

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0605627

Insp Area: 3

Thos Bros: 318A3

Site Address: 4990 MORENA WY SAC

Parcel No: 023-0041-028

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR
COMMUNITY RESOURCE
250 HARRIS AV STE 6
SACRAMENTO CA 95838

OWNER
TIKHONIN VICTOR/NINA
4990 MORENA WY
SACRAMENTO, CA 95820

ARCHITECT

Nature of Work: HVAC--C/O ROOF MOUNTED PACKAGE
**HVAC system shall comply with 2005 California Building Energy Standards for residential buildings; field verification & diagnostic testing is required as specified in the Residential ACM Manual

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 _____ License Number 620462 Date 4-26-07 Contractor 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

APR 26 2006

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 improvements to be constructed do 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 hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 4-26-07 Applicant/Agent 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 STATE FUND Policy Number 0619596-2004 Exp Date 10/01/2006

(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 4-26-07 Applicant 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.

Project Title: <i>TIKHONIN, Victor</i>	Date: <i>5-4-06</i>	© 2005 CalCERTS
Project Address: <i>4990 MORENA WY</i>	Climate Zone: <i>12</i>	Enforcement Agency Use Only
Installing Contractor: <i>Alan Henderson</i>	Telephone: <i>916 567 5220</i>	Building Permit #: <i>0605627</i>
Company Name: <i>Community Resource Projects Inc</i>		Plan Check Date
		Field Check Date

IMPORTANT: This CF-6R form is only for use when an HVAC-only alteration is made to an existing home. Use one form for each system being altered. This is system # _____ of _____ systems altered in this house. 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			N/A		
Hydronic fan coil			N/A		
Other EAU					
Describe Package gas/AC	<i>Frigidara</i>	<i>R4G DX030K072X</i>	AFUE SEER <i>78</i> <i>13</i>		
Package heatpump			HSPF SEER EER*		
A/C Condenser			SEER		
Heatpump Condenser			HSPF SEER		
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): *[Signature]* Date: *5-4-06*

Notes:

4990 Morena WY
0605627
Finalled 5/12/06 SAS

Project Title: <i>TIKHOVIN Victor</i>		Date: <i>5.4.06</i>	© 2005 CalCERTS
<p>IMPORTANT: This CF-6R form is only for use when an HVAC-only alteration is made to an existing home. Use one form for each system being altered. This is system # <u> </u> / of <u> </u> systems altered in this house. Copies to: Homeowner, HERS Rater, and Building Department</p>			
<p>Duct Leakage test Results (If duct testing is required per CF-1R-ALT form)</p>			
<p>Step 1 - Pre-test: Leakage of the system before any alterations. This test is optional and is only used for the 60% reduction option.</p>			
1	Pre-test leakage :	CFM25	
2	Line 1 x 0.4 =		target for 60% reduction
<p>Step 2 - Determine Total System Fan Flow: Use any of these methods. Use values for equipment after alterations.</p>			
3	Cooling: Condenser tonnage: <i>2.5</i> tons x 400 CFM/ton =	<i>1000</i>	CFM
4	Heating: Furnace output: <i>56</i> Btuh x .0217 CFM/Btuh =	<i>1215.2</i>	CFM
5	Measured: (refer to ACM Manual Appendix RE, section 4.1) =		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:	<i>1215.2</i> CFM	may use highest of lines 3, 4, or 5.
<p>Step 3 - Determine Targets:</p>			
8a	Total System fan flow (line 7 from above) x 0.06 =		CFM25 = 6% leakage target (new duct systems)
8b	Total System fan flow (line 7 from above) x 0.15 =	<i>182.28</i>	CFM25 = 15% leakage target
9	Total System fan flow (line 7 from above) x 0.10 =		CFM25 = 10% leakage to outside target
<p>Step 4 - Alterations: Must be consistent with the CF-1R form.</p>			
10	<input checked="" type="checkbox"/> Seal all new connections 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	<input checked="" type="checkbox"/> If adding or replacing more than 40 feet of duct, insulate new ducts per package D for that climate zone		
<p>Step 5 - Final Leakage (regular duct leakage test, for 15% total and 60% reduction)</p>			
13	leakage =	<i>158</i> 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		
<p>Step 6 - Leakage to Outside: Similar to a regular duct blaster test but the house is pressurized to 25 pascals at the same time.</p>			
18	leakage =		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.		
<p>Step 7 - If the house does not pass any of lines 14, 15 or 19.</p>			
21	<input type="checkbox"/> Smoke Test and Visual Inspection of Accessible Duct Sealing is required. See Step 8.		
22	<input type="checkbox"/> Install required label per ACM Appendix RC, Sections RC.4.3.5.		
<p>Step 8 - Smoke Test and Visual Verification (See 2005 Residential ACM Appendix RC, Sections RC 4.3.5-7)</p>			
23	<input type="checkbox"/> Perform smoke test per ACM Appendix RC, Sections RC 4.3.6.		
24	<input type="checkbox"/> Perform Visual Inspection and repair of excessively damaged ducts per ACM Appendix RC, Sections RC 4.3.7.		
25	<input type="checkbox"/> Seal register boots to surrounding material per ACM Appendix RC, Sections RC 4.3.7.		
<p>HERS Verification</p>			
26	<input checked="" type="checkbox"/> If line 14 is checked, 15% leakage to be verified by HERS rater. Sampling is allowed.		
27	<input type="checkbox"/> 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	<input type="checkbox"/> If line 19 is checked, 10% leakage to outside to be verified by HERS rater. Sampling is allowed.		
29	<input type="checkbox"/> If none of lines 14, 15 or 19 are checked Smoke Test and fix all accessible leaks. No sampling allowed.		
<p>Sampling - Only if house passes on lines 14, 15 or 19.</p>			
30	<input type="checkbox"/> 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.		
<p>No Sampling - House does not pass by lines 14, 15 or 19; OR homeowner chooses not to be part of a sample group</p>			
31	<input type="checkbox"/> 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	<input type="checkbox"/> 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.		

