

CITY OF SACRAMENTO

Permit No: 9808346

1231 I Street, Sacramento, CA 95814

Insp Area: 1

Site Address: 6531 FOLSOM BL SAC

Parcel No: 0080383025

Sub-Type: ACOM

Housing (Y/N): N

CONTRACTOR

BROWER MECHANICAL  
P.O. 1052  
ROCKLIN, CA 95677

OWNER

FAHN ALEXANDER/SHIRLEY  
SACRAMENTO CA 95812

ARCHITECT

Nature of Work: NEW HVAC ROOFTOP PACKAGE CUT IN

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name \_\_\_\_\_ Lender's Address \_\_\_\_\_

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class C20B1 License Number 1686451 Date 10/12/98 Contractor Signature [Signature]

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

I am exempt under Sec. \_\_\_\_\_ B & PC for this reason: \_\_\_\_\_

Date \_\_\_\_\_ Owner Signature \_\_\_\_\_

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and herby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 10-12-98 Applicant/Agent Signature [Signature]

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier CLAREWOOD NAT'L Policy Number 1-99 OKR 4920-192  
X 1-1-99

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 10-12-98 Applicant Signature [Signature]

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

~~CITY OF SACRAMENTO~~  
 CITY OF SACRAMENTO  
 DEVELOPMENT SERVICES DIVISION

# EXPRESS PLAN REVIEW

SUBMITTAL DATES					
First Review		2nd Review		3rd Review	
IN	OUT	IN	OUT	IN	OUT
8/10/98	1/1	1/1	1/1	1/1	1/1

PLAN CHECK # 6358 X  
 ADDRESS: 6531 FOLSOM BL  
 Commercial     Residential

ACCEPTED by (Staff):  
 JACK

DISCIPLINE	1ST REVIEW			2ND REVIEW			3RD REVIEW		
	Status	Staff	Date	Status	Staff	Date	Status	Staff	Date
LIFE SAFETY									
STRUCTURAL	B	AM	8/26						
MECHANICAL/PLUMBING									
ELECTRICAL	B	AM	9/2/95						
FIRE									
PLANNING									

STAFF COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

~~CONFIDENTIAL~~  
 CITY OF SACRAMENTO  
 DEVELOPMENT SERVICES DIVISION

# EXPRESS PLAN REVIEW

SUBMITTAL DATES					
First Review		2nd Review		3rd Review	
IN	OUT	IN	OUT	IN	OUT
/ /	/ /	9/14/98	/ /	/ /	/ /

PLAN CHECK # 6358 X  
 ADDRESS: ~~XXXXXX~~ 6531 Folsom Bl.  
 Commercial     Residential



ACCEPTED by (Staff):  
JACK

DISCIPLINE	1ST REVIEW			2ND REVIEW			3RD REVIEW		
	Status	Staff	Date	Status	Staff	Date	Status	Staff	Date
LIFE SAFETY									
STRUCTURAL									
<u>MECHANICAL/PLUMBING</u>	13	JMT	10/12						
<u>ELECTRICAL</u>	13	JDM	9/16/98						
FIRE									
PLANNING									

STAFF COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



45 13

# TO ROLAND

## BROWER MECHANICAL, INC.

HEAT • AIR • REFRIGERATION • RESIDENTIAL • COMMERCIAL • INDUSTRIAL

4504 Yankee Hill Ct. • Rocklin, CA 95677  
(916) 624-0808 • (916) 388-0808 • FAX (916) 632-1114  
License # 686451

SAC. CITY CA.

Kelly Moore Lead Est

70ft

Roll up

38'

T-BAR ceiling 11ft  
WAREHOUSE  
STORAGE

NO-Cooling  
possible SWAMP

The approval of all  
Plumbing and Mechanical work  
is subject to field inspections.

64x36

390 #

CHARTER

Block WALL

3 ton new TRANE

T-BAR ceiling 11ft

R-13 on top of T-BAR.  
10' on BACK

4x4 Simpson  
11 4x4s

Block wall  
45ft

office  
office

4'6" Attic Above T-BAR

5 ton wheels



ROOF

This side Plywood & sheet Rock  
maybe R-11 only

SC 22x24  
Truss 3/4  
conduct piping  
24" on center  
plywood roof

10ft high 20ft

solid glass

38' 1/2"

Block WALL

2ft over hanging

4ft over hanging  
steel

John Tans  
hanging steel

STREET

S

# BROWER MECHANICAL, INC.

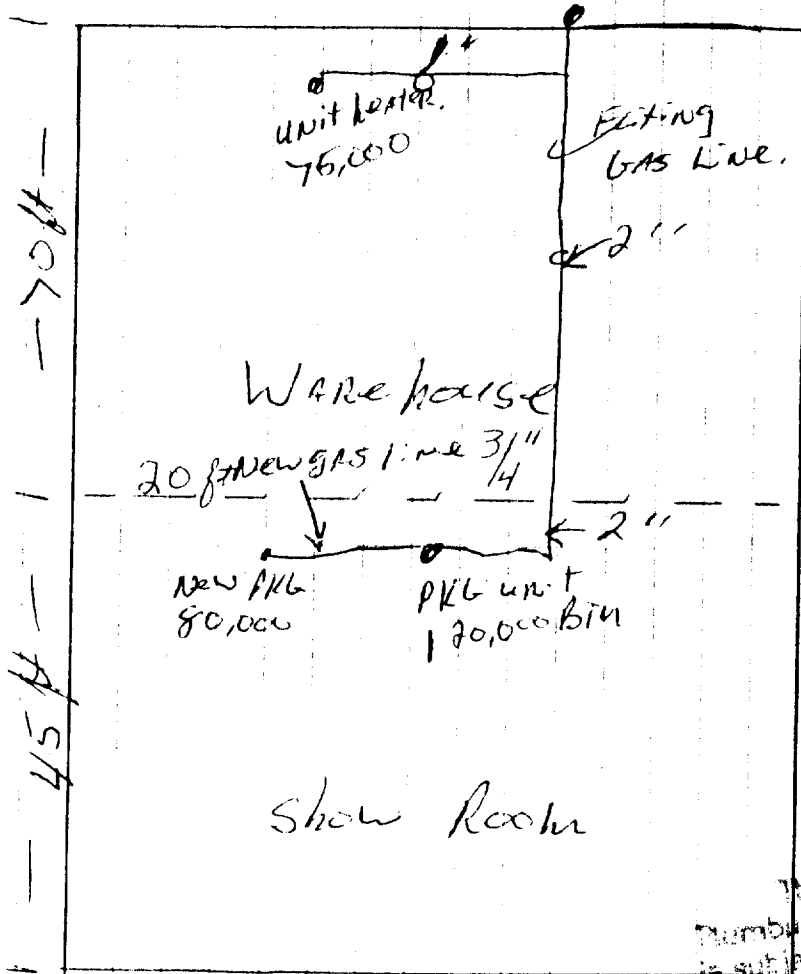
HEAT • AIR • REFRIGERATION • RESIDENTIAL • COMMERCIAL • INDUSTRIAL

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License # 686451

## GAS PLAN

N

GAS meter



The approval of all Plumbing and Mechanical work is subject to field inspections

275,000 TOTAL BTU LOAD

2" pipe. 110 ft 2" pipe. total

Street

S

... must be  
... successful  
**BROWER MECHANICAL, INC.**  
... from the

HEAT • AIR • REFRIGERATION • RESIDENTIAL • COMMERCIAL • INDUSTRIAL

4504 Yankee Hill Ct. • Rocklin, CA 95677  
(916) 624-0808 • (916) 388-0808 • FAX (916) 632-9114

License # 686451

Kelly Moore



6531 Folsom Blvd.

WAREHOUSE

Black wall

New 3 ton PKG rooftop factory filter Rack outside A.R.  
12" 550 CFM  
DAMPER  
SET AT MIN  
OF 105 CFM.

MANUAL  
DAMPER

14" 10"

← 250 CFM

RETAIL STORE

16" 8" Damper  
8" 250 CFM  
office →

10" 450 CFM

45 ft

Damper 8" 250 CFM  
DAMPER 8" ← 250 CFM  
250 CFM

The approval of all  
Plumbing and Mechanical work  
is subject to field inspections.

JMT 10/12/98

38 ft



BROWER MECHANICAL, INC.  
4504 Yankee Hill Court  
Rocklin, CA 95677  
PHONE: (916) 624-0808  
FAX: (916) 632-1114

# BROWER MECHANICAL, INC.

Date: October 5, 1998

*Revised  
10/8/98*

Please submit this fax transmission to:

Company Name: Sacramento City Bldg. Dept.

Attention: James Tedford

Telephone: 264-7562

Fax Number: 264-8370

FROM: Jeff Brower

BROWER MECHANICAL, INC.

Number of pages to follow: -3-

Comments:

May I please pick up this permit on Thursday?

Job Address: 6531 Folsom Blvd. PC#6358x

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If you have any questions, please call me at (916) 624-0808.

The approval of all  
Plumbing and Mechanical work  
is subject to field inspections.

*JMT 10/12/98*

IF THERE IS A PROBLEM WITH THIS FAX, PLEASE CALL (916) 624-0808.

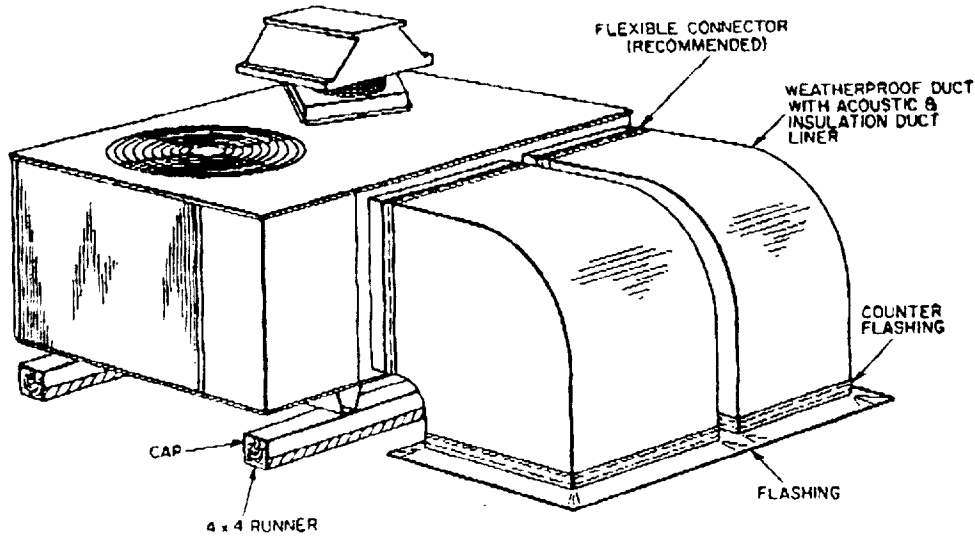
OLD RHEEM UNIT

DETAILED NET COOLING CAPACITIES

Evaporator Air		CONDENSER ENTERING AIR TEMPERATURE (°F)																				
		85					95					105					115					
		Capacity MBtuh		LDB	LWB	Total Sys KW	Capacity MBtuh		LDB	LWB	Total Sys KW	Capacity MBtuh		LDB	LWB	Total Sys KW	Capacity MBtuh		LDB	LWB	Total Sys KW	
Total	Sens	Total	Sens				Total	Sens				Total	Sens									
585H048080	585J048080	71	55.2	28.9	60.3	58.9	5.35	52.3	27.9	61.0	59.8	5.72	49.2	26.7	61.8	60.3	6.07	45.9	25.5	62.5	61.1	6.42
1400	67	51.1	34.7	56.4	54.7	5.22	48.2	33.5	57.2	55.5	5.58	45.2	32.3	58.0	56.3	5.90	42.4	31.2	58.8	57.0	6.23	
(0.076)	63	47.2	40.3	52.6	50.6	5.09	44.7	39.1	53.4	51.3	5.43	42.0	37.8	54.3	52.1	5.75	39.3	36.5	55.1	52.9	6.07	
1600	71	56.1	30.4	61.9	60.4	5.48	53.2	29.3	62.8	61.0	5.85	49.9	28.1	63.3	61.7	6.21	46.5	28.9	64.0	62.4	6.56	
(0.086)	67	52.0	36.8	58.0	56.2	5.35	49.0	35.6	58.8	56.9	5.70	46.1	34.5	59.4	57.5	6.04	43.0	33.3	60.2	58.2	6.37	
1800	71	56.9	31.7	63.1	61.4	5.60	53.7	30.6	63.7	62.0	5.98	50.4	29.4	64.3	62.6	6.34	47.0	28.2	65.0	63.2	6.69	
(0.097)	67	52.7	38.9	59.3	57.2	5.48	49.8	37.7	59.9	57.9	5.83	46.7	36.5	60.5	58.4	6.17	43.5	35.2	61.2	59.1	6.50	
2000	71	57.7	27.7	65.3	63.6	5.82	54.5	27.7	65.3	63.6	6.20	51.2	26.6	65.9	64.2	6.58	48.0	27.0	66.7	65.0	7.01	
(0.106)	63	53.6	33.8	61.5	59.8	5.69	50.1	31.9	61.5	59.8	6.07	47.8	30.7	62.5	60.8	6.36	44.5	29.8	63.5	61.6	6.82	
2200	71	58.5	26.7	67.5	65.8	6.24	55.3	26.7	67.5	65.8	6.62	52.0	25.6	68.1	66.4	7.06	49.0	26.0	69.5	67.6	7.44	
(0.116)	63	54.4	32.9	63.7	62.0	6.11	51.2	30.8	63.7	62.0	6.40	48.9	29.5	64.7	63.0	6.74	45.5	28.2	65.7	63.8	7.18	

NOTES:

- Sensible heat capacities shown are based on 80°F DB entering air at the evaporator coil. For sensible capacities at other than 80°F DB, deduct 84 Btuh per 100 Ft<sup>2</sup>/Min of evaporator coil air for each degree below 80°F, or add 84 Btuh per 100 Ft<sup>2</sup>/Min of evaporator coil air per degree above 80°F
- Total system KW includes compressor, fan, and blower motor KW.
- Parenthetical numbers in evaporator airflow column indicate the bypass factor.



