

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0518732

Insp Area: 4

Thos Bros: 277D5

Site Address: 3030 LEONOR DR SAC

Parcel No: 225-0721-008

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR
CENTRAL SACRAMENTO
2214 ARDEN WY, #101
SACRAMENTO CA 95825

OWNER
ONEIL CRYSTAL/CURTIS
3030 LEONOR DR
SACRAMENTO, CA 95833

ARCHITECT

Nature of Work: C/O SPLIT SYSTEM HEAT PUMP HVAC UNIT \*\*ALL COMPLIANCE DOCS REQ'D @ INSPECTION

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 C-20 License Number 483147 Date 11/29/2005 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

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 applicable laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 11/29/2005 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 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.

Date 11/29/2005 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.

3030 LEONOR DR

0518732

Installation Certificate

Prescriptive Method - HVAC-only Alteration

CF-6R-ALT

Project Title: <b>Leonor</b>	Date: <b>04/26/2006</b>	© 2005 CalCERTS Enforcement Agency Use Only
Project Address: <b>3030 Leonor Dr. Sacramento, CA 95833</b>	Climate Zone: <b>12</b>	Building Permit #
Installing Contractor: <b>James Waters</b>	Telephone: <b>916-364-5440</b>	Plan Check Date
Company Name: <b>Central Sacramento Heating &amp; Air</b>		Field Check Date

Use one form for each system being altered. This is system # 1 of 1 systems altered in this house.  
 IMPORTANT: This CF-6R form is only for use when an HVAC-only alteration is made to an existing home  
 Copies to: Homeowner, HERS Rater, and Building Department

List the specifications for the newly installed equipment. These must match the installed equipment exactly.  
 Installed equipment must match type/location and meet or exceed efficiencies/R-values from CF-1R.

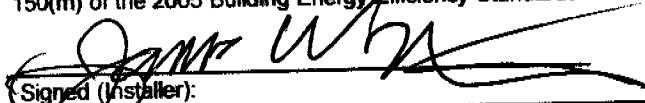
Equipment Type	Manufacturer	Model Number	Efficiency	Load**	Capacity***
Furnace			AFUE		
Heat Exchanger			N/A		
Heat Pump fan coil	<b>KEW HOME</b>	<b>NFCU480TC3</b>	N/A		<b>48000</b>
Hydronic fan coil			N/A		
Other FA Describe					
Package gas/AC			AFUE _____ SEER _____		
Package heatpump			HSPF _____ SEER _____ EER* _____		
A/C Condenser			SEER		
Heatpump Condenser	<b>KEW HOME</b>		HSPF <b>7.3</b> _____ SEER <b>14</b> _____		
Indoor DX coil			EER*		
Hydronic coil					

Provide EER if needed for compliance (line 24 of CF-1R-ALT). Installer must provide adequate documentation to verify EER.  
 In some cases the specific furnace may need to be verified in order to achieve a specific EER.  
 In some cases a time delay relay and/or TXV may need to be verified in order to achieve a specific EER.  
 \*\* Loads are sensible for cooling.  
 \*\*\* Capacities are sensible at design conditions for cooling and adjusted (altitude, downflow, etc.) output for heating.

TXV:  
 If TXV is required by the CF-1R form (line 23 on CF-1R-ALT form), it has been installed and access has been provided for visual verification by HERS rater. Sampling is allowed for TXV verification.

Entirely New Duct System: (Line 5 of CF-1R ALT)  
 For Entirely new duct systems, the required leakage is 6% rather than 15% for altered systems. The alternative to duct sealing by increasing the efficiency of the equipment is not an option for entirely new duct systems.

I, the undersigned, verify that the equipment listed above is: 1) the actual equipment installed in the home; 2) equal to or more efficient than required by the Certificate of Compliance (CF-1R-ALT Form); and 3) equipment that meets or exceeds the appropriate requirements for manufactured devices (Appliance Efficiency Standards), where applicable.  
 I, the undersigned, verify that diagnostic test results listed on this form were performed in conformance with the requirements for compliance and that the newly installed or retrofitted mechanical system components conform with the Mandatory requirements specified in Section 150(m) of the 2005 Building Energy Efficiency Standards.

  
 (Signed (Installer):

**04/26/2006**  
 Date:

Notes:

Project Title: <b>Leonor</b>	Date: <b>04/26/2006</b>	© 2005 CalCERTS
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**IMPORTANT:** This CF-6R form is only for use when an HVAC-only alteration is made to an existing home  
 Copies to: Homeowner, HERS Rater, and Building Department  
 Use one form for each system being altered. This is system # 1 of 1 systems altered in this house.

