTION DATE
DESIGNER:Designer
<b>SCALE</b> : 12" = 1'-0"
DATE:2019.12.20 TITLE:
FIRE ALARM MATRIX, SCHEDULE & NOTES
DRAWING NO. E0.01



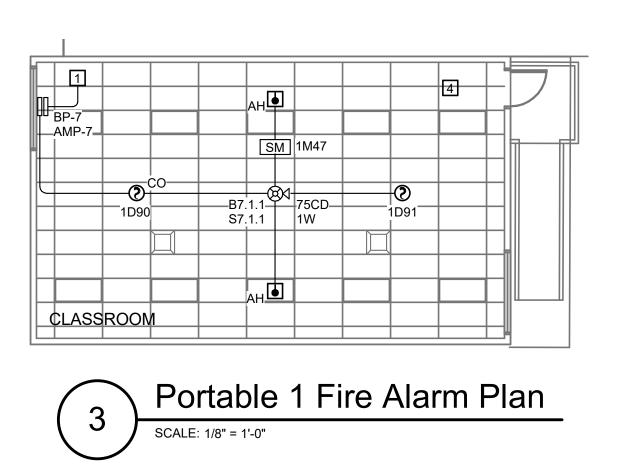
# NUMBERED SHEET NOTES

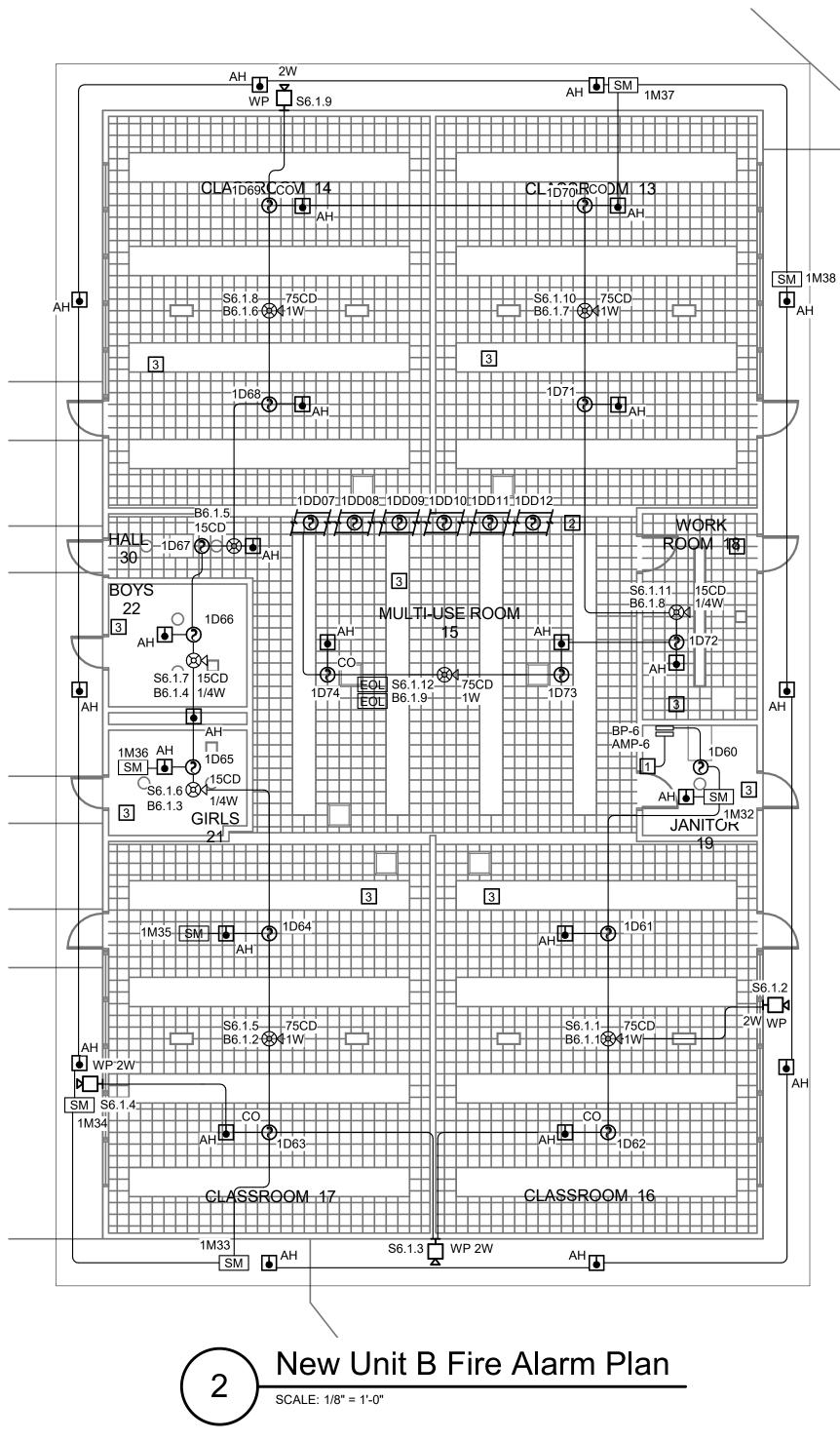
1 EXISTING PATHWAYS.

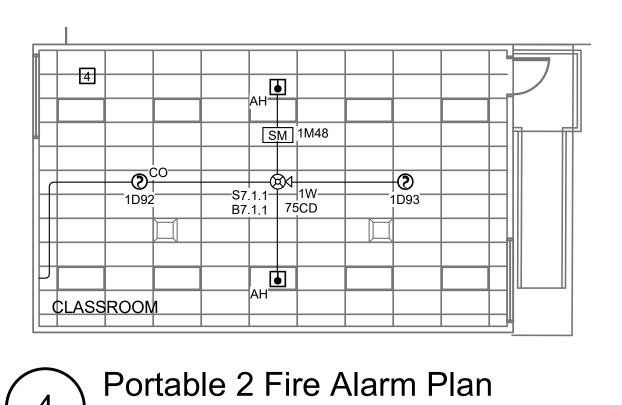
IDENTIFIC IDENTIFIC IDENTIFIC IV. OF THE STATE ARCHITEC APP. 02-118027 INC: REVIEWED FOR SS I FLS ACSI DATE: 02/28/2020 REVIVEWED FOR SSACS DATE:	ЕСТ
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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242	
REVISIONS	_
DESCRIPTION DAT	Ē
SIGNER:Designer	
ALE: 1/32" = 1'-0"	
TE:2019.12.20	
SITE PLAN	
AWING NO. E1.00	



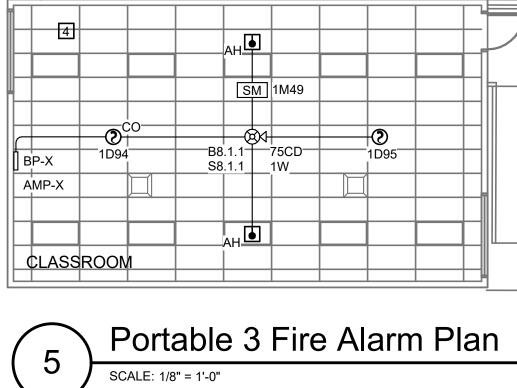
New Unit A Fire Alarm Plan SCALE: 1/8" = 1'-0"







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

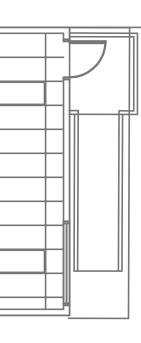


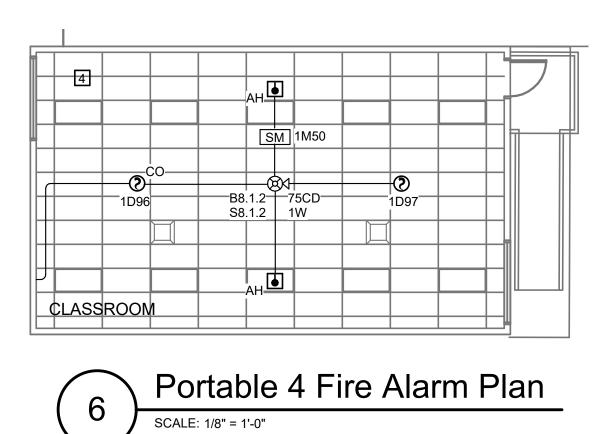
# GENERAL SHEET NOTES

- A. FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS. B. FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT
- SUPERVISION. COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT
- FIXTURES TO AVOID CONFLICTS. D. DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- . INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- F. ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE. G. ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX, FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE
- MANUFACTURES DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE. H. REFER TO E3.00 FOR RISER DIAGRAMS.
- CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
- THE FIRE ALARM SYSTEM WILL BE DEMOLISHED AND REPLACED TO THE CURRENT 2016 CFC. THE SYSTEM WILL BE A FULLY AUTOMATIC SYSTEM WITH EMERGENCY VOICE ANNUNCIATION. FULL COVERAGE IN EACH BUILDING SHALL BE PROVIDED. COMMUNICATION WILL BE PROVIDED TO A CENTRAL MONITORING STATION.

