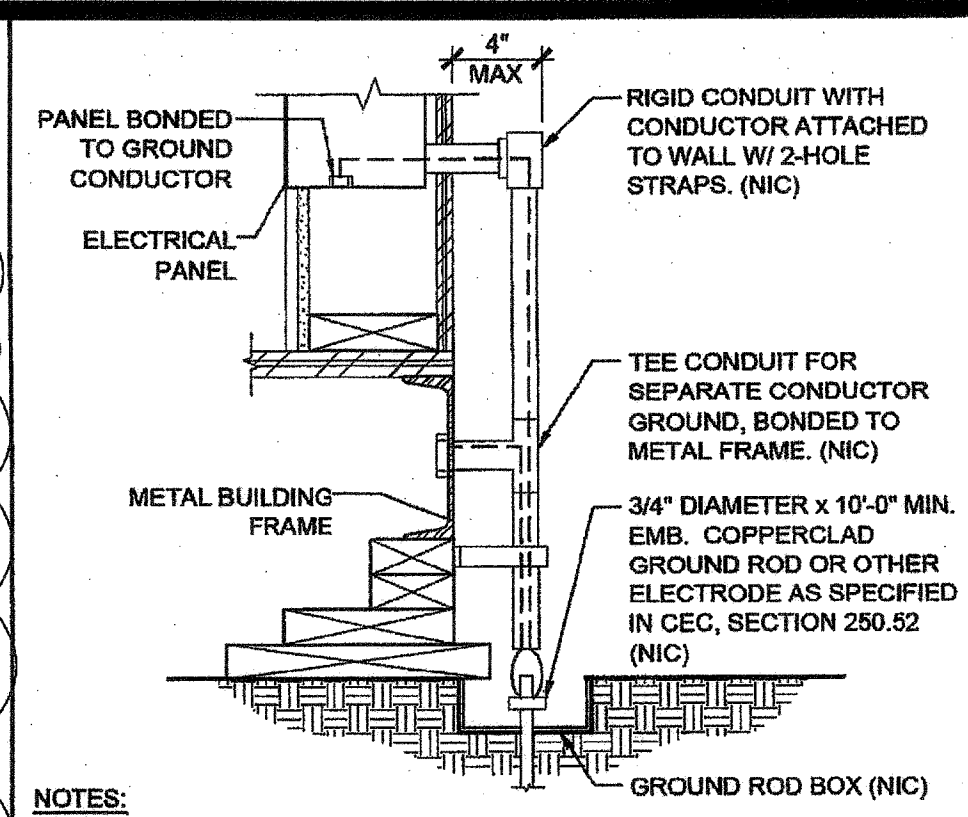


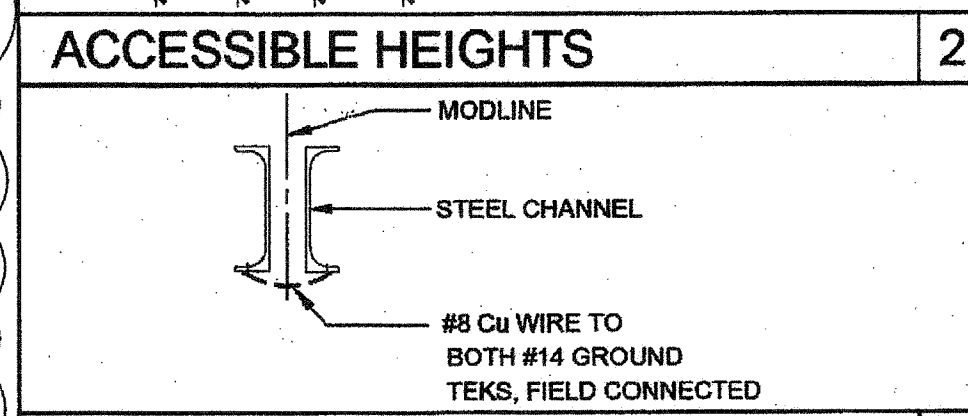
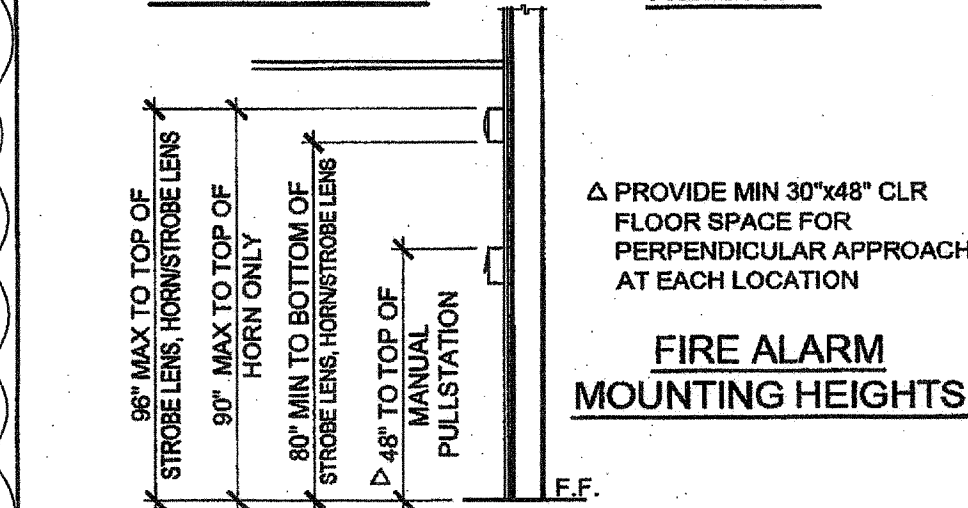
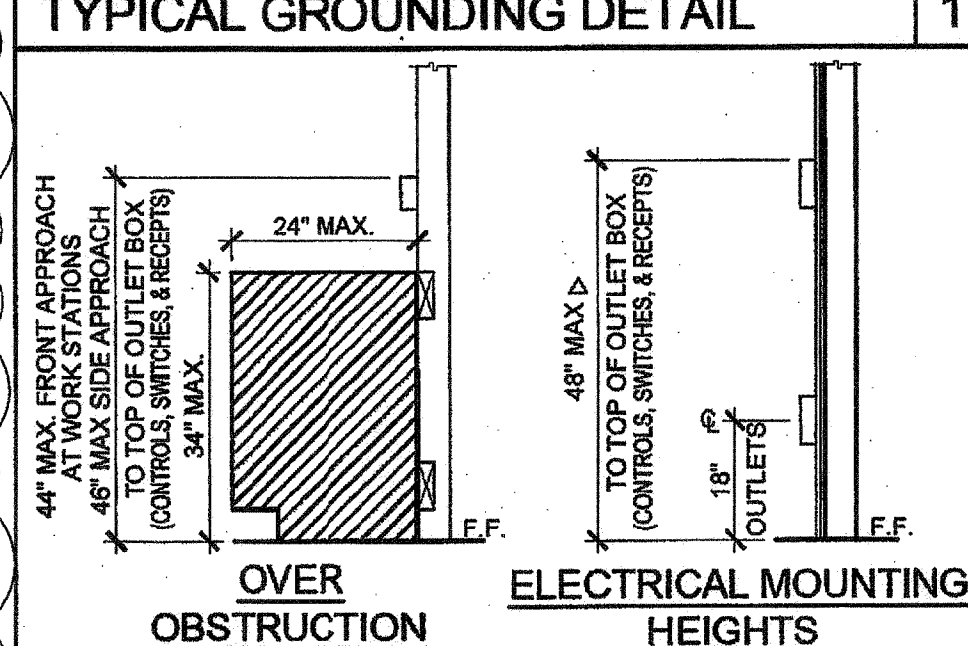
**ELECTRICAL PLAN**

**ELECTRICAL PANEL**

VOLTS: 120/208		PANEL: "A" WALL MOUNTED HVAC		FEED: REAR		VOLTS: 120/208		PANEL: "A" ROOF MOUNTED HVAC		FEED: REAR	
MAIN: 100 A		LOCATION: INTERIOR ACCESS		MOUNTING: FLUSH		MAIN: 100 A		LOCATION: INTERIOR ACCESS		MOUNTING: FLUSH	
LOAD	QTY	WATTS	BREAKER	PHASE	LOAD	QTY	WATTS	BREAKER	PHASE	LOAD	QTY
RECEPTACLES	4	720	20	1	4 TON HVAC - WALL MOUNT (4 KW)	1	14400	40	3	RECEPTACLES	4
RECEPTACLES/CLOCK	5	900	20	1			6670			RECEPTACLES/CLOCK	5
INTERIOR LIGHTING	8	960	20	1						INTERIOR LIGHTING	8
EXTERIOR LIGHTING	1	180	20	1						EXTERIOR LIGHTING	1
WALL RECEPTACLE (GFI)	1	180	20	1						ROOF RECEPTACLE (GFI)	1
A = 8530 WATTS / PHASE		1860 940		6670 40		B = 7650 WATTS / PHASE		1860 940		7400	
TOTAL 16,180		WATTS 78		AMPS 120/208		VOLTS 1Ø		3 WIRE			



