CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0612408
Insp Area: 3
Thos Bros: 298F7

PAID
CITY OF SACRAMENTO
AUG 14 2006
NEW CITY HALL

Site Address: 2823 WISSEMANN DR SAC
Parcel No: 078-0111-021

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

CONTRACTOR
ALL STAR HOME IMPROVEMENT
4401 HAZELWOOD AVE
SACRAMENTO CA 95821

OWNER
NORRIS EMMA R
2823 WISSEMANN DR
SACRAMENTO, CA 95826

ARCHITECT

Nature of Work: HVAC - C/O - SPLIT SYSTEM - ENERGY COMPL DOC'S REQ'D AT FINAL

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'sAddress_____

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-10 License Number 799547 Date 8-14-06 Contractor Signature Jim Alworth President

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500.00);

_____ I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

_____ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

_____ I am exempt under Sec._____ B & PC for this reason:_____

Date_____ Owner Signature_____

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 herby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 8-14-06 Applicant/Agent Signature Jim Alworth President

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 NO EMPLOYEES 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 8-14-06 Applicant Signature Jim Alworth

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.

0612408

DATE: 8-13-06

CITY OF SACRAMENTO
DEVELOPMENT SERVICES DIVISION
FAXED PERMIT APPLICATION (certain restrictions apply)
Fax # 916-264-1901

- → *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.*
- → *Note: Work started before a Building Permit is issued will be subject to quad fees.*
- → *IN ORDER TO PROCESS THIS REQUEST, ALL THE FOLLOWING INFORMATION MUST BE PROVIDED:*

☒ RESIDENTIAL ☐ APARTMENTS (4+ units per building) ☐ COMMERCIAL (limited)

→ CONTRACT PRICE $ 7350.00

JOB ADDRESS: 2823 WISSEMANN DR UNIT #

→ CONTACT PHONE: 916 801 7222 799547

→ CONTACT PERSON Woody

Property Owner: EMMA NORRIS
Address: 2823 WISSEMANN DR
City/State/Zip: SACRAMENTO, CA 95826
Phone: 916 383 9058HM / CELL 420 1076

Contractor: ALL STAR HOME IMP.
Addres: 4401 HAZELWOOD AVE
City/Site/Zip: SACRAMENTO, CA 9582
Phone: 916 801 7222 FAX: 916 487 8222

NATURE OF REQUEST: indicate from the selections below

☐ **REROOF** (excluding tile)
- ☐ TEAR-OFF
- ☐ RESHEET

#SQUARES
Material:

☐ **SIDING**
- ☐ wood
- ☐ vinyl
- ☐ stucco

Note: Design Review approval may be required.

☒ **HVAC INSTALLATIONS** (residential ONLY)
- ☒ CHANGE-OUT ☐ NEW
- ☐ Package
- ☒ Split system
- ☐ Roof mount
- ☐ Out-in

Value of duct work:
Equipment: $ 7350.00
Cost: $

Note: Basic Review approval may be required

☐ **WATER HEATER** (residential ONLY)
- ☐ GAS ☐ ELECTRIC
- ☐ Change-out
- ☐ Electric to Gas
- ☐ Relocate
- ☐ New

Cost of equipment:
$

☐ **MINOR ELECTRIC** and/or **MINOR PLUMBING** (residential ONLY)
- ☐ Electric Service Change # amps
- ☐ New electric circuits
- ☐ Re-wire
- ☐ Water Service Replacement
- ☐ Sewer Service Replacement
- ☐ Gas Line Replacement
- ☐ Re-plumb

☐ **PUBLIC UTILITIES SAFETY INSPECTION*** (Residential and strip apartment units ONLY)
- ☒ SMUD
- ☒ PGE 915

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

DESCRIPTION OF WORK: CHANGE OUT SPLIT SYSTEM HVAC TO TITLE 24 LIKE SYSTEM, NOT VISIBLE FROM STREET

WALL WOODY AT 801 7222 WHEN PERMIT IS READY

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 1 of 8) **CF-4R**

2823 Wisseman Dr. - Sacramento, CA 95826 *Project Address*	All Star Home Improvement / 799547 *Contractor Name / License No.* 06-12408 0612408
Contractor Contact / *Telephone*	*Permit Number*
Michael McDermott 916-704-2810	39333
HERS Rater / *Telephone*	*Sample Group Number*
Mike McDermott August 17, 2006	CC14-1798379915
Certifying Signature / *Date*	*Certificate Number*
Firm: Energy Analysis and Comfort Solutions, Inc.	HERS Provider: **CalCERTS**
Street Address: PO Box 2233	City/State/Zip: Orangevale / CA / 95662

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

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

HERS RATER COMPLIANCE STATEMENT

The house was ☑ Tested ☐ Approved as part of sample testing, but was not tested.

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

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

☑ **MINIMUM REQUIREMENTS FOR DUCT LEAKAGE REDUCTION COMPLIANCE CREDIT:**

NEW CONSTRUCTION			
	Duct Pressurization Test Results (CFM @ 25 Pa)	Measured Values	
1	~~Enter Tested Leakage Flow in CFM:~~	N/A	
2	Fan Flow: Calculated (Nominal ◉ Cooling ○ Heating) or ○ Measured Enter Total Fan Flow in CFM:	1215	
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.	218	
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)]:		☐ Pass ☐ 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)]:	17.90%	☐ Pass ☑ Fail
10	Pass if Leakage to Outside Percentage <= 10% [100 x (Line 7 / Line 2)]:		☐ Pass ☐ Fail
11	Pass if Leakage Reduction Percentage >= 60% [100 x (Line 6 / Line 4)] and Verification by Smoke Test and Visual Inspection		☐ Pass ☐ Fail
12	Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection		☑ Pass ☐ Fail
	Pass if One of Lines #9 through #12 pass		☑ Pass ☐ Fail

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

2823 Wisseman Dr. - Sacramento, CA 95826 *Project Address*	All Star Home Improvement / 799547 *Contractor Name / License No.*
Contractor Contact / *Telephone*	06-124081 *Permit Number*
Michael McDermott / 916-704-2810	39333
HERS Rater / *Telephone*	*Sample Group Number*
Certifying Signature / August 17, 2006 *Date*	CC14-1798379915 *Certificate Number*

Firm: Energy Analysis and Comfort Solutions, Inc. HERS Provider: **CalCERTS**

Street Address: PO Box 2233 City/State/Zip: Orangevale / CA / 95662

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

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

HERS RATER COMPLIANCE STATEMENT

The house was ☑ Tested ☐ Approved as part of sample testing, but was not tested.

