

CITY OF SACRAMENTO

New City Hall, 915 I St., 3rd Floor, Sacramento, CA 95814

Permit No: 0616715

Insp Area: 1

Thos Bros: 297H4

Site Address: 600 SAN ANTONIO WY SAC

Parcel No: 004-0285-001

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR
OWNER BUILDER

OWNER
SPENCER MARGARET M
600 SAN ANTONIO WY
SACRAMENTO, CA 95819

ARCHITECT
PAID
CITY OF SACRAMENTO

Nature of Work: NEW HVAC SPLIT SYSTEM.

OCT 25 2006

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 C000005935 Date _____ 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 10/25/06 Owner Signature *[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 10/25/06 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:

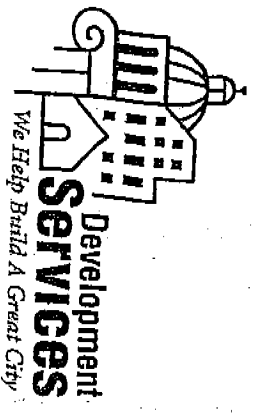
Carrier _____ Policy Number _____ Exp Date _____

(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 10/25/06 Applicant Signature *[Signature]*

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.



CITY OF SACRAMENTO
 www.cityofsacramento.org
 Help Line: 1-916-808-5656 OR 1-866-EZ-PERMIT
 Inspection Request: 1-916-808-7622

PAID
 CITY OF SACRAMENTO
 OCT 25 2006
 NEW CITY HALL
 New City Hall
 915 I Street, 3rd Floor
 Sacramento, CA 95814
 North Permit Center
 2101 Arena Blvd., Suite 200
 Sacramento, CA 95834
 Fax # 916-808-1901

MINOR PERMIT APPLICATION
 Date: Oct 25 2006

Faxed/web request must be received in this office by 3:00 P.M. to be processed the following workday. Contractors must have a current certificate of Worker's Compensation Insurance. Note: Work started before a Building Permit is issued will be subject to quad fee.

Permits requiring Plan Review are not eligible for the MINOR PERMIT PROGRAM
 Design Review and Historic Preservation approval may be required if job address is located in those areas (additional forms may be required)

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

Job Address: 600 SAN ANTONIO Bidg Type: RESIDENTIAL APARTMENTS (4+ units per building) COMMERCIAL (limited)
 CONTACT INFO Name: STEVE MCCRAY Unit # _____ Contract Price 1800.-
 Property Owner: MARGARET SPENCE Phone #: 916 712 7791 Email: SANDT1100@NETZCO.NET
 Address: 600 SAN ANTONIO Contractor: NONE License #: _____
 City/State/Zip: SAC CA 95819 Address: _____
 Phone: 441-6907 City/State/Zip: _____
 Nature of Work: Provide description of work & indicate type of work in selections below.

Description of Work: Install Central Heatd Air

<input type="checkbox"/> Reroof (excluding tile) <input type="checkbox"/> Tear-Off <input type="checkbox"/> Resheet <input type="checkbox"/> House <input type="checkbox"/> Garage # Stories: _____ # Squares: _____ Material: _____ <input type="checkbox"/> Siding <input type="checkbox"/> Wood <input type="checkbox"/> T-111 <input type="checkbox"/> Horiz <input type="checkbox"/> Vinyl <input type="checkbox"/> Stucco	<input type="checkbox"/> HVAC Installations (Residential Only) <input type="checkbox"/> Change-out <input checked="" type="checkbox"/> New <input type="checkbox"/> Heat Pump <input type="checkbox"/> Package <input checked="" type="checkbox"/> Split system <input type="checkbox"/> Roof mount <input type="checkbox"/> Cut-in <input type="checkbox"/> Heat pump or elect. unit to gas. <input type="checkbox"/> Wall furnace <input type="checkbox"/> Other (describe below) Value of duct work: _____ Equipment: \$ <u>1800</u> Cut-in: \$ _____	<input type="checkbox"/> Water Heater (Residential Only) <input type="checkbox"/> Electric <input type="checkbox"/> Gas <input type="checkbox"/> Change-out <input type="checkbox"/> Electric to Gas <input type="checkbox"/> Relocate <input type="checkbox"/> New <input type="checkbox"/> Dry Rot or Termitite <input type="checkbox"/> Damage Repair <input type="checkbox"/> Flooring/Joists <input type="checkbox"/> Mdsill/Studs <input type="checkbox"/> Roof Structure <input type="checkbox"/> Exterior	<input type="checkbox"/> Minor Electric and/or Plumbing (Residential Only) <input type="checkbox"/> Electric Service Change # amps _____ <input type="checkbox"/> New electric circuits <input type="checkbox"/> Re-wire <input type="checkbox"/> Water Service Replacement <input type="checkbox"/> Sewer Service Replacement <input type="checkbox"/> Gas Line Replacement <input type="checkbox"/> Re-plumb <input type="checkbox"/> Water <input type="checkbox"/> Waste	<input type="checkbox"/> Public Utilities Safety Inspection (Residential and single apartment units Only) <input type="checkbox"/> SMUD <input type="checkbox"/> PG&E * NOTE * Correction Notice items will require an additional building permit.
Office Use Only: Parcel #:	Date Received:	Date Issued: <u>10/30/06</u>	Processor's Initials: <u>SMC</u>	Permit #: <u>06016215</u>