**Duct Leakage test Results (If duct testing is required per CF-1R-ALT form)**

**Step 1 - Pre-test: Leakage of the system before any alterations. This test is optional and is only used for the 60% reduction option**

1	Pre-test leakage :		CFM25	
2		Line 1 x 0.4 = <input type="text"/> target for 60% reduction		

**Step 2 - Determine Total System Fan Flow. Use any of these methods. Use values for equipment after alterations.**

3	Cooling: Condenser tonnage:	<input checked="" type="checkbox"/> Reheat <u>4</u> tons	x 400 CFM/ton =	<input type="text" value="1600"/>	CFM
4	Heating: Furnace output:	<input checked="" type="checkbox"/> <u>428000</u> Btuh	x .0217 CFM/Btuh =	<input type="text" value="9247"/>	CFM
5	Measured: (refer to ACM Manual Appendix RE, section 4.1) =				<input type="text"/> CFM
6	Measurement method: <input type="checkbox"/> flow hood <input type="checkbox"/> plenum pressure matching <input type="checkbox"/> flow grid				
7	Total system fan flow value to be used: <input type="text" value="1600"/> CFM may use highest of lines 3, 4, or 5.				

**Step 3 - Determine Targets:**

8a	Total System fan flow (line 7 from above) x 0.06 =	<input type="text"/>	CFM25 = 6% leakage target (new duct systems)
8b	Total System fan flow (line 7 from above) x 0.15 =	<input type="text" value="240"/>	CFM25 = 15% leakage target
9	Total System fan flow (line 7 from above) x 0.10 =		CFM25 = 10% leakage to outside target

**Step 4 - Alterations: Must be consistent with the CF-1R form.**

- 10  Seal all new connections with approved materials.
- 11  No newly constructed portions of the system can have unducted building cavities to convey system air.
- 12  If adding or replacing more than 40 feet of duct, insulate new ducts per package D for that climate zone

**Step 5 - Final Leakage (regular duct leakage test, for 15% total and 60% reduction)**

13	leakage =	<input type="text" value="177"/>	CFM25 refer to 2005 ACM appendix RC, Sections RC 4.3.1
14a	<input type="checkbox"/> If line 13 is less than line 8a, house passes the 6% leakage requirement, Go to Step 9.		
14b	<input checked="" type="checkbox"/> If line 13 is less than line 8b, house passes the 15% leakage requirement. Go to Step 9.		
15	<input type="checkbox"/> If line 13 is less than line 2, house passes the 60% reduction requirement, continue.		
16	<input type="checkbox"/> If either of lines 14a, 14b or 15 are checked, HERS verification is required. Sampling can be used.		
17	<input type="checkbox"/> If line 15 is checked, but not 14a or 14b, Smoke Test and Visual Inspection of Accessible Duct Sealing is required. Go to Step 8.		

**Step 6 - Leakage to Outside: Similar to a regular duct blaster test but the house is pressurized to 25 pascals at the same time.**

18	leakage =	<input type="text"/>	CFM25 refer to 2005 ACM appendix RC, Sections RC 4.3.3
19	<input type="checkbox"/> If line 18 is less than line 9, house passes the 10% leakage to outside requirement.		
20	<input type="checkbox"/> If line 19 passes, HERS verification is required. Sampling can be used		

**Step 7 - If the house does not pass any of lines 14, 15 or 19.**

- 21  Smoke Test and Visual Inspection of Accessible Duct Sealing is required. See Step 8.
- 22  Install required label per ACM Appendix RC, Sections RC.4.3.5.

**Step 8 - Smoke Test and Visual Verification (See 2005 Residential ACM Appendix RC, Sections RC 4.3.5-7)**

- 23  Perform smoke test per ACM Appendix RC, Sections RC 4.3.6.
- 24  Perform Visual Inspection and repair of excessively damaged ducts per ACM Appendix RC, Sections RC 4.3.7.
- 25  Seal register boots to surrounding material per ACM Appendix RC, Sections RC 4.3.7.

**HERS Verification**

- 26  If line 14 is checked. 15% leakage to be verified by HERS rater. Sampling is allowed.
- 27  If line 15 is checked. 60% leakage reduction to be verified by HERS rater (post test only) AND Smoke Test and Visual Verification to be performed by HERS Rater. Sampling is allowed.
- 28  If line 19 is checked. 10% leakage to outside to be verified by HERS rater. Sampling is allowed.
- 29  If none of lines 14, 15 or 19 are checked Smoke Test and fix all accessible leaks. No sampling allowed.

