

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

PAID
CITY OF SACRAMENTO

Permit No: 0519889

Insp Area: 4
Thos Bros: 278A3

Site Address: 1249 GRAND AV SAC
Parcel No: 251-0073-012

FEB 02 2006

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

CONTRACTOR
OWNER BUILDER

OWNER NEW CITY HALL
HOUSING AUTHORITY COUNTY OF SACRAMENTO
320 COMMERCE CIR
SACRAMENTO CA 95815

ARCHITECT
ALICIA MONIZ
1033 S ST
SACRAMENTO, CA 95814

Nature of Work: Repairs & Rehab work to sfr including Hazmat abatement, New windows, doors, cabinets, Elect & Pumbing upgrades, fixtures, NEW HVAC

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 0 _____ 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 2-2-06 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 herby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 2-2-06 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 2-2-06 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: 1-916-808-7622

Downtown Permit Center
 1231 I Street, Suite 200
 Sacramento, CA 95814

North Permit Center
 2101 Arena Blvd., Suite 200
 Sacramento, CA 95834

RESIDENTIAL APPLICATION
 1-916-264-5656 OR 1-866-EZ-PERMIT

1249 Grand Ave. Sac SUITE 4 INSP. AREA
 251-0073-012 COMMUNITY PLAN NO. PLAN CHECK NO. 0519889

NAME OF APPLICANT	ADDRESS	ZIP CODE	PHONE NO.
LICENSED CONTRACTOR	320 Commerce Circle Sac	95815	916-566-1244
Sacramento Housing & Redevelopment Agency			5661275 FAX
CONTRACTOR'S LICENSE NO.:	Linda Adams		
PROPERTY OWNER	Same		
ARCHITECT/ENGINEER	Moniz Architecture 1033 S. Street Sac		
			916-442-4032 916-442-4004 FAX

1	4	Singleply	1000	1000	No	50
No. of Stories	No. of Rooms	Roof Covering	Area 1 st Floor	Total Area	Garage Area	Patio Area

THIS PERMIT IS FOR:
 BUILDING MECHANICAL PLUMBING ELECTRICAL SITE FIRE

NATURE OF WORK IN DETAIL
 Repairs and Rehab work to a single family house including HAZ-mat Abatement, New windows, doors, cabinets, plumbing and electrical code upgrades, and fixtures, paint and landscaping & fencing New HVA

\$ 50,000.00
 VALUATION



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

Yvonne Adams Sacramento Housing (SHRA)

Date 12-22-05

Case No. _____

Permit No. _____

Job Address

1249 Grand Ave, Sac

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

City of Sacramento
Development Services Department
PLANNING REVIEW FOR BUILDING PERMIT SUBMITTAL

ADDRESS: 1249 Grand Ave.	APN: 251-0073-012-0000
DRPB AREA / PUD / SPD: Del Paso Heights D.R.	ZONING: R-1
EXISTING LAND USE: SFR	
PROPOSED USE: NEW FRONT PORCH & EXTERIOR REHAB	
PLANNING STAFF WILL CHECK ONE OR MORE OF THE ITEMS BELOW:	
<input type="checkbox"/>	Planning review is NOT required.
<input type="checkbox"/>	Use is NOT allowed; applicant CANNOT submit for plan check.
<input type="checkbox"/>	Requires APPLICATION(s): PC ZA IR ER DR PB Required Planning application must be approved before project can be submitted for plan check
<input type="checkbox"/>	Application(s) IN PROGRESS: File Number: Application must be approved before project can be submitted for plan check.
<input checked="" type="checkbox"/>	Application(s) COMPLETE: File Number & Approval date: DR05-349 (12-21-2005) Building permit must conform to approved plans and comply with all conditions of approval. Do NOT accept applications for a building permit prior to the end of the 10-day appeal period. Dw
<input checked="" type="checkbox"/>	Plans may be submitted for plan check. Plan checker(s) shall confirm compliance with Zoning Ordinance requirements and all applicable development standards prior to issuance of building permit.
<input checked="" type="checkbox"/>	Meets setback & lot coverage requirements as shown on site plan provided.
<input checked="" type="checkbox"/>	Plans to be submitted have been stamped/signed by Planning counter staff.
<input type="checkbox"/>	Route to SITE for plan check and inspection.
<input type="checkbox"/>	Route to SITE for inspection only, plan check not required.
<input type="checkbox"/>	Preliminary review ONLY; the information on this form must be reviewed again and confirmed at the time of building permit submittal.
CONDITIONS AND COMMENTS:	Lot size: approx. 5100 SF Footprint: existing residence 975 SF + proposed new front porch 90 SF = 1065 SF total. Lot coverage: 21% OK as this zone allows a 40% maximum lot coverage. Setbacks OK per approved site plan. Building permit must conform to approved plans and comply with all conditions of approval DR05-349. Do NOT accept applications for a building permit prior to the end of the 10-day appeal period.
DATE: 12-21-2005	BY: DAN WATRES