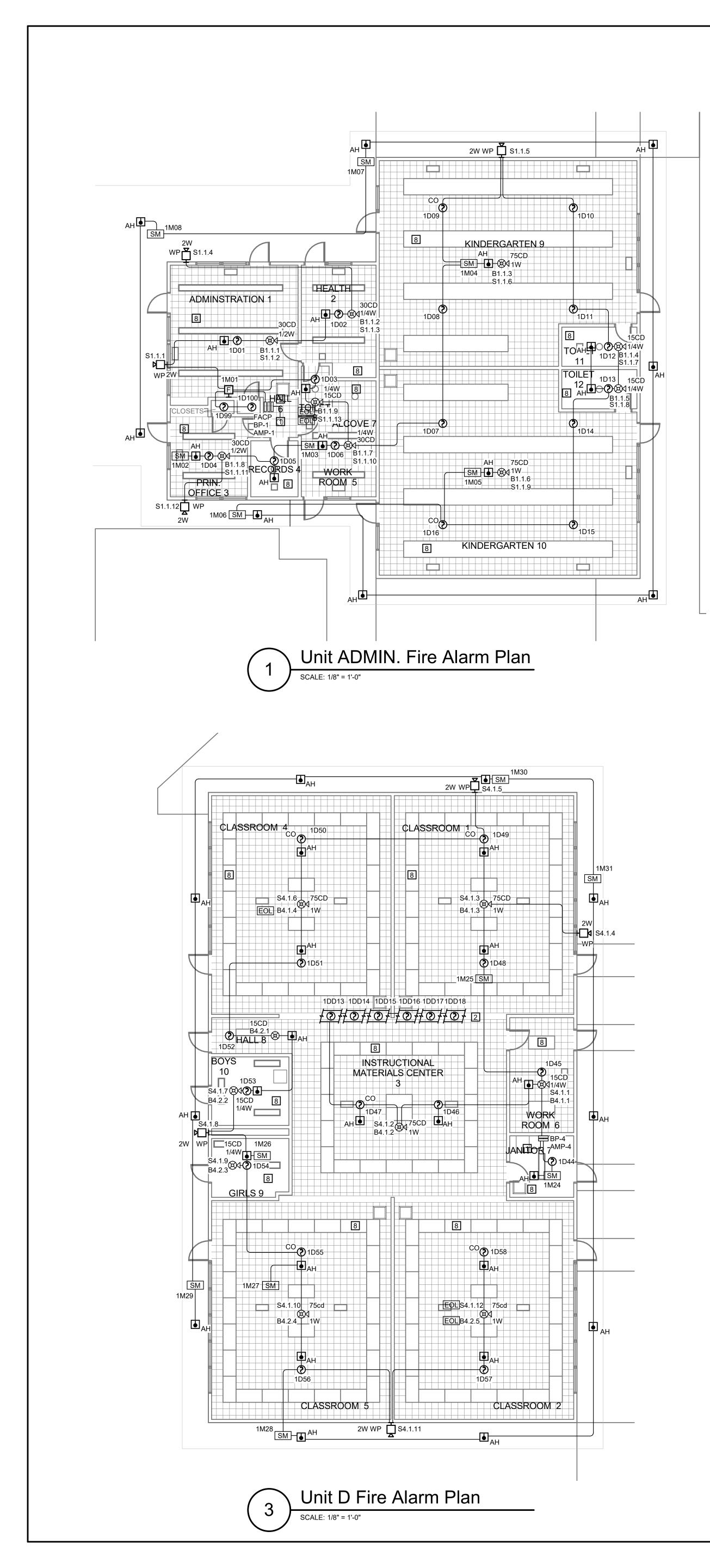
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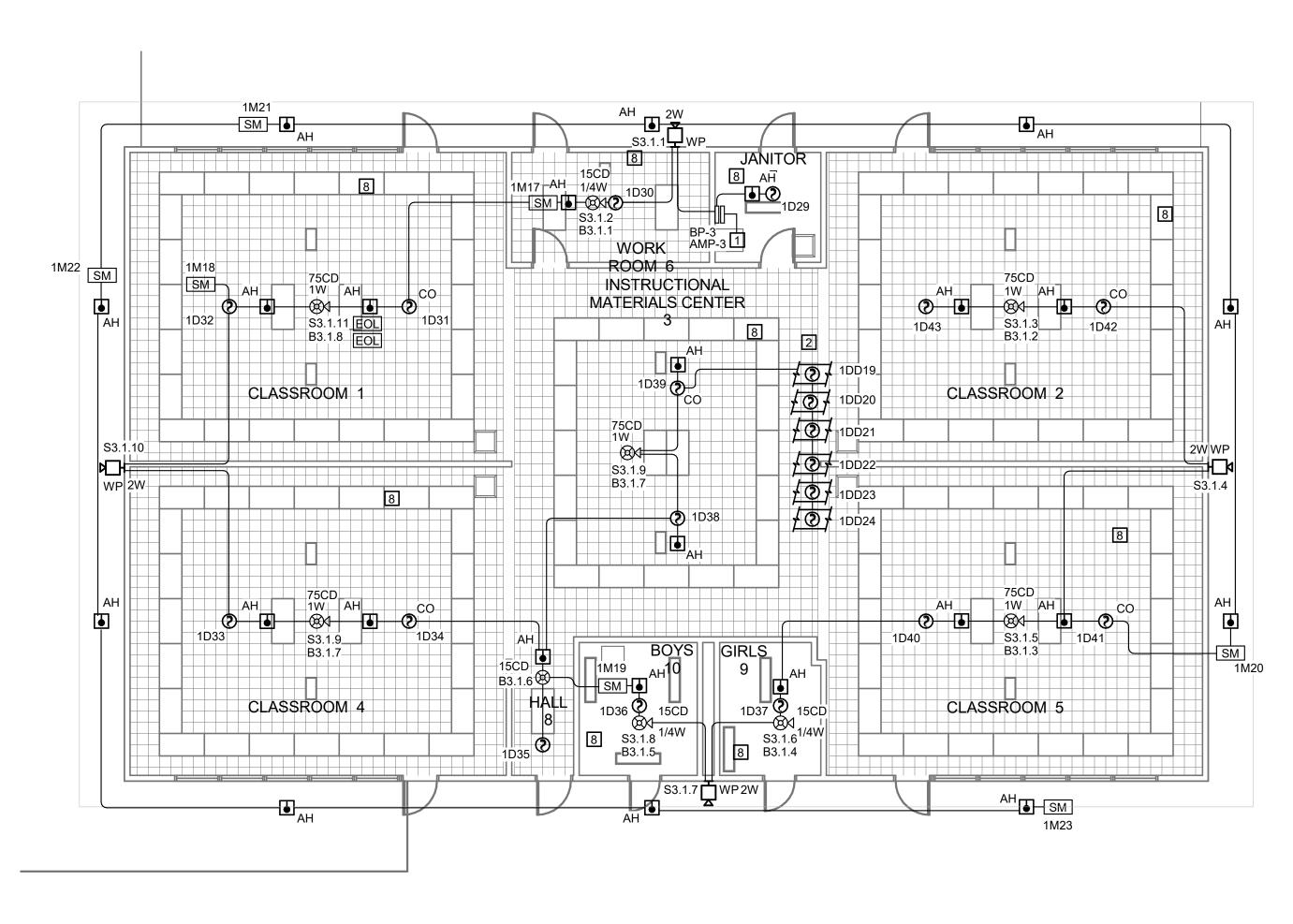
- 1 SEE SITE SHEET E1.0 AND RISER DIAGRAM SHEET E3.0 FOR CONDUIT PATHWAYS.
- 2 DUCT SMOKE DETECTOR TO ACITVATE HVAC SHUT DOWN. 3 HARD-LID CEILING WITH ABOVE CEILING SPACE. AH HEAT DETECTORS REQUIRED.
- 4 T-BAR CEILING WITH ABOVE CEILING SPACE. AH HEAT DETECTORS REQUIRED.



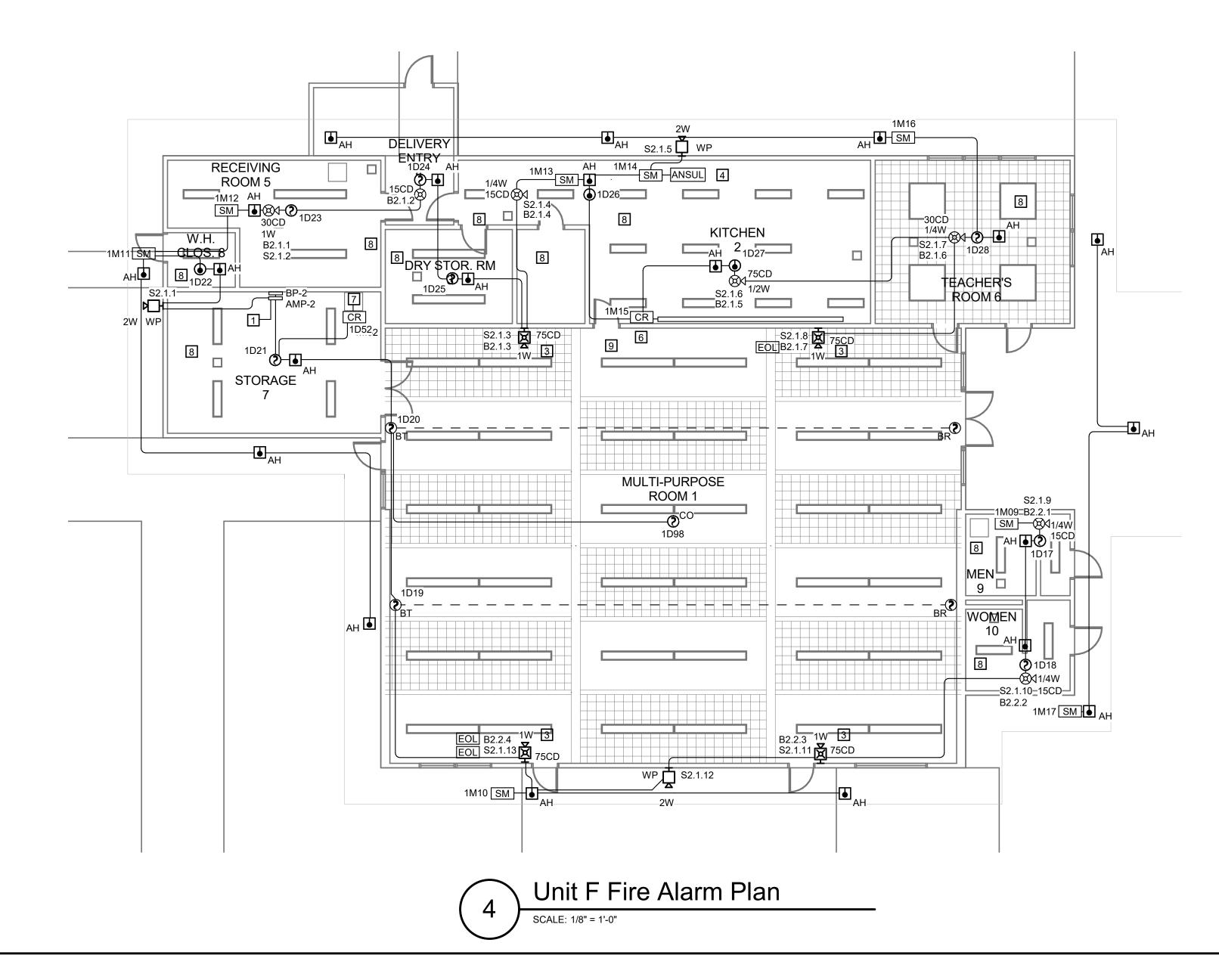


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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242	
DESCRIPTION     DATE	
DESIGNER:Designer SCALE: 1/8" = 1'-0"	
DATE:2019.12.20	
TITLE: FIRE ALARM PLAN - NEW A, NEW B & PORTABLES 1-4	
DRAWING NO. E2.00	