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

☑ The installer has provided a copy of the CF-6R (Installation Certificate).

☑ **THERMOSTATIC EXPANSION VALVE (TXV):**

Access is provided for inspection. The procedure shall consist of visual verification that the TXV is installed on the system and installation of the specific equipment shall be verified.

HVAC System TXV	☑ Pass ☐ Fail

2823 Wisseman Dr. Sacramento CA 95826 0

Site Address Permit Number

INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE

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

INSTALLER COMPLIANCE STATEMENT

The building was: [X] Tested at Final [ ] Tested at Rough-in

INSTALLER VISUAL INSPECTION AT FINAL CONSTRUCTION STAGE:

[X] 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.

[X] 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: [ ] Cooling [X] Heating) or [ ] 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:	1215				
3 Pass if Leakage Percentage < 6% for Final or < 4% at Rough-in: [100 x [_____ (Line # 1) / _____ (Line # 2)]]		[ ] Pass	[ ] 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.	218				
6 Enter Reduction in Leakage for Altered Duct System [_____ (Line # 4) Minus _____ (Line # 5)] – (Only if Applicable)					
7 Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)					
8 Entire New Duct System - Pass if Leakage Percentage < 6% for Final or < 4% at Rough-in [100 x [_____ (Line # 5) / _____ Line # 2)]]		[ ] Pass	[ ] 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 [218 (Line # 5) / 1215 (Line # 2)]]	17.9	[X] Pass	[ ] Fail		
10 Pass if Leakage to Outside Percentage < 10% [100 x [_____ (Line # 7) / _____ (Line # 2)]]		[ ] Pass	[ ] Fail		
11 Pass if Leakage Reduction Percentage > 60% [100 x [_____ (Line # 6) / _____ (Line # 4)]]		[ ] Pass	[ ] Fail		
and Verification by Smoke Test and Visual Inspection		[ ] Pass	[ ] Fail		
12 Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection		[ ] Pass	[ ] Fail		
Pass if One of Lines # 9 through # 12 pass		[X] Pass	[ ] Fail		

[X] 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.

Jim A. Wright 8-17-06 All Star Home Improvement

President

Signature Date Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) 20029 1005

2823 Wisseman Dr. Sacramento CA 95826 0

Site Address Permit Number

☒ THERMOSTATIC EXPANSION VALVE (TXV)

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

☒ Yes ☐ 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	☒ 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 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 -100°F)		F

2823 Wisseman Dr. Sacramento CA 95826 0

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.

		Yes		No System Passes

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.

		Yes		No System Passes

Signature, Date

President

All Star Home Improvement

Installing Subcontractor (Co. Name) OR 20029

General Contractor (Co. Name) OR Owner 1005

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

2823 Wisseman Dr. Sacramento CA 95826 0

Site Address Permit Number

FAN WATT DRAW

Procedures for measuring the air handler watt draw are available in RACM, Appendix RE3.2.

Method For Fan Watt Draw Measurement			
	RE3.2.1	Portable Watt Meter Measurement	
	RE3.2.2	Utility Revenue Meter Measurement	
Measured Fan watt Draw:		Enter results of Watts/cfm:	
Measured Fan Flow (Enter total cfm from airflow verification)			
		Enter results of Watts/cfm:	
☐ Yes ☐ No		Calculated fan watt/cfm is equal to or lower than the fan watt/cfm draw documented in CF-1R	☐ Pass ☐ Fail
		Yes is a pass	

☐ ADEQUATE AIRFLOW VERIFICATION

Procedures for field verification and diagnostic testing of adequate airflow are available in RACM, Appendix RE4.1.

Method For Airflow Measurement		
	Yes No	Duct design exists on plans
	RE4.1.1	Diagnostic Fan Flow Using Flow Capture Hood
	RE4.1.2	Diagnostic Fan Flow Using Plenum Pressure Matching
	RE4.1.3	Diagnostic Fan Flow Using Flow Grid Measurement
Measured Airflow:		cfm/ton
	Yes No	Measured airflow is greater than the criteria in Table RE-2
		Yes is a pass — Pass Fail

☐ MAXIMUM COOLING CAPACITY

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

1	Yes No	Adequate airflow verified (see adequate airflow credit)
2	Yes No	Refrigerant charge or TXV
3	Yes No	Duct leakage reduction credit verified
4	Yes No	Cooling capacities of installed systems are ≤ to maximum cooling capacity indicated on the Performance's CF-1R and RF-3.
5	Yes 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	Yes No	EER values of installed systems match the CF-1R
2	Yes No	For split system, indoor coil is matched to outdoor coil
3	Yes No	Time Delay Relay Verified (If Required)
		Yes to 1 and 2; and 3 (If Required) is a pass

☐ Pass ☐ Fail

Tests Performed

Signature, Date

All Star Home Improvement

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) 20029 1005

COPY TO: Building Department, HERS Rater, Building Owner at Occupancy