

0602984

| Contractor Information | | Residential Project Information | |
|--|---|-----------------------------------|--|
| Contractor Name Ray O. Cook Co. | Address 889 Riverside Ave. | City Roseville | Zip 95678 |
| Company Contact Zak Krieger | Est Complete 3/7/2006 | Job Number 317/2006 | Permit Number 20015 |
| Owner's Name/Project Title Marvis Currie | Address 6824 Harmon Dr. | City Sacramento | Zip 95831 |
| County Sacramento | Bid Dept - Permit From City of Sacramento | Utility SMUD | Plan # 520A |
| Building Information | | Equipment Information | |
| Multi Family <input checked="" type="checkbox"/> | # of Dwellings 2 | Front Orientation (N,S,E,W) | Heat Load 70000 BTUs |
| Single Family <input type="checkbox"/> | Slab Floor <input type="checkbox"/> | Number of Stories 1 | Cool Load 36000 BTUs |
| Addition-new rm <input type="checkbox"/> | Raised Floor <input checked="" type="checkbox"/> | Conditioned Floor Area 1400 SF | Duct Location attic |
| Alteration-change <input checked="" type="checkbox"/> | Climate Zone 12 | Maximum Ceiling Height 8 Ft | Duct -R value R4 |
| Package Unit <input checked="" type="checkbox"/> | Gas / Electric <input checked="" type="checkbox"/> | AFUE 0.80 | Heat: BTU Input 70000 |
| Split System <input type="checkbox"/> | Heat Pump Amana | HSPF EER | Cooling: BTUs 38000 |
| Heat System Mfg Model # Serial # | Condenser Sys Mfg Model # Serial # | | Coil System Mfg Model # Serial # |
| | PGD98C0702 | | |

Title 24 requirements - contractor and HERS verification check list

| | | |
|--|----------------------------|----------|
| CF8R forms on job site | Permit # | EXIST |
| Furnace Mfg and model # documented | Duct System - New or Exist | EXIST |
| Furnace serial # documented | CFM Leakage | 117 |
| Coil Mfg and model # documented | Leakage pressure | 2.5 psis |
| Coil serial # documented | Equipment air flow in CFM | 1200 |
| Condenser Mfg and model # documented | System % leakage | 10% |
| Condenser serial # documented | Test Date | 3/7/06 |
| TXV verified on split system | ARI # | |
| High EER verified on options | Notes: | |
| Air distribution system fully ducted | | |
| Existing duct tape has draw bands and mastic | | |
| All Supply registers sealed for test | | |
| All Return grilles sealed for test | | |
| Duct blaster w/ rings installed correctly | | |
| Smoke required to pass test | | |
| All register & grille seals removed | | |
| Thermostat turned on after test | | |

Signature



6824 Harmon Dr
0602984
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Project Title

6824 Harmon Dr. Sacramento CA 95831
Project Address

Zak Kriegel 916-784-6525
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 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) NA ft²
 Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C --- (20% X CFA) NA ft²
 Building Type: (check one or more) Single Family Multifamily Addition Alteration
 (If adding fenestration fill out WS-4R, Fenestration Maximum Allowed Area Worksheet and see Section 8.3.2 for Additions and 8.3.3 for Alterations.)
 Number of Stories: 1 Number of Dwelling Units: 2
 Floor Construction Type: raised Slab/Raised Floor (circle one or both)
 Front Orientation: S 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.) |
|--|----------------------------|---------------------------|-------------------------------|---|-----------------------------|--|--|
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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.

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FENESTRATION PRODUCTS -- U-FACTOR AND SHGC

FENESTRATION MAXIMUM ALLOWED AREA WORKSHEET WS-AR --must be included for New Construction, Additions and Alterations.

| Fenestration #/Type/Pos. (Front, Left, Rear, Right, Skylight) | Orientation, N, S, E, W1 | Area (ft2) | U-factor2 | U-factor Source3 | SHGC4 | SHGC Source5 | Exterior Shading/Overhangs6, 7 | |
|---|--------------------------|------------|-----------|------------------|-------|--------------|--------------------------------|--|
| | | | | | | | Ck box if WS-3R is included | |
| | | | | | | | | |
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- 1) Skylights are now included in West-facing fenestration area if the skylights are tilted to the west or tilted in any direction when the pitch is less than 1:12. See §151(f)3C and in Section 3.2.3 of the Residential Manual
- 2) Enter values in this column are either NFRC Rated value or from Standards default Table 116A.
- 3) Indicate source either from NFRC or Table 116A,
- 4) Enter values in this column from NFRC or from Standards Default Table 116B or adjusted SHGC from WS-3R.
- 5) Indicate source either from NFRC or Table 116B.
- 6) Shading Devices are defined in Table 3-3 in the Residential Manual and see WS-3R to calculate Exterior Shading devices.
- 7) See Section 3.2.4 in the Residential Manual.

