

TRANSMISSION VERIFICATION REPORT

TIME : 12/22/2005 12:04
 NAME : CITY OF SACRAMENTO
 FAX : 9168085543
 TEL : 9168085656
 SER.# : BROH4J832840

DATE, TIME	12/22 12:03
FAX NO./NAME	93991589
DURATION	00:00:37
PAGE(S)	02
RESULT	OK
MODE	STANDARD ECM

**CITY OF SACRAMENTO
 CASHIER'S WORKSHEET**

COPY 12/22/2005

RECEIPT NUMBER: R0524358

TRANSACTION DATE: 12/22/2005
 TRANSACTION AMOUNT: 183.98
 NOTATION:

PAID
 CITY OF SACRAMENTO

DEC 22 2005

NEW CITY HALL

APD #: **0519871**
 SITE ADDRESS: 5945 EHRHARDT AV SAC
 PARCEL: 117-0400-037

TYPE: Bldg Minor Permit
 SUB-TYPE: RES
 HOUSING: N
 STATUS: ISSUED

Mixed Income Housing
 Fee Program
 ??

TRANSACTION LIST

Type	Method	Description	Pymt Amount
Payment	Cash		183.98

RECEIPT ACCOUNT ITEM LIST

Class #	Description	Item #	Total Fee	Prev Pymt	Current Pymt
200	Permit--Building-Res	1100	175.00	.00	175.00
206	City Business Oper Tax	1730	.80	.00	.80
213	General Plan Surcharge	1760	1.18	.00	1.18
259	Bldg-Technology Surcharg	1750	7.00	.00	7.00

CERTIFICATE OF COMPLIANCE: RESIDENTIAL		(Page 1 of 5)	CF-1R
Project Title HVAC CHANGEOUT	Date 12/22/06	Building Permit # 05-19871	
Project Address 5945 Ehrhardt Ave Sacramento, CA 95823		Plan Check / Date	
Documentation Author Fred Farahvash	Telephone 916 683-3400	Field Check / Date	
Compliance Method (Prescriptive)	Climate Zone 12	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) _____ ft²
 Average Ceiling Height: 8 ft
 Maximum Allowed West Facing Fenestration Products Per Table 151-B or 151-C ---- (5% X CFA) _____ ft²
 Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C ----(20% X CFA) _____ ft²
 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: Slab _____ Slab/Raised Floor (circle one or both)
 Front Orientation: _____ 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 U-factor (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.

CERTIFICATE OF COMPLIANCE: RESIDENTIAL (Page 2 of 5) CF-1R

Project Title HVAC CHANGEOUT Date 12/22/06

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, W ¹	Area (ft ²)	U-factor ²	U-factor Source ³	SHGC ⁴	SHGC Source ⁵	Exterior Shading/Overhangs ^{6,7} ✓ box if WS-3R is included
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

- 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 §151(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)
Furnace-gas	80	Attic	R4.2	Setback	package

Cooling Equipment Type and Capacity (A/C, heat pump, evap. cooling)	Minimum Efficiency (SEER or EER)	Duct Location (attic, etc.)	Duct R-Value	Thermostat Type	Configuration (split or package)
A/C	10 seer	Attic	R4.2	Setback	package

CERTIFICATE OF COMPLIANCE: RESIDENTIAL (Page 3 of 5) CF-1R

Project Title HVAC CHANGEOUT Date 12/22/06

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.

- Sealed Ducts (all climate zones) (Installer testing and certification and HERS rater field verification required.)
- TXVs, readily accessible (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)
- Refrigerant Charge (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)

OR

- 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.)

OR

- 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.

WATER HEATING SYSTEMS

- 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, 50 gallons is the maximum capacity and recirculation system is not allowed.
- 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.
- 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.
- 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 ¹ (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor ¹ or Thermal Efficiency	Standby ¹ Loss (%)	Tank External Insulation R-Value

System serving multiple dwelling units

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

¹) 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 \geq 3/4 inches) All hot water pipes from the heating source to the kitchen fixtures that are 3/4 inches or greater in diameter shall be thermally insulated as specified by Section 150 (j) 2 A or 150 (j) 2 B.

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.

