

TRANSMISSION VERIFICATION REPORT

TIME : 07/31/2006 16:24  
 NAME : CITY OF SACRAMENTO  
 FAX : 9168085543  
 TEL : 9168085656  
 SER.# : BROH4J832840

DATE, TIME 07/31 16:22  
 FAX NO./NAME 93483184  
 DURATION 00:01:54  
 PAGE(S) 03  
 RESULT OK  
 MODE STANDARD  
 ECM

**CITY OF SACRAMENTO  
 CASHIER'S WORKSHEET**

RECEIPT NUMBER: R0614011  
 TRANSACTION DATE: 07/31/2006  
 TRANSACTION AMOUNT: 191.90  
 NOTATION:

**PAID**  
 CITY OF SACRAMENTO  
 JUL 31 2006  
 NEW CITY HALL

**ISSUED**  
 CITY OF SACRAMENTO  
 JUL 31 2006 UML  
 DOWNTOWN PERMIT  
 CENTER

APD #: 0611581  
 SITE ADDRESS: 1821 COMMERCIAL WY SAC  
 PARCEL: 010-0332-016

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

Mixed Income Housing  
 Fee Program  
 ??

TRANSACTION LIST

Type	Method	Description	Pymt Amount
Payment	Credit C	TEETER	191.90

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	4.00	.00	4.00
213	General Plan Surcharge	1760	5.90	.00	5.90
259	Bldg-Technology Surcharg	1750	7.00	.00	7.00



**CITY OF SACRAMENTO**  
**DEVELOPMENT SERVICES DIVISION**  
**FAXED PERMIT APPLICATION (certain restrictions apply)**  
 Fax # 916-264-1901 808-7046  
 Fax # 916-264-1901 808-7046  
 Faxed request must be received in this office by 3:00 p.m. to be processed the following work day.  
 Note: Contractors must have a current certificate of Worker's Compensation Insurance.

DATE: 7-27-06

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

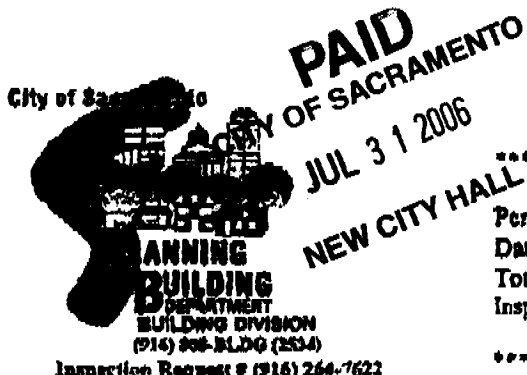
• RESIDENTIAL • APARTMENTS (4+ units per building) • COMMERCIAL (single) UNIT # \_\_\_\_\_ CONTRACT PRICE \$ \_\_\_\_\_  
**JOB ADDRESS: 1821 Commercial Way, Sac 95818**  
 • CONTACT PERSON: BUCKLEY • CONTACT PHONE: 916-348-3181

Property Owner: Kash Wynn Contractor: BUCKLEY JIMMEL HOLDINGS License # 558860  
 Address: 1821 Commercial Way, Sac 95818 Address: 8990 Divercchi Ave, da 95621  
 City/State/Zip: Sacramento, Ca 95818 City/State/Zip: Corvuss Heights, da 95621  
 Phone: 444-7820 Phone: 916-348-3181 FAX: 916-348-3184

