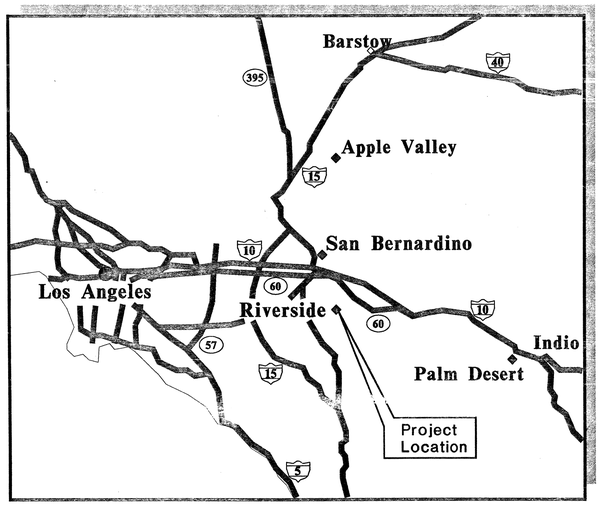
CESAR CHAVEZ COMMUNITY CENTER ELECTRICAL AND MECHANICAL SYSTEMS UPGRADE

Location:

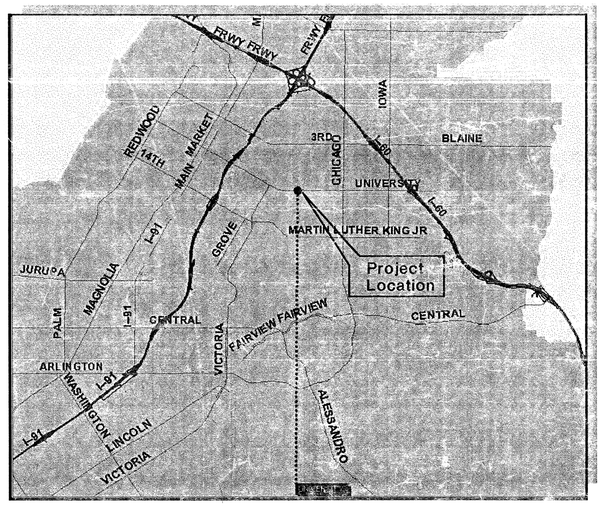
Cesar Chavez Community Center
2060 University Avenue
Riverside, California

Prepared for:

City of Riverside
Parks and Recreation Dept.
3900 Main Street
Riverside, California



Vicinity Map
No Scale



Location Map
No Scale

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Title Sheet T1

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Existing A.C. Breaker Assignments E2
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HVAC Schedule & Notes M5
HVAC Specifications M6
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REVISION: BY

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 9333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
CESAR CHAVEZ COMM. CENTER
RIVERSIDE, CALIFORNIA

Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369 FAX (760)242-1092 PALM DESERT (760)772-4470 dreampe@earthlink.net

TITLE SHEET

PROJECT: 9905012
DATE: 5/13/99
DRAWN:
CHECKED:
APPROVED:
DWG FILE: CESCHAE?
SHEET T-1

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CEZAR CHAVEZ

CESAR CHAVEZ COMMUNITY CENTER ELECTRICAL AND MECHANICAL SYSTEMS UPGRADE

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2060 University Avenue
Riverside, California

Prepared for:

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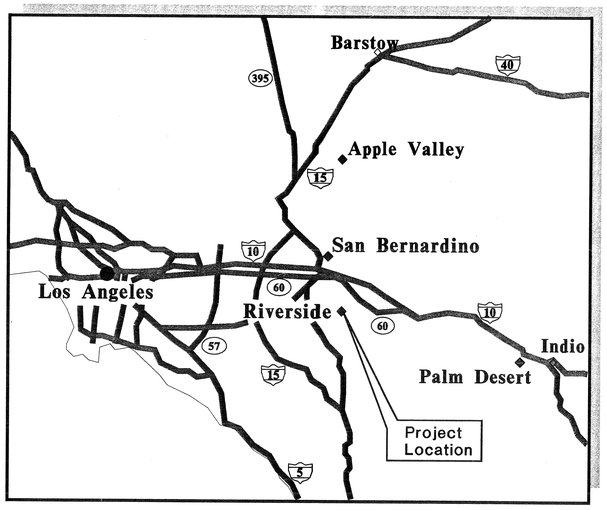
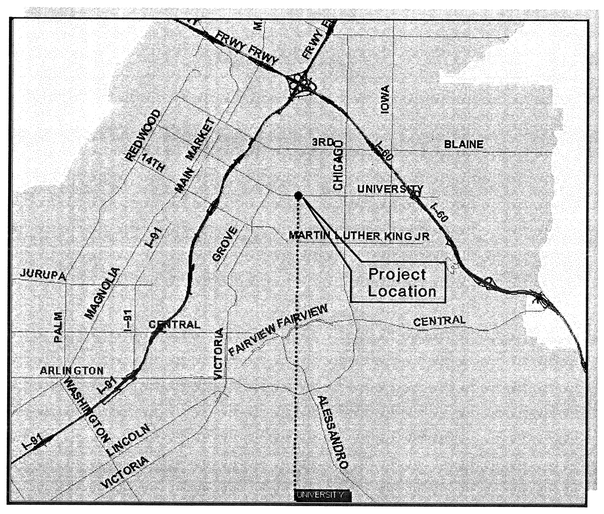


Vicinity Map
No Scale



Location Map
No Scale

SHEET INDEX

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APPLE VALLEY (760)242-3369 FAX (760)242-1092 PALM DESERT (760)773-4478
dreamjoe@earthlink.net dreamjoe@aol.com

SHEET

CITY OF RIVERSIDE
SET 2 OF 2 SUBMITTAL DATE: Mar 28, 2001
ADDRESS...: 2060 UNIVERSITY AV. FAST TRACK
LOCATION...: PC #: 01-0385
APPLICANT...: EMERY ANDY
PHONE #...: 909 715-3470
DESCRIPTION: ELECTRICAL & MECHANICAL (CESAR CHAVEZ COMM. CTR)
FAST TRACK
PLAN CHECK BIN #: 2-Q
SUBMITTAL...: 1ST 2ND 3RD 4TH

4-12-01 O.K. CORRECTED SET

CEZAR CHAVEZ

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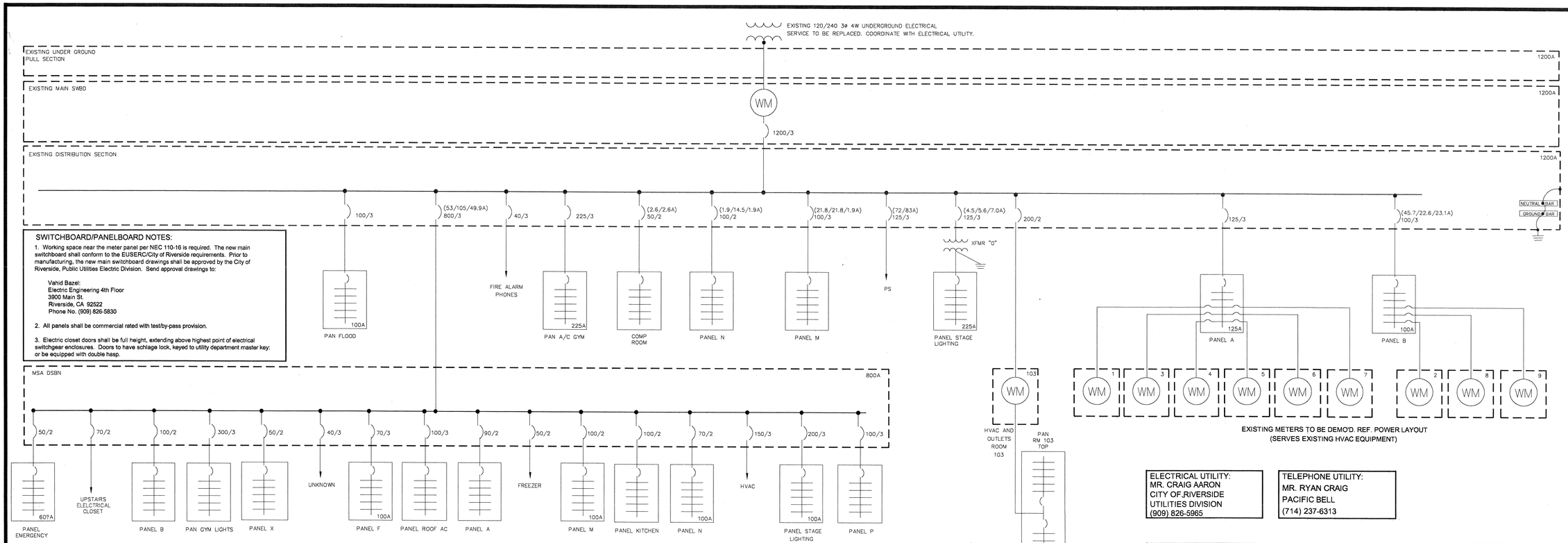


SWITCHBOARD/PANELBOARD NOTES:

1. Working space near the meter panel per NEC 110-16 is required. The new main switchboard shall conform to the EUSERC/City of Riverside requirements. Prior to manufacturing, the new main switchboard drawings shall be approved by the City of Riverside, Public Utilities Electric Division. Send approval drawings to:

   Vahid Bazel:
   Electric Engineering 4th Floor
   3900 Main St.
   Riverside, CA 92522
   Phone No. (909) 826-5830

2. All panels shall be commercial rated with test/by-pass provision.

3. Electric closet doors shall be full height, extending above highest point of electrical switchgear enclosures. Doors to have schlage lock, keyed to utility department master key: or be equipped with double hasp.

ELECTRICAL UTILITY:
MR. CRAIG AARON
CITY OF RIVERSIDE
UTILITIES DIVISION
(909) 826-5965

TELEPHONE UTILITY:
MR. RYAN CRAIG
PACIFIC BELL
(714) 237-6313

Note:
All switch gear shown is existing and is to be protected in place unless indicated otherwise on this sheet or sheet E-3.

EXISTING A.C. SINGLE LINE DIAGRAM

NO SCALE

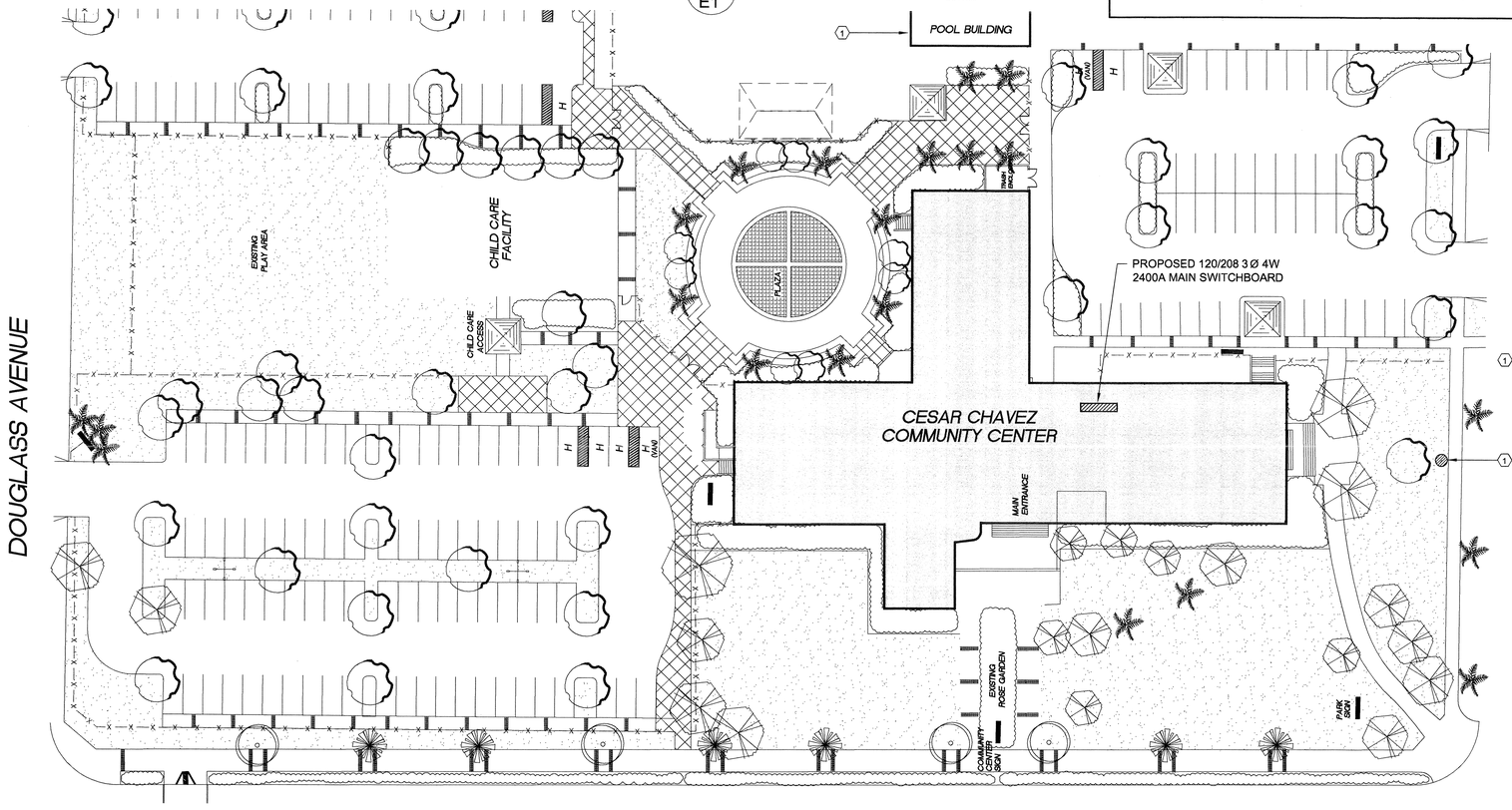
1 / E1

ELECTRICAL NOTES AND SYMBOLS

1. ALL WORK TO BE DONE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE 1996 EDITION.
2. ALL UNDERGROUND OUTSIDE BRANCH CIRCUIT AND FEEDER CIRCUITS ARE TO BE RUN IN NONMETALLIC CONDUIT SCHEDULE 40. ALL ELECTRICAL CONDUCTORS RUN EXPOSED, SHALL BE RUN IN EMT CONDUIT SUPPORTED AT 10' INTERVALS AND WITHIN 3' OF TERMINATIONS OR BOXES.
3. ALL ELECTRICAL SYMBOLS PER ANSI Y32.9 1972. REAFFIRMED 1989.
4. ALL ELECTRICAL CONDUCTORS ARE TO BE COPPER. INSULATION FOR #12 TO #1 SHALL BE THWN, #1/0 THROUGH #4/0 SHALL BE TYPE XHHW {55mils}, AND #250 MCM AND LARGER SHALL BE TYPE XHHW {65mils}. GROUNDING CONDUCTOR SHALL BE THWN.
5. UTILITIES AND LIGHTING EQUIPMENT ARE DRAWN DIAGRAMMATICALLY. SCALED DIMENSIONS ARE APPROXIMATE ONLY. BEFORE PROCEEDING WITH WORK, CAREFULLY CHECK AND VERIFY DIMENSIONS, IMMEDIATELY NOTIFY ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS OR SPECIFICATIONS AND ACTUAL CONDITIONS, ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, IT IS NOT WITHIN SCOPE OF THE DRAWINGS TO SHOW NECESSARY OFFSETS, OBSTRUCTIONS, OR SITE CONDITIONS. THE CONTRACTOR WILL BE RESPONSIBLE TO INSTALL WORK IN SUCH A MANNER THAT IT WILL CONFORM TO SITE CONDITIONS, COMPLETE AND IN GOOD WORKING ORDER.
6. ALL BRANCH CIRCUITS AND FEEDERS CIRCUITS SHALL HAVE A GROUNDING CONDUCTOR PULLED WITH THEM. REF. A.C. BREAKER ASSIGNMENTS & LIGHT. AND POWER LAYOUTS FOR SIZE OF GROUNDING CONDUCTOR. THIS COPPER GROUNDING CONDUCTOR SHALL BE TERMINATED TO GROUNDING TERMINALS OF ALL RECEPTACLES & ALL NONCURRENT-CARRYING CONDUCTIVE SURFACES OF FIXED ELECTRIC EQUIPMENT LIKELY TO BECOME ENERGIZED THAT ARE SUBJECT TO PERSONAL CONTACT.
7. ANY CUT SEWER OR SPRINKLER MUST BE REPLACED BY CONTRACTOR AT HIS EXPENSE.
8. GFCI PROTECTED AND WEATHERPROOF RECEPTACLE OUTLET IS TO BE LOCATED WITHIN 25 FEET OF ROOF MOUNTED HVAC EQUIPMENT. RECEPTACLE IS NOT TO BE WIRED ON LOAD SIDE OF ANY DISCONNECT SWITCH CONTROLLING ROOF MOUNTED HVAC EQUIPMENT. PER NEC ARTICLE 210-63 & THE UMC. MOUNT CENTER AT +15"
9. 1 / E1 — INDICATES DETAIL # / INDICATES SHEET #

ABBREVIATIONS

EXIST.	EXISTING TO BE REUSED	E.C.	ELECTRICAL CONTRACTOR
PROV.	TO BE PROVIDED NEW, BY E.C.	TYP.	TYPICAL.



KEY NOTES

1. E.C. IS TO COORDINATE WITH SERVING TELCO TO RUN EXISTING OVERHEAD TELPHONE DROP FEEDING POOL BLDG. VIA COMMUNITY CENTER BLDG. TO ROUTE UNDERGROUND. E.C. IS TO INCLUDE IN HIS BID ALL COSTS FOR TRENCHING, CONDUIT, PATCHING, ETC.

ELECTRICAL SITE PLAN

SCALE 1" = 30' - 0"

2 / E1

RECEIVED
MAR 27 2001
PLANNING & DESIGN

UNDERGROUND SERVICE ALERT
CALL BEFORE YOU DIG
Section 4216.4(a)(1) of the Government Code requires a DIG ALERT Identification Number be issued before a "Permit to Excavate" will be valid. Call DIG ALERT at the Contractor Call Underground Service Alert
TOLL FREE 1-800-422-4133
Two working days before you dig

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REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000	JMN
#2 PER CITY COMMENTS 3/8/2001	LPM

REGISTERED PROFESSIONAL ENGINEER — JOSEPH M. NOLAN — NO. E 8333 — EXP: SEP 30 2001 — ELECTRICAL — STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
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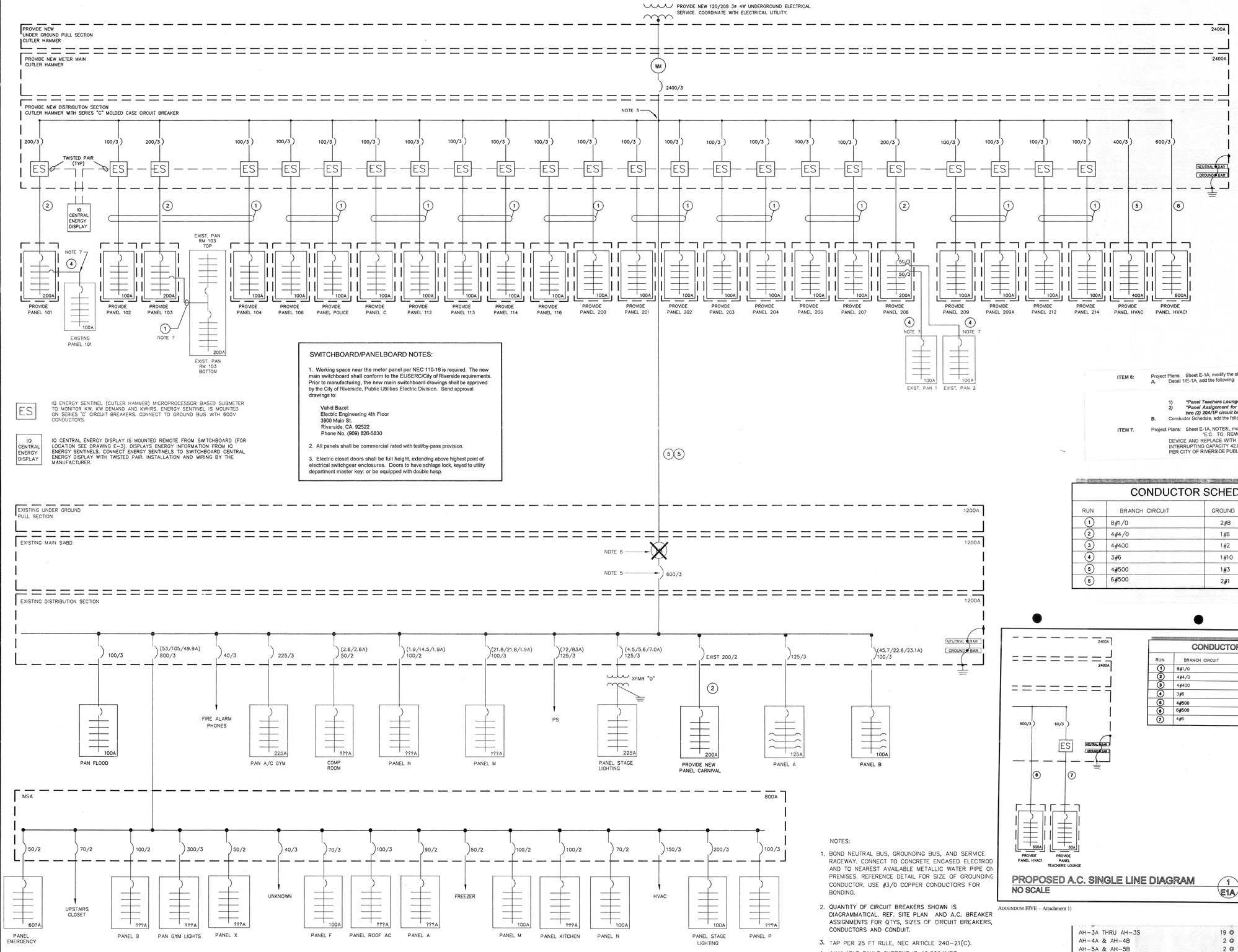
PALM DESERT (760)773-4478
dream@dreamelectric.com

EXISTING A.C. SINGLE LINE DIAGRAM & SITE PLAN

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

E-1



ES — IQ ENERGY SENTINEL (CUTLER HAMMER) MICROPROCESSOR BASED SUBMETER TO MONITOR KW, KW DEMAND AND KWHRS. ENERGY SENTINEL IS MOUNTED ON SERIES 'C' CIRCUIT BREAKERS. CONNECT TO GROUND BUS WITH 600V CONDUCTORS.

IQ CENTRAL ENERGY DISPLAY — IQ CENTRAL ENERGY DISPLAY IS MOUNTED REMOTE FROM SWITCHBOARD (FOR LOCATION SEE DRAWING E-3). DISPLAYS ENERGY INFORMATION FROM IQ ENERGY SENTINELS. CONNECT ENERGY SENTINELS TO SWITCHBOARD CENTRAL ENERGY DISPLAY WITH TWISTED PAIR. INSTALLATION AND WIRING BY THE MANUFACTURER.

SWITCHBOARD/PANELBOARD NOTES:

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   Phone No. (909) 826-5830

2. All panels shall be commercial rated with test/by-pass provision.

3. Electric closet doors shall be full height, extending above highest point of electrical switchgear enclosures. Doors to have schlage lock, keyed to utility department master key: or be equipped with double hasp.

PROPOSED A.C. SINGLE LINE DIAGRAM
NO SCALE

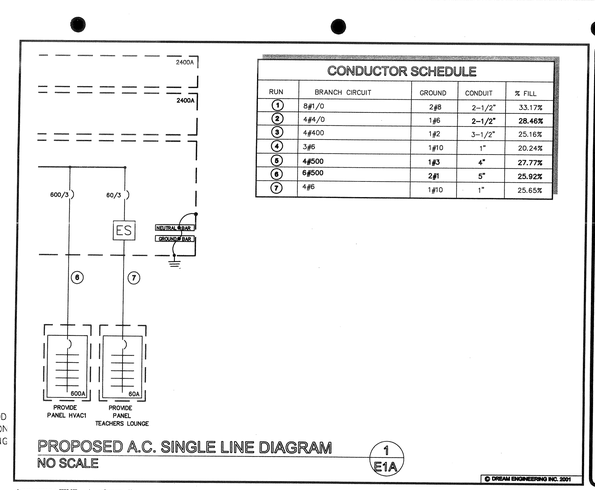
1 / E1A

NOTES:

1. BOND NEUTRAL BUS, GROUNDING BUS, AND SERVICE RACEWAY. CONNECT TO CONCRETE ENCASED ELECTROD AND TO NEAREST AVAILABLE METALLIC WATER PIPE ON PREMISES. REFERENCE DETAIL FOR SIZE OF GROUNDING CONDUCTOR. USE #3/0 COPPER CONDUCTORS FOR BONDING.
2. QUANTITY OF CIRCUIT BREAKERS SHOWN IS DIAGRAMMATICAL. REF. SITE PLAN AND A.C. BREAKER ASSIGNMENTS FOR QTYS, SIZES OF CIRCUIT BREAKERS, CONDUCTORS AND CONDUIT.
3. TAP PER 25 FT RULE, NEC ARTICLE 240-21(C).
4. AVAILABLE FAULT CURRENT IS 42,000AMPS.
5. E.C. TO REMOVE EXISTING 1200A/3P MAIN OVERCURRENT DEVICE AND REPLACE WITH 600A/3P MAIN OVERCURRENT DEVICE. INTERRUPTING CAPACITY 42,000AMPS. EXISTING LOAD IS 146.4KW (353AMPS) PER CITY OF RIVERSIDE PUBLIC UTILITIES STATEMENT OF SERVICES 8/31/99.
6. E.C. TO REMOVE EXISTING METER, JUMPER WITH PARALLEL 400MCM CONDUCTORS OR EQUIVALENT BUS AND BLANK OFF METER SOCKET.
7. E.C. TO REMOVE EXISTING CONDUCTORS AND PULL NEW CONDUCTORS SHOWN, REUSE EXISTING CONDUIT.

CONDUCTOR SCHEDULE

RUN	BRANCH CIRCUIT	GROUND	CONDUIT	% FILL
1	8#1/0	2#8	2-1/2"	33.17%
2	4#4/0	1#6	2-1/2"	28.46%
3	4#400	1#2	3-1/2"	25.16%
4	3#6	1#10	1"	20.24%
5	4#500	1#3	4"	27.77%
6	6#500	2#1	5"	25.92%



RUN	BRANCH CIRCUIT	GROUND	CONDUIT	% FILL
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2	4#4/0	1#6	2-1/2"	28.46%
3	4#400	1#2	3-1/2"	25.16%
4	3#6	1#10	1"	20.24%
5	4#500	1#3	4"	27.77%
6	6#500	2#1	5"	25.92%
7	4#6	1#10	1"	25.65%

ADDENDUM FIVE – Attachment 1)

AH-3A THRU AH-3S	19 @	4000 VA	76000 VA
AH-4A & AH-4B	2 @	3536 VA	7072 VA
AH-5A & AH-5B	2 @	3120 VA	6240 VA
CU-1A & CU-1B	2 @	3240 VA	6480 VA
CU-2	1 @	13032 VA	13032 VA
CU-3A THRU CU-3S	19 @	5400 VA	102600 VA
CU-4A & CU-4B	2 @	5616 VA	11232 VA
CU-5A & CU-5B	2 @	3328 VA	6656 VA
EF-1	1 @	345 VA	345 VA
EF-2	1 @	127 VA	127 VA
	TOTALS		464878 VA
	81 @ 100% DEMAND	=	464878 VA
TOTAL NEW ELECTRICAL LOAD		=	692839 VA
EXISTING ELECTRICAL PEAK DEMAND		=	146600 VA
NET LOAD AT 120/208V 3 PHASE 4 WIRE		=	2023 AMPS
TOTAL CONNECTED LOAD 1669.49 AMPS + 125% LCL		=	2085 AMPS
SERVICE SWITCHGEAR TO BE RATED 120/208V 3 PHASE 4 WIRE		=	**2400 AMPS**

ITEM 6: Project Plans: Sheet E-1A, modify the sheet per Attachment Sheet SK-1and as follows:
A. Detail 1/E-1A, add the following:

1) *"Panel Teachers Lounge"*
2) *"Panel Assignment for new panel shown is to be same as Panel "202." Provide two (2) 20A/1P circuit breakers for HVAC unit."*

B. Conductor Schedule, add the following: *"Run 7"*

ITEM 7. Project Plans: Sheet E-1A, NOTES:, modify note #5 to read as follows:
"E.C. TO REMOVE EXISTING 1200A/3P MAIN OVERCURRENT DEVICE AND REPLACE WITH ~~600A/3P~~ **600A/3P** MAIN OVERCURRENT DEVICE. INTERRUPTING CAPACITY 42,000 AMPS. EXISTING LOAD IS 146.4KW (353 AMPS) PER CITY OF RIVERSIDE PUBLIC UTILITIES STATEMENT OF SERVICES 8/31/99."

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REVISION:	BY
1. PER CHECK BY HUGO 2/22/00	LEH
#2 PER CITY COMMENTS 9/9/2000	JMN
#3 PER CITY COMMENTS 3/8/2001	LPM

REGISTERED PROFESSIONAL ENGINEER — JOSEPH M. NOLAN — NO E 8933 — EXP: SEP 30 2001 — ELECTRICAL — STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
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dreamjoe@earthlink.net dreamjoe@aol.com

PROPOSED A.C. SINGLE LINE DIAGRAM

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

E-1A

EXISTING A.C. BREAKER ASSIGNMENTS

MANF SQUARE D | PANEL A
VOLTS 120/240 | LOCATION – IN BASEMENT, REF POWER LAYOUT
PHASE 3 | FEEDER – REF. A.C. SINGLE LINE
WIRE 4 | AMPS – 125
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1	WM-1	HVAC				A	30	2		
2	WM-4	HVAC				A	50	2		
3	WM-1	HVAC				B	–			
4	WM-4	HVAC				B	–			
5	SPACE					C				
6	SPACE					C				
7	WM-3	HVAC				A	50	2		
8	WM-6	HVAC				A	30	3		
9	WM-3	HVAC				B	–			
10	WM-6	HVAC				B	–			
11	WM-5	MISC				C	40	3		
12	WM-6	HVAC				C	–			
13	WM-5	MISC				A	–			
14	WM-7	HVAC				A	30	2		
15	WM-5	MISC				B	–			
16	WM-7	HVAC				B	–			
17	SPACE					C				
18	SPACE					C				
19	SPACE					A				
20	SPACE					A				
21	SPACE					B				
22	SPACE					B				
23	SPACE					C				
24	SPACE					C				
25	SPACE					A				
26	SPACE					A				

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 125 AMPERES

MANF ZINSCO | PANEL P
VOLTS 120/240V | LOCATION – REF POWER LAYOUT
PHASE 3 | FEEDER – REF. A.C. SINGLE LINE
WIRE 4 | AMPS
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1	WEST FAN ROOM					A	20	3		
2	VACUUM PUMP	PUMP				A	70	2		
3	WEST FAN ROOM					B	--			
4	VACUUM PUMP	PUMP				B	--			
5	WEST FAN ROOM					C	--			
6	SPARE					C	20	3		
7	SPARE					A	30	3		
8	SPARE					A	--			
9	SPARE					B	--			
10	SPARE					B	--			
11	SPARE					C	--			
12	SPARE					C	40	3		
13	EAST FAN ROOM					A	20	3		
14	SPARE					A	--			
15	EAST FAN ROOM					B	--			
16	SPARE					B	--			
17	EAST FAN ROOM					C	--			
18	DISCONNECT SOUTH WALL					C	20	3		
19	SUMP PUMP	PUMP				A	30	3		
20	DISCONNECT SOUTH WALL					A	--			
21	SUMP PUMP	PUMP				B	--			
22	DISCONNECT SOUTH WALL					B	--			
23	SUMP PUMP	PUMP				C	--			
24	SPARE					C	30	3		
25	SPARE					A	20	3		
26	SPARE					A	--			
27	SPARE					B	--			
28	SPARE					B	--			
29	SPARE					C	--			
30	SPACE					C	--			

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

MANF SQUARE D | PANEL N
VOLTS 120/240V | LOCATION – REF POWER LAYOUT
PHASE 1 | FEEDER – REF. A.C. SINGLE LINE
WIRE 3 | AMPS
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1						A				
2						A				
3						B				
4						B				
5						C				
6						C				
7						A				
8						A				
9						B				
10						B				
11						C				
12						C				
13						A				
14						A				
15						B				
16						B				
17						C				
18						C				
19						A				
20						A				
21						B				
22						B				
23						C				
24						C				
25						A				
26						A				
27						B				
28						B				
29						C				
30						C				

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

MANF SQUARE D | PANEL FLOOD
VOLTS 120/240V | LOCATION – REF POWER LAYOUT
PHASE 3 | FEEDER – REF. A.C. SINGLE LINE
WIRE 4 | AMPS ?
M.O.C.D. M.L.O. | MOUNTING – SURFACED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1	NORTH FLOOD	LIGHTS				A	30	3		
2	EAST FLOOD	LIGHTS				A	30	3		
3	NORTH FLOOD	LIGHTS				B	–			
4	EAST FLOOD	LIGHTS				B	–			
5	NORTH FLOOD	LIGHTS				C	–			
6	EAST FLOOD	LIGHTS				C	–			
7	SOUTH FLOOD	LIGHTS				A	30	3		
8	WEST FLOOD	LIGHTS				A	30	3		
9	SOUTH FLOOD	LIGHTS				B	–			
10	WEST FLOOD	LIGHTS				B	–			
11	SOUTH FLOOD	LIGHTS				C	–			
12	WEST FLOOD	LIGHTS				C	–			
13						A				
14						A				
15						B				
16						B				
17						C				
18						C				
19						A				
20						A				
21						B				
22						B				
23						C				
24						C				

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

MANF SQUARE D | PANEL MSA
VOLTS 120/240V | LOCATION – REF POWER LAYOUT
PHASE 3 | FEEDER – REF. A.C. SINGLE LINE
WIRE 4 | AMPS 800
M.O.C.D. 800 | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1	HEAD START A/C	HVAC				A	150	3		
2	STAGE LIGHTS	LIGHTS				A	200	3		
3	HEAD START A/C	HVAC				B	–			
4	STAGE LIGHTS	LIGHTS				B	–			
5	HEAD START A/C	HVAC				C	–			
6	STAGE LIGHTS	LIGHTS				C	–			
7	PANEL F	MISC				A	70	3		
8	PANEL P	MISC				A	100	3		
9	PANEL F	MISC				B	–			
10	PANEL P	MISC				B	–			
11	PANEL F	MISC				C	–			
12	PANEL P	MISC				C	–			
13	PANEL N	MISC				A	70	2		
14	PANEL A	MISC				A	90	2		
15	PANEL N	MISC				B	–			
16	PANEL A	MISC				B	–			
17	KITCHEN	MISC				C	100	2		
18	PANEL M	MISC				C	100	2		
19	KITCHEN	MISC				A	–			
20	PANEL M	MISC				A	–			
21	FREEZER	MISC				B	50	2		
22	EMERGENCY PANEL	MISC				B	50	2		
23	FREEZER	MISC				C	–			
24	EMERGENCY PANEL	MISC				C	–			
25	PANEL B	MISC				A	100	2		
26	PANEL X	MISC				A	50	2		
27	PANEL B	MISC				B	–			
28	PANEL X	MISC				B	–			
29	A/C ROOF	HVAC				C	100	3		
30	?	MISC				C	40	3		
31	A/C ROOF	HVAC				A	–			
32	?	MISC				A	–			
33	A/C ROOF	HVAC				B	–			
34	?	MISC				B	–			
35	SPACE					C				
36	UPSTAIRS CLOSET	MISC				C	70	2		
37	SPARE					A				
38	UPSTAIRS CLOSET	MISC				A	–			
39	SPARE					B				
40	GYM LIGHTS	LIGHTS				B	300	3		
41	SPACE					C				
42	GYM LIGHTS	LIGHTS					–			
43	SPACE									
44	GYM LIGHTS	LIGHTS					–			

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 800 AMPERES

MANF SQUARE D | PANEL B
VOLTS 120/240V | LOCATION – IN BASEMENT, REF POWER LAYOUT
PHASE 3 | FEEDER – REF. A.C. SINGLE LINE
WIRE 4 | AMPS
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1	WM-8	HVAC				A	30	2		
2	SPACE					A				
3	WM-8	HVAC				B	--			
4	WM-2	HVAC				B	40	2		
5	SPACE					C				
6	WM-2	HVAC				C	--			
7	SPACE					A				
8	WM-9	HVAC				A	40	2		
9	SPACE					B				
10	WM-9	HVAC				B	--			
11	SPACE					C				
12	SPACE					C				

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

MANF SQUARE D | PANEL 103 BOTTOM
VOLTS 120/240V | LOCATION – IN BASEMENT, REF POWER LAYOUT
PHASE 1 | FEEDER – REF. A.C. SINGLE LINE
WIRE 3 | AMPS
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
11	COMPUTER	COMP				A	20	1		
12	COMPUTER	COMP				B	20	1		
13A	COMPUTER	COMP				A	20	1		
13B	COMPUTER	COMP				A	20	1		
14A	COMPUTER	COMP				B	20	1		
14B	COMPUTER	COMP				B	20	1		
15A	COMPUTER	COMP				A	20	1		
15B	COMPUTER	COMP				A	20	1		
16A	COMPUTER	COMP				B	20	1		
16B	COMPUTER	COMP				B	20	1		
17A	PRINTER	PRINT				A	20	1		
17B	UPS	UPS				A	20	1		
18A	AIR HANDLER	AH				B	20	1		
18B	AIR HANDLER	AH				B	20	1		
19	AC	HVAC				A	30	2		
20	AC	HVAC				B	–			

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

MANF ZINSCO | PANEL 2
VOLTS 120/240V | LOCATION – REF POWER LAYOUT
PHASE 1 | FEEDER – REF. A.C. SINGLE LINE
WIRE 3 | AMPS ?
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1						A	25	1		
2						A	30	1		
3						B	20	1		
4						B	20	1		
5						C	20	1		
6						C	20	1		
7						A	20	1		
8						A	20	1		
9						B	20	1		
10						B	20	1		
11						C	30	1		
12						C	30	1		

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

MANF SQUARE D | PANEL 103 TOP
VOLTS 120/240V | LOCATION – IN BASEMENT, REF POWER LAYOUT
PHASE 1 | FEEDER – REF. A.C. SINGLE LINE
WIRE 3 | AMPS – 200A
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1	COMPUTER	COMP				A	20	1		
2	COMPUTER	COMP				B	20	1		
3	COMPUTER	COMP				A	20	1		
4	COMPUTER	COMP				B	20	1		
5	COMPUTER	COMP				A	20	1		
6	COMPUTER	COMP				B	20	1		
7A	SPARE					A	20	1		
7B	COMPUTER	COMP				A	20	1		
8A	COMPUTER	COMP				B	20	1		
8B	COMPUTER	COMP				B	20	1		
9	AC	HVAC				A	30	2		
10	AC	HVAC				B	–			

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 200 AMPERES

MANF SQUARE D | PANEL KITCHEN
VOLTS 120/240 | LOCATION – IN KITCHEN, REF POWER LAYOUT
PHASE 1 | FEEDER – REF. A.C. SINGLE LINE
WIRE 3 | AMPS ?
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1						A	?	1		
2						A	?	1		
3						B	15	1		
4	SPACE					B				
5						C	?	1		
6						C	?	1		
7						A	15	1		
8						A	15	1		

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

MANF SQUARE D | PANEL 1
VOLTS 120/240V | LOCATION – REF POWER LAYOUT
PHASE 1 | FEEDER – REF. A.C. SINGLE LINE
WIRE 3 | AMPS 100
M.O.C.D. M.L.O. | MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT	NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CKT CONDR	GRND CONDR
1	KIT?					A		1		
2	REC CONF					A		1		
3	RECEPT					A		1		
4	LOUNGE-OFF LITES					A		1		

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 100 AMPERES

REVISION:	BY
1. PER CHECK BY HUGO 2/22/00	LEH
#2 PER CITY COMMENTS 9/9/2000 NO OBS	JMN

REGISTERED PROFESSIONAL ENGINEER ★ JOSEPH M. NOLAN NO E 9333 EXP: SEP 30 2001 ELECTRICAL ★ STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
CESAR CHAVEZ COMM. CENTER
RIVERSIDE, CALIFORNIA

DREAM Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369 dreamjoe@earthlink.net FAX (760)242-1092
PALM DESERT (760)773-4478 dreamjoe@aol.com

EXISTING A.C. BREAKER ASSIGNMENTS

PROJECT: 9905012
DATE: 5/13/99
DRAWN:
CHECKED:
APPROVED:
DWG FILE: CESCHAE?