1249 Grand Ave.

TITLE 24 REPORT

0519889

Title 24 Report for:
SHRA House

Project Designer:

SHRA
320 Commercr Circle
Sacramento, CA 95815
(916) 566-1200

Report Prepared By:

Todd Ferris
ACCURATE ENERGY
3713 Laguna Way
Sacramento, CA 95864
(916) 483-7313

Job Number:

26381

Date:

8/28/2006

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2005 Building Energy Efficiency Standards.
This program developed by EnergySoft, LLC - www.energysoft.com.

Building Department Copy

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Certificate Of Compliance : Residential

(Part 1 of 4) **CF-1R**

SHRA House
Project Title

8/28/2006
Date

Project Address
ACCURATE ENERGY
Documentation Author

(916) 483-7313
Telephone

Building Permit #

EnergyPro
Compliance Method

12
Climate Zone

Plan Check/Date

Field Check/Date

TDV (kBtu/sf-yr)	Standard Design	Facing North	Margin	Facing East	Margin	Facing South	Margin	Facing West	Margin		
Space Heating	56.03	24.95	31.08	23.55	32.48	22.98	33.05	24.15	31.88		
Space Cooling	28.70	28.60	0.10	22.41	6.29	31.24	-2.54	24.63	4.06		
Fans	6.82	5.83	0.99	4.71	2.11	6.19	0.63	5.12	1.70		
Domestic Hot Water	22.90	20.01	2.89	20.01	2.89	20.01	2.89	20.01	2.89		
Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Totals	114.45	79.39	35.06	70.68	43.77	80.42	34.03	73.91	40.54		
Percent better than Standard:			30.6%				38.2%			29.7%	35.4%

BUILDING COMPLIES - NO HERS VERIFICATION REQUIRED

Building Type:	<input checked="" type="checkbox"/> Single Family	<input type="checkbox"/> Addition	Total Conditioned Floor Area:	895 ft ²			
	<input type="checkbox"/> Multi Family	<input checked="" type="checkbox"/> Existing + Add/Alt	Existing Floor Area:	895 ft ²			
Building Front Orientation:	All Four Orientations		Raised Floor Area:	0 ft ²			
Fuel Type:	Natural Gas		Slab on Grade Area:	985 ft ²			
Fenestration:			Average Ceiling Height:	8.4 ft			
Area:	140 ft ²	Avg. U:	0.58	Number of Dwelling Units:	1.00		
Ratio:	15.6%	Avg. SHGC:	0.65	Number of Stories:	1		
BUILDING ZONE INFORMATION							
Zone Name	Floor Area	Volume	# of Units	Zone Type	Thermostat Type	Vent Hgt.	Vent Area
HVAC System	895	7,536	1.00	Conditioned	Setback	2	n/a