2 Unit E Fire Alarm Plan SCALE: 1/8" = 1'-0"



# GENERAL SHEET NOTES

- A. FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B. FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- C. COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D. DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- E. INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE.
   ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX\_EOR
- G. ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX, FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURES DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.
   H. REFER TO E3.00 FOR RISER DIAGRAMS.
- I. CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE

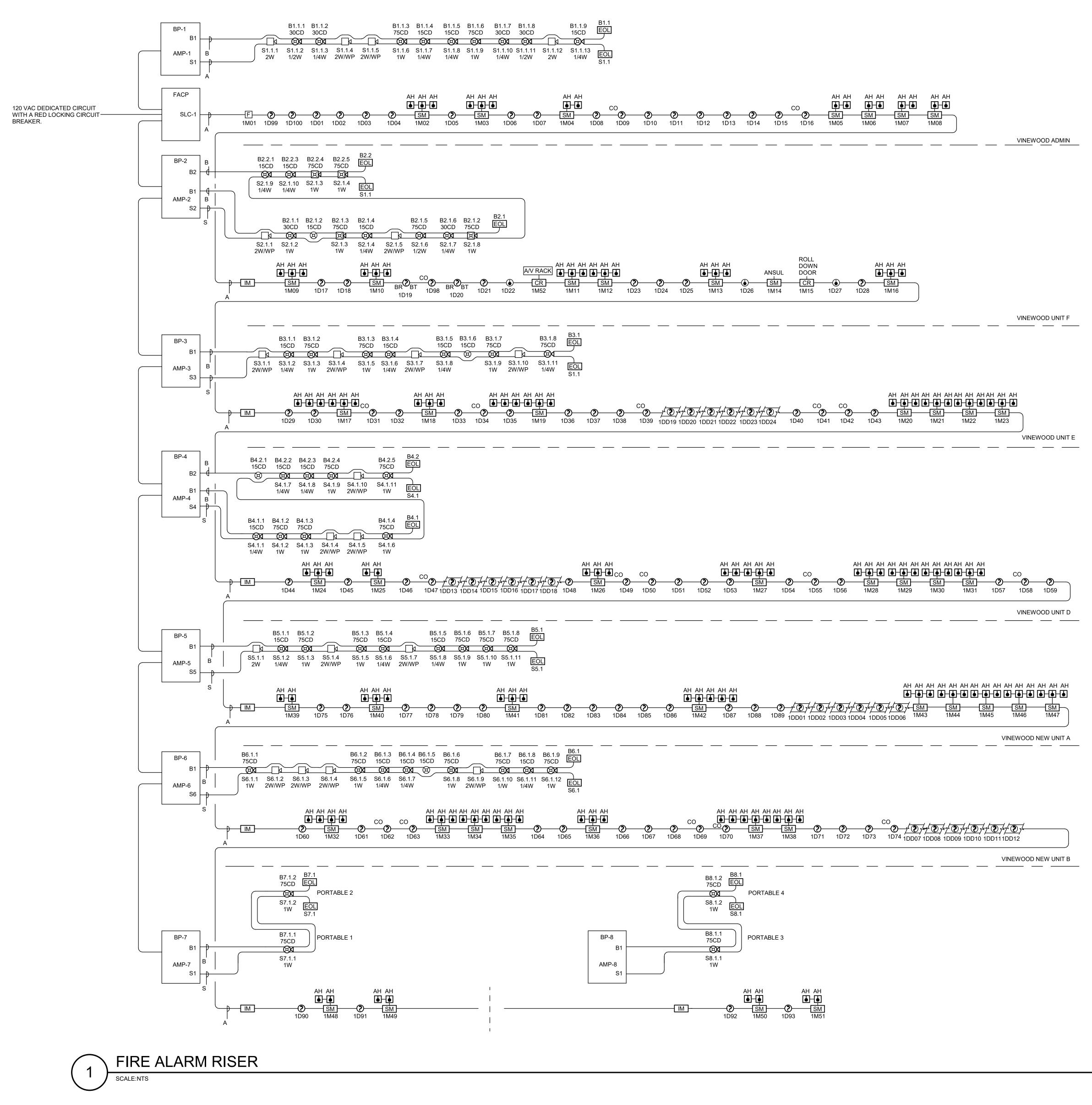
TO A CENTRAL MONITORING STATION.

ALARM SYSTEM PANELS PER LOCATION. J. THE FIRE ALARM SYSTEM WILL BE DEMOLISHED AND REPLACED TO THE CURRENT 2016 CFC. THE SYSTEM WILL BE A FULLY AUTOMATIC SYSTEM WITH EMERGENCY VOICE ANNUNCIATION. FULL COVERAGE IN EACH BUILDING SHALL BE PROVIDED. COMMUNICATION WILL BE PROVIDED

### NUMBERED SHEET NOTES

- 1 SEE SITE SHEET E1.0 AND RISER DIAGRAM SHEET E3.0 FOR CONDUIT PATHWAYS.
- 2 DUCT SMOKE DETECTOR TO ACITVATE HVAC SHUT DOWN.
- 3 CONTRACTOR SHALL PROVIDE A PROTECTIVE CAGE/COVER.
  4 (SM) MONITOR MODULE TO MONITOR ANSUL SYSTEM.
- 5 DACT WILL TRANSMIT SIGNALS TO OFF SITE MONITORING VIA PHO
- 5 DACT WILL TRANSMIT SIGNALS TO OFF SITE MONITORING VIA PHONE LAND LINE WITH A CELLULAR BACK UP.
- 6 AREA DETECTORS TO INITIATE (CR) CONTROL RELAY TO ACTIVATE FIRE CURTAIN CLOSURE.
- 7 AREA SMOKE DETECTORS TO INITIATE (CR) CONTROL RELAY TO ACTIVATE A/V RACK SHUT OFF.
- 8 HARD LID CEILING WITH ATTIC SPACE ABOVE. AH HEAT DETECTORS REQUIRED.
   9 EXPOSED CEILING WITH BEAMS. DIRECTLY BELOW ROOF DECK NO ATTIC SPACE. NO AH HEAT DETECTORS REQUIRED.

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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242
REVISIONS
DESCRIPTION     DATE
DESIGNER:Designer
SCALE: 1/8" = 1'-0" DATE:2019.12.20
TITLE: FIRE ALARM PLAN - ADMIN, D, E, & F
DRAWING NO. E2.01



IDENTIFIC   IDENTIFIC   IDENTIFIC   DIV. OF THE STATE ARCHITECT   APP. 02-118027   INC:   REVIEWED FOR   SS   FLS   ACS   DATE:
COSULTING ENGINEERS DOSULTING ENGINEERS T25 HIGH STREET AUBURN, CA 95603 (530) 886-8556 NO. E015491 NO. E015491 NO. E015491 NO. E015491 COCHRICHOUSE NO. E015491 COCHRICHOUS
Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242
REVISIONS     Image: state in the second
DRAWING NO. E3.00

