RESIDENTIAL MEASURES SUMMARY

RMS-1

Project Name	Building Type		Date
Guest House addition	☑ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration		7/20/2015
Project Address	**California Energy Climate Zone**	**Total Cond. Floor Area** / **Addition**	**# of Units**
14825 Morningside Dr Poway	CA Climate Zone 10	498 / n/a	1

INSULATION

Construction	Type	Cavity	Area (ft^2)	Special Features	Status
Wall	Solid Unit Masonry	- no insulation	813	Rigid/R-13.0	New
Roof	Wood Framed Rafter	R 30	498	Cool Roof	New
Slab	Unheated Slab-on-Grade	- no insulation	498	Perim = 90'	New

FENESTRATION

Total Area: 177 Glazing Percentage: 35.5 % New/Altered Average U-Factor 0.29

Orientation	Area(ft^2)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Front (E)	141.0	0.290	0.25	2.0	4.0/6.0/0.0	Bug Screen	New
Left (S)	18.0	0.290	0.25	none	none	Bug Screen	New
Right (N)	18.0	0.290	0.25	none	none	Bug Screen	New

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Room Furnace	96% AFUE	No Cooling	13.0 SEER	Setback	New

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
HVAC System	Ductless / with Fan	Ductless	n/a	n/a	New

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	Small Instantaneous Gas	0	0.96	All Pipes Ins	New

2013 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the compliance approach used. Exceptions may apply. Review the respective code section for more information.

Building Envelope Measures	
§110.6(a)1:	Doors and windows between conditioned and unconditioned spaces are manufactured to limit air leakage.
§110.6(a)5:	Fenestration products (except field-fabricated windows) have a label listing the certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration that meets the requirements of §110-111(a).
§110.7:	Exterior doors and windows are weatherstripped, all joints and penetrations are caulked and sealed.
§110.8(a):	Insulation specified or installed meets Standards for Insulating Material. Indicate type and include on the CF2R.
§110.8(i):	The thermal emittance and aged solar reflectance values of the cool roofing material meets the requirements of §110.8(i) when the installation of a cool roof is specified on the CF1R.
§110.8(j):	A radiant barrier shall have an emittance of 0.05 or less when the installation of a radiant barrier is specified on the CF1R.
§150.0(a):	Minimum R-30 insulation in wood-frame ceiling; or the weighted average U-factor shall not exceed 0.03. Minimum R-19 in a rafter roof alternation. Attic access doors shall have permanently attached insulation using adhesive or mechanical fasteners. The attic access shall be gasketed to prevent air leakage.
§150.0(b):	Loose fill insulation shall conform with manufacturer's installed design labeled R-value.
§150.0(c):	Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or 0.074 maximum U-factor).
§150.0(d):	Minimum R-19 insulation in raised wood-frame floor or 0.037 maximum U-factor.
§150.0(g)1:	In Climate Zones 14and 16 a Class II vapor retarder shall be installed on the conditioned space side of all insulation in all exterior walls, vented attics and unvented attics with air-permeable insulation.
§150.0(g)2:	In Climate Zones 1-16 with unvented crawl spaces the earth floor of the crawl space shall be covered with a Class I or Class II vapor retarder.
§150.0(g)3:	In a building having a controlled ventilation crawl space, a Class I or Class II vapor retarder shall be placed over the earth floor of the crawl space to reduce moisture entry and protect insulation from condensation, as specified in the exception to Section 150.0(d).
§150.0(l):	Slab edge insulation shall have a water absorption rate, for the insulation material along without facings, no greater than 0.3%; have water vapor permeance rate is no greater than 2.0 perm/inch, be protected from physical damage and UV light deterioration; and when installed as part of a heated slab floor meets the requirements of §110.8(g).
§150.0(q):	Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors shall have a maximum U-factor of 0.58, or the weighted average U-factor of all fenestration shall not exceed 0.58.
Fireplaces, Decorative Gas Appliances and Gas Log Measures:	
§150.0(e)1.A:	Masonry or factory-built fireplaces have a closable metal or glass door covering the entire opening of the firebox.
§150.0(e)1.B:	Masonry or factory-built fireplaces have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or a combustion-air control device.
§150.0(e)1.C:	Masonry or factory-built fireplaces have a flue damper with a readily accessible control.
§150.0(e)2:	Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Conditioning, Water Heating and Plumbing System Measures:	
§110.0-§110.3:	HVAC equipment, water heaters, showerheads, faucets and all other regulated appliances are certified to the Energy Commission.
§110.3(c)5:	Water heating recirculation loops serving multiple dwelling units meet the air release valve, backflow prevention, pump isolation valve, and recirculation loop connection requirements of §110.3(c)5.
§110.5:	Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces, household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt), and pool and spa heaters.
§150.0(h)1:	Heating and/or cooling loads are calculated in accordance with ASHRAE, SMACNA or ACCA using design conditions specified in §150.0(h)2
§150.0(h)3A:	Installed air conditioner and heat pump outdoor condensing units shall have a clearance of at least five feet from the outlet of any dryer vent.
§150.0(i):	Heating systems are equipped with thermostats that meet the setback requirements of §110.2(c).
§150.0(j)1.A:	Storage gas water heaters with an energy factor equal to or less than the federal minimum standards shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater.
§150.0(j)1B:	Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§150.0(j)2A:	For domestic hot water system piping, whether buried or unburied: the first 5 feet of hot and cold water pipes from the storage tank, all piping with a nominal diameter of 3/4 inch or larger, all piping associated with a domestic hot water recirculation system regardless of the pipe diameter, piping from the heating source to storage tank or between tanks, piping buried below grade, and all hot water pipes from the heating source to kitchen fixtures must be insulated according to the requirements of TABLE 129.3-A.
§150.0(j)2B:	All domestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve that allows for installation, removal, and replacement of the enclosed pipe and insulation.