OPAQUE SURFACES

Type	Frame	Area	U-Fac.	Insulation Cav.	Cont.	Act. Azm.	Tilt	Gains Y/N	Condition Status	JA IV Reference	Location / Comments
Wall	Wood	165	0.102	R-13	R-0.0	0	90	X	Altered	09-A3 (E=09-A1)	Existing
Door		20	0.500	None	R-0.0	0	90	X	Existing	28-A4	Existing
Wall	Wood	260	0.102	R-13	R-0.0	90	90	X	Altered	09-A3 (E=09-A1)	Existing
Wall	Wood	213	0.102	R-13	R-0.0	180	90	X	Altered	09-A3 (E=09-A1)	Existing
Wall	Wood	238	0.102	R-13	R-0.0	270	90	X	Altered	09-A3 (E=09-A1)	Existing
Door	None	18	0.500	None	R-0.0	270	90	X	Existing	28-A4	Existing
Roof	Wood	499	0.051	R-19	R-0.0	90	9	X	Altered	02-A5 (E=01-A2)	Existing
Roof	Wood	499	0.051	R-19	R-0.0	270	9	X	Altered	02-A5 (E=01-A2)	Existing

Run Initiation Time: 08/28/06 10:03:35

Run Code: 1156784615

EnergyPro 4.2 by EnergySoft

User Number: 3119

Job Number: 26381

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Certificate Of Compliance : Residential

(Part 2 of 4) **CF-1R**

SHRA House
Project Title

8/28/2006
Date

FENESTRATION SURFACES

#	Type	Area	U-Factor ¹	SHGC ²	True Azm.	Cond. Tilt	Stat. Glazing Type	Location/Comments
1	Window Front (N)	12.7	1.280 116-A 0.80	116-B	0	90	Removed Single Metal Clear - Operable	Existing
2	Window Front (N)	12.0	0.580 116-A 0.65	116-B	0	90	New Dual Non Metal Clear - Operable	Existing
3	Window Front (N)	3.2	1.190 116-A 0.83	116-B	0	90	Removed Single Metal Clear - Fixed	Existing
4	Window Front (N)	12.7	1.280 116-A 0.80	116-B	0	90	Removed Single Metal Clear - Operable	Existing
5	Window Front (N)	16.0	0.580 116-A 0.65	116-B	0	90	New Dual Non Metal Clear - Operable	Existing
6	Window Left (E)	12.7	1.280 116-A 0.80	116-B	90	90	Removed Single Metal Clear - Operable	Existing
7	Window Left (E)	12.0	0.580 116-A 0.65	116-B	90	90	New Dual Non Metal Clear - Operable	Existing
8	Window Left (E)	12.7	1.280 116-A 0.80	116-B	90	90	Removed Single Metal Clear - Operable	Existing
9	Window Left (E)	14.0	0.580 116-A 0.65	116-B	90	90	New Dual Non Metal Clear - Operable	Existing
10	Window Left (E)	12.7	1.280 116-A 0.80	116-B	90	90	Removed Single Metal Clear - Operable	Existing
11	Window Left (E)	14.0	0.580 116-A 0.65	116-B	90	90	New Dual Non Metal Clear - Operable	Existing
12	Window Left (E)	12.7	1.280 116-A 0.80	116-B	90	90	Removed Single Metal Clear - Operable	Existing
13	Window Left (E)	14.0	0.580 116-A 0.65	116-B	90	90	New Dual Non Metal Clear - Operable	Existing
14	Window Right (W)	12.7	1.280 116-A 0.80	116-B	270	90	Removed Single Metal Clear - Operable	Existing
15	Window Right (W)	14.0	0.580 116-A 0.65	116-B	270	90	New Dual Non Metal Clear - Operable	Existing
16	Window Right (W)	12.7	1.280 116-A 0.80	116-B	270	90	Removed Single Metal Clear - Operable	Existing
17	Window Right (W)	14.0	0.580 116-A 0.65	116-B	270	90	New Dual Non Metal Clear - Operable	Existing
18	Window Right (W)	6.2	1.280 116-A 0.80	116-B	270	90	Removed Single Metal Clear - Operable	Existing
19	Window Right (W)	6.0	0.580 116-A 0.65	116-B	270	90	New Dual Non Metal Clear - Operable	Existing