Gamewell Syste	em C	um	ent Drav	<b>v</b>				
E3 Series Co	ontrol	Par	nel with B	roadband	1			
	Т	otal	Standby	0.552 A		Tota	l Alarm	7.711
2 miles			Standby Curre				Alarm Curren	
Device I. System Device	Qty		Draw	Standby	Qty		Draw	Alarm
ntel, Loop Interface, Main Board (ILI-MB-E3)	1	х	0.08100	0.08100	1	×	0.15000	0.1500
ntel. Loop Interface Supplement Board (ILI-S-E3)	0	х	0.08100		0	х	0.15000	
ntel. Loop Interface Main Board - Apollo (ILI95-MB-E3)	0	х	0.05000		0	х	0.09100	
ntel. Loop Interface Supplement Board - Apollo (ILI95-S-E3)	0	х	0.05000		0	х	0.09100	
7100 Panel, 1 SLC	1	х	0.05600	0.05600	1	х	0.07600	0.0760
7100 Panel, 1 SLC with DACT 7100 Panel, 2 SLC	0	x	0.07500		0	x	0.09500	
7100 Panel, 2 SLC with DACT	ő	x	0.08500		0	x	0.10500	
2. E3 Optional Modules	10	^	0.00000		v	Â	0.10000	
20V Power Supply Sub-Assembly (PM-9)	0	х	0.05000		0	х	0.05000	
200 Power Supply Sub-Assembly (PM-9G)	0	x	0.02700		0	x	0.05000	
.CD Display & Switch Control (LCD-E3)	0	x	0.02400		0	x	0.02800	
ARCNET Repeater (RPT-E3)	ő	x	0.01300		ő	x	0.01300	
Digital Communicator (DACT-E3)	1	x	0.01800	0.01800	1	x	0.01800	0.0180
Optional Remote Serial Annunicator (LCD-7100)	Ó	x	0.05000		0	x	0.07500	
Vetwork LCD Annunicator (NGA)	0	х	0.20000		0	х	0.20000	
Auxiliary Switch Sub-Assembly (ASM-16)	0	х	0.01100		0	х	0.01100	
Remote LED Driver Module (ANU-48)	0	х	0.01100		0	х	0.01100	
Addressable Node Expander (ANX)	0	х	0.06500		0	х	0.06500	
3. 7100 Optional Modules		-						
ntelligent Network Inferface Module (INI-7100)	0	х	0.04000		0	х	0.04000	
arinter Transient Module (PTRM) Remote LED Driver Module (LDM-7100)	0	x	0.02000		0	x	0.02000	
Class A Option Module (CAOM)	ő	x	0.00100		0	×	0.00100	
Aunicipal Circuit Option Module (MCOM)	0	x	0.00100		0	X	0.00100	
INI-VGC Command Center								
ntel. Network Command Center (INI-VGC)	0	х	0.15000		0	×	0.15000	
Addressable Switch Sub-assembly (ASM-16)	0	х	0.01100		0	х	0.01100	
/oice Paging Microphone (Microphone) Firefighter's Telephone (Handset'	0	x	0.00100		0	х	0.00100	
Addressable Output Module-Telephone (AOM-TEL)	0	x	0.02000		0	X	0.02000	
5. INI-VGX Voice Gateway	ų		in the lease		0		4.486.67	
ntel. Network Voice Gateway (INI-VGX)	0	х	0.15000		0	ж	0.15000	
20V Power Supply Sub-Assembly (PM-9)	0	х	0.05000		0	х	0.05000	
240V Power Supply Sub-Assembly (PM-9G)	0	х	0.02700		0	х	0.05000	
Amplifier Sub-assembly, 50 watt 25V (AM-50)	3	х		0.25800	3	х	2.20600	6.6180
Amolifier Sub-assembly, 50 watt 70V (AM-50-70) Addressable Output Module-Signal (AOM-2SF)	0	x	0.04900		0	x	2.30000 0.00650	
Addressable Output Module-Telephone (AOM-TEL)	Ő	x	0.00200		0	×	0.00650	
Addressable Output Module-Audio (AOM-MUX)	0	x	0.00200		Ő	x	0.00650	
3. INI-VGE Command Center Voice Gateway			0.0000					
ntel. Network Command Voice Geteway (INI-VGE)	0	х	0.15000		0	х	0.15000	
Addressable Switch Sub-assembly (ASM-16)	0	х	0.01100		0	X	0.01100	
/olce Paging Microphone (Microphone)	1	х	0.00100	0.00100	1	х	0.00100	0.0010
Firefighter's Telephone (Handset)	0	х	0.02000		0	х	0.02000	
Addressable Output Module-Signal (AOM-2SF)	0	х	0.00200		0	х	0.00650	
Addressable Output Module-Telephone (AOM-TEL)	0	х	0.00200		0	х	0.00650	
Addressable Output Module-Audio (AOM-MUX)	0	х	0.00200		0	х	0.00650	
7. Smoke Detectors/Modules		_	0.00000		ñ		0.00050	
ATD-L2F HEAT DETECTOR	0	х	0.00030	0.44400	0	x	0.00650	0.4542
PHOTO SMOKE DETECTOR (P95 DUCT DETECTOR	57	x	0.00200	0.11400	57 0	×	0.00850	0.4845
MCS-COF CO/SMOKE DETECTOR	17	x	0.00400 0.00030	0.00510	17	x	0.20000 0.00650	0.1105
MM2IF DUAL MONITOR MODULE	0	x	0.00750	0100010	0	x	0.00570	0.1100
AMM-4F MONITOR MODULE	50	x	0.00038	0.01875	50	×	0.00500	0.2500
M500X ISOLATION MODULE	0	x	0.00500	and the M	0	x	0.00500	
AOM-2RF RELAY MODULE	0	х	0.00038		0	×	0.00650	
IS7 PULL STATION	1	х	0.00030	0.00030	1	х	0.00300	0.0030
ADDRESSABLE HEAT DETECTOR	0	х	0.00030		0	х	0.00650	
3. Notification Appliances								
	0	х	0.00000		0	х	0.00000	
	0	х	0.00000		0	х	0.00000	
	0	х	0.00000		0	x	0.00000	
	0	x	0.00000		0	x	0.00000	
	0	x	0.00000		0	x	0.00000	
	0	x	0.00000		0	×	0.00000	
	-	_			-	-		
	0	x	0.00000		0	X	0.00000	
	0	х	0.00000		0	х	0.00000	
	0	х	0.00000		0	х	0.00000	<u> </u>
	1 11	x	0.00000		0	×	0.00000	
	0		Total Standby		~	1.5	Total Alarm	

	VIN		C	DD A	M	PLIFI	ER	ľ	1		
		Standby Current (amps) Alarm Current									
Device Type	QTY	Watts	Cur	rent Draw		Total	Qty	Сι	urrent Draw		Total
1. System											
AM-50	1	50	Х	0.0860	=	0.0860	0	Х	2.2060	=	2.2060
			Х		=		0	Х		=	0.0000
			Х		=		0	Х		=	0.0000
2. Speakers											
Total Speaker Watts	@ 25Vrms	12.25							0.4900	=	0.4900
Total Speaker Watts	@ 70.7Vrms								0.0000	=	0.0000
		То	tal S	tandby Lo	ad	0.0860		Tot	al Alarm Loa	ad	2.6960
				0							
							-	uire	ed Standby Ti	ime	
Standby Load Curre	ent (Amps)			0.08	60	Amps	Х		24	=	2.064 A
							_	uire	ed Alarm Time	e in	
Alarm Load Current	t (Amps)			2.69	) <b>60</b> ,	Amps	Х		15	=	0.674 Al
									Current Loa		2.74 A
							,		rating Factor		x 1.2
							_	lou	rs Required		3.29 A
				Recomme	nde	d Batteries:			7AH BATT	ER	IES

VINEWOOD AMPLIFIER 4													
VINEVUOOD AIVIFLIFIEK 4													
		Standb	y C	urrent (amps	)		Alar	m (	Current (amp	s)			
Device Type	QTY	Watts	Сι	urrent Draw		Total	Qty	С	urrent Draw		Total		
1. System													
AM-50	1	50	Х	0.0860	=	0.0860	0	Х	2.2060	=	2.2060		
			Х		=		0	Х		=	0.0000		
			Х		=		0	Х		=	0.0000		
2. Speakers													
Total Speaker Watts @	) 25Vrms	11.75	11.75 0.4700 =						0.4700				
Total Speaker Watts @	) 70.7Vrms								=	0.0000			
		Tot	al S	Standby Loa	ld	0.0860		Tot	tal Alarm Lo	ad	2.6760		
				0									
							Req	uire	ed Standby T	ime	in Hours		
Standby Load Current	t (Amps)			0.08	60 A	Amps	Х		24	=	2.064 AH		
							Req	uire	ed Alarm Tim	e in	Hours		
Alarm Load Current (A	Amps)			2.67	60 A	Amps	Х		15	=	0.669 AH		
Total Current Load									2.73 AH				
							<i>.</i>		erating Factor		x 1.20		
						Total Amp	ere F	lou	rs Required		3.28 AH		
Recommended Batteries: 7AH BATTERIES										IES			

	VIINI		J		V	PLIFI	СГ				
		Standb	y Cu	irrent (amps	5)		Alar	m C	urrent (amp	s)	
Device Type	QTY	Watts	Cu	rrent Draw		Total	Qty	Cu	rrent Draw		Total
1. System											
AM-50	1	50	Х	0.0860	=	0.0860	0	Х	2.2060	=	2.2060
			Х		=		0	Х		=	0.0000
			Х		=		0	Х		=	0.0000
2. Speakers											
Total Speaker Watts @	25Vrms	4							0.1600	=	0.1600
Total Speaker Watts @	70.7Vrms								0.0000	=	0.0000
		Tot	al S	tandby Loa	ad	0.0860		Tota	al Alarm Lo	ad	2.3660
				0							
							Req	uire	d Standby T	ïme	e in Hours
Standby Load Current	t (Amps)			0.08	60 /	Amps	Х		24	=	2.064 AH
							Req	uire	d Alarm Tim	e ir	n Hours
Alarm Load Current (A	Amps)			2.36	60 <i>i</i>	Amps	Х		15	=	0.592 AH
							Τ	otal	Current Lo	ad	2.66 AH
									ating Factor		
						Total Amp	bere H	lour	s Required		3.19 AH
				Recommen	nde	d Batteries:			7AH BAT1	<b>FER</b>	RIES
*Derating Factor required	to compensate	for the no	on-lin	ear discharg	e ch	naracteristic of	f a bat	tery.			

Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

0.36

BRAND: HPP VOLTS: 20.4 AWG: 12 POWER: DC

AMPS: 3	
#	
	1
	2
	3
	4
	5
	6

Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 2

MODEL NUMBER: HPF24S8

MODEL 1 SPSCWL

2 SPSCWL

3 SPSCWL 4 SPSCWL

POWER SOURCE: BPS-2

BRAND: HPP

VOLTS: 20.4

AWG: 12

AMPS: 3

POWER: DC

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-4 MODEL NUMBER: HPF24S8 BRAND: HPP VOLTS: 20.4 AWG: 12 POWER: DC AMPS: 3

CLASS: CLASS B TOTAL DEVICES: 4 12.47 % (0.374) AMPS USED .51 % (0.104) VOLTAGE DROP

CLASS: CLASS B

TOTAL DEVICES: 4

10.13 % (0.304) AMPS USED

.44 % (0.090) VOLTAGE DROP

 CANDELA
 PATTERN
 VOLUME
 TONE
 CURRENT (DISTANCE
 12 AWG
 14 AWG
 16 AWG
 18 AWG

 15
 0.041
 25
 20.369
 20.352
 20.323
 20.277

 15
 0.041
 25
 20.343
 20.310
 20.256
 20.171

VOLTAGE [

0.111 0.111

2520.32120.27520.20020.0812520.31020.25720.17220.036

0.143

0.090

#		MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
	1	SPSCWL	15				0.041	25	20.362	20.340	20.305	20.249
	2	SPSCWL	75				0.111	25	20.329	20.287	20.220	20.114
	3	SPSCWL	75				0.111	25	20.307	20.252	20.164	20.024
	4	SPSCWL	75				0.111	25	20.296	20.234	20.136	19.979
								VOLTAGE [	0.104	0.166	0.264	0.421

Recommended Batteries: AH BATTERIES \*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

### VINEWOOD AMPLIEIER 7

#### Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-3 MODEL NUMBER: HPF24S8