SHEET E-2

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PROPOSED A.C. BREAKER ASSIGNMENTS

PANEL 101

MANF	SQUARE D	PANEL	101
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	200
M.O.C.D.	200 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	AH-3G	HVAC	2496	C	B	30	2	#10	#10
4	AH-3H	HVAC	2496	C	B	30	2	#10	#10
5	AH-3G	HVAC	2496	C	C	--		#10	
6	AH-3H	HVAC	2496	C	C	--		#10	
7	CU-3G	HVAC	1800	C	A	20	3	#12	#12
8	CU-3H	HVAC	1800	C	A	20	3	#12	#12
9	CU-3G	HVAC	1800	C	B	--		#12	
10	CU-3H	HVAC	1800	C	B	--		#12	
11	CU-3G	HVAC	1800	C	C	--		#12	
12	CU-3H	HVAC	1800	C	C	--		#12	
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	EXISTING PANEL 101	MISC	5760	N	C	60	2	#6	#10
18	SPARE				C	20	1		
19	EXISTING PANEL 101	MISC	5760	N	A	--		#6	
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 22704 VA
PROPOSED CONTINUOUS LOAD + 25% 28380 VA
PROPOSED NON-CONTINUOUS LOAD 16920 VA
PROPOSED TOTAL LOAD 45300 VA
PROPOSED AMPS/LEG 129 AMPERES
PROPOSED BUSS RATING 200 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

PANEL 102

MANF	SQUARE D	PANEL	102
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	AH-3R	HVAC	2496	C	B	30	2	#10	#10
4	AH-3S	HVAC	2496	C	B	30	2	#10	#10
5	AH-3R	HVAC	2496	C	C	--		#10	
6	AH-3S	HVAC	2496	C	C	--		#10	
7	CU-3R	HVAC	1800	C	A	20	3	#12	#12
8	CU-3S	HVAC	1800	C	A	20	3	#12	#12
9	CU-3R	HVAC	1800	C	B	--		#12	
10	CU-3S	HVAC	1800	C	B	--		#12	
11	CU-3R	HVAC	1800	C	C	--		#12	
12	CU-3S	HVAC	1800	C	C	--		#12	
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 22704 VA
PROPOSED CONTINUOUS LOAD + 25% 28380 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 33780 VA
PROPOSED AMPS/LEG 81 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

PANEL 104

MANF	SQUARE D	PANEL	104
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	AH-3P	HVAC	2496	C	B	30	2	#10	#10
4	AH-3Q	HVAC	2496	C	B	30	2	#10	#10
5	AH-3P	HVAC	2496	C	C	--		#10	
6	AH-3Q	HVAC	2496	C	C	--		#10	
7	CU-3P	HVAC	1800	C	A	20	3	#12	#12
8	CU-3Q	HVAC	1800	C	A	20	3	#12	#12
9	CU-3P	HVAC	1800	C	B	--		#12	
10	CU-3Q	HVAC	1800	C	B	--		#12	
11	CU-3P	HVAC	1800	C	C	--		#12	
12	CU-3Q	HVAC	1800	C	C	--		#12	
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 22704 VA
PROPOSED CONTINUOUS LOAD + 25% 28380 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 33780 VA
PROPOSED AMPS/LEG 81 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

PANEL 106

MANF	SQUARE D	PANEL	106
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	AH-30	HVAC	2496	C	B	30	2	#10	#10
4	SPARE				B	20	1		
5	AH-30	HVAC	2496	C	C	--		#10	
6	SPARE				C	20	1	#12	#12
7	CU-30	HVAC	1800	C	A	20	3	#12	#12
8	SPARE				A	20	1	#12	#12
9	CU-30	HVAC	1800	C	B	--		#12	
10	SPARE				B	20	1		
11	CU-30	HVAC	1800	C	C	--		#12	
12	SPARE				C	20	1	#12	#12
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 12312 VA
PROPOSED CONTINUOUS LOAD + 25% 15390 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 20790 VA
PROPOSED AMPS/LEG 56 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

PANEL C (COMMUNITY)

MANF	SQUARE D	PANEL	C (COMMUNITY)
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
3	AH-2	HVAC	960	C	B	20	3	#12	#12
4	CU-2	HVAC	4344	C	B	50	3	#6	#10
5	AH-2	HVAC	960	C	C	--		#12	
6	CU-2	HVAC	4344	C	C	--		#6	
7	AH-2	HVAC	960	C	A	--		#12	#12
8	CU-2	HVAC	4344	C	A	--		#6	#12
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	VENDING MACHINES	MISC	1500	N	C	20	1	#12	#12
12	VENDING MACHINES	MISC	1500	N	C	20	1	#12	#12
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	EXISTING OUTLETS	RECEPT	1800	N	C	20	1	#12	#12
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 19752 VA
PROPOSED CONTINUOUS LOAD + 25% 24690 VA
PROPOSED NON-CONTINUOUS LOAD 8400 VA
PROPOSED TOTAL LOAD 33090 VA
PROPOSED AMPS/LEG 84 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

SWITCHBOARD/PANELBOARD NOTES:

1. Working space near the meter panel per NEC 110-16 is required. The new main switchboard shall conform to the EUSERC/City of Riverside requirements. Prior to manufacturing, the new main switchboard drawings shall be approved by the City of Riverside, Public Utilities Electric Division. Send approval drawings to:

   Vahid Bazel:
   Electric Engineering 4th Floor
   3900 Main St.
   Riverside, CA 92522
   Phone No. (909) 826-5830

2. All panels shall be commercial rated with test/by-pass provision.

3. Electric closet doors shall be full height, extending above highest point of electrical switchgear enclosures. Doors to have schlage lock, keyed to utility department master key: or be equipped with double hasp.

PANEL 112

MANF	SQUARE D	PANEL	112
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	AH-3L	HVAC	2496	C	B	30	2	#10	#10
4	SPARE				B	20	1		
5	AH-3L	HVAC	2496	C	C	--		#10	
6	SPARE				C	20	1	#12	#12
7	CU-3L	HVAC	1800	C	A	20	3	#12	#12
8	SPARE				A	20	1	#12	#12
9	CU-3L	HVAC	1800	C	B	--		#12	
10	SPARE				B	20	1		
11	CU-3L	HVAC	1800	C	C	--		#12	
12	SPARE				C	20	1	#12	#12
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 12312 VA
PROPOSED CONTINUOUS LOAD + 25% 15390 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 20790 VA
PROPOSED AMPS/LEG 56 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

PANEL 113

MANF	SQUARE D	PANEL	113
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	LIGHTS	1800	C	A	20	1	#12	#12
3	AH-3C	HVAC	2496	C	B	30	2	#10	#10
4	AH-3D	HVAC	2496	C	B	30	2	#10	#10
5	AH-3C	HVAC	2496	C	C	--		#10	
6	AH-3D	HVAC	2496	C	C	--		#10	
7	CU-3C	HVAC	1800	C	A	20	3	#12	#12
8	CU-3D	HVAC	1800	C	A	20	3	#12	#12
9	CU-3C	HVAC	1800	C	B	--		#12	
10	CU-3D	HVAC	1800	C	B	--		#12	
11	CU-3C	HVAC	1800	C	C	--		#12	
12	CU-3D	HVAC	1800	C	C	--		#12	
13	GENERAL PURPOSE	RECEPT	1440	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1440	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 24504 VA
PROPOSED CONTINUOUS LOAD + 25% 30630 VA
PROPOSED NON-CONTINUOUS LOAD 2880 VA
PROPOSED TOTAL LOAD 33510 VA
PROPOSED AMPS/LEG 78 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

PANEL 114

MANF	SQUARE D	PANEL	114
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	AH-3K	HVAC	2496	C	B	30	2	#10	#10
4	SPARE				B	20	1		
5	AH-3K	HVAC	2496	C	C	--		#10	
6	SPARE				C	20	1	#12	#12
7	CU-3K	HVAC	1800	C	A	20	3	#12	#12
8	SPARE				A	20	1	#12	#12
9	CU-3K	HVAC	1800	C	B	--		#12	
10	SPARE				B	20	1		
11	CU-3K	HVAC	1800	C	C	--		#12	
12	SPARE				C	20	1	#12	#12
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 12312 VA
PROPOSED CONTINUOUS LOAD + 25% 15390 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 20790 VA
PROPOSED AMPS/LEG 56 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

PANEL 116

MANF	SQUARE D	PANEL	116
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	AH--3I	HVAC	2496	C	B	30	2	#10	#10
4	AH-3J	HVAC	2496	C	B	30	2	#10	#10
5	AH-3I	HVAC	2496	C	C	--		#10	
6	AH-3J	HVAC	2496	C	C	--		#10	
7	CU-3I	HVAC	1800	C	A	20	3	#12	#12
8	CU-3J	HVAC	1800	C	A	20	3	#12	#12
9	CU-3I	HVAC	1800	C	B	--		#12	
10	CU-3J	HVAC	1800	C	B	--		#12	
11	CU-3I	HVAC	1800	C	C	--		#12	
12	CU-3J	HVAC	1800	C	C	--		#12	
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 22704 VA
PROPOSED CONTINUOUS LOAD + 25% 28380 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 33780 VA
PROPOSED AMPS/LEG 81 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

PANEL P (POLICE)

MANF	SQUARE D	PANEL	P (POLICE)
VOLTS	120/208	LOCATION – REF POWER LAYOUT	
PHASE	3	FEEDER – REF. A.C. SINGLE LINE	
WIRE	4	AMPS	100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE	

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRNCH CONDR	GRND CONDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
3	AH-3M	HVAC	2496	C	B	30	2	#10	#10
4	AH-3N	HVAC	2496	C	B	30	2	#10	#10
5	AH-3M	HVAC	2496	C	C	--		#10	
6	AH-3N	HVAC	2496	C	C	--		#10	
7	CU-3M	HVAC	1800	C	A	20	3	#12	#12
8	CU-3N	HVAC	1800	C	A	20	3	#12	#12
9	CU-3M	HVAC	1800	C	B	--		#12	
10	CU-3N	HVAC	1800	C	B	--		#12	
11	CU-3M	HVAC	1800	C	C	--		#12	
12	CU-3N	HVAC	1800	C	C	--		#12	
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	EXISTING OUTLETS	RECEPT	1800	N	C	20	1	#12	#12
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 24624 VA
PROPOSED CONTINUOUS LOAD + 25% 30780 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 36180 VA
PROPOSED AMPS/LEG 89 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

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REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000	JMN
#2 PER CITY COMMENTS 3/8/2001	LPM

REGISTERED PROFESSIONAL ENGINEER
JOSEPH M. NOLAN
NO E 9333
EXP: SEP 30 2001
ELECTRICAL
STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
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PROPOSED
A.C. BREAKER
ASSIGNMENTS

PROJECT: 9905012
DATE: 5/13/99
DRAWN:
CHECKED:
APPROVED:
DWG FILE: CESCHAE?

SHEET
E-2B

EXISTING A.C. BREAKER ASSIGNMENTS

MANF	ZINSCO	PANEL M
VOLTS	?	LOCATION – REF POWER LAYOUT
PHASE	?	FEEDER – REF. A.C. SINGLE LINE
WIRE	?	AMPS ?
M.O.C.D.		MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR	
1	TOWER LIGHTS	LIGHTS			A	20	1			
2	MILK MACHINE	VEND			A	20	1			
3	HIGH FLOODS	LIGHTS			B	20	1			
4	BATT ROOM LIGHTS	LIGHTS			B	20	1			
5	VENDING MACH. SWISS CH.	VEND			C	20	1			
6	BOILER STAIR LIGHTS	LIGHTS			C	20	1			
7	MILK & ICE CREAM MACH.	VEND			A	20	1			
8	HORNS	HORN			A	20	1			
9	THEATER WALL SCONCES	LIGHTS	500	C	B	20	1	#12	#12	NOTE 1
10	SUMP ROOF	PUMP	1260	N	B	20	2	#12	#12	NOTE 2
11	OUTLETS ON ROOF	RECEPT			C	20	1			
12	SUMP ROOF	PUMP			C	--				
13	HALL CAFETERIA				A	20	1			
14	CLOCKS	CLOCK			A	20	1			
15	VAULT LIGHTS	LIGHTS			B	20	1			
16	NIGHT LIGHTS WEST	LIGHTS			B	20	1			
17	BOILER ROOM LIGHTS	LIGHTS			C	20	1			
18	VENDING MACHINE	VEND			C	20	1			
19	BURNER	BURNER			A	20	1			
20					A	?	2			
21	EAST FLOODS	LIGHTS			B	20	1			
22					B	--				
23					C					
24	A/C RAPE CENTER	HAVC			C	50	2			
25					A					
26	A/C RAPE CENTER	HAVC			A	--				
27					B					
28					B					
29					C					
30					C					

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

1. E.C. IS TO PROVIDE NEW CONDUCTORS TO PROPOSED WALL SCONCES. COORDINATE WITH KEYNOTE 1 ON SHEET E4A.
2. PROVIDE NEW CONDUCTORS AND CONDUIT TO OUTLETS ON ROOF. REF. ROOF HVAC POWER LAYOUT.

MANF	SQUARE D	PANEL CAFETERIA
VOLTS	?	LOCATION – IN CAFETERIA, REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS ?
M.O.C.D.		MOUNTING – RECESSED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1					A	15	1		
2					A	20	2		
3					B	20	1		
4					B	--			
5					C	20	1		
6					C	20	1		
7					A	20	1		
8					A	20	1		
9					B	15	1		
10					B	20	1		
11					C	20	1		
12					C	20	1		
13					A	20	1		
14					A	15	1		
15					B	20	1		
16					B	15	1		
17					C	20	1		
18					C	15	1		
19	SPACE				A				
20	SPACE				A				

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 0 AMPERES

MANF	SQUARE D	PANEL MAINT
VOLTS	120/240	LOCATION – IN MAINT ROOM 1ST FLOOR, REF POWER LAYOUT
PHASE	1	FEEDER – REF. A.C. SINGLE LINE
WIRE	3	AMPS 225
M.O.C.D.		MOUNTING – SURFACED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1					A	20	1		
2					A	20	1		
3					A	20	1		
4					A	20	1		
5					A	20	1		
6					A	20	1		
7					A	20	1		
8					A	20	1		
9					A	20	1		
10					A	20	1		
11					A	20	1		
12	SPACE				A				
13					A	15	2		
14					A	50	2		
15					A	--			
16					A	--			
17					A	30	2		
18	SPACE				A				
19					A	--			
20	RECEPT	RECEPT		N	A	20	1		
21	TOWER FLOODS	LIGHTS		N	A	20	1		
22	RECEPT	RECEPT		N	A	20	1		
23	SPACE				A				
24	SPACE				A				
25	SPACE				A				
26	SPACE				A				
27	SPACE				A				
28	SPACE				A				
29	SPACE				A				
30	SPACE				A				
31	SPACE				A				
32	SPACE				A				
33	SPACE				A				
34	SPACE				A				
35	SPACE				A				
36	SPACE				A				
37	SPACE				A				
38	SPACE				A				
39	SPACE				A				
40	SPACE				A				
41	SPACE				A				
42	SPACE				A				

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 225 AMPERES

MANF	SQUARE D	PANEL ELEC. CLOSET
VOLTS	120/240	LOCATION – IN ELEC. CLOS. 2ND FLOOR, REF POWER LAYOUT
PHASE	?	FEEDER – REF. A.C. SINGLE LINE
WIRE	?	AMPS 125
M.O.C.D.		MOUNTING – SURFACED

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1					A	20	1		
2					A	30	2		
3					A	15	1		
4					A	--			
5					A	15	1		
6					A	40	2		
7					A	20	1		
8					A	--			
9					A	20	1		
10					A	20	2		
11					A	20	1		
12					A	--			
13					A	20	1		
14					A	20	1		
15					A	20	1		
16					A	20	1		

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 0 VA
PROPOSED AMPS/LEG 0 AMPERES
PROPOSED BUSS RATING 125 AMPERES

PROPOSED A.C. BREAKER ASSIGNMENTS

MANF	SQUARE D	PANEL HVAC
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 400
M.O.C.D.	400 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1	AH-3A	HVAC	2496	C	A	30	3	#10	#10
2	AH-3B	HVAC	2496	C	A	30	3	#10	#10
3	AH-3A	HVAC	2496	C	B	--		#10	
4	AH-3B	HVAC	2496	C	B	--		#10	
5	AH-3A	HVAC	2496	C	C	--		#10	
6	AH-3B	HVAC	2496	C	C	--		#10	
7	SPACE		0	C	A				
8	SPACE		0	C	A				
9	SPACE		0	C	B				
10	SPACE		0	C	B				
11	EF-2A & EF-2B	HVAC	700	C	C	--		#12	#12
12	SPACE		0	C	C				
13	AH-1A	HVAC	1080	C	A	20	3	#12	#12
14	AH-1B	HVAC	1080	C	A	20	3	#12	#12
15	AH-1A	HVAC	1080	C	B	--		#12	
16	AH-1B	HVAC	1080	C	B	--		#12	
17	AH-1A	HVAC	1080	C	C	--		#12	
18	AH-1B	HVAC	1080	C	C	--		#12	
19	AH-4A	HVAC	1768	C	A	20	2	#12	#12
20	AH-4B	HVAC	1768	C	A	20	2	#12	#12
21	AH-4A	HVAC	1768	C	B	--		#12	
22	AH-4B	HVAC	1768	C	B	--		#12	
23	AH-5A	HVAC	1560	C	C	20	2	#12	#12
24	AH-5B	HVAC	1560	C	C	20	2	#12	#12
25	AH-5A	HVAC	1560	C	A	--		#12	
26	AH-5B	HVAC	1560	C	A	--		#12	
27	CU-3A	HVAC	1800	C	B	20	3	#12	#12
28	CU-3B	HVAC	1800	C	B	20	3	#12	#12
29	CU-3A	HVAC	1800	C	C	--		#12	
30	CU-3B	HVAC	1800	C	C	--		#12	
31	CU-3A	HVAC	1800	C	A	--		#12	
32	CU-3B	HVAC	1800	C	A	--		#12	
33	CU-4A	HVAC	2808	C	B	30	2	#10	#10
34	CU-4B	HVAC	2808	C	B	30	2	#10	#10
35	CU-4A	HVAC	2808	C	C	--		#10	
36	CU-4B	HVAC	2808	C	C	--		#10	
37	CU-5A	HVAC	1664	C	A	20	2	#12	#12
38	CU-5B	HVAC	1664	C	A	20	2	#12	#12
39	CU-5A	HVAC	1664	C	B	--		#12	
40	CU-5B	HVAC	1664	C	B	--		#12	
41	EF-1A & EF-1B	HVAC	472	C	C	20	1	#12	#12
42	SPACE				B				

PROPOSED CONTINUOUS LOAD 63928 VA
PROPOSED CONTINUOUS LOAD + 25% 79910 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 79910 VA
PROPOSED AMPS/LEG 222 AMPERES
PROPOSED BUSS RATING 400 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL HVAC1
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	3	AMPS 600
M.O.C.D.	600 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1	HP-1A	HVAC	8592	C	A	100	3	#3	#8
2	HP-1B	HVAC	8592	C	A	100	3	#3	#8
3	HP-1A	HVAC	8592	C	B	--		#3	
4	HP-1B	HVAC	8592	C	B	--		#3	
5	HP-1A	HVAC	8592	C	C	--		#3	
6	HP-1B	HVAC	8592	C	C	--		#3	
7	HP-1C	HVAC	8592	C	A	100	3	#3	#8
8	HP-1D	HVAC	8592	C	A	100	3	#3	#8
9	HP-1C	HVAC	8592	C	B	--		#3	
10	HP-1D	HVAC	8592	C	B	--		#3	
11	HP-1C	HVAC	8592	C	C	--		#3	
12	HP-1D	HVAC	8592	C	C	--		#3	
13	CU-1A	HVAC	6456	C	A	80	3	#3	#8
14	CU-1B	HVAC	6456	C	A	80	3	#3	#8
15	CU-1A	HVAC	6456	C	B	--		#3	
16	CU-1B	HVAC	6456	C	B	--		#3	
17	CU-1A	HVAC	6456	C	C	--		#3	
18	CU-1B	HVAC	6456	C	C	--		#3	
19	SPACE				A				
20	SPACE				A				
21	SPACE				B				
22	SPACE				B				
23	SPACE				C				
24	SPACE				C				

PROPOSED CONTINUOUS LOAD 141840 VA
PROPOSED CONTINUOUS LOAD + 25% 177300 VA
PROPOSED NON-CONTINUOUS LOAD 0 VA
PROPOSED TOTAL LOAD 177300 VA
PROPOSED AMPS/LEG 427 AMPERES
PROPOSED BUSS RATING 600 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL "CARNIVAL"
VOLTS	120/208	LOCATION – REF SITE PLAN
PHASE	1	FEEDER – REF. A.C. SINGLE LINE
WIRE	3	AMPS 200
M.O.C.D.	200 AMPS	MOUNTING –SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1	POPCORN MAKER	MISC	1330	N	A	20	1	#12	#12
2	OVEN	MISC	1488	N	A	20	1	#12	#12
3	REFRIG	MISC	1500	N	C	20	1	#12	#12
4	FREEZER	MISC	1800	N	C	20	1	#12	#12
5	BOOTH #1	MISC	1920	N	A	20	1	#12	#12
6	BOOTH #2	MISC	1920	N	A	20	1	#12	#12
7	BOOTH #3	MISC	1920	N	C	20	1	#12	#12
8	BOOTH #4	MISC	1920	N	C	20	1	#12	#12
9	BOOTH #5	MISC	1920	N	A	20	1	#12	#12
10	BOOTH #6	MISC	1920	N	A	20	1	#12	#12
11	BOOTH #7	MISC	1920	N	C	20	1	#12	#12
12	BOOTH #8	MISC	1920	N	C	20	1	#12	#12
13	BOOTH #9	MISC	1920	N	A	20	1	#12	#12
14	BOOTH #10	MISC	1920	N	A	20	1	#12	#12
15	BOOTH #11	MISC	1920	N	C	20	1	#12	#12
16	BOOTH #12	MISC	1920	N	C	20	1	#12	#12
17	50A 250V OUTLET	MISC	4800	N	A	50	2	#6	#10
18	20A 120V OUTLET	MISC	1920	N	A	20	1	#12	#12
19	50A 250V OUTLET	MISC	4800	N	C	--		#6	
20	SPARE				C	20	1		
21	SPARE				A	20	1		
22	SPARE				A	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		
25	SPARE				A	20	1		
26	SPARE				A	20	1		
27	SPARE				C	20	1		
28	SPARE				C	20	1		
29	SPARE				A	20	1		
30	SPARE				A	20	1		

PROPOSED CONTINUOUS LOAD 0 VA
PROPOSED CONTINUOUS LOAD + 25% 0 VA
PROPOSED NON-CONTINUOUS LOAD 40678 VA
PROPOSED TOTAL LOAD 40678 VA
PROPOSED AMPS/LEG 169 AMPERES
PROPOSED BUSS RATING 200 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 103
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 200
M.O.C.D.	200 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	AH-3E	HVAC	2496	C	B	30	2	#10	#10
4	AH-3F	HVAC	2496	C	B	30	2	#10	#10
5	AH-3E	HVAC	2496	C	C	--		#10	
6	AH-3F	HVAC	2496	C	C	--		#10	
7	CU-3E	HVAC	1800	C	A	20	3	#12	#12
8	CU-3F	HVAC	1800	C	A	20	3	#12	#12
9	CU-3E	HVAC	1800	C	B	--		#12	
10	CU-3F	HVAC	1800	C	B	--		#12	
11	CU-3E	HVAC	1800	C	C	--		#12	
12	CU-3F	HVAC	1800	C	C	--		#12	
13	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
14	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	EXISTING PANEL 103	MISC	9600	N	C	100	2	#1/0	#8
18	SPARE				C	20	1		
19	EXISTING PANEL 103	MISC	9600	N	A	--		#1/0	
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 22704 VA
PROPOSED CONTINUOUS LOAD + 25% 28380 VA
PROPOSED NON-CONTINUOUS LOAD 24600 VA
PROPOSED TOTAL LOAD 52980 VA
PROPOSED AMPS/LEG 161 AMPERES
PROPOSED BUSS RATING 200 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 212
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
3	HP-2M	HVAC	2434	C	B	30	2	#10	#10
4	HP-2N	HVAC	2434	C	B	30	2	#10	#10
5	HP-2M	HVAC	2434	C	C	--		#10	
6	HP-2N	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	SPARE				B	20			
10	SPARE				B	20			
11	EXISTING OUTLETS	RECEPT	1800	N	C	20	1	#12	#12
12	EXISTING OUTLETS	RECEPT	1800	N	C	20	1	#12	#12
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20			
16	SPARE				B	20			
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20			
22	SPARE				B	20			
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 13574 VA
PROPOSED CONTINUOUS LOAD + 25% 16968 VA
PROPOSED NON-CONTINUOUS LOAD 7200 VA
PROPOSED TOTAL LOAD 24168 VA
PROPOSED AMPS/LEG 57 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

SWITCHBOARD/PANELBOARD NOTES:

1. Working space near the meter panel per NEC 110-16 is required. The new main switchboard shall conform to the EUSERC/City of Riverside requirements. Prior to manufacturing, the new main switchboard drawings shall be approved by the City of Riverside, Public Utilities Electric Division. Send approval drawings to:

   Vahid Bazel:
   Electric Engineering 4th Floor
   3900 Main St.
   Riverside, CA 92522
   Phone No. (909) 826-5830

2. All panels shall be commercial rated with test/by-pass provision.

3. Electric closet doors shall be full height, extending above highest point of electrical switchgear enclosures. Doors to have schlage lock, keyed to utility department master key: or be equipped with double hasp.

MANF	SQUARE D	PANEL 214
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT/NONC	PHASE	CKT BKR AMPS	POLES	BRCH CKT CNDR	GRND CNDR
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2K	HVAC	2434	C	B	30	2	#10	#10
4	HP-2L	HVAC	2434	C	B	30	2	#10	#10
5	HP-2K	HVAC	2434	C	C	--		#10	
6	HP-2L	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	EXISTING	RECEPT	1800		C	20	1		
12	EXISTING	RECEPT	1800		C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 11654 VA
PROPOSED CONTINUOUS LOAD + 25% 14568 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 19968 VA
PROPOSED AMPS/LEG 48 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

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REVISION:	BY
1. PER CHECK BY HUGO 2/22/00	LEH
#2 PER CITY COMMENTS 9/9/2000	JMN
#3 PER CITY COMMENTS 3/8/2001	LPM

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 9333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
CESAR CHAVEZ COMM. CENTER
RIVERSIDE, CALIFORNIA

DREAM Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369 FAX (760)242-1092 PALM DESERT (760)773-4478
dreamjoe@earthlink.net dreamjoe@aol.com

PROPOSED & EXISTING A.C. BREAKER ASSIGNMENTS

PROJECT: 9905012
DATE: 5/13/99
DRAWN:
CHECKED:
APPROVED:
DWG FILE: CESCHAE?

SHEET
E-2A

PROPOSED A.C. BREAKER ASSIGNMENTS

MANF	SQUARE D	PANEL 200
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2V	HVAC	2434	C	B	30	2	#10	#10
4	HP-2U	HVAC	2434	C	B	30	2	#10	#10
5	HP-2V	HVAC	2434	C	C	--		#10	
6	HP-2U	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	SPARE				C	20	1		
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 11654 VA
PROPOSED CONTINUOUS LOAD + 25% 14568 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 19968 VA
PROPOSED AMPS/LEG 48 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 201
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2I	HVAC	2434	C	B	30	2	#10	#10
4	HP-2J	HVAC	2434	C	B	30	2	#10	#10
5	HP-2I	HVAC	2434	C	C	--		#10	
6	HP-2J	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	HP-2H	HVAC	2434	C	B	30	2	#10	#10
10	SPARE				B	20	1		
11	HP-2H	HVAC	2434	C	C	--		#10	
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 16522 VA
PROPOSED CONTINUOUS LOAD + 25% 20652 VA
PROPOSED NON-CONTINUOUS LOAD 5040 VA
PROPOSED TOTAL LOAD 25692 VA
PROPOSED AMPS/LEG 58 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 202
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2S	HVAC	2434	C	B	30	2	#10	#10
4	HP-2T	HVAC	2434	C	B	30	2	#10	#10
5	HP-2S	HVAC	2434	C	C	--		#10	
6	HP-2T	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	SPARE				C	20	1		
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 11654 VA
PROPOSED CONTINUOUS LOAD + 25% 14568 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 19968 VA
PROPOSED AMPS/LEG 48 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 203
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1440	N	A	20	1	#12	#12
3	HP-2F	HVAC	2434	C	B	30	2	#10	#10
4	HP-2G	HVAC	2434	C	B	30	2	#10	#10
5	HP-2F	HVAC	2434	C	C	--		#10	
6	HP-2G	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	HP-2E	HVAC	2434	C	B	30	2	#10	#10
10	SPARE				B	20	1		
11	HP-2E	HVAC	2434	C	C	--		#10	
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 16522 VA
PROPOSED CONTINUOUS LOAD + 25% 20652 VA
PROPOSED NON-CONTINUOUS LOAD 5040 VA
PROPOSED TOTAL LOAD 25692 VA
PROPOSED AMPS/LEG 58 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 204
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2R	HVAC	2434	C	B	30	2	#10	#10
4	HP-2Q	HVAC	2434	C	B	30	2	#10	#10
5	HP-2R	HVAC	2434	C	C	--		#10	
6	HP-2Q	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	SPARE				C	20	1		
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 11654 VA
PROPOSED CONTINUOUS LOAD + 25% 14568 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 19968 VA
PROPOSED AMPS/LEG 48 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

SWITCHBOARD/PANELBOARD NOTES:

1. Working space near the meter panel per NEC 110-16 is required. The new main switchboard shall conform to the EUSERC/City of Riverside requirements. Prior to manufacturing, the new main switchboard drawings shall be approved by the City of Riverside, Public Utilities Electric Division. Send approval drawings to:

    Vahid Bazel:
    Electric Engineering 4th Floor
    3900 Main St.
    Riverside, CA 92522
    Phone No. (909) 826-5830

2. All panels shall be commercial rated with test/by-pass provision.
3. Electric closet doors shall be full height, extending above highest point of electrical switchgear enclosures. Doors to have schlage lock, keyed to utility department master key: or be equipped with double hasp.

MANF	SQUARE D	PANEL 206
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2O	HVAC	2434	C	B	30	2	#10	#10
4	HP-2P	HVAC	2434	C	B	30	2	#10	#10
5	HP-2O	HVAC	2434	C	C	--		#10	
6	HP-2P	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	SPARE				C	20	1		
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 11654 VA
PROPOSED CONTINUOUS LOAD + 25% 14568 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 19968 VA
PROPOSED AMPS/LEG 48 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 207
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2D	HVAC	2434	C	B	30	2	#10	#10
4	SPARE			C	B	20	1		
5	HP-2D	HVAC	2434	C	C	--		#10	
6	GENERAL PURPOSE	RECEPT	1800	N	C	20	1	#12	#12
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	SPARE				A	20	1		
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	SPARE				C	20	1		
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 6787 VA
PROPOSED CONTINUOUS LOAD + 25% 8484 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 13884 VA
PROPOSED AMPS/LEG 36 AMPERES
PROPOSED BUSS RATING 100 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
2. ALL BRANCH CIRCUIT BREAKERS TO BE COORDINATED SO AS TO TRIP PRIOR TO M.O.C.D.
3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 208
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 200
M.O.C.D.	200 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
3	HP-3	HVAC	5184	C	B	60	3	#6	#10
4	SPARE				B	20	1		
5	HP-3	HVAC	5184	C	C	--		#6	
6	GENERAL PURPOSE	RECEPT	1800	N	C	20	1	#12	#12
7	HP-3	HVAC	5184	C	A	--		#6	
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	EXISTING OUTLETS	RECEPT	1800	N	C	20	1	#12	#12
12	EXISTING OUTLETS	RECEPT	1800	N	C	20	1	#12	#12
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	EXISTING PANEL 1	MISC	5760	N	C	60	2	#6	#10
18	EXISTING PANEL 2	MISC	5760	N	C	60	2	#6	#10
19	EXISTING PANEL 1	MISC	5760	N	A	--		#6	
20	EXISTING PANEL 2	MISC	5760	N	A	--		#6	
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 19392 VA
PROPOSED CONTINUOUS LOAD + 25% 24240 VA
PROPOSED NON-CONTINUOUS LOAD 30240 VA
PROPOSED TOTAL LOAD 54480 VA
PROPOSED AMPS/LEG 167 AMPERES
PROPOSED BUSS RATING 200 AMPERES

NOTE:
1. PANELBOARD TO BE SERIES RATED 10,000 AMP.
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3. ALL HVAC BRANCH CIRCUIT BREAKERS TO BE H.A.C.R. RATED.
4. ELECTRICAL CONTRACTOR IS TO BALANCE LOAD ON THREE PHASE SERVICE WITHIN 10%.

MANF	SQUARE D	PANEL 209
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2A	HVAC	2434	C	B	30	2	#10	#10
4	HP-2B	HVAC	2434	C	B	30	2	#10	#10
5	HP-2A	HVAC	2434	C	C	--		#10	
6	HP-2B	HVAC	2434	C	C	--		#10	
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	SPARE				C	20	1		
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

PROPOSED CONTINUOUS LOAD 11654 VA
PROPOSED CONTINUOUS LOAD + 25% 14568 VA
PROPOSED NON-CONTINUOUS LOAD 5400 VA
PROPOSED TOTAL LOAD 19968 VA
PROPOSED AMPS/LEG 48 AMPERES
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MANF	SQUARE D	PANEL 209A
VOLTS	120/208	LOCATION – REF POWER LAYOUT
PHASE	3	FEEDER – REF. A.C. SINGLE LINE
WIRE	4	AMPS 100
M.O.C.D.	100 AMPS	MOUNTING – SURFACE

CKT #	DESCRIPTION/ LOCATION	LOAD TYPE	VOLT AMPS	CONT NONC	PHASE	CKT BKR AMPS	POLES	BRANCH COND	GROUND COND
1	GENERAL PURPOSE	LIGHTS	1920	C	A	20	1	#12	#12
2	EXISTING OUTLETS	RECEPT	1800	N	A	20	1	#12	#12
3	HP-2C	HVAC	2434	C	B	30	2	#10	#10
4	SPARE			C	B	20	1		
5	HP-2C	HVAC	2434	C	C	--		#10	
6	GENERAL PURPOSE	RECEPT	1800	N	C	20	1	#12	#12
7	GENERAL PURPOSE	RECEPT	1800	N	A	20	1	#12	#12
8	SPARE				A	20	1		
9	SPARE				B	20	1		
10	SPARE				B	20	1		
11	SPARE				C	20	1		
12	SPARE				C	20	1		
13	SPARE				A	20	1		
14	SPARE				A	20	1		
15	SPARE				B	20	1		
16	SPARE				B	20	1		
17	SPARE				C	20	1		
18	SPARE				C	20	1		
19	SPARE				A	20	1		
20	SPARE				A	20	1		
21	SPARE				B	20	1		
22	SPARE				B	20	1		
23	SPARE				C	20	1		
24	SPARE				C	20	1		

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© DREAM ENGINEERING INC. 2000

REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000	JMN
#2 PER CITY COMMENTS 3/8/2001	LPM

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 9333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
CESAR CHAVEZ COMM. CENTER
RIVERSIDE, CALIFORNIA

DREAM Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369 FAX (760)242-1092 PALM DESERT (760)773-4478
dreamjoe@earthlink.net dreamjoe@aol.com

PROPOSED A.C. BREAKER ASSIGNMENTS

PROJECT: 9905012
DATE: 5/13/99
DRAWN:
CHECKED:
APPROVED:
DWG FILE: CESCHAE?
SHEET E-2C

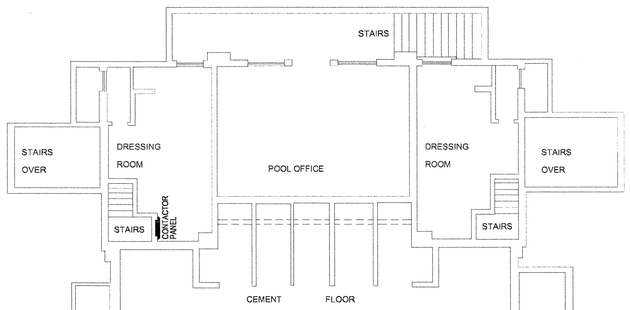
SWITCHBOARD/PANELBOARD NOTES:

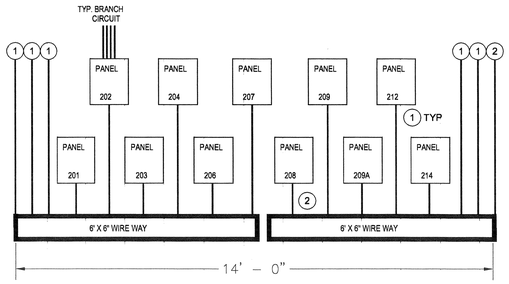
1. Working space near the meter panel per NEC 110-16 is required. The new main switchboard shall conform to the EUSERC/City of Riverside requirements. Prior to manufacturing, the new main switchboard drawings shall be approved by the City of Riverside, Public Utilities Electric Division. Send approval drawings to:

   Vahid Bazel:
   Electric Engineering 4th Floor
   3900 Main St.
   Riverside, CA 92522
   Phone No. (909) 826-5830

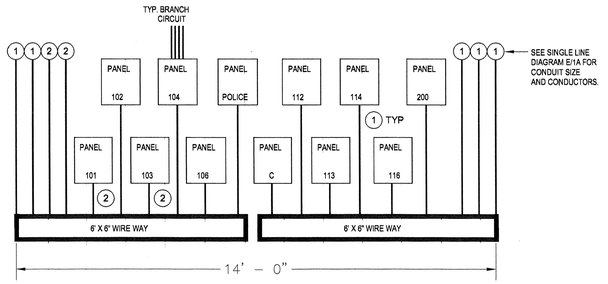
2. All panels shall be commercial rated with test/by-pass provision.