2013 Low-Rise Residential Mandatory Measures Summary

§150.0(j)2C:	Pipe for cooling system lines shall be insulated as specified in §150.0(j)2A. Piping insulation for steam and hydronic heating systems or hot water systems with pressure > 15 psig shall meet the requirements in TABLE 120.3-A.
§150.0(j)3:	Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
§150.0(j)3A:	Insulation exposed to weather shall either be rated for outdoor use or installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation protected as specified or painted with coating that is water retardant and provides shielding from solar radiation that degrades the material.
§150.0(j)3B:	Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarding facing, or the insulation shall be installed at the thickness that qualifies as a Class I or Class II vapor retarder.
§150.0(m)1:	Systems using gas or propane water heaters to serve individual dwelling units shall include a 120V electrical receptacle within 3 feet of the water heater; a Category III or IV vent, or a Type II vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu/hr.
§150.0(m)2:	Recirculating loops serving multiple dwelling units shall meet the requirements of §110.3(c)5.
§150.0(n)3:	Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a testing agency approved by the Executive Director.
Ducts and Fans Measures:	
§150.0(m)1:	All air-distribution system ducts and plenums installed are sealed and insulated to meet the requirements of CMC §601.0, §602.0, §603.0, §604.0, §605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-6.0 (or higher if required by CMC §603.8) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts are mechanically fastened. 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 ¼ inch, the combination of mastic and either mesh or tape shall be used. 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.
§150.0(m)2:	Factory-Fabricated Duct Systems shall comply with specified requirements for duct construction, connections, and closures; 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.
§150.0(m)3-6:	Field-Fabricated Duct Systems shall comply with requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction; duct insulation R-value ratings; duct insulation thickness; and duct labeling.
§150.0(m)7:	All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers.
§150.0(m)8:	Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inlet and outlet air openings and exterior shaft vents.
§150.0(m)9:	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§150.0(m)10:	Flexible ducts cannot have porous inner cores.
§150.0(m)11:	When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(m)12:	Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, shall be provided with air filter devices that meet the requirements of §150.0(m)12.
§150.0(m)13:	Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(m)15:	Zonally controlled central forced air cooling systems shall be capable of simultaneously delivering, in every zonal control mode, an airflow from the dwelling, through the air handler fan and delivered to the dwelling, of ≥ 350 CFM per ton of nominal cooling capacity, and operating at an air-handling unit fan efficacy of ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(o):	All dwelling units shall meet the requirements of ASHRAE Standard 62.2. Neither window operation nor continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are permissible methods of providing the Whole Building Ventilation.
§150.0(o)1.A:	Whole Building Ventilation airflow shall be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
Pool and Spa Heating Systems and Equipment Measures:	
§110.4(a):	Any pool or spa heating system shall be certified to have: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions, and shall not use electric resistance heating.

