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A step closer to LEED

Walls go up at NetSolar home in Metro Verde

Editor's note: This is part two in a series following the construction of two homes aiming for LEED platinum certification. The homes are being built by NetSolar Construction in the Metro Verde area.

By **Beth Sitzler**
Las Cruces Bulletin

The empty lot at 3602 San Clemente has begun to take shape as the walls of the residence are set in place the week of Sept. 10.

Javier Cabrera, co-owner of NetSolar with his cousin, Emmanuel Dominguez, said after they broke ground Wednesday, Aug. 15, they have been able to make headway on the property, which is being built to LEED platinum certification, as is the company's property at 3638 San Clemente.

"We've poured the concrete of both houses," he said, adding that they put in place a vapor barrier – a plastic membrane – under the slab that will prevent moisture from coming through the foundation. "We started framing (3602 San Clemente) on Friday (Sept. 7)."

Due to rain over the weekend, the crew had to take a break until Monday, Sept. 10, Cabrera said. On Monday, the team went back to installing the structural insulated panels (SIPs), which are a high-performance building material consisting of an insulating foam core sandwiched between oriented strand board (OSB).

Cabrera said the panels are manufactured in their warehouse on Weisner Road and pre-cut for windows, doors and the electrical wiring. To ensure each SIP goes in the correct location, they are numbered and match a number on the floor plan.

"They're already in order and they're numbered, so it's a lot easier for the framers," Cabrera said. "They just have to follow the floor plan."

To install the panels, an expanding foam is applied to the area the panel will be located. A system of 4-inch OSB strips will run between each panel, linking them together. More expanding foam will be applied to fill in any gaps, making the walls air tight with no breaks

in the thermal envelope.

"It's continuous insulation, there are no breaks," Cabrera said. "With a normal stud wall, there are breaks with each stud."

For the corners, a 9-inch screw is used to connect the two panels.

The electrician also will have an easy job with the home, Cabrera said, explaining that he will just have to cut an opening into the board to reach the pre-cut path for the chase. In addition to featuring standard chase, or wiring at 16 inches and 42 inches off the ground, there are also panels that contain a vertical chase, allowing for electricity to be wired to the ceiling.

The walls of the 3602 San Clemente home vary from 9 to 10 feet in most areas and 12 feet in the great room. Because the great room ceiling is so high, two panels will be stacked and joined by studs, Cabrera said.

As the SIPs are installed, the interior walls also are being put in place. Cabrera said the interior walls are constructed from traditional stick framing.

Cabrera said they should be finished framing 3602 San Clemente by the end of this week. Framing on the home at 3638 San Clemente began Tuesday, Sept. 11, and should be completed along the same timeline.

After the walls are in place, next comes installing the windows, exterior walls, drywall and stucco. Cabrera said during that time, the tankless, 98 percent efficient water heater will also be installed.

"We have a manifold and tankless water heater," he said. "There is a single pipe to each faucet. This way they don't have to connect and it will reduce the chances of the pipes breaking. It also makes it more efficient because the hot water goes straight there. It doesn't go throughout the entire house like a conventional system."

The roof is another step that will be accomplished after framing. Cabrera said the roof will be a standard system with trusses and OSB sheeting, however, a polyurethane insulation – or closed cell insulation – will be applied.



Las Cruces Bulletin photos by Beth Sitzler

Pablo Muñoz staples a wood termination panel to what will be a corner panel of the home at 3602 San Clemente.



Before the structural insulated panel is put in place, expanding foam is applied by Muñoz.



Numbers are written on the SIPs that match the floor plan to ensure each is placed exactly where it's supposed to be.



To connect the corner, Juan Cabillo drills in a 9-inch screw.

The NetSolar Construction home at 3602 San Clemente has begun to take shape. Using structural insulated panels, a vapor barrier and a tankless water heater are some of the ways the home is being built to LEED platinum certification.



Cabillo positions a SIP.

