

CITY OF SACRAMENTO

Permit No: 0607077

1231 I Street, Sacramento, CA 95814

Insp Area: 4

Site Address: 2260 MOGAN AV SAC

Thos Bros:

Parcel No: 238-0201-011

Sub-Type: NSFR

Housing (Y/N): N

CONTRACTOR

PARKER BROTHERS CONSTRUCTION SVC
1527 3RD STREET
SACTO, CA 95814-5320

OWNER

731 BARROS DR
SACRAMENTO CA 95835

ARCHITECT

PRIVETTE EUGENE

Nature of Work: 1171 SF SFR W/596 SF GARAGE AND 40 SF PORCH--IN DESIGN REVIEW AREA--

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.

X License Class B License Number 821353 Date 13 Jul 06 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

PAID CITY OF SACRAMENTO JUL 13 2006 NEIGHBORHOODS PLANNING AND DEVELOPMENT SERVICES

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 create any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize the 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.

X Date 13 Jul 06 Applicant/Agent Signature [Signature]

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

X 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 EXEMPT Policy Number Exp Date

(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.

X Date 13 Jul 06 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.

**INSULATION CERTIFICATE**

0607077

THIS IS TO CERTIFY THAT INSULATION HAS BEEN INSTALLED IN CONFORMANCE WITH THE CURRENT ENERGY REGULATIONS, CALIFORNIA ADMINISTRATION CODE, TITLE 24, STATE OF CALIFORNIA, IN THE BUILDING LOCATED AT:

SITE ADDRESS MOSAN AVE SACRAMENTO CA  
 NUMBER CITY STATE

**CEILINGS:**

BLOW: MANUFACTURER GREENFIBER THICKNESS 10.3" R/VALUE 38  
 MANUFACTURER GREENFIBER THICKNESS R/VALUE  
 BATTS: MANUFACTURER KNAUF THICKNESS 13" R/VALUE 38  
KNAUF

**EXTERIOR WALLS:**

MANUFACTURER KNAUF THICKNESS 3.5" R/VALUE 13  
KNAUF

**FLOOR INSULATION:**

MANUFACTURER KNAUF THICKNESS N/A R/VALUE N/A  
KNAUF

**AIR INFILTRATION: (TITLE 24)**

YES XXX NO

OTHER: \_\_\_\_\_

GENERAL CONTRACTOR: DON PARKER LICENSE # \_\_\_\_\_

BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

INSULATION CONTRACTOR: WESTERN INSULATION LP LICENSE # 794484

BY: Becky Guthrie TITLE AUTH. AGENT DATE 10/20/2006  
 BECKY GUTHERZ

**INSTALLATION CERTIFICATE**

(Page 1 of 12) CF-6R

Site Address <b>2260 MOGAN AVE</b>	Permit Number <b>0607077</b>
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An installation certificate is required to be posted at the building site or made available for all appropriate inspections. (The information provided on this form is required) After completion of final inspection, a copy must be provided to the building department (upon request) and the building owner at occupancy, per Section 10-103(a).

**WATER HEATING SYSTEMS:**

Heater Type	CEC Certified Mfr Name & Model Number	Distribution Type (Std, Point-of-Use, etc)	If Recirculation, Control Type	# of Identical Systems	Rated Input (kW or Btu/hr) <sup>1</sup>	Tank Volume (gallons)	Efficiency (EF, RE) <sup>2</sup>	Standby Loss (%) <sup>2</sup>	External Insulation R-value <sup>2</sup>
<b>GAS</b>	<b>GEHOTOGA</b>	<b>STD</b>	<b>N/A</b>	<b>1</b>		<b>40</b>			

- 1 For small gas storage (rated input of less than or equal to 75,000 Btu/hr), electric resistance and heat pump water heaters, list Energy Factor (EF). For large gas storage water heaters (rated input of greater than 75,000 Btu/hr), list Recovery (RE), Thermal Efficiency, Standby Loss and Rated Input. For instantaneous gas water heaters, list Thermal Efficiency and Rated Input.
2. R-12 external insulation is mandatory for storage water heaters with an energy factor of less than 0.58.

