

Project Title..... Sample Run Date..12/14/10 21:16:59
 Project Address..... Address *****
 City *v8.1*
 Documentation Author... Sample Author *****
 Enercomp, Inc.
 1721 Arroyo Drive
 Auburn, CA 95603
 800-755-5908
 Climate Zone..... 10
 Compliance Method..... MICROPAS8 v8.1 for 2008 CEC Standards (r03)

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

MICROPAS8 v8.1 File-CARDINAL Wth-CTZ10S08
 User#-MP0101 User-Enercomp, Inc. Run-2700ft2 Standard CZ12

MICROPAS8 ENERGY USE SUMMARY

| Energy Use (kTDV/sf-yr) | Standard Design | Proposed Design | Compliance Margin | Percent Improvement |
|----------------------------|--------------------|--------------------|----------------------|------------------------|
| Space Heating..... | 10.74 | 8.25 | 2.49 | 23.2% |
| Space Cooling..... | 27.21 | 16.80 | 10.41 | 38.3% |
| Ventilation Fans..... | 0.64 | 0.64 | 0.00 | 0.0% |
| Water Heating..... | 14.02 | 10.67 | 3.35 | 23.9% |
| North Total | 52.61 | 36.36 | 16.25 | 30.9% |
| Space Heating..... | 10.74 | 8.16 | 2.58 | 24.0% |
| Space Cooling..... | 27.21 | 17.05 | 10.16 | 37.3% |
| Ventilation Fans..... | 0.64 | 0.64 | 0.00 | 0.0% |
| Water Heating..... | 14.02 | 10.67 | 3.35 | 23.9% |
| East Total | 52.61 | 36.52 | 16.09 | 30.6% |
| Space Heating..... | 10.74 | 8.06 | 2.68 | 25.0% |
| Space Cooling..... | 27.21 | 17.06 | 10.15 | 37.3% |
| Ventilation Fans..... | 0.64 | 0.64 | 0.00 | 0.0% |
| Water Heating..... | 14.02 | 10.67 | 3.35 | 23.9% |
| South Total | 52.61 | 36.43 | 16.18 | 30.8% |
| Space Heating..... | 10.74 | 8.18 | 2.56 | 23.8% |
| Space Cooling..... | 27.21 | 17.14 | 10.07 | 37.0% |
| Ventilation Fans..... | 0.64 | 0.64 | 0.00 | 0.0% |
| Water Heating..... | 14.02 | 10.67 | 3.35 | 23.9% |
| West Total | 52.61 | 36.63 | 15.98 | 30.4% |

*** Building complies with Computer Performance ***
 *** HERS Verification Required for Compliance ***

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GENERAL INFORMATION

HERS Verification..... Required
 Conditioned Floor Area..... 2700 sf
 Building Type..... Single Family Detached
 Construction Type New
 Natural Gas at Site Yes
 Building Front Orientation. Cardinal - N,E,S,W
 Number of Dwelling Units... 1
 Number of Building Stories. 2
 Weather Data Type..... FullYear

Floor Construction Type.... Slab On Grade
 Number of Building Zones... 1
 Conditioned Volume..... 25750 cf
 Slab-On-Grade Area..... 1250 sf
 Glazing Percentage..... 17.3 % of floor area
 Average Glazing U-factor... 0.32 Btu/hr-sf-F
 Average Glazing SHGC..... 0.25
 Average Ceiling Height..... 9.5 ft

BUILDING ZONE INFORMATION

| Zone Type | Floor Area (sf) | Volume (cf) | # of Dwell Units | # of People | Cond- it- ioned | Thermo- stat Type | Vent Height (ft) | Vent Area (sf) | Verified Leakage or Housewrap |
|-----------|-----------------|-------------|------------------|-------------|-----------------|-------------------|------------------|----------------|-------------------------------|
| Residence | 2700 | 25750 | 1.00 | 4.0 | Yes | Setback | 8.0 | Standard | No |

ATTIC AND ROOF DETAILS

| Roof Type | Roof Mass (lb/sqft) | Roof Rise | Re- flect- ance | Emiss- ivity | Frame Depth (in.) | Frame Spac- ing (in.) | R- Value Above Deck | R- Value Below Deck | Vent Area Ratio | Vent High |
|-----------|---------------------|-----------|-----------------|--------------|-------------------|-----------------------|---------------------|---------------------|-----------------|-----------|
| Asphalt | Light | 5:12 | 0.20 | 0.85 | 3.5 | 24 oc | 0.00 | 0.00 | 1/150 | 0.30 |

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OPAQUE SURFACES

| Surface | Frame Type | Area (sf) | U-factor or | Cavity R-val | Sheathing R-val | Act Azm | Tilt | Solar Gains | Appendix JA4 Reference | Location/Comments |
|------------|------------|-----------|-------------|--------------|-----------------|---------|------|-------------|------------------------|-------------------|
| 1 Wall | Wood | 501 | 0.072 | 13 | 4 | 0 | 90 | Yes | 4.3.1 C3 | |
| 2 Wall | Wood | 541 | 0.072 | 13 | 4 | 90 | 90 | Yes | 4.3.1 C3 | |
| 3 Wall | Wood | 541 | 0.072 | 13 | 4 | 180 | 90 | Yes | 4.3.1 C3 | |
| 4 Wall | Wood | 541 | 0.072 | 13 | 4 | 270 | 90 | Yes | 4.3.1 C3 | |
| 5 AtticRad | Wood | 1450 | 0.026 | 38 | 0 | n/a | 0 | Yes | 4.2.1 A9 | |
| 6 Door | Wood | 40 | 0.500 | 0 | 0 | 0 | 90 | Yes | 4.5.1 A4 | |
| 7 FloorExt | Wood | 200 | 0.048 | 19 | 0 | n/a | 0 | No | 4.4.2 A4 | |