CITY OF SACRAMENTO
DEVELOPMENT SERVICES DEPARTMENT
BUILDING DIVISION

North Permit Center
2101 Arena Blvd., Suite 200
Sacramento, CA 95834
Inspection: (916) 808-4677

OWNER BUILDER VERIFICATION

1. Check one below - I or my immediate family (parent, spouse, or child) will perform:

- A - all the work authorized by this permit.
- B - a portion of the work.
- C - none of the work.

If B or C is checked, complete 2 or 3 below.

2. A State licensed contractor (*) will be hired to do:

- all of the authorized work.
- a portion of the authorized work.

~~Name _____ Phone _____
Address _____
Type of Work _____
Name _____ Phone _____
Address _____
Type of Work _____
Name _____ Phone _____
Address _____
Type of Work _____
Name _____ Phone _____
Address _____
Type of Work _____~~

3. I will utilize unlicensed person(s) other than my immediate family to perform all or portions of the authorized work. A Certificate of Workers Compensation must be on file at this office.

I declare under penalty of perjury that the above is true and correct. I have read and understand the owner-builder information on the reverse side of this form.

Signed: Property Owner Mae St
Date 10/25/06 Case No. 0 Permit No. 0616713
Job Address 600 SAN ANTONIO WY SAC CA 95819

Note: * Information regarding unknown contractors or change in subcontractors shall be submitted to the Building Inspection field office.

October 23, 2006

I, Margaret Spencer, (sole owner of the property located at 600 San Antonio Way, Sacramento, CA 95819) give my permission to Steve McCray to sign on my behalf for a permit for heating/air unit installation.

Respectfully,

Margaret Spencer

Margaret Spencer

600 San Antonio

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

CF-4R

600 San Antino Way - Sacramento, Ca 95819

Margaret Spencer / Max00001

Project Address

Contractor Name / License No.

616715

Contractor Contact

Telephone Permit Number

Max McKinney

916-698-4185 47484

HERS Rater

Telephone Sample Group Number

December 6, 2006 CC14-1798388066

Certifying Signature

Date Certificate Number

Firm:

Energy Analysis and Comfort Solutions, Inc.

HERS Provider: CalCERTS, Inc.

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			
		Measured Values	
1	Duct Pressurization Test Results (CFM @ 25 Pa) 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 checked="" type="radio"/> Measured Enter Total Fan Flow in CFM:	1200	
3	Pass if Leakage Percentage < 6% [100 x (Line 1 / 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.	67	
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	Entire New Duct System - Pass if Leakage Percentage < 6% [100 x (Line 5 / Line 2)]:	5.60%	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out, use one of the following four Test or Verification Standards for compliance:			
9	Pass if Leakage Percentage <= 15% [100 x (Line 5 / Line 2)]:		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
10	Pass if Leakage to Outside Percentage <= 10% [100 x (Line 7 / Line 2)]:		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
11	Pass if Leakage Reduction Percentage >= 60% [100 x (Line 6 / Line 4)] and Verification by Smoke Test and Visual Inspection		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
12	Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection		<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

https://www.calcerts.com/cf4r_print_certificate.cfm?lots=0,47484&UseCF4R=1&cert_type_id=1... 12/6/2006

