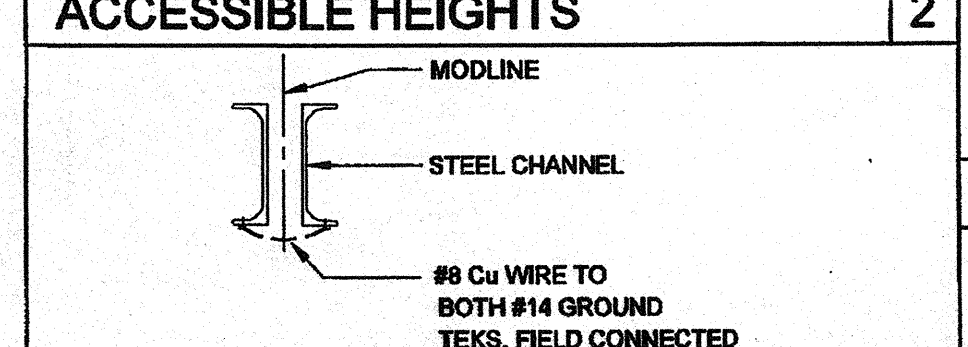
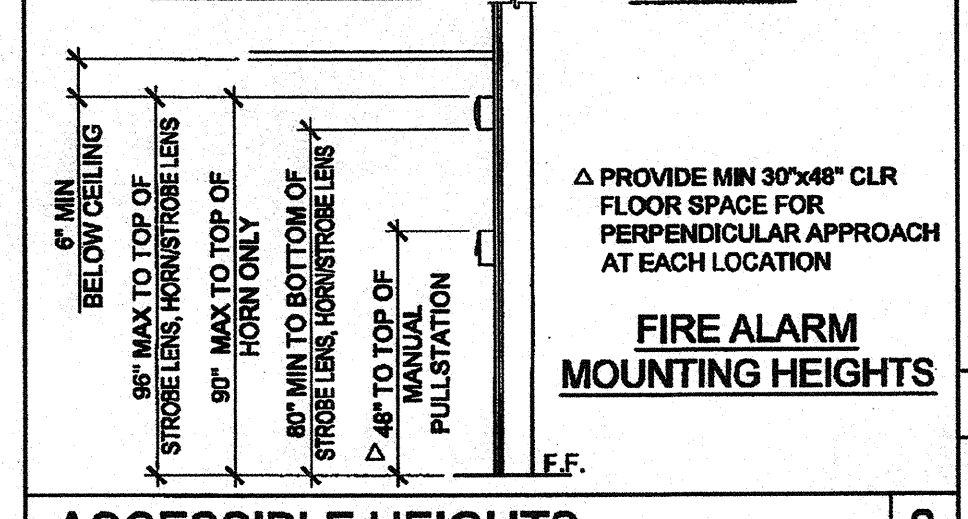
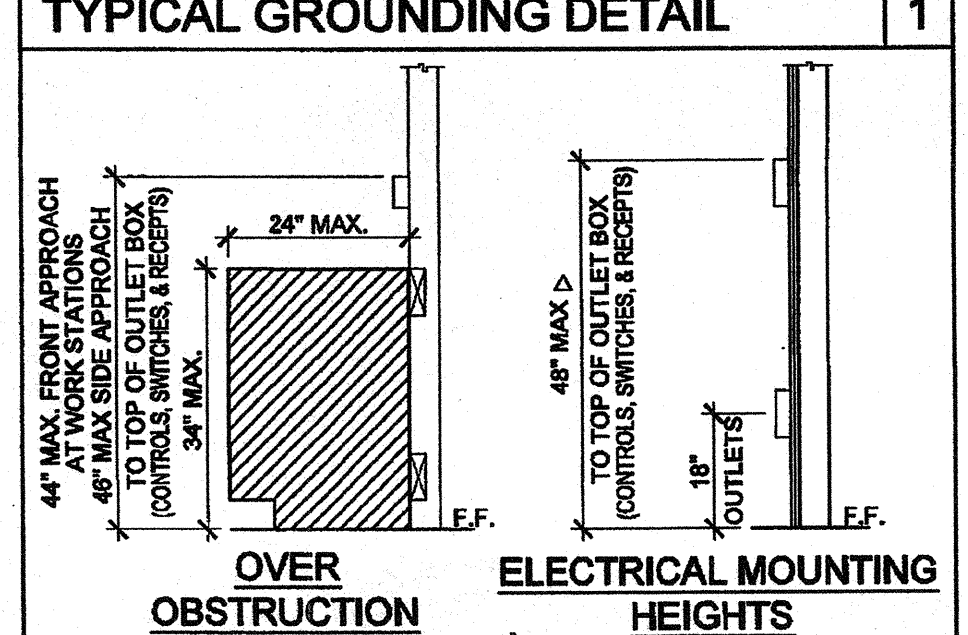


- NOTES:**
- SIZE OF CONDUCTORS SHALL COMPLY WITH CEC TABLE 250.56
 - ELEC. TRADE SHALL CHECK AREA FOR EXISTING CONDUITS, SEWER, GAS & WATER PIPING BEFORE DRIVING GROUND RODS.
 - BOND SEPARATE CONDUCTORS FROM GROUND ROD TO ELEC. PANEL & TO METAL BUILDING FRAME (CEC 250.52) IN ADDITION TO THE DETAIL SHOWN 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 RESISTANCE 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 250.50).