2013 Low-Rise Residential Mandatory Measures Summary

§110.4(b)1:	Any pool or spa heating equipment shall be installed with at least 36 inches of pipe between filter and heater or dedicated suction and return lines, or built-up connections for future solar heating.
§110.4(b)2:	Outdoor pools or spas that have a heat pump or gas heater shall have a cover.
§110.4(b)3:	Pools shall have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§110.5:	Natural gas pool and spa heaters shall not have a continuous burning pilot light.
§150.0(p):	Residential pool systems or equipment shall meet specified pump sizing, flow rate, piping, filters, and valve requirements.
Lighting Measures:	
§110.9:	All lighting control devices and systems, ballasts, and luminaires shall meet the applicable requirements of §110.9.
§150.0(k)1A:	Installed luminaires shall be classified as high-efficacy or low-efficacy for compliance with §150.0(k) in accordance with TABLE 150.0-A or TABLE 150.0-B, as applicable.
§150.0(k)1B:	When a high efficacy and low efficacy lighting systems are combined in a single luminaire, each system shall separately comply with the applicable provisions of §150.0(k).
§150.0(k)1C:	The wattage and classification of permanently installed luminaires in residential kitchens shall be determined in accordance with §130.0(c). In residential kitchens, the wattage of electrical boxes finished with a blank cover or where no electrical equipment has been installed, and where the electrical box can be used for a luminaire or a surface mounted ceiling fan, shall be calculated as 180 watts of low efficacy lighting per electrical box.
§150.0(k)1D:	Ballasts for fluorescent lamps rated 13 watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.
§150.0(k)1E:	Permanently installed night lights and night lights integral to installed luminaires or exhaust fans shall be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with §130.0(c). Night lights do not need to be controlled by vacancy sensors.
§150.0(k)1F:	Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) shall meet the applicable requirements of §150.0(k).
§150.0(k)2A:	High efficacy luminaires must be switched separately from low efficacy luminaires.
§150.0(k)2B:	Exhaust fans shall be switched separately from lighting systems.
§150.0(k)2C:	Luminaires shall be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.
§150.0(k)2D:	Controls and equipment are installed in accordance with manufacturer's instructions.
§150.0(k)2E:	No control shall bypass a dimmer or vacancy sensor function if the control is installed to comply with §150.0(k).
§150.0(k)2F:	Lighting controls comply with applicable requirements of §110.9.
§150.0(k)2G:	An Energy Management Control System (EMCS) may be used to comply with dimmer requirements if it functions as a dimmer according to §110.9; meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2.
§150.0(k)2H:	An Energy Management Control System (EMCS) may be used to comply with vacancy sensor requirements of §150.0(k) if it functions as a vacancy sensor according to §110.9; meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2.
§150.0(k)2I:	A multisecene programmable controller may be used to comply with dimmer requirements of this section if it provides the functionality of a dimmer according to §110.9, and complies with all other applicable requirements in §150.0(k)2.
§150.0(k)3A:	A minimum of 50 percent of the total rated wattage of permanently installed lighting in kitchens shall be high efficacy.
§150.0(k)3B:	Kitchen lighting includes all permanently installed lighting in the kitchen except internal lighting in cabinets that illuminate only the inside of the cabinets. Lighting in areas adjacent to the kitchen, including but not limited to dining and nook areas, are considered kitchen lighting if they are not separately switched from kitchen lighting.
§150.0(k)4:	Permanently installed lighting that is internal to cabinets shall use no more than 20 watts of power per linear foot of illuminated cabinet.
§150.0(k)5:	A minimum of one high efficacy luminaire shall be installed in each bathroom, and all other lighting installed in each bathroom shall be high efficacy or controlled by vacancy sensors.
§150.0(k)6:	Lighting installed in attached and detached garages, laundry rooms, and utility rooms shall be high efficacy luminaires and controlled by vacancy sensors.
§150.0(k)7:	Lighting installed in rooms or areas other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy, or shall be controlled by either dimmers or vacancy sensors.
§150.0(k)8:	Luminaires recessed into ceilings shall: be listed for zero clearance insulation contact (IC) by Underwriters Laboratories or other nationally recognized testing laboratory; have a label that certifies that the luminaire is airtight with air leakage less than 2.0 CFM at 75 Pascals when tested in accordance with ASTM E283; be sealed with a gasket or caulk between the luminaire housing and ceiling, and shall have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk; and allow ballast maintenance and replacement without requiring cutting holes in the ceiling. For recessed compact fluorescent luminaires with ballasts to qualify as high efficacy for compliance with §150.0(k), the ballasts shall be certified to the Energy Commission to comply with the applicable requirements in §110.9.
§150.0(k)9A:	For single-family residential buildings, outdoor lighting permanently mounted to a residential building or other buildings on the same lot shall be high efficacy, or may be low efficacy if it meets all of the following requirements: i. Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of Items ii or iii, below; and ii. Controlled by a motion sensor not having an override or bypass switch that disables the motion sensor, or controlled by a motion sensor having a temporary override switch which temporarily bypasses the motion sensing function and automatically reactivates the motion sensor within 6 hours; and iii. Controlled by one of the following methods:

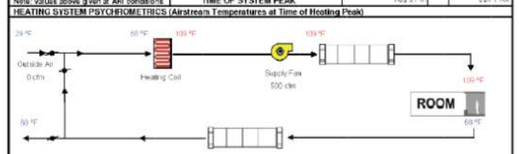
	a. Photocontrol not having an override or bypass switch that disables the photocontrol; or b. Astronomical time clock not having an override or bypass switch that disables the astronomical time clock, and which is programmed to automatically turn the outdoor lighting OFF during daylight hours; or c. Energy management control system which meets all of the following requirements: A) a minimum provides the functionality of an astronomical time clock in accordance with §110.9; meets the Installation Certification requirements in §130.4; meets the requirements for an EMCS in §130.5; does not have an override or bypass switch that allows the luminaire to be always ON; and, is programmed to automatically turn the outdoor lighting OFF during daylight hours.
§150.0(k)9B:	For low-rise multifamily residential buildings, outdoor lighting for private patios, entrances, balconies, and porches; and outdoor lighting for residential parking lots and residential carports with less than eight vehicles per site shall comply with one of the following requirements: i. Shall comply with §150.0(k)9A; or ii. Shall comply with the applicable requirements in §110.9, §130.0, §130.1, §130.4, §140.7 and §141.0.
§150.0(k)9C:	For low-rise residential buildings with four or more dwelling units, outdoor lighting not regulated by §150.0(k)9B or 150.0(k)9D shall comply with the applicable requirements in §110.9, §130.0, §130.1, §130.4, §140.7 and §141.0.
§150.0(k)9D:	Outdoor lighting for residential parking lots and residential carports with a total of eight or more vehicles per site shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
§150.0(k)10:	Internally illuminated address signs shall comply with §140.8; or shall consume no more than 5 watts of power as determined according to §130.0(c).
§150.0(k)11:	Lighting for residential parking garages for eight or more vehicles shall comply with the applicable requirements for nonresidential garages in §110.9, §130.0, §130.1, §130.4, §140.6, and §141.0.
§150.0(k)12A:	In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building shall be high efficacy luminaires or controlled by an occupant sensor.
§150.0(k)12B:	In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting in that building shall: i. Comply with the applicable requirements in §110.9, §130.0, §130.1, §140.6 and §141.0; and ii. Lighting installed in corridors and stairwells shall be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors shall be capable of turning the light fully On and Off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§110.10(a)1:	Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete, by the enforcement agency, on or after January 1, 2014, shall comply with the requirements of §110.10(b) through §110.10(e).
§110.10(a)2:	Low-rise multi-family buildings shall comply with the requirements of §110.10(b) through §110.10(d).
§110.10(b)1:	The solar zone shall have a minimum total area as described below. The solar zone shall comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area shall be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences the solar zone shall be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area.
§110.10(b)2:	All sections of the solar zone located on steep-sloped roofs shall be oriented between 110 degrees and 270 degrees of true north.
§110.10(b)3A:	No obstructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be located in the solar zone.
§110.10(b)3B:	Any obstruction, located on the roof or any other part of the building that projects above a solar zone shall be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.
§110.10(b)4:	For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.
§110.10(c):	The construction documents shall indicate: a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service (for single family residences the point of interconnection will be the main service panel); a pathway for routing of plumbing from the solar zone to the water-heating system.
§110.10(d):	A copy of the construction documents or a comparable document indicating the information from §110.10(b) through §110.10(c) shall be provided to the occupant.
§110.10(e)1:	The main electrical service panel shall have a minimum busbar rating of 200 amps.
§110.10(e)2:	The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space shall be: positioned at the opposite (load) end from the input feeder location or main circuit location, and permanently marked as "For Future Solar Electric".