NATURE OF REQUEST:			
Indicate from the selections below & provide details under description of work.			
<ul style="list-style-type: none"> <li>• REEROOF (excluding tile)</li> <li>• TEAR-OFF</li> <li>• RESHET</li> <li>• HOUSE • GARAGE</li> <li>• SQUARES</li> <li>Material:</li> <li>• SIDING               <ul style="list-style-type: none"> <li>• wood</li> <li>• T-111</li> <li>• Hard</li> <li>• vinyl</li> </ul> </li> <li>• stucco</li> </ul> <p>Note: Design Review approval may be required in certain areas.</p>	<ul style="list-style-type: none"> <li>• HVAC INSTALLATIONS (residential ONLY)</li> <li>• CHANGE-OUT • NEW               <ul style="list-style-type: none"> <li>• Heat Pump</li> <li>• Package</li> <li>• Split system</li> <li>• Roof mount</li> <li>• Cut-in</li> <li>• Heat pump or elect. unit to gas.</li> <li>• Wall furnace</li> <li>• Other (describe below)</li> </ul> </li> <li>Value of duct work: _____</li> <li>Equipment: \$ _____</li> <li>Cut-in: \$ _____</li> </ul> <p>Note: Design Review approval may be required for rooftop units.</p>	<ul style="list-style-type: none"> <li>• WATER HEATER (residential ONLY)</li> <li>• GAS • ELECTRIC               <ul style="list-style-type: none"> <li>• Change-out</li> <li>• Relocate to Gas</li> <li>• Relocate</li> <li>• New</li> </ul> </li> <li>• DRY ROT OR TERMITTE DAMAGE REPAIR (Describe locations below)</li> </ul> <p>Note: Design Review approval may be required in certain areas.</p>	<ul style="list-style-type: none"> <li>• MINOR ELECTRIC and/or MINOR PLUMBING (residential ONLY)</li> <li>• Electric Service Change # amps _____</li> <li>• New electric circuits</li> <li>• Re-wire</li> <li>• Water Service Replacement</li> <li>• Sewer Service Replacement</li> <li>• Gas Line Replacement</li> <li>• Re-plumb</li> <li>• Water • Waste</li> </ul>
		<ul style="list-style-type: none"> <li>• PUBLIC UTILITIES SAFETY INSPECTION* (Residential and single apartment units ONLY)</li> <li>• SMUD</li> <li>• PGE</li> </ul> <p>*NOTE: Correction Notice items will require an additional building permit</p>	

DESCRIPTION OF WORK:  
*change out 3.5 ton split system with same*

Application form [rev online 3/10/06]



Building Permit

\*\*\*\*\* Office Use Only \*\*\*\*\* **ISSUED** \*\*\*\*\*  
 CITY OF SACRAMENTO  
 Permit No: 061158  
 Date Issued: 7/27/06  
 Total Amount: 191.90  
 Insp Area #: 2 **DOWNTOWN PERMIT CENTER**  
 \*\*\*\*\* Please Fill in the Following \*\*\*\*\*

Site Address: 1821 Commercial Way, Sacramento 95818  
 Nature of Work: Change out soil system with same

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 C-20 License Number 558422 Date 3/1/06 Signature \_\_\_\_\_

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors license law for the following reasons (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 Professions 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 permitted 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.

Date 7/27/06 Applicant/Agent Signature \_\_\_\_\_

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declaratory items:  
 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 USA Services  
 Policy Number 11152000011901 Expiration Date 9/27/06

(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 7-27-06 Applicant Signature \_\_\_\_\_

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION DAMAGES AS PROVIDED FOR IN SECTION 3700 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

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

PBF10004

# HEATING AND COOLING EQUIPMENT QUESTIONNAIRE

Applicant's name: Brian Buckley Phone: (910) 348-3181

Project Address: \_\_\_\_\_

Please check the appropriate boxes. Only check a box if it accurately and completely describes your proposed work, otherwise leave boxes blank.

## 1. GROUND-MOUNTED UNIT

- a.  There is an existing ground-mounted unit.
  - The existing unit shall be removed. The new unit shall be placed in the same location as the existing unit and shall not exceed the size of the existing unit.
  - The new unit differs in location from the existing unit.
    - The new unit is fully screened behind a solid fenced area and will not be visible from any street views.
    - Existing shrubs or buildings will screen the unit from being visible from any street views.
- b.  There is no unit in the proposed location.
  - The new unit will be fully screened behind a solid fenced area and will not be visible from any street views.
  - Existing shrubs or buildings will screen the unit from being visible from any street views.

## 2. ROOF-MOUNTED UNIT

- a.  There is an existing roof-mounted unit.
  - The existing unit shall be removed. The new unit shall be placed in the same location as the existing unit and shall not exceed the size of the existing unit.
  - The new unit differs in location from the existing unit. The new unit shall be screened from street views by the building with no portion of the new unit being visible from any street views.
- b.  There is no existing roof-mounted unit
  - The new unit shall be screened from street views by the building with no portion of the new unit being visible from any street views

By signing below, the applicant certifies that this form accurately describes the proposed work.