3. Electric closet doors shall be full height, extending above highest point of electrical switchgear enclosures. Doors to have schlage lock, keyed to utility department master key: or be equipped with double hasp.



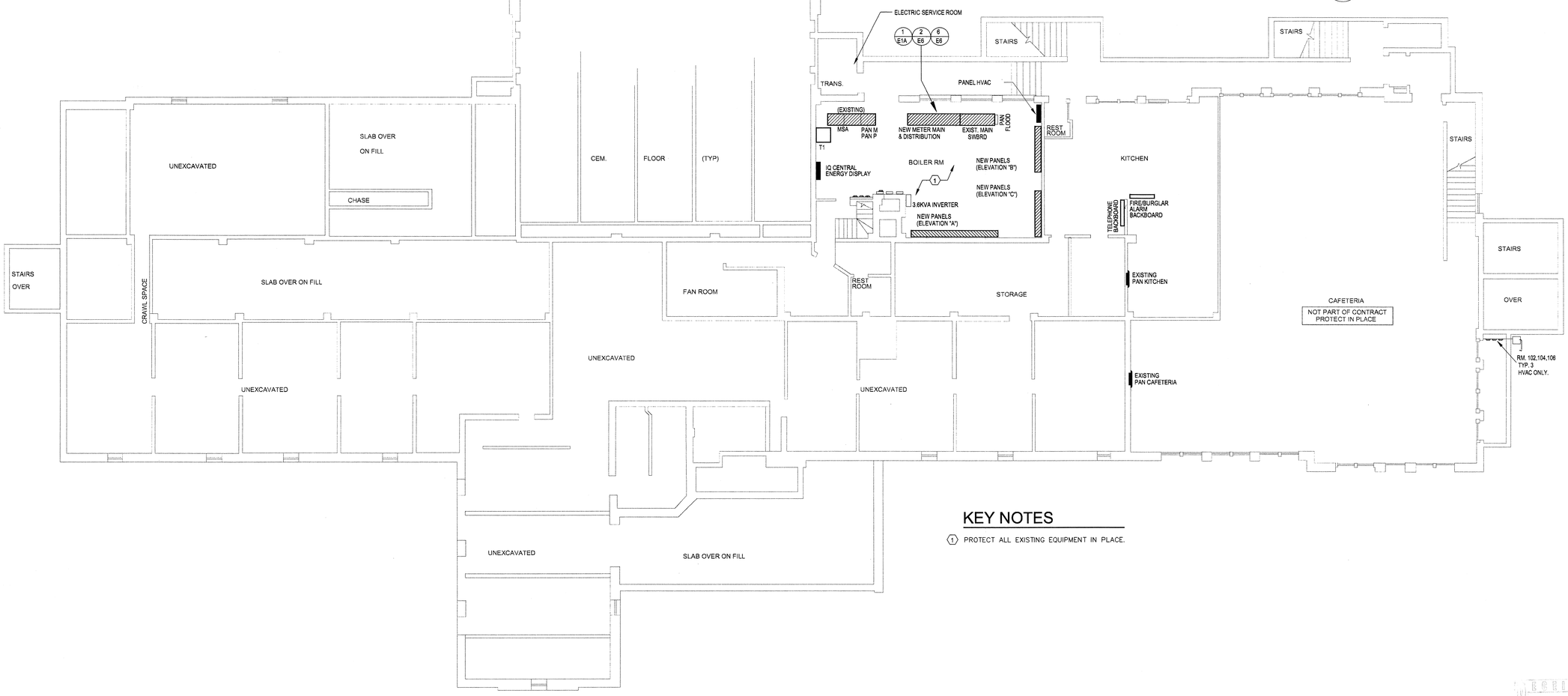


NEW PANELS - ELEVATION "A"
NO SCALE
2 E3



ELEVATION 'B' ELEVATION 'C'

NEW PANELS - ELEVATIONS "B" & "C"
NO SCALE
3 E3



KEY NOTES

(1) PROTECT ALL EXISTING EQUIPMENT IN PLACE.

BASEMENT POWER LAYOUT
SCALE - 1/8" = 1' - 0"
1 E3

RECEIVED
MAR 2 7 2001
PLAN CHECK & PERMIT SERVICES

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REVISION:	BY
1. PER CHECK BY HUGO 2/2/00	LEH
#2 PER CITY COMMENTS 9/9/2000	JMN
#3 PER CITY COMMENTS 3/8/2001	LPM

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 9333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
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RIVERSIDE, CALIFORNIA

Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369
PALM DESERT (760)773-4478
FAX (760)242-1052
dreamjob@earthlink.net

BASEMENT POWER LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

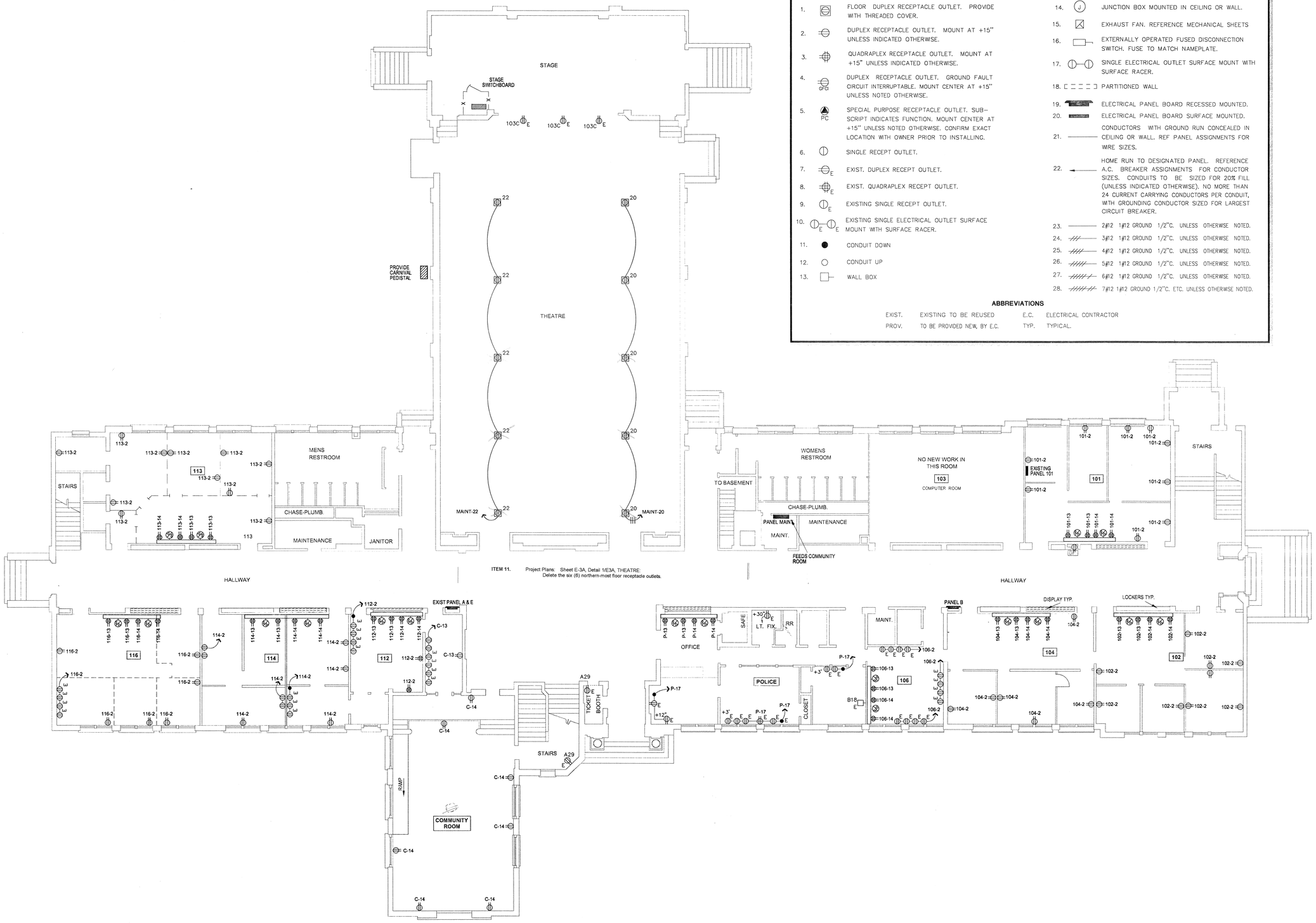
SHEET E-3

ELECTRICAL POWER NOTES AND SYMBOLS

1. FLOOR DUPLEX RECEPTACLE OUTLET. PROVIDE WITH THREADED COVER.
2. DUPLEX RECEPTACLE OUTLET. MOUNT AT +15" UNLESS INDICATED OTHERWISE.
3. QUADRAPLEX RECEPTACLE OUTLET. MOUNT AT +15" UNLESS INDICATED OTHERWISE.
4. DUPLEX RECEPTACLE OUTLET. GROUND FAULT CIRCUIT INTERRUPTABLE. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE.
5. SPECIAL PURPOSE RECEPTACLE OUTLET. SUB-SCRIPT INDICATES FUNCTION. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE. CONFIRM EXACT LOCATION WITH OWNER PRIOR TO INSTALLING.
6. SINGLE RECEPT OUTLET.
7. EXIST. DUPLEX RECEPT OUTLET.
8. EXIST. QUADRAPLEX RECEPT OUTLET.
9. EXISTING SINGLE RECEPT OUTLET.
10. EXISTING SINGLE ELECTRICAL OUTLET SURFACE MOUNT WITH SURFACE RACER.
11. CONDUIT DOWN
12. CONDUIT UP
13. WALL BOX
14. JUNCTION BOX MOUNTED IN CEILING OR WALL.
15. EXHAUST FAN. REFERENCE MECHANICAL SHEETS
16. EXTERNALLY OPERATED FUSED DISCONNECTION SWITCH. FUSE TO MATCH NAMEPLATE.
17. SINGLE ELECTRICAL OUTLET SURFACE MOUNT WITH SURFACE RACER.
18. PARTITIONED WALL
19. ELECTRICAL PANEL BOARD RECESSED MOUNTED.
20. ELECTRICAL PANEL BOARD SURFACE MOUNTED.
21. CONDUCTORS WITH GROUND RUN CONCEALED IN CEILING OR WALL. REF PANEL ASSIGNMENTS FOR WIRE SIZES.
22. HOME RUN TO DESIGNATED PANEL. REFERENCE A.C. BREAKER ASSIGNMENTS FOR CONDUCTOR SIZES. CONDUITS TO BE SIZED FOR 20% FILL (UNLESS INDICATED OTHERWISE). NO MORE THAN 24 CURRENT CARRYING CONDUCTORS PER CONDUIT, WITH GROUNDING CONDUCTOR SIZED FOR LARGEST CIRCUIT BREAKER.
23. 2#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
24. 3#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
25. 4#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
26. 5#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
27. 6#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
28. 7#12 1#12 GROUND 1/2"C. ETC. UNLESS OTHERWISE NOTED.

ABBREVIATIONS

EXIST.	EXISTING TO BE REUSED	E.C.	ELECTRICAL CONTRACTOR
PROV.	TO BE PROVIDED NEW, BY E.C.	TYP.	TYPICAL.



ITEM 11. Project Plans: Sheet E-3A, Detail 1/E3A, THEATRE: Delete the six (6) northern-most floor receptacle outlets.

FIRST FLOOR ELECTRICAL POWER LAYOUT

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

1 / E3A

NORTH

© DREAM ENGINEERING INC. 2000

REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000 No OBS	JMN

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 9333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
CESAR CHAVEZ COMM. CENTER
RIVERSIDE, CALIFORNIA

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APPLE VALLEY (760)242-3369 FAX (760)242-1092 PALM DESERT (760)773-4478
dreampoe@earthlink.net dreampoe@aol.com

FIRST FLOOR POWER LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET E-3A

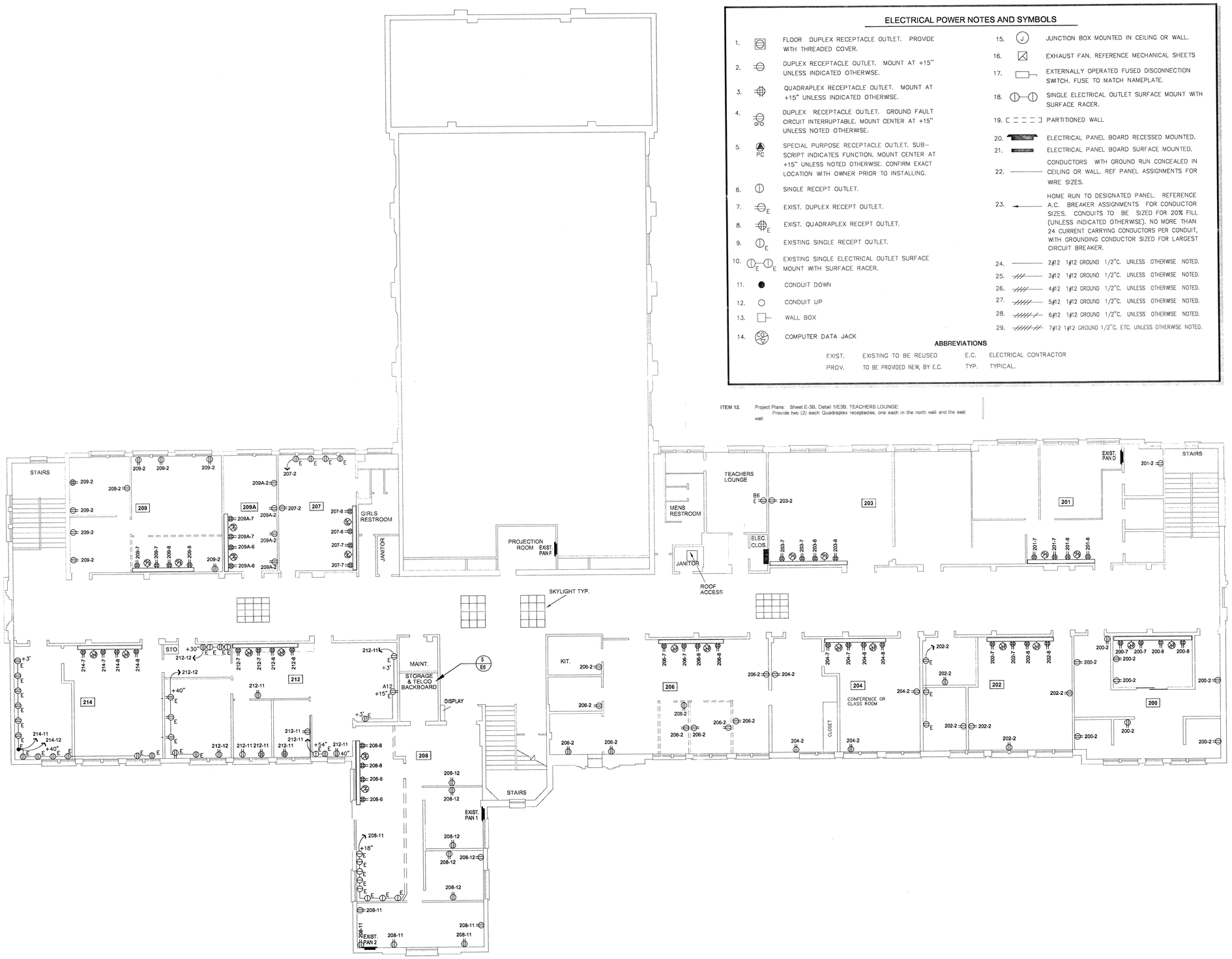
ELECTRICAL POWER NOTES AND SYMBOLS

1. FLOOR DUPLEX RECEPTACLE OUTLET. PROVIDE WITH THREADED COVER.
2. DUPLEX RECEPTACLE OUTLET. MOUNT AT +15" UNLESS INDICATED OTHERWISE.
3. QUADRAPLEX RECEPTACLE OUTLET. MOUNT AT +15" UNLESS INDICATED OTHERWISE.
4. GFCI — DUPLEX RECEPTACLE OUTLET. GROUND FAULT CIRCUIT INTERRUPTABLE. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE.
5. PC — SPECIAL PURPOSE RECEPTACLE OUTLET. SUB-SCRIPT INDICATES FUNCTION. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE. CONFIRM EXACT LOCATION WITH OWNER PRIOR TO INSTALLING.
6. SINGLE RECEPT OUTLET.
7. E — EXIST. DUPLEX RECEPT OUTLET.
8. E — EXIST. QUADRAPLEX RECEPT OUTLET.
9. E — EXISTING SINGLE RECEPT OUTLET.
10. E E — EXISTING SINGLE ELECTRICAL OUTLET SURFACE MOUNT WITH SURFACE RACER.
11. CONDUIT DOWN
12. CONDUIT UP
13. WALL BOX
14. COMPUTER DATA JACK
15. J — JUNCTION BOX MOUNTED IN CEILING OR WALL.
16. EXHAUST FAN. REFERENCE MECHANICAL SHEETS
17. EXTERNALLY OPERATED FUSED DISCONNECTION SWITCH. FUSE TO MATCH NAMEPLATE.
18. SINGLE ELECTRICAL OUTLET SURFACE MOUNT WITH SURFACE RACER.
19. PARTITIONED WALL
20. ELECTRICAL PANEL BOARD RECESSED MOUNTED.
21. ELECTRICAL PANEL BOARD SURFACE MOUNTED.
22. CONDUCTORS WITH GROUND RUN CONCEALED IN CEILING OR WALL. REF PANEL ASSIGNMENTS FOR WIRE SIZES.
23. HOME RUN TO DESIGNATED PANEL. REFERENCE A.C. BREAKER ASSIGNMENTS FOR CONDUCTOR SIZES. CONDUITS TO BE SIZED FOR 20% FILL (UNLESS INDICATED OTHERWISE). NO MORE THAN 24 CURRENT CARRYING CONDUCTORS PER CONDUIT, WITH GROUNDING CONDUCTOR SIZED FOR LARGEST CIRCUIT BREAKER.
24. 2#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
25. 3#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
26. 4#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
27. 5#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
28. 6#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
29. 7#12 1#12 GROUND 1/2"C. ETC. UNLESS OTHERWISE NOTED.

ABBREVIATIONS

EXIST.	EXISTING TO BE REUSED	E.C.	ELECTRICAL CONTRACTOR
PROV.	TO BE PROVIDED NEW, BY E.C.	TYP.	TYPICAL.

ITEM 12. Project Plans: Sheet E-3B, Detail 1/E3B, TEACHERS LOUNGE: Provide two (2) each Quadraplex receptacles, one each in the north wall and the east wall.



SECOND FLOOR ELECTRICAL POWER LAYOUT

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

1 / E3B

NORTH

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REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000	JMN

REGISTERED PROFESSIONAL ENGINEER — JOSEPH M. NOLAN — No. E 9333 — EXP: SEP 30 2001 — ELECTRICAL — STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
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PALM DESERT (760)773-4478
FAX (760)240-1092
dreamjob@earthlink.net

SECOND FLOOR POWER LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

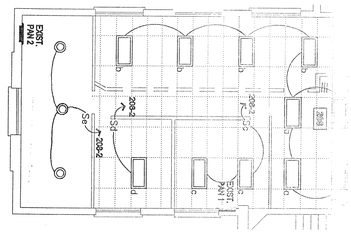
SHEET E-3B

SECOND FLOOR LIGHTING LAYOUTS

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

1 / E4B

ADDENDUM #1 TO2 - Attachment 6)



FIXTURE SCHEDULE

SYMBOL	DESC.	VOLTS	MOUNTING	LAMP	CRI K	MANUFACTURER PART NUMBER	CONT.
	2X4 RECESSED FLUORESCENT			(2)-F32T8	68 4100	COLUMBIA	SWITCH
	4' STRIP FLUORESCENT			(2)-F32T8	68 4100	COLUMBIA	SWITCH
	GLOBE LUMINAIRE			(2)-26CFL	82 4100	HEARTHSTONE LIGHT & FIXTURE	SWITCH
	WALL SCONCE			(2)-PL13TT	82 4100		SWITCH
	PENDANT GLOBE LUMINAIRE			(1)-175MH	68 4100	HEARTHSTONE LIGHT & FIXTURE	SWITCH
F	8' PENDANT SUSPENDED FLUOR.			(2)-F32T8	68 4100		SWITCH
G	8' PENDANT FLUOR.			(2)-F32T8	68 4100		SWITCH

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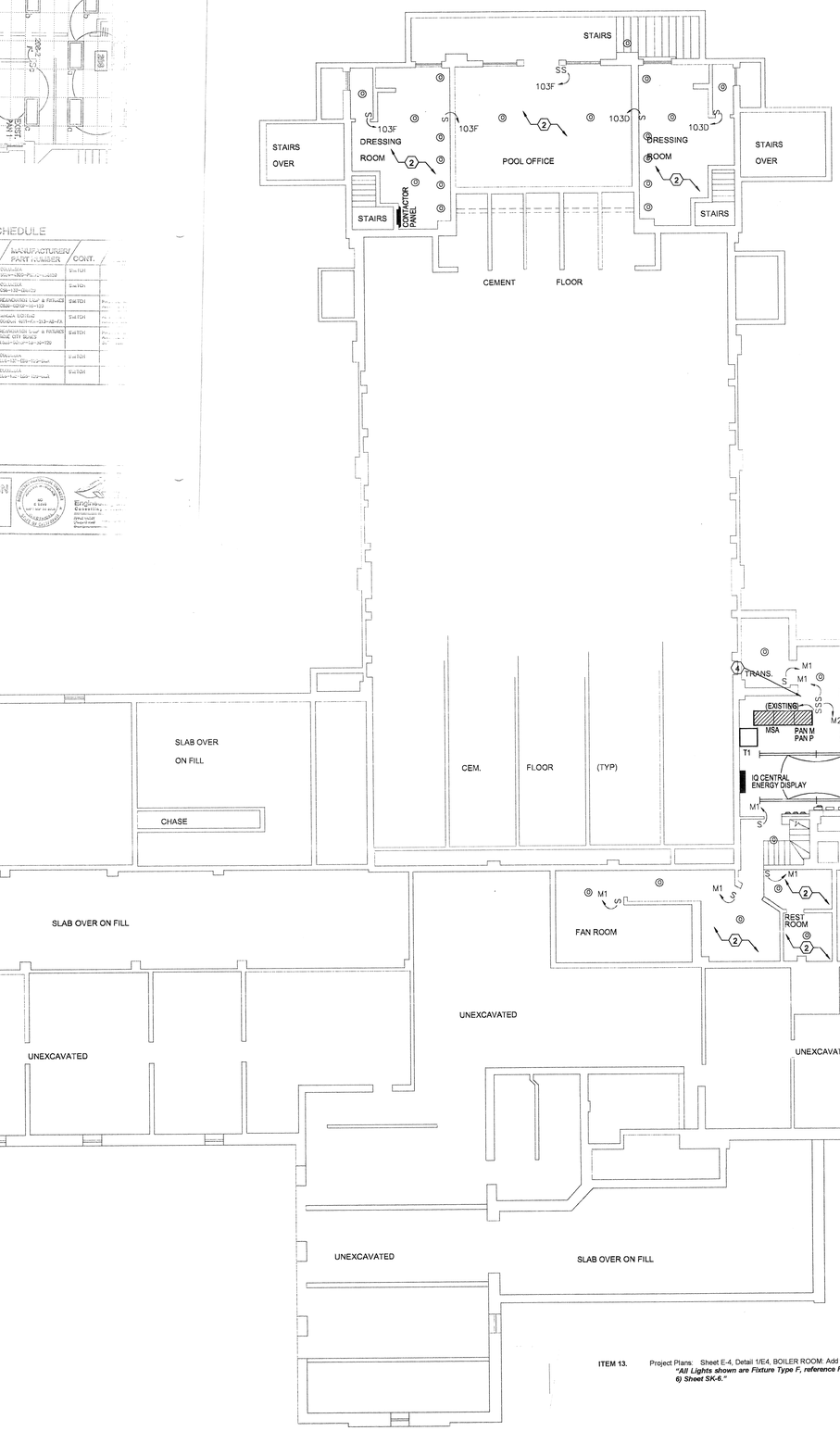
REVISIONS	BY	DATE
ADDENDUM #1	RM	10/09/01

SHEET SK-6

ELECTRICAL ENGINEERIGN
CESAR CHAVEZ
COMM. CENTER



LIGHTING NOTES AND SYMBOLS

1. 2' X 4' FLUORESCENT FIXTURE CONTROLLED BY SWITCH "a". REFERENCE FIXTURE SCHEDULE.
2. PROVIDE LUMINAIRE WITH BATTERY PACK FOR EMERGENCY LIGHTING.
3. STRIP FLUORESCENT FIXTURE CONTROLLED BY SWITCH "a". REFERENCE FIXTURE SCHEDULE.
4. 8' PENDENT MOUNTED INDUSTRIAL FLUORESCENT FIXTURE WITH REFLECTOR
5. EXISTING 2'X4' FLUORESCENT FIXTURE. X INDICATES NUMBER OF TUBES.
6. EXISTING GLOBE FIXTURE. 300W INCANDESCENT.
7. EXISTING INCANDESCENT SPOTLIGHT. LIGHT SHINES IN DIRECTION OF ARROW.
8. S3 THREE WAY SWITCH. MOUNT AT +48" UNLESS OTHERWISE INDICATED.
9. Sa SINGLE POLE SWITCH CONTROLLING "A" LIGHT FIXTURES. MOUNT AT +48" UNLESS OTHERWISE INDICATED.
10. SM WALL MOUNTED MOTION SENSOR WITH SWITCH CONTROL. MOUNT AT +48" UNLESS OTHERWISE INDICATED. UNENCO PN SOM-500-A-277.
11. (M) CEILING MOUNTED MOTION SENSOR. UNENCO PN PIR-500-P-277
12. S SINGLE POLE SWITCH. MOUNT AT +48" UNLESS OTHERWISE INDICATED.
13. EXIT SIGN, GREEN STENCIL FACE, LED TYPE. ARROWS AS INDICATED.
14. ELECTRICAL PANEL BOARD FLUSH MOUNTED.
15. CONDUCTORS WITH GROUND RUN CONCEALED IN CEILING OR WALL. REF PANEL ASSIGNMENTS FOR WIRE SIZES.
16. HOME RUN TO DESIGNATED PANEL. REFERENCE A.C. BREAKER ASSIGNMENTS FOR CONDUCTOR SIZES. CONDUITS TO BE SIZED FOR 20% FILL (UNLESS INDICATED OTHERWISE). NO MORE THAN 24 CURRENT CARRYING CONDUCTORS PER CONDUIT, WITH GROUNDING CONDUCTOR SIZED FOR LARGEST CIRCUIT BREAKER.
17. 2#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
18. 3#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
19. 4#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
20. 5#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
21. 6#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
22. 7#12 1#12 GROUND 1/2"C. ETC. UNLESS OTHERWISE NOTED.
23. EXISTING LIGHTING FIXTURES
24. AREA WITH DROP CEILING.
25. AREA WITH SOLID DROP CEILING
26. ES MOLDED CASE CIRCUIT BREAKER WITH "ENERGY SENTINEL" (CUTLER HAMMER)

ABBREVIATIONS

EXIST.	EXISTING TO BE REUSED	E.C.	ELECTRICAL CONTRACTOR
PROV.	TO BE PROVIDED NEW, BY E.C.	TYP.	TYPICAL.

KEY NOTES

1. PROVIDE AND INSTALL NEW LIGHTING FIXTURES AS SHOWN, AND CONNECT TO EXISTING CIRCUIT.
2. PROTECT EXISTING LIGHTING FIXTURES AND PANELS IN PLACE. CONNECT TO PANEL "MAINT-21".
3. PROTECT ALL EXISTING EQUIPMENT IN PLACE.
4. ELECTRIC METER ROOM DOOR SHALL HAVE SCHLAGE LOCK, KEYED TO RIVERSIDE PUBLIC UTILITIES MASTER KEY, OR SHALL HAVE DOUBLE HASP. WORKING SPACE NEAR THE METER PANEL PER 1996 NEC 110-16 IS REQUIRED. THE MOUNTING HEIGHT OF ELECTRIC METERS SHALL BE BETWEEN 48 & 75 INCHES ABOVE THE WORKSPACE FLOOR AREA REQUIRED BY NEC 110-16. ELECTRICAL ROOM DOOR OPENING SHALL EXTEND TO OR ABOVE THE FULL HEIGHT OF THE SWITCHGEAR.

ITEM 13. Project Plans: Sheet E-4, Detail 1/E4, BOILER ROOM: Add the following note:
"All Lights shown are Fixture Type F, reference Fixture Schedule per Attachment 6) Sheet SK-6."

BASEMENT LIGHTING LAYOUTS

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

1 / E4

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REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000	JMN
#2 ADD KEYNOTE 4/VAHID 5/14/01	JMN

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO. E 9333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

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dreamjoe@earthlink.net dreampd@aol.com

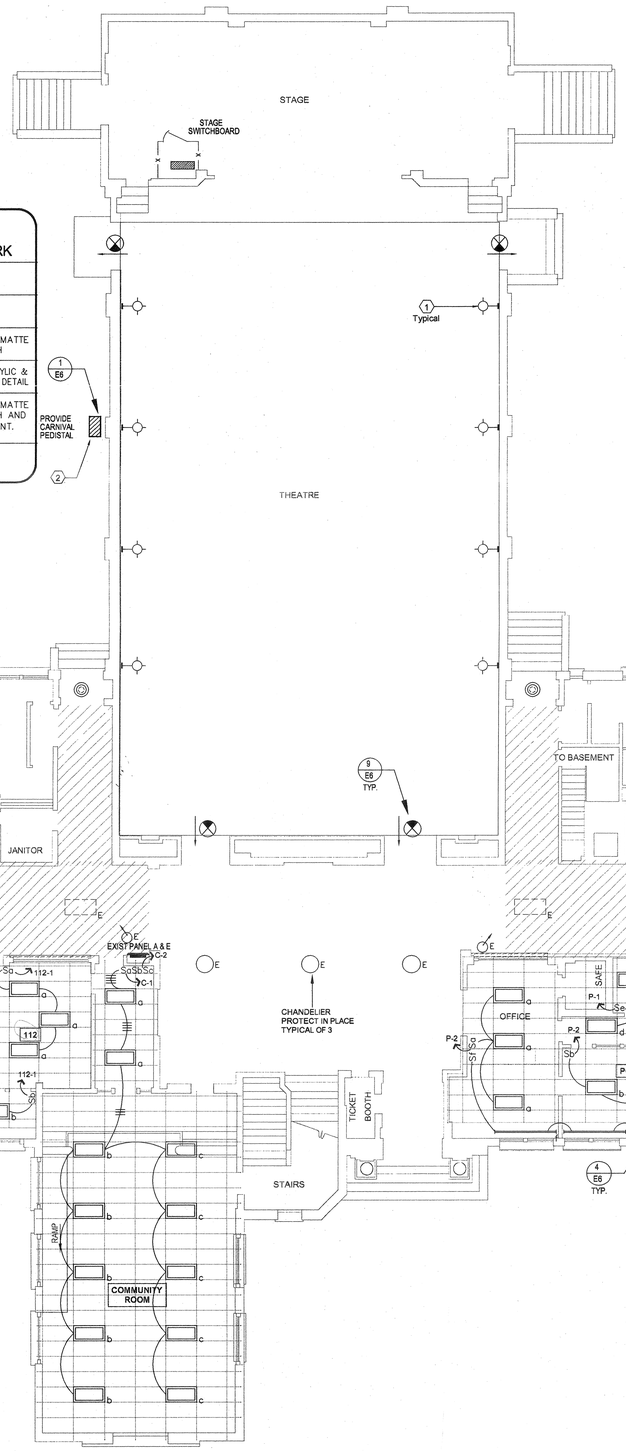
BASEMENT LIGHTING LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET E-4

FIXTURE SCHEDULE

SYMBOL	DESC.	VOLTS 120	VOLTS 277	VOLTS 480	MOUNTING REC.	MOUNTING SURF.	MOUNTING PEND.	MOUNTING WALL	MOUNTING COVE	LAMP	CRI/ °K	MANUFACTURER/ PART NUMBER	CONT.	REMARK
A	2X4 RECESSED FLUORESCENT	●			●					(4)-F32T8	89 4100	COLUMBIA SG24-432G-PSA12-EB8120	SWITCH	
B	8' STRIP FLUORESCENT	●							●	(2)-F32T8	89 4100	COLUMBIA CS8-132-EB8120	SWITCH	
C	GLOBE LUMINAIRE	●				●				(3)-28CFL	89 4100	REJUVENATION LAMP & FIXTURES C839-0010P-16-120	SWITCH	PROVIDE WITH MATTE ANTIQUE FINISH
D	WALL SCONCE	●						●		(2)-PL13TT	89 4100	WINOMA LIGHTING GORDON 4611-FA-213-AB-FA	SWITCH	ALABASTER ACRYLIC & ANTIQUE BRASS DETAIL
E	PENDANT GLOBE LUMINAIRE	●					●			(1)-175MH	89 4100	REJUVENATION LAMP & FIXTURES ROSE CITY SERIES C888-0010P-18-36-120	SWITCH	PROVIDE WITH MATTE ANTIQUE FINISH AND 36" STEM MOUNT.
F	8' PENDANT INDUSTRIAL FLUOR.	●								(2)-F32T8	89 4100	COLUMBIA LU8-132-EB8-120-DMR	SWITCH	



LIGHTING NOTES AND SYMBOLS

1. 2' X 4' FLUORESCENT FIXTURE CONTROLLED BY SWITCH "a". REFERENCE FIXTURE SCHEDULE.
2. PROVIDE LUMINAIRE WITH BATTERY PACK FOR EMERGENCY LIGHTING.
3. STRIP FLUORESCENT FIXTURE CONTROLLED BY SWITCH "a". REFERENCE FIXTURE SCHEDULE.
4. 8' PEDESTIAL MOUNTED INDUSTRIAL FLUORESCENT FIXTURE WITH REFLECTOR
5. EXISTING 2'X4' FLUORESCENT FIXTURE. X INDICATES NUMBER OF TUBES.
6. EXISTING GLOBE FIXTURE. 300W INCANDESCENT.
7. EXISTING INCANDESCENT SPOTLIGHT. LIGHT SHINES IN DIRECTION OF ARROW.
8. S3 THREE WAY SWITCH. MOUNT AT +48" UNLESS OTHERWISE INDICATED.
9. Sa SINGLE POLE SWITCH CONTROLLING "A" LIGHT FIXTURES. MOUNT AT +48" UNLESS OTHERWISE INDICATED.
10. SM WALL MOUNTED MOTION SENSOR WITH SWITCH CONTROL. MOUNT AT +48" UNLESS OTHERWISE INDICATED. UNENCO PN SOM-500-A-277.
11. (M) CEILING MOUNTED MOTION SENSOR. UNENCO PN PIR-500-P-277
12. S SINGLE POLE SWITCH. MOUNT AT +48" UNLESS OTHERWISE INDICATED.
13. EXIT SIGN, GREEN STENCIL FACE, LED TYPE. ARROWS AS INDICATED. REFERENCE DETAIL.
14. ELECTRICAL PANEL BOARD FLUSH MOUNTED.
15. CONDUCTORS WITH GROUND RUN CONCEALED IN CEILING OR WALL. REF PANEL ASSIGNMENTS FOR WIRE SIZES.
16. HOME RUN TO DESIGNATED PANEL. REFERENCE A.C. BREAKER ASSIGNMENTS FOR CONDUCTOR SIZES. CONDUITS TO BE SIZED FOR 20% FILL (UNLESS INDICATED OTHERWISE). NO MORE THAN 24 CURRENT CARRYING CONDUCTORS PER CONDUIT, WITH GROUNDING CONDUCTOR SIZED FOR LARGEST CIRCUIT BREAKER.
17. 2#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
18. 3#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
19. 4#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
20. 5#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
21. 6#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
22. 7#12 1#12 GROUND 1/2"C. ETC. UNLESS OTHERWISE NOTED.
23. EXISTING LIGHTING FIXTURES.
24. AREA WITH DROP CEILING.
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26. ES MOLDED CASE CIRCUIT BREAKER WITH "ENERGY SENTINEL" (CUTLER HAMMER)

ABBREVIATIONS

EXIST.	EXISTING TO BE REUSED	E.C.	ELECTRICAL CONTRACTOR
PROV.	TO BE PROVIDED NEW, BY E.C.	TYP.	TYPICAL.