<input checked="" type="checkbox"/>	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	
<input type="checkbox"/>	Cool Roof	N/A; Performance Calculation 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 5.6.2 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	

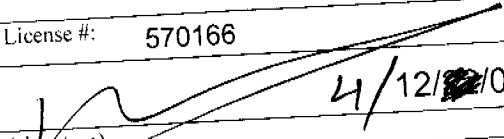
SPECIAL FEATURES REQUIRING HERS RATER VERIFICATION
 (add extra sheets if necessary) Indicate to the HERS Rater which credits are part of this project and need verification.

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

CERTIFICATE OF COMPLIANCE: RESIDENTIAL (Page 5 of 5) CF-1R	
Project Title HVAC CHANGEOUT	Date 12/22/06

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: Fred Farahvash	Name: Same
Title/Firm: Air Master Heat & Air	Title/Firm:
Address: 6524 44th St, Ste 200	Address:
Sacramento, CA 95823	
Telephone: 916 683-3400	Telephone:
License #: 570166	
 4/12/06 (date)	(date)
(signature)	(signature)

Enforcement Agency

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

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

Site Address **5945 Ehrhardt Ave**

Permit Number **05-19871**

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

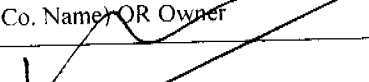
Equip Type (pkg. heat pump)	CEC Certified Mfr. Name and Model Number	# of Identical Systems	Efficiency (AFUE, etc.) ¹ (≥CF-1R value)	Duct Location (attic, etc.)	Duct or Piping R-value	Heating Load (Btu/hr)	Heating Capacity (Btu/hr)
pkg - gas	Carrier	1	80	Attic	R4.2		
	48GS-0300403						

Cooling Equipment

Equip Type (pkg. heat pump)	CEC Certified Mfr. Name and Model Number	# of Identical Systems	Efficiency (SEER or EER) ¹ (≥CF-1R value)	Duct Location (attic, etc.)	Duct R-value	Cooling Load (Btu/hr)	Cooling Capacity (Btu/hr)
pkg - a/c	Same	1	10 seer	Attic	R4.2		

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	
Signature: 	Date: 4/12/06

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

Site Address **5945 Ehrhardt Ave**

Permit Number
05-19871

INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE

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
- New Distribution system is fully ducted (i.e., does not use building cavities as plenums or platforms returns in lieu of ducts).

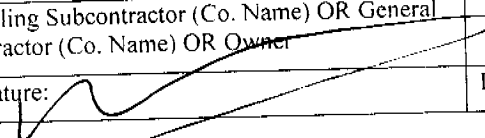
DUCT LEAKAGE REDUCTION

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

NEW CONSTRUCTION:

	Duct Pressurization Test Results (CFM @ 25 Pa)	Measured Values	
1	Enter Tested Leakage Flow in CFM:		
2	Fan Flow: Calculated (Nominal: <input checked="" 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 21.7 cfm/(kBtu/hr) x Heating Capacity in Thousands of Btu/hr, enter total calculated or measured fan flow in CFM here:	1000	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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
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.	85	
6	Enter Reduction in Leakage for Altered Duct System [(Line # 4) Minus (Line # 5)] – (Only if Applicable)		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
7	Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)		
8	Entire New Duct System - Pass if Leakage Percentage ≤ 6% for Final [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)]]	8.5	<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) / ⁸⁵ (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

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 retrofit Air-Distribution System Ducts, Plenums and Fans comply with Mandatory requirements specified in Section 150 (m) of the 2005 Building Energy Efficiency standards.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature: 	Date: 4/12/06

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

pkg unit exempt

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"/>	✓
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 -100°F)		°F

INSTALLATION CERTIFICATE

(Page 6 of 12) CF-6R

Site Address **5945 Ehrhardt Ave**

Permit Number **05-19871**

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
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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 (+ = add) (- = remove)		

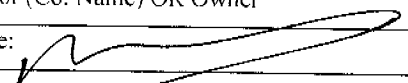
Measured Airflow Method for Adequate Airflow Verification *available in RACM, Appendix RD2.6*

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
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Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature: 	Date: <u>12/22/06</u>

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

INSTALLATION CERTIFICATE		(Page 8 of 12) CF-6R
Site Address 5945 Ehrhardt Ave	Permit Number 05-19871	

FAN WATT DRAW
Procedures for measuring the air handler watt draw are available in RACM, Appendix RF3.2.