HVAC SYSTEMS

| Heating Equipment Type and Capacity (furnace, heat pump, boiler, etc.) | Minimum Efficiency (AFUE or HSPF) | Distribution Type and Location (ducts, attic, etc.) | Duct or Piping R-Value | Thermostat Type | Configuration (split or package) |
|--|-----------------------------------|---|------------------------|-----------------|----------------------------------|
| G/E | 0.80 AFUE | attic | R4 | Programmable | Package |
| 70000 BTU | 0 HSPF | | | | |

| 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) |
|---|----------------------------------|-----------------------------|--------------|-----------------|----------------------------------|
| G/E | 13.05 SEER | attic | R4 | Programmable | Package |
| 36000 BTU | 0 EER | | | | |

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SEALED DUCTS and TXVs (or Alternative Measures)

A signed CF-4R Form must be provided to the building department for each home for which the following are required.

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

OR

- Alternative to Sealed Ducts and Refrigerant Charge (TXVs) (See Package D Alternative Package Features for Project Climate Zone in the RM Appendix B Table 151-C, Footnotes 7-14.)

OR

- For additions and alterations, duct systems that are not documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Residential ACM Manual and duct systems with more than 40 linear feet in unconditioned spaces shall meet the requirements of Section 150(m) and duct insulation requirements of Package D.

WATER HEATING SYSTEMS

- Check box if system meets criteria of a "Standard" system. Standard system is one gas-fired water heater per dwelling unit. If the water heater is a storage type, 50 gallons is the maximum capacity and recirculation system is not allowed.
- Check box when using Preapproved Alternative Water Heating table, Table 5-4 in Chapter 5 in the Residential Manual. No water heating calculations are required, and the system complies automatically.
- Check box if system does not meet criteria of "Standard" system, and does not comply with the Preapproved Alternative Water Heating table. In this case, the Performance Method must be used and must be included in the submittal.
- Check box to verify that a time control is required for a recirculating system pump for a system serving multiple units

Systems serving single dwelling units

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

System serving multiple dwelling units

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

¹ For small gas storage water heaters (rated inputs of less than or equal to 75,000 Btu/hr), electric resistance, and heat pump water heaters, list Energy Factor. For large gas storage water heaters (rated input of greater than 75,000 Btu/hr), list Rated Input, Recovery Efficiency, Thermal Efficiency and Standby Loss. For instantaneous gas water heaters, list Rated Input and Thermal Efficiencies.

Pipe Insulation (kitchen lines > 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 150 (j) 2 A or 150 (j) 2 B.

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SPECIAL FEATURES NOT REQUIRING HERS VERIFICATION (add extra sheets if necessary)

Indicate which special features are part of this project. The list below represents special features relevant to the Prescriptive and Performance Method.

| <input type="checkbox"/> | Feature | Required Forms (if applicable) | Description |
|--------------------------|---|--|-------------|
| <input type="checkbox"/> | Metal Framed Walls | CF-1R | |
| <input type="checkbox"/> | Radiant Barriers | CF-1R | |
| <input type="checkbox"/> | Exterior Shades | WS-4R N/A; Performance Calculation | |
| <input type="checkbox"/> | Cool Roof | Required. Attach CRRC Label to Forms. | |
| <input type="checkbox"/> | Dedicated Hydronic Heating System | Performance Calculation Required; Attach Run to Forms. | |
| <input type="checkbox"/> | Combined Hydronic System | Performance Calculation Required; Attach Run to Forms. | |
| <input type="checkbox"/> | Gas Cooling | N/A; Performance Calculation Required. | |
| <input type="checkbox"/> | Buried Ducts | N/A; indicate on building plans. | |
| <input type="checkbox"/> | Kitchen Pipe Insulation | See Section 5.6.2 Distribution Systems in Residential Manual. | |
| <input type="checkbox"/> | Multiple Water Heaters Per Dwelling Unit | See Table 5-13 or use Performance Calculation and attach Run to Forms. | |
| <input type="checkbox"/> | Central Water Heating System Serving Multiple Dwellings | Performance Calculation and attach Run to Forms. | |
| <input type="checkbox"/> | Non-NAECA Large Water Heater | CF-1R | |
| <input type="checkbox"/> | Indirect Water Heater | See Table 5-13 or use Performance Calculation and attach Run to Forms. | |
| <input type="checkbox"/> | Instantaneous Gas Water Heater | See Table 5-13 or use Performance Calculation and attach Run to Forms. | |
| <input type="checkbox"/> | Solar Water Heating System | See Table 5-13 or use Performance Calculation and attach Run to Forms. | |
| <input type="checkbox"/> | Wood Stove Boiler | Performance Calculation and attach Run to Forms. | |

SPECIAL FEATURES REQUIRING HERS RATER VERIFICATION

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

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

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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: Zak Kriegel | Name: Zak Kriegel |
| Title/Firm: Ray O. Cook Co. | Title/Firm: Ray O. Cook Co. |
| Address: 889 Riverside Ave. Roseville CA 95678 | Address: 889 Riverside Ave. Roseville CA 95678 |
| Telephone: 916-784-6525 | Telephone: 916-784-6525 |
| License #: 829866 | |
| (signature) (date) | (signature) (date) |

Enforcement Agency

| | |
|----------------------------|-----------|
| Name: | Comments: |
| Title | |
| Agency: | |
| Telephone: | |
| (signature / stamp) (date) | |