KEY NOTES

1. DEMO EXISTING LUMINAIRE. FURNISH AND INSTALL NEW WALL SCONE LUMINAIRE. E.C. IS TO REUSE CONDUIT AND PULL NEW CONDUCTORS 2#12 1#12GRD BETWEEN LUMINIARES AND HOME RUN BACK TO PANELBOARD. REPAIR/REPLACE CEILING WALL TO MATCH SURROUNDING. REFERENCE LUMINAIRE SCHEDULE.
2. PROVIDE NEW SELF STANDING PEDESTAL FOR CARNIVAL EVENTS. RUN FEEDERS FOR PEDESTAL CARNIVAL IN CRAWL SPACE BELOW THEATER TO PROPOSED SWITCHBOARD. REF. SINGLE LINE DIAGRAM AND DETAIL.
3. E.C. IS TO PROVIDE ADJUSTABLE PHOTO CELL TO CONTROL COVE LIGHTS ON IN EVENING AND OFF IN DAYTIME.
4. PROTECT IN PLACE.

* APPROVED *
CITY OF RIVERSIDE
BUILDING & SAFETY
THIS APPROVAL DOES NOT AUTHORIZE VIOLATION OF ANY PROVISIONS OF STATE OR LOCAL BUILDING REGULATIONS NOR DOES IT PREVENT REQUIRING CORRECTIONS OF ANY ERRORS IN THESE PLANS OR CONSTRUCTION DUE TO SUCH ERRORS IN THESE PLANS
APPROVED FOR CODE COMPLIANCE 6/4/02

FIRST FLOOR LIGHTING LAYOUTS
SCALE - 1/8" = 1' - 0"
1 E4A

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REVISION:	BY
1. PER CHECK BY HUGO 2/22/00	LEH
#2 PER CITY COMMENTS 9/8/2000 NO 085	JMN

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. KOK NO E 8333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

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PALM DESERT (760)773-4478 FAX (760)242-1092 dreamjoe@aol.com

FIRST FLOOR LIGHTING LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET
E-4A

FIXTURE SCHEDULE

SYMBOL	DESC.	VOLTS 120	VOLTS 277	VOLTS 480	MOUNTING REC.	MOUNTING SURF.	MOUNTING PEND.	MOUNTING WALL	MOUNTING COVE	LAMP	CRI/ °K	MANUFACTURER/ PART NUMBER	CONT.	REMARK
A	2X4 RECESSED FLUORESCENT	●			●					(4)–F32T8	89 4100	COLUMBIA SG24–432G–PSA12–EB8120	SWITCH	
B	8' STRIP FLUORESCENT	●							●	(2)–F32T8	89 4100	COLUMBIA CS8–132–EB8120	SWITCH	
C	GLOBE LUMINAIRE	●				●				(3)–28CFL	89 4100	REJUVENATION LAMP & FIXTURES C839–0010P–16–120	SWITCH	PROVIDE WITH MATTE ANTIQUE FINISH
D	WALL SCONCE	●						●		(2)–PL13TT	89 4100	WINOMA LIGHTING GORDON 4611–FA–213–AB–FA	SWITCH	ALABASTER ACRYLIC & ANTIQUE BRASS DETAIL
E	PENDANT GLOBE LUMINAIRE	●					●			(1)–175MH	89 4100	REJUVENATION LAMP & FIXTURES ROSE CITY SERIES C888–0010P–18–36–120	SWITCH	PROVIDE WITH MATTE ANTIQUE FINISH AND 36" STEM MOUNT.
F	8' PENDANT IND–USTRIAL FLUOR.	●				●				(2)–F32T8	89 4100	COLUMBIA LU8–132–EB8–120–DMR	SWITCH	

LIGHTING NOTES AND SYMBOLS

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2. PROVIDE LUMINAIRE WITH BATTERY PACK FOR EMERGENCY LIGHTING.
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11. (M) CEILING MOUNTED MOTION SENSOR. UNENCO PN PIR–500–P–277
12. S SINGLE POLE SWITCH. MOUNT AT +48" UNLESS OTHERWISE INDICATED.
13. EXIT SIGN, GREEN STENCIL FACE, LED TYPE. ARROWS AS INDICATED.
14. ELECTRICAL PANEL BOARD FLUSH MOUNTED.
15. CONDUCTORS WITH GROUND RUN CONCEALED IN CEILING OR WALL. REF PANEL ASSIGNMENTS FOR WIRE SIZES.
16. HOME RUN TO DESIGNATED PANEL. REFERENCE A.C. BREAKER ASSIGNMENTS FOR CONDUCTOR SIZES. CONDUITS TO BE SIZED FOR 20% FILL (UNLESS INDICATED OTHERWISE). NO MORE THAN 24 CURRENT CARRYING CONDUCTORS PER CONDUIT, WITH GROUNDING CONDUCTOR SIZED FOR LARGEST CIRCUIT BREAKER.
17. 2#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
18. 3#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
19. 4#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
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24. AREA WITH DROP CEILING.
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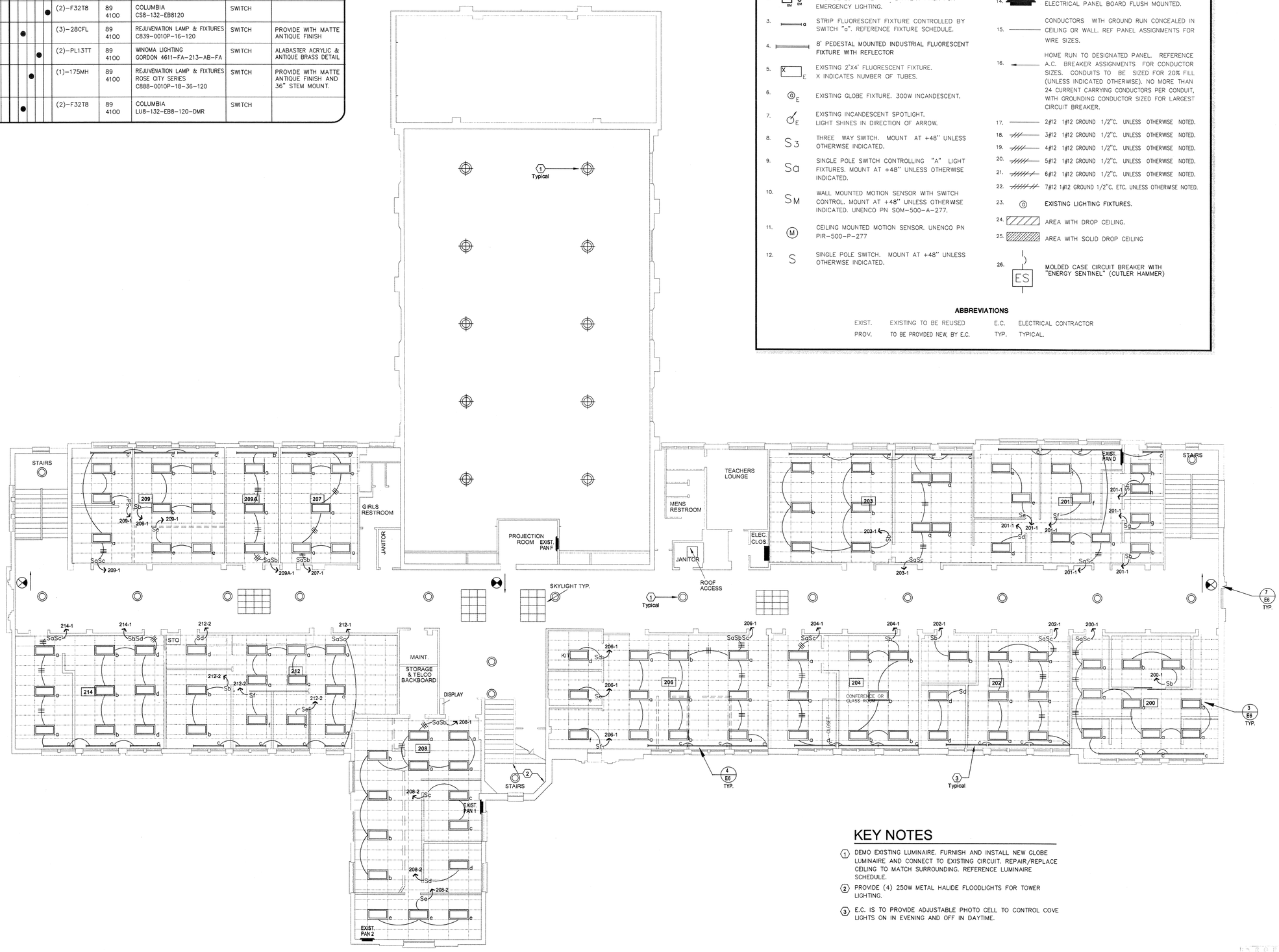
26. ES MOLDED CASE CIRCUIT BREAKER WITH "ENERGY SENTINEL" (CUTLER HAMMER)

ABBREVIATIONS

EXIST.	EXISTING TO BE REUSED	E.C.	ELECTRICAL CONTRACTOR
PROV.	TO BE PROVIDED NEW, BY E.C.	TYP.	TYPICAL.



KEY NOTES

1. DEMO EXISTING LUMINAIRE. FURNISH AND INSTALL NEW GLOBE LUMINAIRE AND CONNECT TO EXISTING CIRCUIT. REPAIR/REPLACE CEILING TO MATCH SURROUNDING. REFERENCE LUMINAIRE SCHEDULE.
2. PROVIDE (4) 250W METAL HALIDE FLOODLIGHTS FOR TOWER LIGHTING.
3. E.C. IS TO PROVIDE ADJUSTABLE PHOTO CELL TO CONTROL COVE LIGHTS ON IN EVENING AND OFF IN DAYTIME.

SECOND FLOOR LIGHTING LAYOUTS
SCALE - 1/8" = 1' - 0"

1
E4B

RECEIVED
MAR 27 2000

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REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000 NO OBS	JMN

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 9333 EXP: SEP 30 2000 ELECTRICAL STATE OF CALIFORNIA

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PALM DESERT (760)773-4478 FAX (760)243-1092 dreamjoe@aol.com

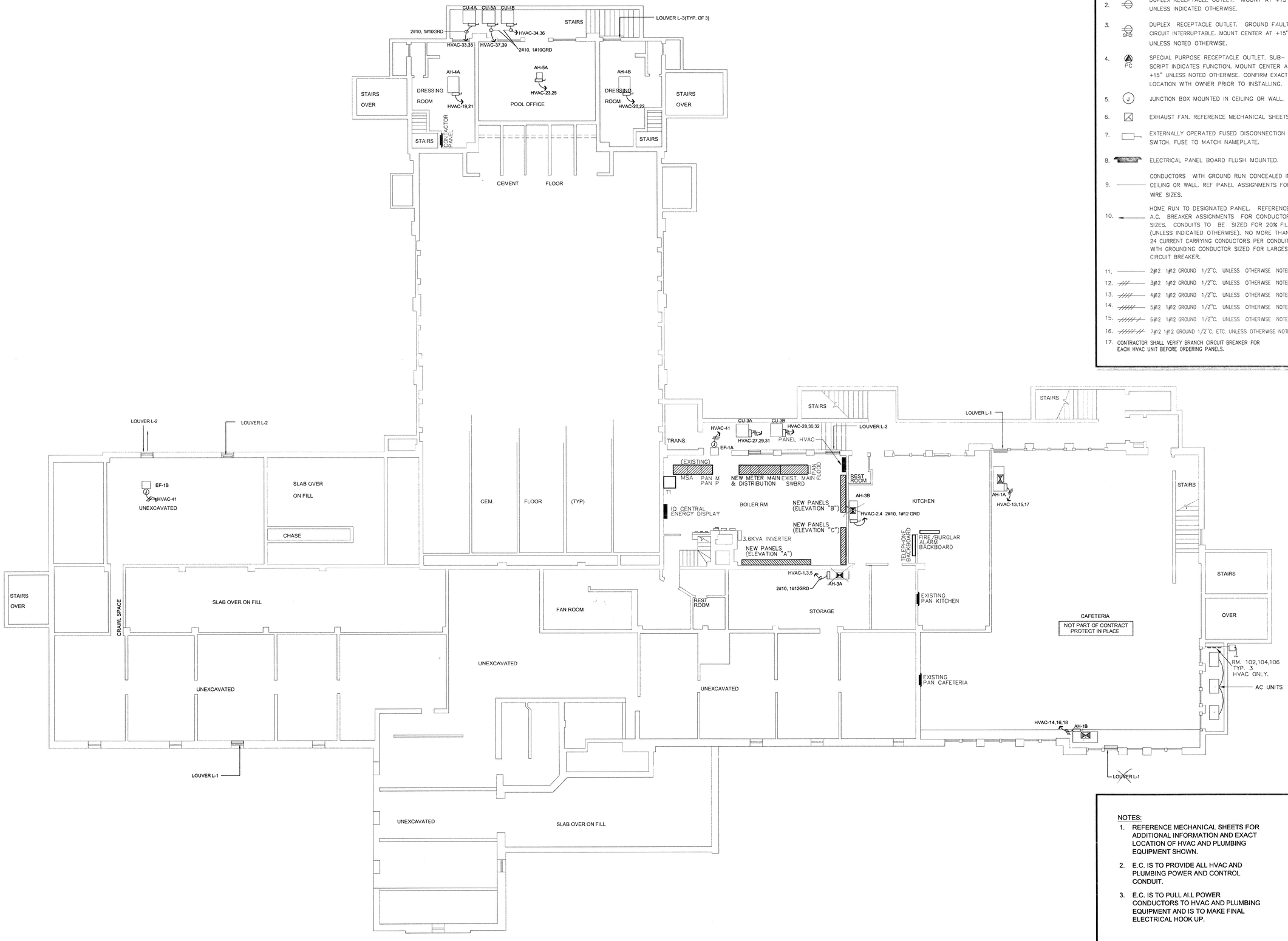
SECOND FLOOR LIGHTING LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET
E-4B

HVAC POWER NOTES AND SYMBOLS

1. FLOOR DUPLEX RECEPTACLE OUTLET. PROVIDE WITH THREADED COVER.
2. DUPLEX RECEPTACLE OUTLET. MOUNT AT +15" UNLESS INDICATED OTHERWISE.
3. GFC — DUPLEX RECEPTACLE OUTLET. GROUND FAULT CIRCUIT INTERRUPTABLE. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE.
4. PC — SPECIAL PURPOSE RECEPTACLE OUTLET. SUB-SCRIPT INDICATES FUNCTION. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE. CONFIRM EXACT LOCATION WITH OWNER PRIOR TO INSTALLING.
5. (J) — JUNCTION BOX MOUNTED IN CEILING OR WALL.
6. EXHAUST FAN. REFERENCE MECHANICAL SHEETS
7. EXTERNALLY OPERATED FUSED DISCONNECTION SWITCH. FUSE TO MATCH NAMEPLATE.
8. ELECTRICAL PANEL BOARD FLUSH MOUNTED.
9. CONDUCTORS WITH GROUND RUN CONCEALED IN CEILING OR WALL. REF PANEL ASSIGNMENTS FOR WIRE SIZES.
10. HOME RUN TO DESIGNATED PANEL. REFERENCE A.C. BREAKER ASSIGNMENTS FOR CONDUCTOR SIZES. CONDUITS TO BE SIZED FOR 20% FILL (UNLESS INDICATED OTHERWISE). NO MORE THAN 24 CURRENT CARRYING CONDUCTORS PER CONDUIT, WITH GROUNDING CONDUCTOR SIZED FOR LARGEST CIRCUIT BREAKER.
11. 2#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
12. 3#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
13. 4#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
14. 5#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
15. 6#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
16. 7#12 1#12 GROUND 1/2"C. ETC. UNLESS OTHERWISE NOTED.
17. CONTRACTOR SHALL VERIFY BRANCH CIRCUIT BREAKER FOR EACH HVAC UNIT BEFORE ORDERING PANELS.



NOTES:

1. REFERENCE MECHANICAL SHEETS FOR ADDITIONAL INFORMATION AND EXACT LOCATION OF HVAC AND PLUMBING EQUIPMENT SHOWN.
2. E.C. IS TO PROVIDE ALL HVAC AND PLUMBING POWER AND CONTROL CONDUIT.
3. E.C. IS TO PULL ALL POWER CONDUCTORS TO HVAC AND PLUMBING EQUIPMENT AND IS TO MAKE FINAL ELECTRICAL HOOK UP.

BASEMENT HVAC POWER LAYOUTS (1/E5)
SCALE - 1/8" = 1' - 0"

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REVISION:	BY
1. PER CHECK BY HUGO 2/22/00	LEH
#2 PER CITY COMMENTS 9/9/2000 No 685	JMN

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 9333 EXP. SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

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BASEMENT HVAC POWER LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET
E-5

HVAC POWER NOTES AND SYMBOLS

1. FLOOR DUPLEX RECEPTACLE OUTLET. PROVIDE WITH THREADED COVER.
2. DUPLEX RECEPTACLE OUTLET. MOUNT AT +15" UNLESS INDICATED OTHERWISE.
3. GFCI — DUPLEX RECEPTACLE OUTLET. GROUND FAULT CIRCUIT INTERRUPTABLE. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE.
4. PC — SPECIAL PURPOSE RECEPTACLE OUTLET. SUB-SCRIPT INDICATES FUNCTION. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE. CONFIRM EXACT LOCATION WITH OWNER PRIOR TO INSTALLING.
5. (J) — JUNCTION BOX MOUNTED IN CEILING OR WALL.
6. EXHAUST FAN. REFERENCE MECHANICAL SHEETS
7. EXTERNALLY OPERATED FUSED DISCONNECTION SWITCH. FUSE TO MATCH NAMEPLATE.
8. ELECTRICAL PANEL BOARD FLUSH MOUNTED.
9. CONDUCTORS WITH GROUND RUN CONCEALED IN CEILING OR WALL. REF PANEL ASSIGNMENTS FOR WIRE SIZES.
10. HOME RUN TO DESIGNATED PANEL. REFERENCE A.C. BREAKER ASSIGNMENTS FOR CONDUCTOR SIZES. CONDUITS TO BE SIZED FOR 20% FILL (UNLESS INDICATED OTHERWISE). NO MORE THAN 24 CURRENT CARRYING CONDUCTORS PER CONDUIT, WITH GROUNDING CONDUCTOR SIZED FOR LARGEST CIRCUIT BREAKER.
11. 2#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
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13. 4#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
14. 5#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
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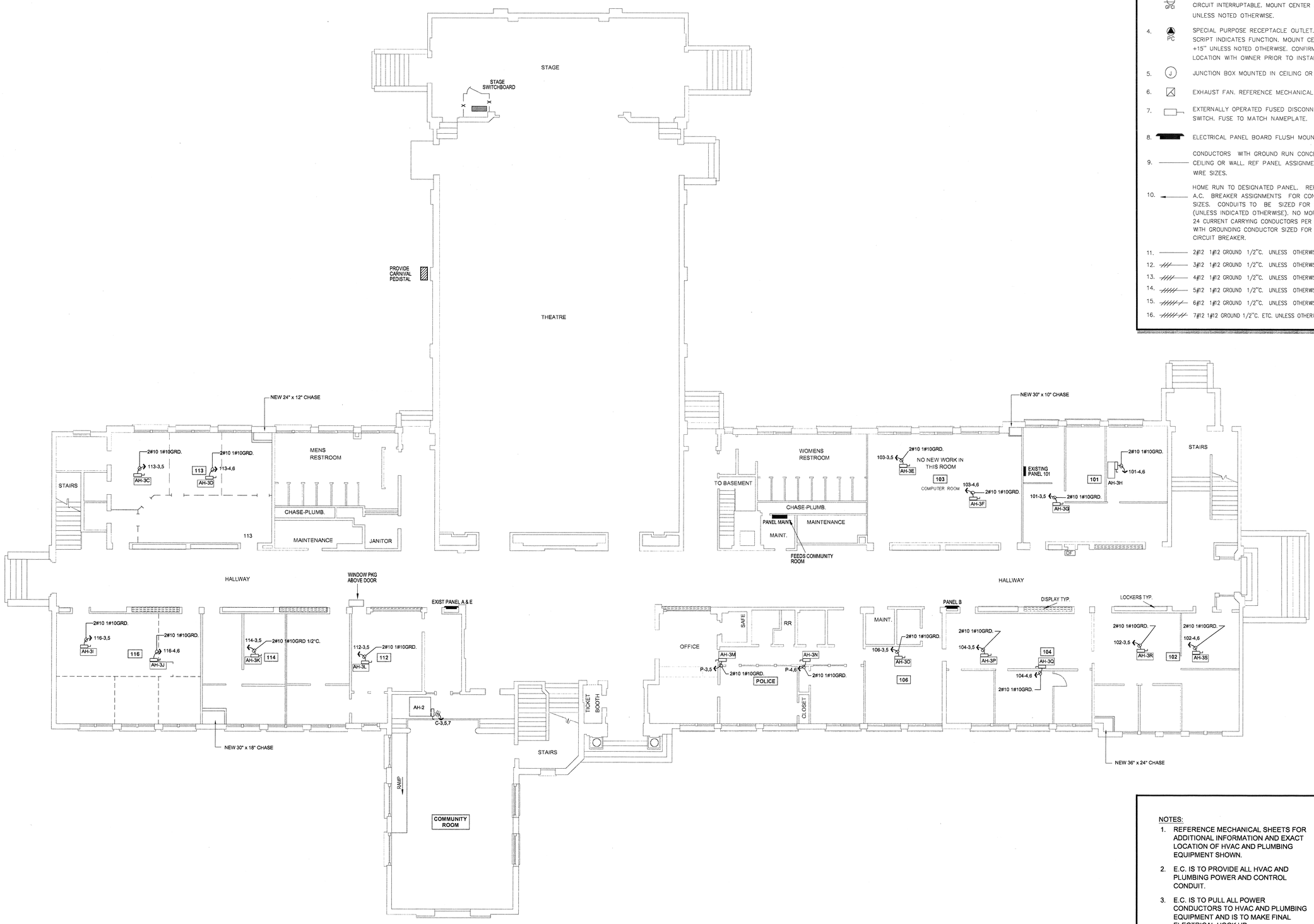

NOTES:

1. REFERENCE MECHANICAL SHEETS FOR ADDITIONAL INFORMATION AND EXACT LOCATION OF HVAC AND PLUMBING EQUIPMENT SHOWN.
2. E.C. IS TO PROVIDE ALL HVAC AND PLUMBING POWER AND CONTROL CONDUIT.
3. E.C. IS TO PULL ALL POWER CONDUCTORS TO HVAC AND PLUMBING EQUIPMENT AND IS TO MAKE FINAL ELECTRICAL HOOK UP.

ROOF HVAC POWER LAYOUT
SCALE - 1/8" = 1' - 0"

1
E5A

MAR 2 7 2001

© DREAM ENGINEERING INC. 2000

REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000 NO #85	JMN

REGISTERED PROFESSIONAL ENGINEER — JOSEPH M. NOLAN — NO E 9333 — EXP: SEP 30 2000 — ELECTRICAL — STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
CESAR CHAVEZ COMM. CENTER
RIVERSIDE, CALIFORNIA

Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369 dreamjoe@earthlink.net
PALM DESERT (760)773-4478 FAX (760)343-1892 dreamjoe@aol.com

FIRST FLOOR
HVAC
POWER
LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET
E-5A

HVAC POWER NOTES AND SYMBOLS

1. FLOOR DUPLEX RECEPTACLE OUTLET. PROVIDE WITH THREADED COVER.
2. DUPLEX RECEPTACLE OUTLET. MOUNT AT +15" UNLESS INDICATED OTHERWISE.
3. GFCI — DUPLEX RECEPTACLE OUTLET. GROUND FAULT CIRCUIT INTERRUPTABLE. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE.
4. PC — SPECIAL PURPOSE RECEPTACLE OUTLET. SUB-SCRIPT INDICATES FUNCTION. MOUNT CENTER AT +15" UNLESS NOTED OTHERWISE. CONFIRM EXACT LOCATION WITH OWNER PRIOR TO INSTALLING.
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15. 6#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
16. 7#12 1#12 GROUND 1/2"C. ETC. UNLESS OTHERWISE NOTED.

NOTES:

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SECOND FLOOR HVAC POWER LAYOUTS — 1 / E5B
SCALE - 1/8" = 1' - 0"

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REVISION:	BY
1. PER CHECK BY HUGO 2/22/00	LEH
#2 PER CITY COMMENTS 9/9/2000 NO 055	JMN

REGISTERED PROFESSIONAL ENGINEER — JOSEPH M. NOLAN — NO E 9333 — EXP. SEP 30 2001 — ELECTRICAL — STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
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Engineering Incorporated
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APPLE VALLEY (760)242-3369
PALM DESERT (760)773-4478
FAX (760)242-1092
dreamjob@earthlink.net

SECOND FLOOR HVAC POWER LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET
E-5B

HVAC POWER NOTES AND SYMBOLS

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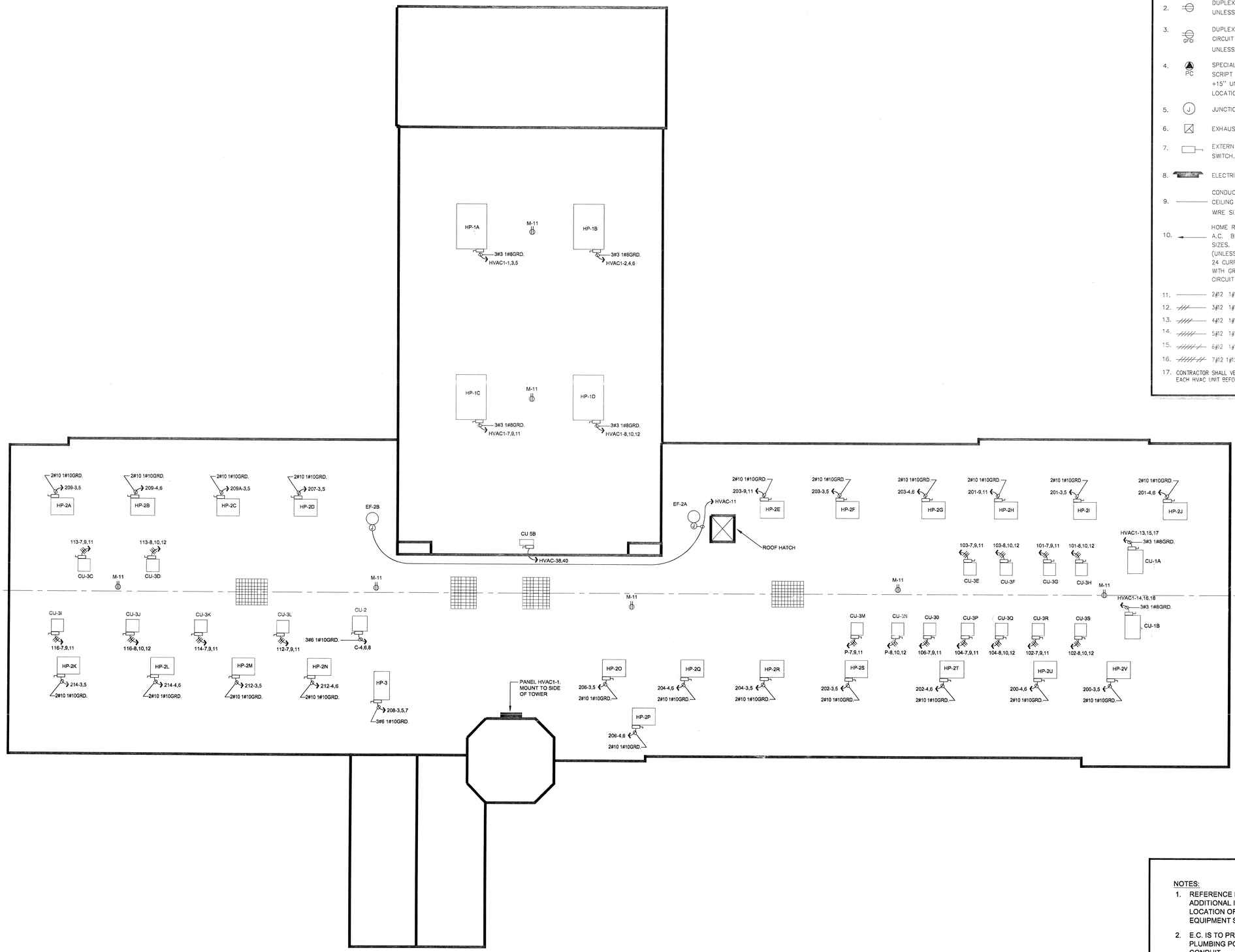
14. 5#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
15. 6#12 1#12 GROUND 1/2"C. UNLESS OTHERWISE NOTED.
16. 7#12 1#12 GROUND 1/2"C. ETC. UNLESS OTHERWISE NOTED.
17. CONTRACTOR SHALL VERIFY BRANCH CIRCUIT BREAKER FOR EACH HVAC UNIT BEFORE ORDERING PANELS.



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SECOND FLOOR HVAC POWER LAYOUTS

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

1 / E5C

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REVISION:	BY
1. PER CHECK BY HUGO 2/22/00	LEH
#2 PER CITY COMMENTS 9/9/2000	JMN

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 8933 EXP. SEP 30 2001 STATE OF CALIFORNIA ELECTRICAL

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

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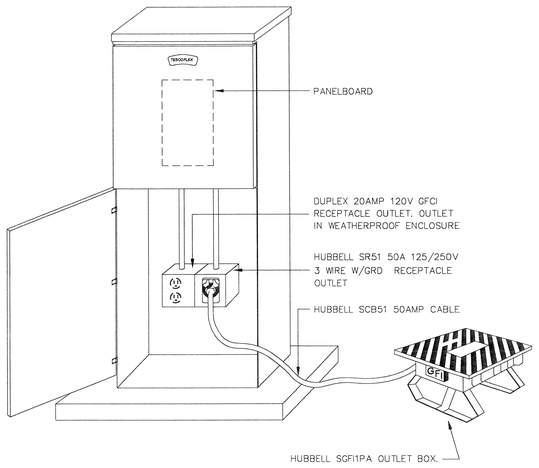
PALM DESERT (760)773-4478
dreamspec@earthlink.net
dreamspecdesert.com

ROOF HVAC POWER LAYOUT

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

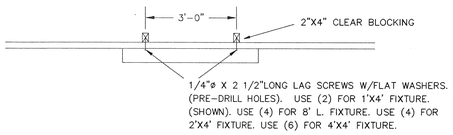
SHEET
E-5C



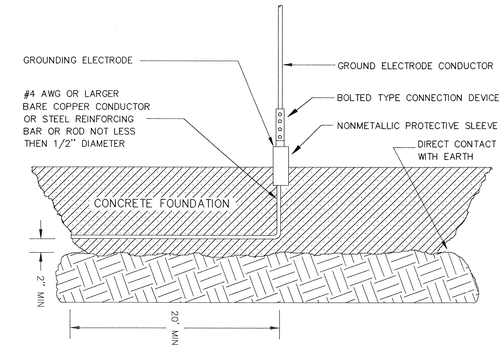
CARNIVAL PEDESTAL DETAIL
NO SCALE — 1 / E6

NOTES-

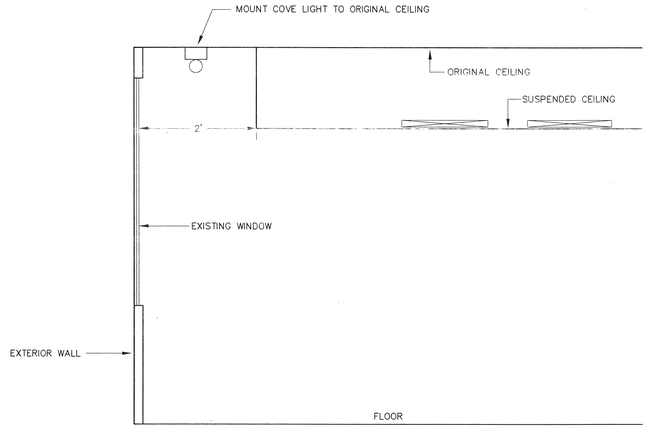
1. PEDESTAL TO BE IN NEMA 3R ENCLOSURE WITH HASP.
2. ORDERING INFORMATION ON SWITCHGEAR MAY BE OBTAINED FROM SCOTT GREEN @ TESCO (916) 395-8800. TESCO #21-000 TYPE IIIAF WITH MAIN & BRANCH CIRCUIT BREAKERS AS INDICATED ON A.C. BREAKER ASSIGNMENTS.
3. REF BREAKER ASSIGNMENTS FOR INFO ON MAIN CIRCUIT BREAKER, INTERIOR SPACES AND OTHER INFO.
4. PAD TO BE 2000PSI CONCRETE 6" THICK. EXTEND 4" BEYOND SWITCHGEAR ON ALL SIDES.
5. SWITCHGEAR TO BE SECURED TO PAD WITH 3/8" X 3-1/2" ANCHOR BOLTS ASTM A325 AT EACH CORNER.
6. PROVIDE DUPLEX GFCI RECEPTACLE TO BE MOUNTED INSIDE PANELBOARD.
7. ENCLOSURE SHOWN IS TO HAVE SUFFICIENT SPACE FOR MOUNTING OF OUTLETS SHOWN IN AUXILIARY SECTION, SEPARATE FROM LIVE EXPOSED ELECTRICAL PARTS. ALTERNATE SUBMITTAL WILL ONLY BE CONSIDERED IF ALL EQUIPMENT CAN BE MOUNTED IN THE ONE ENCLOSURE
8. CONTRACTOR TO PROVIDE ALL MOUNTING HARDWARE.
9. CONTRACTOR TO PROVIDE ALL MATERIALS SHOWN ABOVE.
10. HUBBELL OUTLET BOX TO BE EQUIPPED WITH (6) 20A 125V AC T.L. RECEPTACLES (CAT NO. 2310MP) WITH OVERLOAD PROTECTION AND GFCI



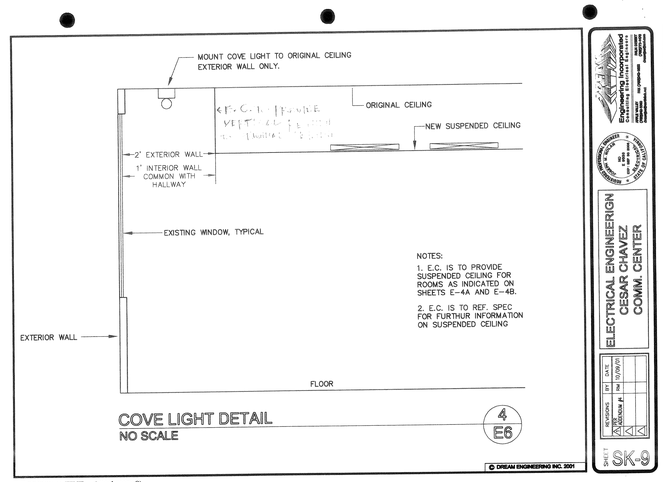
DETAIL - HANGING OF FLUORESCENT FIXTURE
NO SCALE — 3 / E6



CONCRETE ENCASED ELECTRODE
NO SCALE — 6 / E6



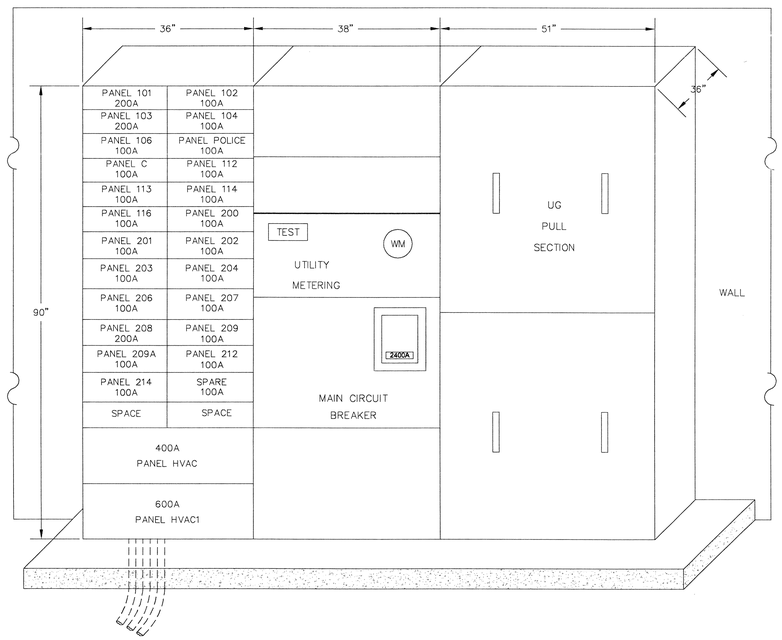
COVE LIGHT DETAIL
NO SCALE — 4 / E6



COVE LIGHT DETAIL
NO SCALE — 4 / E6

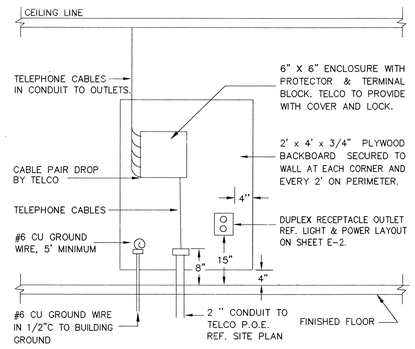
ADDENDUM FIVE – Attachment 9)

ITEM 19. Project Plans: Sheet E-6, Detail 4/E6, COVE LIGHT DETAIL:
Delete the detail and replace with new Detail 4/E6 as per Attachment 9)
Sheet SK-9.



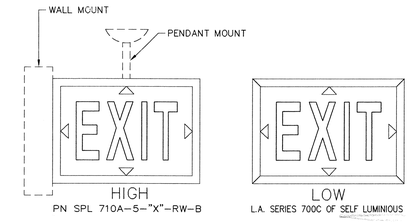
NOTES:
1. SWITCHBOARD SHOWN WITHOUT ENCLOSURE. PROVIDE IN NEMA 3R ENCLOSURE.
2. SWITCHBOARD TO BE MOUNTED TO WALL AND PAD WITH ANCHOR BOLTS 3/4" X 4" LAG.
3. REFERENCE SINGLE LINE AND KEYNOTES ON SITE PLAN FOR QUANTITY AND SIZE OF CONDUITS STUBBING OUT OF PAD.