#### CLASS: CLASS B TOTAL DEVICES: 8 21.1 % (0.633) AMPS USED 1.58 % (0.323) VOLTAGE DROP

	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSCWL	15				0.041	25	20.336	20.299	20.239	20.144
2	SPSCWL	15				0.041	25	20.277	20.205	20.089	19.905
3	SPSCWL	15				0.041	25	20.222	20.117	19.949	19.682
4	SPSCWL	75				0.111	25	20.171	20.036	19.819	19.476
5	SPSCWL	75				0.111	25	20.131	19.972	19.718	19.315
6	SPSCWL	75				0.111	25	20.102	19.926	19.645	19.199
7	SPSCWL	75				0.111	25	20.084	19.898	19.600	19.127
8	SCW	15				0.066	25	20.077	19.887	19.583	19.100
							VOLTAGE [	0.323	0.513	0.817	1.300

CIRCUIT NAME: NAC Circuit 2 POWER SOURCE: BPS-4 MODEL NUMBER: HPF24S8

BRAND: HPP VOLTS: 20.4 AWG: 12

POWER: DC AMPS: 3

#### VINEWOOD AMPLIFIER 2 Standby Current (amps) Alarm Current (amps) QTY Watts Current Draw Total Qty Current Draw Total Device Type 1. System 1 50 X 0.0860 = 0.0860 0 X 2.2060 = 2.2060 0 X = 0.0000 = 0.0000 0 X = 2. Speakers Total Speaker Watts @ 25Vrms 10.5 0.4200 = 0.4200 Total Speaker Watts @ 70.7Vrms 0.0000 = 0.0000 Total Standby Load 0.0860 Total Alarm Load 2.6260 Required Standby Time in Hours X 24 = 2.064 AH Standby Load Current (Amps) 0.0860 Amps Required Alarm Time in Hours 2.6260 Amps X 15 = 0.657 A⊢ Alarm Load Current (Amps) Total Current Load 2.72 AF \*Multiply by the Derating Factor = x 1.2 Total Ampere Hours Required 3.26 AF Recommended Batteries: 7AH BATTERIES

\*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

\	/INEWOOD	AMPLI	FIER 5
	Standby Current (	ampe)	Alarm Curren

		Standby	/ C	urrent (amps	)		Alar	m C	Current (amp	s)	
Device Type	QTY	Watts	Сι	urrent Draw		Total	Qty	Сι	urrent Draw		Total
1. System											
AM-50	1	50	Х	0.0860	=	0.0860	0	Х	2.2060	=	2.2060
			Х		=		0	Х		=	0.0000
			Х		=		0	Х		=	0.0000
2. Speakers											
Total Speaker Watts @ 25Vr	ms	13.75							0.5500	=	0.5500
Total Speaker Watts @ 70.7	Vrms								0.0000	=	0.0000
		Tot	al S	Standby Loa	d	0.0860		Tot	al Alarm Loa	ad	2.7560
				0							
							Req	uire	ed Standby T	ime	e in Hours
Standby Load Current (Am	ps)			0.086	60 <i>i</i>	Amps	Х		24	=	2.064 AH
							Req	uire	ed Alarm Tim	e ir	n Hours
Alarm Load Current (Amps	)			2.756	60 <i>i</i>	Amps	Х		15	=	0.689 AH
							Τe	otal	I Current Loa	ad	2.75 AH
						*Multiply b	y the	De	rating Factor	=	x 1.20
						Total Amp	ere ⊦	lou	rs Required		3.30 AH
				Recommen	de	d Batteries:			7AH BATT	ER	RIES

\*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

#### Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-1 MODEL NUMBER: HPF24S8 BRAND: HPP VOLTS: 20.4 AWG: 12 POWER: DC AMPS: 3

CLASS: CLASS B TOTAL DEVICES: 9 19.9 % (0.597) AMPS USED 1.74 % (0.354) VOLTAGE DROP

#	MODEL	CANDELA PATTER	I VOLUME	TONE	CURRENT (	DISTANCE 11	12 AWG	14 AWG	16 AWG	18 AWG	#	MODEL	CANDELA	DATTEDN	VOLUME	TONE	CLIDDENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
	1 SPSCWL	15			0.041	25	20.340	20.305	20.248	20.159	#		CANDELA	PATTERIN	VOLUIVIE	TONE	CORRENT (	DISTANCE				
	2 SPSCWL	15		1	0.041	25	20.284	20.216			1	SPSCWL	15				0.041	25	20.346	20.314	20.263	20.181
	3 SPSCWL	15				25					2	SPSCWL	30				0.063	25	20.296	20.234	20.136	19.979
		12	_		0.041	25	20.232				2	SPSCWL	20				0.063	25	20.252	20.164	20.025	19.802
	4 SPSCWL	30			0.063	25	20.184	20.058	19.856	19.535	5	SPSCVVL	50				0.065	25	20.252	20.104	20.025	
	5 SPSCWL	30			0.063	25	20.143	19.992	19.752	19.369	4	SPSCWL	75				0.111	25	20.214	20.104	19.930	19.651
	6 SPSCWL	30			0.063	25	20.108	19.936	19.664	19.228	5	SPSCWL	75				0.111	25	20.188	20.062	19.863	19.545
	7 SPSCWL	30			0.063	25	20.079	19.891	19.592	19.113	6	SPSCWL	75				0.111	25	20.173	20.038	19.824	19.484
	8 SPSCWL	75			0.111	25	20.057	19.856	19.536	19.023	7	SCWL	15				0.041	25	20.169	20.031	19.814	19.467
	9 SPSCWL	75			0.111	25	20.046	19.838	19.508	18.978								VOLTAGE [	0.231	0.369	0.586	0.933
						VOLTAGE [	0.354	0.562	0.892	1.422											·	

#### Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-5 MODEL NUMBER: HPF24S8 BRAND: HPP VOLTS: 20.4 AWG: 12 POWER: DC AMPS: 3

#	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
	1 SPSCWI	L 15				0.041	25	20.339	20.303	20.246	20.154
	2 SPSCWI	_ 15				0.041	25	20.282	20.213	20.102	19.925
	3 SPSCWI	L 15				0.041	25	20.229	20.129	19.968	19.712
	4 SPSCWI	_ 75				0.111	25	20.180	20.052	19.845	19.516
	5 SPSCWI	L 75				0.111	25	20.142	19.992	19.750	19.365
	6 SPSCWI	_ 75				0.111	25	20.116	19.950	19.683	19.259
	7 SPSCWI	L 75				0.111	25	20.101	19.926	19.644	19.198
	8 SPSCWI	L 15				0.041	25	20.097	19.919	19.634	19.181
							VOLTAGE [	0.303	0.481	0.766	1.219

CLASS: CLASS B TOTAL DEVICES: 5 12.33 % (0.370) AMPS USED .61 % (0.124) VOLTAGE DROP

	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (	DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSCWL	15				0.041	25	20.363	20.341	20.306	20.251
2	SPSCWL	15				0.041	25	20.330	20.289	20.222	20.118
3	SPSCWL	75				0.111	25	20.301	20.243	20.149	20.002
4	SPSCWL	75				0.111	25	20.283	20.215	20.104	19.930
5	SCW	15				0.066	25	20.276	20.204	20.087	19.903
							VOLTAGE [	0.124	0.196	0.313	0.497

		Standb	y Cu	rrent (amps	5)		Alar	m C	Current (amps	s)	
Device Type	QTY	Watts	Cur	rent Draw		Total	Qty	Сι	urrent Draw		Total
1. System											
AM-50	1	50	Х	0.0860	=	0.0860	0	Х	2.2060	=	2.2060
			Х		=		0	Х		=	0.0000
			Х		=		0	Х		=	0.0000
2. Speakers											
Total Speaker Watts	@ 25Vrms	12							0.4800	=	0.4800
Total Speaker Watts	@ 70.7Vrms								0.0000	=	0.0000
		То	tal S	tandby Loa	ad	0.0860		Tot	al Alarm Loa	ad	2.6860
				0							
							Req	uire	ed Standby Ti	ime	in Hours
Standby Load Curr	ent (Amps)			0.08	60 A	Amps	Х		24	=	2.064 Al
							Req	uire	ed Alarm Time	e in	Hours
Alarm Load Curren	t (Amps)			2.68	60 <i>i</i>	Amps	Х		15	=	0.672 Al
							Τ¢	otal	Current Loa	ad	2.74 A
						*Multiply I	by the	De	rating Factor	=	x 1.2
						Total Amp	oere H	lou	rs Required		3.28 A
				Recomme	nde	d Batteries:			7AH BATT	FR	FS

\*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

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	VIN	EWO	0	DD AI	M	PLIFI	ER	2 (	6		
		Standb	y C	urrent (amps	)		Alar	m C	urrent (amp	s)	
Device Type	QTY	Watts	_	urrent Draw		Total		_	irrent Draw		Total
1. System	•		•					•			
AM-50	1	50	Х	0.0860	=	0.0860	0	Х	2.2060	=	2.2060
			Х		=		0	Х		=	0.0000
			Х		=		0	Х		=	0.0000
2. Speakers											
Total Speaker Watts	@ 25Vrms	13.75							0.5500	=	0.5500
Total Speaker Watts	@ 70.7Vrms								0.0000	=	0.0000
		Tot	tal S	Standby Loa	ıd	0.0860		Tot	al Alarm Lo	ad	2.7560
				0							
							Req	uire	d Standby T	ime	in Hours
Standby Load Curre	ent (Amps)			0.08	60 A	Amps	Х		24	=	2.064 AH
							Req	uire	d Alarm Tim	e in	Hours
Alarm Load Current	t (Amps)			2.75	60 A	Amps	Х		15	=	0.689 AH
							Т	otal	Current Lo	ad	2.75 AH
									rating Factor		x 1.20
						Total Amp	ere H	ou	rs Required		3.30 AH
				Recommen	nde	d Batteries:			7AH BAT1	ER	IES