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

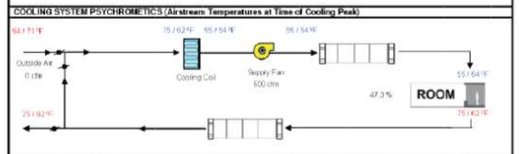
Project Name: Guest House addition — Date: 7/20/2015
System Name: HVAC System — Floor Area: 498

ENGINEERING CHECKS		SYSTEM LOAD	COIL COOLING PEAK			COIL HTG. PEAK	
Number of Systems	1		CFM	Sensible	Latent	CFM	Sensible
Heating System		**Total Room Loads**	345	7,359	392	198	8,673
Output per System	21,849	**Return Vented Lighting**		0			0
Total Output (Btuh)	21,849	**Return Air Ducts**		0			0
Output (Btuh/sqft)	43.9	**Return Fan**		0			0
Cooling System		**Ventilation**	0	0	0	0	0
Output per System	0	**Supply Fan**		0			0
Total Output (Btuh)	0	**Supply Air Ducts**		0			0
Total Output (Tons)	0.0						
Total Output (Btuh/sqft)	0.0	**TOTAL SYSTEM LOAD**		7,359	392		8,673
Total Output (sqft/Ton)	0.0						
Air System							
CFM per System	503	**HVAC EQUIPMENT SELECTION**					
Airflow (cfm)	503	Williams 3900521		0	0		21,849
Airflow (cfm/sqft)	1.00						
Airflow (cfm/Ton)	0.0						
Outside Air (%)	0.0 %	**Total Adjusted System Output** (Adjusted for Peak Design conditions)		0	0		21,849
Outside Air (cfm/sqft)	0.00						
Note: values above given at ARI conditions		**TIME OF SYSTEM PEAK**			Aug 3 PM		Jan 1 AM

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



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



Certified Energy Analyst
14211 Riata st, Westminster, CA. 92683
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TITLE24.NET

Title 24 Analysis
Guest house Addition
Morningside Dr, Poway, CA.

FRANK LE, CEA, CEPE

DATE : 7-18-2015
JOB NO. : 85-02
NO. DESCRIPTION / DATE

CERTIFICATE OF COMPLIANCE

T-24
2 of 2