1. Indicate source either from NFRC or Table 116A.

2. Indicate source either from NFRC or Table 116B.

INTERIOR AND EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window		Overhang			Left Fin		Right Fin				
			Hgt.	Wd.	Len.	Hgt.	LExt.	RExt.	Dist.	Len.	Hgt.	Dist.	Len.	Hgt.
1	Bug Screen	0.76												
2	Bug Screen	0.76												
3	Bug Screen	0.76												
4	Bug Screen	0.76												
5	Bug Screen	0.76												
6	Bug Screen	0.76												
7	Bug Screen	0.76												
8	Bug Screen	0.76												
9	Bug Screen	0.76												
10	Bug Screen	0.76												
11	Bug Screen	0.76												
12	Bug Screen	0.76												
13	Bug Screen	0.76												
14	Bug Screen	0.76												
15	Bug Screen	0.76												
16	Bug Screen	0.76												
17	Bug Screen	0.76												
18	Bug Screen	0.76												
19	Bug Screen	0.76												

THERMAL MASS FOR HIGH MASS DESIGN

Type	Area (sf)	Thick. (in.)	Heat Cap.	Cond.	Inside R-Val.	JA IV Reference	Condition Status	Location/Comments

PERIMETER LOSSES

Type	Length	R-Val.	Insulation Location	JA IV Reference	Condition Status	Location/Comments
Slab Perimeter	128	None	No Insulation	28-A1	Existing	Existing

Run Initiation Time: 08/28/06 10:03:35

Run Code: 1156784615

EnergyPro 4.2 by EnergySoft

User Number: 3119

Job Number: 26381

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Certificate Of Compliance : Residential

(Part 2 of 4) **CF-1R**

SHRA House
Project Title

8/28/2006
Date

FENESTRATION SURFACES

#	Type	Area	U-Factor ¹	SHGC ²	True Azm.	Cond. Stat.	Glazing Type	Location/Comments
20	Window Right (W)	12.7	1.280 116-A 0.80	116-B	270	90	Removed Single Metal Clear - Operable	Existing
21	Window Right (W)	12.0	0.580 116-A 0.65	116-B	270	90	New Dual Non Metal Clear - Operable	Existing
22	Window Right (W)	12.7	1.280 116-A 0.80	116-B	270	90	Removed Single Metal Clear - Operable	Existing
23	Window Right (W)	12.0	0.580 116-A 0.65	116-B	270	90	New Dual Non Metal Clear - Operable	Existing

1. Indicate source either from NFRC or Table 116A.

2. Indicate source either from NFRC or Table 116B.

INTERIOR AND EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window		Overhang				Left Fin		Right Fin			
			Hgt.	Wd.	Len.	Hgt.	LExt.	RExt.	Dist.	Len.	Hgt.	Dist.	Len.	Hgt.
20	Bug Screen	0.76												
21	Bug Screen	0.76												
22	Bug Screen	0.76												
23	Bug Screen	0.76												

THERMAL MASS FOR HIGH MASS DESIGN

Type	Area (sf)	Thick. (in.)	Heat Cap.	Inside Cond.	R-Val.	JA IV Reference	Condition Status	Location/Comments

PERIMETER LOSSES

Type	Length	R-Val.	Insulation Location	JA IV Reference	Condition Status	Location/Comments

Run Initiation Time: 08/28/06 10:03:35

Run Code: 1156784615

EnergyPro 4.2 by EnergySoft

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Certificate Of Compliance : Residential

(Part 3 of 4) **CF-1R**

SHRA House
Project Title

8/28/2006
Date

HVAC SYSTEMS

Location	Heating Type	Minimum Eff	Cooling Type	Minimum Eff	Condition Status	Thermostat Type
HVAC System pre-altered for above	Central Furnace	78% AFUE	Split Air Conditioner	13.0 SEER	Altered	Setback
	Gravity Wall Furnace	65% AFUE	No Cooling	13.0 SEER		Setback

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Condition Status	Ducts Tested?
HVAC System	Ducted	Ducted	Attic	4.2	New	No

Hydronic Piping System Name	Pipe Length	Pipe Diameter	Insul. Thick.