Recommended Batteries: \*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

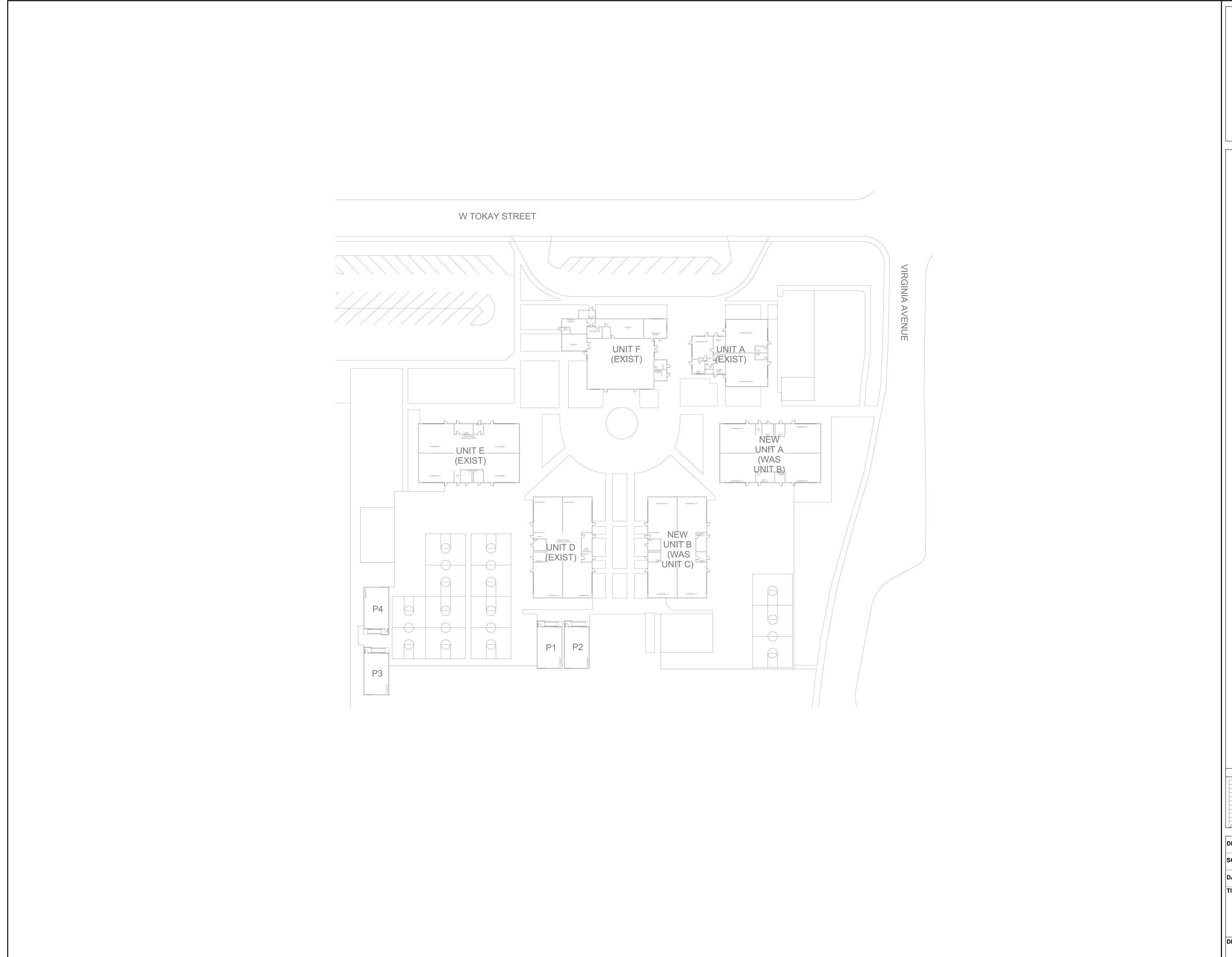
#### Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-2 MODEL NUMBER: HPF24S8 BRAND: HPP VOLTS: 20.4 AWG: 12 POWER: DC AMPS: 3

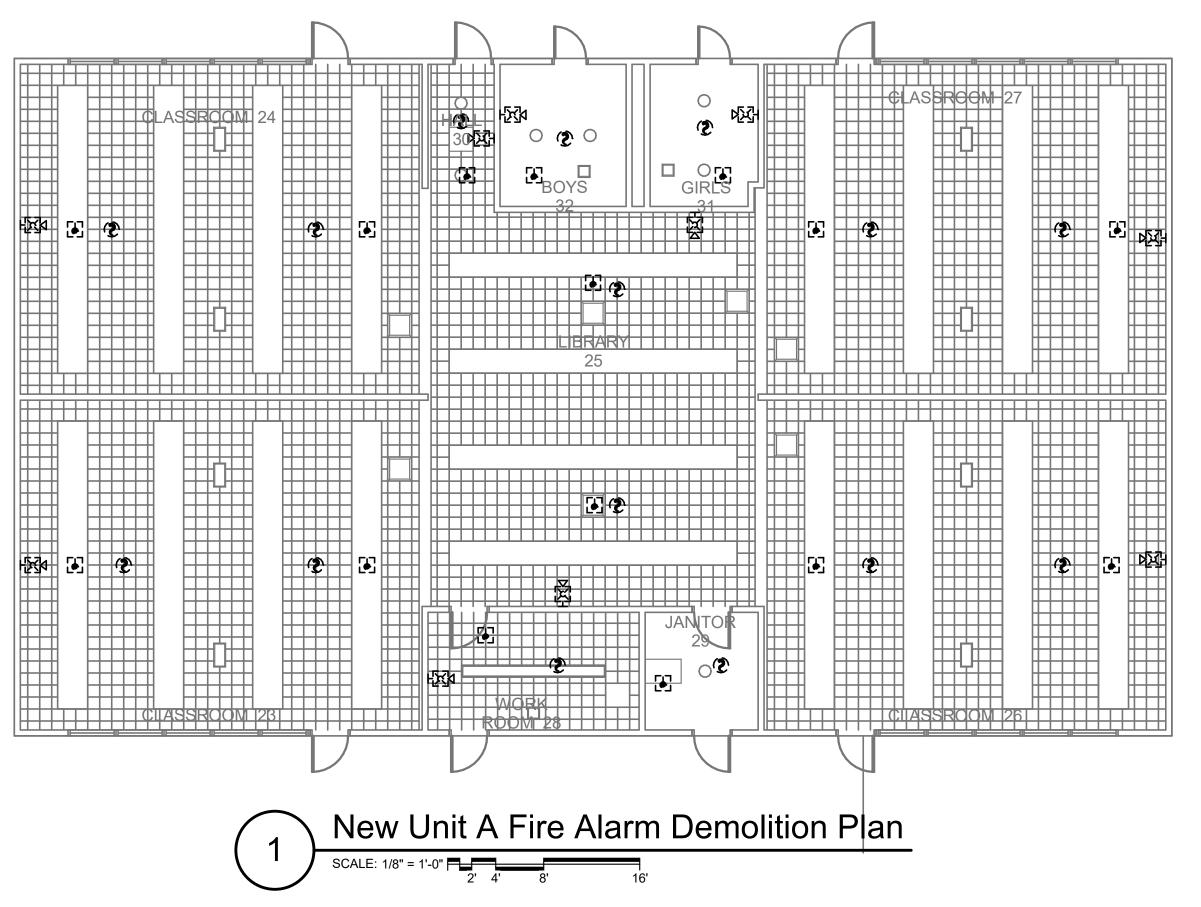
CLASS: CLASS B TOTAL DEVICES: 7 18.03 % (0.541) AMPS USED 1.13 % (0.231) VOLTAGE DROP

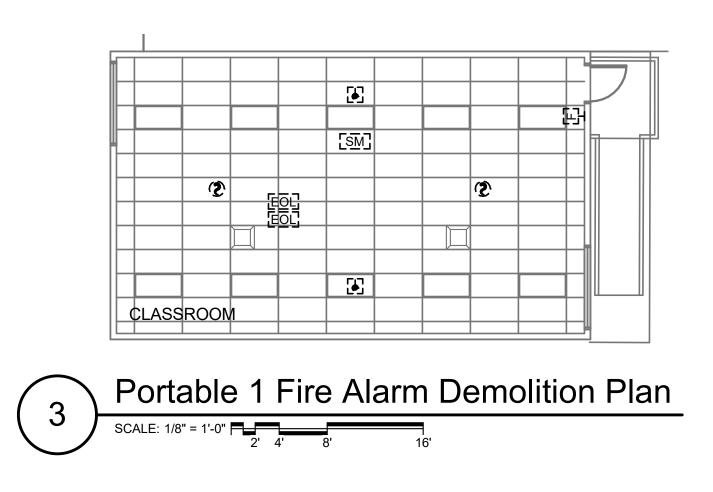
CLASS: CLASS B TOTAL DEVICES: 8 20.27 % (0.608) AMPS USED 1.49 % (0.303) VOLTAGE DROP