GENERAL GROUNDING NOTES

EACH BUILDING SHALL BE SEPARATELY GROUNDED WITH A 3/4" RD. X 8' COPPER/CLAD 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 MAYBE REQUIRED TO BE CHANGED DUE TO SITE LOCATION EXISTING CONDITIONS OR INCOMPATIBLE COMPONENTS.

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

SCHOOL EQUIPMENT ANCHORAGE

- ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE ISA 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 2010 CBC, SECTIONS 1615A.1.12 THROUGH 1615A.1.22 AND ASCE 7-05 CHAPTER 6 AND 13.
- 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 ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITELY 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 USA 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 BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-05 SECTION 13.3 AS DEFINED IN ASCE 7-05 SECTION 13.6.8, 13.6.11, 13.6.8 AND 2010 CBC SECTIONS 1615A.1.20, 1615A.1.21 AND 1615A.1.22.

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 #) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE 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 SHALL BE CONNECTED TO FIRE ALARM SYSTEM BY OTHERS
- PROVIDE DEDICATED FIRE ALARM 120 VOLT 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 4.4.1.4.2.2

CONDUIT FILL AND CONDUCTOR CAPACITY TABLE

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

WIRE SIZE	CAPACITY	WIRE TYPE	NO. OF CONDUCTORS PERMITTED			
SIZE	TYPE	1/2" C	3/4" C	1" C	1 1/4" C	
#12	20A	THHN	9	16	25	45
#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

JUNCTION BOX SIZE TABLE

BOX SIZE	CUL. IN.	MAX. NO. OF CONDUCTORS			
SIZE	#12	#10	#8	#6	
455 1 1/4" x 4" SQ	18.0	8	7	6	0
45 1 1/2" x 4" SQ	21.0	9	8	7	0
450 2 1/8" x 4" SQ	30.3	13	12	10	6
45K 2 7/8" x 4" SQ	43.5	23	21	17	10
550 2 1/8" x 4 1/16" SQ	42.0	19	18	14	6
55K 3 7/8" x 4 1/16" SQ	66.0	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