SWITCHBOARD ELEVATION
NO SCALE — 2 / E6



NOTE:
CONTRACTOR TO CONTACT TELCO TO CONFIRM 2" CONDUIT REQUIRED

TELEPHONE BACKBOARD ELEVATION
NO SCALE — 5 / E6



NOTE:

1. EXIT SIGN LUMINOUS AREAS SHALL HAVE A MINIMUM AVERAGE BRIGHTNESS OF 0.120 FOOT LAMBERTS UPON INSTALLATION. THE MINIMUM USEFUL LIFE SHALL BE 10 YEARS AS CONFIRMED BY AN INDEPENDENT TESTING LABORATORY. LUMINOUS ELEMENTS SHALL BE FIELD REPLACEABLE BY SIMPLE REMOVAL OF THE FACE OF THE UNIT. THEY SHALL FUNCTION WITH NO EXTERNAL EMERGENCY SOURCE. THE LUMINOUS ELEMENTS SHALL CONSIST OF SEALED, TRITIUM-FILLED GLASS TUBES WITH INTERNAL PHOSPHOR COATING ENCASED WITHIN IMPACT-RESISTANT, CLEAR PLASTIC SLEEVES. THE UNIT SHALL BE MOUNTED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. PENDANT MOUNT, BRIGHT RED/WHITE BORDERS, SILVER SATIN ANODIZED FINISH.
2. PROVIDE HIGH LOW COMBINATION AT EACH LOCATION SHOWN ON PLANS.

ILLUMINATED EXIT SIGN DETAIL
NO SCALE — 7 / E6

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REVISION:	BY
#1 PER CITY COMMENTS 9/9/2000 NO OBS	JMN

REGISTERED PROFESSIONAL ENGINEER JOSEPH W. NOLAN NO E 8933 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

RIVERSIDE PARK & REC DEPT.
3900 MAIN ST.
RIVERSIDE, CA 92522

ELECTRICAL ENGINEERING
CESAR CHAVEZ COMM. CENTER
RIVERSIDE, CALIFORNIA

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ELECTRICAL DETAILS

PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET E-6

LIGHTING FORMS

CERTIFICATE OF COMPLIANCE (Part 1 of 2) LTG-1

PROJECT NAME: CESAR CHAVEZ COMMUNITY CENTER | DATE: SEPT 9, 2000

PROJECT ADDRESS: RIVERSIDE, CALIFORNIA | Building Permit #

PRINCIPAL DESIGNER-LIGHTING: DREAM ENGINEERING INC. | TELEPHONE: 760.242.3369

DOCUMENTATION AUTHOR: JOSEPH M. NOLAN | TELEPHONE: 760.242.3369 | Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS | BUILDING CONDITIONED FLOOR AREA: 30,000 SQ FT | CLIMATE ZONE: 10

BUILDING TYPE: ☒ NONRESIDENTIAL ☐ HIGH RISE RESIDENTIAL ☐ HOTEL/MOTEL GUEST ROOM

PHASE OF CONSTRUCTION: ☐ NEW CONSTRUCTION ☐ ADDITION ☒ ALTERATION ☐ UNCONDITIONED (file affidavit)

METHOD OF LIGHTING COMPLIANCE: ☒ COMPLETE BLDG. ☐ AREA CATEGORY ☐ TAILORED ☐ PERFORMANCE

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building lighting requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR: JOSEPH M. NOLAN | SIGNATURE: Joseph M Nolan | DATE: SEPT 9, 2000

The Principal Lighting Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the lighting requirements contained in the applicable parts of Sections 110, 119, 130 through 132, 146, and 149 of Title 24, Part 6.

Please check one:

☒ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or Electrical Engineer, or I am a licensed architect.

☐ I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

☐ I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL LIGHTING DESIGNER-NAME: JOSEPH M. NOLAN | SIGNATURE: Joseph M Nolan | DATE: SEP 30, 2001 | LIC. #: E9333

LIGHTING MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures: SHEET E-4

INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.
LTG-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.
LTG-2: Required for all submittals.
LTG-3: Optional. Use only if lighting control credits are taken.
LTG-4/LTG-5: Optional. Use only if Tailored Method is used.

Nonresidential Compliance Forms *March 2000A*

CERTIFICATE OF COMPLIANCE (Part 2 of 2) LTG-1

PROJECT NAME: CESAR CHAVEZ COMMUNITY CENTER | DATE: SEPT 9, 2000

INSTALLED LIGHTING SCHEDULE

Code	LUMINAIRE DESCRIPTION	LAMPS: TYPE DESCRIPTION	LAMPS: #	LAMPS: Watts Per Lamp	BALLASTS: TYPE DESCRIPTION	BALLASTS: #	Luminaire (Lamp + Ballast): #	Luminaire (Lamp + Ballast): Watts	TOTAL WATTS
A	2X4' RECESSED	FLUORESCENT	4	35	ELECTRONIC	2	206	140	28,840
CHAND	CHANDELIER	INCANDESCENT	10	50	--	5	3	500	1,500
C	GLOBE LUMINAIRE	FLUORESCENT	3	28	ELECTRONIC	1	26	84	2,184
D	WALL SCONCE	FLUORESCENT	1	46	ELECTRONIC	1	8	46	368
E	PENDANT GLOBE	MH	1	175	ELECTRONIC	1	10	175	1,750
EXIST	2X4' RECESSED	FLUORESCENT	2	35	ELECTRONIC	2	9	70	630

SUBTOTAL FROM THIS PAGE: 34,608

BUILDING TOTAL: -0-

LESS CONTROL CREDIT WATTS (From LTG-3): -0-

ADJUSTED ACTUAL WATTS: 34,608

MANDATORY AUTOMATIC CONTROLS

CONTROL LOCATION (Room #)	CONTROL IDENTIFICATION	CONTROL TYPE (Auto Time Switch, Exterior, etc.)	SPACE CONTROLLED	NOTE TO FIELD
REF DWGS				

CONTROLS FOR CREDIT

CONTROL LOCATION (Room # or Dwg. #)	CONTROL IDENTIFICATION	CONTROL TYPE (Occupant, Daylight, Dimming, etc.)	LUMINAIRES CONTROLLED: TYPE	LUMINAIRES CONTROLLED: # OF LUMINAIRES	NOTE TO FIELD
N/A					

NOTES TO FIELD - For Building Department Use Only

Nonresidential Compliance Form *March 2000A*

LIGHTING COMPLIANCE SUMMARY LTG-2

PROJECT NAME: CESAR CHAVEZ COMMUNITY CENTER | DATE: SEPT 9, 2000

ACTUAL LIGHTING POWER

LUMINAIRE NAME	DESCRIPTION	NUMBER OF LUMINAIRES	WATTS PER LUMINAIRE (Including Ballast)	CEC DEFAULT? Y	CEC DEFAULT? N	TOTAL WATTS
A	2X4' RECESSED	206	35	☒	☐	28,840
CHAND	CHANDELIER	3	50	☒	☐	1,500
C	GLOBE LUMINAIRE	26	84	☒	☐	2,184
D	WALL SCONCE	8	46	☒	☐	368
E	PENDANT GLOBE	10	175	☒	☐	1,750
EXIST	EXISTING 2'X4' FLUORESCENT	9	70	☒	☐	630
				☐	☐	
				☐	☐	
				☐	☐	

SUBTOTAL FROM THIS PAGE: 34,608

If not using the CEC Default value, please provide supporting documentation.

PLUS SUBTOTAL FROM CONTINUATION PAGE: -0-

LESS CONTROL CREDIT WATTS (From LTG-3): -0-

ADJUSTED ACTUAL WATTS: 34,608

ALLOWED LIGHTING POWER (Choose One Method)

COMPLETE BUILDING METHOD

BUILDING CATEGORY (From § 146(b) Table 1-M)	WATTS PER SF	COMPLETE BLDG. AREA	ALLOWED WATTS
OFFICE BUILDING	1.3	30,000	39,000

AREA CATEGORY METHOD

AREA CATEGORY (From § 146(b) Table 1-N)	WATTS PER SF	AREA (SF)	ALLOWED WATTS
TOTALS		AREA	WATTS

TAILORED METHOD

TOTAL ALLOWED WATTS (From LTG-4, or from Computer Run)

Nonresidential Compliance Form *March 2000A*

LIGHTING SUMMARY SPREADSHEET LTG-4

LIGHTING SUMMARY SPREAD SHEET
FORM LTG-4

ROOM NO.	ROOM ID	AREA	FIXTURE: QTY	FIXTURE: TYPE	FIXTURE: SYMBOL	LAMPS: QTY	LAMPS: WATT	TOTAL WATTS	FTC
FIRST FLOOR									
101	SUITE	750	9	FLUOR	A	4	35	1260	59
102	SUITE	840	10	FLUOR	A	4	35	1400	58
103	SUITE	740	9	FLUOR	A	4	35	1260	60
104	SUITE	750	9	FLUOR	A	4	35	1260	59
106	SUITE	380	4	FLUOR	A	4	35	560	52
112	SUITE	305	4	FLUOR	A	4	35	560	64
113	SUITE	906	10	FLUOR	A	4	35	1400	54
114	SUITE	690	8	FLUOR	A	4	35	1120	57
116	SUITE	670	8	FLUOR	A	4	35	1120	59
POLICE	SUITE	1032	12	FLUOR	A	4	35	1680	57
COMM RM.	SUITE	1100	12	FLUOR	A	4	35	1680	53
HALLWAY	COMMON	4030	9	FLUOR	EXIST	2	35	630	5
			3	FLUOR	C	3	28	252	2
			3	INCAND	CHAND	10	50	1500	7
SECOND FLOOR									
200	SUITE	720	8	FLUOR	A	4	35	1120	54
201	SUITE	874	10	FLUOR	A	4	35	1400	56
202	SUITE	720	8	FLUOR	A	4	35	1120	54
203	SUITE	920	10	FLUOR	A	4	35	1400	53
204	SUITE	696	8	FLUOR	A	4	35	1120	56
206	SUITE	1056	12	FLUOR	A	4	35	1680	56
207	SUITE	368	4	FLUOR	A	4	35	560	53
208	SUITE	1125	14	FLUOR	A	4	35	1960	61
209	SUITE	690	8	FLUOR	A	4	35	1120	57
212	SUITE	1040	12	FLUOR	A	4	35	1680	57
214	SUITE	720	9	FLUOR	A	4	35	1260	61
209A	SUITE	690	8	FLUOR	A	4	35	1120	57
HALLWAY	COMMON	4266	17	FLUOR	C	3	28	1428	12
THEATER	COMMON	4290	10	MH	E	1	175	1750	20
			8	FLUOR	D	2	13	208	2
TOTALS		30368					TOTAL WATTS =	34608	
LIGHTING POWER DENSITY		1.14							

MANDATORY MEASURES LIGHTING

☐ **Building Lighting Shut-off**
The building lighting shut-off system consists of an automatic time switch, with a zone for each floor; or
the building is separately metered and less than 5,000 square feet; exempt from the shut-off requirement

☐ **Override for Building Lighting Shut-off**
The automatic building shut-off system is provided with a manual, accessible override switch in sight of the lights. The area of override is not to exceed 5,000 sf.

☐ **Automatic Control Devices Certified**
All automatic control devices specified are certified, all alternate equipment shall be certified and installed as directed by the manufacturer.

☐ **Control of Exterior Lights**
Exterior mounted fixtures and served from the electrical panel inside the building are controlled with a directional photo cell control on the roof and a corresponding relay in the electrical panel.

☐ **Tandem Wiring for Two-Lamp Ballast's**
All one and three lamp fluorescent fixtures are tandem wired with two (2) lamp ballast where required by Standards Section 132; or all three lamp fluorescent fixtures are specified with electronic high-frequency ballast's and are exempt from two-lamp tandem wiring requirements.

☐ **Fluorescent Ballast and Luminaries Certified**
All fluorescent fixtures specified for the project are certified and listed in the Directory. All installed fixtures shall be certified.

☐ **Daylit Area Control**
All rooms with windows and skylights, that are greater than 250 square feet, and that allow for the effective use of daylight in the area shall have 50% of the lamps in each daylight area controlled by a separate switch; or
The effective use of daylight through cannot be accomplished because the windows are continuously shaded by a building on the adjacent lot. Diagram of shading during different times of year is included on plans.

☐ **Individual Room/Area Controls**
Each room and area in this building is equipped with a separate switch or occupancy sensor device for each area with floor-to-ceiling walls.

☐ **Uniform Reduction for Individual Rooms**
All rooms and area greater than 100 square feet and more than 1.2 watts per square foot of lighting load shall be controlled with Bi-level switching for uniform reduction of lighting within the room.

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#1 PER CITY COMMENTS 9/9/2000	JMN

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. NOLAN NO E 9333 EXP: SEP 30 2001 ELECTRICAL STATE OF CALIFORNIA

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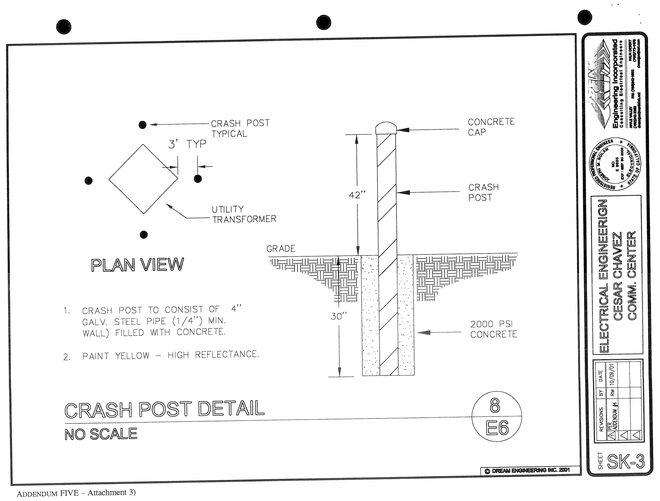
TITLE 24 LIGHTING COMPLIANCE FORMS

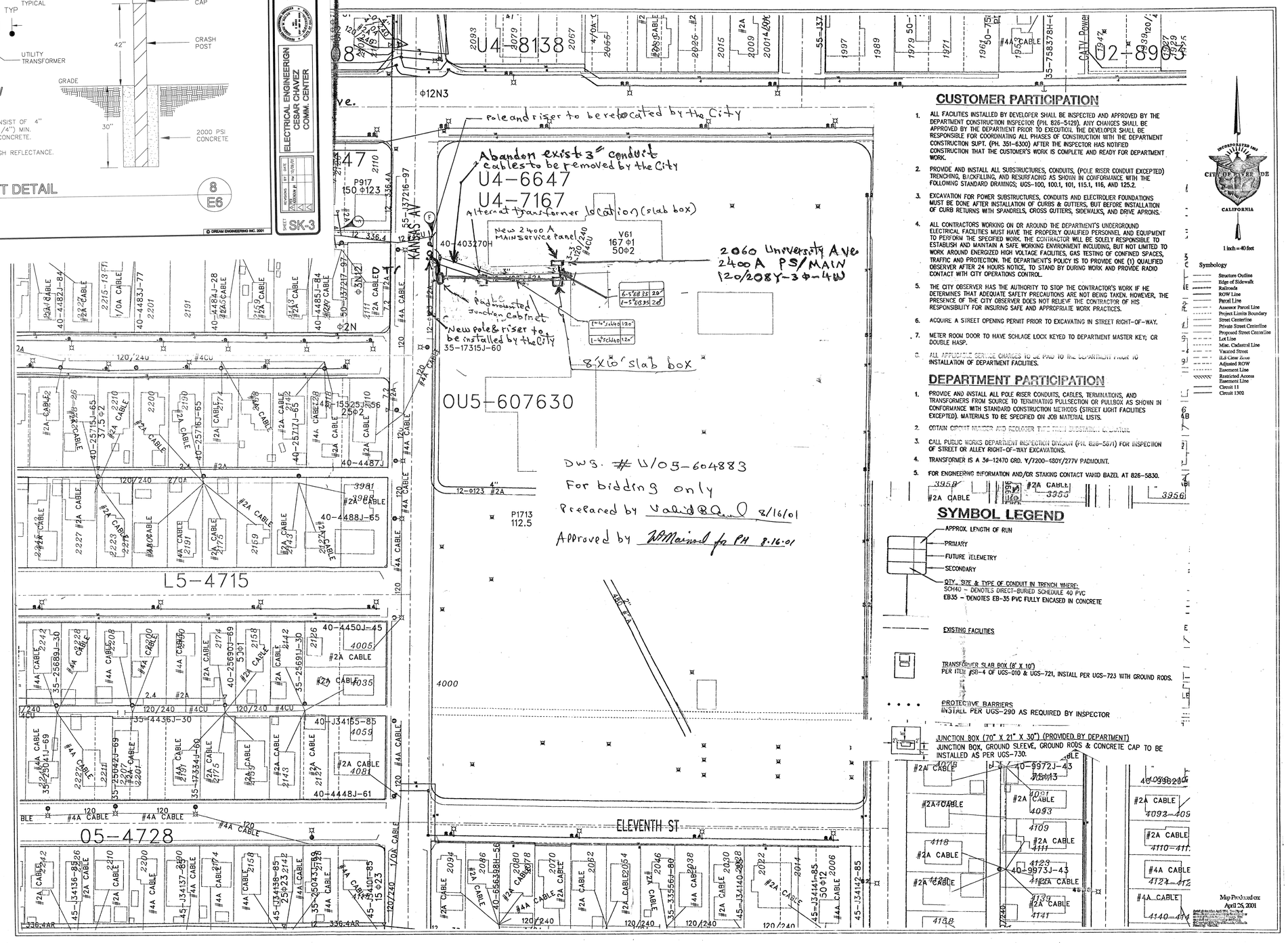
PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET E-7

SHEET _ OF _



ADDENDUM FIVE – Attachment 3)



CUSTOMER PARTICIPATION

1. ALL FACILITIES INSTALLED BY DEVELOPER SHALL BE INSPECTED AND APPROVED BY THE DEPARTMENT CONSTRUCTION INSPECTOR (PH. 826-5129). ANY CHANGES SHALL BE APPROVED BY THE DEPARTMENT PRIOR TO EXECUTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR COORDINATING ALL PHASES OF CONSTRUCTION WITH THE DEPARTMENT CONSTRUCTION SUPT. (PH. 351-6300) AFTER THE INSPECTOR HAS NOTIFIED CONSTRUCTION THAT THE CUSTOMER'S WORK IS COMPLETE AND READY FOR DEPARTMENT WORK.
2. PROVIDE AND INSTALL ALL SUBSTRUCTURES, CONDUITS, (POLE RISER CONDUIT EXCEPTED) TRENCHING, BACKFILLING, AND RESURFACING AS SHOWN IN CONFORMANCE WITH THE FOLLOWING STANDARD DRAWINGS; UGS-100, 100.1, 101, 115.1, 116, AND 125.2
3. EXCAVATION FOR POWER SUBSTRUCTURES, CONDUITS AND ELECTROLIER FOUNDATIONS MUST BE DONE AFTER INSTALLATION OF CURBS & GUTTERS, BUT BEFORE INSTALLATION OF CURB RETURNS WITH SPANDRELS, CROSS GUTTERS, SIDEWALKS, AND DRIVE APRONS.
4. ALL CONTRACTORS WORKING ON OR AROUND THE DEPARTMENT'S UNDERGROUND ELECTRICAL FACILITIES MUST HAVE THE PROPERLY QUALIFIED PERSONNEL AND EQUIPMENT TO PERFORM THE SPECIFIED WORK. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE TO ESTABLISH AND MAINTAIN A SAFE WORKING ENVIRONMENT INCLUDING, BUT NOT LIMITED TO WORK AROUND ENERGIZED HIGH VOLTAGE FACILITIES, GAS TESTING OF CONFINED SPACES, TRAFFIC AND PROTECTION. THE DEPARTMENT'S POLICY IS TO PROVIDE ONE (1) QUALIFIED OBSERVER AFTER 24 HOURS NOTICE, TO STAND BY DURING WORK AND PROVIDE RADIO CONTACT WITH CITY OPERATIONS CONTROL.
5. THE CITY OBSERVER HAS THE AUTHORITY TO STOP THE CONTRACTOR'S WORK IF HE DETERMINES THAT ADEQUATE SAFETY PRECAUTIONS ARE NOT BEING TAKEN. HOWEVER, THE PRESENCE OF THE CITY OBSERVER DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR INSURING SAFE AND APPROPRIATE WORK PRACTICES.
6. ACQUIRE A STREET OPENING PERMIT PRIOR TO EXCAVATING IN STREET RIGHT-OF-WAY.
7. METER ROOM DOOR TO HAVE SCHLAGE LOCK KEYED TO DEPARTMENT MASTER KEY; OR DOUBLE HASP.
8. ALL APPLICABLE SERVICE CHARGES TO BE PAID TO THE DEPARTMENT PRIOR TO INSTALLATION OF DEPARTMENT FACILITIES.

DEPARTMENT PARTICIPATION

1. PROVIDE AND INSTALL ALL POLE RISER CONDUITS, CABLES, TERMINATIONS, AND TRANSFORMERS FROM SOURCE TO TERMINATING PULLSECTION OR PULLBOX AS SHOWN IN CONFORMANCE WITH STANDARD CONSTRUCTION METHODS (STREET LIGHT FACILITIES EXCEPTED). MATERIALS TO BE SPECIFIED ON JOB MATERIAL LISTS.
2. OBTAIN CIRCUIT NUMBER AND RECLOSER TYPE FROM DISTRICT ELECTRICIAN.
3. CALL PUBLIC WORKS DEPARTMENT INSPECTION DIVISION (PH. 826-5571) FOR INSPECTION OF STREET OR ALLEY RIGHT-OF-WAY EXCAVATIONS.
4. TRANSFORMER IS A 36-12470 GRD. Y/7200-480Y/277V PADMOUNT.
5. FOR ENGINEERING INFORMATION AND/OR STAKING CONTACT VAHID BAZEL AT 826-5830.

SYMBOL LEGEND

- APPROX. LENGTH OF RUN
- PRIMARY
- FUTURE TELEMETRY
- SECONDARY
- QTY. SIZE & TYPE OF CONDUIT IN TRENCH WHERE:
  SCH40 – DENOTES DIRECT-BURIED SCHEDULE 40 PVC
  EB35 – DENOTES EB-35 PVC FULLY ENCASED IN CONCRETE
- EXISTING FACILITIES
- TRANSFORMER SLAB BOX (8' X 10') PER ITEM #SB-4 OF UGS-010 & UGS-721, INSTALL PER UGS-723 WITH GROUND RODS.
- PROTECTIVE BARRIERS INSTALL PER UGS-290 AS REQUIRED BY INSPECTOR
- JUNCTION BOX (70" X 21" X 30") (PROVIDED BY DEPARTMENT) JUNCTION BOX, GROUND SLEEVE, GROUND RODS & CONCRETE CAP TO BE INSTALLED AS PER UGS-730.

CITY OF RIVERSIDE CALIFORNIA

1 inch = 40 feet

Symbology
- Structure Outline
- Edge of Sidewalk
- Railroads
- ROW Line
- Parcel Line
- Assessor Parcel Line
- Project Limits Boundary
- Street Centerline
- Private Street Centerline
- Proposed Street Centerline
- Lot Line
- Misc. Cadastral Line
- Vacated Street
- ELS Center Room
- Adjusted ROW
- Easement Line
- Restricted Access Easement Line
- Circuit 11
- Circuit 1302

Map Produced on: April 25, 2001

ITEM 20. Project Plans: Sheet E-8, Dry Utility Sheet, Add Detail 8/E6 *"CRASH POST DETAIL"* per Attachment 3) Sheet SK-3.

ITEM 21. Project Plans: Sheet E-8, Dry Utility Sheet, Add the following note: ***"Provide Service Riser, Primary Lateral Trench, Conduit, Pad and Secondary Service Lateral into Pull Section of new Switchboard."***

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REVISION:	BY

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DRY UTILITY SHEET

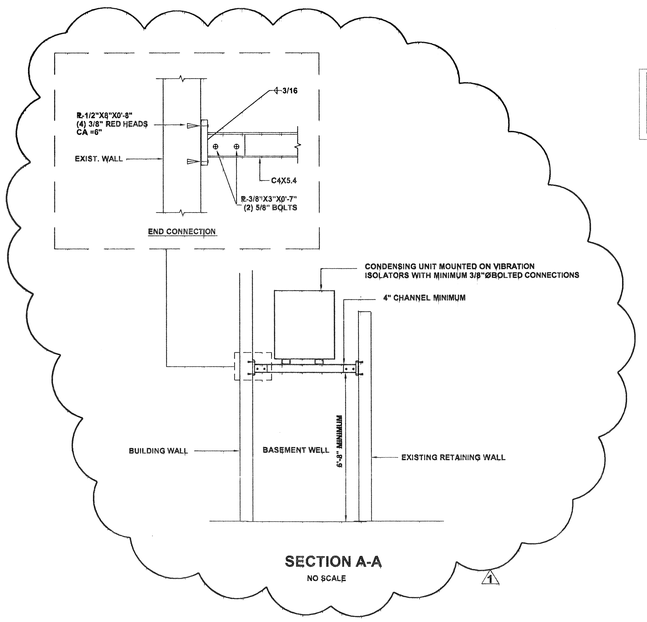
PROJECT:	9905012
DATE:	5/13/99
DRAWN:	
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET E-8

NOTE

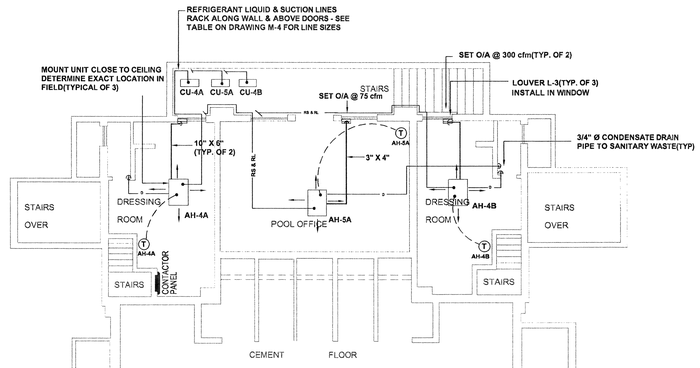
1. ALL CONDENSATE DRAINAGE SHALL BE BY GRAVITY WHEREVER FEASIBLE. WHERE NOT FEASIBLE CONDENSATE LINES SHALL BE COLLECTED TO A CENTRAL POINT AND A CONDENSATE PUMP FURNISHED & INSTALLED. PUMP SHALL BE LITTLE GIANT MODEL VCL-24ULS, WITH A CAPACITY OF 100 GPH AT A TOTAL HEAD OF 20 FEET, 1/18 HP MOTOR @ 120/1/60, OR APPROVED EQUAL. FURNISH WITH MINIMUM 6 FOOT EXTENSION CORD AND PLUG.

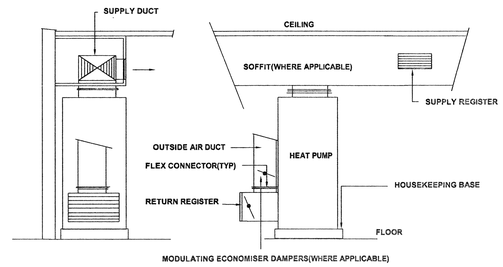
2. EXISTING A/C EQUIPMENT SHALL BE REMOVED AS NEW EQUIPMENT IS INSTALLED, INCLUDING DUCTWORK, DIFFUSERS, PIPIG, ETC.



SECTION A-A

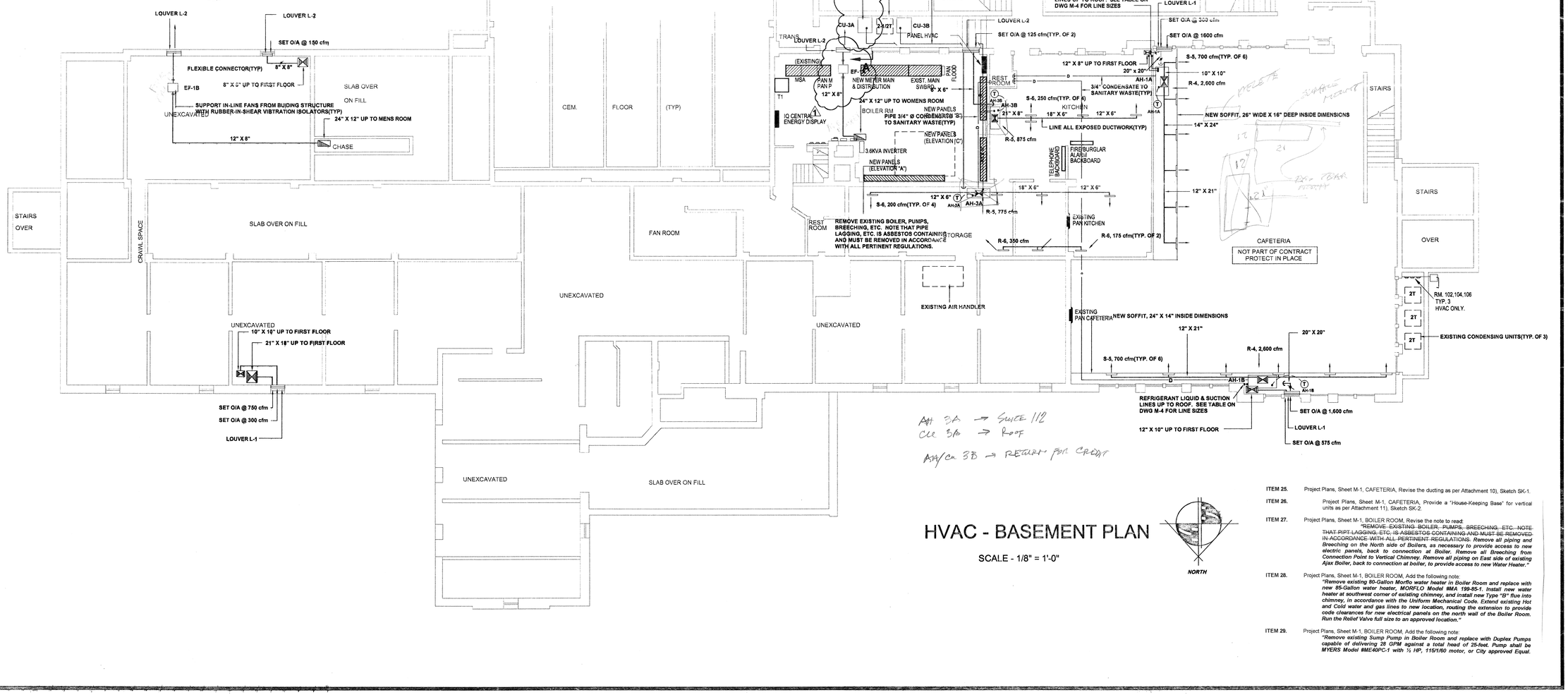
NO SCALE





TYPICAL INSTALLATION OF VERTICAL UNIT

NO SCALE



HVAC - BASEMENT PLAN

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

NORTH

Pump shall be provided with Float Switches and a duplex alternating control panel with pump run-light and auxiliary connection for remote alarm. Remote alarm light shal be mounted at head of stairs to boiler room, in corridor. Connect pumps to existing 1½" discharge pipe with check valve."

ITEM 30. Project Plans, Sheet M-1, TRANS (TRANSFORMER ROOM), Add the following note: *"Install new exhaust fan in opening to existing transformer vault. Fan shall be capable of delivering 3000 cfm of air against a static pressure of 0.25w.c. Fan shall be Greenheck Model #CWB-161, with ½ HP 115/1/60 motor, or City approved equal. Fan shall be controlled by a line voltage thermostat installed in transformer vault and set at 90°F (adjustable)."*

ITEM 31. note to read: Project Plans, Sheet M-2, TYPICAL INSTALLATION FOR SUSPENDED UNITS, Revise the ~~"New Lay-In Ceiling~~ *Lay-In Ceiling as indicated on the Electrical Plans."*

ITEM 25. Project Plans, Sheet M-1, CAFETERIA, Revise the ducting as per Attachment 10), Sketch SK-1.

ITEM 26. Project Plans, Sheet M-1, CAFETERIA, Provide a "House-Keeping Base" for vertical units as per Attachment 11), Sketch SK-2.

ITEM 27. Project Plans, Sheet M-1, BOILER ROOM, Revise the note to read: ~~"REMOVE EXISTING BOILER, PUMPS, BREECHING, ETC. NOTE THAT PIPT LAGGING, ETC. IS ASBESTOS CONTAINING AND MUST BE REMOVED IN ACCORDANCE WITH ALL PERTINENT REGULATIONS.~~ *Remove all piping and Breeching on the North side of Boilers, as necessary to provide access to new electric panels, back to connection at Boiler. Remove all Breeching from Connection Point to Vertical Chimney. Remove all piping on East side of existing Ajax Boiler, back to connection at boiler, to provide access to new Water Heater."*

ITEM 28. Project Plans, Sheet M-1, BOILER ROOM, Add the following note: *"Remove existing 80-Gallon Morflo water heater in Boiler Room and replace with new 85-Gallon water heater, MORFLO Model #MA 199-85-1. Install new water heater at southwest corner of existing chimney, and install new Type "B" flue into chimney, in accordance with the Uniform Mechanical Code. Extend existing Hot and Cold water and gas lines to new location, routing the extension to provide code clearances for new electrical panels on the north wall of the Boiler Room. Run the Relief Valve full size to an approved location."*

ITEM 29. Project Plans, Sheet M-1, BOILER ROOM, Add the following note: *"Remove existing Sump Pump in Boiler Room and replace with Duplex Pumps capable of delivering 28 GPM against a total head of 25-feet. Pump shall be MYERS Model #ME40PC-1 with ½ HP, 115/1/60 motor, or City approved Equal.*

REVISION:	BY
1. PLAN CHECK, 3/9/01	RS

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HVAC BASEMENT PLAN

PROJECT:	9905012
DATE:	SEPT. 99
DRAWN:	RS
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APPROVED:	
DWG FILE:	CESCHAE?

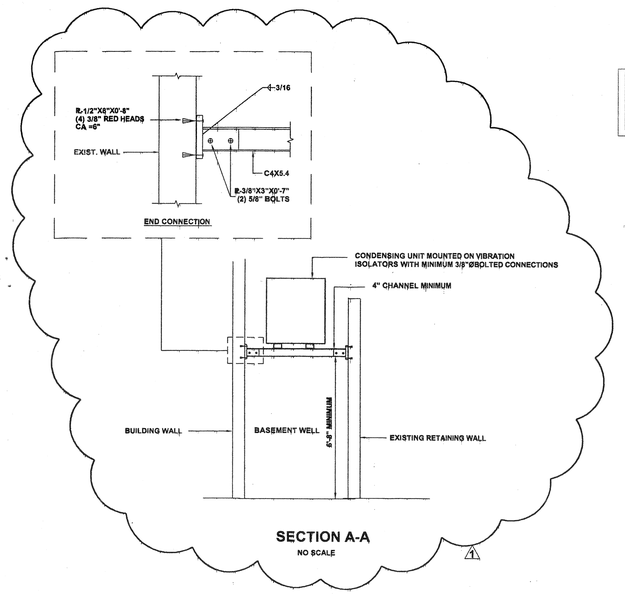
SHEET M-1

SHEET _ OF _

NOTE

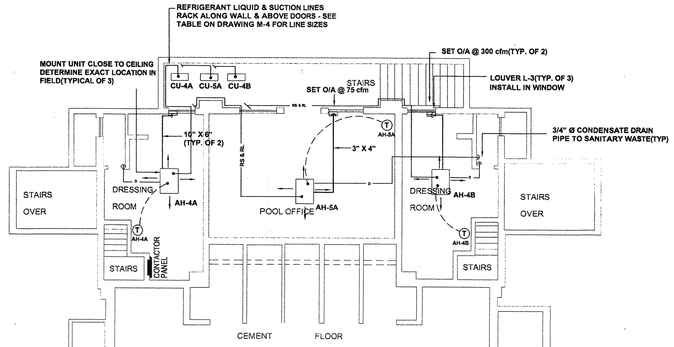
1. ALL CONDENSATE DRAINAGE SHALL BE BY GRAVITY WHEREVER FEASIBLE. WHERE NOT FEASIBLE CONDENSATE LINES SHALL BE COLLECTED TO A CENTRAL POINT AND A CONDENSATE PUMP FURNISHED & INSTALLED. PUMP SHALL BE LITTLE GIANT MODEL VCL-24ULS, WITH A CAPACITY OF 100 GPH AT A TOTAL HEAD OF 20 FEET, 1/18 HP MOTOR @ 120/1/60, OR APPROVED EQUAL. FURNISH WITH MINIMUM 6 FOOT EXTENSION CORD AND PLUG.

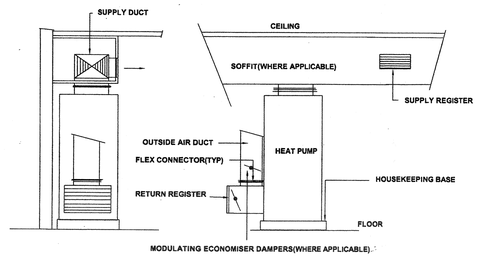
2. EXISTING A/C EQUIPMENT SHALL BE REMOVED AS NEW EQUIPMENT IS INSTALLED, INCLUDING DUCTWORK, DIFFUSERS, PIPIG, ETC.