WATER HEATING SYSTEMS

System Name	Water Heater Type	Distribution	# in Syst.	Rated ¹ Input (Btu/hr)	Tank Cap. (gal)	Condition Status	Energy Factor or RE ¹	Standby ¹ Loss (%)	Tank Insul. R-Value Ext.
Gas 50 gallon EF = 0.58	Small Gas	No Pipe Insulation	1	40,000	50	Altered	0.58	n/a	n/a
Default Gas Prior to 1999	Small Gas	pre-altered for Above	1	28,000	50		0.52	n/a	n/a

Multi-Family Central Water Heating Details

Control	Hot Water Pump			Hot Water Piping Length (ft)			Add 1/2" Insulation
	#	HP	Type	In Plenum	Outside	Buried	

¹ For small gas storage (rated input <= 75000 Btu/hr), electric resistance and heat pump water heaters, list energy factor. For large gas storage water heaters (rated input > 75000 Btu/hr), list Rated Input, Recovery Efficiency and Standby Loss. For instantaneous gas water heaters, list Rated Input, and Recovery Efficiency.

REMARKS

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 & Professions Code)

Name: _____
 Title/Firm: SHRA _____
 Address: 320 Commercr Circle _____
 Sacramento, CA 95815 _____
 Telephone: (916) 566-1200 _____
 Lic. #: _____

Documentation Author

Name: Todd Ferris _____
 Title/Firm: ACCURATE ENERGY _____
 Address: 3713 Laguna Way _____
 Sacramento, CA 95864 _____
 Telephone: (916) 483-7313 _____

(signature) _____ (date)

Todd Ferris _____ 8/28/2006 _____
 (signature) (date)

Enforcement Agency

Name: _____
 Title/Firm: _____
 Address: _____
 Telephone: _____

(signature/stamp) _____ (date)

SHRA House
Project Title

8/28/2006
Date

Special Features and Modeling Assumptions

The local enforcement agency should pay special attention to the items specified in this checklist. These items require special written justification and documentation, and special verification to be used with the performance approach. The local enforcement agency determines the adequacy of the justification, and may reject a building or design that otherwise complies based on the adequacy of the special justification and documentation submitted.

Plan Field

Compliance using the Four Cardinal Orientation approach has been used. Project can be built in any Orientation.

HERS Required Verification

Items in this section require field testing and/or verification by a certified home energy rater under the supervision of a CEC-approved HERS provider using CEC approved testing and/or verification methods and must be reported on the CF-4R installation certificate.

Plan Field

NOTE: Lowrise residential buildings subject to the Standards must contain these measures regardless of the compliance approach used. More stringent compliance requirements from the Certificate of Compliance supercede the items marked with an asterisk (*) below. When this checklist is incorporated into the permit documents, the features noted shall be considered by all parties as minimum component performance specifications for the mandatory measures whether they are shown elsewhere in the documents or on this checklist only.