PERIMETER LOSSES

| Surface | Length (ft) | F2 Factor | Insul R-val | Solar Gains | Appendix JA4 Reference | Location/Comments |
|------------|-------------|-----------|-------------|-------------|------------------------|--------------------|
| 8 SlabEdge | 158 | 0.730 | R-0/0in | No | 4.4.7 A1 | Standard Slab Edge |

FENESTRATION SURFACES

| Orientation | Area (sf) | U-factor | SHGC | Act Azm | Tilt | Exterior Shade Type | Location/Comments |
|------------------|-----------|----------|-------|---------|------|---------------------|-------------------------|
| 1 Wind Front (N) | 117.0 | 0.320 | 0.250 | 0 | 90 | Standard | F1/Standard Hot Climate |
| 2 Wind Left (E) | 117.0 | 0.320 | 0.250 | 90 | 90 | Standard | L1/Standard Hot Climate |
| 3 Wind Back (S) | 117.0 | 0.320 | 0.250 | 180 | 90 | Standard | B1/Standard Hot Climate |
| 4 Wind Right (W) | 117.0 | 0.320 | 0.250 | 270 | 90 | Standard | R1/Standard Hot Climate |

SLAB SURFACES

| Slab Type | Area (sf) |
|---------------|-----------|
| Standard Slab | 1250 |

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HVAC SYSTEMS

| System Type | Minimum Efficiency | Verified EER | Verified Refrig or CID | Verified Adequate Airflow | Verified Fan Watt Draw | Verified Maximum Cooling Capacity |
|-------------|--------------------|--------------|------------------------|---------------------------|------------------------|-----------------------------------|
| Furnace | 0.900 AFUE | n/a | n/a | n/a | n/a | n/a |
| ACSplit | 13.00 SEER | No | Yes | Yes | Yes | No |

HVAC SIZING

| System Type | Total Heating Load (Btu/hr) | Sensible Cooling Load (Btu/hr) | Design Cooling Capacity (Btu/hr) | Verified Maximum Cooling Capacity (Btu/hr) |
|-------------|-----------------------------|--------------------------------|----------------------------------|--|
| Furnace | 36651 | n/a | n/a | n/a |
| ACSplit | n/a | 25504 | 30682 | n/a |

Orientation of Maximum..... Front Facing 90 deg (E)
 Sizing Location..... RIVERSIDE EXP STA
 Winter Outside Design..... 29 F
 Winter Inside Design..... 70 F
 Summer Outside Design..... 101 F
 Summer Inside Design..... 75 F
 Summer Range..... 36 F

DUCT SYSTEMS

| System Type | Duct Location | Duct R-value | Verified Duct Leakage | Verified Surface Area | Verified Buried Ducts |
|-------------|---------------|--------------|-----------------------|-----------------------|-----------------------|
| Furnace | Attic | R-6 | Yes | No | No |
| ACSplit | Attic | R-6 | Yes | No | No |

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FAN SYSTEMS

| System Type | Flow (cfm) | Power (W/cfm) |
|-------------|---------------|------------------|
| Standard | 57 | .25 |

WATER HEATING SYSTEMS

| Tank Type | Heater Type | Distribution Type | Number in System | Energy Factor | Tank Size (gal) | External Insulation R-value |
|-----------------|----------------|-------------------|------------------------|------------------|-----------------------|-----------------------------------|
| 1 SmallTankless | Gas | Standard | 1 | 0.80 | n/a | R-n/a |

SPECIAL FEATURES AND MODELING ASSUMPTIONS

*** Items in this section should be documented on the plans, ***
 *** installed to manufacturer and CEC specifications, and ***
 *** verified during plan check and field inspection. ***

This is a multiple orientation building. This printout is for the front facing North.

This building incorporates a Radiant Barrier.

This building incorporates a Cool Roof.

This building incorporates a non-standard Water Heating System.

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. ***

This building incorporates a HERS verified Improved Refrigerant Charge test or the installation of a HERS verified Charge Indicator Display (CID). If a cooling system is not installed, then HERS verification is not necessary.

This building incorporates HERS verified Air Handler Fan Watt Draw. If a cooling system is not installed, then HERS verification is not necessary.

This building incorporates HERS verified Cooling Coil Airflow. If a cooling system is not installed, then HERS verification is not necessary.

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HERS REQUIRED VERIFICATION

This building incorporates HERS verified Duct Leakage. Target leakage is calculated and documented on the CF-4R. If the measured CFM is above the target, then corrective action must be taken to reduce the duct leakage and then must be retested. Alternatively, the compliance calculations could be redone without duct testing. If ducts are not installed, then HERS verification is not necessary.

REMARKS