SECTION A-A

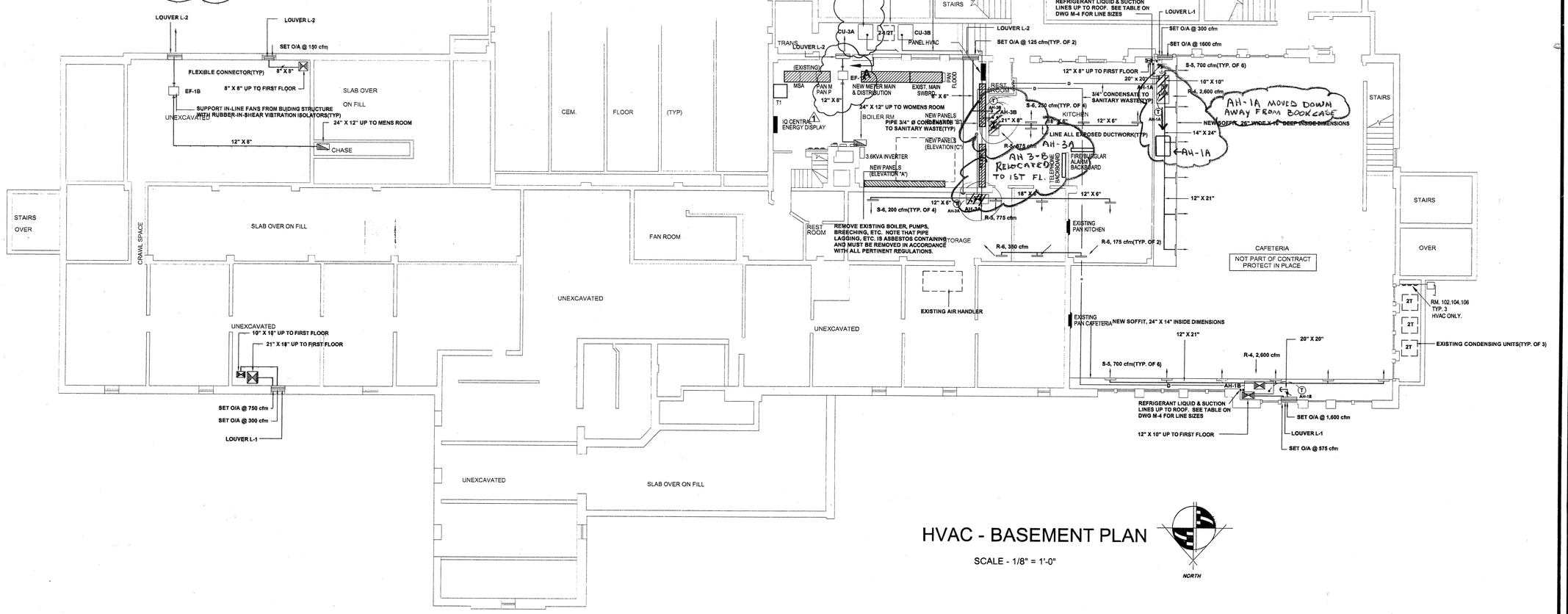
NO SCALE





TYPICAL INSTALLATION OF VERTICAL UNIT

NO SCALE



HVAC - BASEMENT PLAN

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

NORTH

REVISION:	BY
1. PLAN CHECK, 3/9/01	RS

REGISTERED PROFESSIONAL ENGINEER ROY OMPSON MECHANICAL STATE OF CALIFORNIA

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dmorris@dsmink.com

HVAC BASEMENT PLAN

PROJECT:	9905012
DATE:	SEPT. 99
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SHEET M-1

SHEET _ OF _

DRAWING NUMBER

PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REORDER BY NUMBER ITEMS

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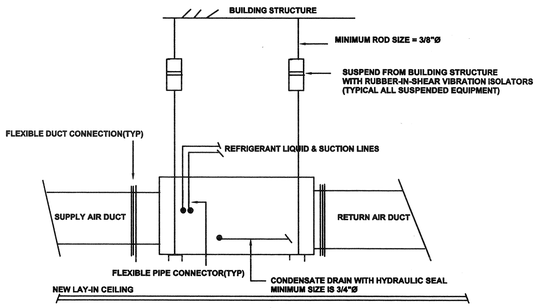
cesar chavez c.c. Riv.
HVAC
dec 3
1997

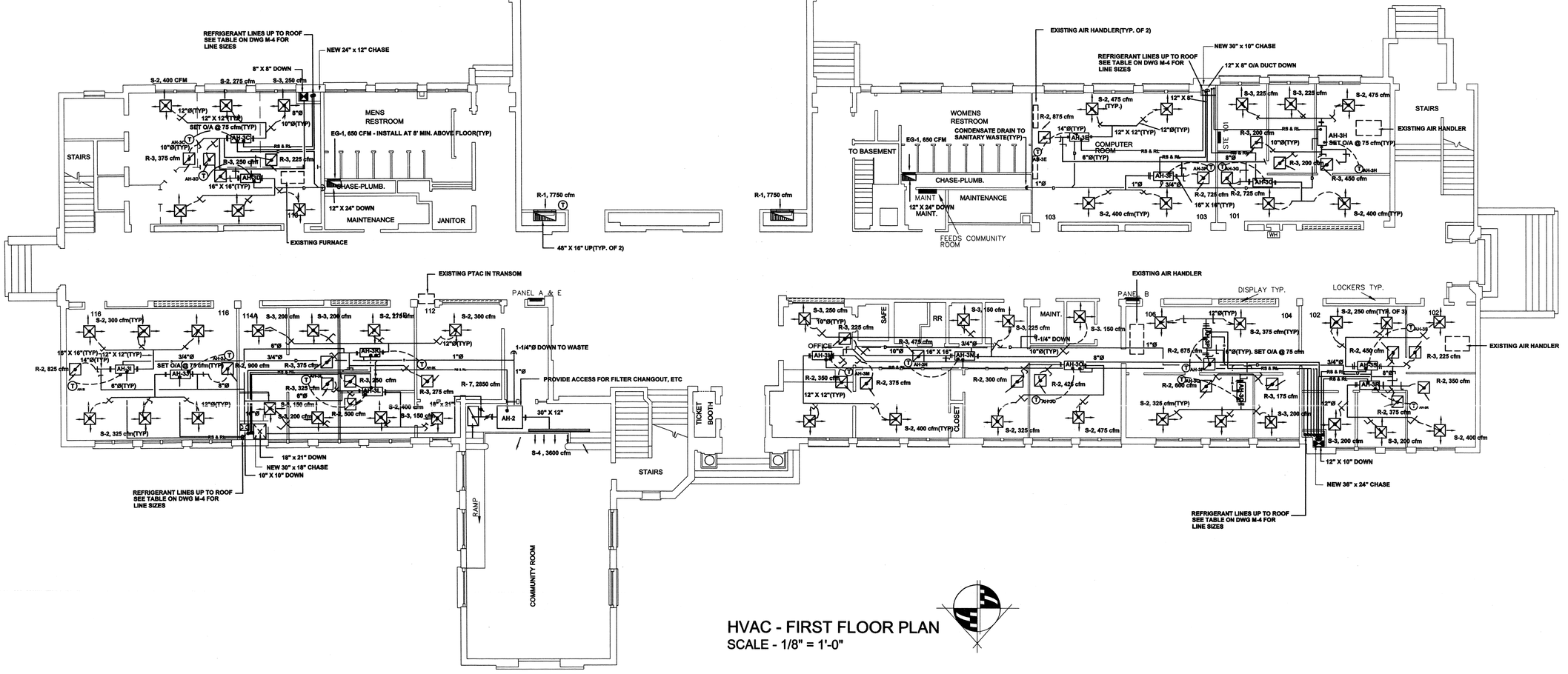
NOTE

1. ALL CONDENSATE DRAINAGE SHALL BE BY GRAVITY WHEREVER FEASIBLE. WHERE NOT FEASIBLE CONDENSATE LINES SHALL BE COLLECTED TO A CENTRAL POINT AND A CONDENSATE PUMP FURNISHED & INSTALLED. PUMP SHALL BE LITTLE GIANT MODEL VCL-24ULS, WITH A CAPACITY OF 100 GPH AT A TOTAL HEAD OF 20 FEET, 1/18 HP MOTOR @ 120/1/60., OR APPROVED EQUAL. FURNISH WITH MINIMUM 6 FOOT EXTENSION CORD AND PLUG.
2. FOR CEILING MOUNTED EQUIPMENT CONDENSATE OVERFLOW DRAINS SHALL TERMINATE IN A TURNED-DOWN ELBOW, FLUSH WITH CEILING, AT A CONSPICUOUS LOCATION AND BE CLEARLY IDENTIFIED.
3. EXISTING A/C EQUIPMENT SHALL BE REMOVEDAS NEW EQUIPMENT IS INSTALLED, INCLUDING DUCTWORK, DIFFUSERS, CONTROLS, FLUES, ETC.



TYPICAL INSTALLATION FOR SUSPENDED UNITS

NO SCALE



HVAC - FIRST FLOOR PLAN

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

MAR 2 7 2001
PARKS & RECREATION PLANNING & DESIGN

REVISION:	BY

REGISTERED PROFESSIONAL ENGINEER ROY SIMPSON 15747 MECHANICAL STATE OF CALIFORNIA 12/31/03

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HVAC PLAN
FIRST
FLOOR

PROJECT:	9905012
DATE:	SEPT.99
DRAWN:	RS
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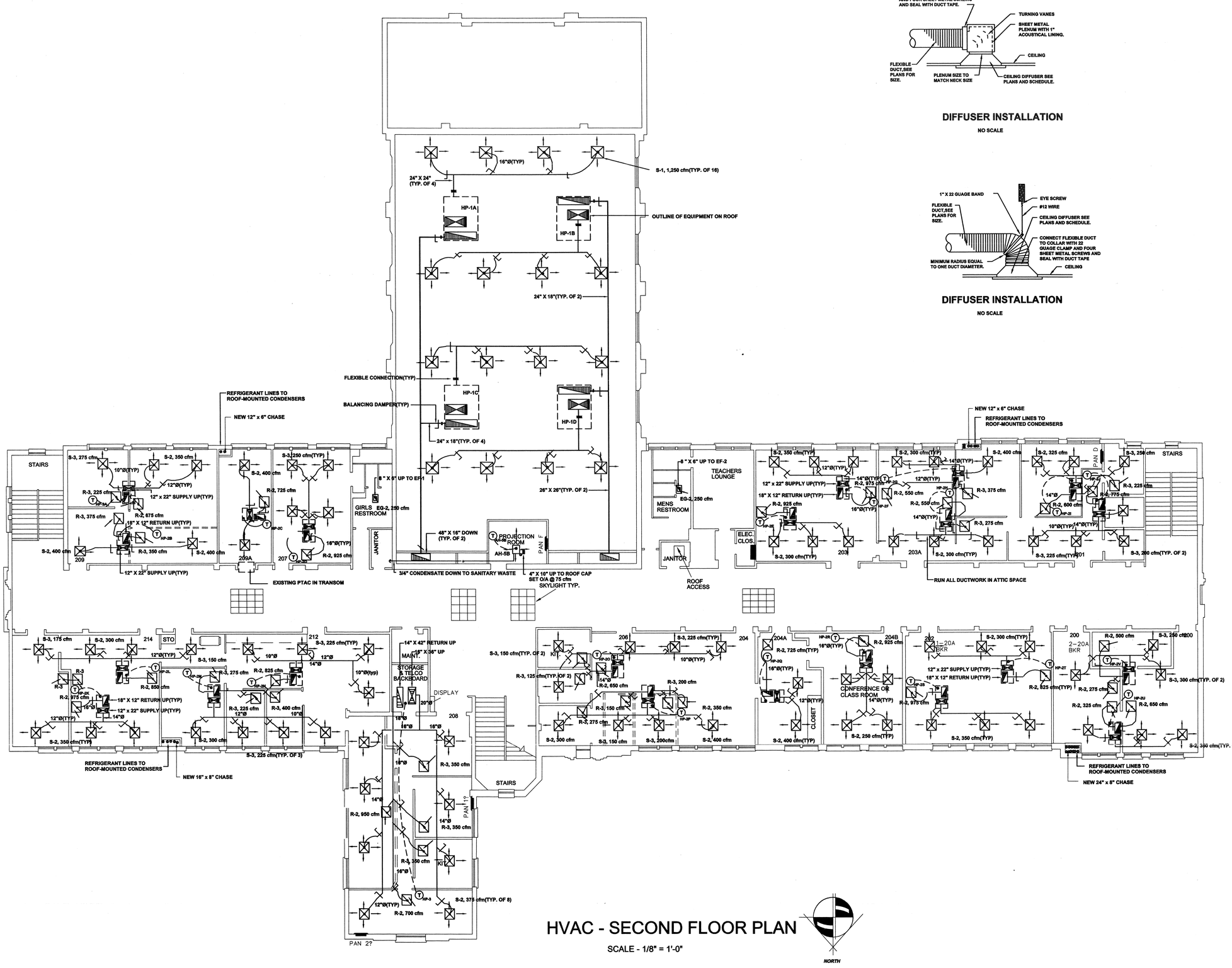
APPROVED:	
DWG FILE:	

SHEET
M-2

SHEET _ OF _



DIFFUSER INSTALLATION

NO SCALE

DIFFUSER INSTALLATION

NO SCALE

HVAC - SECOND FLOOR PLAN

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

REVISION:	BY

REGISTERED PROFESSIONAL ENGINEER
ROY SIMPSON
15747
MECHANICAL
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HVAC PLAN
SECOND
FLOOR

PROJECT:	9905012
DATE:	SEPT. 99
DRAWN:	RS
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DWG FILE:	CESCHAE?

SHEET
M-3

SHEET _ OF _

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MAR 27 2001
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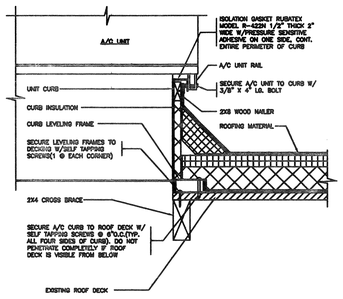
PLANNING & DESIGN

NOTE

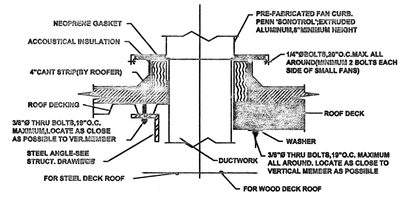
1. ALL EQUIPMENT ON THE ROOF SHALL BE MOUNTED ON ROOF CURBS TO PERMIT REROOFING WITH MINIMUM DISRUPTION.

REFRIGERANT LINE SIZE - INCHES		
UNITS	LIQUID LINE Ø	SUCTION LINE Ø
AH-1A & 1B/ CU-1A & 1B	3/4	1-3/8
AH-2/CU-2	3/4	1-3/8
AH-3A & 3B/ CU-3A & 3B	1/2	3/4
AH-3A THRU AH-3S/ CU-3A THRU CU-3S	1/2	7/8
AH-4A & 4B/ CU-4A & 4B	1/2	7/8
AH-3A & 3B/ CU-3A & 3B	3/8	3/4



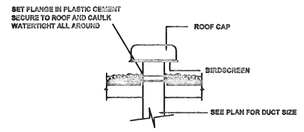
TYPICAL A/C & CONDENSING UNIT MOUNTING

NO SCALE



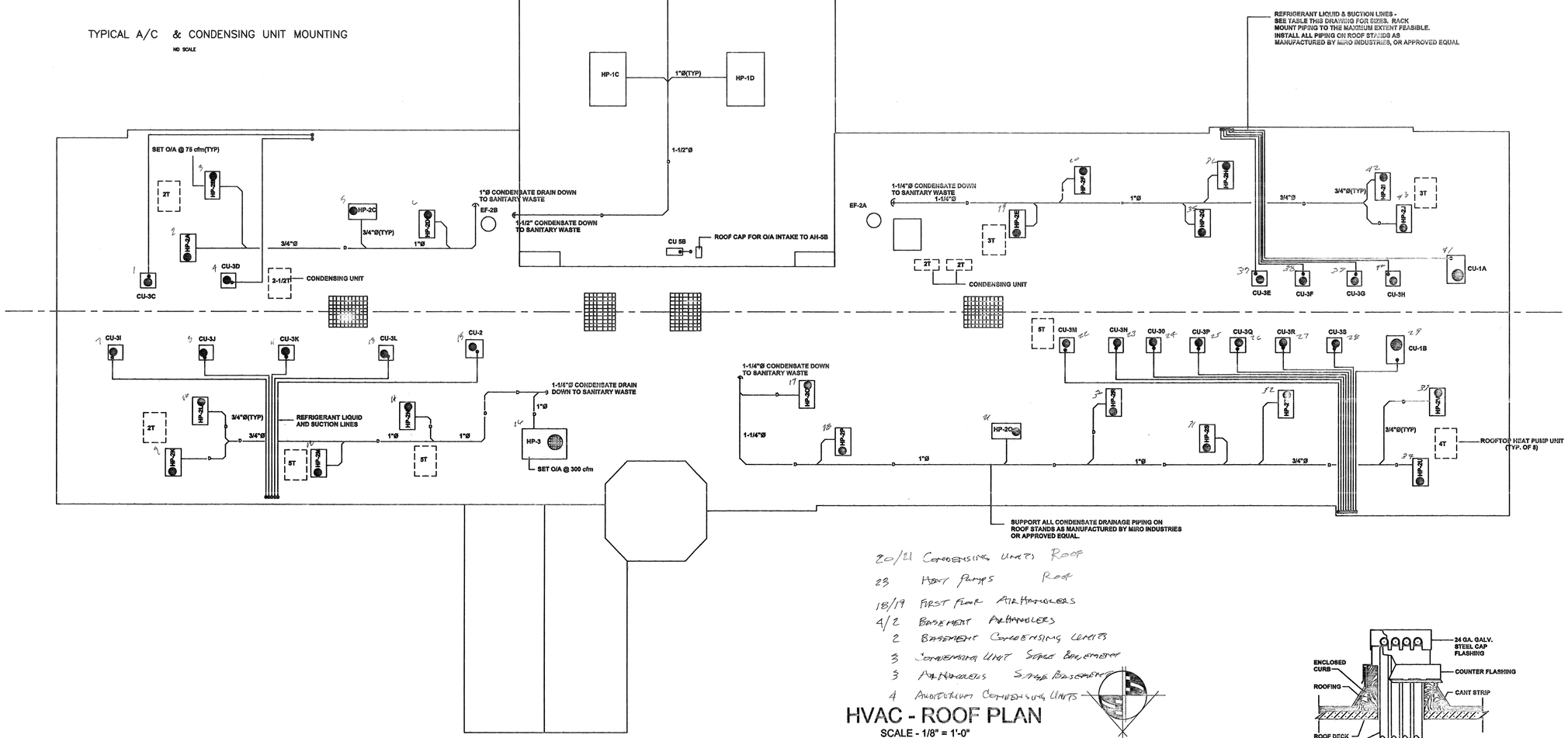
DETAIL- EXHAUST FAN INSTALLATION

NO SCALE



DETAIL - ROOF CAP

NO SCALE

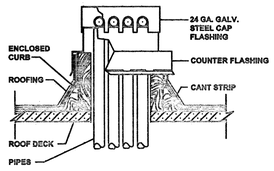


20/21 Condensing Units Roof
23 Heat Pumps Roof
18/19 First Floor Air Handlers
4/2 Basement Air Handlers
2 Basement Condensing Units
3 Condensing Unit Single Basement
3 Air Handlers Single Basement
4 Architectural Condensing Units

HVAC - ROOF PLAN

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

NORTH



DETAIL - PIPE ROOF PENETRATION

NO SCALE

REGISTERED PROFESSIONAL ENGINEER
ROY SIMPSON
12/31/03
No. 15747
MECHANICAL
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HVAC ROOF PLAN

PROJECT:	9905012
DATE:	SEPT. 99
DRAWN:	RS
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?

SHEET M-4

SHEET _ OF _

AIR CONDITIONING EQUIPMENT SCHEDULE

MARK	MANUFACTURER & MODEL	AIR CAPACITY CFM	AIR CAPACITY ESP-"WC	SENSIBLE COOLING CAPACITY @ 80°db/67°wb EAT & 105° AMBIENT O/A - BTUH	SHR	HEATING CAPACITY - BTUH AT 32°F OUTDOOR & 75°F INDOOR TEMPERATURES	ELECTRICAL CHARACTERISTICS	WT - LBS	OUTSIDE AIR CFM	REMARKS
HP-1A THRU HP-1D	TRANE WCD 150B	5,000	0.6	107,000	0.80	90,000	MCA = 71.6A @ 208/3/60	1800	1125	ARI CERTIFIED, UL LISTED. MIN. COP = 2.1. MIN. SEER = 10.0 FOR UNITS 5 TON & LESS; MIN. EER = 9.0 FOR UNITS 6T AND LARGER. FURNISH WITH ROOF CURB; LOW AMBIENT KIT TO 30°F; ANTI- SHORT CYCLE TIMER; PROGRAMMABLE THERMOSTAT; SUPPLY AIR SMOKE DETECTOR; 1", 30 % EFFICIENCY FILTERS IN UNITS 5T & LESS & 2", 50% EFFICIENCY FILTERS IN UNITS 6T & LARGER; ENTHALPY BASED, MODULATING ECONOMISER WITH BAROMETRIC RELIEF IN UNITS 6T & LARGER; AUXILIARY HEATER WHERE NOTED.
HP-2A THRU HP-2V	TRANE WCD O30	1,000	0.5	20,000	0.95	18,000	MCA = 23.4A @ 208/1/60 (3.7KW AUXILIARY HEATER)	350	75	
HP-3	TRANE WCD 090	3,000	0.6	65,000	0.90	60,000	MCA = 43.2A @ 208/3/60	850	300	
AH-1A AH-1B	TRANE TWE 120	4,000	0.6	80,000	0.85	80,000	MCA = 9A @ 208/3/60	500	1,600	ARI CERTIFIED, UL LISTED. MIN. COP = 2.1. MIN. SEER = 10.0 FOR UNITS 5 TON & LESS; MIN. EER = 9.0 FOR UNITS 6T AND LARGER. FURNISH WITH ; LOW AMBIENT KIT 30°F; ANTI- SHORT CYCLE TIMER; AUXILIARY HEATER WHERE NOTED; SUPPLY AIR SMOKE DETECTOR; 1", 30 % EFFICIENCY FILTERS IN UNITS 5T & SMALLER & 2", 50% EFFICIENCY FILTERS IN UNITS 6T & LARGER; ENTHALPY BASED, MODULATING ECONOMISER WITH BAROMETRIC RELIEF IN UNITS 6T & LARGER; PROGRAMMABLE THERMOSTAT
CU-1A CU-1B	TRANE TWA 120						MCA = 53.8A @ 208/3/60	500		
AH-2	TRANE TWE 090	3,600	0.6	72,000	0.85	55,000	MCA = 8A @ 208/3/60	350	750	
CU-2	TRANE TWA 090						MCA = 36.2A @ 208/3/60	375		
AH-3A THRU AH-3S	TRANE TWE 030	1,000	0.5	22,000	0.95	18,000	MCA = 24A @ 208/1/60 (4.8 KW AUXILIARY HEATER)	150	75	
CU-3A THRU CU-3S	TRANE TWP 030						MCA = 15A @ 208/3/60	200		
AH-4A AH-4B	MITSUBISHI PLH42FK	1,000	0.1	30,000	0.85	25,000	MCA = 17A @ 208/1/60	110	300	ARI CERTIFIED, UL LISTED. MIN. COP = 2.1. MIN. SEER = 10.0 . FURNISH WITH REFRIGERANT TUBING KIT; 2.5 KW AUXILIARY HEATER; FRESH AIR INTAKE; DRAIN PUMP; PROGRAMMABLE THERMOSTAT; LOW AMBIENT KIT TO 30°F.
CU-4A CU-4B	MITSUBISHI PUH42EK						MCA = 27A @ 208/1/60	275		
AH-5A AH-5B	MITSUBISHI PLH24FK	800	0.1	14,000	0.85	12,000	MCA = 15A @ 208/1/60	75	75	
CU-5A CU-5B	MITSUBISHI PUH24EK						MCA = 16A @ 208/1/60	225		

DIFFUSER SCHEDULE

MARK	MFR. & MODEL	SIZE - In	TYPE	REMARKS
S-1	METALLAIRE SERIES 5500S	24" X 24" NECK 30" X 30" FACE	LOUVER FACE, ADJUSTABLE VERTICAL TO HORIZONTAL; STEEL CONSTRUCTION, STANDARD WHITE FINISH; MOUNTING STYLE TO SUIT APPLICATION.	ADC CERTIFIED, Nc LESS THAN 25. FURNISH WITH SQUARE-TO-ROUND ADAPTER WHERE REQUIRED.
S-2		12" X 12" NECK 24" X 24" FACE		
S-3		9" X 9" NECK 24" X 24" FACE		
S-4	METALLAIRE SERIES 2000	10" NECK 10 FEET LONG	LINEAR BAR GRILLE, 15° DEFLECTION; ALUMINUM CONSTRUCTION, STANDARD WHITE FINISH; MOUNTING STYLE TO SUIT APPLICATION.	ADC CERTIFIED, Nc LESS THAN 25.
S-5	METALLAIRE SERIES H4000	24" X 12"	DOUBLE DEFLECTION REGISTER. FRONT BLADES HORIZONTAL; STEEL CONSTRUCTION, STANDARD WHITE FINISH; MOUNTING STYLE TO SUIT APPLICATION.	
S-6		10" X 6"		
R-1	METALLAIRE MODEL CC1	48" X 48"	CUBE CORE ; ALUMINUM CONSTRUCTION; STANDARD WHITE FINISH; MOUNTING STYLE TO SUIT APPLICATION.	ADC CERTIFIED, Nc LESS THAN 25.
R-2	METALLAIRE SERIES 7500R	14" X 14" NECK 24" X 24" FACE	PERFORATED FACE; STEEL CONSTRUCTION; STANDARD WHITE FINISH; MOUNTING STYLE TO SUIT APPLICATION.	ADC CERTIFIED, Nc LESS THAN 25. FURNISH WITH SQUARE-TO-ROUND ADAPTER WHERE REQUIRED.
R-3		10" X 10" NECK 24" X 24" FACE		
R-4 R-7	METALLAIRE SERIES 4002R	26" X 26" NECK	HORIZONTAL FACE REGISTER; STEEL CONSTRUCTION; STANDARD WHITE FINISH; MOUNTING STYLE TO SUIT APPLICATION.	ADC CERTIFIED, Nc LESS THAN 25.
R-5 EG-1		20" X 18" NECK		
R-6 EG-2		12" X 6" NECK		
L-1	AIROLITE MODEL AC 420	48" X 24"	NARROW PROFILE, 1-1/2" DEEP LOUVER; ALUMINUM CONSTRUCTION, NATURAL FINISH; ALUMINUM BIRD SCREEN.	AMCA CERTIFIED.
L-2		24" X 24"		
L-3		12" X 24"		

FAN SCHEDULE

MARK	MFR. & MODEL NO.	CAPACITY CFM	CAPACITY ESP-"WC	ELECTRICAL CHARACTERISITICS	WT. LBS	REMARKS
EF-1A EF- 1B	COOK 90SQI-B	650	0.5	1/8 HP @ 120/1/60	85	UL LISTED, AMCA CERTIFIED. FURNISH WITH BACKDRAFT DAMPER; SPEED CONTROL FOR DIRECT DRIVE UNITS; ROOF CAP WHERE APPLICABLE.
EF-2A EF-2B	COOK 90C10DM	250	0.25	1/25 HP @ 120/1/60	65	

NOTES

1. ALL EQUIPMENT SHALL CONFORM TO THE ENERGY EFFICIENCY REQUIREMENTS OF THE CALIFORNIA ENERGY COMMISSION AND SHALL BE SO CERTIFIED.
2. ALL THERMOSTATS SHALL SEQUENCE AUTOMATICALLY FROM COOLING TO HEATING AND VICE VERSA; SHALL BE ADJUSTABLE TO 55 DEGREES OR LOWER FOR HEATING AND TO 85 DEGREES OR HIGHER FOR COOLING; SHALL HAVE A SETPOINT RANGE OF 2 DEGREES AND SHALL BE CAPABLE OF PROVIDING A DEADBAND OF UP TO 5 DEGREES; SHALL PROVIDE MANUAL SHUT-OFF CAPABILITY AND SETPOINT ADJUSTMENT ACCESSIBLE ONLY TO AUTHORISED PERSONNEL.
3. ALL TEMPERATURES STATED ARE IN DEGREES FAHRENHEIT UNLESS OTHERWISE INDICATED.
4. DUCT DIMENSIONS GIVEN ARE CLEAR INSIDE DIMENSIONS. ALL DUCTWORK, EXCEPT FLEXIBLE DUCTING, SHALL BE GALVANISED SHEET METAL, FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS FOR LOW PRESSURE DUCTWORK AND CONFORMING TO CHAPTER 6 OF THE CALIFORNIA STATE MECHANICAL CODE AND TO NFPA 90A AND 90B. FURNISH AND INSTALL SPIN-IN TYPE AIR EXTRACTORS AT ALL TAKEOFFS AND TURNING VANES AT ALL SQUARE ELBOWS.
5. FLEXIBLE DUCT SHALL CONFORM TO UL 181, WITH AN INSULATION VALUE OF 4.2 MINIMUM. MAXIMUM ALLOWABLE LENGTH OF FLEXIBLE DUCT IS 10 FT. ALL DUCT SHALL BE FULLY EXTENDED AND SHALL BE SUPPORTED AS NEEDED TO ELIMINATE ALL SAGS, KINKS OR TWISTS.
6. WRAP ALL SUPPLY AND RETURN DUCTWORK WITHIN THE BUILDING ENVELOPE WITH 1-1/2" THICK, 1-1/2 LB/CU.FT. DENSITY FIBERGLASS DUCT INSULATION WITH ALUMINUM FOIL VAPOR BARRIER. WHERE INDICATED LINE RECTANGULAR SUPPLY & RETURN DUCTWORK WITH 1/2" THICK, 3LB/CU. FT. DUCT LINER. FRESH AIR SUPPLY AND EXHAUST AIR DUCTWORK IS NOT INSULATED. SUPPLY AND RETURN DUCTWORK OUTSIDE THE BUILDING ENVELOPE SHALL BE LINED WITH 1-1/2" THICK, 3 LB/CU.FT. DENSITY DUCT LINER AND ALL JOINTS SHALL BE SEALED WEATHERTIGHT WITH MASTIC.
7. FURNISH AND INSTALL FIRE DAMPERS AT ALL DUCT PENETRATIONS OF FIRE WALLS AND CEILINGS. FURNISH AND INSTALL COMBINATION SMOKE/FIRE DAMPERS AT DUCT PENETRATIONS OF FIRE RATED EXITS. PROVIDE ACCESS PANELS AS REQUIRED TO PERMIT RESETTING OF FIRE DAMPERS.
8. DIFFUSER AND GRILLE LOCATIONS SHOWN ARE APPROXIMATE - EXACT LOCATIONS TO BE DETERMINED BY FIELD CONDITIONS. EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT ACTUAL FIELD CONDITIONS AND THE EQUIPMENT SELECTED.
9. FURNISH AND INSTALL VIBRATION ISOLATORS FOR ALL EQUIPMENT CONTAINING ROTATING MACHINERY. ALL DUCT AND PIPING CONNECTIONS TO EQUIPMENT SHALL CONTAIN A FLEXIBLE CONNECTION.
10. FLASH AND COUNTERFLASH ALL BUILDING PENETRATIONS TO MAKE WEATHERTIGHT.
11. SEISMIC RESTRAINTS SHALL BE IN ACCORDANCE WITH RELEVANT STATE AND LOCAL CODES. EQUIPMENT, PIPING, ETC. SHALL BE RESTRAINED TO RESIST A LATERAL FORCE OF 0.5 X WEIGHT FOR RIGIDLY- MOUNTED UNITS AND 1.0 X WEIGHT FOR FLEXIBLY-MOUNTED UNITS. SUSPENDED, VIBRATION-ISOLATED EQUIPMENT SHALL BE RESTRAINED BY A SLACK CABLE SYSTEM.

LEGEND

24 X 12 — DUCT SIZE - FIRST FIGURE IS SIDE SHOWN

— SUPPLY DIFFUSER THROWS AS SHOWN

— RETURN/EXHAUST REGISTER

— SUPPLY DUCT SECTION

— RETURN/EXHAUST DUCT SECTION

ESP - EXTERNAL STATIC PRESSURE
" WC - INCHES WATER COLUMN
O/A - OUTSIDE AIR
EAT - ENTERING AIR TEMPERATURE
LAT - LEAVING AIR TEMPERATURE
db - DRY BULB wb - WET BULB
SHR - SENSIBLE HEAT RATIO
FD - FIRE DAMPER
F & SD - FIRE/SMOKE DAMPER
RS - REFRIGERANT SUCTION
RL - REFRIGERANT LIQUID

(T) — THERMOSTAT [M] — MOTOR
(SD) — SMOKE DETECTOR [R] — RELAY
6" DIA. — FLEXIBLE DUCT - SIZE AS SHOWN
— ELBOW WITH TURNING VANE
— AIR EXTRACTOR

CONTROL SEQUENCES

ALL UNITS EXCEPT HP-1A THRU HP-1D

EACH UNIT IS CONTROLLED BY ITS OWN DEDICATED,PROGRAMMABLE THERMOSTAT, WITH MANUAL OVERRIDE. ONCE STARTED THE EVAPORATOR FAN RUNS CONTINUOUSLY UNTIL STOPPED AND THE UNITS HEATING OR COOLNG SYSTEM IS CYCLED TO SATISFY ROOM SETPOINT CONDITIONS. CHANGEOVER FROM COOLING TO HEATING, AND VICE VERSA, IS AUTOMATIC. A SUPPLY DUCT SMOKE DETECTOR WILL SHUT DOWN THE UNIT IF ACTIVATED. FOR UNITS 6T CAPACITY, AND LARGER, AN ENTHALPY BASED ECONOMISER CYCLE, EITHER INTEGRAL TO THE UNIT OR FIELD INSTALLED, WILL BE FURNISHED, TO PROVIDE "FREE" COOLING AT APPROPRIATE OUTDOOR CONDITIONS, WITH BAROMETRIC RELIEF OF OVERPRESSURE.

UNITS HP-1A THRU HP-1D

THESE UNITS ARE STARTED MANUALLY. UPON RECEIPT OF A 'RUN' SIGNAL THE EVAPORATOR FANS ON ALL UNITS WILL BE STARTED AND WILL RUN UNTIL STOPPED. A FOUR STAGE THERMOSTAT WILL CYCLE, IN SEQUENCE THE UNITS HEATING OR COOLNG SYSTEMS OF UNITS HP-1A THRU HP-1D, IN THAT ORDER, TO SATISFY ROOM SETPOINT CONDITIONS. CHANGEOVER FROM COOLING TO HEATING, AND VICE VERSA, IS AUTOMATIC. A SUPPLY DUCT SMOKE DETECTOR IN EACH UNIT WILL SHUT DOWN ALL UNITS IF ACTIVATED. AN INTEGRAL ENTHALPY BASED ECONOMISER WILL BE INSTALLED IN EACH UNIT, TO PROVIDE "FREE" COOLING AT APPROPRIATE OUTDOOR CONDITIONS, WITH BAROMETRIC RELIEF OF OVERPRESSURE.

CONTROL SCHEMATIC

NO SCALE

(APPLIES TO ALL UNITS EXCEPT UNITS AH-4A, 4B, 5A AND 5B ARE NOT EQUIPPED WITH A SMOKE DETECTOR)

RECEIVED
MAR 27 2001
PARK & RECREATION PLANNING & DESIGN

REGISTERED PROFESSIONAL ENGINEER
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12/31/03
15747
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HVAC SCHEDULES & NOTES

PROJECT:	9905012
DATE:	SEPT. 99
DRAWN: RS	
CHECKED:	
APPROVED:	
DWG FILE: CESCHAE?	

SHEET
M-5

SHEET _ OF _

DIVISION 15 - MECHANICAL

SECTION 15003 - GENERAL MECHANICAL PROVISIONS

PART 1 GENERAL

1.1 APPLICABILITY. This section shall apply to, and be a component part of, each section that is a part of Division 15, "Mechanical."

1.2 SCOPE OF WORK. The Contractor shall furnish all labor, materials, equipment, and services to construct, install, and test the complete mechanical systems and related work, indicated and specified. All labor, materials and equipment not indicated by the drawings or specifications which are required for proper operation of the systems in accordance with the true and proper intent and meaning of the contract documents shall be provided and incorporated in the work by and at the expense of the Contractor.

1.3 CODES AND STANDARDS. Equipment design, fabrication, testing, installation, and system performance shall, unless shown or specified otherwise, comply with the referenced publications and to all applicable codes and standards, Federal, State or local. The Contractor shall obtain and pay for all necessary permits, fees and inspections required by the governing authorities, etc. and shall furnish signed, certified and acceptable copies to the Owner.

1.4 COORDINATION
A. The installation of mechanical systems shall be coordinated with the work of other trades. Drawings are essentially diagrammatic and physical dimensions of equipment indicated are approximate. Contractor shall verify all equipment sizes and site conditions, and provide all necessary piping, fittings, etc. at no extra cost.
B. The Contractor shall coordinate the work of the different trades so that interference between piping, equipment, structural, and electrical work will be avoided.

1.5 SUBMITTAL DATA
A. Within 14 days of award of contract, the Contractor shall submit five copies of shop drawings, material lists and equipment data proposed for installation to permit verification of compliance with the specification requirements. No work shall be installed prior to approval by Owner. Items not submitted will be assumed to be identical to those specified.
B. Substitutions must be approved by the Owner or the Engineer.
1. Contractor shall assume all responsibility for providing any extra materials and equipment required for proper operation of the substitution.
2. Contractor shall bear any additional cost caused by the substitution, including additional work and materials required by other trades.
C. At the conclusion of the contract, the Contractor shall provide three copies of operation and maintenance manuals for all equipment furnished, providing pertinent data on operating techniques, type and frequency of maintenance, spare parts lists, and similar information, and three copies of all balancing, adjustment and test reports.

1.6 RECORD DRAWINGS
A. The Contractor shall provide, and keep up-to-date, a complete record set of drawings which shall be corrected to show every change from the original specification and drawings. Upon completion of the work and before final payment, the record set shall be submitted for approval.
B. At the conclusion of the work, the Contractor shall provide to the Owner tracings or one full-size, readily correctable, reproducible copy of all Contractor drawings specifically prepared for this contract, including any revisions found necessary in the equipment during installation, checkout, and acceptance tests.

1.7 GUARANTEES. All equipment, materials and workmanship shall be guaranteed for a period of one year, beginning with the date of acceptance of the project in writing. All material and equipment used shall be guaranteed new, except where specifically indicated. Where existing equipment is reused, guarantees are not required.

PART 2 PRODUCTS

Mechanical materials and equipment to be provided under this contract shall be current standard catalog products of manufacturers regularly engaged in the manufacture of these products, and shall duplicate material and equipment that have been in satisfactory service at least 2 years. To the maximum extent feasible, similar equipment shall be the product of one manufacturer. Equipment of the same quality as specified, and as provided by the model number(s) quoted, may be proposed for approval by the Owner, at the Contractor's option.

PART 3 EXECUTION

3.1 INSTALLATION. All materials and equipment shall be installed in accordance with the requirements of the contract drawings and approved recommendations of the manufacturers. The installation shall be so made that there is no degradation of the designed fire ratings of walls, partitions, ceilings, and floors. All electrical equipment and work shall be in accordance with Division 16. All equipment provided by this Contractor shall include motor starters.

3.2 CUTTING AND PATCHING. The Contractor shall install the work in such a manner as will require a minimum of cutting and patching of the building structure.