- NOTES:**
- SIZE OF CONDUCTORS SHALL COMPLY WITH CEC TABLE 250.66
  - ELEC. TRADE SHALL CHECK AREA FOR EXISTING CONDUITS, SEWER, GAS & WATER PIPING BEFORE DRIVING GROUND RODS.
  - BOND SEPARATE CONDUCTORS FROM GROUND ROD TO ELECTRICAL PANEL & TO METAL BUILDING FRAME (CEC 250.52) IN ADDITION TO THE DETAIL SHOWN ABOVE. BOND THE ELECTRICAL GROUND TO METAL UNDERGROUND WATER PIPE IN DIRECT CONTACT WITH THE EARTH FOR 10 FT. OR MORE, IF AVAILABLE (CEC 250.52)
  - ALL MODULES OF METAL FRAME BLDGS. SHALL BE ELECTRICALLY BONDED TOGETHER (BOLTING ONLY IS NOT ACCEPTABLE BONDING). BONDING SHALL INCLUDE METAL RAMP.
  - CHECK RESISTANT TO GROUND ROD, IF RESISTANCE EXCEEDS 25 OHMS, INSTALL ADDITIONAL GROUND RODS WITH CONDUCTORS AS SHOWN SEPARATED AT LEAST 6'-0" UNTIL RESISTANCE IS REDUCED TO 25 OHMS OR LESS (CEC 250.56)



**GROUND JUMPER AT MODLINE**

GENERAL GROUNDING NOTES

EACH BUILDING SHALL BE SEPARATELY GROUNDED WITH A 3/4" RD. X 8' COPPERCLAD STEEL GROUND ROD, WHERE ROCK BOTTOM IS ENCOUNTERED, ROD SHALL BE DRIVEN AT AN ANGLE NOT TO EXCEED 45 DEGREES FROM THE VERTICAL, OR SHALL BE BURIED IN A TRENCH THAT IS AT LEAST 30" DEEP (BY SITE ELECTRICAL).

TESTING: TEST FOR RESISTANCE TO GROUND, IF RESISTANCE EXCEEDS 25 OHMS, INSTALL ADDITIONAL GROUND RODS SEPARATED AT LEAST 6'-0" UNTIL RESISTANCE IS REDUCED TO 25 OHMS OR LESS. (BY SITE ELECTRICAL).

APPROVAL OF THIS PLAN DOES NOT CONSTITUTE APPROVAL OF THIS FIRE ALARM FOR ALL SITES. THE FIRE ALARM SYSTEM AND/OR COMPONENTS MAY BE REQUIRED TO BE CHANGED DUE TO SITE LOCATION EXISTING CONDITIONS OR INCOMPATIBLE COMPONENTS.

GROUND MG TEST SHALL BE DONE IN THE PRESENCE OF THE PROJECT INSPECTOR. ALL GROUNDING SHALL BE IN ACCORDANCE WITH CEC ARTICLE 250.

**CONDUCTOR FILL AND CONDUCTOR CAPACITY TABLE**

(ALL CONDUCTORS SHALL BE TYPE THHN/THWN 75 DEG. C. COPPER)

WIRE SIZE	CAPACITY	WIRE TYPE	NO. OF CONDUCTOR PERMITTED
#12	20A	THHN	9 16 25 46
#10	30A	THHN	5 10 16 28
#8	45A	THHN	2 5 8 14
#6	65A	THHN	1 3 5 10
#4	85A	THHN	1 2 4 7

