

**CITY OF SACRAMENTO**  
1231 I Street, Sacramento, CA 95814

**Permit No: 0013016**  
**Insp Area: 2**

**Site Address: 2121 57TH AV SAC**  
Parcel No: 035-0271-020

**Sub-Type: RES**  
**Housing (Y/N): N**

**CONTRACTOR**  
ROYCE AIR HEATING AND AIR  
2120 MARCH RD SUITE A  
ROSEVILLE CA 95747

**OWNER**  
BEARD HOMER R/AMBER A  
2121 57TH AV  
SACRAMENTO CA 95822

**ARCHITECT**

**Nature of Work: HVAC CHANGE OUT**

**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 609764 Date 10-30-00 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 3 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 & P 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 hereby authorize representative(s) of this city to enter upon the above mentioned property for inspection purposes.

X Date 10/30/00 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.

X \_\_\_\_ 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 CAL INDEMNITY Policy Number SP0027060A Exp Date 02/01/2001

\_\_\_\_ (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 10/30/00 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.**

0013016  
~~06080300~~

Amber Beard  
 Project Title

2121 57th Ave Sacramento CA 95822  
 Project Address

Warren Wright 916-452-2477  
 Documentation Author Telephone

Prescriptive 12  
 Compliance Method (Prescriptive) Climate Zone

5/19/06  
 Date

Building Permit #
Plan Check / Date
Field Check / Date
Enforcement Agency Use Only

Alternative Component Package Method: (check one)    C  D    D (Alternative)  
 Package C and Package D choices require HERS rater field verification and/or diagnostic testing (see CF-1R page 3)  
 For Package D Alternative see Appendix B Table 151-C Footnotes 7-14

**GENERAL INFORMATION**

Total Conditioned Floor Area (CFA) 1300 ft<sup>2</sup> Average Ceiling Height: 8 ft  
 Maximum Allowed West Facing Fenestration Products Per Table 151-B or 151-C (5% X CFA) NA ft<sup>2</sup>  
 Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C (20% X CFA) NA ft<sup>2</sup>  
 Building Type: (check one or more)  Single Family  Multifamily  Addition  Alteration  
 (If adding fenestration fill out WS-4R, Fenestration Maximum Allowed Area Worksheet and see Section 8.3.2 for Additions and 8.3.3 for Alterations.)  
 Number of Stories: 1 Number of Dwelling Units: 1  
 Floor Construction Type: Raised Slab/Raised Floor (circle one or both)  
 Front Orientation: S = 180 North / South / East / West / All Orientations (input front orientation in degrees from True North and circle one).

**RADIANT BARRIER** (required in climate zones 2, 4, 8-15)

**OPAQUE SURFACES INCLUDING OPAQUE DOORS**

Component Type (Wall, Roof, Floor, Slab Edge, Doors)	Frame Type (Wood or Metal)	Cavity Insulation R-Value	Continuous Insulation R-Value	Assembly Ufactor (for wood, metal frame and mass assemblies) 1	Joint Appendix IV Reference	Roof Radiant Barrier Installed Yes or No	Location/Comments (attic, garage, typical, etc.)

1) See Joint Appendix IV in Section IV.2, IV.3 and IV.4, which is the basis for the U-factor criterion. U-factors can not exceed prescriptive value to show equivalence to R-values.

Amber Beard  
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Date

**FENESTRATION PRODUCTS – U-FACTOR AND SHGC**

FENESTRATION MAXIMUM ALLOWED AREA WORKSHEET WS-4R –must be included for New Construction, Additions and Alterations.

Fenestration #/Type/Pos. (Front, Left, Rear, Right, Skylight)	Orientation, N, S, E, W1	Area (ft2)	U-factor2	U-factor Source3	SHGC4	SHGC Source5	Exterior Shading/Overhangs6, 7 Ck box if WS-3R is Included

- 1) Skylights are now included in West-facing fenestration area if the skylights are tilted to the west or tilted in any direction when the pitch is less than 1:12. See §161(f)3C and in Section 3.2.3 of the Residential Manual
- 2) Enter values in this column are either NFRC Rated value or from Standards default Table 116A.
- 3) Indicate source either from NFRC or Table 116A,
- 4) Enter values in this column from NFRC or from Standards Default Table 116B or adjusted SHGC from WS-3R.
- 5) Indicate source either from NFRC or Table 116B.
- 6) Shading Devices are defined in Table 3-3 in the Residential Manual and see WS-3R to calculate Exterior Shading devices.
- 7) See Section 3.2.4 in the Residential Manual.