A79220

585H & 585J TYPICAL INSTALLATION ON FLAT ROOF

# NEW TRANE Performance Data Cooling

## YCC030F1M0B AT 1000 CFM

(CAPACITIES ARE NET IN BTUH/1000-INDOOR FAN HEAT DEDUCTED)

O.D. D.B.	I.D. W.B.	TOTAL CAP.	SENS. CAP. AT ENTERING D.B. TEMP.					COMPR. KW	APP. DEW PT.	CORRECTION FACTORS - OTHER AIRFLOWS (multiply or add as indicated)		
			72	74	76	78	80					
85	59	26.7	21.7	23.5	25.3	26.9	27.6	2.26	46.4	AIRFLOW 875 1125 TOTAL CAP. X0.98 X1.01 SENS. CAP. X0.94 X1.05 COMPR. KW X0.99 X1.01 A.D.P. -1.4 +1.1		
	63	28.9	18.2	20.0	21.8	23.6	25.4	2.34	50.2			
	67	31.1	14.3	16.1	17.9	19.7	21.5	2.43	54.4			
	71	33.5	10.4	12.2	14.0	15.8	17.6	2.51	58.6			
90	59	26.2	21.9	23.3	25.1	26.5	27.2	2.36	46.7	VALUES AT ARI RATING CONDITIONS		
	63	28.3	18.0	19.8	21.6	23.4	25.2	2.45	50.5			
	67	30.5	14.1	15.9	17.7	19.5	21.3	2.53	54.7			
	71	32.7	10.1	11.9	13.7	15.5	17.3	2.62	58.9			
95	59	25.6	21.2	23.0	24.8	26.1	26.7	2.47	47.0	TOTAL NET CAPACITY - 29800 BTUH AIRFLOW - 1000 CFM APP. DEW PT. - 55.0 DEG. F COMPRESSOR POWER - 2640 WATTS I.D. FAN POWER - 380 WATTS O.D. FAN POWER - 250 WATTS S.E.E.R. - 10.00 BTUH/WATT * DRY COIL CONDITION (TOTAL CAPACITY = SENSIBLE CAPACITY) TOTAL CAPACITY, COMP. KW AND APP. DEW PT. ARE VALID ONLY FOR ALL TEMPERATURES IN DEGREES F.		
	63	27.7	17.7	19.5	21.3	23.1	24.9	2.55	50.8			
	67	29.8	13.8	15.6	17.4	19.2	21.0	2.64	55.0			
	71	32.0	9.9	11.7	13.5	15.3	17.1	2.73	59.3			
100	59	25.0	20.9	22.7	24.5	25.5	26.1	2.59	47.3			
	63	26.9	17.4	19.2	21.0	22.8	24.6	2.68	51.2			
	67	29.0	13.5	15.3	17.1	18.9	20.7	2.77	55.4			
	71	31.1	9.6	11.4	13.2	15.0	16.8	2.86	59.7			
105	59	24.3	20.6	22.4	24.2	24.9	25.5	2.72	47.7			
	63	26.2	17.1	18.9	20.7	22.5	24.3	2.80	51.6			
	67	28.2	13.2	15.0	16.8	18.6	20.4	2.89	55.8			
	71	30.2	9.2	11.0	12.8	14.6	16.4	2.98	60.1			
115	59	22.9	20.1	21.9	23.2	23.8	24.4	2.98	48.4			
	63	24.7	16.5	18.3	20.1	21.9	23.7	3.06	52.3			
	67	26.5	12.6	14.4	16.2	18.0	19.8	3.14	56.5			
	71	28.4	8.6	10.4	12.2	14.0	15.8	3.23	60.8			

## YCC036F1-B AT 1200 CFM

(CAPACITIES ARE NET IN BTUH/1000-INDOOR FAN HEAT DEDUCTED)

O.D. D.B.	I.D. W.B.	TOTAL CAP.	SENS. CAP. AT ENTERING D.B. TEMP.					COMPR. KW	APP. DEW PT.	CORRECTION FACTORS - OTHER AIRFLOWS (multiply or add as indicated)		
			72	74	76	78	80					
85	59	31.1	25.8	28.0	30.1	31.6	32.4	2.79	47.0	AIRFLOW 1050 1350 TOTAL CAP. X0.98 X1.01 SENS. CAP. X0.94 X1.05 COMPR. KW X0.99 X1.01 A.D.P. -1.4 +1.1		
	63	33.6	21.7	23.8	26.0	28.1	30.3	2.90	50.8			
	67	36.3	17.0	19.2	21.3	23.5	25.6	3.01	55.0			
	71	38.9	12.3	14.4	16.6	18.7	20.9	3.13	59.2			
90	59	30.7	25.7	27.8	30.0	31.3	32.1	2.92	47.2	VALUES AT ARI RATING CONDITIONS		
	63	33.2	21.5	23.6	25.8	27.9	30.1	3.03	51.0			
	67	35.7	16.8	19.0	21.1	23.3	25.4	3.15	55.2			
	71	38.4	12.1	14.2	16.4	18.5	20.7	3.27	59.4			
95	59	30.3	25.5	27.6	29.8	31.0	31.7	3.06	47.4	TOTAL NET CAPACITY - 35200 BTUH AIRFLOW - 1200 CFM APP. DEW PT. - 55.4 DEG. F COMPRESSOR POWER - 3290 WATTS I.D. FAN POWER - 470 WATTS O.D. FAN POWER - 260 WATTS S.E.E.R. - 10.00 BTUH/WATT * DRY COIL CONDITION (TOTAL CAPACITY = SENSIBLE CAPACITY) TOTAL CAPACITY, COMP. KW AND APP. DEW PT. ARE VALID ONLY FOR ALL TEMPERATURES IN DEGREES F.		
	63	32.7	21.3	23.4	25.6	27.7	29.9	3.17	51.2			
	67	35.2	16.6	18.8	20.9	23.1	25.2	3.29	55.4			
	71	37.8	11.9	14.0	16.2	18.3	20.5	3.41	59.6			
100	59	29.7	25.2	27.3	29.5	30.5	31.2	3.22	47.6			
	63	32.0	21.0	23.1	25.3	27.4	29.6	3.33	51.5			
	67	34.4	16.3	18.5	20.6	22.8	24.9	3.45	55.7			
	71	36.9	11.6	13.7	15.9	18.0	20.1	3.58	60.0			
105	59	29.1	24.9	27.1	29.1	29.9	30.6	3.38	47.9			
	63	31.3	20.7	22.8	25.0	27.1	29.3	3.50	51.8			
	67	33.7	16.0	18.2	20.3	22.5	24.6	3.62	56.0			
	71	36.1	11.3	13.4	15.5	17.7	19.8	3.74	60.3			
115	59	27.8	24.4	26.5	28.1	28.9	29.5	3.71	48.5			
	63	29.9	20.1	22.3	24.4	26.6	28.7	3.83	52.4			
	67	32.1	15.4	17.6	19.7	21.9	24.0	3.95	56.7			
	71	34.4	10.7	12.8	15.0	17.1	19.2	4.07	61.0			

## YCC042F AT 1400 CFM

(CAPACITIES ARE NET IN BTUH/1000-INDOOR FAN HEAT DEDUCTED)

O.D. D.B.	I.D. W.B.	TOTAL CAP.	SENS. CAP. AT ENTERING D.B. TEMP.					COMPR. KW	APP. DEW PT.	CORRECTION FACTORS - OTHER AIRFLOWS (multiply or add as indicated)		
			72	74	76	78	80					
85	59	38.4	30.4	32.8	35.2	37.6	39.2	3.45	45.4	AIRFLOW 1225 1575 TOTAL CAP. X0.99 X1.01 SENS. CAP. X0.95 X1.05 COMPR. KW X0.98 X1.01 A.D.P. -1.6 +1.2		
	63	41.5	25.7	28.1	30.5	33.0	35.4	3.61	49.3			
	67	44.8	20.4	22.9	25.3	27.7	30.2	3.77	53.3			
	71	48.1	15.1	17.5	20.0	22.4	24.8	3.94	57.5			
90	59	37.3	29.9	32.3	34.7	37.2	38.3	3.58	45.9	VALUES AT ARI RATING CONDITIONS		
	63	40.3	25.2	27.6	30.0	32.4	34.9	3.74	49.8			
	67	43.4	19.9	22.3	24.8	27.2	29.6	3.91	53.9			
	71	46.6	14.5	17.0	19.4	21.8	24.3	4.09	58.1			
95	59	36.2	29.4	31.8	34.2	36.4	37.4	3.71	46.4	TOTAL NET CAPACITY 42000 BTUH AIRFLOW 1400 CFM APP. DEW PT. - 54.4 DEG. F COMPRESSOR POWER - 4055 WATTS I.D. FAN POWER - 500 WATTS O.D. FAN POWER - 235 WATTS S.E.E.R. - 10.00 BTUH/WATT * DRY COIL CONDITION (TOTAL CAPACITY = SENSIBLE CAPACITY) TOTAL CAPACITY, COMP. KW AND APP. DEW PT. ARE VALID ONLY FOR ALL TEMPERATURES IN DEGREES F.		
	63	39.0	24.6	27.1	29.5	31.9	34.4	3.88	50.3			
	67	42.0	19.4	21.8	24.2	26.7	29.1	4.06	54.4			
	71	45.1	14.0	16.4	18.9	21.3	23.7	4.24	58.6			
100	59	35.1	28.9	31.4	33.8	35.6	36.5	3.88	46.8			
	63	37.9	24.2	26.6	29.0	31.4	33.9	4.05	50.7			
	67	40.7	18.9	21.3	23.7	26.2	28.6	4.23	54.9			
	71	43.6	13.5	15.9	18.3	20.8	23.2	4.42	59.1			
105	59	34.1	28.5	30.9	33.3	34.7	35.6	4.04	47.3			
	63	36.7	23.7	26.1	28.5	31.0	33.4	4.22	51.2			
	67	39.4	18.4	20.8	23.2	25.7	28.1	4.41	55.4			
	71	42.2	13.0	15.4	17.8	20.2	22.7	4.60	59.6			
115	59	31.9	27.5	29.9	32.0	32.9	33.7	4.36	48.1	**To get gross capacity - add indoor blower watts x 3.412 to net capacity		
	63	34.3	22.7	25.1	27.6	30.0	32.4	4.56	52.1			
	67	36.7	17.4	19.8	22.2	24.7	27.1	4.76	56.3			
	71	39.3	12.0	14.4	16.8	19.2	21.7	4.97	60.6			

# MECHANICAL MANDATORY MEASURES (CONTINUED)

## SERVICE WATER HEATING SYSTEMS

THE FOLLOWING SERVICE WATER HEATING SYSTEMS AND EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE EFFICIENCY REQUIREMENTS LISTED IN SECTION 113 OF THE ENERGY EFFICIENCY STANDARDS: OIL-FIRED STORAGE TYPES  $\leq 105,000$  BTU/HR; OIL-FIRED NON-STORAGE TYPES  $\leq 210,000$  BTU/HR; GAS-FIRED NON-STORAGE TYPES  $\leq 200,000$  BTU/HR.

UNFIRED SERVICE WATER HEATER STORAGE TANKS AND BACKUP TANKS FOR SOLAR WATER HEATING SYSTEMS SHALL HAVE EITHER: EXTERNAL INSULATION WITH AN INSTALLED R-VALUE OF AT LEAST R-12; INTERNAL AND EXTERNAL INSULATION WITH A COMBINED R-VALUE OF AT LEAST R-16; OR SUFFICIENT INSULATION SO THAT THE HEAT LOSS OF THE TANK SURFACE BASED ON 80 F WATER-AIR TEMPERATURE DIFFERENCE SHALL BE LESS THAN 6.5 BTU/HR/SF.

IF A CIRCULATING HOT WATER SYSTEM IS INSTALLED, IT SHALL HAVE A CONTROL CAPABLE OF AUTOMATICALLY TURNING OFF THE CIRCULATING PUMP(S) WHEN HOT WATER IS NOT REQUIRED.

LAVATORIES IN RESTROOMS OF PUBLIC FACILITIES SHALL BE EQUIPPED WITH:

OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.5 GALLONS PER MINUTE.

FOOT ACTUATED CONTROL VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.75 GALLONS PER MINUTE.

PROXIMITY SENSOR ACTUATED CONTROL VALVES, AND OUTLETS THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.75 GALLONS PER MINUTE.

SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER MINUTE, AND 0.25 GALLONS/CYCLE (CIRCULATING SYSTEM).

SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER MINUTE, AND 0.50 GALLONS/CYCLE (NON-CIRCULATING SYSTEM).

SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER MINUTE, AND 0.75 GALLONS/CYCLE (FOOT SWITCHES AND PROXIMITY SENSOR CONTROLS).

LAVATORIES IN RESTROOM OF PUBLIC FACILITIES SHALL BE EQUIPPED WITH CONTROLS TO LIMIT THE OUTLET TEMPERATURE TO 110 F.

EACH SPACE CONDITIONING SYSTEM SERVING MULTIPLE ZONES WITH A COMBINED CONDITIONED FLOOR AREA MORE THAN 25,000 SQUARE FEET SHALL BE PROVIDED WITH ISOLATION ZONES. EACH ZONE SHALL NOT EXCEED 25,000 SQUARE FEET± SHALL BE PROVIDED WITH ISOLATION DEVICES, SUCH AS VALVES OR DAMPERS, THAT ALLOW THE SUPPLY OF HEATING OR COOLING TO BE SETBACK OR SHUT OFF INDEPENDENTLY OF OTHER ISOLATION AREAS± AND SHALL BE CONTROLLED BY A TIME CONTROL DEVICE AS DESCRIBED ABOVE.

EACH SPACE CONDITIONING ZONE SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE. WHERE USED TO CONTROL HEATING, THE CONTROL SHALL BE ADJUSTABLE DOWN TO 55 F OR LOWER. FOR COOLING, THE CONTROL SHALL BE ADJUSTABLE UP TO 85 F OR HIGHER. WHERE USED TO CONTROL BOTH HEATING AND COOLING, THE CONTROL SHALL BE CAPABLE OF PROVIDING A DEAD BAND OF AT LEAST 5 F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF OR REDUCED TO A MINIMUM.

THERMOSTATS SHALL HAVE NUMERIC SETPOINTS IN F.

THERMOSTATS SHALL HAVE ADJUSTABLE SETPOINT STOPS ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL.

HEAT PUMPS SHALL BE INSTALLED WITH CONTROLS TO PREVENT ELECTRIC RESISTANCE SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE. ELECTRIC RESISTANCE SUPPLEMENTARY HEATER OPERATION IS PERMITTED DURING TRANSIENT PERIODS, SUCH AS START-UPS AND FOLLOWING ROOM THERMOSTAT SETPOINT ADVANCE, WHEN CONTROLS ARE PROVIDED WHICH USE PREFERENTIAL RATE CONTROL, INTELLIGENT RECOVERY, STAGING, RAMPING, OR SIMILAR CONTROL MECHANISMS DESIGNED TO PRECLUDE THE UNNECESSARY OPERATION OF SUPPLEMENTARY HEATING DURING THE RECOVERY PERIOD. SUPPLEMENTARY HEATER OPERATION IS ALSO PERMITTED DURING DEFROST.

#### VENTILATION

CONTROLS SHALL BE PROVIDED TO ALLOW OUTSIDE AIR DAMPERS OR DEVICES TO BE OPERATED AT THE VENTILATION RATES AS SPECIFIED IN THESE PLANS.

GRAVITY OR AUTOMATIC DAMPERS INTERLOCKED AND CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED ON THE OUTSIDE AIR INTAKES AND DISCHARGES OF ALL SPACE CONDITIONING AND EXHAUST SYSTEMS.

ALL GRAVITY VENTILATING SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE, EXCEPT FOR COMBUSTION AIR OPENINGS.

AIR BALANCING: ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) PROCEDURAL STANDARDS (1983), OR ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS (1986).

OUTSIDE AIR CERTIFICATION: THE SYSTEM SHALL PROVIDE THE MINIMUM OUTSIDE AIR AS SHOWN ON THE MECHANICAL DRAWINGS, AND SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING LICENSED C-20 MECHANICAL CONTRACTOR.

## MECHANICAL MANDATORY MEASURES

ANY APPLICATION FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE COMMISSION, AS SPECIFIED IN THOSE REGULATIONS, THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR THAT APPLIANCE. INCLUDED ARE ROOM AIR CONDITIONERS, CENTRAL AIR CONDITIONING HEAT PUMPS (REGARDLESS OF CAPACITY, EXCEPT THAT REQUIREMENTS FOR CENTRAL AIR CONDITIONING HEAT PUMPS WITH COOLING CAPACITY OF 135,000 BTU/HR OR MORE APPLY TO HEATING PERFORMANCE BUT NOT COOLING PERFORMANCE), OTHER CENTRAL AIR CONDITIONERS WITH A COOLING CAPACITY LESS THAN 135,000 BTU/HR, FAN TYPE CENTRAL FURNACES WITH INPUT RATE LESS THAN 400,000 BTU/HR, BOILERS WALL FURNACES, FLOOR FURNACES, ROOM HEATERS, UNIT HEATERS, AND DUCT FURNACES SHALL HAVE BEEN CERTIFIED TO THE CALIFORNIA ENERGY COMMISSION BY ITS MANUFACTURER TO COMPLY WITH THE APPLIANCE EFFICIENCY STANDARDS.

THE FOLLOWING SPACE CONDITIONING EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE EFFICIENCY REQUIREMENTS LISTED IN 112 OF THE ENERGY EFFICIENCY STANDARDS: ALL AIR CONDITIONERS, HEAT PUMPS AND CONDENSING UNITS  $\geq$  135,000 BTU/HR; ALL WATER CHILLERS; ALL GAS-FIRED BOILERS  $\geq$  300,000 BTU/HR; ALL OIL-FIRED BOILERS  $\geq$  225,000 BTU/HR; AND ALL WARM AIR FURNACES/AIR-CONDITIONING UNITS  $\geq$  225,000 BTU/HR. FAN TYPE CENTRAL FURNACES SHALL NOT HAVE A PILOT LIGHT.

PIPING, EXCEPT THOSE CONVEYING FLUIDS AT TEMPERATURES BETWEEN 60 F AND 105 F, OR WITHIN HVAC EQUIPMENT, SHALL BE INSULATED IN ACCORDANCE WITH STANDARDS SECTION 123

AIR HANDLING DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED, AND INSULATED AS PROVIDED IN CHAPTER 10 OF THE UNIFORM MECHANICAL CODE.

### CONTROLS

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH AN AUTOMATIC TIME SWITCH WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM DURING OFF-HOURS FOR UP TO 4 HOURS. THE TIME SWITCH SHALL BE CAPABLE OF PROGRAMMING DIFFERENT SCHEDULES FOR WEEKDAYS AND WEEKENDS; INCORPORATE AN AUTOMATIC HOLIDAY "SHUT-OFF" FEATURE THAT TURNS OFF ALL LOADS FOR AT LEAST 24 HOURS, THEN RESUMES THE NORMALLY SCHEDULED OPERATION; AND HAS PROGRAM BACKUP CAPABILITIES THAT PREVENT THE LOSS OF THE DEVICE'S PROGRAM AND TIME SETTING FOR AT LEAST 10 HOURS IF POWER IS INTERRUPTED.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH AN OCCUPANCY SENSOR TO CONTROL THE OPERATING PERIOD OF THE SYSTEM.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH A 4-HOUR TIMER THAT CAN BE MANUALLY OPERATED TO CONTROL THE OPERATING PERIOD OF THE SYSTEM.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT TEMPORARILY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN A SETBACK HEATING THERMOSTAT SETPOINT.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT TEMPORARILY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN A SETBACK COOLING THERMOSTAT SETPOINT.

# CERTIFICATE OF COMPLIANCE

(Part 1 of 3)

MECH-1

PROJECT NAME <b>KELLY MOORE</b>	DATE <b>7-28-98</b>
PROJECT ADDRESS <b>SACRAMENTO, CA</b>	Building Permit #
PRINCIPAL DESIGNER-MECHANICAL <b>BROWER MECHANICAL</b>	TELEPHONE <b>624-0808</b>
DOCUMENTATION AUTHOR <b>R. THOMAS</b>	TELEPHONE <b>354-0535</b>
	Checked by/Date Enforcement Agency Use

## GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA <b>1710 - OVERALL BLDG. AREA</b>		
BUILDING TYPE <input checked="" type="checkbox"/> NONRESIDENTIAL	<input type="checkbox"/> HIGH RISE RESIDENTIAL	<input type="checkbox"/> HOTEL/MOTEL GUESTROOM	
PHASE OF CONSTRUCTION <input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> ADDITION	<input checked="" type="checkbox"/> ALTERATION	<input type="checkbox"/> UNCONDITIONED (file affidavit)
METHOD OF MECHANICAL COMPLIANCE <input checked="" type="checkbox"/> PRESCRIPTIVE	<input type="checkbox"/> PERFORMANCE		
PROOF OF ENVELOPE COMPLIANCE <input checked="" type="checkbox"/> PREVIOUS ENVELOPE PERMIT	<input type="checkbox"/> ENVELOPE COMPLIANCE ATTACHED	<b>NOTE: NO CHANGE TO ENVELOPE</b>	

## 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
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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 a Civil Engineer, Mechanical Engineer, or Architect.
- I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am a licensed contractor preparing documents for work that I have contracted to perform.
- I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section \_\_\_\_\_ of the \_\_\_\_\_ Code to sign this document as the person responsible for its preparation; and for the following reason(s): \_\_\_\_\_

PRINCIPAL MECHANICAL DESIGNER-NAME	SIGNATURE	DATE	LIC. #
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## MECHANICAL MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures **SEE ATTACHED NOTES**

## 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. Parts 2 & 3 may be incorporated in schedules on plans.

MECH-2: Required for all submittals; choose appropriate version depending on method of mechanical compliance.

MECH-3: Required for all submittals, but may be incorporated in schedules on plans

MECH-4: Required for all submittals unless required outdoor ventilation rates and airflows are shown on plans per Section 4.3.4.

# CERTIFICATE OF COMPLIANCE

(Part 2 of 3)

MECH-1

PROJECT NAME

KELLY MODEL

DATE

7-28-98

## SYSTEM FEATURES

SYSTEM NAME	MECHANICAL SYSTEMS			NOTE TO FIELD Building, Dept. Use
	NEW	EXISTING		
TIME CONTROL	S	N/A		
SETBACK CONTROL	P			
ISOLATION ZONES	N/A			
HEAT PUMP THERMOSTAT?	H			
ELECTRIC HEAT?	H			
FAN CONTROL	N/A			
VAV MINIMUM POSITION CONTROL?	N			
SIMULTANEOUS HEAT/COOL?	N			
HEAT AND COOL SUPPLY RESET?	H			
VENTILATION	P			
OUTDOOR DAMPER CONTROL?	G			
ECONOMIZER TYPE	H			
DESIGN AIR CFM (MECH-4, COLUMN H)	12000			
HEATING EQUIP. TYPE	GM			
HIGH EFFICIENCY? IF YES ENTER EFF. #	N			
MAKE AND MODEL NUMBER	TRANE YCC030	TRANE YCC030		
COOLING EQUIP. TYPE	DX			
HIGH EFFICIENCY? IF YES ENTER EFF. #	N			
MAKE AND MODEL NUMBER	TRANE YCC030	TRANE YCC030		

CODE TABLES: Enter code from table below into columns above.

HEAT PUMP THERMOSTAT?	Y: Yes N: No	TIME CONTROL	SETBACK CTRL.	ISOLATION ZONES	FAN CONTROL
ELECTRIC HEAT?		S: Prog. Switch O: Occupancy Sensor M: Manual Timer	H: Heating C: Cooling B: Both	Enter number of Isolation Zones	I: Inlet Vanes P: Variable Pitch V: VFD O: Other C: Curve
VAV MINIMUM POSITION CONTROL?		VENTILATION	OUTDOOR DAMPER	ECONOMIZER	O.A. CFM
SIMULTANEOUS HEAT/COOL?		B: Air Balance C: Outside Air Cert. M: Out. Air Measure D: Demand Control N: Natural	A: Auto G: Gravity	A: Air W: Water N: Not Required	Enter Outdoor Air CFM. Note: This shall be no less than Column G on MECH-4.
HEAT AND COOL SUPPLY RESET?					
HIGH EFFICIENCY?					