**Sampling - Only if house passes on lines 14, 15 or 19.**

- 30  1.) Homeowner chooses to be put into a group of homes for random third party HERS sampling.  
 2.) Homeowner, installer and rater must sign the three-party agreement.  
 3.) All above tests must be completed by the installer or their representative, not the third party rater.
- 31  **No Sampling - House does not pass by lines 14, 15 or 19; OR homeowner chooses not to be part of a sample group**  
 1.) House to be tested by a third party HERS rater selected by installer.  
 2.) Homeowner, installer and rater must sign the three-party agreement.  
 3.) All above tests may be completed by the installer or their representative, and then verified by a third party rater.  
 OR, all above tests may be performed solely by the third party rater.
- 32  1.) House to be tested by third party HERS rater selected by homeowner.  
 2.) All above tests may be completed by the installer or their representative, and then verified by a third party rater.  
 OR, all above tests may be performed solely by the third party rater.

Permit PKG 3030 Leonor Dr 0518732

Certificate of Field Verification and Diagnostic Testing

Prescriptive Method - HVAC-only Alteration

CF-4R-ALT

Project Title: <b>Leonor</b>	Date: <b>04/14/2006</b>	© 2005 CalCERTS Enforcement Agency Use Only
Project Address: <b>3030 Leonor Dr. Sacramento, CA 95833</b>	Climate Zone: <b>12</b>	Building Permit # <b>0518732</b>
Installing Contractor: <b>Central Sacramento Heating &amp; Air</b>	Telephone: <b>916-364-5440</b>	Plan Check Date
CalCERTS Rater Name: <b>Steve Vasa</b>	Telephone: <b>916-804-9163</b>	Field Check Date
Rater's Company Name: <b>Capitol Energy Consultants</b>	CalCERTS Rater ID #: <b>CC2004262</b>	

**IMPORTANT:** This CF-4R-ALT form is only for use when an HVAC-only alteration is made to an existing home  
 Copies to: Homeowner, Installer, and Building Department  
 Use one form for each system being altered. This is system # 1 of 1 systems altered in this house.  
 Do not release CF-4Rs for a sample group until all verification and testing in the group is completed and passed.

Hers Rater Compliance Statement:

As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic testing compliance requirements as checked on this form. I also certify that I have followed all protocols and procedures as required by the CalCERTS Rater Agreement.

Signed: [Signature]

Sampling  First test  Re-test (attach previous CF-4R-ALT)

- This house is NOT part of a sample group.
  - This house passes all necessary tests. (Rater to sign HERS rater compliance statement above).
  - This house did NOT pass the necessary tests. Retest required. See notes below and next page.

This house is part of a sample group. Other houses in the group include (max 6):

Home owner's last name/Street address/City	
1)	
2)	
3)	
4)	
5)	
6)	

- This house passes all necessary tests. (Rater to sign HERS rater compliance statement above). All homes in sample group will be issued CF-4R certificates from CalCERTS registry.
- This house did NOT pass the necessary tests. Retest required. See notes below and next page.
  - This is the first house to fail in this group. (Select one of the above homes for second test).
  - This is the second house to fail in this group. All homes in group must be tested.

Notes:

System Passes New Form

Project Title: <b>Leonor</b>	Date: <b>04/14/2006</b>	© 2005 CalCERTS
<b>IMPORTANT:</b> This CF-4R-ALT form is only for use when an HVAC-only alteration is made to an existing home Copies to: Homeowner, Installer, and Building Department Use one form for each system being altered. This is system # <u>1</u> of <u>1</u> systems altered in this house.		
Results must be uploaded to CalCERTS Registry for issuance of final certificate per Title 20. Rater to verify only results of test that passed on CF-6R-ALT form. See lines 26 to 29 of CF-6R-ALT form.		
Step 1 - Pre-test: Leakage of the system before any alterations. (Only if line 27 is checked on the CF-6R-ALT form.) 1 Pre-test leakage : <input type="text"/> CFM25 From Line 1 of CF-6R -ALT form. 2 Line 1 x 0.4 = <input type="text"/> target for 60% reduction		
Step 2 - Determine Total System Fan Flow: Use any of these methods. (Only if lines 26, 27 or 28 are checked on CF-6R-ALT form) 3 Cooling: Condenser tonnage: <u>4</u> tons x 400 CFM/ton = <u>1600</u> CFM 4 Heating: Furnace output: <u>48000</u> Btuh x .0217 CFM/Btuh = <u>1041</u> CFM 5 Measured: (refer to ACM Manual Appendix RE, section 4.1) = <input type="text"/> CFM 6 Measurement method: <input type="checkbox"/> flow hood <input type="checkbox"/> plenum pressure matching <input type="checkbox"/> flow grid 7 Total system fan flow value to be used: <u>1600</u> CFM may use highest of lines 3, 4, or 5.		
Step 3 - Determine Targets: (Only if lines 26 or 28 are checked on CF6R-ALT form) 8a Total System fan flow (line 7 from above) x 0.06 = <input type="text"/> CFM25 = 6% leakage target 8b Total System fan flow (line 7 from above) x 0.15 = <u>240</u> CFM25 = 15% leakage target 9 Total System fan flow (line 7 from above) x 0.10 = <input type="text"/> CFM25 = 10% leakage to outside target		
Step 4 - Alterations: Must be consistent with the CF-1R form. 10 <input checked="" type="checkbox"/> Verify that all new connections are sealed with approved materials. 11 <input checked="" type="checkbox"/> No newly constructed portions of the system can have unducted building cavities to convey system air. 12 Duct insulation to be checked by local code enforcement agency.		
Step 5 - Total Leakage (Only If lines 26 or 27 are checked on CF-6R-ALT form) 13 leakage = <u>177</u> CFM25 refer to 2005 ACM appendix RC, Sections RC 4.3.1 14a <input type="checkbox"/> If line 13 is less than line 8a, house passes the 6% leakage requirement. Go to Step 9 14b <input type="checkbox"/> If line 13 is less than line 8b, house passes the 15% leakage requirement. Go to Step 9 15 <input type="checkbox"/> If line 13 is less than line 2, house passes the 60% reduction requirement after line 17 is checked. 16 <input type="checkbox"/> This house does not yet pass the necessary tests. Retest required. Attach new CF-4R-ALT. See notes, below. 17 <input type="checkbox"/> If line 15 is checked, but not 14a or 14b, Smoke Test and Visual Inspection of Accessible Duct Sealing is required. Go to Step 8.		
Step 6 - Leakage to Outside: (Only if line 28 is checked on CF-6R-ALT form) 18 leakage = <input type="text"/> CFM25 refer to 2005 ACM appendix RC, Sections RC 4.3.3 19 <input type="checkbox"/> If line 18 is less than line 9, house passes the 10% leakage to outside requirement. 20 <input type="checkbox"/> This house does not yet pass the necessary tests. Retest required. Attach new CF-4R-ALT. See notes, below.		
Step 7 - (If line 29 is checked on the CF-6R-ALT form.) 21 <input type="checkbox"/> Smoke Test and Visual Inspection of Accessible Duct Sealing are required. 22 <input type="checkbox"/> Install required label per ACM Appendix RC, Sections RC.4.3.5. 23 <input type="checkbox"/> House can NOT be part of a sample. <input type="checkbox"/> This house does not yet pass the necessary tests. Retest required. Attach new CF-4R-ALT. See notes, below.		
Step 8 - Smoke Test and Visual Verification (Only if lines 27 or 29 are checked on CF-6R-ALT form) 24 <input type="checkbox"/> Perform smoke test per ACM Appendix RC, Sections RC 4.3.6. 25 <input type="checkbox"/> Perform Visual Inspection and verify repair of excessively damaged ducts per ACM Appendix RC, Sections RC 4.3.7. 26 <input type="checkbox"/> Verify that register boots are sealed to surrounding material per ACM Appendix RC, Sections RC 4.3.7.		
Step 9 - TXV(RCA) 27a <input checked="" type="checkbox"/> If TXV is required by the CF-1R form (line 23 on CF-1R-ALT form), it has been installed and access has been provided for visual verification by HERS rater. 27b <input type="checkbox"/> If "Refrigerant Charge and Airflow" (see ACM appendix RD) was done in lieu of TXV, attach completed pages 3 of 8 and 4 of 8 from the CEC's CF-4R form.		
Step 10 - Upgraded Equipment Efficiencies 28 <input type="checkbox"/> If upgrade equipment efficiencies are required (line 24 of CF-1R-ALT) Hers rater to verify necessary make and model number of equipment. Installing contractor to provide rater adequate documentation to verify efficiencies.		
Notes: refer to line numbers above <hr/> <hr/> <hr/> <hr/>		