**HVAC SYSTEMS**

Heating Equipment Type and Capacity (furnace, heat pump, boiler, etc.)	Minimum Efficiency (AFUE or HSPF)	Distribution Type and Location (ducts, attic, etc.)	Duct or Piping R-Value	Thermostat Type	Configuration (split or package)
N/A	000 000	Attic	R 4.2	Programable	N/A
000	kBTU				

Cooling Equipment Type and Capacity (A/C, Heat Pump, Evap Cool)	Minimum Efficiency (SEER or EER)	Duct Location (attic, etc.)	Duct R-Value	Thermostat Type	Configuration (split or package)
A/C	12.00 SEER 000 EER	Attic	R 4.2	Programable	Split
36	kBTU				

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**SEALED DUCTS and TXVs (or Alternative Measures)**

A signed CF-4R Form must be provided to the building department for each home for which the following are required.

<input type="checkbox"/>	Sealed Ducts (all climate zones) (Installer testing and certification and HERS rater field verification required.)
<input type="checkbox"/>	TXVs, readily accessible (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)
<input type="checkbox"/>	Refrigerant Charge (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)

OR

<input type="checkbox"/>	Alternative to Sealed Ducts and Refrigerant Charge /TXVs (See Package D Alternative Package Features for Project Climate Zone in the RM Appendix B Table 151-C, Footnotes 7-14.
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OR

<input type="checkbox"/>	For additions and alterations, duct systems that are not documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Residential ACM Manual and duct systems with more than 40 linear feet in unconditioned spaces shall meet the requirements of Section 150(m) and duct insulation requirements of Package D.
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**WATER HEATING SYSTEMS**

<input type="checkbox"/>	Check box if system meets criteria of a "Standard" system. Standard system is one gas-fired water heater per dwelling unit. If the water heater is a storage type, 60 gallons is the maximum capacity and recirculation system is not allowed.
<input type="checkbox"/>	Check box when using Preapproved Alternative Water Heating table, Table 5-4 in Chapter 5 in the Residential Manual. No water heating calculations are required, and the system complies automatically.
<input type="checkbox"/>	Check box if system does not meet criteria of "Standard" system, and does not comply with the Preapproved Alternative Water Heating table. In this case, the Performance Method must be used and must be included in the submittal.
<input type="checkbox"/>	Check box to verify that a time control is required for a recirculating system pump for a system serving multiple units

**Systems serving single dwelling units**

Water Heater Type/Fuel Type	Distribution Type	Number In System	Rated Input <sup>1</sup> (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor <sup>1</sup> or Thermal Efficiency	Standby <sup>1</sup> Loss (%)	Tank External Insulation R-Value

**System serving multiple dwelling units**

Water Heater Type/Fuel Type	Distribution Type	Number In System	Rated Input <sup>1</sup> (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor <sup>1</sup> or Thermal Efficiency	Standby <sup>1</sup> Loss (%)	Tank External Insulation R-Value

<sup>1</sup> For small gas storage water heaters (rated inputs of less than or equal to 75,000 Btu/hr), electric resistance, and heat pump water heaters, list Energy Factor. For large gas storage water heaters (rated input of greater than 75,000 Btu/hr), list Rated Input, Recovery Efficiency, Thermal Efficiency and Standby Loss. For instantaneous gas water heaters, list Rated Input and Thermal Efficiencies.

**Pipe Insulation** (kitchen lines > 3/4 inches) All hot water pipes from the heating source to the kitchen fixtures that are 1/2 inches or greater in diameter shall be thermally insulated as specified by Section 160 (j) 2 A or 160 (j) 2 B.

Amber Beard

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Project Title

Date

**SPECIAL FEATURES NOT REQUIRING HERS VERIFICATION (add extra sheets if necessary)**

Indicate which special features are part of this project. The list below represents special features relevant to the Prescriptive and Performance Method.

	Feature	Required Forms (if applicable)	Description
<input type="checkbox"/>	Metal Framed Walls	CF-1R	
<input type="checkbox"/>	Radiant Barriers	CF-1R	
<input type="checkbox"/>	Exterior Shades	WS-4R N/A; Performance Calculation	
<input type="checkbox"/>	Cool Roof	Required. Attach CRRC Label to Forms.	
<input type="checkbox"/>	Dedicated Hydronic Heating System	Performance Calculation Required; Attach Run to Forms.	
<input type="checkbox"/>	Combined Hydronic System	Performance Calculation Required; Attach Run to Forms.	
<input type="checkbox"/>	Gas Cooling	N/A; Performance Calculation Required.	
<input type="checkbox"/>	Buried Ducts	N/A; Indicate on building plans.	
<input type="checkbox"/>	Kitchen Pipe Insulation	See Section 5.8.2 Distribution Systems in Residential Manual.	
<input type="checkbox"/>	Multiple Water Heaters Per Dwelling Unit	See Table 5-13 or use Performance Calculation and attach Run to Forms.	
<input type="checkbox"/>	Central Water Heating System Serving Multiple Dwellings	Performance Calculation and attach Run to Forms.	
<input type="checkbox"/>	Non-NAECA Large Water Heater	CF-1R	
<input type="checkbox"/>	Indirect Water Heater	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Instantaneous Gas Water Heater	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Solar Water Heating System	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Wood Stove Boiler	Performance Calculation and attach Run to Forms	

**SPECIAL FEATURES REQUIRING HERS RATER VERIFICATION**

(add extra sheets if necessary) Indicate to the HERS Rater which credits are part of this project and need verification.