## NOTES TO FIELD - For Building Department Use Only

# CERTIFICATE OF COMPLIANCE

(Part 3 of 3)

MECH-1

PROJECT NAME

KELT MOORE

DATE

7-28-98

## F INSULATION

SYSTEM NAME	DUCT TYPE (Supply, Return, etc.)	DUCT LOCATION (Roof, Plenum, etc.)	DUCT TAPE ALLOWED?		DUCT INSULATION R-VALUE	NOTE TO FIELD Building, Dept. Use
			Y	N		
AC-1 (NEW)	SUPPLY	PLENUM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.1	
AC-1 (NEW)	RETURN	PLENUM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.1	
AC-2 (EXISTING)	SUPPLY	PLENUM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.1	
AC-2 (EXISTING)	RETURN	PLENUM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.1	
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		

## PE INSULATION

SYSTEM NAME	PIPE TYPE (Supply, Return, etc.)	INSULATION REQ'D?		NOTE TO FIELD Building, Dept. Use
		Y	N	
N/A		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	

## TESTS TO FIELD - For Building Department Use Only







ZONE DESIGN COOLING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

Page 1 of 2

\*\*\*\*\*

CALCULATION DATA:

Zone Name : BLOCK ZONE-KELLY MOORE

Calc Time: Sep 1400h

Job Name : KELLY MOORE PAINTS

Amb db/wb: 97.0/ 69.7 F

\*\*\*\*\*

LOAD INFORMATION

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	20,033	0
GLASS TRANSMISSION	3,765	0
WALL TRANSMISSION	3,618	0
ROOF TRANSMISSION	6,016	0
PARTITION TRANSMISSION	667	0
LIGHTING ( 2,565 W TOTAL)	7,162	0
OTHER ELEC. (1700 <del>1,380</del> W TOTAL) <b>5101</b> <del>4,141</del>	<del>4,141</del>	0
PEOPLE ( 19.00 PEOPLE TOTAL)	3,345	3,895
MISCELLANEOUS LOADS	0	0
COOLING INFILTRATION <b>170 CFM</b>	<b>3844</b> <del>0</del>	0
PULLDOWN/WARM-UP	0	0
COOLING SAFETY LOAD	<del>-2,437</del>	195
-----		
SUB-TOTALS	<b>53551</b> <del>51,184</del>	4,090
NET VENTILATION LOAD ( 285 CFM)	6,445	-552
SUPPLY FAN LOAD (BHP= 0.7) <b>0.2</b> 1957 <del>1,669</del>	<del>1,669</del>	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
-----		
TOTAL COOLING LOADS	<b>61903</b> <del>59,298</del>	3,538

\*\*\*\*\*

COIL SELECTION PARAMETERS:

COIL ENTERING AIR TEMP. (DB/WB)	=	78.4/ 64.3 deg F
COIL LEAVING AIR TEMP. (DB/WB)	=	56.4/ 55.7 deg F
COIL SENSIBLE LOAD	=	<b>61903</b> <del>59,298</del> BTU/hr
COIL TOTAL LOAD	=	<b>65441</b> <del>62,836</del> BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	57.0 deg F
TOTAL COOLING CFM (actual)	=	2,501 CFM
TOTAL COOLING CFM (std. air)	=	2,494 CFM
RESULTING ROOM REL. HUMIDITY	=	49.9 %
COIL BYPASS FACTOR	=	0.050
COIL APPARATUS DEWPOINT	=	55.2 deg F
REHEAT REQUIRED	=	0 BTU/hr

\*\*\*\*\*

GENERAL INFORMATION:

TOTAL COOLING LOAD	=	5.24 Tons
	=	326.57 sqft/Tons
TOTAL FLOOR AREA	=	1,710.00 sqft
OVERALL U-FACTOR	=	0.191 BTU/hr/sqft/F
COOLING CFM/sqft	=	1.46 CFM/sqft

\*\*\*\*\*

ZONE DESIGN COOLING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

Page 2 of 2

\*\*\*\*\*

CALCULATION DATA:

Zone Name : BLOCK ZONE-KELLY MOORE

Calc Time: Sep 1400h

Job Name : KELLY MOORE PAINTS

Amb db/wb: 97.0/ 69.7 F

\*\*\*\*\*

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT	AREA (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
GLASS LOADS: NE	0	0	0
E	200	1,882	7,244
SE	0	0	0
S	200	1,882	12,789
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0
H	0	0	0
WALL LOADS: NE	0	0	-
E	295	888	-
SE	0	0	-
S	218	1,043	-
SW	0	0	-
W	495	1,687	-
NW	0	0	-
N	0	0	-

\*\*\*\*\*

ZONE DESIGN HEATING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

Page 1 of 1

\*\*\*\*\*

CALCULATION DATA:

Zone Name : BLOCK ZONE-KELLY MOORE

Calc Time: Winter design

Job Name : KELLY MOORE PAINTS

Amb db : 35.0 F

\*\*\*\*\*

LOAD COMPONENT	LOAD (BTU/hr)
WALL TRANSMISSION	8,041
ROOF TRANSMISSION	4,130
GLASS TRANSMISSION	8,680
TRANSMISSION LOSS TO UNCOND. SPACES	958
INFILTRATION LOSS	0
SLAB FLOOR	0
HEATING SAFETY BTU/hr	1,090
-----	
SUB-TOTAL	22,898
NET VENTILATION LOSS	10,742
-----	
TOTAL HEATING LOAD	33,640
HEATING SUPPLY CFM	608 CFM
HEATING SUPPLY AIR TEMPERATURE	105.0 deg F
HEATING VENTILATION AIR CFM	285 CFM
HEATING THERMOSTAT SETPOINT TEMP	70.0 deg F

\*\*\*\*\*

DESIGN PARAMETERS, SHGS

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

Page 1 of 1

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DESIGN WEATHER PARAMETERS

City Name.....: Sacramento  
 Location.....: California  
 Latitude.....: 38.6 deg  
 Elevation.....: 80.0 ft  
 Summer Design Dry Bulb Temp.....: 100.0 F  
 Summer Design Wet Bulb Temp.....: 71.0 F  
 Daily Temperature Range.....: 32.0 F  
 Winter Design Dry Bulb Temp.....: 35.0 F  
 Atmospheric Clearness Number.....: 1.00

TABLE 1. MAXIMUM SOLAR HEAT GAINS - AVERAGE DAYS  
 (BTU/hr/sqft)

Month	NE	E	SE	S	SW	W	NW	N	Hor
Jan	18.8	36.1	59.7	68.2	59.7	36.1	18.8	18.8	53.9
Feb	25.8	46.7	67.3	74.4	67.3	46.7	25.8	25.8	74.8
Mar	36.0	64.3	80.3	83.0	80.3	64.3	36.0	36.0	107.8
Apr	53.2	86.2	93.5	88.4	93.5	86.2	53.2	47.1	148.6
May	67.2	92.8	90.0	78.6	90.0	92.8	67.2	52.9	166.4
Jun	78.1	100.7	91.4	75.8	91.4	100.7	78.1	56.4	182.0
Jul	77.1	102.4	95.0	79.7	95.0	102.4	77.1	55.6	182.7
Aug	63.0	95.0	97.6	88.4	97.6	95.0	63.0	50.5	164.6
Sep	44.1	83.1	97.2	96.1	97.2	83.1	44.1	42.5	137.0
Oct	31.9	63.1	85.4	91.0	85.4	63.1	31.9	31.9	98.9
Nov	19.5	34.8	55.4	62.7	55.4	34.8	19.5	19.5	54.7
Dec	14.9	27.1	46.7	53.8	46.7	27.1	14.9	14.9	40.7

TABLE 2. MAXIMUM SOLAR HEAT GAINS - DESIGN DAYS  
 (BTU/hr/sqft)

Month	NE	E	SE	S	SW	W	NW	N	Hor
Jan	20.3	158.2	243.6	253.9	243.6	158.2	20.3	20.3	140.9
Feb	52.7	188.7	246.3	238.0	246.3	188.7	52.7	24.6	186.7
Mar	95.6	219.5	234.7	201.4	234.7	219.5	95.6	29.4	228.2
Apr	141.4	224.4	200.5	147.6	200.5	224.4	141.4	34.1	255.5
May	166.0	220.1	171.2	105.6	171.2	220.1	166.0	37.4	267.6
Jun	173.1	215.4	157.3	88.7	157.3	215.4	173.1	47.4	269.4
Jul	163.5	215.7	166.9	102.4	166.9	215.7	163.5	38.2	264.4
Aug	136.3	216.5	193.5	142.6	193.5	216.5	136.3	35.8	250.8
Sep	89.9	207.0	224.8	195.5	224.8	207.0	89.9	30.5	220.6
Oct	51.6	182.4	238.2	231.0	238.2	182.4	51.6	25.4	183.4
Nov	20.6	155.4	239.5	250.0	239.5	155.4	20.6	20.6	140.2
Dec	18.4	141.1	236.0	254.1	236.0	141.1	18.4	18.4	121.1

ZONE DESCRIPTION

Zone Name : BLOCK ZONE-KELLY MOORE

07-29-98

Prepared By :

Carrier Hourly Analysis Program

Page 1 of 1

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1. ZONE NAME AND TYPE

Zone Name = BLOCK ZONE-KELLY MOORE

Job Name = KELLY MOORE PAINTS

Zone Type = 1 (Normal Zone)

\*\*\*\*\*

2. THERMOSTAT AND EQUIPMENT SCHEDULE

COOLING EQUIPMENT

Occupied cooling thermostat setpoint = 76.0 F

Unoccupied cooling thermostat setpoint = 85.0 F

Starting hour of occupied period = 0

Number of hours in occupied period = 24

HEATING EQUIPMENT

Heating thermostat setpoint = 70.0 F

\*\*\*\*\*

3. COOLING SYSTEM PARAMETERS

SUPPLY AIR

Type of input = 3 (Supply Temperature)

Supply temperature = 57.0 F

VENTILATION AIR

Type of input = 4 (CFM/person)

Ventilation air = 15.00 CFM/person

SAFETY FACTOR

Cooling safety factor = 5 %

\*\*\*\*\*

4. HEATING SYSTEM PARAMETERS

HEATING SOURCE

Type of system = 1 (Warm Air)

Supply temperature = 105.0 F

VENTILATION AIR

Type of input = 4 (CFM/person)

Ventilation air = 15.00 CFM/person

SAFETY FACTOR

Heating safety factor = 5 %

\*\*\*\*\*

5. OTHER SYSTEM PARAMETERS

SUPPLY FAN

Total static pressure = 1.20 in wg

Total efficiency = 72 %

Fan configuration = 1 (Draw-Thru)

EXHAUST AIR

Direct exhaust air flow rate = 0 % of vent. air

RETURN AIR

Is a return plenum used = N

COIL DATA

Cooling coil bypass factor = 0.050

\*\*\*\*\*

6. SPACES INCLUDED IN ZONE

Space Name	Qty.	Space Name	Qty.
1 OPEN AREA - KELLY MOORE	x 1	2 OFFICE AREA-KELLY MOORE	x 1

\*\*\*\*\*

ZONE DESCRIPTION

Zone Name : OPEN AREA KELLY MOORE

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

1. ZONE NAME AND TYPE

Zone Name = OPEN AREA KELLY MOORE

Job Name = KELLY MOORE PAINTS

Zone Type = 1 (Normal Zone)

\*\*\*\*\*

2. THERMOSTAT AND EQUIPMENT SCHEDULE

COOLING EQUIPMENT

Occupied cooling thermostat setpoint = 76.0 F

Unoccupied cooling thermostat setpoint = 85.0 F

Starting hour of occupied period = 0

Number of hours in occupied period = 24

HEATING EQUIPMENT

Heating thermostat setpoint = 70.0 F

\*\*\*\*\*

3. COOLING SYSTEM PARAMETERS

SUPPLY AIR

Type of input = 3 (Supply Temperature)

Supply temperature = 57.0 F

VENTILATION AIR

Type of input = 4 (CFM/person)

Ventilation air = 15.00 CFM/person

SAFETY FACTOR

Cooling safety factor = 5 %

\*\*\*\*\*

4. HEATING SYSTEM PARAMETERS

HEATING SOURCE

Type of system = 1 (Warm Air)

Supply temperature = 105.0 F

VENTILATION AIR

Type of input = 4 (CFM/person)

Ventilation air = 15.00 CFM/person

SAFETY FACTOR

Heating safety factor = 5 %

\*\*\*\*\*

5. OTHER SYSTEM PARAMETERS

SUPPLY FAN

Total static pressure = 1.20 in wg

Total efficiency = 72 %

Fan configuration = 1 (Draw-Thru)

EXHAUST AIR

Direct exhaust air flow rate = 0 % of vent. air

RETURN AIR

Is a return plenum used = N

COIL DATA

Cooling coil bypass factor = 0.050

\*\*\*\*\*

6. SPACES INCLUDED IN ZONE

Space Name	Qty.	Space Name	Qty.
1 OPEN AREA - KELLY MOORE	x 1		

\*\*\*\*\*

ZONE DESCRIPTION

07-29-98

Zone Name : OFFICE AREA-KELLY MOORE

Prepared By :

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Carrier Hourly Analysis Program

\*\*\*\*\*

1. ZONE NAME AND TYPE

Zone Name = OFFICE AREA-KELLY MOORE

Job Name = KELLY MOORE PAINTS

Zone Type = 1 (Normal Zone)

\*\*\*\*\*

2. THERMOSTAT AND EQUIPMENT SCHEDULE

COOLING EQUIPMENT

Occupied cooling thermostat setpoint = 76.0 F

Unoccupied cooling thermostat setpoint = 85.0 F

Starting hour of occupied period = 0

Number of hours in occupied period = 24

HEATING EQUIPMENT

Heating thermostat setpoint = 70.0 F

\*\*\*\*\*

3. COOLING SYSTEM PARAMETERS

SUPPLY AIR

Type of input = 3 (Supply Temperature)

Supply temperature = 57.0 F

VENTILATION AIR

Type of input = 4 (CFM/person)

Ventilation air = 15.00 CFM/person

SAFETY FACTOR

Cooling safety factor = 5 %

\*\*\*\*\*

4. HEATING SYSTEM PARAMETERS

HEATING SOURCE

Type of system = 1 (Warm Air)