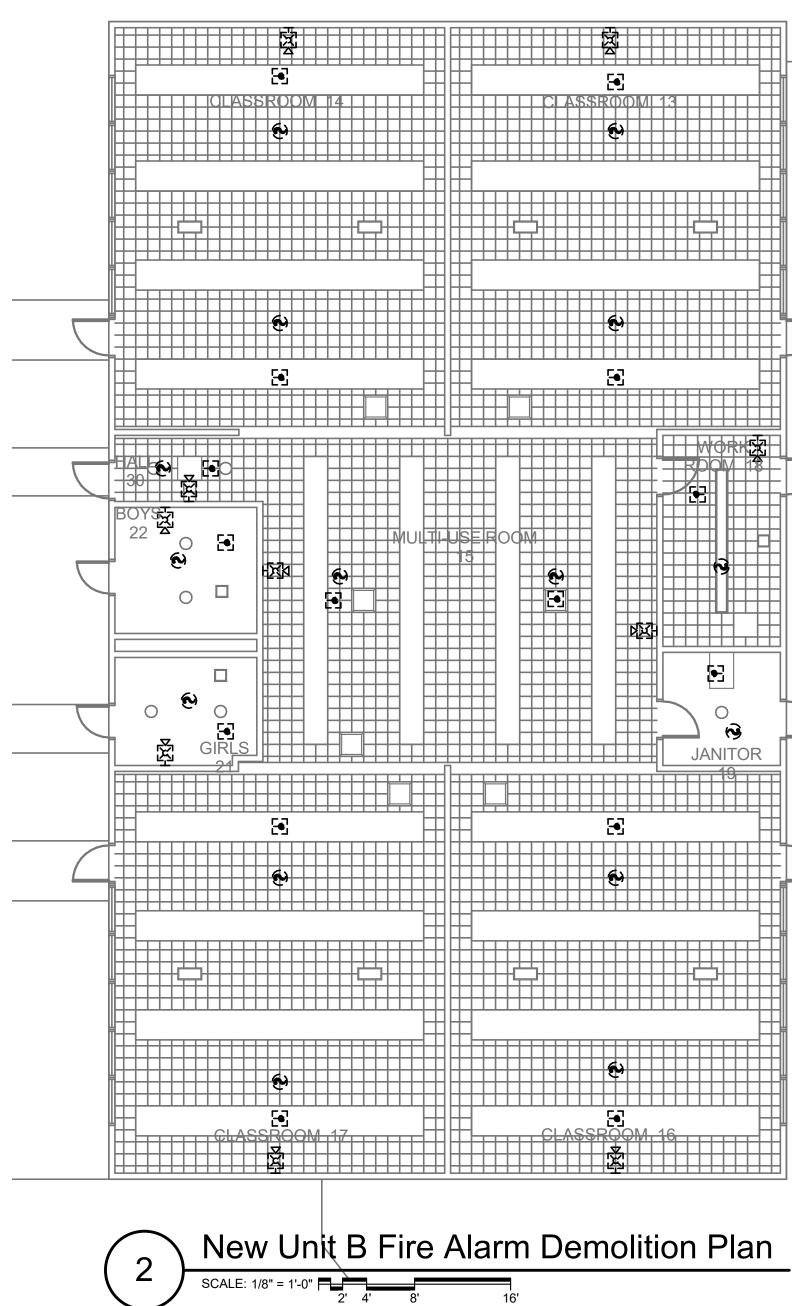
IDENTIFIC   IDENTIFIC   IDENTIFIC   DATE:   DATE:
CONSULTING ENGINEERS LI25 HIGH STREET AUBURN, CA 95603 (330) 886-8556 NO. E015491 FXP. 06/20/21 NO. E015491 FXP. 06/20/21 CONSULTION
Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242
REVISIONS
A DESCRIPTION DATE
DESIGNER:Designer
SCALE: DATE:2019.12.20
TITLE: FIRE ALARM CALCULATIONS
DRAWING NO. E4.01

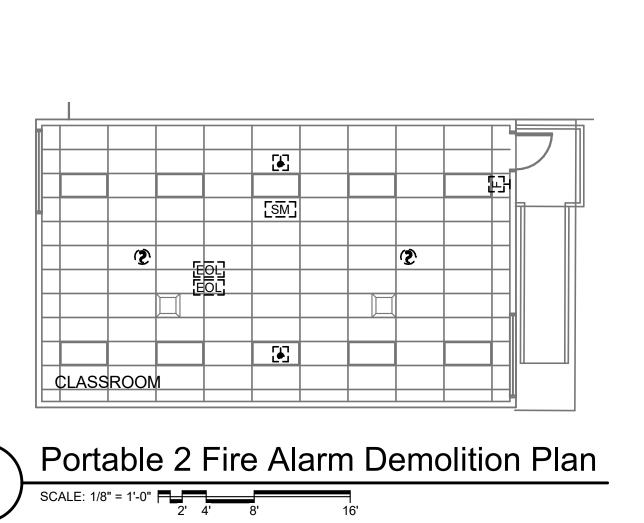


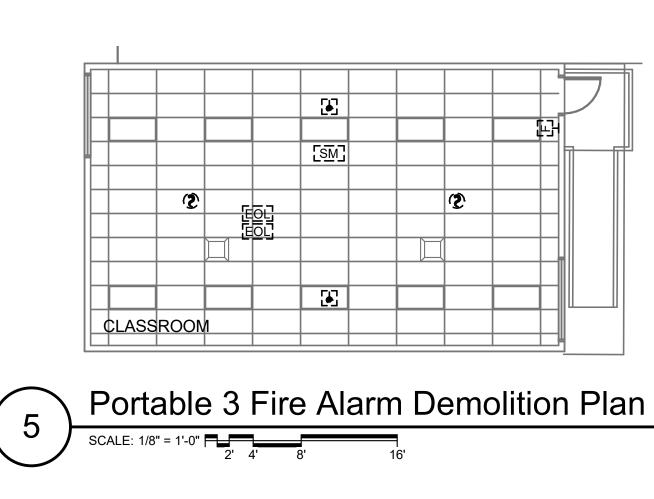
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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242	
REVISIONS	
DESCRIPTION DATE	
SIGNER:Designer	
TE:2019.12.20	
FIRE ALARM DEMO PLAN - SITE PLAN	
AWING NO. ED1.00	
	1

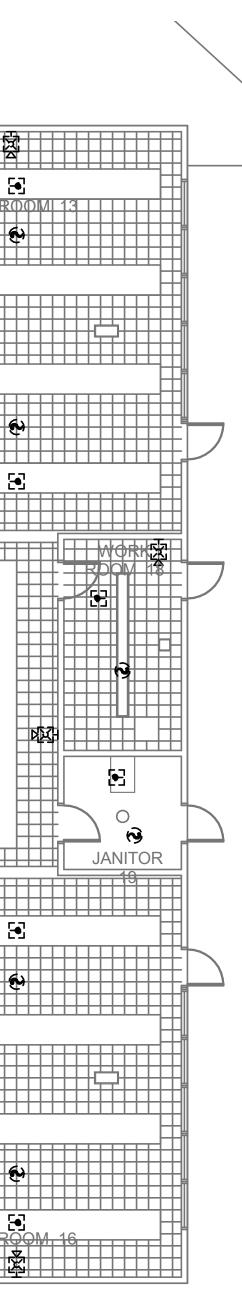






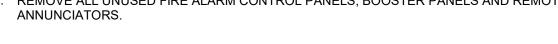


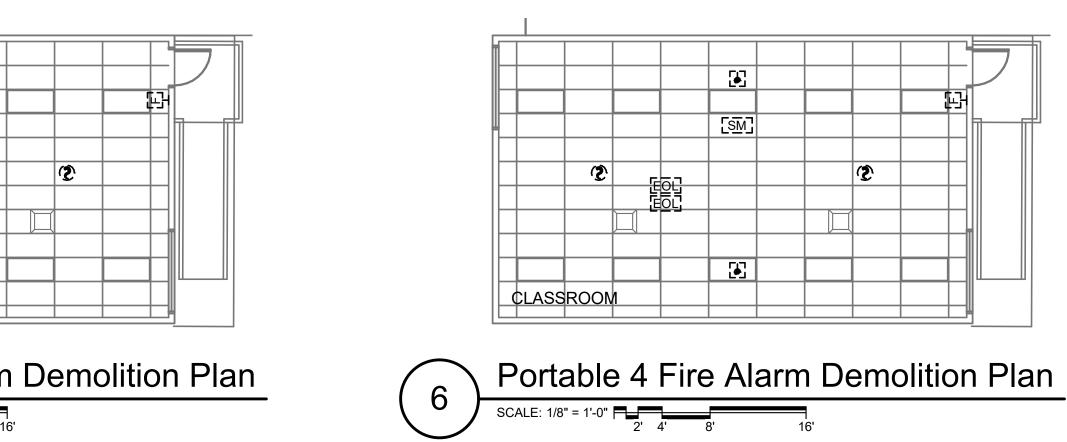






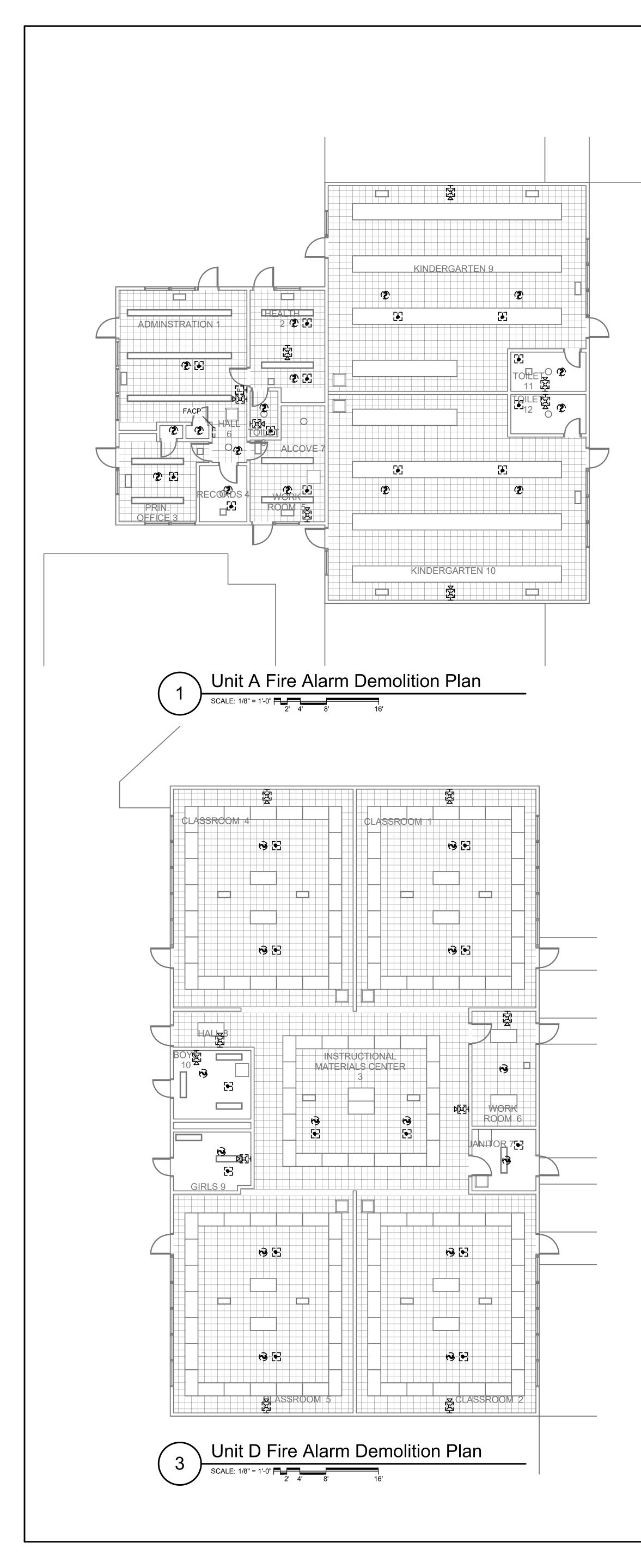
- A. TO REMOVE ALL UNUSED DEVICES, CIRCUITRY AND CONDUIT BACK TO SOURCE.
- WHEN A DEVICE IS REMOVED FROM AN EXISTING WALL WHICH WILL REMAIN, PATCH WALL TO MATCH EXISTING OR NEW FINISH.
- WHERE EXISTING FIRE ALARM DEVICES ARE TO BE REMOVED, THE CONTRACTOR SHALL ALSO REMOVE ALL CONDUCTORS SERVING THE DEVICE. ABANDONED CONDUITS AND BOXES CAN BE RE-USED TO PULL NEW CONDUCTORS THROUGH FOR SERVICE DEVICES DOWN STREAM. DO NOT SPLICE IN ABANDONED DEVICE BOXES. REMOVE ALL UNUSED FIRE ALARM CONTROL PANELS, BOOSTER PANELS AND REMOTE