	Feature	Required Forms (if applicable)	Description
<input type="checkbox"/>	Duct Sealing	CF-6R part 4 of 12	
<input type="checkbox"/>	Refrigerant Charge	CF-6R part 5 of 12	
<input type="checkbox"/>	Thermostatic Expansion Valve	CF-6R part 6 of 12	

Amber Beard  
Project Title

2121 57th Ave

5/19/06  
Date

**COMPLIANCE STATEMENT**

This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations, and the administrative regulations to implement them. This certificate has been signed by the individual with overall design responsibility. The undersigned recognizes that compliance using duct design, duct sealing, verification of refrigerant charge and TXVs, insulation installation quality, and building envelope sealing require installer testing and certification and field verification by an approved HERS rater.

Designer or Owner (per Business and Professions Code)

Documentation Author

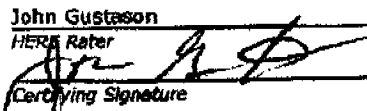
Name: Warren Wright	Name: Warren Wright
Title/Firm: Garick A/C	Title/Firm: Garick A/C
Address: 2122 X Street Sacramento CA 95818	Address: 2122 X Street Sacramento CA 95818
Telephone: 916-452-2477	Telephone: 916-452-2477
License #: 982046	
<i>Warren T. Wright</i> 5/19/06 (signature) (date)	<i>Warren T. Wright</i> 5/19/06 (signature) (date)

**Enforcement Agency**

Name:	Comments:
Title	
Agency:	
Telephone:	
(signature / stamp) (date)	

**CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 1 of 8)**

**CF-4R**

2121 57th Ave Project Address		Garick A/C / 582046 Contractor Name / License No.
		06-06377 Permit Number
Contractor Contact	Telephone	25138 Sample Group Number
John Gustason	916-768-9459	CC14-1798365720 Certificate Number
HERS Rater	Telephone	
	May 17, 2006	
Certifying Signature	Date	
Firm:	Energy Analysis and Comfort Solutions, Inc.	HERS Provider: CalCERTS
Street Address:	PO Box 2233	City/State/Zip: Orangevale / CA / 95662

Copies to: Homeowner, HERS Provider and Building Department

This CF-4R has been registered with the CalCERTS® registry in accordance with the Title 24 & Title 20 of the CCR. CalCERTS® is an approved HERS provider by the California Energy Commission.

**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 house identified on this form complies with the diagnostic tested compliance requirements as checked on this form. The HERS rater must check and verify that the new distribution system is fully ducted and correct tape is used before a CF-4R may be released on every tested building. The HERS rater must not release the CF-4R until a properly completed and signed CF-6R has been received for the sample and tested buildings.


- The installer has provided a copy of the CF-6R (Installation Certificate).
- New Distribution system is fully ducted (i.e., does not use building cavities as plenums or platform returns in lieu of ducts).
- New systems 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:**

NEW CONSTRUCTION			
	Duct Pressurization Test Results (CFM @ 25 Pa)	Measured Values	
1	Enter Tested Leakage Flow in CFM:	N/A	
2	Fan Flow: Calculated (Nominal <input checked="" type="radio"/> Cooling <input checked="" type="radio"/> Heating) or <input type="radio"/> Measured Enter Total Fan Flow in CFM:	1200	
3	Pass if Leakage Percentage $\leq 6\%$ [ $100 \times (\text{Line 1} / \text{Line 2})$ ]:	N/A	N/A
ALTERATIONS: Duct System and/or HVAC Equipment Change-Out			
4	Enter Tested Leakage Flow in CFM from CF-6R: Pre-Test of Existing Duct System Prior to Duct System Alteration and/or Equipment Change-Out.		
5	Enter Tested Leakage Flow in CFM: Final Test of New Duct System or Altered Duct System for Duct System Alteration and/or Equipment Change-Out.	179	
6	Enter Reduction in Leakage for Altered Duct System (Line 4 - 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 $\leq 6\%$ [ $100 \times (\text{Line 5} / \text{Line 2})$ ]:		<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 $\leq 15\%$ [ $100 \times (\text{Line 5} / \text{Line 2})$ ]:	14.90%	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
10	Pass if Leakage to Outside Percentage $\leq 10\%$ [ $100 \times (\text{Line 7} / \text{Line 2})$ ]:		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
11	Pass if Leakage Reduction Percentage $\geq 60\%$ [ $100 \times (\text{Line 6} / \text{Line 4})$ ] 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		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Pass if One of Lines #9 through #12 pass			<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

**CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 3-4 of 8)**

**CF-4R**

<u>2121 57th Ave</u> Project Address		<u>Gerick A/C / 582046</u> Contractor Name / License No.
<u>John Gustason</u> Contractor Contact		<u>06-06377</u> Permit Number
<u>John Gustason</u> HERS Rater	<u>916-768-9459</u> Telephone	<u>25138</u> Sample Group Number
 Certifying Signature	<u>May 17, 2006</u> Date	<u>CC14-1798365720</u> Certificate Number
<u>Energy Analysis and Comfort Solutions, Inc.</u> Firm:	HERS Provider: <u>CalCERTS</u>	
<u>PO Box 2233</u> Street Address:	<u>Orangevale / CA / 95662</u> City/State/Zip:	

**Copies to: Homeowner, HERS Provider and Building Department**

This CF-4R has been registered with the CalCERTS® registry in accordance with the Title 24 & Title 20 of the CCR. CalCERTS® is an approved HERS provider by the California Energy Commission.

**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 house identified on this form complies with the diagnostic tested compliance requirements as checked on this form.  
 The installer has provided a copy of the CF-6R (Installation Certificate).

**THERMOSTATIC EXPANSION VALVE (TXV):**

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.

HVAC System TXV  Pass  Fail



**INSTALLATION CERTIFICATE**

(Page 3 of 12)

CF-6R

2121 57th Ave

Sacramento CA 95822

08-06377

Site Address

Permit Number

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 16-100(e).

**HVAC SYSTEMS:**

**Heating Equipment**

Equip Type (pkg. heat pump)	CEC Certified Mfr. Name, Model and Serial 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)
N/A	N/A	1	000 000	Attic	R 4.2	0	0
	0						

**Cooling Equipment**

Equip Type (pkg. heat pump)	CEC Certified Mfr. Name, Model and Serial Number	# of Identical Systems	Efficiency (AFUE, etc.) <sup>1</sup> >(CF-1R value)	Duct Location (attic, etc.)	Duct or Piping R-value	Cooling Load (Btu/hr)	Cooling Capacity (Btu/hr)
Split	Lennox	1	12.00 SEER	Attic	R 4.2	0	36000
	HS29-036		000 SEER				
Cell	N/A						
	0						

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) 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.

 5/17/00  
Signature, Date

**Garick AC**  
Installing Subcontractor (Co. Name) 40015  
OR General Contractor (Co. Name) OR Owner 1073

COPY TO: Building Department  
HERS Rater (if applicable)  
Building Owner at Occupancy

**INSTALLATION CERTIFICATE**

(Page 4 of 12)

CF-6R

2121 57th Ave

Sacramento CA

95822

06-06377

Site Address

Permit Number

**INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE**

Copies to: Builder, HERS Rater, Building Owner at Occupancy and Building Department

**INSTALLER COMPLIANCE STATEMENT**

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

**INSTALLER VISUAL INSPECTION AT FINAL CONSTRUCTION STAGE:**

- 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

**DUCT LEAKAGE REDUCTION**

Procedures for field verification and diagnostic testing of air distribution systems are available in RACM, Appendix RC4.3

NEW CONSTRUCTION:		Measured Values	
Duct Pressurization Test Results (CFM @ 28 Pa)			
1	Enter Tested Leakage Flow in CFM:		
2	Fan Flow: Calculated (Manual: <input checked="" type="checkbox"/> Cooling <input type="checkbox"/> Heating) or <input type="checkbox"/> Measured If Fan Flow is Calculated as 400 cfm/ton x number of tons or as 21.7 cfm/(kBtu/hr) x Heating Capacity in Thousands of Btu/hr, enter total calculated or measured fan flow in CFM here:	1200	
3	Pass if Leakage Percentage < 6% for Final or < 4% at Rough-In: [100 x ( _____ (Line # 1) / _____ (Line # 2) )]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<b>ALTERATIONS: Duct System and/or HVAC Equipment Change-Out</b>			
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:	179	
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	Entire 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
<b>TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out</b>			
Use one of the following four Test or Verification Standards for compliance:			
9	Pass if Leakage Percentage < 10% [100 x [ _____ (Line # 5) / _____ (Line # 2) ]]	14.9%	<input checked="" 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) ]]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
12	Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Pass if One of Lines # 9 through # 12 pass			<input type="checkbox"/> Pass <input type="checkbox"/> Fail

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 508 (m) of the 2006 Building Energy Efficiency Standards.

*[Signature]* 5/17/06

Signature

Date

Garick A/C

Installing Subcontractor (Co. Name) OR  
General Contractor (Co. Name)

40015  
1073