3.3 SEISMIC ANCHORAGE. All equipment shall be anchored in accordance with applicable seismic criteria for the area.

3.4 INSPECTIONS. Work shall not be covered up, enclosed or insulated until it has been inspected, tested and approved. Any work that is so treated before such inspections and test shall be uncovered, and after it has been inspected and approved shall be restored to its concealed condition at no additional cost to the Owner.

3.5 CONDUCT OF CONSTRUCTION. The contract drawings and specifications represent the finished work, and engineer's right to inspect or suspend the work is limited thereto. The engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work. The engineer will not be responsible for or have control or charge over the acts or omissions of the contractor, subcontractors, or any of their agents or employees, or any other persons performing any of the work.

SECTION 15250 - INSULATION

PART 1 GENERAL

1.1 Section 15003, "General Mechanical Provisions," applies to work specified in this section.

1.2 All supply and return air ductwork shall be insulated externally unless otherwise noted. Fresh air supply and exhaust air ductwork is not insulated, either externally or internally. Ductwork shall be lined internally as indicated.

1.3 Refrigerant piping shall be insulated.

1.4 All insulation shall meet the requirements of NFPA 90A and 90B for flamespread and smoke developed and shall be as manufactured by Owens-Corning, Johns-Manville, or Certain Teed.

PART 2 PRODUCTS

2.1 INTERNAL DUCT INSULATION. Except where noted, internal duct insulation shall be ½ inch thick, 3 pounds per cubic foot density, acrylic-treated fiberglass duct liner, with thermal conductivity of 0.24 at 75 degrees Fahrenheit mean temperature, and suitable for duct velocities up to 4,000 fpm.

2.2 EXTERNAL DUCT INSULATION. External duct insulation shall be 1½ inches thick, 1½ pounds per cubic foot density, fiberglass wrap insulation, with a reinforced foil/kraft vapor retarder facing. Thermal conductivity shall be 0.25 at 75 degrees Fahrenheit mean temperature, and permeance shall be 0.02 perms maximum.

2.3 PIPE INSULATION
A. Refrigerant piping insulation shall be closed cell expanded elastomeric foam, with a self-contained vapor barrier, of thickness as scheduled on the drawings. Thermal conductance shall be 0.27 at 150 degrees Fahrenheit mean temperature, and permeance shall be 0.02 perms maximum.
B. Jacketing system shall provide positive closure and vapor sealing of joints.
C. Valves and fittings shall be insulated with shaped fiberglass or elastomeric foam inserts of same thickness as pipe insulation, protected with a PVC jacket. All insulation exposed to the elements shall be protected with aluminum jacketing, minimum thickness 0.016 inch.

PART 3 EXECUTION

3.1 All insulation shall be installed in strict accordance with manufacturer's instructions and recommendations. All areas shall be covered, joints shall be neatly made with no interruption or gaps, and continuity shall be assured by the use of tape, fitting covers, etc., as required.

3.2 Fasteners, where required, shall be suitable for the task and correctly installed as to method and spacing.

SECTION 15400 - PLUMBING SYSTEM

PART 1 GENERAL

1.1 Section 15003, "General Mechanical Provisions," applies to work specified in this section.

1.2 The plumbing system shall be provided as indicated and specified and shall waste systems.

PART 2 PRODUCTS - PIPING

Condensate drain piping shall be Type M, hard drawn copper tubing with 150 psig, wrought copper, soldered joints. Solder shall be 95-5 tin-antimony alloy. Drain lines shall be same size as equipment drain connections and shall incorporate a minimum 2 inch hydraulic seal adjacent to the coil connection.

PART 3 EXECUTION

3.1 PIPING
A. Grade all piping to drain. Condensate drains shall be sloped at a minimum of ⅛ inch per foot.
B. Joints
1. Pipe ends shall be reamed before joint connections are made. Screwed connections shall be made using TFE joint compound or tape.
2. Connections between copper and steel shall be made using dielectric unions or flanges and shall have pressure and temperature ratings of 175 psig and 210°F minimum, respectively.
C. Supporting Element Installation
1. Supporting elements shall be provided as specified. All piping shall be run parallel with the lines of the building, unless otherwise indicated.
2. Piping support elements shall be installed at intervals specified herein, at locations no more than three feet from the ends of each runout, and not over one foot from each change in direction.
3. Supports shall be in accordance with the following minimum rod size and maximum allowable hanger spacing for specified pipe. For concentrated loads such as valves, the allowable span shall be reduced accordingly.

PIPE SIZE (INCHES)	ROD SIZE (INCHES)	STEEL PIPE (FEET)	COPPER & SCHEDULE 40 PVC PIPE (FEET)
½ and smaller	⅜	5	3
¾ to 1	⅜	7	5
1¼ to 2	⅜	9	7

3.2 TESTS
A. Plumbing systems shall be tested to prove tightness of piping and connections and proper operation of equipment and fixtures. All tests shall be certified.
B. Drainage and vent piping shall be tested at a minimum of 10' of head for 2 hours, with no loss of head allowed.

SECTION 15810 - SPLIT SYSTEM HEAT PUMPS

PART 1 GENERAL

Section 15003, "General Mechanical Provisions," applies to work specified in this section.

PART 2 PRODUCTS

2.1 GENERAL. Units shall be UL listed and tested in accordance with ARI 210, 240, and 360. Equipment shall be as manufactured by Trane, Carrier, or Lennox.

2.2 AIR HANDLERS. Air handling units shall be of modular design, suitable for vertical or horizontal application. Casings shall be of heavy-gauge steel, lined with fiberglass insulation, and finished with manufacturer's standard baked-on enamel finish. Blower shall be centrifugal type with multi-speed, thermally protected, direct drive motor. Coil shall be of aluminum fin/copper tube construction and the coil section shall be provided with a plasic condensate drain pan, with standard drain and overflow connections.

2.3 OUTDOOR UNIT. Compressor shall be direct drive, scroll or reciprocating, hermetic type and shall be furnished with crankcase heater, motor overload protection, high and low pressure protection. Evaporator defrost control shall be provided to prevent compressor slugging. Unit casings shall be heavy gauge steel, finished with the manufacturer's standard baked enamel finish. Condenser coils shall be aluminum fin/copper tube. Condenser fans shall be direct drive, aluminum blade, and motors shall be furnished with permanently lubricated bearings and thermal overload protection. Refrigerant circuits shall include an expansion valve, switchover valve, filter drier, external pressure taps, and service valves.

2.4 ACCESSORIES. Units shall be furnished with electric heaters for emergency and standby heat, low ambient cooling capability to 30°F, motor starters, filter rack and filters, programmable thermostat, and other accessories as scheduled.

PART 3 EXECUTION

Equipment shall be installed in strict accordance with manufacturer's instructions and as indicated on the drawings. Outdoor units shall be mounted on a prefabricated curb.

SECTION 15811 - DUCTLESS SPLIT SYSTEM HEAT PUMPS

PART 1 GENERAL

APPLICABILITY. This section shall apply to, and be a component part of, each section that is a part of Division 15, "Mechanical."

PART 2 PRODUCTS

2.1 GENERAL. Units shall be UL listed and ARI rated. Equipment shall be as manufactured by Friedrich, Mitsubishi, or approved equal.

2.2 INDOOR UNIT. Indoor fan-coil unit shall be wall or ceiling mounted, as indicated on the drawings. Casing shall be neutral color to blend with any decorating scheme and shall incorporate vertically and horizontally adjustable air louvers. Evaporator coil shall be aluminum fin/copper tube. Multi-speed, direct drive fan shall be designed for quiet operation. Drain pan shall be provided with flexible hose connection for adequate condensate drainage. Filters shall be permanent, washable type.

2.3 OUTDOOR UNIT. Casing shall be heavy-gauge steel, with the manufacturer's standard baked enamel finish. Compressors shall be hermetically sealed type, with overload protection, and shall be vibration-isolation mounted. Evaporator defrost control shall be provided to prevent compressor slugging. Condenser coils shall be aluminum fin/copper tube. Condenser fan shall be direct drive, with thermally protected motor. Refrigerant circuits shall include an expansion valve, switchover valve, filter drier, and external service valves.

2.4 ACCESSORIES. Units shall be furnished with wireless controls for temperature control, unit operation, and fan speed; emergency service switch for cooling or heating; temporary switch for manual operation if controller malfunctions; motor starter(s); precharged tubing kit.

PART 3 EXECUTION

Equipment shall be installed in strict accordance with manufacturer's instructions and as indicated on the drawings.

SECTION 15816 - ROOFTOP HEAT PUMP UNITS

PART 1 GENERAL

Section 15003, "General Mechanical Provisions," applies to work specified in this section.

PART 2 PRODUCTS

2.1 GENERAL. Units shall be downflow or horizontal discharge, as required by the application. Operating range shall be between 115o F and 30° F cooling as standard. Units shall be factory assembled, internally wired, and shipped with a full charge of refrigerant. Units shall be UL listed and ARI certified, as manufactured by Trane, Carrier, or Lennox.

2.2 CONSTRUCTION. Unit casing shall be constructed of zinc-coated, heavy gauge, galvanized steel, with a weather resistant finish as standard to the manufacturer. Unit construction shall be suitable for outdoor installation. Access panels shall be of simple construction for ease of maintenance and shall be water and air tight. Filter rack shall be suitable for two inch filters.
A. Compressors shall be hermetic, scroll or reciprocating type with positive lubrication, spring mounted, and muffled for sound and vibration transmission reduction. Crankcase heater, temperature and current-sensitive motor start and overload protection, and low pressure switch shall be standard. Each refrigerant circuit shall be provided with independent fixed orifice devices, service pressure ports, and line filter driers.
B. Evaporator and condenser coils shall be copper tube, aluminum fin, mechanically bonded together, and factory leak tested.
C. Condenser fans shall be direct drive, statically and dynamically balanced, with permanently lubricated motor bearings. Indoor fans shall be forward curve, centrifugal type, with belt or direct drive, depending upon capacity. Pulley sheaves shall be adjustable. All motors shall be thermally protected.
D. Auxiliary heaters shall be heavy duty nickel chromium, electric heating elements, with automatic reset high limit control.

2.3 CONTROLS. Units shall be provided complete with motor starters, and shall be completely prewired, requiring electrical hook-up connection only. External disconnect switches shall be furnished as part of Division 16 work. The microprocessor control system shall receive 24V signals from external sensing devices and provide decisions based on resident algorithms. Control system shall also provide protection against short-cycling of compressors.

2.4 ACCESSORIES. Units shall be furnished complete with economizers, roof curbs, barometric or power exhaust systems, manual or motorized outside air dampers, high static drive motors, and zone sensors, as scheduled on the drawings.

PART 3 EXECUTION

Units shall be installed in strict accordance with the manufacturer's instructions and/or as shown on the drawings, where special conditions pertain.

SECTION 15820 - FANS

PART 1 GENERAL

Section 15003, "General Mechanical Provisions," applies to work specified in this section.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS. Performance data shall be determined in accordance with the provisions of ASHRAE 51. Sound power levels of ducted fans shall comply with AMCA 301. Unit construction shall conform to applicable standards contained in AMCA 99 and to requirements specified. Units shall be UL listed. Equipment shall be as manufactured by Greenheck, Cook, or Penn.

2.2 CEILING AND IN-LINE FANS. Ceiling and in-line fans shall be furnished to provide air capacity indicated against stated static pressure. Units shall have aluminum blower and forward-curved wheel. Housing shall be galvanized steel, acoustically lined, with removable panel(s) for servicing. Motors shall be permanently-lubricated type, mounted on vibration isolators, and with motor starters and built-in thermal overload protection. Furnish with backdraft damper and accessories, as indicated on the drawings.

2.3 ROOF EXHAUST FANS. Fans shall be belt drive, with centrifugal, upblast type, blower. Housing shall be heavy-gauge aluminum, with galvanized steel frame. Wheels shall be statically and dynamically balanced. Entire drive shall be mounted on rubber vibration isolators. Motors shall be provided with starters, overload protection and shall be mounted out of airstream. Units shall be UL 762 listed for restaurant applications, where applicable, and shall be furnished with accessories scheduled.

PART 3 EXECUTION

3.1 Equipment shall be installed as indicated or specified and in accordance with the manufacturer's recommendations.

3.2 For fans installed in ceiling spaces, furnish and install vibration isolators, as required for quiet operation.

3.3 For roof-mounted equipment, furnish and install roof curbs, flashed and counter-flashed to make weather tight.

SECTION 15841 - LOW PRESSURE DUCTWORK

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS. Section 15003, "General Mechanical Provisions," applies to work specified in this section.

1.2 SCOPE OF WORK. Low-velocity systems shall encompass all ductwork and plenums where maximum air velocity is 2,500 feet per minute (fpm) and maximum static pressure is 2 inches water gauge (w.g.), positive or negative.

PART 2 PRODUCTS

2.1 GALVANIZED STEEL DUCTWORK MATERIALS. Galvanized steel ductwork sheet metal shall be carbon steel, of lock-forming quality, hot-dip galvanized, with regular spangle-type zinc coating, conforming to ASTM A527, G90. Sheet metal gages and reinforcement thickness shall conform to SMACNA, except as otherwise specified or indicated.

2.2 FLEXIBLE DUCT MATERIALS. Flexible duct connectors shall be in accordance with UL 181, Class 1 material, and shall comply with ANSI/NFPA 90A/90B. Thermal conductance shall be 0.25 at 75 degrees Fahrenheit mean temperature. Friction loss shall not exceed 0.2 inches wc per 100 feet at 500 fpm duct velocity.

2.3 MANUAL VOLUME DAMPERS. Volume damper construction shall conform to SMACNA, except as otherwise specified. Provide dampers with an indicating regulator.

2.4 FLEXIBLE CONNECTORS FOR SHEET METAL. Connectors shall be UL-listed, 20-ounce, fire-retardant, airtight, woven fibrous-glass cloth impregnated with chloroprene. Minimum clear width, not including clamping section, shall be 3 to 5 inches.

2.5 FIRE DAMPERS. Fire dampers in ductwork shall be provided at all firewall barriers as indicated. Fire dampers shall be constructed and labeled in accordance with UL 555 to provide damper and mounting fire-resistance which equals or exceeds fire-resistance of the construction in which it is installed. Combination fire and smoke dampers shall be installed where so indicated or scheduled. Fire and fire/smoke dampers shall be as manufactured by Ruskin, Air Balance Inc., or Vent-Products Co. Inc.

PART 3 EXECUTION

3.1 GENERAL. Sheet metal construction shall be provided in accordance with the recommendations for best practices in SMACNA, ANSI/NFPA 90A, and as specified and indicated.

3.2 DUCTWORK. Ductwork 18 inches width and over shall be cross-broken, or stiffened to prevent rattle, vibration or sag.

3.3 ELBOWS. All square elbows shall be furnished with double-thickness turning vanes.

3.4 OUTLETS, INLETS, AND DUCT BRANCHES. Branches, inlets, and outlets shall be installed so that air turbulence will be reduced to a minimum and air volume properly apportioned. Furnish air extractors at take-off to all air-diffusion devices.

3.5 ACCESS OPENINGS. Minimum size of access opening shall be 12 by 18 inches, unless precluded by duct dimensions or otherwise indicated.

3.6 FLEXIBLE CONNECTORS FOR SHEET METAL. All air handling equipment, ducts crossing building expansion joints, and fan inlets and outlets shall be connected to upstream and downstream components by treated woven-cloth connectors.

SECTION 15867 - AIR DIFFUSION DEVICES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS. Section 15003, "General Mechanical Provisions," applies to work specified in this section.

1.2 SPECIFIC REQUIREMENTS. Throw and air quantities are indicated on drawings. Maximum noise level shall be NC 30. Room attenuation shall be assumed at 18 decibels.

PART 2 PRODUCTS

2.1 GENERAL
A. Devices shall preclude flutter, rattle, or vibration. Devices shall have the modifications and accessories necessary for mounting in specified or indicated surface construction.
B. Color selection shall be from manufacturer's standard color chips. Color shall be manufacturer's standard white, unless scheduled otherwise.
C. Air diffusion device pattern adjustments shall be made from the face of the device.
D. Gaskets shall be provided for supply-terminal air devices mounted in finished surfaces.
E. Equipment shall be as manufactured by Tuttle & Bailey, Krueger, Titus, or Metalaire.

2.2 AIR-DIFFUSION DEVICES
A. Perforated Face Registers: Perforated face return registers shall be of steel or aluminum construction, of sizes and capacities as scheduled or indicated on the drawings. Furnish with square to round adapter, where required by the application.
B. Louver Face Diffusers: Louver face diffusers shall be of steel or aluminum construction, of sizes and capacities scheduled on the drawings. Furnish with square to round adapter, where required by the application. Louver face shall be adjustable, where indicated.
C. Linear Bar Registers: Linear bar registers shall be two-way deflection type, steel or aluminum construction, of sizes indicated on the drawings.
D. Supply registers shall be double deflection type, steel or aluminum, with front blades horizontal. Sizes and capacities shall be as scheduled or indicated on the drawings.
E. Return or Exhaust Registers: Return or exhaust registers shall be single deflection type, with fixed face bars, set straight and parallel. Register shall be of aluminum or steel construction, of sizes and capacities scheduled or indicated on the drawings.

2.3 GRILLES AND LOUVERS:
A. Grilles shall be egg crate type, steel or aluminum construction, with ½ inch square core. Louvers shall be aluminum construction, 30 degree storm blades, 1½ inches deep.
B. Devices shall provide capacities and shall be of sizes specified or scheduled on the drawings.

PART 3 EXECUTION

Equipment shall be installed as indicated and specified and in accordance with manufacturer's recommendations.

SECTION 15907 - TESTING AND BALANCING

PART 1 GENERAL

Section 15003, "General Mechanical Provisions," applies to work specified in this section.

PART 2 NOT APPLICABLE

PART 3 EXECUTION

3.1 AIR-HANDLING SYSTEMS TESTING
A. Structural integrity and leakage testing of air-handling systems shall be performed by system. Tests shall be performed prior to insulation and/or concealment of work. Systems containing repaired defects shall be re-tested to original criteria for acceptance.
B. Duct Systems: Portions of systems shall be inspected and tested to positive pressures normal to the portion of system under test, to ensure that there are no visible mechanical defects and that there is no audible leakage at any point when area ambient noise is at normal-occupancy level.
C. Test Report: A test report shall be provided for all systems tested, identified by system of section thereof, containing data pertinent to acceptance requirements.

3.2 SYSTEMS BALANCING AND ADJUSTMENT
A. General
1. Operational balancing and adjustment of air-handling systems shall be performed in accordance with SMACNA or AABC Standards.
2. Balancing contractor shall verify that all equipment performs as specified and shall adjust drives, and dampers, as required to perform the balancing work.
3. Systems acceptance is predicated upon successful completion of specified work, receipt by the Engineer of certified data summarizing the performance of all systems within design intent, and approval thereof. Following completion of any corrective work and approval of submitted data, three bound copies of the testing, adjusting, and balancing report shall be provided. Data shall be arranged by system and identified by apparatus and item.
B. Balancing and Acceptance Criteria: Final volume conditions for all systems shall be within plus or minus 10 percent of design air flows (cfm).
C. Test Reports: Test reports shall be provided on all systems tested, together with test-apparatus data, and to include fan flow data.

3.3 SYSTEM AND TEMPERATURE-CONTROL ADJUSTMENT AND ACCEPTANCE CRITERIA. After all balance and adjustment operations have been completed, the system shall be tested as a whole to see that all items perform as an integral system and that temperature and conditions are evenly controlled.

REGISTERED PROFESSIONAL ENGINEER
ROY SIMPSON
12/3/03
15747
MECHANICAL
STATE OF CALIFORNIA

RIVERSIDE PK & REC DEP.
3900 MAIN ST.
RIVERSIDE, CA 92522

MECHANICAL ENGINEERING
CESAR CHAVEZ COMM. CTR
RIVERSIDE, CALIFORNIA

Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369 FAX (760)242-1092 PALM DESERT (760)773-4478
dreamjoe@earthlink.net dreamjoe@aol.com

HVAC
SPECS

PROJECT: 9905012
DATE: SEPT. 99
DRAWN: RS
CHECKED:
APPROVED:
DWG FILE: CESCHAE?

SHEET
M-6

SHEET _ OF _

ENERGY COMPLIANCE NOTES

1. BEFORE THE BUILDING MAY BE OCCUPIED, INSTALLATION CERTIFICATES FOR MANUFUACTURED DEVICES REGULATED BY THE APPLIANCE STANDARDS OR PART 6, SHALL BE POSTED ADJACENT TO THE BUILDING PERMIT(S). CERTIFICATES SHALL:

   A. IDENTIFY FEATURES REQUIRED TO VERIFY COMPLIANCE WITH THE APPLIANCE STANDARDS OR PART 6 AND ARTICLE 1 OF TITLE 24, PART1.

   B. INCLUDE A STATEMENT INDICATING THAT THE INSTALLED DEVICES CONFORM TO THE APPLIANCE STANDARDS OR PART 6 AND THE REQUIREMENTS FOR SUCH DEVICES GIVEN IN THE SPECIFICATIONS AND PLANS APPROVED BY THE LOCAL ENFORCEMENT AGENCY.

   C. STATE THE NUMBER OF THE BUILDING PERMIT UNDER WHICH THE CONSTRUCTION OR INSTALLATION WAS PERFORMED. SECT. 10-103(a)(1), (2), (3).

2. AFTER INSTALLING WALL, CEILING AND/OR FLOOR INSULATION THE INSTALLER SHALL POST, IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER STATING THAT THE INSTALLATION CONFORMS WITH THE PLANS AND SPECIFICATIONS DESCRIBED IN SECTION 103(a)2.A AND CONFORMING WITH THE REQUIREMENTS OF PART 6. THE CERTIFICATE SHALL ALSO STATE THE MANUFACTURER'S NAME AND MATERIAL AND THE INSTALLED R-VALUE. SECT. 10-103(a)4.

3. THE BUILDER SHALL PROVIDE THE BUILDING OWNER, MANAGER AND ORIGINAL OCCUPANTS THE FOLLOWING:

   A. CERTIFICATES OF COMPLIANCE AND A LIST OF THE FEATURES, MATERIALS AND MECHANICAL DEVICES INSTALLED IN THE BUILDING AND INSTRUCTIONS ON HOW TO USE THEM EFFICIENTLY.

   B. REQUIRED ROUTINE MAINTENANCE ACTIONS CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. LABEL MAY BE LIMITED TO IDENTIFYING THE REQUIRED MAINTENANCE MANUAL.

   C. A DESCRIPTION OF THE THE QUANTITIES OF OUTDOOR AND RECIRCULATED AIR THAT THE VENTILATION SYSTEM IS DESIGNED TO PROVIDE TO EACH AREA. SECTION 10-103(b)(1), (2), (3).

4. ALL APPLIANCES SHALL CONFORM WITH THE CALIFORNIA APPLIANCE EFFICIENCY STANDARDS AND SECTIONS 110, 111, 112 AND 113 OF SUBCHAPTER 2.

5. HEAT PUMPS SHALL BE INSTALLED WITH CONTROLS TO PREVENT OPERATION OF ANY AUXILIARY ELECTRIC HEATING WHEN THE LOAD CAN BE MET BY HEAT PUMP OPERATION ALONE. SUPPLEMENTARY ELECTRIC HEATER OPERATION IS PERMITTED DURING TRANSIENT PERIODS SUCH AS START UP, DEFROST AND AFTER ADVANCE OF ROOM THERMOSTAT SETPOINT. IF CONTROL STRATEGIES, SUCH AS STAGING OR RAMPING ARE EMPLOYED, ADDITIONAL CONTROL DEVICES SHALL BE INCORPORATED TO PRECLUDE THE UNNECESSARY OPERATION OF SUPPLEMENTARY ELECTRIC HEATING DURING THE RECOVERY PERIOD. SUBCHAPTER 2, SECTION 112(b) (1), (2).

6. EACH HVAC SYSTEM SHALL BE EQUIPPED WITH AT LEAST ONE AUTOMATIC DEVICE TO SETBACK OR SHUT OFF THE SYSTEM DURING PERIODS OF NON-USE OR ALTERNATE USE OF THE BUILDING SPACES OR ZONES SERVED BY THE SYSTEM. EXCEPTION: SMALL ANCILLARY HVAC SYSTEMS WHOSE INPUT POWER IS LESS THAN 2000 WATTS MAY HAVE READILY ACCESSIBLE MANUAL CONTROLS. SECTION 122(d), (e).

7. AUTOMATIC TEMPERATURE CONTROLS FOR HVAC SYSTEMS SHALL COMPLY WITH THE FOLLOWING;

   A. EACH ZONE SHALL BE PROVIDED WITH AT LEAST ONE AUTOMATIC TEMPERATURE CONTROL FOR THAT ZONE. EACH FLOOR OF A BUILDING WITH CONDITIONED SPACE SHALL CONTAIN AT LEAST ONE ZONE.

   B. CONTROLS SHALL MAINTAIN SPACE TEMPERATURE SETPOINTS FROM 55 TO 85°F.

   C. OPERATE ZONE HEATING AND COOLING IN SEQUENCE, IF BOTH ARE PROVIDED.

   D. PROVIDE A TEMPERATURE RANGE, ADJUSTABLE TO 5°F, BETWEEN FULL HEATING & COOLING TO THE ZONE.

   E. PREVENT REHEATING AND RECOOLING. SECTION 122(a), (b).

8. AIR HANDLING DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED AS PROVIDED FOR IN SECTIONS 601, 603, 604 OF THE UNIFORM MECHANICAL CODE AND STANDARD 6-3. SECTION 124(a), (b).

9. VENTILATION SHALL BE IN ACCORDANCE WITH SECTION 121 AND COMPLIANCE DOCUMENTATION. OUTSIDE AIR QUANTITIES SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING LICENSED C-20 MECHANICAL CONTRACTOR.

10. AIR CONDITIONING EQUIPMENT WITH A CAPACITY OF MORE THAN 2500 CFM OR 75,000 BTUH COOLING CAPACITY SHALL BE PROVIDED WITH AUTOMATIC ECONOMIZER DAMPERS, INTERLOCKED AND CLOSED ON FAN SHUTDOWN(NOT INCLUDING GREASE HOOD EQUIPMENT). SECTION 144(e)1A & 122(f).

11. GRAVITY TYPE VENTILATION SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE, EXCEPT COMBUSTION AIR OPENINGS. SECTION 122(f).

CERTIFICATE OF COMPLIANCE (Part 1 of 2) MECH-1

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER		DATE JUNE 10, 2000
PROJECT ADDRESS RIVERSIDE, CALIFORNIA		
PRINCIPAL DESIGNER-MECHANICAL ROY SIMPSON	TELEPHONE (760) 245-1701	Building Permit #
DOCUMENTATION AUTHOR ROY SIMPSON	TELEPHONE (760) 245-1701	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA 30,000 SQ FT		
BUILDING TYPE	☒ NONRESIDENTIAL	☐ HIGH RISE RESIDENTIAL	☐ HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION	☐ NEW CONSTRUCTION	☐ ADDITION ☒ ALTERATION	☐ UNCONDITIONED (file affidavit)
METHOD OF MECHANICAL COMPLIANCE	☒ PRESCRIPTIVE	☐ PERFORMANCE	
PROOF OF ENVELOPE COMPLIANCE	☐ PREVIOUS ENVELOPE PERMIT	☐ ENVELOPE COMPLIANCE ATTACHED	

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building mechanical requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE
ROY SIMPSON		JUNE 10, 2000

The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the mechanical requirements contained in the applicable parts of sections 110 through 115, 120 through 124, 140 through 142, 144 and 145.

Please check one:

☐ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a licensed architect.

☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL MECHANICAL DESIGNER-NAME	SIGNATURE	DATE	LIC. #
ROY SIMPSON		JUNE 10, 2000	M15747

MECHANICAL MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures M5:M6:M7

INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.
MECH-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.
MECH-2: Required for all submittals, but may be incorporated in schedules on plans.
MECH-3: Required for all submittals unless required ventilation rates and airflows are shown on plans, see 4.3.4.
MECH-4: Required for all perscriptive submittlas.

Nonresidential Compliance Forms *March 2000A*

MECHANICAL EQUIPMENT SUMMARY (Part 1 of 2) MECH-2

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000

CHILLER AND TOWER SUMMARY

Equipment Name	Equipment Type	Qty.	Efficiency	Tons	PUMPS Total Qty.	GPM	BHP	Motor Eff.	Drive Eff.	Pump Control

DHW / BOILER SUMMARY

System Name	System Type	Distribution Type	Qty.	Rated Input	Vol. (Gals.)	Energy Factor or Recovery Efficiency	Standby Loss or Pilot	TANK INSUL. External R-Val

CENTRAL SYSTEM RATING

System Name	System Type	Qty.	HEATING Output	HEATING Aux. kW	HEATING Efficiency	COOLING Output	COOLING Sensible	COOLING Efficiency	Economizer Type
HP-1A THRU 1D	PKG. HEAT	4	90,000	--	2.1	150,000	107,000	9.0	AIR
HP-2A THRU 2V	PKG. HEAT	22	18,000	3.7	2.1	30,000	20,000	10.0	NONE
HP-3	PKG. HEAT	1	60,000	--	2.1	90,000	65,000	9.0	AIR
AH-1A & 1B	SPLIT H.P.	2	80,000	--	2.1	120,000	80,000	9.0	AIR
AH-2	SPLIT H.P.	1	55,000	--	2.1	90,000	72,000	9.0	AIR
AH-3A THRU 3S	SPLIT H.P.	19	18,000	4.8	2.1	30,000	22,000	10.0	NONE
AH-4A & 4B	SPLIT H.P.	2	25,000	2.5	2.1	42,000	30,000	10.0	NONE
AH-5A & 5B	SPLIT H.P.		12,000	2.5	2.1	24,000	14,000	10.0	NONE

CENTRAL FAN SUMMARY

System Name	Fan Type	Motor Location	SUPPLY FAN CFM	SUPPLY FAN BHP	SUPPLY FAN Motor Eff.	SUPPLY FAN Drive Eff.	RETURN FAN CFM	RETURN FAN BHP	RETURN FAN Motor Eff.	RETURN FAN Drive Eff.

Nonresidential Compliance Form *March 2000A*

MECHANICAL VENTILATION MECH-3

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000

MECHANICAL VENTILATION

A ZONE/ SYSTEM	B AREA BASIS COND AREA (SF)	C CFM PER SF	D MIN. CFM (B × C)	E OCCUPANCY BASIS NO. OF PEOPLE	F CFM PER PERSON	G MIN. CFM (E × F)	H REQ'D. O.A. (MAX. OF D OR G)	I DESIGN OUTDOOR AIR CFM	J VAV MIN. CFM	K TRANSFER AIR CFM
HP-1A THRU 1D	4000	0.15	600	300	15	4500	4500	4500		
HP-2A THRU 2V (TYP)	400	0.15	60	4	15	60	60	75		
HP-3	1150	0.15	175	12	15	180	180	300		
AH-1A & 1B	3000	0.15	450	200	15	3000	3000	3200		
AH-2	1200	0.15	180	50	15	750	750	750		
AH-3A THRU 3S (TYP)	400	0.15	60	4	15	60	60	75		
AH-4A & 4B	320	0.15	48	12	15	180	180	300		
AH-5A & 5B	400	0.15	60	4	15	60	60	75		
Totals (For MECH-4)										

C Minimum ventilation rate per Section § 121, Table 1-F.
E Based on expected number of occupants or at least 50 % of Chapter 10 1997 UBC occupant density
I Must be greater than or equal to H, or use Transfer Air. Design outdoor air includes ventilation from supply air system & exhaust fans which operate at design conditions.
K Must be greater than or equal to (H - I), and, for VAV, greater than or equal to (H - J).

Nonresidential Compliance Form *March 2000A*

MECH-4 — HP-1A THRU 1D

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000
SYSTEM NAME HP-1A THRU 1D FLOOR AREA 4000 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Reference	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:					
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)			102	29
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)			69	
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)			75	75
2. SIZING					
- DESIGN OUTDOOR AIR		4500	CFM (MECH-3; COLUMN I)	127,575	212,625
- ENVELOPE LOAD (Part 2 of 5), COLUMN E			Btu/Hr (Btu/Hr × 1000)	184,350	108,180
- LIGHTING (Adjusted Actual Watts-LTG-2)		2.0	Watts / SF (W/SF × 3414.4)	27,200	
- PEOPLE		300	# OF PEOPLE (MECH-3; COLUMN E)	137,000	
- MISCELLANEOUS EQUIPMENT			WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-			(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)			(Describe)		
- OTHER			(Describe)		
TOTALS				474,125	320,805
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)				99,565	137,945
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)				573,690	458,750
3. SELECTION:					
INSTALLED EQUIPMENT CAPACITY				600,000 KBtu / Hr	360,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B × E × 746 / (C × D)	G CFM (Supply Fans)
				TOTALS		

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ____ Col. F / Col. G

Nonresidential Compliance Form *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4 — HP-2A THRU 2V (TYPICAL)

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000
SYSTEM NAME HP-2A THRU 2V (TYPICAL) FLOOR AREA 4000 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Reference	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:					
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)			102	29
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)			69	
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)			75	75
2. SIZING					
- DESIGN OUTDOOR AIR		75	CFM (MECH-3; COLUMN I)	2,125	3,545
- ENVELOPE LOAD (Part 2 of 5), COLUMN E			Btu/Hr (Btu/Hr × 1000)	9,335	7,065
- LIGHTING (Adjusted Actual Watts-LTG-2)		2.5	Watts / SF (W/SF × 3414.4)	3,400	
- PEOPLE		4	# OF PEOPLE (MECH-3; COLUMN E)	1,800	
- MISCELLANEOUS EQUIPMENT			WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-			(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)			(Describe)		
- OTHER			(Describe)		
TOTALS				18,785	10,610
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)				3,945	4,560
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)				22,730	15,170
3. SELECTION:					
INSTALLED EQUIPMENT CAPACITY				30,000 KBtu / Hr	18,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B × E × 746 / (C × D)	G CFM (Supply Fans)
				TOTALS		

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ____ Col. F / Col. G

Nonresidential Compliance Form *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4 — HP-3

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000
SYSTEM NAME HP-3 FLOOR AREA 1150 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Reference	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:					
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)			102	29
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)			69	
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)			75	75
2. SIZING					
- DESIGN OUTDOOR AIR		300	CFM (MECH-3; COLUMN I)	8,505	14,490
- ENVELOPE LOAD (Part 2 of 5), COLUMN E			Btu/Hr (Btu/Hr × 1000)	28,200	26,000
- LIGHTING (Adjusted Actual Watts-LTG-2)		2.5	Watts / SF (W/SF × 3414.4)	9,775	
- PEOPLE		12	# OF PEOPLE (MECH-3; COLUMN E)	5,400	
- MISCELLANEOUS EQUIPMENT		0.5	WATTS / SF (W/SF × 3414.4)	1,955	
- OTHER (PROCESS LOADS, DUCT-			(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)			(Describe)		
- OTHER			(Describe)		
TOTALS				43,835	30,490
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)				9,205	13,110
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)				63,040	53,600
3. SELECTION:					
INSTALLED EQUIPMENT CAPACITY				90,000 KBtu / Hr	60,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B × E × 746 / (C × D)	G CFM (Supply Fans)
				TOTALS		

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ____ Col. F / Col. G

Nonresidential Compliance Form *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4 — AH-1A & 1B

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000
SYSTEM NAME AH-1A & 1B FLOOR AREA 3000 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Reference	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:					
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)			102	29
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)			69	
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)			75	75
2. SIZING					
- DESIGN OUTDOOR AIR		3,200	CFM (MECH-3; COLUMN I)	90,720	151,200
- ENVELOPE LOAD (Part 2 of 5), COLUMN E			Btu/Hr (Btu/Hr × 1000)	31,080	27,000
- LIGHTING (Adjusted Actual Watts-LTG-2)		2.5	Watts / SF (W/SF × 3414.4)	25,500	
- PEOPLE		200	# OF PEOPLE (MECH-3; COLUMN E)	90,000	
- MISCELLANEOUS EQUIPMENT		0.5	WATTS / SF (W/SF × 3414.4)	5,100	
- OTHER (PROCESS LOADS, DUCT-			(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)			(Describe)		
- OTHER			(Describe)		
TOTALS				242,400	178,200
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)				50,905	76,625
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)				293,305	254,825
3. SELECTION:					
INSTALLED EQUIPMENT CAPACITY				240,000 KBtu / Hr	160,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B × E × 746 / (C × D)	G CFM (Supply Fans)
				TOTALS		

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ____ Col. F / Col. G

Nonresidential Compliance Form *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4 — AH-2

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000
SYSTEM NAME AH-2 FLOOR AREA 1200 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Reference	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:					
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)			102	29
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)			69	
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)			75	75
2. SIZING					
- DESIGN OUTDOOR AIR		750	CFM (MECH-3; COLUMN I)	21,870	36,450
- ENVELOPE LOAD (Part 2 of 5), COLUMN E			Btu/Hr (Btu/Hr × 1000)	21,000	19,200
- LIGHTING (Adjusted Actual Watts-LTG-2)		2.5	Watts / SF (W/SF × 3414.4)	10,200	
- PEOPLE		50	# OF PEOPLE (MECH-3; COLUMN E)	22,500	
- MISCELLANEOUS EQUIPMENT			WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-			(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)			(Describe)		
- OTHER			(Describe)		
TOTALS				75,570	55,650
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)				15,870	23,930
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)				91,440	79,580
3. SELECTION:					
INSTALLED EQUIPMENT CAPACITY				90,000 KBtu / Hr	55,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B × E × 746 / (C × D)	G CFM (Supply Fans)
				TOTALS		

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ____ Col. F / Col. G

Nonresidential Compliance Form *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4 — AH-3A THRU 3S

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000
SYSTEM NAME AH-3A THRU 3S FLOOR AREA 400 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Reference	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:					
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)			102	29
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)			69	
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)			75	75
2. SIZING					
- DESIGN OUTDOOR AIR		75	CFM (MECH-3; COLUMN I)	2,125	3,545
- ENVELOPE LOAD (Part 2 of 5), COLUMN E			Btu/Hr (Btu/Hr × 1000)	6,700	5,200
- LIGHTING (Adjusted Actual Watts-LTG-2)		2.5	Watts / SF (W/SF × 3414.4)	3,400	
- PEOPLE		4	# OF PEOPLE (MECH-3; COLUMN E)	1,800	
- MISCELLANEOUS EQUIPMENT			WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-			(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)			(Describe)		
- OTHER			(Describe)		
TOTALS				14,025	8,745
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)				2,945	3,760
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)				16,970	12,505
3. SELECTION:					
INSTALLED EQUIPMENT CAPACITY				30,000 KBtu / Hr	18,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B × E × 746 / (C × D)	G CFM (Supply Fans)
				TOTALS		

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ____ Col. F / Col. G

Nonresidential Compliance Form *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4 — AH-4A & 4B

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000
SYSTEM NAME AH-4A & 4B FLOOR AREA 320 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Reference	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:					
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)			102	29
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)			69	
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)			75	75
2. SIZING					
- DESIGN OUTDOOR AIR		300	CFM (MECH-3; COLUMN I)	8,505	14,175
- ENVELOPE LOAD (Part 2 of 5), COLUMN E			Btu/Hr (Btu/Hr × 1000)	750	495
- LIGHTING (Adjusted Actual Watts-LTG-2)		1.5	Watts / SF (W/SF × 3414.4)	16,320	
- PEOPLE		12	# OF PEOPLE (MECH-3; COLUMN E)	5,400	
- MISCELLANEOUS EQUIPMENT			WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-			(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)			(Describe)		
- OTHER			(Describe)		
TOTALS				30,975	14,670
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)				6,505	6,310
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)				37,480	20,980
3. SELECTION:					
INSTALLED EQUIPMENT CAPACITY				42,000 KBtu / Hr	25,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B × E × 746 / (C × D)	G CFM (Supply Fans)
				TOTALS		

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ____ Col. F / Col. G

Nonresidential Compliance Form *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4 — AH-5A & 5B

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER DATE JUNE 10, 2000
SYSTEM NAME AH-5A & 5B FLOOR AREA 400 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Reference	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:					
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)			102	29
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)			69	
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)			75	75
2. SIZING					
- DESIGN OUTDOOR AIR		75	CFM (MECH-3; COLUMN I)	2,125	3,545
- ENVELOPE LOAD (Part 2 of 5), COLUMN E			Btu/Hr (Btu/Hr × 1000)	6,180	4,500
- LIGHTING (Adjusted Actual Watts-LTG-2)		2.0	Watts / SF (W/SF × 3414.4)	2,890	
- PEOPLE		4	# OF PEOPLE (MECH-3; COLUMN E)	1,800	
- MISCELLANEOUS EQUIPMENT		1	WATTS / SF (W/SF × 3414.4)	1,445	
- OTHER (PROCESS LOADS, DUCT-			(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)			(Describe)		
- OTHER			(Describe)		
TOTALS				14,440	8,045
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)				3,030	3,460
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)				17,470	11,505
3. SELECTION:					
INSTALLED EQUIPMENT CAPACITY				24,000 KBtu / Hr	12,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B × E × 746 / (C × D)	G CFM (Supply Fans)
				TOTALS		

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ____ Col. F / Col. G

Nonresidential Compliance Form *March 2000A*

REV:	BY:
#1 ADD MECH SHEETS 6-22-00	DZ

REGISTERED PROFESSIONAL ENGINEER ROY SIMPSON 12/31/03 15747 MECHANICAL STATE OF CALIFORNIA

RIVERSIDE PK & REC DEP.
3900 MAIN ST.
RIVERSIDE, CA 92522

MECHANICAL ENGINEERING
CESAR CHAVEZ COMM. CTR
RIVERSIDE, CALIFORNIA

DREAM Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)242-3369 FAX (760)242-1092 dreamjoe@earthlink.net
PALM DESERT (760)773-4478 dreamjoe@aol.com

ENERGY DOCUME-NTATION

PROJECT: 9905012
DATE: SEPT. 99
DRAWN: RS
CHECKED:
APPROVED:
DWG FILE: CESCHAE?