**ELECTRICAL PANEL**

VOLTS: 120/208		PANEL: "A" ROOF MOUNTED HVAC		FEED: REAR		VOLTS: 120/208		PANEL: "A" WALL MOUNTED HVAC		FEED: REAR	
MAIN: 100 A		LOCATION: INTERIOR ACCESS		MOUNTING: FLUSH		MAIN: 100 A		LOCATION: INTERIOR ACCESS		MOUNTING: FLUSH	
LOAD	QTY	WATTS	BREAKER	PHASE	LOAD	QTY	WATTS	BREAKER	PHASE	LOAD	QTY
RECEPTACLES	4	720	20	1	4 TON HVAC - ROOF MOUNT (5 KW)	1	14400	40	3	RECEPTACLES	4
RECEPTACLES/CLOCK	5	900	20	1			7360			RECEPTACLES/CLOCK	5
INTERIOR LIGHTING	8	960	20	1						INTERIOR LIGHTING	8
EXTERIOR LIGHTING	1	180	20	1						EXTERIOR LIGHTING	1
WALL RECEPTACLE (GFI)	1	180	20	1						ROOF RECEPTACLE (GFI)	1
A = 9220 WATTS / PHASE		1860 940		6670 40		B = 8340 WATTS / PHASE		1860 940		7400	
TOTAL 17,660		WATTS 84		AMPS 120/208		VOLTS 1Ø		3 WIRE			

**SCHOOL EQUIPMENT ANCHORAGE**

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS, WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2013 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.

- ALL PERMANENT EQUIPMENT AND COMPONENTS.
- TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
- MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

- COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 18.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8, 13.6.7, 13.6.5.6 AND 2013 CBC SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPA #).

COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AN BRACING OF THE PIPE, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE Adequacy OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

- FIRE ALARM NOTES**
- SMOKE AND HEAT DETECTOR CONDUIT AND DEVICES PROVIDED AND INTERCONNECTED BY OTHERS TO FIRE ALARM SYSTEM
  - PROVIDE DEDICATED FIRE ALARM 120V CIRCUIT CONNECTED TO LOCKED-ON BREAKER. THE CIRCUIT BREAKER SHALL BE LOCKED-ON WITH APPROVED LOCKING DEVICE, MARKED RED AND IDENTIFIED AS "FIRE ALARM CONTROL CIRCUIT". NFPA 72, 10.6.5.2.

**JUNCTION BOX SIZE TABLE**

BOX	SIZE	CU. IN.	MAX NO. OF CONDUCTORS
4SS	1 1/4" x 4" SQ	18.0	8 7 6 0
4S	1 1/2" x 4" SQ	21.0	9 8 7 0
4SD	2 1/8" x 4" SQ	30.5	13 12 10 6
4SX	2 7/8" x 4" SQ	43.6	23 21 17 10
5SD	2 1/8" x 4-1/16" SQ	42.0	18 16 14 6
5SX	3 7/8" x 4-1/16" SQ	86.0	38 34 28 17
664	4" x 6" SQ	144.0	64 57 48 28

