

# Taos Haus + 6

Taos Haus +6 is located in Taos, NM showcases the implementation of very green design. The project utilizes site-specific solutions for solving key green building challenges including energy, water, land, resource use, waste management, and indoor environment quality.

The goals of the project were to:

1. Design and build houses/units that are affordable, durable and green
2. LEED for Homes™ Platinum certification
3. Follow Energy Star protocol for testing

## Project Overview

This medium density 100% affordable rental project consists of 24 new detached units, a new community building and a 3-story (6) unit multifamily renovation. The conditioned square footages ranges between 1,050 SF (2 bedroom) to 1,260 SF (3 bedroom) and there are no garages.

The project main entrance is off of Paseo Del Pueblo Sur one of the main roads in Taos. It is adjacent to the Taos High School, across the street from a strip shopping center with a major grocery store and less than a mile from the historic downtown plaza.

The site and roof have been designed to harvest and filter water all the rain water into the on-site drought tolerant landscaping that includes community gardening spaces throughout the project.

This project has excelled in the LEED for Homes program and achieved the following points for certification:

Innovation and Design Process (ID)	7.5 out of 11 points
Location and Linkages (LL)	9 out of 10 points
Sustainable Sites (SS)	18 out of 22 points
Water Efficiency (WE)	10 out of 15 points
Energy and Atmosphere (EA)	21.5 out of 38 points
Materials and Resources (MR)	8.5out of 16 points
Indoor Environmentally Quality (EQ)	11 out of 21 points
Awareness and Education (AE)	2 out of 3 points
<b>Total Points</b>	<b>87.5 points out of 136*</b>

\*Due to the home size adjustment the platinum threshold was reduced 5 points from 90 to 85.

The project addressed the fundamental aspects of sustainability in the following ways:

### I. Water Efficiency:

1. Reduced irrigation demand due to the 90% plus indigenous drought tolerant landscaping
2. Highly efficient irrigation - 90% drip with a moisture sensor attached to the controller
3. Very High-Efficiency flow fixtures and Fittings

### II. Energy Efficiency:

The highly insulated envelope of the units coupled with a very tight envelope have reduced the energy consumption over 70%. The following items contribute to the energy efficiency of the building:

1. The heating system is gas furnaces with an AFUE of 95
2. Efficiently zoned spaces for specified occupant use
3. On-demand gas water heating (EF=95)
4. Blown insulation that reduces infiltration (R=20.4)
5. Continuous exterior rigid insulation wrap around the house (R=5)
6. Unvented roof system that keeps ducts in semi-conditioned space
7. East/West/North Windows = U of 0.30 or better windows that have a low infiltration value with a Solar Heat Gain Coefficient (SHGC) of 0.27 or better
8. South Windows = U of 0.35 or better windows that have a low infiltration value with a Solar Heat Gain Coefficient (SHGC) of 0.70 or better to allow in the strong winter sun for heating
9. Steel overhangs to cut out unwanted summer time sun
10. Energy star appliances
11. Energy efficient CFL or LED light fixtures

### III. Resource Use

All materials specified for the house have been chosen carefully based on sustainable characteristics such as non-toxicity, recycled content, rapidly renewable or reclaimed content. The following materials were used in the project:

1. Engineered trusses and sheathing
2. Concrete with 25% flyash and locally harvested
3. Locally harvested stucco material
4. No volatile organic compound paint and adhesives
5. Formaldehyde free cabinet substrates

#### IV. Indoor Environment Quality:

Indoor environmental quality has been addressed to reduce interior toxins and allergens and improve the general well-being of the inhabitants. This was achieved through system and material choices such as:

1. No volatile organic compound paint
2. Water based finishes
3. Indoor containment control during construction
4. Continuous venting of interior space (bring in fresh air)
5. Sealed combustion or power vented equipment
6. Carbon monoxide monitors

#### V. Durability

A home that last longer, requires less maintenance and has surfaces that can be cleaned easily with non-toxic products is both a value add to the Resident and has a greatly reduced environmental footprint. To achieve this goal, the project has:

1. No exterior wood products that break down with sun and moisture. All of these elements are built of steel or concrete
2. The interior surfaces are durable and cleanable with non-toxic products
3. Managed water runoff and keeps it away from the house

#### VI. Education

One of the most important goals of this project is to educate residents, designers, realtors, builders, and developers about sustainable development. To achieve this goal, the project has:

1. Open houses upon completion of the project to raise awareness of green building and encourage transformation of the marketplace by showing that this project cost no more than other similar homes and operates at a substantially reduced level.
2. Operation and training manuals for the building manager/operator so that this company can educate/inform all tenants about the green features of their new places to live before they move in