Applicant's signature: [Signature] Date: 7-27-06

For City Staff use only

Counter Staff \_\_\_\_\_

- In a DR District Meets DR criteria?  Yes  No (route to DR staff)
- In a P area or listed (route to P staff)
- Not in DR/P area

**CERTIFICATE OF COMPLIANCE: RESIDENTIAL**

(Page 1 of 4)

CF-1R

**KEVIN MIMS**

7/27/2006

**1821 COMMERCIAL WAY SACRAMENTO CA 95818**

Project Address

**Brian Buckley 916-348-3181**

Documentation Author Telephone

**Prescriptive 12**

Compliance Method (Prescriptive) Climate Zone

Date
Building Permit #
Plan Check / Date
Field Check / Date

Enforcement Agency Use Only

Alternative Component Package Method: (check one)      C  X      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 181-C Footnotes 7-14

**GENERAL INFORMATION**

Total Conditioned Floor Area (CFA) 1,235 ft<sup>2</sup> Average Ceiling Height: 8 ft

Maximum Allowed West Facing Fenestration Products Per Table 181-B or 181-C — (5% X CFA) NA ft<sup>2</sup>

Maximum Allowed Total Fenestration Products Per Table 181-B or 181-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: SLAB Slab/Raised Floor (circle one or both)

Front Orientation: W 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, 8-16)

**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 4)

CF- 1R

**KEVIN MIMS**

##

Project Title

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 (ft <sup>2</sup> )	U-factor <sup>2</sup>	U-factor Source <sup>3</sup>	SHGC <sup>4</sup>	SHGC Source <sup>5</sup>	Exterior Shading/Overhangs, 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)(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 package)
	90.00 AFUE	ATTIC	R4	Programmable	SPLIT
<b>FURNACE</b>	<b>HSPF</b>				
TUY100R9V4W					

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	15 SEER				
2TTX6042A1000A	12.6 EER				
<b>COIL</b>					
2TXCC037AC3HCA					

**CERTIFICATE OF COMPLIANCE: RESIDENTIAL**

(Page 3 of 4)

CF- 1R

**KEVIN MIMS**

#

Project Title

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 checked="" type="checkbox"/>	Sealed Ducts (all climate zones) (installer testing and certification and HERS rater field verification required.)
<input checked="" type="checkbox"/>	TXVs, readily accessible (climate zones 2 and 8-16 only) (installer testing and certification and HERS Rater field verification required.)
<input checked="" 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 161-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 160(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 6-4 in Chapter 6 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 Efficiency.

**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.

**CERTIFICATE OF COMPLIANCE: RESIDENTIAL**

(Page 3 of 4)

CF- 1R

**KEVIN MIMS**

Project Title

##


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: <b>Brian Buckley</b>	Name: <b>Brian Buckley</b>
Title/Firm <b>Buckley Parnell Heat &amp; Air</b>	Title/Firm <b>Buckley Parnell Heat &amp; Air</b>
Address: <b>5900 Devecchi Ave</b> <b>Citrus Heights CA 95621</b>	Address: <b>5900 Devecchi Ave</b> <b>Citrus Heights CA 95621</b>
Telephone: <b>916-348-3181</b>	Telephone: <b>916-348-3181</b>
License #: <b>55900</b>	
 <b>(signature) (date)</b>	<b>(signature) (date)</b>

**Enforcement Agency**

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



1821 COMMERCIAL WAY

SACRAMENTO CA 95818

61158

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 10-103(a).

**HVAC SYSTEMS:**

**Heating Equipment**


Equip Typ (pkg. heat pum)	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)
FURN	TUY100R9V4W		90.00 AFUE		R4		93,000 BTU
			HSPF				

**Cooling Equipment**

Equip Typ (pkg. heat pum)	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)
A/C	2TTX5042A1000A		15.00 SEER	ATTIC	R4		42,000 BTU
	6283MKS1F		12.6 EER				
COIL	2TXCC037AC3HCA						
	5367R35AG						

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.

  
\_\_\_\_\_  
Signature, Date

**Buckley Parnell Heat & Air**  
\_\_\_\_\_  
Installing Subcontractor (Co. Name)  
OR General Contractor (Co. Name) OR Owner

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

# 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 @ 25 Pa)			
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:		1400	
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.		174	
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.		63	
6 Enter Reduction in Leakage for Altered Duct System [ _____ (Line # 4) Minus _____ (Line # 5) - (Only if Applicable)]		111	
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)]]		4.5	<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 < 15% [100 x [ _____ (Line # 5) / _____ (Line # 2)]]			<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)]] 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.

Signature

Date

**Buckley Parnell Heat & Air**

Installing Subcontractor (Co. Name) OR

**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**

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 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 -10°F)	F

1821 COMMERCIAL WAY

SACRAMENTO CA 95818

61158

Site Address

Permit Number

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 type="checkbox"/>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	System Passes
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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.

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 type="checkbox"/>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	System Passes
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Signature, Date

**Buckley Parnell Heat & Air**

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

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