Method For Fan Watt Draw Measurement

<input type="checkbox"/>	RE3.2.1	Portable Watt Meter Measurement		
<input type="checkbox"/>	RE3.2.2	Utility Revenue Meter Measurement		
Measured Fan Watt Draw				Watts
Measured Fan Flow (enter total cfm from airflow verification)				cfm
Enter results of Watts/cfm				Watts/cfm
			✓	✓
<input checked="" 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	<input type="checkbox"/>	<input type="checkbox"/>
Yes is a pass			Pass	Fail

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

Method For Airflow Measurement

<input type="checkbox"/>	RE4.1.1	Diagnostic Fan Flow Using Flow Capture Hood		
<input type="checkbox"/>	RE4.1.2	Diagnostic Fan Flow Using Plenum Pressure Matching		
<input type="checkbox"/>	RE4.1.3	Diagnostic Fan Flow Using Flow Grid Measurement		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Duct design exists on plans		
Measured Airflow:				Total cfm
Rated Tons cfm/ton				cfm/ton
			✓	✓
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Measured airflow is greater than the criteria in Table RE-2	<input type="checkbox"/>	<input type="checkbox"/>
Yes is a pass			Pass	Fail

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

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					Pass	Fail

HIGH EER AIR CONDITIONER
Procedures for verification are available in RACM, Appendix RI.

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

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature:	Date: 4/12/06

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

Residential Compliance Forms *April 2005*

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 1 of 8) CF-4R			
Project Address	5945 Ehrhardt Ave	Builder Name	Air Master Heat & Air
Builder Contact	Fred Farahvash	Telephone	916 683-3400
HERS Rater	Debbie Thompson	Telephone	916 835-4773
Compliance Method (Prescriptive)		Date	04/11/2006
Certifying Signature	<i>[Signature]</i>	Sample Group Number	3 of 3
Firm	Capitol Energy Consultants	Climate Zone	12
Street Address:	1709 Adonis Way	Sample House Number	3
		HERS Provider	CalCerts
		City/State/Zip:	Sacramento, CA 95864

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

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

Duct Diagnostic Leakage Testing Results

NEW CONSTRUCTION:		Measured Values	
	Duct Pressurization Test Results (CFM @ 25 Pa)		
1	Enter Tested Leakage Flow in CFM:		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
2	Fan Flow: Calculated (Nominal: <input checked="" type="checkbox"/> Cooling <input type="checkbox"/> Heating) or <input type="checkbox"/> Measured		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
3	Enter Total Fan Flow in CFM: [100 x [_____ (Line # 1) / _____ (Line # 2)]]		
3	Pass if Leakage Percentage ≤ 6% [100 x [_____ (Line # 1) / _____ (Line # 2)]]		
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.		
6	Enter Reduction in Leakage for Altered Duct System [_____ (Line # 4) Minus _____ (Line # 5)] (Only if Applicable)		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
7	Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)		<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
8	Entire New Duct System - Pass if Leakage Percentage ≤ 6% [100 x [_____ (Line # 5) / _____ (Line # 2)]]		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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)]]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
11	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 checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Pass if One of Lines # 9 through # 12 pass			

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 3 of 8) CF-4R	
Project Address 5945 Ehrhardt Ave	Builder Name Air Master Heat & Air
Builder Contact Fred Farahvash 916 683-3400 Telephone	Plan Number
HERS Rater Debbie Thompson 916 835-4773 Telephone	Sample Group Number 3 of 3
Compliance Method (Prescriptive)	Climate Zone 12
Certifying Signature <i>[Signature]</i> 04/11/2006 Date	Sample House Number 3
Firm Capitol Energy Consultants	HERS Provider CalCerts
Street Address: 1709 Adonis Way	City/State/Zip: Sacramento, CA 95864

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

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 CF-6R (Installation Certificate).

pkg unit exempt

THERMOSTATIC EXPANSION VALVE (TXV)

Procedures for field verification of thermostatic expansion valves are available in RACM, Appendix R1.