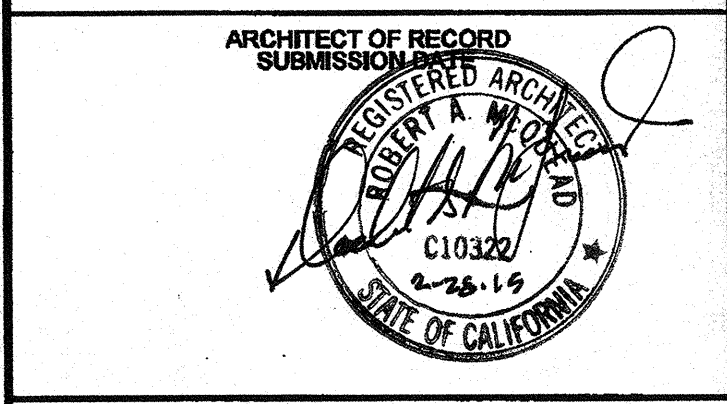
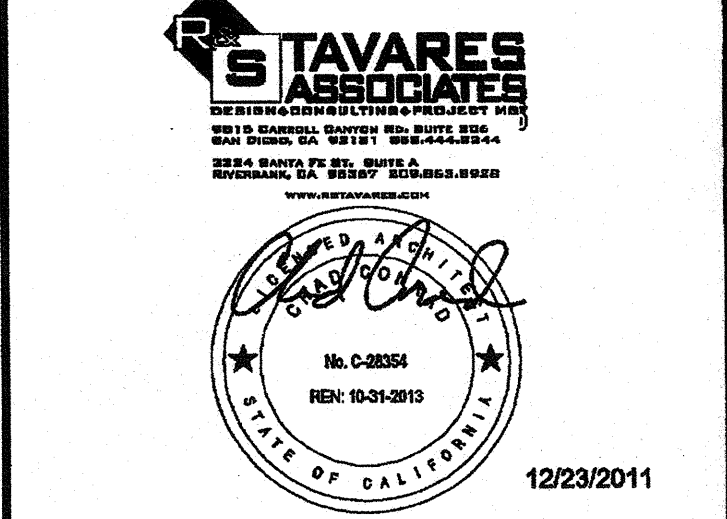
- 2x4 CEILING LIGHT WITH (3) T-8 LAMPS, LAY-IN FLUORESCENT LIGHT FIXTURE WITH ELECTRONIC BALLAST ORACLE LIGHTING - MODEL 24.0T.332.2.78A12L41K.C4 WATTAGE: 32W T8 (4PL6) OR EQUAL
- OPTIONAL 1st CEILING LIGHT WITH (1) T-8 LAMP, LAY-IN FLUORESCENT LIGHT FIXTURE WITH ELECTRONIC BALLAST
- WALL MOUNTED HVAC UNIT-SEE MECHANICAL DWGS
- ROOF MOUNTED HVAC UNIT-SEE MECHANICAL DWGS
- ELECTRICAL PANEL AT +8' AFF TO TOP OF ELECTRICAL PANEL WITH 1 1/2" DIA POWER STUB OUT
- DUAL CEILING OCCUPANCY SENSOR. WATTS TOPPER P1-200 OR EQUAL. SENSOR TO BE CONNECTED TO LIGHT SWITCHES FOR MANUAL OVERRIDE AND USE FOR OPEN ROOM OVER 100 SQ FT W/ (2) CIRCUITS.
- ULTRASONIC CEILING OCCUPANCY SENSOR. WATTS TOPPER W-200 OR EQUAL. SENSOR TO BE CONNECTED TO KEYSWITCHES FOR MANUAL OVERRIDE AND USE FOR RESTROOM W/ PARTITIONS.
- SINGLE SWITCH WALL OCCUPANCY SENSOR. WATTS TOPPER P1-100 OR EQUAL. SENSOR TO BE MOUNTED AT +4' AFF AND USE FOR OPEN ROOM (OR RESTROOM) LESS THAN 100 SQ FT W/ (1) CIRCUIT.
- DUAL SWITCH WALL OCCUPANCY SENSOR. WATTS TOPPER P1-200 OR EQUAL. SENSOR TO BE MOUNTED AT +4' AFF AND USE FOR OPEN ROOM OVER 100 SQ FT W/ (2) CIRCUITS.
- LIGHT SWITCH. MOUNT AT +4' AFF TO TOP OF OUTLET BOX
- 3-WAY LIGHT SWITCH. MOUNT AT +4' AFF TO TOP OF OUTLET BOX
- DUPLEX (WALL MOUNTED) RECEPTACLE 15A - 125V - 3 WIRE. MOUNT AT +18" AFF U.O.M. TO CENTERLINE OF DEVICE
- EXTERIOR WEATHER PROOF GFI RECEPTACLE AT +24" AFF W/ 3/4" CONDUIT TO EXTERIOR (MAX 20'-0" FROM UNITS)
- GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE WITHIN 6'-0" OF ALL SINKS
- ROOF MOUNTED WEATHER PROOF GFI RECEPTACLE
- EXTERIOR LIGHT FIXTURE. MOUNT AT +9' AFF
- CLOCK OUTLET AT +8' AFF TO CENTERLINE OF DEVICE
- EXIT SIGN WITH 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 PULLSTATION (DEVICE BY OTHERS). MOUNT AT +4' AFF TO TOP OF OUTLET BOX WITH 3/4" CONDUIT TO FIRE ALARM STROBE WITH PULLSTRING
- 4SD J-BOX FOR FIRE ALARM STROBE (DEVICE BY OTHERS). BOTTOM OF LENS SHALL BE BETWEEN 8" TO 18" AFF WITH 3/4" CONDUIT TO EXTERIOR FIRE ALARM HORN WITH PULLSTRING
- 4SD J-BOX FOR EXTERIOR FIRE ALARM HORN (DEVICE BY OTHERS). MOUNT AT +8' AFF TO TOP OF DEVICE WITH 3/4" CONDUIT TO FIRE ALARM BACKBOX WITH PULLSTRING
- RECESSED 4SD J-BOX W/ COVER PLATE FOR FUTURE FIRE ALARM SYSTEM BY OTHERS. MOUNT AT +18" AFF U.O.M. TO CENTERLINE OF BOX AND PROVIDE 1" CO STUB TO ATTIC SPACE WITH PULLSTRING
- 4SD J-BOX IN ATTIC FOR CEILING MOUNTED SMOKE DETECTOR (DEVICE BY OTHERS). DETECTORS SHALL BE PLACED SO THAT THERE IS A DETECTOR WITHIN 15'-0" FROM ADJACENT WALL(S), AND 21'-0" FROM ANY POINT IN ROOM. DETECTORS SHALL BE PLACED 30'-0" O.C. MAX. PROVIDE A 6'-0" CONDUIT FROM EACH J-BOX TO SMOKE DETECTOR LOCATION. PROVIDE 3/4" CONDUIT FROM J-BOX TO FIRE ALARM BACKBOX WITH PULLSTRING (ALARM NOTE #1)
- 4SD J-BOX IN ATTIC FOR ATTIC MOUNTED HEAT DETECTOR (DEVICE BY OTHERS). DETECTORS SHALL BE PLACED SO THAT THERE IS A DETECTOR WITHIN 15'-0" FROM ADJACENT WALL(S), 35'-0" FROM ANY POINT IN ATTIC. DETECTORS SHALL BE PLACED 30'-0" O.C. MAX. PROVIDE A 6'-0" CONDUIT FROM EACH J-BOX TO SMOKE DETECTOR LOCATION. PROVIDE 3/4" CONDUIT FROM J-BOX TO FIRE ALARM BACKBOX WITH PULLSTRING (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 ELECTRONIC BALLAST ORACLE LIGHTING - MODEL 24.0T.332.2.78A12L41K.C4 WATTAGE: 32W T8 (4PL6) 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 WIRED SUCH THAT WHEN THE FIXTURE IS BEING OPERATED USING BATTERY POWER THE LIGHTING CONTROL SWITCHES AND SENSORS SHALL NOT BE ABLE TO SHUT THE FIXTURE OFF.
- OPTIONAL 4SD J-BOX W/ 3/4" CONDUIT INTO ATTIC SPACE-HEIGHT TO BE LOCATIONS AS REQUIRED