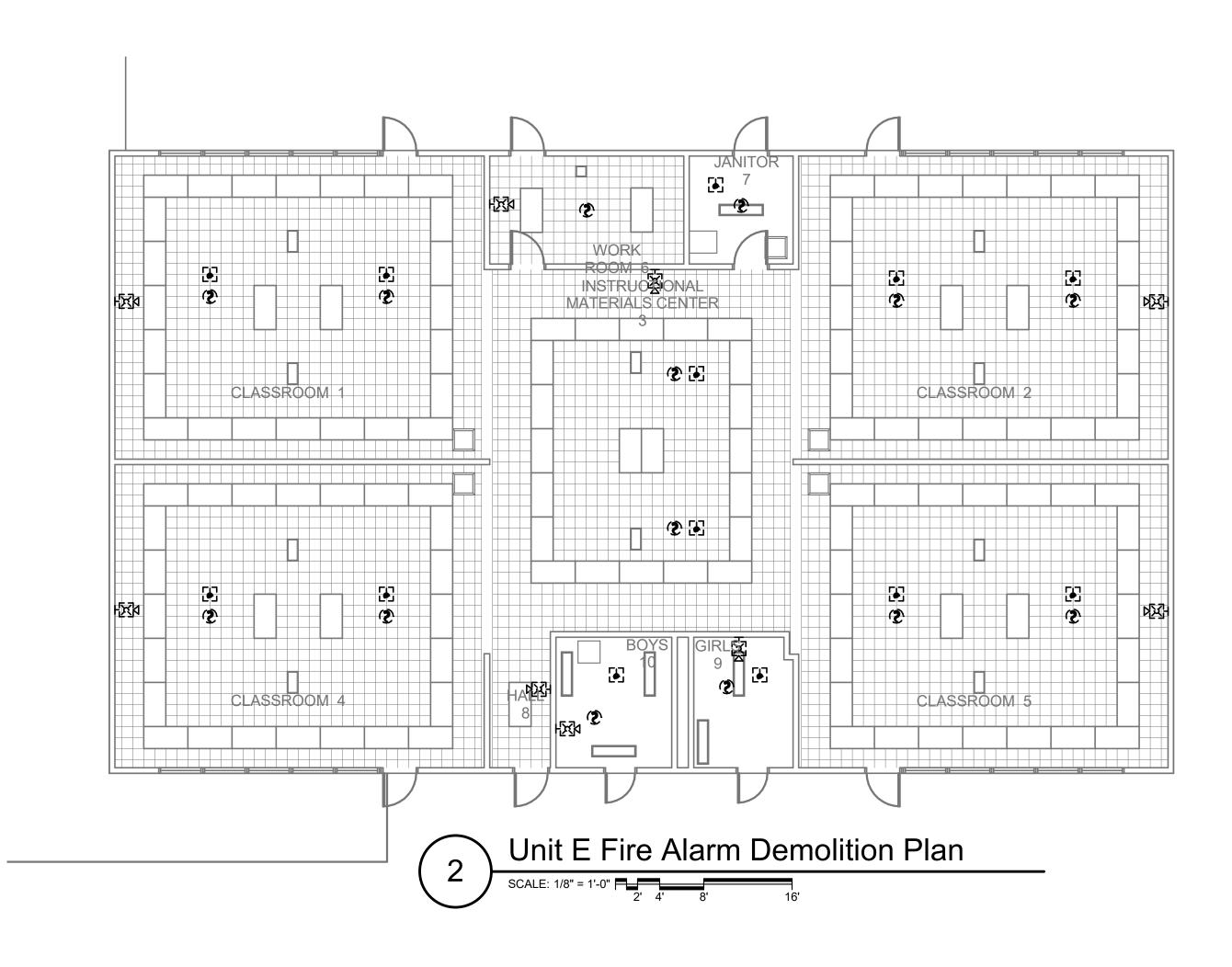


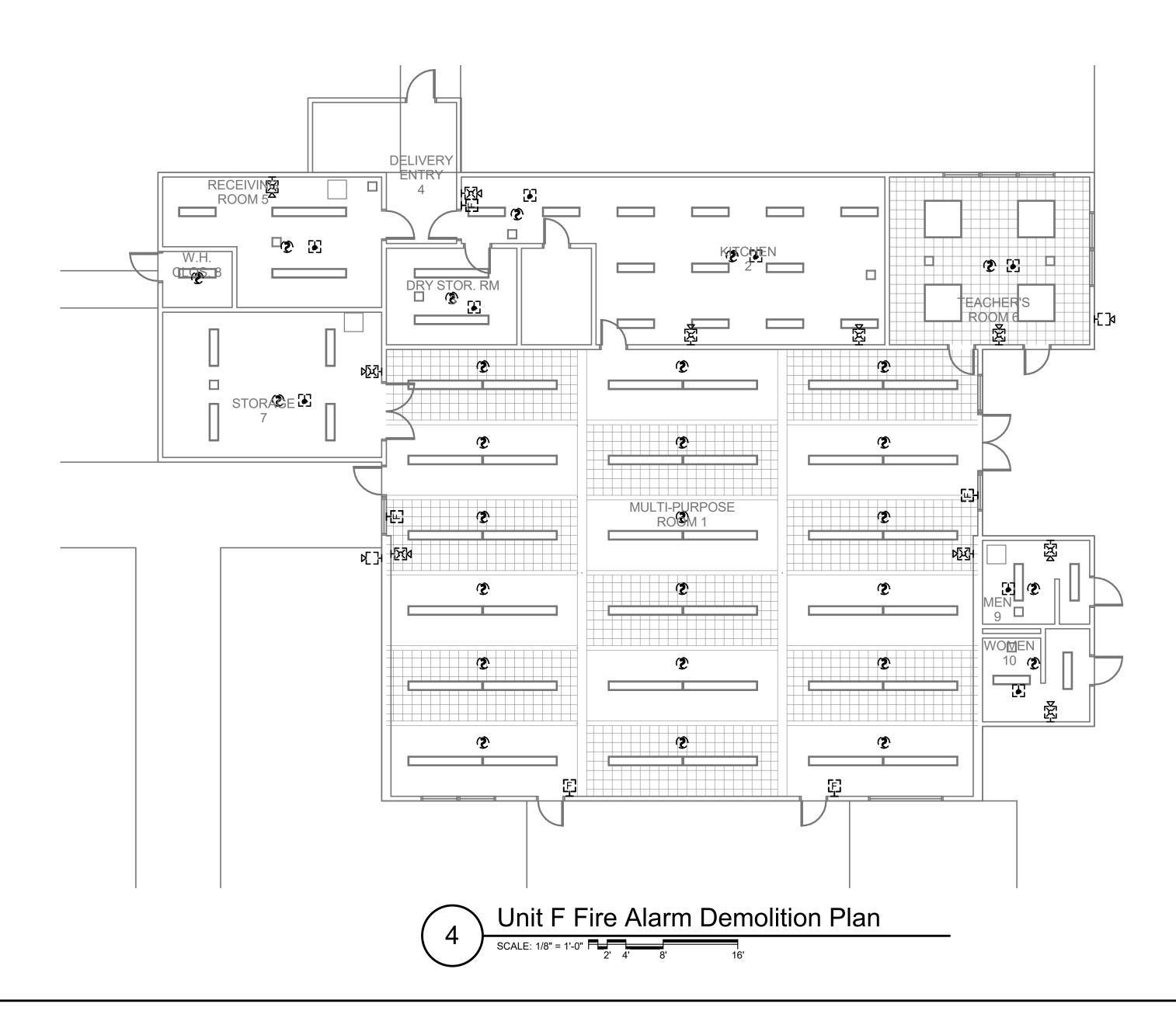


DR/

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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242	
REVISIONS         Image: Designer	
DESIGNER:Designer SCALE: 1/8" = 1'-0" DATE:2019.12.20 TITLE: FIRE ALARM DEMO PLAN - NEW A, NEW B & PORTABLES 1-4 DRAWING NO. ED1.01	







# GENERAL SHEET NOTES

- A. TO REMOVE ALL UNUSED DEVICES, CIRCUITRY AND CONDUIT BACK TO SOURCE.
- B. WHEN A DEVICE IS REMOVED FROM AN EXISTING WALL WHICH WILL REMAIN, PATCH WALL TO MATCH EXISTING OR NEW FINISH.
- WHERE EXISTING FIRE ALARM DEVICES ARE TO BE REMOVED, THE CONTRACTOR SHALL ALSO REMOVE ALL CONDUCTORS SERVING THE DEVICE. ABANDONED CONDUITS AND BOXES CAN BE RE-USED TO PULL NEW CONDUCTORS THROUGH FOR SERVICE DEVICES DOWN STREAM. DO NOT SPLICE IN ABANDONED DEVICE BOXES.
- D. REMOVE ALL UNUSED FIRE ALARM CONTROL PANELS, BOOSTER PANELS AND REMOTE ANNUNCIATORS.



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Vinewood Elementary School 1600 W Tokay St, Lodi, CA 95242
DESIGNER:Designer   SCALE: 1/8" = 1'-0"   DATE:2019.12.20   TITLE:   FIRE ALARM DEMO   PLAN - A, D, E, & F
FIRE ALARM DEMO