Supply temperature = 105.0 F

VENTILATION AIR

Type of input = 4 (CFM/person)

Ventilation air = 15.00 CFM/person

SAFETY FACTOR

Heating safety factor = 5 %

\*\*\*\*\*

5. OTHER SYSTEM PARAMETERS

SUPPLY FAN

Total static pressure = 1.20 in wg

Total efficiency = 72 %

Fan configuration = 1 (Draw-Thru)

EXHAUST AIR

Direct exhaust air flow rate = 0 % of vent. air

RETURN AIR

Is a return plenum used = N

COIL DATA

Cooling coil bypass factor = 0.050

\*\*\*\*\*

6. SPACES INCLUDED IN ZONE

Space Name	Qty.	Space Name	Qty.
2 OFFICE AREA-KELLY MOORE	x 1		

\*\*\*\*\*

MAXIMUM SPACE COOLING LOADS

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

Zone Name : BLOCK ZONE-KELLY MOORE

Space Name	Mo.	Hour	Sensible (Tons)	Latent (Tons)	Supply Air (CFM)
OPEN AREA - KELLY MOORE	Sep	1400	3.62	0.27	2,124.8
OFFICE AREA-KELLY MOORE	Jul	1500	0.70	0.07	412.2
Total including space multipliers :					2,537.0

MAXIMUM ZONE COOLING LOADS

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

Zone Name : BLOCK ZONE-KELLY MOORE

No.	Month	Hour	Sensible Load (Tons)	Total Load (Tons)	Supply Air (CFM)
---	-----	----	-----	-----	-----
1	Sep	1400	4.94	5.24	2,501
2	Sep	1500	4.92	5.21	2,472
3	Aug	1400	4.85	5.17	2,418
4	Aug	1500	4.82	5.15	2,392
5	Sep	1300	4.81	5.10	2,462
6	Aug	1300	4.73	5.06	2,386
7	Jul	1500	4.69	5.02	2,318
8	Jul	1400	4.69	5.02	2,331
9	Sep	1600	4.72	5.01	2,376
10	Aug	1600	4.67	5.00	2,318

ZONE DESIGN COOLING LOAD SUMMARY

Location : Sacramento, California  
 Prepared By :  
 Carrier Hourly Analysis Program

07-29-98

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\*\*\*\*\*  
 CALCULATION DATA:

Zone Name : BLOCK ZONE-KELLY MOORE      Calc Time: Sep 1400h  
 Job Name : KELLY MOORE PAINTS      Amb db/wb: 97.0/ 69.7 F

\*\*\*\*\*  
 LOAD INFORMATION

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	20,033	0
GLASS TRANSMISSION	3,765	0
WALL TRANSMISSION	3,618	0
ROOF TRANSMISSION	6,016	0
PARTITION TRANSMISSION	667	0
LIGHTING ( 2,565 W TOTAL)	7,162	0
OTHER ELEC. ( 1,380 W TOTAL)	4,141	0
PEOPLE ( 19.00 PEOPLE TOTAL)	3,345	3,895
MISCELLANEOUS LOADS	0	0
COOLING INFILTRATION	0	0
PULLDOWN/WARM-UP	0	0
COOLING SAFETY LOAD	2,437	195
-----		
SUB-TOTALS	51,184	4,090
NET VENTILATION LOAD ( 285 CFM)	6,445	-552
SUPPLY FAN LOAD (BHP= 0.7)	1,669	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
-----		
TOTAL COOLING LOADS	59,298	3,538

\*\*\*\*\*  
 COIL SELECTION PARAMETERS:

COIL ENTERING AIR TEMP. (DB/WB)	=	78.4/ 64.3 deg F
COIL LEAVING AIR TEMP. (DB/WB)	=	56.4/ 55.7 deg F
COIL SENSIBLE LOAD	=	59,298 BTU/hr
COIL TOTAL LOAD	=	62,836 BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	57.0 deg F
TOTAL COOLING CFM (actual)	=	2,501 CFM
TOTAL COOLING CFM (std. air)	=	2,494 CFM
RESULTING ROOM REL. HUMIDITY	=	49.9 %
COIL BYPASS FACTOR	=	0.050
COIL APPARATUS DEWPOINT	=	55.2 deg F
REHEAT REQUIRED	=	0 BTU/hr

\*\*\*\*\*  
 GENERAL INFORMATION:

TOTAL COOLING LOAD	=	5.24 Tons
	=	326.57 sqft/Tons
TOTAL FLOOR AREA	=	1,710.00 sqft
OVERALL U-FACTOR	=	0.191 BTU/hr/sqft/F
COOLING CFM/sqft	=	1.46 CFM/sqft

\*\*\*\*\*

ZONE DESIGN COOLING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

CALCULATION DATA:

Zone Name : BLOCK ZONE-KELLY MOORE

Calc Time: Sep 1400h

Job Name : KELLY MOORE PAINTS

Amb db/wb: 97.0/ 69.7 F

\*\*\*\*\*

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT	AREA (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
GLASS LOADS: NE	0	0	0
E	200	1,882	7,244
SE	0	0	0
S	200	1,882	12,789
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0
H	0	0	0
WALL LOADS: NE	0	0	-
E	295	888	-
SE	0	0	-
S	218	1,043	-
SW	0	0	-
W	495	1,687	-
NW	0	0	-
N	0	0	-

\*\*\*\*\*

ZONE DESIGN HEATING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

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\*\*\*\*\*

CALCULATION DATA:

Zone Name : BLOCK ZONE-KELLY MOORE

Calc Time: Winter design

Job Name : KELLY MOORE PAINTS

Amb db : 35.0 F

\*\*\*\*\*

LOAD COMPONENT	LOAD (BTU/hr)
<hr style="border-top: 1px dashed black;"/>	
WALL TRANSMISSION	8,041
ROOF TRANSMISSION	4,130
GLASS TRANSMISSION	8,680
TRANSMISSION LOSS TO UNCOND. SPACES	958
INFILTRATION LOSS	0
SLAB FLOOR	0
HEATING SAFETY BTU/hr	1,090
<hr style="border-top: 1px dashed black;"/>	
SUB-TOTAL	22,898
NET VENTILATION LOSS	10,742
<hr style="border-top: 1px dashed black;"/>	
TOTAL HEATING LOAD	33,640
HEATING SUPPLY CFM	608 CFM
HEATING SUPPLY AIR TEMPERATURE	105.0 deg F
HEATING VENTILATION AIR CFM	285 CFM
HEATING THERMOSTAT SETPOINT TEMP	70.0 deg F

\*\*\*\*\*

MAXIMUM SPACE COOLING LOADS

07-29-98

Location : Sacramento, California

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

Zone Name : OPEN AREA KELLY MOORE

Space Name	Mo.	Hour	Sensible (Tons)	Latent (Tons)	Supply Air (CFM)
OPEN AREA - KELLY MOORE	Sep	1400	3.62	0.27	2,124.8
Total including space multipliers :					2,124.8

MAXIMUM ZONE COOLING LOADS

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

Zone Name : OPEN AREA KELLY MOORE

No.	Month	Hour	Sensible Load (Tons)	Total Load (Tons)	Supply Air (CFM)
1	Sep	1400	4.17	4.40	2,125
2	Sep	1500	4.13	4.36	2,094
3	Sep	1300	4.05	4.29	2,091
4	Aug	1400	4.01	4.27	2,014
5	Oct	1400	4.07	4.25	2,116
6	Aug	1500	3.98	4.24	1,985
7	Oct	1500	4.04	4.22	2,086
8	Sep	1600	3.94	4.18	1,998
9	Aug	1300	3.91	4.18	1,987
10	Oct	1300	3.95	4.13	2,076

ZONE DESIGN COOLING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

CALCULATION DATA:

Zone Name : OPEN AREA KELLY MOORE

Calc Time: Sep 1400h

Job Name : KELLY MOORE PAINTS

Amb db/wb: 97.0/ 69.7 F

\*\*\*\*\*

LOAD INFORMATION

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	20,033	0
GLASS TRANSMISSION	3,765	0
WALL TRANSMISSION	1,780	0
ROOF TRANSMISSION	4,785	0
PARTITION TRANSMISSION	667	0
LIGHTING ( 2,040 W TOTAL)	5,696	0
OTHER ELEC. ( 680 W TOTAL)	2,040	0
PEOPLE ( 15.00 PEOPLE TOTAL)	2,640	3,075
MISCELLANEOUS LOADS	0	0
COOLING INFILTRATION	0	0
PULLDOWN/WARM-UP	0	0
COOLING SAFETY LOAD	2,070	154
-----		
SUB-TOTALS	43,476	3,229
NET VENTILATION LOAD ( 225 CFM)	5,088	-412
SUPPLY FAN LOAD (BHP= 0.6)	1,418	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
-----		
TOTAL COOLING LOADS	49,982	2,817

\*\*\*\*\*

COIL SELECTION PARAMETERS:

COIL ENTERING AIR TEMP. (DB/WB)	=	78.2/ 64.2 deg F
COIL LEAVING AIR TEMP. (DB/WB)	=	56.4/ 55.7 deg F
COIL SENSIBLE LOAD	=	49,982 BTU/hr
COIL TOTAL LOAD	=	52,799 BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	57.0 deg F
TOTAL COOLING CFM (actual)	=	2,125 CFM
TOTAL COOLING CFM (std. air)	=	2,119 CFM
RESULTING ROOM REL. HUMIDITY	=	49.7 %
COIL BYPASS FACTOR	=	0.050
COIL APPARATUS DEWPOINT	=	55.2 deg F
REHEAT REQUIRED	=	0 BTU/hr

\*\*\*\*\*

GENERAL INFORMATION:

TOTAL COOLING LOAD	=	4.40 Tons
	=	309.09 sqft/Tons
TOTAL FLOOR AREA	=	1,360.00 sqft
OVERALL U-FACTOR	=	0.190 BTU/hr/sqft/F
COOLING CFM/sqft	=	1.56 CFM/sqft

\*\*\*\*\*

ZONE DESIGN COOLING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

CALCULATION DATA:

Zone Name : OPEN AREA KELLY MOORE

Calc Time: Sep 1400h

Job Name : KELLY MOORE PAINTS

Amb db/wb: 97.0/ 69.7 F

\*\*\*\*\*

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT	AREA (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
GLASS LOADS: NE	0	0	0
E	200	1,882	7,244
SE	0	0	0
S	200	1,882	12,789
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0
H	0	0	0
WALL LOADS: NE	0	0	-
E	295	888	-
SE	0	0	-
S	108	517	-
SW	0	0	-
W	110	375	-
NW	0	0	-
N	0	0	-

\*\*\*\*\*

ZONE DESIGN HEATING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

CALCULATION DATA:

Zone Name : OPEN AREA KELLY MOORE Calc Time: Winter design

Job Name : KELLY MOORE PAINTS Amb db : 35.0 F

\*\*\*\*\*

LOAD COMPONENT	LOAD (BTU/hr)
WALL TRANSMISSION	3,190
ROOF TRANSMISSION	3,284
GLASS TRANSMISSION	8,680
TRANSMISSION LOSS TO UNCOND. SPACES	958
INFILTRATION LOSS	0
SLAB FLOOR	0
HEATING SAFETY BTU/hr	806
-----	
SUB-TOTAL	16,917
NET VENTILATION LOSS	8,481
-----	
TOTAL HEATING LOAD	25,398
HEATING SUPPLY CFM	449 CFM
HEATING SUPPLY AIR TEMPERATURE	105.0 deg F
HEATING VENTILATION AIR CFM	225 CFM
HEATING THERMOSTAT SETPOINT TEMP	70.0 deg F

\*\*\*\*\*

MAXIMUM SPACE COOLING LOADS

Location : Sacramento, California

07-29-98

Prepared By :

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\*\*\*\*\*

Zone Name : OFFICE AREA-KELLY MOORE

Space Name	Mo.	Hour	Sensible (Tons)	Latent (Tons)	Supply Air (CFM)
OFFICE AREA-KELLY MOORE	Jul	1500	0.70	0.07	412.2
Total including space multipliers :					412.2

MAXIMUM ZONE COOLING LOADS

Location : Sacramento, California

07-29-98

Prepared By :

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\*\*\*\*\*

Zone Name : OFFICE AREA-KELLY MOORE

No.	Month	Hour	Sensible Load (Tons)	Total Load (Tons)	Supply Air (CFM)
1	Jul	1500	0.85	0.92	412
2	Jul	1600	0.85	0.92	411
3	Jun	1500	0.84	0.92	408
4	Jul	1400	0.85	0.91	410
5	Aug	1500	0.84	0.91	406
6	Jun	1600	0.84	0.91	407
7	Jun	1400	0.83	0.91	406
8	Aug	1600	0.84	0.90	405
9	Aug	1400	0.84	0.90	404
10	Jul	1700	0.83	0.90	408

ZONE DESIGN COOLING LOAD SUMMARY

Location : Sacramento, California

07-27-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

CALCULATION DATA:

Zone Name : OFFICE AREA-KELLY MOORE Calc Time: Jul 1500h

Job Name : KELLY MOORE PAINTS Amb db/wb: 100.0/ 71.0 F

\*\*\*\*\*

LOAD INFORMATION

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	0	0
GLASS TRANSMISSION	0	0
WALL TRANSMISSION	2,177	0
ROOF TRANSMISSION	1,551	0
PARTITION TRANSMISSION	0	0
LIGHTING ( 525 W TOTAL)	1,478	0
OTHER ELEC. ( 700 W TOTAL)	2,111	0
PEOPLE ( 4.00 PEOPLE TOTAL)	715	820
MISCELLANEOUS LOADS	0	0
COOLING INFILTRATION	0	0
PULLDOWN/WARM-UP	0	0
COOLING SAFETY LOAD	402	41
-----		
SUB-TOTALS	8,434	861
NET VENTILATION LOAD ( 60 CFM)	1,551	-49
SUPPLY FAN LOAD (BHP= 0.1)	275	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
-----		
TOTAL COOLING LOADS	10,260	812

\*\*\*\*\*

COIL SELECTION PARAMETERS:

COIL ENTERING AIR TEMP. (DB/WB)	=	79.5/ 64.8 deg F
COIL LEAVING AIR TEMP. (DB/WB)	=	56.4/ 55.7 deg F
COIL SENSIBLE LOAD	=	10,260 BTU/hr
COIL TOTAL LOAD	=	11,071 BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	57.0 deg F
TOTAL COOLING CFM (actual)	=	412 CFM
TOTAL COOLING CFM (std. air)	=	411 CFM
RESULTING ROOM REL. HUMIDITY	=	50.3 %
COIL BYPASS FACTOR	=	0.050
COIL APPARATUS DEWPOINT	=	55.2 deg F
REHEAT REQUIRED	=	0 BTU/hr

\*\*\*\*\*

GENERAL INFORMATION:

TOTAL COOLING LOAD	=	0.92 Tons
	=	379.36 sqft/Tons
TOTAL FLOOR AREA	=	350.00 sqft
OVERALL U-FACTOR	=	0.193 BTU/hr/sqft/F
COOLING CFM/sqft	=	1.18 CFM/sqft

\*\*\*\*\*

ZONE DESIGN COOLING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

Page 2 of 2

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-----  
 CALCULATION DATA:

Zone Name : OFFICE AREA-KELLY MOORE      Calc Time: Jul 1500h

Job Name : KELLY MOORE PAINTS              Amb db/wb: 100.0/ 71.0 F

\*\*\*\*\*

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT	AREA (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
-----			
GLASS LOADS: NE	0	0	0
E	0	0	0
SE	0	0	0
S	0	0	0
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0
H	0	0	0
WALL LOADS: NE	0	0	-
E	0	0	-
SE	0	0	-
S	110	392	-
SW	0	0	-
W	385	1,785	-
NW	0	0	-
N	0	0	-

\*\*\*\*\*

ZONE DESIGN HEATING LOAD SUMMARY

Location : Sacramento, California

07-29-98

Prepared By :

Carrier Hourly Analysis Program

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\*\*\*\*\*

CALCULATION DATA:

Zone Name : OFFICE AREA-KELLY MOORE Calc Time: Winter design

Job Name : KELLY MOORE PAINTS Amb db : 35.0 F

\*\*\*\*\*

LOAD COMPONENT	LOAD (BTU/hr)
----------------	---------------

-----

WALL TRANSMISSION	4,851
ROOF TRANSMISSION	845
GLASS TRANSMISSION	0
TRANSMISSION LOSS TO UNCOND. SPACES	0
INFILTRATION LOSS	0
SLAB FLOOR	0
HEATING SAFETY BTU/hr	285

-----

SUB-TOTAL	5,981
NET VENTILATION LOSS	2,262

-----

TOTAL HEATING LOAD	8,243
--------------------	-------

HEATING SUPPLY CFM	159 CFM
HEATING SUPPLY AIR TEMPERATURE	105.0 deg F
HEATING VENTILATION AIR CFM	60 CFM
HEATING THERMOSTAT SETPOINT TEMP	70.0 deg F

\*\*\*\*\*

# CERTIFICATE OF COMPLIANCE

(Part 1 of 3)

# MECH-1

PROJECT NAME <b>KELLY MORE</b>		DATE <b>7-28-98</b>
PROJECT ADDRESS <b>SACRAMENTO, CA</b>		Building Permit #
PRINCIPAL DESIGNER-MECHANICAL <b>BROWER MECHANICAL</b>	TELEPHONE <b>624-0808</b>	Checked by/Date Enforcement Agency Use
DOCUMENTATION AUTHOR <b>R. THOMAS</b>	TELEPHONE <b>354-0535</b>	

## GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA <b>1710 - OVERALL BLDG. AREA</b>		
BUILDING TYPE	<input checked="" type="checkbox"/> NONRESIDENTIAL	<input type="checkbox"/> HIGH RISE RESIDENTIAL	<input type="checkbox"/> HOTEL/MOTEL GUESTROOM
PHASE OF CONSTRUCTION	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> ADDITION	<input checked="" type="checkbox"/> ALTERATION <input type="checkbox"/> UNCONDITIONED (file affidavit)
METHOD OF MECHANICAL COMPLIANCE	<input checked="" type="checkbox"/> PRESCRIPTIVE	<input type="checkbox"/> PERFORMANCE	
PROOF OF ENVELOPE COMPLIANCE	<input checked="" type="checkbox"/> PREVIOUS ENVELOPE PERMIT <input type="checkbox"/> ENVELOPE COMPLIANCE ATTACHED		

**NOTE: NO CHANGE TO ENVELOPE**

## 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
----------------------	-----------	------

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 a Civil Engineer, Mechanical Engineer, or Architect.
- I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am a licensed contractor preparing documents for work that I have contracted to perform.
- I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section \_\_\_\_\_ of the \_\_\_\_\_ Code to sign this document as the person responsible for its preparation; and for the following reason(s): \_\_\_\_\_

PRINCIPAL MECHANICAL DESIGNER NAME	SIGNATURE	DATE	LIC. #
------------------------------------	-----------	------	--------

## MECHANICAL MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures **SEE ATTACHED NOTES**

## 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. Parts 2 & 3 may be incorporated in schedules on plans.
- MECH-2: Required for all submittals; choose appropriate version depending on method of mechanical compliance.
- MECH-3: Required for all submittals, but may be incorporated in schedules on plans
- MECH-4: Required for all submittals unless required outdoor ventilation rates and airflows are shown on plans per Section 4.3.4.

# CERTIFICATE OF COMPLIANCE

(Part 2 of 3)

**MECH-1**

PROJECT NAME  
**KELLY MOORE**

DATE  
**7-28-98**

## SYSTEM FEATURES

SYSTEM NAME	MECHANICAL SYSTEMS			NOTE TO FIELD Building Dept. Use
	AC-1			
TIME CONTROL	S			
SETBACK CONTROL	B			
ISOLATION ZONES	N/A			
HEAT PUMP THERMOSTAT?	N			
ELECTRIC HEAT?	N			
FAN CONTROL	N/A			
VAV MINIMUM POSITION CONTROL?	N			
SIMULTANEOUS HEAT/COOL?	N			
HEAT AND COOL SUPPLY RESET?	N			
VENTILATION	N			
OUTDOOR DAMPER CONTROL?	G			
ECONOMIZER TYPE	N			
DESIGN AIR CFM (MECH-4, COLUMN H)	1200			
HEATING EQUIP. TYPE	GAS			
HIGH EFFICIENCY? IF YES ENTER EFF. #	N			
MAKE AND MODEL NUMBER	TRANE YCC036			
COOLING EQUIP. TYPE	DX			
HIGH EFFICIENCY? IF YES ENTER EFF. #	N			
MAKE AND MODEL NUMBER	TRANE YCC036			

CODE TABLES: Enter code from table below into columns above.

HEAT PUMP THERMOSTAT?	Y: Yes N: No
ELECTRIC HEAT?	
VAV MINIMUM POSITION CONTROL?	
SIMULTANEOUS HEAT/COOL?	
HEAT AND COOL SUPPLY RESET?	
HIGH EFFICIENCY?	

TIME CONTROL	SETBACK CTRL.	ISOLATION ZONES	FAN CONTROL
S: Prog. Switch O: Occupancy Sensor M: Manual Timer	H: Heating C: Cooling B: Both	Enter number of Isolation Zones	I: Inlet Vanes P: Variable Pitch V: VFD O: Other C: Curve

VENTILATION	OUTDOOR DAMPER	ECONOMIZER	O.A. CFM
B: Air Balance C: Outside Air Cert. M: Out. Air Measure D: Demand Control N: Natural	A: Auto G: Gravity	A: Air W: Water N: Not Required	Enter Outdoor Air CFM. Note: This shall be no less than Column G on MECH-4.

### NOTES TO FIELD - For Building Department Use Only

# CERTIFICATE OF COMPLIANCE

(Part 3 of 3)

# MECH-1

PROJECT NAME

**KELT MOORE**

DATE

**7-28-98**

## INSULATION

SYSTEM NAME	DUCT TYPE (Supply, Return, etc.)	DUCT LOCATION (Roof, Plenum, etc.)	DUCT TAPE ALLOWED?		DUCT INSULATION R-VALUE	NOTE TO FIELD Building Dept. Use
			Y	N		
AC-1	SUPPLY	PLENUM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.1	
AC-1	RETURN	PLENUM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.1	
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		

## PIPE INSULATION

SYSTEM NAME	PIPE TYPE (Supply, Return, etc.)	INSULATION REQ'D?		NOTE TO FIELD Building Dept. Use
		Y	N	
N/A		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	

## NOTES TO FIELD - For Building Department Use Only

# MECHANICAL SIZING AND FAN POWER

MECH-2

PROJECT NAME <b>KELLY MOORE</b>	DATE <b>7-28-98</b>
SYSTEM NAME <b>AC-1</b>	FLOOR AREA <b>650</b>

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

## SIZING and EQUIPMENT SELECTION

**1. DESIGN CONDITIONS:**

- OUTDOOR, DRY BULB TEMPERATURE (APPENDIX C)
- OUTDOOR, WET BULB TEMPERATURE (APPENDIX C)
- INDOOR, DRY BULB TEMPERATURE (APPENDIX C)

COOLING	HEATING
<b>105</b>	<b>30</b>
<b>69</b>	
<b>76</b>	<b>70</b>

**2. SIZING**

- DESIGN OUTDOOR AIR **105** CFM (MECH 4; COLUMN H)
- ENVELOPE LOAD
- LIGHTING **1.5** WATTS / SF (LTG-2)
- PEOPLE **7** # OF PEOPLE (MECH 4; COLUMN E)
- MISC. EQUIPMENT **0.5** WATTS / SF
- OTHER \_\_\_\_\_ (Describe)
- OTHER ( PROCESS LOADS, DUCT LOSS, INFILTRATION, ETC. ) \_\_\_\_\_ (Describe)

<b>2375</b>	<b>3957</b>
<b>17135</b>	<b>34348</b>
<b>3327</b>	
<b>1232</b>	
<b>1041</b>	

TOTALS

<b>25110</b>	<b>38305</b>
<b>1.21</b>	<b>1.43</b>
<b>30303</b>	<b>54776</b>

SAFETY/ WARM UP FACTOR  
 MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE x SAFETY/ WARMUP FACTOR)

**3. SELECTION:**

INSTALLED EQUIPMENT CAPACITY

<b>29300</b>	<b>38000</b>
Kbtu / Hr	Kbtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN

## FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY		E NUMBER OF FANS	F PEAK WATTS B x E x 746 / (C x D)	G CFM (Supply Fans)
		MOTOR	DRIVE			
<b>N/A</b>						

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.

TOTALS

<b>TOTAL FAN SYSTEM POWER DEMAND</b>	
<b>WATTS / CFM</b>	Col. F / Col. G





## MECHANICAL MANDATORY MEASURES

ANY APPLICATION FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE COMMISSION, AS SPECIFIED IN THOSE REGULATIONS, THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR THAT APPLIANCE. INCLUDED ARE ROOM AIR CONDITIONERS, CENTRAL AIR CONDITIONING HEAT PUMPS (REGARDLESS OF CAPACITY, EXCEPT THAT REQUIREMENTS FOR CENTRAL AIR CONDITIONING HEAT PUMPS WITH COOLING CAPACITY OF 135,000 BTU/HR OR MORE APPLY TO HEATING PERFORMANCE BUT NOT COOLING PERFORMANCE), OTHER CENTRAL AIR CONDITIONERS WITH A COOLING CAPACITY LESS THAN 135,000 BTU/HR, FAN TYPE CENTRAL FURNACES WITH INPUT RATE LESS THAN 400,000 BTU/HR, BOILERS WALL FURNACES, FLOOR FURNACES, ROOM HEATERS, UNIT HEATERS, AND DUCT FURNACES SHALL HAVE BEEN CERTIFIED TO THE CALIFORNIA ENERGY COMMISSION BY ITS MANUFACTURER TO COMPLY WITH THE APPLIANCE EFFICIENCY STANDARDS.

THE FOLLOWING SPACE CONDITIONING EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE EFFICIENCY REQUIREMENTS LISTED IN 112 OF THE ENERGY EFFICIENCY STANDARDS: ALL AIR CONDITIONERS, HEAT PUMPS AND CONDENSING UNITS  $\leq$  135,000 BTU/HR; ALL WATER CHILLERS; ALL GAS-FIRED BOILERS  $\leq$  300,000 BTU/HR; ALL OIL-FIRED BOILERS  $\leq$  225,000 BTU/HR; AND ALL WARM AIR FURNACES/AIR-CONDITIONING UNITS  $\leq$  225,000 BTU/HR. FAN TYPE CENTRAL FURNACES SHALL NOT HAVE A PILOT LIGHT.