DESCRIPTION	Check or initial applicable boxes or check NA if not applicable and included with the permit application documentation.	N/A	DESIGNER	ENFORCE- MENT
Building Envelope Measures				
§ 150(a): Minimum R-19 in wood ceiling insulation or equivalent U-factor in metal frame ceiling.		<input checked="" type="checkbox"/>		
§ 150(b): Loose fill insulation manufacturer's labeled R-Value: _____		<input checked="" type="checkbox"/>		
§ 150(c): Minimum R-13 wall insulation in wood framed walls or equivalent U-factor in metal frame walls (does not apply to exterior mass walls).		<input checked="" type="checkbox"/>		
§ 150(d): Minimum R-13 raised floor insulation in framed floors or equivalent U-factor.		<input checked="" type="checkbox"/>		
§ 150(e): Installation of Fireplaces, Decorative Gas Appliances and Gas Logs.				
1. Masonry and factory-built fireplaces have:		<input checked="" type="checkbox"/>		
a. closable metal or glass door covering the entire opening of the firebox		<input checked="" type="checkbox"/>		
b. outside air intake with damper and control, flue damper and control		<input checked="" type="checkbox"/>		
2. No continuous burning gas pilot lights allowed.				
§ 150(f): Air retarding wrap installed to comply with §151 meets requirements specified in the ACM Residential Manual.	<input checked="" type="checkbox"/>			
§ 150(g): Vapor barriers mandatory in Climate Zones 14 and 16 only.	<input checked="" type="checkbox"/>			
§ 150(i): Slab edge insulation - water absorption rate for the insulation alone without facings no greater than 0.3%, water vapor permeance rate no greater than 2.0 perm/inch.				
§ 118: Insulation specified or installed meets insulation installation quality standards. Indicate type and include CF-6R Form: _____		<input checked="" type="checkbox"/>		
§ 116-17: Fenestration Products, Exterior Doors, and Infiltration/Exfiltration Controls.				
1. Doors and windows between conditioned and unconditioned spaces designed to limit air leakage.		<input checked="" type="checkbox"/>		
2. Fenestration products (except field fabricated) have label with certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration certification.		<input checked="" type="checkbox"/>		
3. Exterior doors and windows weatherstripped; all joints and penetrations caulked and sealed.		<input checked="" type="checkbox"/>		
Space Conditioning, Water Heating and Plumbing System Measures				
§ 110-13: HVAC equipment, water heaters, showerheads and faucets certified by the Energy Commission.		<input checked="" type="checkbox"/>		
§ 150(h): Heating and/or cooling loads calculated in accordance with ASHRAE, SMACNA or ACCA.		<input checked="" type="checkbox"/>		
§ 150(i): Setback thermostat on all applicable heating and/or cooling systems.		<input checked="" type="checkbox"/>		
§ 150(j): Water system pipe and tank insulation and cooling systems line insulation.				
1. Storage gas water heaters rated with an Energy Factor less than 0.58 must be externally wrapped with insulation having an installed thermal resistance of R-12 or greater.	<input checked="" type="checkbox"/>			
2. Back-up tanks for solar systems, unfired storage tanks, or other indirect hot water tanks have R-12 external insulation or R-16 internal insulation and indicated on the exterior of the tank showing the R-value.				
3. The following piping is insulated according to Table 150-A/B or Equation 150-A Insulation Thickness:				
1. First 5 feet of hot and cold water pipes closest to water heater tank, non-recirculating systems, and entire length of recirculating sections of hot water pipes shall be insulated to Table 150B.		<input checked="" type="checkbox"/>		
2. Cooling system piping (suction, chilled water, or brine lines), piping insulated between heating source and indirect hot water tank shall be insulated to Table 150-B and Equation 150-A.		<input checked="" type="checkbox"/>		
4. Steam hydronic heating systems or hot water systems > 15 psi, meet requirements of Table 123-A.	<input checked="" type="checkbox"/>			
5. Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.		<input checked="" type="checkbox"/>		
6. Insulation for chilled water piping and refrigerant suction piping includes a vapor retardant or is enclosed entirely in conditioned space.		<input checked="" type="checkbox"/>		
7. Solar water-heating systems/collectors are certified by the Solar Rating and Certification Corporation.	<input checked="" type="checkbox"/>			

NOTE: Lowrise residential buildings subject to the Standards must contain these measures regardless of the compliance approach used. More stringent compliance requirements from the Certificate of Compliance supercede the items marked with an asterisk (*) below. When this checklist is incorporated into the permit documents, the features noted shall be considered by all parties as minimum component performance specifications for the mandatory measures whether they are shown elsewhere in the documents or on this checklist only.