**Kitchen Piping:**

If indicated on the CF-1R, all hot water piping  $\geq 3/4$  inches in diameter that runs from the hot water source to the kitchen fixtures is insulated.

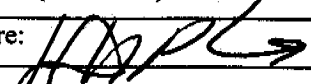
**Faucets & Shower Heads:**

All faucets and showerheads installed are certified to the Energy Commission, pursuant to Title 24, Part 6, Section 111.

**Central Water Heating in Buildings with Multiple Dwelling Units (required for prescriptive)**

- All hot water piping in main circulating loop is insulated to requirements of §150(j)
- Central hot water systems serving six or fewer dwelling units which have (1) less than 25' of distribution piping outdoors; (2) zero distribution piping underground; (3) no recirculation pump; and (4) insulation on distribution piping that meets the requirements of Section 150(j)
- Central hot water systems serving more than 6 dwelling units - presence of either a time control or a time/temperature control

I, the undersigned, verify that equipment listed above my signature is: 1) the actual equipment installed; 2) equivalent to or more efficient than that specified in the certificate of compliance (Form CF-1R) submitted for compliance with the *Energy Efficiency Standards* for residential buildings; and 3) equipment that meets or exceeds the appropriate requirements for manufactured devices (from the *Appliance Efficiency Regulations* or Part 6), where applicable.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	<b>GL</b>
Signature: 	Date: <b>30 NOV 06</b>

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

**INSTALLATION CERTIFICATE**

(Page 3 of 12) **CF-6R**

Site Address <b>2260 MOBAN AVE</b>	Permit Number <b>0607077</b>
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An installation certificate is required to be posted at the building site or made available for all appropriate inspections. (The information provided on this form is required) After completion of final inspection, a copy must be provided to the building department (upon request) and the building owner at occupancy, per Section 10-103(a).

**HVAC SYSTEMS:**

*Heating Equipment*

Equip Type (pkg. heat pump)	CEC Certified Mfr. Name and Model Number	# of Identical Systems	Efficiency (AFUE, etc.) <sup>1</sup> (≥CF-1R value)	Duct Location (attic, etc.)	Duct or Piping R-value	Heating Load (Btu/hr)	Heating Capacity (Btu/hr)
<b>SPLIT</b>	<b>FEDERS 030930010</b>	<b>1</b>		<b>ATTIC</b>	<b>6</b>		

*Cooling Equipment*

Equip Type (pkg. heat pump)	CEC Certified Mfr. Name and Model Number	# of Identical Systems	Efficiency (SEER or EER) <sup>1</sup> (≥CF-1R value)	Duct Location (attic, etc.)	Duct R-value	Cooling Load (Btu/hr)	Cooling Capacity (Btu/hr)
<b>SPLIT</b>	<b>FEDERS E3611AE6SR13MDF</b>	<b>1</b>		<b>ATTIC</b>	<b>6</b>		

1. ≥ symbol reads *greater than or equal to what is indicated on the CF-1R value.*  
Include both SEER and EER if compliance credit for high EER air conditioner is claimed.

I, the undersigned, verify that equipment listed above is: 1) is the actual equipment installed, 2) equivalent to or more efficient than that specified in the certificate of compliance (Form CF-1R) submitted for compliance with the *Energy Efficiency Standards* for residential buildings, and 3) equipment that meets or exceeds the appropriate requirements for manufactured devices (from the *Appliance Efficiency Regulations* or Part 6), where applicable.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	<b>GC</b>
Signature:	Date: <b>30 NOV 06</b>

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

Site Address	Permit Number
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**THERMOSTATIC EXPANSION VALVE (TXV)**