Project Title: 4990 Morena w/ Date: 5/4/06
 Project Address: CRP JVC Builder Name: 567-5220
 Builder Contact: LAURA CASTELLO Telephone: 832-0100 Plan Number: _____
 HERS Rater: L. Castello Telephone: _____ Sample Group Number: _____
 Certifying Signature: _____ Date: 5/4/06 Sample House Number: _____
 Firm: A.C. Girl Heat & Air HERS Provider: calcents
 Street Address: 13389 Folsom Blvd City/State/Zip: Folsom, CA 95630
 Copies to: Builder, HERS Provider 300-210

HERS RATER COMPLIANCE STATEMENT

The house was: Tested Approved as part of sample testing, but was not tested

As the HERS rater providing diagnostic testing and field verification, I certify that the houses identified on this form comply with the diagnostic tested compliance requirements as checked on this form.

- The installer has provided a copy of CF-6R (Installation Certificate).
- Distribution system is fully ducted (i.e., does not use building cavities as plenums or platform returns in lieu of ducts)
- Where cloth backed, rubber adhesive duct tape is installed, mastic and drawbands are used in combination with cloth backed, rubber adhesive duct tape to seal leaks at duct connections.

MINIMUM REQUIREMENTS FOR DUCT LEAKAGE REDUCTION COMPLIANCE CREDIT

Duct Diagnostic Leakage Testing Results (Maximum 6% Duct Leakage)

Duct Pressurization Test Results (CFM @ 25 Pa)	Measured values
Test Leakage Flow in CFM	
If fan flow is calculated as 400cfm/ton x number of tons enter calculated value here	<u>1215.2</u>
If fan flow is measured enter measured value here	<u>182.20 = 15%</u>
Leakage Percentage (100 x Test Leakage/Fan Flow) =	<u>158 = 13%</u>
Check Box for Pass or Fail (Pass=6% or less)	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

THERMOSTATIC EXPANSION VALVE (TXV)

Yes No Thermostatic Expansion Valve is installed and Access is provided for inspection Pass Fail

MINIMUM REQUIREMENTS FOR DUCT DESIGN COMPLIANCE CREDIT

1. Yes No ACCA Manual D Design requirements have been met (rater has verified that actual installation matches values in CF-1R and design on plan.
2. Yes No TXV is installed or Fan flow has been verified. If no TXV, verified fan flow matches design from CF-1R.

Measured Fan Flow = _____ Pass Fail

Yes for both 1 and 2 is a Pass

Site Address _____

Permit Number _____

REFRIGERANT CHARGE AND AIRFLOW 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 and Airflow Measurement (outdoor air dry-bulb 55 °F and above):

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 below 55 °F rater shall return to verify charge and airflow at a time when temperature is 55 °F or greater.

Yes No A copy of CF-6R (Installation Certificate) has been provided with refrigerant charge and airflow measurement documented.

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 1) _____ °F
 Actual Superheat - Target Superheat _____ °F
 (System passes if between -5 and +5°F)

Temperature Split Method Calculations for Adequate Airflow

Actual Temperature Split = T return, db - Tsupply, db _____ °F
 Target Temperature Split (from Table 2) _____ °F
 Actual Temperature Split - Target Temperature Split _____ °F
 (System passes if between -3°F and +3°F or, upon remeasurement, if between -3°F and -25°F)

Standard Charge and Airflow 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

System Passes _____ yes or _____ no

Project Title _____

Plan Number _____

Date _____

Sample Group Number _____

Sample House Number _____

MINIMUM REQUIREMENTS FOR DUCT IN CONDITIONED SPACE COMPLIANCE CREDIT

Field Verification Results

Yes No Duct in conditioned space criteria matches CF-1R

Yes is a Pass Pass Fail

MINIMUM REQUIREMENTS FOR REDUCED DUCT SURFACE AREA COMPLIANCE CREDIT

Measured duct exterior surface area in the following unconditioned duct locations (square feet):

Attics _____

Crawlspaces _____

Basements _____

Other (e.g., garages, etc.) _____

Yes No Duct surface area matches CF-1R?

Yes is a Pass Pass Fail

Project Title	Plan Number	Date
Sample Group Number	Sample House Number	

MINIMUM REQUIREMENTS FOR INFILTRATION REDUCTION COMPLIANCE CREDIT

Diagnostic Testing Results

Building Envelope Leakage (CFM @ 50 Pa) as measured by Rater

- | | | | |
|-----|---------------------------------|--------------------------------|--|
| 1. | <input type="checkbox"/>
Yes | <input type="checkbox"/>
No | Is 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. |
| 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.

Pass Fail