PIPING, EXCEPT THOSE CONVEYING FLUIDS AT TEMPERATURES BETWEEN 60 F AND 105 F, OR WITHIN HVAC EQUIPMENT, SHALL BE INSULATED IN ACCORDANCE WITH STANDARDS SECTION 123.

AIR HANDLING DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED, AND INSULATED AS PROVIDED IN CHAPTER 10 OF THE UNIFORM MECHANICAL CODE.

### CONTROLS

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH AN AUTOMATIC TIME SWITCH WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM DURING OFF-HOURS FOR UP TO 4 HOURS. THE TIME SWITCH SHALL BE CAPABLE OF PROGRAMMING DIFFERENT SCHEDULES FOR WEEKDAYS AND WEEKENDS; INCORPORATE AN AUTOMATIC HOLIDAY "SHUT-OFF" FEATURE THAT TURNS OFF ALL LOADS FOR AT LEAST 24 HOURS, THEN RESUMES THE NORMALLY SCHEDULED OPERATION; AND HAS PROGRAM BACKUP CAPABILITIES THAT PREVENT THE LOSS OF THE DEVICE'S PROGRAM AND TIME SETTING FOR AT LEAST 10 HOURS IF POWER IS INTERRUPTED.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH AN OCCUPANCY SENSOR TO CONTROL THE OPERATING PERIOD OF THE SYSTEM.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH A 4-HOUR TIMER THAT CAN BE MANUALLY OPERATED TO CONTROL THE OPERATING PERIOD OF THE SYSTEM.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT TEMPORARILY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN A SETBACK HEATING THERMOSTAT SETPOINT.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT TEMPORARILY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN A SETBACK COOLING THERMOSTAT SETPOINT.

EACH SPACE CONDITIONING SYSTEM SERVING MULTIPLE ZONES WITH A COMBINED CONDITIONED FLOOR AREA MORE THAN 25,000 SQUARE FEET SHALL BE PROVIDED WITH ISOLATION ZONES. EACH ZONE SHALL NOT EXCEED 25,000 SQUARE FEET; SHALL BE PROVIDED WITH ISOLATION DEVICES, SUCH AS VALVES OR DAMPERS, THAT ALLOW THE SUPPLY OF HEATING OR COOLING TO BE SETBACK OR SHUT OFF INDEPENDENTLY OF OTHER ISOLATION AREAS; AND SHALL BE CONTROLLED BY A TIME CONTROL DEVICE AS DESCRIBED ABOVE.

EACH SPACE CONDITIONING ZONE SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE. WHERE USED TO CONTROL HEATING, THE CONTROL SHALL BE ADJUSTABLE DOWN TO 55 F OR LOWER. FOR COOLING, THE CONTROL SHALL BE ADJUSTABLE UP TO 85 F OR HIGHER. WHERE USED TO CONTROL BOTH HEATING AND COOLING, THE CONTROL SHALL BE CAPABLE OF PROVIDING A DEAD BAND OF AT LEAST 3 F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF OR REDUCED TO A MINIMUM.

THERMOSTATS SHALL HAVE NUMERIC SETPOINTS IN F.

THERMOSTATS SHALL HAVE ADJUSTABLE SETPOINT STOPS ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL.

HEAT PUMPS SHALL BE INSTALLED WITH CONTROLS TO PREVENT ELECTRIC RESISTANCE SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE. ELECTRIC RESISTANCE SUPPLEMENTARY HEATER OPERATION IS PERMITTED DURING TRANSIENT PERIODS, SUCH AS START-UPS AND FOLLOWING ROOM THERMOSTAT SETPOINT ADVANCE, WHEN CONTROLS ARE PROVIDED WHICH USE PREFERENTIAL RATE CONTROL, INTELLIGENT RECOVERY, STAGING, RAMPING, OR SIMILAR CONTROL MECHANISMS DESIGNED TO PRECLUDE THE UNNECESSARY OPERATION OF SUPPLEMENTARY HEATING DURING THE RECOVERY PERIOD. SUPPLEMENTARY HEATER OPERATION IS ALSO PERMITTED DURING DEFROST.

#### VENTILATION

CONTROLS SHALL BE PROVIDED TO ALLOW OUTSIDE AIR DAMPERS OR DEVICES TO BE OPERATED AT THE VENTILATION RATES AS SPECIFIED IN THESE PLANS.

GRAVITY OR AUTOMATIC DAMPERS INTERLOCKED AND CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED ON THE OUTSIDE AIR INTAKES AND DISCHARGES OF ALL SPACE CONDITIONING AND EXHAUST SYSTEMS.

ALL GRAVITY VENTILATING SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE, EXCEPT FOR COMBUSTION AIR OPENINGS.

AIR BALANCING: ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) PROCEDURAL STANDARDS (1993), OR ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS (1986).

OUTSIDE AIR CERTIFICATION: THE SYSTEM SHALL PROVIDE THE MINIMUM OUTSIDE AIR AS SHOWN ON THE MECHANICAL DRAWINGS, AND SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING LICENSED C-20 MECHANICAL CONTRACTOR.

## MECHANICAL MANDATORY MEASURES (CONTINUED)

### SERVICE WATER HEATING SYSTEMS

THE FOLLOWING SERVICE WATER HEATING SYSTEMS AND EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE EFFICIENCY REQUIREMENTS LISTED IN SECTION 113 OF THE ENERGY EFFICIENCY STANDARDS: OIL-FIRED STORAGE TYPES  $\geq 105,000$  BTU/HR $\pm$ ; OIL-FIRED NON-STORAGE TYPES  $\geq 210,000$  BTU/HR $\pm$ ; GAS-FIRED NON-STORAGE TYPES  $\geq 200,000$  BTU/HR.

UNFIRED SERVICE WATER HEATER STORAGE TANKS AND BACKUP TANKS FOR SOLAR WATER HEATING SYSTEMS SHALL HAVE EITHER: EXTERNAL INSULATION WITH AN INSTALLED R-VALUE OF AT LEAST R-12 $\pm$ ; INTERNAL AND EXTERNAL INSULATION WITH A COMBINED R-VALUE OF AT LEAST R-16 $\pm$ ; OR SUFFICIENT INSULATION SO THAT THE HEAT LOSS OF THE TANK SURFACE BASED ON 80 F WATER-AIR TEMPERATURE DIFFERENCE SHALL BE LESS THAN 6.5 BTU/HR/SF.

IF A CIRCULATING HOT WATER SYSTEM IS INSTALLED, IT SHALL HAVE A CONTROL CAPABLE OF AUTOMATICALLY TURNING OFF THE CIRCULATING PUMP(S) WHEN HOT WATER IS NOT REQUIRED.

LAVATORIES IN RESTROOMS OF PUBLIC FACILITIES SHALL BE EQUIPPED WITH:

OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.5 GALLONS PER MINUTE.

FOOT ACTUATED CONTROL VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.75 GALLONS PER MINUTE.

PROXIMITY SENSOR ACTUATED CONTROL VALVES, AND OUTLETS THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.75 GALLONS PER MINUTE.

SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER MINUTE, AND 0.25 GALLONS/CYCLE (CIRCULATING SYSTEM).

SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER MINUTE, AND 0.50 GALLONS/CYCLE (NON-CIRCULATING SYSTEM).

SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER MINUTE, AND 0.75 GALLONS/CYCLE (FOOT SWITCHES AND PROXIMITY SENSOR CONTROLS).

LAVATORIES IN RESTROOM OF PUBLIC FACILITIES SHALL BE EQUIPPED WITH CONTROLS TO LIMIT THE OUTLET TEMPERATURE TO 110 F.