*Procedures for field verification of thermostatic expansion valves are available in RACM, Appendix RI.*

✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Access is provided for inspection. The procedure shall consist of visual verification that the TXV is installed on the system and installation of the specific equipment shall be verified.	<input type="checkbox"/>	<input type="checkbox"/>
Yes is a pass				Pass	Fail

**REFRIGERANT CHARGE MEASUREMENT**

Verification for Required Refrigerant Charge and Adequate Airflow for Split System Space Cooling Systems without Thermostatic Expansion Valves

Outdoor Unit Serial #		
Location		
Outdoor Unit Make		
Outdoor Unit Model		
Cooling Capacity		Btu/hr
Date of Verification		
Date of Refrigerant Gauge Calibration		(must be checked monthly)
Date of Thermocouple Calibration		(must be checked monthly)

**Standard Charge Measurement Procedure (outdoor air dry-bulb 55°F and above):**

*Procedures for Determining Refrigerant Charge using the Standard Method are available in RACM, Appendix RD2.*

Note: The system should be installed and charged in accordance with the manufacturer's specifications before starting this procedure.

**Measured Temperatures**

Supply (evaporator leaving) air dry-bulb temperature (Tsupply, db)		°F
Return (evaporator entering) air dry-bulb temperature (Treturn, db)		°F
Return (evaporator entering) air wet-bulb temperature (Treturn, wb)		°F
Evaporator saturation temperature (Tevaporator, sat)		°F
Suction line temperature (Tsuction, db)		°F
Condenser (entering) air dry-bulb temperature (Tcondenser, db)		°F

**Superheat Charge Method Calculations for Refrigerant Charge**

Actual Superheat = Tsuction, db - Tevaporator, sat		°F
Target Superheat (from Table RD-2)		°F
Actual Superheat - Target Superheat (System passes if between -5 and +5°F)		°F

**Temperature Split Method Calculations for Adequate Airflow**

*Split Method Calculation is not necessary if Adequate Airflow credit is taken*

Actual Temperature Split = T return, db - Tsupply, db		°F
Target Temperature Split (from Table RD3)		°F
Actual Temperature Split - Target Temperature Split (System passes if between -3°F and +3°F or, upon remeasurement, if between -3°F and -10°F)		°F

Site Address

Permit Number

**MISCELLANEOUS CREDITS**

**DIAGNOSTIC SUPPLY DUCT LOCATION, SURFACE AREA AND R-VALUE**

*Procedures for field verification and diagnostic testing for this group compliance credits are available in RACM, Appendix RC, RE & RH.*

**LESS THAN 12 LINEAL FEET OF SUPPLY DUCT OUTSIDE OF CONDITIONED SPACE COMPLIANCE CREDIT**

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Less than 12 lineal feet of supply duct outside of conditioned space.
Yes to this compliance credit is a pass			
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fail

**SUPPLY DUCTS LOCATED IN CONDITIONED SPACE COMPLIANCE CREDIT**

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Ducts are located within the conditioned volume of building.
Yes to this compliance credit is a pass			
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fail

Duct System Design verification is required for a compliance credit for the following:

1. Supply duct surface area reduction
2. Buried supply ducts on the ceiling
3. Deeply buried supply ducts

**DUCT SYSTEM DESIGN VERIFICATION**

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Adequate airflow verified
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	The duct system design plan meets the requirements specified in RACM, Appendix RE, Section RE.4.2
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	The duct system design plan exists on building plans
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Duct sizes, duct system layout and locations of supply & return registers match the duct system design plan
Yes to all is a pass			
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fail

**SUPPLY DUCTS SURFACE AREA REDUCTION COMPLIANCE CREDIT**

Attic	Crawl Space	Basement	Covered	Deeply Covered	Other	Duct Diameter	R-4.2 Surface Area	R-6.0 Surface Area	R-8.0 Surface Area
<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"/>				
<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"/>				
Total Surface Area for Each R-Value =									
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Matches Performance's CF-1R?					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Yes to all is a pass								<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>						Pass	Fail