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

600 San Antino Way - Sacramento, Ca 95819	Margaret Spencer / Max00001
<i>Project Address</i>	<i>Contractor Name / License No.</i>
Max McKinney	616715
<i>Contractor Contact</i>	<i>Telephone</i>
916-698-4185	47484
<i>HERS Rater</i>	<i>Permit Number</i>
	47484
<i>Authorizing Signature</i>	<i>Sample Group Number</i>
Energy Analysis and Comfort Solutions, Inc.	CC14-1798388066
<i>Firm:</i>	<i>Date</i>
PO Box 2233	December 6, 2006
<i>Street Address:</i>	<i>Certificate Number</i>
PO Box 2233	HERS Provider: CalCERTS, Inc.
PO Box 2233	City/State/Zip: Orangevale / CA / 95662
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 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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Margaret Spencer
Project Title
 600 San Antino Way Sacramento Ca 95819
Project Address
 Margaret Spencer 916-441-6907
Documentation Author Telephone
 Prescriptive 12
Compliance Method (Prescriptive) Climate Zone

12/6/2006
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) 1400 ft² Average Ceiling Height: 8 ft
 Maximum Allowed West Facing Fenestration Products Per Table 151-B or 151-C --- (5% X CFA) N/A ft²
 Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C --- (20% X CFA) N/A ft²

Building Type: Single Family Detach Project Type: 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: 2 Number of Dwelling Units: 1

Floor Construction Type: Raised

Floor Orientation: N = 000 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)	Frame Type (Wood or)	Cavity Insulation R-Value	Continuous Insulation R-Value	Assembly U-factor (for wood, metal frame and mass assemblies)	Joint Appendix IV Reference	Roof Radiant Barrier Installed (Yes/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.

Margaret Spencer

600 San Antino Way

12/6/2006

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, W) 1	Area (ft ²)	U-factor 2	U-factor Source 3	SHGC 4	SHGC Source 5	Exterior Shading/Overhangs 6, 7 Check Box if WS-3R is
							<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 §161(f)(3)C 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 Packaged)
Furnace 70 kBTU	80.00 AFUE	Attic	6.00	Programmable	Split

Cooling Equipment Type and Capacity (A/C, heat pump, evap)	Minimum Efficiency (SEER or EER)	Duct Location (attic, etc.)	Duct R-Value	Thermostat Type	Configuration (Split or Packaged)
A/C 36 kBTU	13.00 SEER 11.00 EER	Attic	6.00	Programmable	Split

Margaret Spencer
Project Title

600 San Antino Way

12/6/2006
Date

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 8-16 only) (Installer testing and certification and HERS Rater field verification required.)
<input type="checkbox"/>	Refrigerant Charge (climate zones 2 and 8-16 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.)
--------------------------	--

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 (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor or Thermal Eff. 1	Standby Loss (%) 1	Tank External Insulation

Systems serving multiple dwelling units

Water Heater Type/ Fuel Type	Distribution Type	Number in System	Rated Input (kW or Btu/hr)	Tank Capacity	Energy Factor or Thermal Eff. 1	Standby Loss (%) 1	Tank External Insulation

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 Efficiency.

Pipe Insulation (kitchen lines > 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.

Margaret Spencer
Project Title

600 San Antino Way

12/6/2006
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 Form	
<input type="checkbox"/>	Dedicated Hydronic Heating	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"/>	Burled 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 Heater	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Central Water Heating System	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
	Duct Sealing	CF-6R part 4 of 12	
	Refrigerant Charge	CF-6R part 5 of 12	
	Thermostatic Expansion Valve	CF-6R part 6 of 12	

Margaret Spencer
ProjectTitle

600 San Antino Way

12/6/2006
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: Margaret Spencer	Name: Margaret Spencer
Title/Firm: Margaret Spencer	Title/Firm: Margaret Spencer
Address: 600 San Antino Way Sacramento CA 95819	Address: 600 San Antino Way Sacramento CA 95819
Telephone: 916-441-6907	Telephone: 916-441-6907
License #:	
X	X
Signature and Date	Signature and Date

