

California State University, Chico

Concrete Industry Management

## Habitat for Humanity Internship



Moises Mendoza

I got my internship with Habitat for Humanity working on three ICF (Insulated Concrete Forms) houses for low income families in Paradise, CA. I was not supposed to work until that following week but the crew was going to be pouring the first two houses that Friday. I decided to show up and meet my site supervisor on Thursday May 20, 2021. I was able to meet and discuss with my site supervisor/ project manager Raul Herrera. He introduced me to the volunteer Christian group that would help us throughout the job. I was also able to meet Patrick Matsche who is the Senior Director, Building Innovations Structures & Sustainability Group of the NRMCA (National ready-mix concrete association). I was also able to meet the manufacturer of the ICF Fox Blocks and was the person who donated the blocks for all three houses.



*Figure 1: Insulated Concrete Form Home*



*Figure 2: Patrick Matsche & Moises Mendoza*

On my second day which was Friday May 21, 2021. We had a pour day. Before the trucks came they set me to cut out boards and screw them at the edges around the windows and inside the window to form them up. This was done so when we pour the concrete from the top of the ICF it does not bulge out of the windows. We also had to put foam spray in the cracks and around doors and windows which is a strong adhesive that dries quickly and acts as a barrier so concrete wont escape from small crack areas. I worked with retired volunteers that came with construction experience and learned a lot from having conversations with them. I was in charge of measuring the right sizes for the windows and cutting them with the saw cutter. I then had to take my materials and with a drill and nails start wrapping the window areas. The concrete later showed up and also a huge pump truck that the concrete would be poured into the pump truck and the pump truck would pump the concrete and with a movable hose the crew moved around the top of the house pouring and filling up in layers the house until it was all filled up. We then came around cleaning the excess with a flat wooden float.



Figure 3: Pump concrete truck



Figure 4: Inserting bolts and screeding excess concrete

My next task that day was to cut a bunch of stakes with the saw cutter about 12 inches or so and then drill a hole through the middle of the stake. I had to start at a corner and off the end of the wall measure a foot and then every 3 ft after that I had to place a bolt inside the concrete while it was fresh and clean the area around it. I then had to place the stake through the bolt so it would stay in place. We had our team lunch and went back to work. I had to do that in both houses. After I was done everyone left and I stayed back with Raul and helped him clean up and store all of the equipment into the bins. I also helped him move more 2x8 deck boards from his truck to the bin containers. We had a very good discussion in which he explained how I worked really well and he did not have to worry about telling me how

to do a task twice that I got going and did everything quickly and efficiently and he was looking forward to working with me throughout the whole summer internship. My other working partner had not shown up yet; he was going to start until the following week. That ended my first day of work. This was probably my favorite day of working because I was able to fulfill my tasks quickly and make everyone second look at me and say wow you finished already? Well onto the next task. I was able to meet very important people in the concrete world and obtained Mr. Matsches business card. This motivated me because at school they always tell us it's about making connections in this industry.

I got the opportunity to be a co-lead in the building of the interior frame walls of the second ICF home. Partnered with the other intern who had previous experience in frame work we were both able to teach the volunteers how to properly make the walls, stand them up, plumb them, and brace the walls. We were able to roll the trusses with the “Caravanners,” whom are



*Figure 5: Caravanners and I rolling trusses*

retired couples from around the U.S that travel to different Habitat for Humanity locations offering work help. I got to also lead other CIM interns from Mathews Ready-mix plant on how to properly use the saw cut and cut blocks for me in the construction of the frame work. I got to lead the safety speeches before beginning work in the mornings to make sure everyone

knew the risks of being on a job site and dangers to be safe when walking around. I formed up the front porches of both houses with some guidance from my supervisor and was able to execute the job good for my first-time placing forms. I put in the gravel, rebar, and tied the rebar together. My favorite part of the job was being able to work on the ICF blocks. I placed them with the volunteers, stacked them together. We were able to play around and figure out how they go all together and add the rebar together. Being able to watch the home come to life like I used to do with my Legos as a kid was an amazing experience.



*Figure 6: Making lines for the ICF*



*Figure 7: First two rows of blocks*



*Figure 8: Top of the ICF forms built and placed*



*Figure 9: Everyone happy at the end of the day*