SHEET M-7

SHEET _ OF _

RECEIVED MAR 2 7 2001

ENERGY COMPLIANCE NOTES

1. BEFORE THE BUILDING MAY BE OCCUPIED, INSTALLATION CERTIFICATES FOR MANUFUACTURED DEVICES REGULATED BY THE APPLIANCE STANDARDS OR PART 6, SHALL BE POSTED ADJACENT TO THE BUILDING PERMIT(S). CERTIFICATES SHALL:

   A. IDENTIFY FEATURES REQUIRED TO VERIFY COMPLIANCE WITH THE APPLIANCE STANDARDS OR PART 6 AND ARTICLE 1 OF TITLE 24, PART1.

   B. INCLUDE A STATEMENT INDICATING THAT THE INSTALLED DEVICES CONFORM TO THE APPLIANCE STANDARDS OR PART 6 AND THE REQUIREMENTS FOR SUCH DEVICES GIVEN IN THE SPECIFICATIONS AND PLANS APPROVED BY THE LOCAL ENFORCEMENT AGENCY.

   C. STATE THE NUMBER OF THE BUILDING PERMIT UNDER WHICH THE CONSTRUCTION OR INSTALLATION WAS PERFORMED. SECT. 10-103(a)(1), (2), (3).

2. AFTER INSTALLING WALL, CEILING AND/OR FLOOR INSULATION THE INSTALLER SHALL POST, IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER STATING THAT THE INSTALLATION CONFORMS WITH THE PLANS AND SPECIFICATIONS DESCRIBED IN SECTION 103(a)2.A AND CONFORMING WITH THE REQUIREMENTS OF PART 6. THE CERTIFICATE SHALL ALSO STATE THE MANUFACTURER'S NAME AND MATERIAL AND THE INSTALLED R-VALUE. SECT. 10-103(a)4.

3. THE BUILDER SHALL PROVIDE THE BUILDING OWNER, MANAGER AND ORIGINAL OCCUPANTS THE FOLLOWING:

   A. CERTIFICATES OF COMPLIANCE AND A LIST OF THE FEATURES, MATERIALS AND MECHANICAL DEVICES INSTALLED IN THE BUILDING AND INSTRUCTIONS ON HOW TO USE THEM EFFICIENTLY.

   B. REQUIRED ROUTINE MAINTENANCE ACTIONS CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. LABEL MAY BE LIMITED TO IDENTIFYING THE REQUIRED MAINTENANCE MANUAL.

   C. A DESCRIPTION OF THE THE QUANTITIES OF OUTDOOR AND RECIRCULATED AIR THAT THE VENTILATION SYSTEM IS DESIGNED TO PROVIDE TO EACH AREA. SECTION 10-103(b)(1), (2), (3).

4. ALL APPLIANCES SHALL CONFORM WITH THE CALIFORNIA APPLIANCE EFFICIENCY STANDARDS AND SECTIONS 110, 111, 112 AND 113 OF SUBCHAPTER 2.

5. HEAT PUMPS SHALL BE INSTALLED WITH CONTROLS TO PREVENT OPERATION OF ANY AUXILIARY ELECTRIC HEATING WHEN THE LOAD CAN BE MET BY HEAT PUMP OPERATION ALONE. SUPPLEMENTARY ELECTRIC HEATER OPERATION IS PERMITTED DURING TRANSIENT PERIODS SUCH AS START UP, DEFROST AND AFTER ADVANCE OF ROOM THERMOSTAT SETPOINT. IF CONTROL STRATEGIES, SUCH AS STAGING OR RAMPING ARE EMPLOYED, ADDITIONAL CONTROL DEVICES SHALL BE INCORPORATED TO PRECLUDE THE UNNECESSARY OPERATION OF SUPPLEMENTARY ELECTRIC HEATING DURING THE RECOVERY PERIOD. SUBCHAPTER 2, SECTION 112(b) (1), (2).

6. EACH HVAC SYSTEM SHALL BE EQUIPPED WITH AT LEAST ONE AUTOMATIC DEVICE TO SETBACK OR SHUT OFF THE SYSTEM DURING PERIODS OF NON-USE OR ALTERNATE USE OF THE BUILDING SPACES OR ZONES SERVED BY THE SYSTEM. EXCEPTION: SMALL ANCILLARY HVAC SYSTEMS WHOSE INPUT POWER IS LESS THAN 2000 WATTS MAY HAVE READILY ACCESSIBLE MANUAL CONTROLS. SECTION 122(d), (e).

7. AUTOMATIC TEMPERATURE CONTROLS FOR HVAC SYSTEMS SHALL COMPLY WITH THE FOLLOWING;

   A. EACH ZONE SHALL BE PROVIDED WITH AT LEAST ONE AUTOMATIC TEMPERATURE CONTROL FOR THAT ZONE. EACH FLOOR OF A BUILDING WITH CONDITIONED SPACE SHALL CONTAIN AT LEAST ONE ZONE.

   B. CONTROLS SHALL MAINTAIN SPACE TEMPERATURE SETPOINTS FROM 55 TO 85°F.

   C. OPERATE ZONE HEATING AND COOLING IN SEQUENCE, IF BOTH ARE PROVIDED.

   D. PROVIDE A TEMPERATURE RANGE, ADJUSTABLE TO 5°F, BETWEEN FULL HEATING & COOLING TO THE ZONE.

   E. PREVENT REHEATING AND RECOOLING. SECTION 122(a), (b).

8. AIR HANDLING DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED AS PROVIDED FOR IN SECTIONS 601, 603, 604 OF THE UNIFORM MECHANICAL CODE AND STANDARD 6-3. SECTION 124(a), (b).

9. VENTILATION SHALL BE IN ACCORDANCE WITH SECTION 121 AND COMPLIANCE DOCUMENTATION. OUTSIDE AIR QUANTITIES SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING LICENSED C-20 MECHANICAL CONTRACTOR.

10. AIR CONDITIONING EQUIPMENT WITH A CAPACITY OF MORE THAN 2500 CFM OR 75,000 BTUH COOLING CAPACITY SHALL BE PROVIDED WITH AUTOMATIC ECONOMIZER DAMPERS, INTERLOCKED AND CLOSED ON FAN SHUTDOWN(NOT INCLUDING GREASE HOOD EQUIPMENT). SECTION 144(e)1A & 122(f).

11. GRAVITY TYPE VENTILATION SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE, EXCEPT COMBUSTION AIR OPENINGS. SECTION 122(f).

CERTIFICATE OF COMPLIANCE (Part 1 of 2) MECH-1

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER		DATE JUNE 10, 2000
PROJECT ADDRESS RIVERSIDE, CALIFORNIA		Building Permit #
PRINCIPAL DESIGNER-MECHANICAL ROY SIMPSON	TELEPHONE (760) 245-1701	
DOCUMENTATION AUTHOR ROY SIMPSON	TELEPHONE (760) 245-1701	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS — BUILDING CONDITIONED FLOOR AREA 30,000 SQ FT

BUILDING TYPE: ☒ NONRESIDENTIAL ☐ HIGH RISE RESIDENTIAL ☐ HOTEL/MOTEL GUEST ROOM

PHASE OF CONSTRUCTION: ☐ NEW CONSTRUCTION ☐ ADDITION ☒ ALTERATION ☐ UNCONDITIONED (file affidavit)

METHOD OF MECHANICAL COMPLIANCE: ☒ PRESCRIPTIVE ☐ PERFORMANCE

PROOF OF ENVELOPE COMPLIANCE: ☐ PREVIOUS ENVELOPE PERMIT ☐ ENVELOPE COMPLIANCE ATTACHED

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building mechanical requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE
ROY SIMPSON		JUNE 10, 2000

The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the mechanical requirements contained in the applicable parts of sections 110 through 115, 120 through 124, 140 through 142, 144 and 145.

Please check one:

☐ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a licensed architect.

☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL MECHANICAL DESIGNER-NAME	SIGNATURE	DATE	LIC. #
ROY SIMPSON		JUNE 10, 2000	M15747

MECHANICAL MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures M5:M6:M7

INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.
MECH-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.
MECH-2: Required for all submittals, but may be incorporated in schedules on plans.
MECH-3: Required for all submittals unless required ventilation rates and airflows are shown on plans, see 4.3.4.
MECH-4: Required for all perscriptive submittlas.

Nonresidential Compliance Forms — *March 2000A*

MECHANICAL EQUIPMENT SUMMARY (Part 1 of 2) MECH-2

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000

CHILLER AND TOWER SUMMARY

Equipment Name	Equipment Type	Qty.	Efficiency	Tons	PUMPS Total Qty.	GPM	BHP	Motor Eff.	Drive Eff.	Pump Control

DHW / BOILER SUMMARY

System Name	System Type	Distribution Type	Qty.	Rated Input	Vol. (Gals.)	Energy Factor or Recovery Efficiency	Standby Loss or Pilot	TANK INSUL. External R-Val

CENTRAL SYSTEM RATING

System Name	System Type	Qty.	HEATING Output	Aux. kW	Efficiency	COOLING Output	Sensible	Efficiency	Economizer Type
HP-1A THRU 1D	PKG. HEAT	4	90,000	--	2.1	150,000	107,000	9.0	AIR
HP-2A THRU 2V	PKG. HEAT	22	18,000	3.7	2.1	30,000	20,000	10.0	NONE
HP-3	PKG. HEAT	1	60,000	--	2.1	90,000	65,000	9.0	AIR
AH-1A & 1B	SPLIT H.P.	2	80,000	--	2.1	120,000	80,000	9.0	AIR
AH-2	SPLIT H.P.	1	55,000	--	2.1	90,000	72,000	9.0	AIR
AH-3A THRU 3S	SPLIT H.P.	19	18,000	4.8	2.1	30,000	22,000	10.0	NONE
AH-4A & 4B	SPLIT H.P.	2	25,000	2.5	2.1	42,000	30,000	10.0	NONE
AH-5A & 5B	SPLIT H.P.		12,000	2.5	2.1	24,000	14,000	10.0	NONE

CENTRAL FAN SUMMARY

System Name	Fan Type	Motor Location	SUPPLY FAN CFM	BHP	Motor Eff.	Drive Eff.	RETURN FAN CFM	BHP	Motor Eff.	Drive Eff.

Nonresidential Compliance Form — *March 2000A*

MECHANICAL VENTILATION MECH-3

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000

MECHANICAL VENTILATION

A ZONE/ SYSTEM	B AREA BASIS COND AREA (SF)	C CFM PER SF	D MIN. CFM (B×C)	E OCCUPANCY BASIS NO. OF PEOPLE	F CFM PER PERSON	G MIN. CFM (E×F)	H REQ'D. O.A. (MAX. OF D OR G)	I DESIGN OUTDOOR AIR CFM	J VAV MIN. CFM	K TRANSFER AIR CFM
HP-1A THRU 1D	4000	0.15	600	300	15	4500	4500	4500		
HP-2A THRU 2V (TYP)	400	0.15	60	4	15	60	60	75		
HP-3	1150	0.15	175	12	15	180	180	300		
AH-1A & 1B	3000	0.15	450	200	15	3000	3000	3200		
AH-2	1200	0.15	180	50	15	750	750	750		
AH-3A THRU 3S (TYP)	400	0.15	60	4	15	60	60	75		
AH-4A & 4B	320	0.15	48	12	15	180	180	300		
AH-5A & 5B	400	0.15	60	4	15	60	60	75		
Totals (For MECH-4)										

C Minimum ventilation rate per Section § 121, Table 1-F.
E Based on expected number of occupants or at least 50 % of Chapter 10 1997 UBC occupant density
I Must be greater than or equal to H, or use Transfer Air. Design outdoor air includes ventilation from supply air system & exhaust fans which operate at design conditions.
K Must be greater than or equal to (H - I), and, for VAV, greater than or equal to (H - J).

Nonresidential Compliance Form — *March 2000A*

MECH-4

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000
SYSTEM NAME HP-1A THRU 1D — FLOOR AREA 4000 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:				
- OUTDOOR, DRY BULB TEMPERATURE		(APPENDIX C)	102	29
- OUTDOOR, WET BULB TEMPERATURE		(APPENDIX C)	69	
- INDOOR, DRY BULB TEMPERATURE		(See Chap. 8, ASHRAE handbook, 1993)	75	75
2. SIZING				
- DESIGN OUTDOOR AIR	4500	CFM (MECH-3; COLUMN I)	127,575	212,625
- ENVELOPE LOAD (Part 2 of 5), COLUMN E		Btu/Hr (Btu/Hr × 1000)	184,350	108,180
- LIGHTING (Adjusted Actual Watts-LTG-2)	2.0	Watts / SF (W/SF × 3414.4)	27,200	
- PEOPLE	300	# OF PEOPLE (MECH-3; COLUMN E)	137,000	
- MISCELLANEOUS EQUIPMENT		WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-		(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)		(Describe)		
- OTHER		(Describe)		
TOTALS			474,125	320,805
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)			99,565	137,945
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)			573,690	453,750
3. SELECTION:				
INSTALLED EQUIPMENT CAPACITY			600,000 KBtu / Hr	360,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B×E×746/(C×D)	G CFM (Supply Fans)
TOTALS						

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ___ Col. F / Col. G

Nonresidential Compliance Form — *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000
SYSTEM NAME HP-2A THRU 2V (TYPICAL) — FLOOR AREA 4000 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:				
- OUTDOOR, DRY BULB TEMPERATURE		(APPENDIX C)	102	29
- OUTDOOR, WET BULB TEMPERATURE		(APPENDIX C)	69	
- INDOOR, DRY BULB TEMPERATURE		(See Chap. 8, ASHRAE handbook, 1993)	75	75
2. SIZING				
- DESIGN OUTDOOR AIR	75	CFM (MECH-3; COLUMN I)	2,125	3,545
- ENVELOPE LOAD (Part 2 of 5), COLUMN E		Btu/Hr (Btu/Hr × 1000)	9,335	7,065
- LIGHTING (Adjusted Actual Watts-LTG-2)	2.5	Watts / SF (W/SF × 3414.4)	3,400	
- PEOPLE	4	# OF PEOPLE (MECH-3; COLUMN E)	1,800	
- MISCELLANEOUS EQUIPMENT		WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-		(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)		(Describe)		
- OTHER		(Describe)		
TOTALS			18,785	10,610
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)			3,945	4,560
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)			22,730	15,170
3. SELECTION:				
INSTALLED EQUIPMENT CAPACITY			30,000 KBtu / Hr	18,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B×E×746/(C×D)	G CFM (Supply Fans)
TOTALS						

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ___ Col. F / Col. G

Nonresidential Compliance Form — *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000
SYSTEM NAME HP-3 — FLOOR AREA 1150 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:				
- OUTDOOR, DRY BULB TEMPERATURE		(APPENDIX C)	102	29
- OUTDOOR, WET BULB TEMPERATURE		(APPENDIX C)	69	
- INDOOR, DRY BULB TEMPERATURE		(See Chap. 8, ASHRAE handbook, 1993)	75	75
2. SIZING				
- DESIGN OUTDOOR AIR	300	CFM (MECH-3; COLUMN I)	8,505	14,490
- ENVELOPE LOAD (Part 2 of 5), COLUMN E		Btu/Hr (Btu/Hr × 1000)	28,200	26,000
- LIGHTING (Adjusted Actual Watts-LTG-2)	2.5	Watts / SF (W/SF × 3414.4)	9,775	
- PEOPLE	12	# OF PEOPLE (MECH-3; COLUMN E)	5,400	
- MISCELLANEOUS EQUIPMENT	0.5	WATTS / SF (W/SF × 3414.4)	1,955	
- OTHER (PROCESS LOADS, DUCT-		(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)		(Describe)		
- OTHER		(Describe)		
TOTALS			43,835	30,490
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)			9,205	13,110
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)			63,040	53,600
3. SELECTION:				
INSTALLED EQUIPMENT CAPACITY			90,000 KBtu / Hr	60,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B×E×746/(C×D)	G CFM (Supply Fans)
TOTALS						

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ___ Col. F / Col. G

Nonresidential Compliance Form — *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000
SYSTEM NAME AH-1A & 1B — FLOOR AREA 3000 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:				
- OUTDOOR, DRY BULB TEMPERATURE		(APPENDIX C)	102	29
- OUTDOOR, WET BULB TEMPERATURE		(APPENDIX C)	69	
- INDOOR, DRY BULB TEMPERATURE		(See Chap. 8, ASHRAE handbook, 1993)	75	75
2. SIZING				
- DESIGN OUTDOOR AIR	3,200	CFM (MECH-3; COLUMN I)	90,720	151,200
- ENVELOPE LOAD (Part 2 of 5), COLUMN E		Btu/Hr (Btu/Hr × 1000)	31,080	27,000
- LIGHTING (Adjusted Actual Watts-LTG-2)	2.5	Watts / SF (W/SF × 3414.4)	25,500	
- PEOPLE	200	# OF PEOPLE (MECH-3; COLUMN E)	90,000	
- MISCELLANEOUS EQUIPMENT	0.5	WATTS / SF (W/SF × 3414.4)	5,100	
- OTHER (PROCESS LOADS, DUCT-		(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)		(Describe)		
- OTHER		(Describe)		
TOTALS			242,400	178,200
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)			50,905	76,625
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)			293,305	254,825
3. SELECTION:				
INSTALLED EQUIPMENT CAPACITY			240,000 KBtu / Hr	160,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B×E×746/(C×D)	G CFM (Supply Fans)
TOTALS						

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ___ Col. F / Col. G

Nonresidential Compliance Form — *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000
SYSTEM NAME AH-2 — FLOOR AREA 1200 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:				
- OUTDOOR, DRY BULB TEMPERATURE		(APPENDIX C)	102	29
- OUTDOOR, WET BULB TEMPERATURE		(APPENDIX C)	69	
- INDOOR, DRY BULB TEMPERATURE		(See Chap. 8, ASHRAE handbook, 1993)	75	75
2. SIZING				
- DESIGN OUTDOOR AIR	750	CFM (MECH-3; COLUMN I)	21,870	36,450
- ENVELOPE LOAD (Part 2 of 5), COLUMN E		Btu/Hr (Btu/Hr × 1000)	21,000	19,200
- LIGHTING (Adjusted Actual Watts-LTG-2)	2.5	Watts / SF (W/SF × 3414.4)	10,200	
- PEOPLE	50	# OF PEOPLE (MECH-3; COLUMN E)	22,500	
- MISCELLANEOUS EQUIPMENT		WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-		(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)		(Describe)		
- OTHER		(Describe)		
TOTALS			75,570	55,650
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)			15,870	23,930
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)			91,440	79,580
3. SELECTION:				
INSTALLED EQUIPMENT CAPACITY			90,000 KBtu / Hr	55,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B×E×746/(C×D)	G CFM (Supply Fans)
TOTALS						

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ___ Col. F / Col. G

Nonresidential Compliance Form — *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000
SYSTEM NAME AH-3A THRU 3S — FLOOR AREA 400 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:				
- OUTDOOR, DRY BULB TEMPERATURE		(APPENDIX C)	102	29
- OUTDOOR, WET BULB TEMPERATURE		(APPENDIX C)	69	
- INDOOR, DRY BULB TEMPERATURE		(See Chap. 8, ASHRAE handbook, 1993)	75	75
2. SIZING				
- DESIGN OUTDOOR AIR	75	CFM (MECH-3; COLUMN I)	2,125	3,545
- ENVELOPE LOAD (Part 2 of 5), COLUMN E		Btu/Hr (Btu/Hr × 1000)	6,700	5,200
- LIGHTING (Adjusted Actual Watts-LTG-2)	2.5	Watts / SF (W/SF × 3414.4)	3,400	
- PEOPLE	4	# OF PEOPLE (MECH-3; COLUMN E)	1,800	
- MISCELLANEOUS EQUIPMENT		WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-		(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)		(Describe)		
- OTHER		(Describe)		
TOTALS			14,025	8,745
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)			2,945	3,760
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)			16,970	12,505
3. SELECTION:				
INSTALLED EQUIPMENT CAPACITY			30,000 KBtu / Hr	18,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B×E×746/(C×D)	G CFM (Supply Fans)
TOTALS						

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ___ Col. F / Col. G

Nonresidential Compliance Form — *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000
SYSTEM NAME AH-4A & 4B — FLOOR AREA 320 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:				
- OUTDOOR, DRY BULB TEMPERATURE		(APPENDIX C)	102	29
- OUTDOOR, WET BULB TEMPERATURE		(APPENDIX C)	69	
- INDOOR, DRY BULB TEMPERATURE		(See Chap. 8, ASHRAE handbook, 1993)	75	75
2. SIZING				
- DESIGN OUTDOOR AIR	300	CFM (MECH-3; COLUMN I)	8,505	14,175
- ENVELOPE LOAD (Part 2 of 5), COLUMN E		Btu/Hr (Btu/Hr × 1000)	750	495
- LIGHTING (Adjusted Actual Watts-LTG-2)	1.5	Watts / SF (W/SF × 3414.4)	16,320	
- PEOPLE	12	# OF PEOPLE (MECH-3; COLUMN E)	5,400	
- MISCELLANEOUS EQUIPMENT		WATTS / SF (W/SF × 3414.4)		
- OTHER (PROCESS LOADS, DUCT-		(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)		(Describe)		
- OTHER		(Describe)		
TOTALS			30,975	14,670
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)			6,505	6,310
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)			37,480	20,980
3. SELECTION:				
INSTALLED EQUIPMENT CAPACITY			42,000 KBtu / Hr	25,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B×E×746/(C×D)	G CFM (Supply Fans)
TOTALS						

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ___ Col. F / Col. G

Nonresidential Compliance Form — *March 2000A*

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME CESAR CHAVEZ COMMUNITY CENTER — DATE JUNE 10, 2000
SYSTEM NAME AH-5A & 5B — FLOOR AREA 400 SQ FT

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach

SIZING and EQUIPMENT SELECTION

Item	Input	Units	COOLING	HEATING
1. DESIGN CONDITIONS:				
- OUTDOOR, DRY BULB TEMPERATURE		(APPENDIX C)	102	29
- OUTDOOR, WET BULB TEMPERATURE		(APPENDIX C)	69	
- INDOOR, DRY BULB TEMPERATURE		(See Chap. 8, ASHRAE handbook, 1993)	75	75
2. SIZING				
- DESIGN OUTDOOR AIR	75	CFM (MECH-3; COLUMN I)	2,125	3,545
- ENVELOPE LOAD (Part 2 of 5), COLUMN E		Btu/Hr (Btu/Hr × 1000)	6,180	4,500
- LIGHTING (Adjusted Actual Watts-LTG-2)	2.0	Watts / SF (W/SF × 3414.4)	2,890	
- PEOPLE	4	# OF PEOPLE (MECH-3; COLUMN E)	1,800	
- MISCELLANEOUS EQUIPMENT	1	WATTS / SF (W/SF × 3414.4)	1,445	
- OTHER (PROCESS LOADS, DUCT-		(Describe)		
- OTHER LOSS, INFILTRATION, ETC.)		(Describe)		
- OTHER		(Describe)		
TOTALS			14,440	8,045
OTHER LOADS/SAFETY FACTOR (1.21 for cooling and 1.43 for heating)			3,030	3,460
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE × OTHER LOAD/SAFETY FACTOR)			17,470	11,505
3. SELECTION:				
INSTALLED EQUIPMENT CAPACITY			24,000 KBtu / Hr	12,000 KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN: CLOSEST COMMERCIALLY AVAILABLE

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY MOTOR	D EFFICIENCY DRIVE	E NUMBER OF FANS	F PEAK WATTS B×E×746/(C×D)	G CFM (Supply Fans)
TOTALS						

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM ___ Col. F / Col. G

Nonresidential Compliance Form — *March 2000A*

REV:	BY:
#1 ADD MECH SHEETS 6-22-00	DZ

REGISTERED PROFESSIONAL ENGINEER — ROY SIMPSON — M15747 — MECHANICAL — STATE OF CALIFORNIA

RIVERSIDE PK & REC DEP.
3900 MAIN ST.
RIVERSIDE, CA 92522

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dreamjoe@earthlink.net dreamjoe@aol.com

ENERGY DOCUME- NTATION

PROJECT:	9905012
DATE:	SEPT. 99
DRAWN:	RS
CHECKED:	
APPROVED:	
DWG FILE:	CESCHAE?
SHEET	M-7
SHEET _ OF _	

ENERGY COMPLIANCE NOTES

1. BEFORE THE BUILDING MAY BE OCCUPIED, INSTALLATION CERTIFICATES FOR MANUFUACTURED DEVICES REGULATED BY THE APPLIANCE STANDARDS OR PART 6, SHALL BE POSTED ADJACENT TO THE BUILDING PERMIT(S). CERTIFICATES SHALL:

   A. IDENTIFY FEATURES REQUIRED TO VERIFY COMPLIANCE WITH THE APPLIANCE STANDARDS OR PART 6 AND ARTICLE 1 OF TITLE 24, PART1.

   B. INCLUDE A STATEMENT INDICATING THAT THE INSTALLED DEVICES CONFORM TO THE APPLIANCE STANDARDS OR PART 6 AND THE REQUIREMENTS FOR SUCH DEVICES GIVEN IN THE SPECIFICATIONS AND PLANS APPROVED BY THE LOCAL ENFORCEMENT AGENCY.

   C. STATE THE NUMBER OF THE BUILDING PERMIT UNDER WHICH THE CONSTRUCTION OR INSTALLATION WAS PERFORMED. SECT. 10-103(a)(1), (2), (3).

2. AFTER INSTALLING WALL, CEILING AND/OR FLOOR INSULATION THE INSTALLER SHALL POST, IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER STATING THAT THE INSTALLATION CONFORMS WITH THE PLANS AND SPECIFICATIONS DESCRIBED IN SECTION 103(a)2.A AND CONFORMING WITH THE REQUIREMENTS OF PART 6. THE CERTIFICATE SHALL ALSO STATE THE MANUFACTURER'S NAME AND MATERIAL AND THE INSTALLED R-VALUE. SECT. 10-103(a)4.

3. THE BUILDER SHALL PROVIDE THE BUILDING OWNER, MANAGER AND ORIGINAL OCCUPANTS THE FOLLOWING:

   A. CERTIFICATES OF COMPLIANCE AND A LIST OF THE FEATURES, MATERIALS AND MECHANICAL DEVICES INSTALLED IN THE BUILDING AND INSTRUCTIONS ON HOW TO USE THEM EFFICIENTLY.

   B. REQUIRED ROUTINE MAINTENANCE ACTIONS CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. LABEL MAY BE LIMITED TO IDENTIFYING THE REQUIRED MAINTENANCE MANUAL.

   C. A DESCRIPTION OF THE THE QUANTITIES OF OUTDOOR AND RECIRCULATED AIR THAT THE VENTILATION SYSTEM IS DESIGNED TO PROVIDE TO EACH AREA. SECTION 10-103(b)(1), (2), (3).

4. ALL APPLIANCES SHALL CONFORM WITH THE CALIFORNIA APPLIANCE EFFICIENCY STANDARDS AND SECTIONS 110, 111, 112 AND 113 OF SUBCHAPTER 2.

5. HEAT PUMPS SHALL BE INSTALLED WITH CONTROLS TO PREVENT OPERATION OF ANY AUXILIARY ELECTRIC HEATING WHEN THE LOAD CAN BE MET BY HEAT PUMP OPERATION ALONE. SUPPLEMENTARY ELECTRIC HEATER OPERATION IS PERMITTED DURING TRANSIENT PERIODS SUCH AS START UP, DEFROST AND AFTER ADVANCE OF ROOM THERMOSTAT SETPOINT. IF CONTROL STRATEGIES, SUCH AS STAGING OR RAMPING ARE EMPLOYED, ADDITIONAL CONTROL DEVICES SHALL BE INCORPORATED TO PRECLUDE THE UNNECESSARY OPERATION OF SUPPLEMENTARY ELECTRIC HEATING DURING THE RECOVERY PERIOD. SUBCHAPTER 2, SECTION 112(b) (1), (2).

6. EACH HVAC SYSTEM SHALL BE EQUIPPED WITH AT LEAST ONE AUTOMATIC DEVICE TO SETBACK OR SHUT OFF THE SYSTEM DURING PERIODS OF NON-USE OR ALTERNATE USE OF THE BUILDING SPACES OR ZONES SERVED BY THE SYSTEM. EXCEPTION: SMALL ANCILLARY HVAC SYSTEMS WHOSE INPUT POWER IS LESS THAN 2000 WATTS MAY HAVE READILY ACCESSIBLE MANUAL CONTROLS. SECTION 122(d), (e).

7. AUTOMATIC TEMPERATURE CONTROLS FOR HVAC SYSTEMS SHALL COMPLY WITH THE FOLLOWING;

   A. EACH ZONE SHALL BE PROVIDED WITH AT LEAST ONE AUTOMATIC TEMPERATURE CONTROL FOR THAT ZONE. EACH FLOOR OF A BUILDING WITH CONDITIONED SPACE SHALL CONTAIN AT LEAST ONE ZONE.

   B. CONTROLS SHALL MAINTAIN SPACE TEMPERATURE SETPOINTS FROM 55 TO 85°F.

   C. OPERATE ZONE HEATING AND COOLING IN SEQUENCE, IF BOTH ARE PROVIDED.

   D. PROVIDE A TEMPERATURE RANGE, ADJUSTABLE TO 5°F, BETWEEN FULL HEATING & COOLING TO THE ZONE.

   E. PREVENT REHEATING AND RECOOLING. SECTION 122(a), (b).

8. AIR HANDLING DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED AS PROVIDED FOR IN SECTIONS 601, 603, 604 OF THE UNIFORM MECHANICAL CODE AND STANDARD 6-3. SECTION 124(a), (b).

9. VENTILATION SHALL BE IN ACCORDANCE WITH SECTION 121 AND COMPLIANCE DOCUMENTATION. OUTSIDE AIR QUANTITIES SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING LICENSED C-20 MECHANICAL CONTRACTOR.

10. AIR CONDITIONING EQUIPMENT WITH A CAPACITY OF MORE THAN 2500 CFM OR 75,000 BTUH COOLING CAPACITY SHALL BE PROVIDED WITH AUTOMATIC ECONOMIZER DAMPERS, INTERLOCKED AND CLOSED ON FAN SHUTDOWN(NOT INCLUDING GREASE HOOD EQUIPMENT). SECTION 144(e)1A & 122(f).

11. GRAVITY TYPE VENTILATION SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE, EXCEPT COMBUSTION AIR OPENINGS. SECTION 122(f).

CERTIFICATE OF COMPLIANCE (Part 1 of 2) — MECH-1

PROJECT NAME: CESAR CHAVEZ COMMUNITY CENTER — DATE: JUNE 10, 2000
PROJECT ADDRESS: RIVERSIDE
PRINCIPAL DESIGNER MECHANICAL: R. SIMPSON — TELEPHONE: 760 245-1701 — Building Permit #
DOCUMENTATION AUTHOR: R. SIMPSON — TELEPHONE: 760 245-1701 — Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS — BUILDING CONDITIONED FLOOR AREA: 30,000 SQ FT
BUILDING TYPE: ☑ NONRESIDENTIAL ☐ HIGH RISE RESIDENTIAL ☐ HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION: ☐ NEW CONSTRUCTION ☐ ADDITION ☑ ALTERATION ☐ UNCONDITIONED (file affidavit)
METHOD OF MECHANICAL COMPLIANCE: ☑ PRESCRIPTIVE ☐ PERFORMANCE
PROOF OF ENVELOPE COMPLIANCE: ☐ PREVIOUS ENVELOPE PERMIT ☐ ENVELOPE COMPLIANCE ATTACHED

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building mechanical requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR: R. SIMPSON — SIGNATURE: Ry Simp — DATE: JUNE 10 2000

The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the mechanical requirements contained in the applicable parts of Sections 110 through 115, 120 through 124, 140 through 142, 144 and 145.

Please check one:

☑ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for it's preparation; and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a licensed architect.

☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described pursuant to Business and Professions Code sections 5537, 5538, and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL MECHANICAL DESIGNER-NAME: R. SIMPSON — SIGNATURE: Ry Simp — DATE: JUNE 10 2000 — LIC.# M15747

MECHANICAL MANDATORY MEASURES U

Indicate location on plans of Note Block for Mandatory Measures: M5 : M6 : M7

INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.
MECH-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.
MECH-2: Required for all subpmittals, but may be incorporated in schedules on plans.
MECH-3: Required for all submittals unless required ventilation rates and airflows are shown on plans, See 4.3.4.
MECH-4: Required for all prescriptive submittals.

Nonresidential Compliance Form — November 1998

MECHANICAL VENTILATION — MECH-3

PROJECT NAME: CESAR CHAVEZ COMMUNITY CENTER — DATE: JUNE 10 2000

MECHANICAL VENTILATION

A	B	C	D	E	F	G	H	I	J	K
ZONE/ SYSTEM	AREA BASIS: COND AREA (SF)	AREA BASIS: CFM PER SF	AREA BASIS: MIN. CFM (B X C)	OCCUPANCY BASIS: NO. OF PEOPLE	OCCUPANCY BASIS: CFM PER PERSON	OCCUPANCY BASIS: MIN. CFM (E X F)	REQ'D. O.A. (MAX. OF D OR G)	DESIGN OUTDOOR AIR CFM	VAV MIN. CFM	TRANSFER AIR CFM
HP-1A (TYP 10)	4000	0.15	600	300	15	4500	4500	4500		
HP-3A (TYP)	4000	0.15	60	4	15	60	60	75		
HP-3	1150	0.15	175	12	15	180	180	300		
AH-1A-1B	30000	0.15	4500	200	15	3000	3000	3300		
AH-2	12000	0.15	1800	50	15	750	750	750		
AH-3A (TYP)	400	0.15	60	4	15	60	60	75		
AH-1A-1B	320	0.15	48	12	15	180	180	300		
AH-3A-5B	400	0.15	60	4	15	60	60	75		
Totals (For MECH-4)										

C — Minimum ventilation rate per Section § 121, Table 1-F.
E — Based on expected number of occupants or at least 50% of Chapter 10 1997 UBC occupant density
I — Must be greater than or equal to H, or use Transfer Air. Design outdoor air includes ventilation from supply air system & exhaust fans which Operate at design condtions.
K — Must be greater than or equal to (H - I), and, for VAV, greater than or equal to (H - J).

Nonresidential Compliance Form — November 1998

ROY SIMPSON 15747 MECHANICAL STATE OF CALIFORNIA

RIVERSIDE PK & REC DEP.
3900 MAIN ST.
RIVERSIDE, CA 92522

MECHANICAL ENGINEERING
CESAR CHAVEZ COMM. CTR
RIVERSIDE, CALIFORNIA

Engineering Incorporated
Consulting Electrical Engineers
APPLE VALLEY (760)247-3588 FAX (760) 247-1092 PALM DESERT (760)568-2611 www.engineering-inc.com

ENERGY DOCUME- NTATION

PROJECT: 9905012
DATE: SEPT. 99
DRAWN: RS
CHECKED:
APPROVED:
DWG FILE: CESCHAE?

SHEET M-7A

SHEET _ OF _