**BURIED DUCTS ON THE CEILING COMPLIANCE CREDIT**

<input type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Buried Ducts on the Ceiling
<input type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Verified High Insulation Installation Quality
Yes to duct system design, supply duct surface area reduction and this compliance credit is a pass			
	<input type="checkbox"/>	<input type="checkbox"/>	Pass
	<input type="checkbox"/>	<input type="checkbox"/>	Fail

**DEEPLY BURIED DUCTS COMPLIANCE CREDIT**

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Deeply Buried Ducts
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Verified High Insulation Installation Quality
Yes to duct system design, supply duct surface area reduction and this compliance credit is a pass			
	<input type="checkbox"/>	<input type="checkbox"/>	Pass
	<input type="checkbox"/>	<input type="checkbox"/>	Fail

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

Site Address	Permit Number
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An installation certificate is required to be posted at the building site or made available for all appropriate inspections. (The information provided on this form is required) After completion of final inspection, a copy must be provided to the building department (upon request) and the building owner at occupancy, per Section 10-103(a).

**BUILDING ENVELOPE LEAKAGE DIAGNOSTICS**

**ENVELOPE SEALING INFILTRATION REDUCTION**

<i>Procedures for field verification and diagnostic testing of envelope leakage are available in RACM, Appendix RC.</i>									
<b>Diagnostic Testing Results</b>									
<b>Building Envelope Leakage (CFM @ 50 Pa) as measured by Rater:</b>									
1.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Measured envelope leakage less than or equal to the required level from CF-1R?						
2.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is Mechanical Ventilation shown as required on the CF-1R?						
2a.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Mechanical Ventilation is required on the CF-1R ('Yes' in line 2), has it been installed?						
2b.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Check this box 'yes' if mechanical ventilation is required ('Yes' in line 2) and ventilation fan watts are no greater than shown on CF-1R. Measured Watts =						
3.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Check this box "yes" if measured building infiltration (CFM @ 50 Pa) is greater than the CFM @ 50 values shown for an SLA of 1.5 on CF-1R (If this box is checked no, mechanical ventilation is required.)						
4.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Check this box "yes" if measured building infiltration (CFM @ 50 Pa) is less than the CFM @ 50 values shown for an SLA of 1.5 on CF-1R, mechanical ventilation is installed and house pressure is greater than minus 5 Pascal with all exhaust fans operating.						
Pass if: a. Yes in line 1 and line 3, or b. Yes in line 1 and line 2, 2a, and 2b, or c. Yes in line 1 and Yes in line 4. Otherwise fail.			<table style="width:100%; border: none;"> <tr> <td style="width:50%; text-align: center;">✓</td> <td style="width:50%; text-align: center;">✓</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;">Pass</td> <td style="text-align: center;">Fail</td> </tr> </table>	✓	✓	<input type="checkbox"/>	<input type="checkbox"/>	Pass	Fail
✓	✓								
<input type="checkbox"/>	<input type="checkbox"/>								
Pass	Fail								

I, the undersigned, verify that the building envelope leakage meets the requirements claimed for building leakage reduction below default assumptions as used for compliance on the CF-1R. This is to certify that the above diagnostic test results and the work I performed associated with the test(s) is in conformance with the requirements for compliance credit. (The builder shall provide the HERS provider a copy of the CF-6R signed by the builder employees or subcontractors certifying that diagnostic testing and installation meet the requirements for compliance credit.)