Enforcement Agency

Name:	Comments:
Title/Firm:	
Address:	
Telephone:	
X	
Signature / Stamp and Date	

INSTALLATION CERTIFICATE

600 San Antino Way

Sacramento

Ca

95819

Site Address

Permit Number: 0616715

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

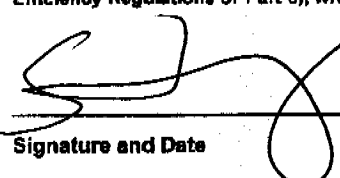
Equip. Type (pkg. heat)	CEC Certified Mfg. Name, Model, and Serial No.	# of Identical Systems	Efficiency (AFUE, etc) ¹ >(CF-1R value)	Duct Location	Duct or Piping R-Value	Heating Load (kBtu/hr)	Heating Capacity (kBtu/hr)
Split	NORDYNE	1	80.00 AFUE	Attic	6		70
Furnace	L1RA072C-16B						
	L1D060800753						

Cooling Equipment

Equip. Type (pkg. heat pump)	CEC Certified Mfg. Name, Model, and Serial No.	# of Identical Systems	Efficiency (AFUE, etc) ¹ >(CF-1R value)	Duct Location	Duct or Piping R-Value	Cooling Load (kBtu/hr)	Cooling Capacity (kBtu/hr)
Split	NORDYNE	1	13.00 SEER	Attic	6		38
A/C	JS5BD-036K		11.00 EER				
	JSF060701783						
Coil	Same as Condenser Mfg						
	C5BHT36C-B						
	C6D060801605						

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.

ii. 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.

 12-6-06
Signature and Date

Margaret Spencer
Installing Subcontractor (Co. Name) 5063-1
OR General Contractor (Co. Name) OR Owner

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

00 San Antino Way Sacramento Ca 95819
 Site Address Permit Number: 0616715

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:

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 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

ALTERATIONS: Duct System and/or HVAC Equipment Change-Out

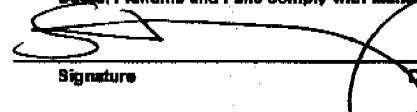
4 Enter Tested Leakage Flow in CFM from Pre-Test of Existing Duct System Prior to Duct System Alteration and/or Equipment Change-Out.		
5 Enter Tested Leakage Flow in CFM from Final Test of New Duct System or Altered Duct System for Duct System Alteration and/or Equipment Change-Out.	67	
6 Enter Reduction 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 [<u>67</u> (Line #5) / <u>1200</u> (Line #2)]]	5.6	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out

9 Pass if Leakage Percentage < 16% [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 #5) / _____ (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

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 160 (m) of the 2008 Building Energy Efficiency

Signature:  Date: 12-6-06 Margaret Spencer
 Installing Subcontractor (Co. Name) OR General Contractor (Co. Name): 5063-1

INSTALLATION CERTIFICATE

600 San Antino Way

Sacramento

Ca

95819

Site Address

Permit Number: 0616715

THERMOSTATIC EXPANSION VALVE (TXV)

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

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

REFRIGERANT CHARGE MEASUREMENT PROCEDURE

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 55oF 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

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 (Tcondensor, 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 -6 and +5°F)		F

Temperature Split Method Calculations for Adequate Airflow

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

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

5063-1

INSTALLATION CERTIFICATE

600 San Antino Way Sacramento Ca 95819
Site Address Permit Number: 0616716

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.

System Passes Yes No

Alternate Charge Measurement Procedure (outdoor air dry-bulb below 55 oF)

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 oF 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.

Table with 3 rows: Actual liquid line length, Manufacturer's Standard liquid line length, Difference (Actual - Standard). Includes formula for Manufacturer's correction (ounces per foot) x difference in length = ounces.

Measured Airflow Method for Adequate Airflow Verification available in RACM, Appendix

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)

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.

System Passes Yes No

Signature, Date 12-6-06

Margaret Spencer
Installing Subcontractor (Co. Name) OR
General Contractor (Co. Name) OR Owner

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

5063-1