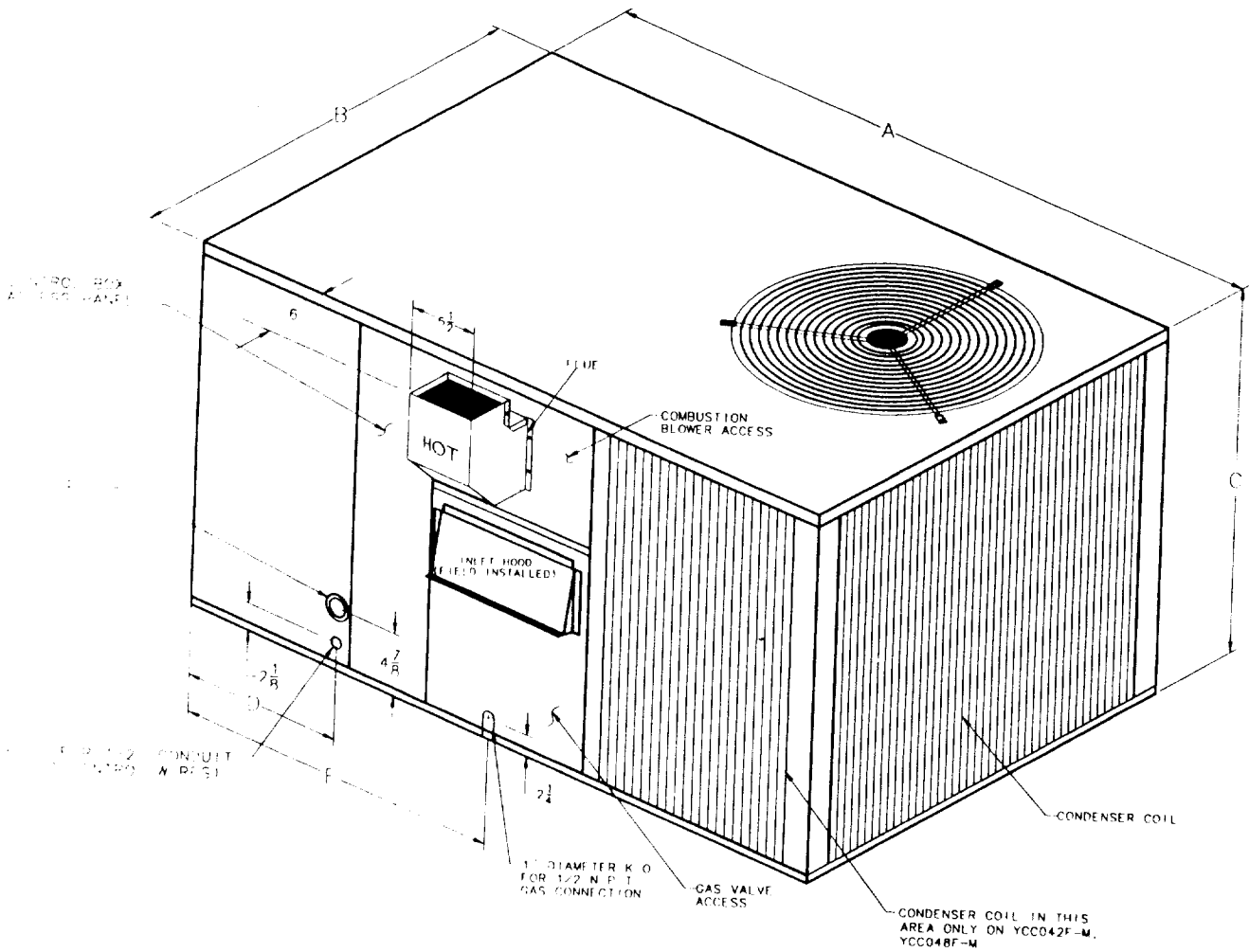


# General Data

MODEL	YCC036F3MOB	YCC036F3H0B	YCC036F4H0B	YCC036FWH0B
<b>RATED VOLTS/PH/HZ</b>	208-230/3/60	208-230/3/60	460/3/60	575/3/60
<b>A.R.I. RATINGS (COOLING) 1</b>				
BTUH	35400	35400	35400	35400
Indoor Air Flow (CFM)	1200	1200	1200	1200
System Power (KW)	3.73	3.73	3.73	3.73
EER-SEER (BTU/WATT HR)	9.50 / 10.00	9.50 / 10.00	9.50 / 10.00	9.50 / 10.00
Noise Rating No.	8.0	8.0	8.0	8.0
<b>A.G.A. RATINGS (HEATING) 2</b>				
(High) Input BTUH	48000	100000	100000	100000
Capacity BTUH 5 7	38000	80000	80000	80000
AFUE	78%	78%	78%	78%
Temp Rise °F (Min./Max.)	30 / 65	45 / 75	45 / 75	45 / 75
(Low) Input BTUH	40000	80000	80000	80000
Capacity BTUH 5 7	32000	64000	64000	64000
AFUE/CSE	78%/76%	78%/76%	78%/76%	78%/76%
Temp Rise °F (Min./Max.)	30 / 65	45 - 75	45 - 75	45 - 75
Type of Gas 3	NATURAL	NATURAL	NATURAL	NATURAL
<b>POWER CONNS. — V/PH/HZ</b>	208-230/3/60	208-230/3/60	460/3/60	575/3/60
Min Brk Cir Ampacity	18	18	8	6.4
Bk Cir — Max (Amps)	25	25	15	10
Prot Rtg — Recmd (Amps)	25	25	15	10
<b>COMPRESSOR</b>	CLIMATUFF™	CLIMATUFF™	CLIMATUFF™	CLIMATUFF™
No Used	1	1	1	1
Volts/PH/HZ	200-230/3/60	200-230/3/60	460/3/60	575/3/60
R.L. Amps — L.R. Amps	11 — 101	11 — 101	4 — 51.0	3.3 — 41
<b>OUTDOOR COIL — TYPE</b>	PLATE FIN	PLATE FIN	PLATE FIN	PLATE FIN
Rows — F P I	2 / 20	2 / 20	2 / 20	2 / 20
Face Area (Sq. Ft.)	6.34	6.34	6.34	6.34
Tube Size (in.)	3/8 COPPER	3/8	3/8	3/8
<b>INDOOR COIL — TYPE</b>	PLATE FIN	PLATE FIN	PLATE FIN	PLATE FIN
Rows — F P I	3 / 15	3 / 15	3 / 15	3 / 15
Face Area (Sq. Ft.)	3.96	3.96	3.96	3.96
Tube Size (in.)	3/8 COPPER	3/8	3/8	3/8
Refrigerant Control	CAPILLARY	CAPILLARY	CAPILLARY	CAPILLARY
Drain Conn. Size (in.)	3/4" FEMALE NPT	3/4" FEMALE	3/4" FEMALE	3/4" FEMALE
Duct Connections	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING
<b>OUTDOOR FAN — TYPE</b>	PROPELLER	PROPELLER	PROPELLER	PROPELLER
No Used / Dia (in.)	1 / 18	1 / 18	1 / 18	1 / 18
Type Drive / No. Speeds	DIRECT / 1	DIRECT / 1	DIRECT / 1	DIRECT / 1
No. Motors — HP	1 — 1/5	1 — 1/5	1 — 1/2	1 — 1/2
Motor Speed R.P.M.	1080	1080	1080	1080
Volts/PH/HZ	230/1/60	230/1/60	460/1/60	575/1/60
F.L. Amps — L.R. Amps	1.6 — 3.3	1.6 — 3.3	1.7 — 3.8	1.4 — 3.2
<b>INDOOR FAN — TYPE</b>	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia. x Width (in.)	10 X 9	10 X 9	10 X 9	10 X 9
No. Used	1	1	1	1
Drive — Speeds (No.)	DIRECT /	DIRECT / 2	DIRECT / 2	DIRECT /
No. Motors — HP	1 — 1/3	1 — 1/3	1 — 1/3	1 — 1/3
Motor Speed R.P.M.	1080	1080	1080	1080
Volts/PH/HZ	200-230/1/60	200-230/1/60	460/1/60	575/1/60
F.L. Amps — L.R. Amps	2.8/2.2 — 5.1	2.8/2.2 — 5.1	1.1 — 2.6	9 — 2.0
<b>COMBUSTION FAN — TYPE</b>	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive — Speeds (No.)	DIRECT — 1	DIRECT — 1	DIRECT — 1	DIRECT — 1
Motor HP — Speed (RPM)	— 3480	1/35 — 3480	1/35 — 3480	1/35 — 3480
Volts/PH/HZ	240/1/60	208-240/1/60	208-240/1/60	208-240/1/60
F.L. Amps	0.6	0.6	0.6	0.6
<b>FILTER — FURNISHED?</b>	NO	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY	THROWAWAY
Min. Face Area Lo (ft.) 2 8	4.0	4.0	4.0	4
<b>REFRIGERANT</b>				
Charge (lbs. of R-22) 4	5.7 lbs.	5 lbs. 15 oz.	5 lbs. 15 oz.	5 lbs. 15 oz.
<b>GAS PIPE SIZE (IN.)</b>	1/2"	1/2"	1/2"	1/2"
<b>DIMENSIONS</b>				
Crated (in.)	H X W X D 35-1/4 X 38 X 57	H X W X D 35-1/4 X 38 X 64-5/8	H X W X D 35-1/4 X 38 X 64-5/8	H X W X D 35-1/4 X 38 X 64-5/8
Uncrated	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING
<b>WEIGHT</b>				
Shipping (lbs.) : Net (lbs.)	426 / 386	452 / 403	440 / 394	440 / 394

# Dimensional Data

**YCC018-060F Outline — Front**  
(ALL DIMENSIONS ARE IN INCHES)



MODEL	A	B	C	D	E	F
YCC036F H YCC042F M	55 1/4	36	25 3/16	12 15/16	36 3/4	KNOCKOUTS FOR 1/2" AND 1" CONDUIT
YCC030F M YCC025F L F M	55 1/4	36	29 3/16	12 15/16	36 3/4	KNOCKOUTS FOR 3/4" AND 1-1/4" CONDUIT
YCC036F H YCC042F M YCC048F M	62 3/4	36	29 3/16	14 1/2	27 1/2	KNOCKOUTS FOR 3/4" AND 1-1/4" CONDUIT
YCC048F H YCC060F M	64 5/16	45	33 3/8	14 13/16	27 15/16	KNOCKOUTS FOR 3/4" AND 1-1/2" CONDUIT

From Dwg. 21D661689 Rev. 0

EXISTING ONE LINE

(E) RISA 2 1/2" W/  
4 250 MCM AL

(E) CABLE TAP  
METER

(E) 200A 1Ø METER  
PANEL (UNUSERS)  
(TO BE REMOVED)

(E) 200A 3Ø METER  
PANEL W/ 125 A FUSES  
W/ 200 A PULL OUT BLOCK

(E) 2" EMT W/ 3 1Ø AL  
#4 AL FOR HI LEG  
(TO BE INTERCEPTED AND ROUTED TO  
THE NEW PANEL "A")

(E) 125A 3Ø SUB PANEL  
TO REMAIN



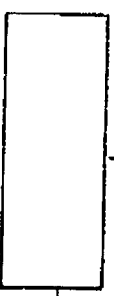
NEW ONE LINE

(E) RISA

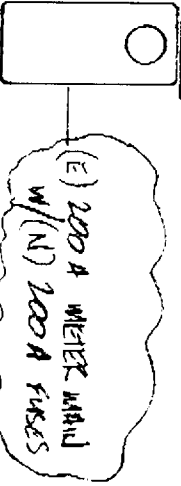
What leg shall be connected  
to 'B' phase & identified  
orange (exception at meter)

Provide offer  
ground & bond  
to interior water &  
gas (N) 2" EMT  
W/ 4 3Ø CU THIN

(E) 2" EMT REROUTED  
TO PNL "A"



(E) CABLE TAP METER



(E) 200A METER PANEL  
W/ (N) 200A FUSES

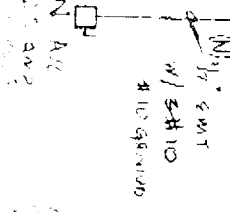
4/3/98

(E) 2" EMT REROUTED  
TO PNL "A"

(E) SUB PANEL



(N) 3/4 EMT W/ 3 #  
8 CU THIN



4-2-98

APPROVED BY: [Signature]  
ELECTRICAL DIVISION

Receivay Requirements

All wiring to be done on buildings  
pre existing including hotels &  
shops on the premises  
subject to approved receptacles

Shirley M. [Signature]

1700  
ROS  
781-2343

Kelly

RE PAINTS

531 TOLSON BLVD SARRAN A 95819

NEW PANEL A													
VOLTAGE		BUS		LOADING SURFACE						CURRENT			
20/240		225A		MLO 3φ						50.7			
LOAD				KVA		CB		NO		LOAD			
(N)	SOIA MACHINE		1.1	20/1	1					2	20/1	3	(N) ROOF RECEPT OFF (N)
	240V SPACE									4			240V SPACE
	240V SPACE		10.7	100/	3					6	20/1	1.6	PAINI SHAKER # 1 (N)
	240V SPACE		10.7	2/	7					8	1	1.6	PAINI SHAKER # 2 (N)
	PAINT SHAKER # 4		1.6	20/1	11					10			240V SPACE
			4.3	50/	13					12	20/1	1.6	PAINI SHAKER # 3 (N)
			4.3		15					14	1	2.0	FLOOR WID SHAKER (N)
			4.3	3/	17					16	30/1	2.2	
					19					18	1	2.2	NEW A/C UNIT (N)
					21					20	1/3	2.2	
					23					22			
					25					24			
					27					26			
					29					28			
					31					30			
					33					32			
					35					34			
					37					36			
					39					38			
					41					40			

ADD TO A SCHEDULE PER PER: 6358 X ITEM # 1,2,5.

185A on Aφ

182A on Cφ

**CITY OF SACRAMENTO  
APPLICATION FOR BUILDING PERMIT**

**48059640**

**DEVELOPMENT SERVICES DIVISION  
PERMIT SERVICES DIVISION**

1231 I Street, Rm. 200  
Sacramento, CA 95814 (916) 264-7619 FAX 264-7046

→ Applicant must complete ALL Unshaded areas ←

PC # \_\_\_\_\_ AREA # **3C**

ADDRESS **2985 FREEPORT** Suite **3E**  
PARCEL # **013-0063-005**

<p align="center"><b>CONTACT</b></p> <p>Name _____ Address _____ Zip _____ Phone _____ FAX _____</p>	<p align="center"><b>LICENCED CONTRACTOR</b> Lic No. # <b>470732</b></p> <p>Name <b>SUA INC</b> Address <b>9918 KANT ST SUITE 1 ELK GROVE CA</b> Zip <b>95624</b> Phone <b>916 685-1100</b> FAX <b>916 685-1168</b></p>
<p align="center"><b>ARCHITECT/ENGINEER</b></p> <p>Name <b>UGEN &amp; ASSOCIATES</b> Address <b>1127 EAST OLIVE ORLANDO CA</b> Zip <b>93708</b> Phone <b>209 268-2711</b> FAX _____</p>	<p align="center"><b>OWNER/TENANT</b></p> <p>Name <b>MCDONALD'S</b> Address <b>2985 FREEPORT SACRAMENTO CA</b> Zip <b>9</b> Phone _____ FAX _____</p>

→ Will the permittee have any employees on the jobsite?  Yes  No

→ If yes, WORKER'S COMPENSATION POLICY # **713-97 UNIT 0002047** EXPIRATION DATE: **10-1-98**

NAME OF INSURANCE COMPANY: **STATE FUND**

NATURE OF WORK IN DETAIL: **INSTALL NEW EQUIPMENT**

DBA: **MCDONALD'S** VALUATION: **10000**

FLOOD STATUS:				S.C.A.T.						
JOB DESCRIPTION		BLDG	SHEL	APT	TI( )	REM( X )	SW	FIRE	ADD	OTH
INSP. DISCIPLINES		<b>BLDG</b>	<b>MECH</b>	<b>PLUMB</b>	<b>ELEC</b>	<b>SITE</b>	<b>FIRE</b>			
# Stories	1st flr Area.	Total Area	Use Zone	Occp Group	Const type	Fire Req. <b>Y</b>		Fed Code	Vio. File	
				<b>A 3</b>	<b>VN</b>	Spr	Alarm	<b>18</b>	<b>OK</b>	
<b>B</b>	<b>L</b>	<b>P</b>	<b>M</b>	<b>E</b>	<b>F</b>	<b>S</b>		<b>D</b>	<b>R</b>	
	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>						

COMMENTS: \_\_\_\_\_

REGIONAL SANITATION FEES?  Yes  No HEALTH DEPARTMENT?  Yes  No

~~CITY OF SACRAMENTO~~  
 CITY OF SACRAMENTO  
 DEVELOPMENT SERVICES DIVISION

# EXPRESS PLAN REVIEW

SUBMITTAL DATES					
First Review		2nd Review		3rd Review	
IN	OUT	IN	OUT	IN	OUT
/ /	/ /	9/14/98	/ /	/ /	/ /

PLAN CHECK # 6358 X  
 ADDRESS: ~~xxxx~~ 6531 Folsom BL  
 Commercial    Residential



ACCEPTED by (Staff):  
JACK

DISCIPLINE	1ST REVIEW			2ND REVIEW			3RD REVIEW		
	Status	Staff	Date	Status	Staff	Date	Status	Staff	Date
LIFE SAFETY									
STRUCTURAL									
MECHANICAL/PLUMBING						10/12			
ELECTRICAL	13	JDM	9/6/98						
FIRE									
PLANNING									

STAFF COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

~~CITY OF SACRAMENTO~~  
CITY OF SACRAMENTO  
DEVELOPMENT SERVICES DIVISION

# EXPRESS PLAN REVIEW

SUBMITTAL DATES					
First Review		2nd Review		3rd Review	
IN	OUT	IN	OUT	IN	OUT
11/18	/ /	/ /	/ /	/ /	/ /

PLAN CHECK # 6358X  
 ADDRESS: 6531 FOLSOM BL  
 Commercial     Residential



ACCEPTED by (Staff):  
JACK

DISCIPLINE	1ST REVIEW			2ND REVIEW			3RD REVIEW		
	Status	Staff	Date	Status	Staff	Date	Status	Staff	Date
LIFE SAFETY									
STRUCTURAL			8/26						
MECHANICAL/PLUMBING			9/2/98						
ELECTRICAL			9/2/98						
FIRE									
PLANNING									

STAFF COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_