Test Performed	
Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature:	Date:

**Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE), BUILDING OWNER AT OCCUPANCY**

**INSTALLATION CERTIFICATE**

(Page 11 of 12) CF-6R

Site Address

Permit Number

✓ **ROOF/CEILING BATTS**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No gaps
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No voids over ¼ in. deep or more than 10% of the batt surface area.
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation in contact with the air-barrier
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Recessed light fixtures covered
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Net free-ventilation area maintained at eave vents
Yes	No	NA	
✓ <b>ROOF/CEILING LOOSE-FILL</b>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation uniformly covers the entire ceiling (or roof) area from the outside of all exterior walls.
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Baffles installed at eaves vents or soffit vents - maintain net free-ventilation area of eave vent
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Attic access insulated
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Recessed light fixtures covered
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation at proper depth – insulation rulers visible and indicating proper depth and R-value
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loose-fill insulation meets or exceeds manufacturer's minimum weight and thickness requirements for the target R-value. Target R-value _____ . Manufacturer's minimum required weight for the target R-value _____ (pounds-per-square-foot). Manufacturer's minimum required thickness at time of installation _____ . Manufacturer's minimum required settled thickness _____ . Note: To receive compliance credit the HERS rater shall verify that the manufacturer's minimum weight and thickness has been achieved for the target R-value. (CF-6R only)
Yes	No	NA	

**DECLARATION**

✓  I hereby certify that the installation meets all applicable requirements as specified in the Insulation Installation Procedures.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature:	Date:

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE), BUILDING OWNER AT OCCUPANCY



<b>INSTALLATION CERTIFICATE</b>	
(Page 12 of 12) CF-6R	
Site Address	Permit Number
County Subdivision	Lot Number

**Description of Insulation (Formerly IC-1 Form)**

<p>1. RAISED FLOOR</p> <p>Material _____</p> <p>Thickness (inches) _____</p> <p>Brand Name _____</p> <p>Thermal Resistance (R-Value) _____</p>	<p>2. SLAB FLOOR/PERIMETER</p> <p>Material _____</p> <p>Thickness (inches) _____</p> <p>Brand Name _____</p> <p>Thermal Resistance (R-Value) _____</p>
<p>3. EXTERIOR WALL</p> <p>Perimeter Insulation Depth (inches) _____</p> <p>Thickness (inches) _____</p> <p>Material _____</p> <p>A. Cavity Insulation</p> <p>Frame Type _____</p> <p>Material _____</p> <p>Thickness (inches) _____</p> <p>B. Exterior Foam Sheathing</p> <p>Material _____</p> <p>Thickness (inches) _____</p> <p>Brand Name _____</p> <p>Thermal Resistance (R-Value) _____</p>	<p>4. FOUNDATION WALL</p> <p>Material _____</p> <p>Thickness (inches) _____</p> <p>Brand Name _____</p> <p>Thermal Resistance (R-Value) _____</p>
<p>5. CEILING</p> <p>Batt or Blanket Type _____</p> <p>Thickness (inches) _____</p> <p>Loose Fill Type _____</p> <p>Contractor's min installed weight/ft<sup>2</sup> _____ lb</p> <p>Manufacturer's installed weight per square foot to achieve _____</p> <p>Minimum thickness _____ inches</p> <p>Brand _____</p> <p>Thermal Resistance (R-Value) _____</p> <p>Brand Name _____</p> <p>Thermal Resistance (R-Value) _____</p>	<p>6. ROOF</p> <p>Material _____</p> <p>Thickness (inches) _____</p> <p>Brand Name _____</p> <p>Thermal Resistance (R-Value) _____</p>

I hereby certify that the above insulation was installed in the building at the above location in conformance with the current *Energy Efficiency Standards* for residential buildings (Title 24, Part 6, California Code of Regulations) as indicated on the Certificate of Compliance, where applicable.