<input checked="" type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
			Yes is a pass	Pass	Fail

REFRIGERANT CHARGE MEASUREMENT

Verification for Required Refrigerant Charge 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 (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 use the Alternative Charge Measure Procedure

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

<input checked="" type="checkbox"/> <input type="checkbox"/> Yes <input type="checkbox"/> No	A copy of CF-6R (Installation Certificate) has been provided with refrigerant charge measurement documented.
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PAID
CITY OF SACRAMENTO

City of Sacramento

DEC 22 2005

Building Permit



Inspection Request # (916) 264-7622

NEW CITY HALL

***** Office Use Only *****

ISSUED

CITY OF SACRAMENTO

Permit No: 0519871
Date Issued: _____
Total Amount: 183.98
Insp Area #: 2

DEC 22 2005

CMC

DOWNTOWN PERMIT CENTER

***** Please Fill in the Following *****

Site Address: 5945 Ehrhardt Ave - Sacramento, CA - 95823
Nature of Work: R/R Rooftop Packaged Unit

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. 3057, Cr. 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 B5C20 License Number 57016 Date 12-22-05 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 & PC for this reason: _____

Date _____ Owner Signature _____

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

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

Date 12-22-05 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 State Fund
Policy Number 1687829 Expiration Date 06/30/06

(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 12-22-05 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.

PBF10004



CITY OF SACRAMENTO
 PLANNING & BUILDING DEPARTMENT
 BUILDING DIVISION
 WWW.CITYOFSACRAMENTO.ORG
 Help Line: 1-916-808-5656 OR 1-866-EZ-PERMIT
 Inspection: 1-916-808-7622

PAID

CITY OF SACRAMENTO

DEC 22 2005



NEW CITY HALL
 2101 Arena Blvd., Suite 200, Sacramento, CA 95834
 Fax # 916-808-8370

North Permit Center
 915 I Street, 3rd Floor, Sacramento, CA 95814

Downtown Permit Center, New City Hall
 915 I Street, 3rd Floor, Sacramento, CA 95814

Fax # 916-808-1901

FAXBACK PERMIT APPLICATION

Date: 12.22.05

Activity # _____

(certain restrictions apply)

ISSUED
CITY OF SACRAMENTO
 Contractors must have a current certificate of Worker's Compensation Insurance. Note: Work started before a Building Permit is issued will be subject to audit fees.

Permits requiring Plan Review are not eligible for FAXBACK

DEC 22 2005

IN ORDER TO PROCESS THIS REQUEST, ALL THE FOLLOWING INFORMATION MUST BE PROVIDED:

DOWNTOWN PERMIT CENTER

CREDIT CARD INFORMATION ON FILE? Yes No
 Job Address: 5445 E. Richard Ave.
 Contact Person: MR. VALENCIUELA OR MRS. RODRIGUEZ
 Property Owner: SAME AS ABOVE
 Address: 5445 E. Richard Ave.
 City/State/Zip: SACRAMENTO, CA 95823
 Phone: 916.429.9682

RESIDENTIAL APARTMENT'S (4+ units per building) COMMERCIAL
 Unit # _____ Contract Price \$7,000.00
 Contact Phone: 916.429.9682 License # 57016
 Contractor: MR. MASTER HEAT'S AIR
 Address: 6524 44th St. #200
 City/State/Zip: SACRAMENTO, CA 95823
 Phone: 916.397.1585 Fax: 916.397.1587

Nature of Work: (Provide detailed description of work & indicate type of work in selections below)

Description of Work: REPAIRING GAS FURNACE ROOF UNIT

Reroof (excluding tile)
 Tear-Off Resheet
 House Garage
 # Stories: _____
 # Squares: _____
 Material:
 Siding Wood T-111 Horiz Vinyl Stucco

HVAC Installations (Residential Only)
 Change-out New
 Heat Pump Package
 Split system Roof mount
 Cut-in
 Heat pump or elect. unit to gas.
 Wall furnace
 Other (describe below): _____
 Value of duct work: 2,000.00
 Equipment: \$ _____
 Cut-in: \$ _____

Water Heater (Residential Only)
 Gas Electric
 Change-out Electric to Gas
 Relocate New
 Dry Rot or Termitic Damage Repair (Describe Locations Below)

Minor Electric and/or Plumbing (Residential Only)
 Electric Service Change # amps
 New electric circuits
 Re-wire
 Water Service Replacement
 Sewer Service Replacement
 Gas Line Replacement
 Re-plumb
 Water Waste

Public Utilities Safety Inspection (Residential and single apartment units Only)
 SMUD
 PG&E

NOTE:
 Correction Notice items will require an additional building permit.

* Design Review approval may be required

* Design Review approval may be required

PBF100D2