\* DEDUCT ONE CONDUCTOR FOR (1) OR MORE GROUNDING CONDUCTORS ENTERING THE BOX

**LEGEND**

- 2x4 CEILING LIGHT WITH (3) T-8 LAMPS, LAY-IN FLUORESCENT LIGHT FIXTURE WITH DIMMABLE BALLAST ORACLE LIGHTING - MODEL 24.OT.332.2.T8A12.L41K4 WATTAGE: 32W T8 (48"LG) OR EQUAL
- WALL MOUNTED HVAC UNIT. SEE MECHANICAL DWGS
- ROOF MOUNTED HVAC UNIT-SEE MECHANICAL DWGS
- ELECTRICAL PANEL AT +80" AFF TO TOP OF ELECTRICAL PANEL WITH 1 1/2" DIA POWER STUB OUT
- CEILING MOUNTED OCCUPANCY SENSOR. WATTSTOPPER #LMPC-100 OR EQUAL.
- CEILING MOUNTED PHOTOCELL. WATTSTOPPER #LMS-500
- ULTRASONIC CEILING OCCUPANCY SENSOR. WATTSTOPPER W-500A OR EQUAL. SENSOR TO BE CONNECTED TO KEYPAD LIGHT SWITCHES FOR MANUAL OVERRIDE AND USE FOR RESTROOM W/PARTITIONS.
- SINGLE SWITCH WALL OCCUPANCY SENSOR. WATTSTOPPER PW-100 OR EQUAL. SENSOR TO BE MOUNTED AT +44" AFF AND USE FOR OPEN ROOM (OR RESTROOM) LESS THAN 100 SQ FT W/ (1) CIRCUIT.
- LIGHTING MANAGEMENT SYSTEM ROOM CONTROLLER, INSTALLED ABOVE CEILING, LOCATION AND # OF LOADS/ZONES TO BE VERIFIED, WATTSTOPPER #LMRC-20X
- SINGLE BUTTON DIMMER SWITCH, AT +48" AFF. TO TOP OF OUTLET BOX, WATTSTOPPER #LMDM-101
- LIGHT SWITCH. MOUNT AT +48" AFF TO TOP OF OUTLET BOX
- 3-WAY LIGHT SWITCH. MOUNT AT +48" AFF TO TOP OF OUTLET BOX
- DUPLEX (WALL MOUNTED) RECEPTACLE 15A - 125V - 3 WIRE. MOUNT AT +18" AFF U.O.N. TO CENTERLINE OF DEVICE
- EXTERIOR WEATHER PROOF GFI RECEPTACLE AT +24" AFF FOR A/C SERVICES (MAX 25'-0" FROM UNITS)
- GROUND FAULT CIRCUIT INTERRUPT RECEPTACLE WITHIN 6'-0" OF ALL SINKS
- ROOF MOUNTED WEATHER PROOF GFI RECEPTACLE
- EXTERIOR LED LIGHT FIXTURE W/ 90 MIN. EMERGENCY BATTERY BACKUP WHEN "EM" IS DESIGNATED NEXT TO FIXTURE W/ PHOTOCELL W/ 30w MAX. MOUNT AT +93" AFF
- CLOCK OUTLET AT +90" AFF TO CENTERLINE OF DEVICE
- EXIT SIGN WITH 90 MIN. BATTERY BACK UP. EXIT SIGN REQUIRED FOR CLASSROOMS WITH TWO OR MORE EXTERIOR DOORS. CLASSROOMS WITH ONE EXTERIOR DOOR - OPTIONAL
- 4SD J-BOX FOR FIRE ALARM PULL STATION (DEVICE BY OTHERS). MOUNT AT +48" AFF TO TOP OF OUTLET BOX WITH 3/4" CONDUIT TO FIRE ALARM STROBE WITH PULL STRING
- 4SD J-BOX FOR FIRE ALARM STROBE OR VOICE EVAC SPEAKER (DEVICE BY OTHERS). BOTTOM OF LENS SHALL BE BETWEEN 80" AND 96" AFF AND WITH 3/4" CONDUIT TO EXTERIOR FIRE ALARM HORN WITH PULL STRING
- 4SD J-BOX FOR EXTERIOR FIRE ALARM HORN (DEVICE BY OTHERS). MOUNT AT +90" AFF TO TOP OF DEVICE WITH 3/4" CONDUIT STUBBED TO ATTIC WITH PULL STRING
- RECESSED 4SD J-BOX W/ COVER PLATE FOR FUTURE FIRE ALARM SYSTEM BY OTHERS. MOUNT AT +18" AFF U.O.N. TO CENTERLINE OF BOX AND PROVIDE 1" CO STUB TO ATTIC SPACE WITH PULL STRING
- 4SD J-BOX IN ATTIC FOR CEILING MOUNTED SMOKE DETECTOR (DEVICE BY OTHERS). MAXIMUM 21'-0" FROM ANY POINT IN ROOM AND 30'-0" BETWEEN THEM. PROVIDE A 6'-0" CONDUIT FROM EACH J-BOX TO SMOKE DETECTOR LOCATION. CONDUIT & CONNECTION TO CEILING DEVICE & DEVICE BY OTHERS (ALARM NOTE #1)
- 4SD J-BOX IN ATTIC FOR ATTIC MOUNTED HEAT DETECTOR (DEVICE BY OTHERS). MAXIMUM 36'-0" FROM ANY POINT IN ATTIC AND 50'-0" BETWEEN THEM. PROVIDE A 6'-0" CONDUIT FROM EACH J-BOX TO HEAT DETECTOR LOCATION. CONDUIT & CONNECTION TO CEILING DEVICE & DEVICE BY OTHERS (ALARM NOTE #1)
- 4SD J-BOX FOR WATER HEATER LOCATE ABOVE CEILING W/ COVER PLATE, HARD WIRE TO UNIT
- 100 CFM CEILING MOUNTED EXHAUST FAN. INTERLOCKED WITH LIGHT SWITCH
- 2x4 CEILING LIGHT WITH (3) T-8 LAMPS, LAY-IN FLUORESCENT LIGHT FIXTURE WITH DIMMABLE BALLAST ORACLE LIGHTING - MODEL 24.OT.332.2.T8A12.L41K4 WATTAGE: 32W T8 (48"LG) OR EQUAL EACH LIGHT FIXTURE WHICH IS INDICATED AS BEING AN EMERGENCY LIGHT SHALL HAVE A BALLAST BATTERY PACK INSTALLED ON THE FIXTURE. THE BATTERY PACK SHALL PROVIDE POWER TO A SINGLE LAMP WITHIN THE FIXTURE FOR NO LESS THAN 90 MINUTES. ANY LIGHT FIXTURE EQUIPPED WITH A BATTERY PACK SHALL BE WIRED IN SUCH A MANNER THAT THE BATTERY WILL BE ACTIVATED IMMEDIATELY UPON LOSS OF POWER TO THE FIXTURE. ADDITIONALLY THE BATTERY PACK SHALL BE OPERATED USING BATTERY POWER LIGHTING CONTROL SWITCHES AND SENSORS SHALL NOT BE ABLE TO SHUT THE FIXTURE OFF.
- DEDICATED CIRCUIT W/ LOCK ON DEVICE FOR FIRE SPRINKLER SWITCH AND BELL