Item # (if applicable)	Signature	Date	Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR OR Window Distributor
Item # (if applicable)	Signature	Date	Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR OR Window Distributor
Item # (if applicable)	Signature	Date	Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR OR Window Distributor

✓ FLOOR			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
All floor joist cavity insulation installed to uniformly fit the cavity side-to-side and end-to-end			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Insulation in contact with the subfloor or rim joists insulated			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Insulation properly supported to avoid gaps, voids, and compression			
✓ WALLS			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Wall stud cavity insulation uniformly fills the cavity side-to-side, top-to-bottom, and front-to-back			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
No gaps			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
No voids over 3/4" deep or more than 10% of the batt surface area.			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Hard to access wall stud cavities such as; corner channels, wall intersections, and behind tub/shower enclosures insulated to proper R-Value			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Small spaces filled			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Rim-joists insulated			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Loose fill wall insulation meets or exceeds manufacturer's minimum weight-per-square-foot requirement			
✓ ROOF/CEILING PREPARATION			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
All draft stops in place to form a continuous ceiling and wall air barrier			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
All drops covered with hard covers			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
All draft stops and hard covers caulked or foamed to provide an air tight envelope			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
All recessed light fixtures IC and air tight (AT) rated and sealed with a gasket or caulk between the housing and the ceiling			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Floor cavities on multiple-story buildings have air tight draft stops to all adjoining attics			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Eave vents prepared for blown insulation - maintain net free-ventilation area			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Knee walls insulated or prepared for blown insulation			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Area under equipment platforms and cat-walks insulated or accessible for blown insulation			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA
Attic rulers installed			

**Insulation Installation Quality Certificate**

✓  Description of Insulation, (CF-6R, formerly IC-1) signed by the installer stating: insulation manufacturer's name, material identification, installed R-values, and for loose-fill insulation: minimum weight per square foot and minimum inches

✓  Installation meets all applicable requirements as specified in the High Quality Insulation Installation Procedures (ACM, Appendix RH)

<b>INSTALLATION CERTIFICATE</b>	
Site Address	Permit Number
(Page 10 of 12) CF-6R	

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

Signature:	
Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Date:	

1	✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	EER values of installed systems match the CF-1R
2	✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	For split system, indoor coil is matched to outdoor coil
3	✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Time Delay Relay Verified (If Required)
Yes to 1 and 2; and 3 (If Required) is a pass				
		<input type="checkbox"/> Pass	<input type="checkbox"/> Fail	

Procedures for verification are available in RACM, Appendix RI

HIGH EER AIR CONDITIONER

1	✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Adequate airflow verified (see adequate airflow credit)
2	✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Refrigerant charge or TXV
3	✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Duct leakage reduction credit verified
4	✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Cooling capacities of installed systems are ≤ to maximum cooling capacity indicated on the Performance's CF-1R and RF-3.
5	✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If the cooling capacities of installed systems are > than maximum cooling capacity in the CF-1R, then the electrical input for the installed systems must be ≤ to electrical input in the CF-1R.
Yes to 1, 2, and 3; and Yes to either 4 or 5 is a pass				
		<input type="checkbox"/> Pass	<input type="checkbox"/> Fail	

Procedures for determining maximum cooling load capacity are available in RACM, Appendix RF3.

MAXIMUM COOLING CAPACITY

✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Measured airflow is greater than the criteria in Table RE-2
			Yes is a pass
		<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Method For Airflow Measurement
			RE4.1.1 Diagnostic Fan Flow Using Flow Capture Hood
			RE4.1.2 Diagnostic Fan Flow Using Plenum Pressure Matching
			RE4.1.3 Diagnostic Fan Flow Using Flow Grid Measurement
			Duct design exists on plans
			Measured Airflow:
			Rated Tons cfm/ton
			Total cfm

Procedures for measuring the airflow are available in RACM, Appendix RE3.1.

ADEQUATE AIRFLOW VERIFICATION

✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Measured fan watt/cfm draw is equal to or lower than the fan watt/cfm draw documented in CF-1R
			Yes is a pass
		<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

✓	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Method For Fan Watt Draw Measurement
			RE3.2.1 Portable Watt Meter Measurement
			RE3.2.2 Utility Revenue Meter Measurement
			Measured Fan Watt Draw
			Measured Fan Flow (enter total cfm from airflow verification)
			Enter results of Watts/cfm
			Watts
			cfm
			Watts/cfm

Procedures for measuring the air handler watt draw are available in RACM, Appendix RE3.2.