THESE DRAWINGS AND ALL MATERIAL CONTAINED HEREIN ARE THE PROPERTY OF SILVER CREEK INDUSTRIES, INC (SCI) AND SHALL NOT BE REPRODUCED, COPIED OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY AND SHALL NOT BE USED IN WHOLE OR IN PART TO ASSIST IN THE MAKING OF OR FOR THE PURPOSE OF FURNISHING ANY INFORMATION FOR THE MAKING OF DRAWINGS, PRINTS, APPARATUS OR PARTS THEREOF WITHOUT THE FULL KNOWLEDGE AND WRITTEN CONSENT OF SCI INC. ALL PATENTABLE MATERIAL CONTAINED HEREIN AND ORIGINATING WITH SCI INC SHALL BE THE PROPERTY OF SCI INC.



PROJECT NAME: CLASS LEASING CLASSROOMS BLDG'S

SHEET TITLE: ELECTRICAL PLAN AND SCHEDULE 30' x 32'



PROJECT SPECIFIC STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
04 113850
DATE: AUG 28 2011

ORIGINAL PC STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
PC-04-112070
DATE: DEC 2 2011

REVISIONS

SILVER CREEK INDUSTRIES 30' x 32' PC

PROJECT NO: DRAWN BY: AS NOTED
SCALE: DATE: 8-17-11
P.C. SHEET NUMBER: E-1.01

ELECTRICAL PANEL WALL MOUNTED HVAC

VOLTS: 120/208 V MAIN: 100 A PANEL: "A" LOCATION: INTERIOR ACCESS FEED: REAR MOUNTING: FLUSH

LOAD	QTY	WATTS	BREAKER	WATTS	QTY
AB	BB	Amps	P	AB	BB
RECEPTACLES	4	720	20	1	1
RECEPTACLES/CLOCK	5	720	20	1	3
INTERIOR AND EXTERIOR LIGHTING	13	690	20	1	5
INTERIOR LIGHTING	12	630	20	1	7
GFI RECEPTACLE	1	180	20	1	9
					11
A = 8430	WATTS / PHASE	1550	1350		
TOTAL = 16,860	WATTS	70.0	AMPS	120/208	VOLTS
				1 Ø	3 WIRE

ELECTRICAL PANEL ROOF MOUNTED HVAC

VOLTS: 120/208 V MAIN: 100 A PANEL: "A" LOCATION: INTERIOR ACCESS FEED: REAR MOUNTING: FLUSH

LOAD	QTY	WATTS	BREAKER	WATTS	QTY
AB	BB	Amps	P	AB	BB
RECEPTACLES	4	720	20	1	1
RECEPTACLES/CLOCK	5	720	20	1	3
INTERIOR AND EXTERIOR LIGHTING	13	690	20	1	5
INTERIOR LIGHTING	12	630	20	1	7
ROOF RECEPTACLE	1	180	20	1	9
					11
A = 5870	WATTS / PHASE	1590	1350		
TOTAL = 11,540	WATTS	46.0	AMPS	120/208	VOLTS
				1 Ø	3 WIRE