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SILVER CREEK INDUSTRIES, INC.

"BUILDING FOR THE NEXT GENERATION"

2830 BARRETT AVE PERRIS, CALIFORNIA 92571  
PHONE: 951-943-5393 FAX: 951-943-2211

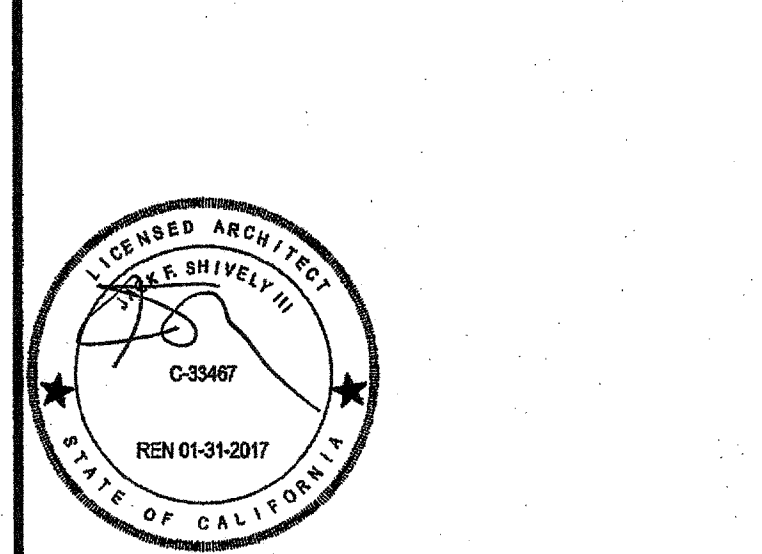
PROJECT NAME:

**24x40 STOCKPILE OFFICE BUILDING**

SHEET TITLE:

**ELECTRICAL PLAN AND SCHEDULE**

24' x 40'



ARCHITECT OF RECORD SUBMISSION DATE

FILE # 15-6

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITECT

OFFICE OF REGULATION SERVICES

03-118270

AC. FILE # 15-6

DATE NOV 8 2017

TRACKING #: 63221-290

PROJECT SPECIFIC STATE AGENCY APPROVAL

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITECT

04 118284

ACS FILE # 15-6

DATE MAY 8 2017

ORIGINAL PC STATE AGENCY APPROVAL

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITECT

OFFICE OF REGULATION SERVICES

PC 04-114102

DATE AUG 9 2017

REVISIONS

1

2

3

4

5

6

7

8

9

10

SILVER CREEK INDUSTRIES

24' x 40' PC - 2.12 PITCH

PROJECT NO:

DRAWN BY:

SCALE: AS NOTED

DATE: 01-30-15

P.C. SHEET NUMBER

**E-1.01**

NOTE: PROVIDE A MINIMUM OF 72 SF SOLAR READY AREA PER MODULE. AREA TO BE A MINIMUM OF 5' IN ANY DIRECTION WITH A MINIMUM SPACE OF 80 SF PER BUILDING.

REFER TO SHEET "E-1.01N" FOR PROJECT SPECIFIC