DESCRIPTION	Instructions: Check or initial applicable boxes when completed or check N/A if not applicable.			ENFORCE- MENT
	N/A	DESIGNER		
Space Conditioning, Water Heating and Plumbing System Measures: (continued)				
§ 150(m): Ducts and Fans		<input checked="" type="checkbox"/>		<input type="checkbox"/>
1. All ducts and plenums installed, sealed and insulated to meet the requirements of the CMC Sections 601, 602, 603, 604, 605, and Standard 6-5; supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-4.2 or enclosed entirely in conditioned space. Openings shall be sealed with mastic, tape or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape shall be used.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to cause reductions in the cross-sectional area of the ducts.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4. Exhaust fan systems have back draft or automatic dampers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
5. Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operating dampers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
6. Protection of Insulation. Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation that can cause degradation of the material.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
7. Flexible ducts cannot have porous inner cores.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
§ 114: Pool and Spa Heating Systems and Equipment		<input checked="" type="checkbox"/>		<input type="checkbox"/>
1. A thermal efficiency that complies with the Appliance Efficiency Regulations, on-off switch mounted outside of the heater, weatherproof operating instructions, no electric resistance heating and no pilot light.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
2. System is installed with:		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. At least 36" of pipe between filter and heater for future solar heating.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
b. Cover for outdoor pools or outdoor spas.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
3. Pool system has directional inlets and a circulation pump time switch.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
§ 115: Gas fired fan-type central furnaces, pool heaters, spa heaters or household cooking appliances have no continuously burning pilot light. (Exception: Non-electrical cooking appliances with pilot < 150 Btu/hr)	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
§ 118 (i): Cool Roof material meets specified criteria		<input checked="" type="checkbox"/>		<input type="checkbox"/>
Lighting Measures				
§ 150(k)1: HIGH EFFICACY LUMINAIRES OTHER THAN OUTDOOR HID: contain only high efficacy lamps as outlined in Table 150-C, and do not contain a medium screw base socket (E24/E26). Ballasts for lamps 13 Watts or greater are electric and have an output frequency no less than 20 kHz.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
§ 150(k)1: HIGH EFFICACY LUMINAIRES - OUTDOOR HID: contain only high efficacy lamps as outlined in Table 150-C, luminaire has factory installed HID ballast.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
§ 150(k)2: Permanently installed luminaires in kitchens shall be high efficacy luminaires. Up to 50% of the Wattage, as determined in Section 130(c), of permanently installed luminaires in kitchens may be in luminaires that are not high efficacy luminaires, provided that these luminaires are controlled by switches separate from those controlling the high efficacy luminaires.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
§ 150(k)3: Permanently installed luminaires in bathrooms, garages, laundry rooms, utility rooms shall be high efficacy luminaires. OR are controlled by an occupant sensor(s) certified to comply with Section 119(d).	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
§ 150(k)4: Permanently installed luminaires located other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy luminaires (except closets less than 70 ft) OR are controlled by a dimmer switch OR are controlled by an occupant sensor that complies with Section 119(d) that does not turn on automatically or have an always on option.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
§ 150(k)5: Luminaires that are recessed into insulated ceilings are approved for zero clearance insulation cover (IC) and are certified to ASTM E283 and labeled as air tight (AT) to less than 2.0 CFM at 75 Pascals.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
§ 150(k)6: Luminaires providing outdoor lighting and permanently mounted to a residential building or to other buildings on the same lot shall be high efficacy luminaires (not including lighting around swimming pools/water features or other Article 680 locations) OR are controlled by occupant sensors with integral photo control certified to comply with Section 119(d).	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
§ 150(k)7: Lighting for parking lots for 8 or more vehicles shall have lighting that complies with Sections 130, 132, and 147. Lighting for parking garages for 8 or more vehicles shall have lighting that complies with Section 130, 131, and 146.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
§ 150(k)8: Permanently installed lighting in the enclosed, non-dwelling spaces of low-rise residential buildings with four or more dwelling units shall be high efficacy luminaires OR are controlled by occupant sensor(s) certified to comply with Section 119(d).	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

Residential Kitchen Lighting Worksheet

WS-5R

SHRA House
Project Title

8/28/2006
Date

At least 50% of the total rated wattage of permanently installed luminaires in kitchens must be in luminaires that are high efficacy luminaires as defined in Table 150-C. Luminaires that are not high efficacy must be switched separately.