FAN WATT DRAW

INSTALLATION CERTIFICATE	Site Address
(Page 8 of 12) CF-6R	Permit Number

**INSTALLATION CERTIFICATE** (Page 6 of 12) **CF-6R**

Site Address	Permit Number
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Standard Charge Measurement Summary:  
 System shall pass both refrigerant charge and adequate airflow calculation criteria from the same measurements. If corrective actions were taken, both criteria must be remeasured and recalculated.

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	System Passes
-------------------------------------	------------------------------	-----------------------------	---------------

**Alternate Charge Measurement Procedure (outdoor air dry-bulb below 55°F)**  
 Note: The system should be installed and charged in accordance with the manufacturer's specifications and installer verification shall be documented on CF-6R before starting this procedure. If outdoor air dry-bulb is 55°F or above, installer shall use the Standard Charge Measure Procedure:

*Procedures for Determining Refrigerant Charge using the Alternate Method are available in RACM, Appendix RD3. Weigh-In Charging Method for Refrigerant Charge*

Actual liquid line length:	ft
Manufacturer's Standard liquid line length:	ft
Difference (Actual - Standard):	ft
Manufacturer's correction (ounces per foot) x difference in length = _____ ounces	ft

**Measured Airflow Method for Adequate Airflow Verification available in RACM, Appendix RD2.6**  
 Calculated Airflow: Cooling Capacity (Btu/hr) X 0.033 (cfm/Btu-hr) = \_\_\_\_\_ CFM  
 Measured Airflow is \_\_\_\_\_ CFM (Measured airflow must be greater than the calculated airflow).

Alternate Charge Measurement Summary:  
 System shall pass both refrigerant charge and adequate airflow calculation criteria from the same measurements. If corrective actions were taken, both criteria must be remeasured and recalculated.

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	System Passes
-------------------------------------	------------------------------	-----------------------------	---------------

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	Date:
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Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

Signature:	Date:
Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	

I, the undersigned, verify that the above diagnostic test results were performed in conformance with the requirements for compliance credit. I, the undersigned, also certify that the newly installed or retrofitted Air-Distribution System Ducts, Plenums and Fans comply with Mandatory requirements specified in Section 150 (m) of the 2005 Building Energy Efficiency standards.

NEW CONSTRUCTION:	
1	Enter Tested Leakage Flow in CFM: Duct Pressurization Test Results (CFM @ 25 Pa) Measured Values
2	Fan Flow: Calculated (Nominal): <input type="checkbox"/> Cooling <input type="checkbox"/> Heating or <input checked="" type="checkbox"/> Measured If Fan Flow is Calculated as 400 cfm/ton x number of tons or as 2.7 cfm/(Kbtu/hr) x Heating Capacity in Thousands of Btu/hr, enter total calculated or measured fan flow in CFM here: <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
3	Pass if Leakage Percentages 6% for Final or 4% at Rough-in: [100 x] (Line # 1) / (Line # 2)] <input type="checkbox"/> Pass <input type="checkbox"/> Fail
ALTERATIONS: Duct System and/or HVAC Equipment Change-Out	
4	Enter Tested Leakage Flow in CFM from Pre-Test of Existing Duct System Prior to Duct System Alteration and/or Equipment Change-Out.
5	Enter Tested Leakage Flow in CFM from Final Test of New Duct System or Altered Duct System for Duct System Alteration and/or Equipment Change-Out.
6	Enter Reduction in Leakage for Altered Duct System (Line # 4) Minus (Line # 5) -- (Only if Applicable)
7	Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)
8	Enter New Duct System - Pass if Leakage Percentage ≤ 6% for Final or ≤ 4% at Rough-in [100 x] (Line # 5) / (Line # 2)] <input type="checkbox"/> Pass <input type="checkbox"/> Fail
TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out Use one of the following four Test or Verification Standards for compliance:	
9	Pass if Leakage Percentage ≤ 15% [100 x] (Line # 5) / (Line # 2)] <input type="checkbox"/> Pass <input type="checkbox"/> Fail
10	Pass if Leakage to Outside Percentage ≤ 10% [100 x] (Line # 7) / (Line # 2)] <input type="checkbox"/> Pass <input type="checkbox"/> Fail
11	Pass if Leakage Reduction Percentage ≥ 60% [100 x] (Line # 6) / (Line # 4)] and Verification by Smoke Test and Visual Inspection <input type="checkbox"/> Pass <input type="checkbox"/> Fail
12	Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection Pass if One of Lines # 9 through # 12 pass <input type="checkbox"/> Pass <input type="checkbox"/> Fail

