LEED Platinum Homes **OPEN HOUSE: APRIL 16, 2011**

**Santa Monica College:** Center for Environmental & Urban Studies

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### Key Features:

- **Native gardens:** Includes only California natives (not only drought tolerant, but native). Some plants are endangered and all plants have benefits to the local ecosystem like being feeding local bees, being fire resistant, etc. Organic design fosters an appreciation of the “wild”.

- **Drip irrigation and Mulch:** Easy to install and maintain. Mulch helps retain moisture and deters weeds and invasive species.

### Solar Panels:

- **Cost = $23,410.12 (3KW system)**
- **Covers approximately 60% of total usage**
- **System will result in reducing emissions over the 25 year warranted life of the modules by the following amounts:**
  - 33,650 Lbs. Carbon Dioxide
  - 338 Lbs. Nitrous Oxide
  - 1,080 Lbs Sulfur Dioxide

### Sustainable Materials:

- **Cob adobe (Lizard bench):** dirt from a local construction site mixed with local grasses and stomped into adobe

- **Sunflower seed board / Dakota Burl (SW Work Station):** The material is created from an agricultural fiber and sunflower hulls making this a great alternative to non-renewable resources. Building with Dakota Burl reduces the consumption of hardwood trees, while utilizing the sunflower hull after the seeds are harvested.

- **Wheat board (SW Work Station):** created from a rapidly renewable agricultural resource, wheat-straw, which offers a rich golden alternative to traditional hardwood or paneling products.

- **Paralam headers (SW Work Station):** This product is a manufactured structural wood beam, which is constructed from pressure and adhesive bonded wood strands of wood. Paralam headers actually have a higher strength rating than solid sawed lumber. Use of these headers reduces the demand for new lumber harvesting.

- **Cork flooring (CEUS Work Station):** Made from tree bark, naturally repels pests, is mold resistant.

- **Paperstone counter tops (Kitchen, Bathroom):** made from post-consumer waste, recycled paper and proprietary, petroleum-free phenolic resins. Paperstone is highly UV resistant and has even color distribution through the entire panel or piece.

- **Bamboo cabinets (Kitchen, Bathroom):** Bamboo is a harder than many hardwoods, swells less, has a high density of fiber and absorbs less moisture and wears better than hardwood.

- **Interface FLOR carpet tiles (Living Room):** The production method produces less waste and does not require the use of heavy adhesives to glue the carpet to the floor.

- **Solar tubes:** Solar tubes capture sunlight on the rooftop of a home or business, the solar tubes captures sunlight on the rooftop and redirects it into the rooms of the homes.

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Hyde Residence: Contractor: Jim Davis | Green Consultant: Glenn Boldt

KEY FEATURES:

SUSTAINABLE WATER MANAGEMENT:
- Grey Water System: reuses laundry and shower water in the garden.
- Storm water harvesting with 5,000-gallon catchment tank, which reduces site runoff (water also used in garden).
- Drought tolerant/low water use plants in garden
- Organic vegetable garden

ALTERNATIVE ENERGY & ENERGY EFFICIENCY:
- Solar Thermal for pool heating
- Solar PV for energy needs.
- Wind Turbine-powers tree house & landscape lights
- Zero Emission Generator (for additional power needs)
- Nickel Iron batteries (last over 100 yrs) for energy storage
- Geothermal heating and air conditioning aka Roman cooling: which pumps cool air from ground into house
- Double paned, low-E glass windows (reduces heat exchange and improves energy efficiency).

SUSTAINABLE & RECYCLED MATERIALS:
- Metal Roof (50% recycled metal/ requires zero maintenance/ a light reflective roof is most impactful green change that one can make for reducing effects of global warming)
- FSC cedar on exterior walls and fencing
- All hardscape materials from a 300-mile radius of Los Angeles (low carbon footprint)
- All exterior surfaces are permeable/ allowing for more water catchment/less run off
- Fly Ash concrete pavers (made of recycled concrete)
- Recycled concrete wall
- Front gates made from old reclaimed copper solar panels
- Tree House made of reclaimed wood & copper solar panel siding

INTERIOR FEATURES:
- All interiors were finished with zero VOC roman clay, paint & stain
- Crestron system monitors energy usage & overall efficiency of the house
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21st at MONTANA: New Contemporary Town Homes

KEY FEATURES:

GARAGE:
- Inverter for Solar panels
- Electric Vehicle Charger (240V) capability
- 30% Fly Ash in podium deck, slab on grade & footings
- Green Concrete Curing Compounds
- Recycled Steel I-Beams
- Hybrid Water Heaters

1ST FLOOR:
- Caesarstone Counter Slabs
- Solid Strand Bamboo treads on stairs
- Fleetwood Aluminum Windows- Energy Efficient (SHGC/Low E/UV Factor)
- Energy Star Lighting and Appliances
- EcoBatt/EcoSeal & Dry Blown-In Insulation
- BoraCare eco-friendly wood treatment protects exterior wood against termites and fungus
- Drought tolerant plants/reduced irrigation needs (drip irrigation)

2ND FLOOR:
- EPA’s WaterSense certified fixtures, including dual flush toilets
- High efficiency filters on HVAC for better air quality
- Energy Star Clothes Washer and Bath Fans
- Bathroom fans are controlled by motion sensors to save energy
- DensShield behind tubs for mold abatement
- No/Low VOC Paint (Low/No VOC adhesives/sealants)

ROOF:
- Solar Panels
- High efficiency side-venting HVAC system (Carrier)

Developer: Pacific Cove Development
pacificcovedevelopment.com
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**Ortiz & Wheeler Residence:** [http://ortizmexia.blogspot.com](http://ortizmexia.blogspot.com)

**KEY FEATURES:**

- Deconstructed previous home and salvaged 80% of materials for reuse, despite major structural concerns, inefficiencies, moisture damage, asbestos.
- 30% fly ash in foundation
- Waterproofed with Bentonite: clay formed of natural volcanic ash able to absorb large quantities of water
- All FSC lumber, using 24” on center framing to reduce amount needed and improve insulation
- Floor and roof joists made of engineered lumber, which is more stable and stronger than dimensional lumber; is made from sawmill scraps and wood waste
- Soybean oil-based spray foam insulation
- Locally produces custom concrete tiles with recycled aggregate low VOC sealer
- FSC wood floors finished with natural oils
- FSC certified exterior rain screen
- Radiant floor heating system composed of:
  - Warmboard (structural subfloor & radiant panel providing better conduction and radiation through a stamped aluminum sheet)
  - PEX-Aluminum-PEX tubing
  - High efficiency gas fired condensing boiler at 98% efficiency (serves both radiant and domestic hot water production)
- No air-conditioning. Passive design features such as:
  - Correct building orientation
  - High ceilings
  - Operable windows with high efficiency glass
  - Window and doors with thermal breaks (NFRC rated – high efficiency)
  - American Clay walls and Low/Zero VOC paint for interior wall finishes
- 6.2 kW solar PV array produces 75% of home’s electricity demand
- Solar thermal heating for pool, which uses no chlorine
- High reflectance roof (88%) to reject unwanted solar heating
- LED architectural lights
- Drought tolerant landscaping and vegetable garden
- Drip and micro irrigation outside, high efficiency water fixtures inside.

**Year Built:** 2010

**Design/Build:** Santiago Ortiz, Ortiz Mexia Projects
KEY FEATURES:

ENVIRONMENTAL FEATURES

The main design strategy for this second story addition/remodel is to improve the existing plan by creating a more contemporary and environmentally responsive design. The existing first floor was opened up to provide a larger living room and kitchen and to increase the amount of natural light and ventilation throughout the house. The new house incorporates a number of environmental green building techniques including:

ENERGY

• The house is 52.8% more energy efficient than the state of California requirements.
• It is heated and cooled passively with large south-facing windows and large overhangs.
• The existing and new house are super-insulated, preventing excessive heat loss or heat gain.
• Energy is saved and collected actively by using a system of solar panels.
• Dual pane low-e, fiberglass-clad windows. Energy efficient appliances.

WATER

• 50% of all rainwater is collected into 500 gal cisterns. The rest is absorbed into the ground. No stormwater leaves the site.
• A greywater system collects water from sinks, tub, showers, and washing machine to be used for irrigation. High efficiency water fixtures inside the building.
• Water use is further reduced by planting California native plants, which require little maintenance or water.

MATERIALS:

• Keeping the addition’s square footage low limits use of materials.
• Hundred-year old existing wood is reused. Composted old cellulose insulation.
• Non-toxic, recycled-content, and sustainable wood materials are used, e.g. recycled glass tiles, recycled-content countertops and cabinets, engineered lumber, non-toxic paints, glues, water proofing materials and FSC certified wood.
• White cool roof to reject excess solar heat.