Kitchen Lighting Schedule. Provide the following information for all luminaires to be installed in kitchens.

Luminaire Type	High Efficacy?		Watts	Quantity	High Efficacy Watts		Other Watts
(2) 4 ft Fluorescent T8 Electronic	Yes	X No	62,0	x 1 =	62	or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
	Yes	No		x =		or	
Total A:					62	B:	0

COMPLIES IF A ≥ B YES X NO

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

PROJECT NAME	SHRA House	DATE	8/28/2006
SYSTEM NAME	HVAC System	FLOOR AREA	895

ENGINEERING CHECKS	SYSTEM LOAD
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Number of Systems	1		COIL COOLING PEAK		COIL HTG. PEAK		
Heating System			CFM	Sensible	Latent	CFM	Sensible
Output per System	60,000	Total Room Loads	896	17,351	537	344	16,031
Total Output (Btuh)	60,000	Return Vented Lighting		0			
Output (Btuh/sqft)	67.0	Return Air Ducts		2,356			2,057
Cooling System							
Output per System	36,000	Return Fan		0			0
Total Output (Btuh)	36,000	Ventilation	0	0	0	0	0
Total Output (Tons)	3.0	Supply Fan		0			0
Total Output (Btuh/sqft)	40.2	Supply Air Ducts		2,356			2,057
Total Output (sqft/Ton)	298.3	TOTAL SYSTEM LOAD		22,063	537		20,145

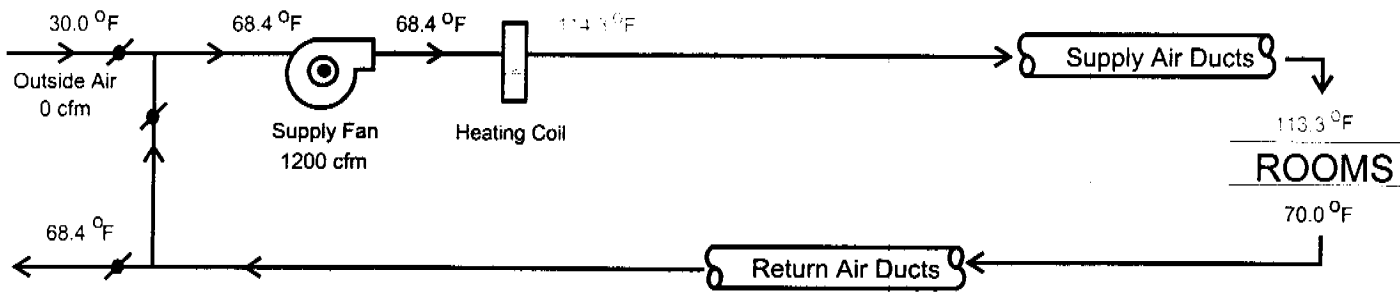
Air System	
CFM per System	1,200
Airflow (cfm)	1,200
Airflow (cfm/sqft)	1.34
Airflow (cfm/Ton)	400.0
Outside Air (%)	0.0
Outside Air (cfm/sqft)	0.00

HVAC EQUIPMENT SELECTION			
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New Split System	27,948	5,800	60,000
Total Adjusted System Output (Adjusted for Peak Design Conditions)			
	27,948	5,800	60,000
TIME OF SYSTEM PEAK			
	Aug 2 pm		Jan 12 am

Note: values above given at ARI conditions

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)
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COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)
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