Procedures for field verification and diagnostic testing of air distribution systems are available in RACM, Appendix RCA.3

DUCT LEAKAGE REDUCTION

- Remove at least one supply and one return register, and verify that the spaces between the register boot and the interior finishing wall are properly sealed.
- If the house rough-in duct leakage test was conducted without an air handler installed, inspect the connection points between the air handler and the supply and return plenums to verify that the connection points are properly sealed.
- Inspect all joints to ensure that no cloth backed rubber adhesive duct tape is used.

INSTALLER VISUAL INSPECTION AT FINAL CONSTRUCTION STAGE:

The building was:  Tested at Final  Tested at Rough-in

INSTALLER COMPLIANCE STATEMENT

INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE

Site Address	Permit Number
INSTALLATION CERTIFICATE (Page 4 of 12) CF-6R	

Copies to: Building Department, HERS Rater (if applicable) Building Owner at Occupancy

Item #s (if applicable)	Signature	Date	Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner OR Window Distributor
Item #s (if applicable)	Signature	Date	Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner OR Window Distributor
Item #s (if applicable)	Signature <i>[Handwritten Signature]</i>	Date <i>3/24/05</i>	Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner OR Window Distributor <i>GC</i>

I, the undersigned, verify that the fenestration/glazing listed above my signature: 1) is the actual fenestration product installed; 2) is equivalent to or has a lower U-factor and lower SHGC than that specified in the certificate of compliance (Form CF-1R) submitted for compliance with the *Energy Efficiency Standards* for residential buildings; and 3) the product meets or exceeds the appropriate requirements for manufactured devices (from Part 6), where applicable.

- 2) Installed U-factor must be less than or equal to values from CF-1R. Installed SHGC must be less than or equal to values from CF-1R, or a shading device (exterior or overhang) is installed as specified on the CF-1R. Alternatively, installed weighted average U-factors for the total fenestration area are less than or equal to values from CF-1R. If using default table SHGC values from §116 identify whether tinted or not.
- 1) Use values from a fenestration product's NFRC label. For fenestration products without an NFRC label, use the default values from Section 116 of the Energy Efficiency Standards.

Item	Manufacturer/Brand Name (GROUP LIKE PRODUCTS)	Product U-factor <sup>1</sup> (≤ CF-1R value)	Product SHGC <sup>2</sup> (≤ CF-1R value)	# of Panes	Total Quantity of Like Product (Optional)	Area Square Feet	Exterior Shading Device or Overhang	Comments/Location/Special Features
1.	<i>[Handwritten]</i>			2	9			
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								

FENESTRATION/GLAZING:

An installation certificate is required to be posted at the building site or made available for all appropriate inspections. (The information provided on this form is required) After completion of final inspection, a copy must be provided to the building department (upon request) and the building owner at occupancy, per Section 10-103(a).

Site Address <i>2200 NOBAM AVE</i>	Permit Number <i>0007077</i>
INSTALLATION CERTIFICATE (Page 2 of 12) CF-6R	