

# Pole Barn Outbuildings

**P**ole barns are more resource efficient to build than stick framed structures because they use less concrete, no cinderblock, and can largely be constructed of locally harvested green rough sawn lumber. They are extremely flexible because they have no load bearing walls and when they have a slab floor there are no building loads bearing on the slab. A continuous header extends from pole to pole around the entire exterior wall which means that adding windows or doors after construction has no structural implication.



Construction starts by digging and pouring 22"x22"x10' pier footings at each post location. Then the posts are set, braced and anchored to their footings.



Temporary 2x10 or 2x12 concrete forms are set around the perimeter at this point if you are pouring a slab floor. (In this case, with a radiant floor, we used permanent treated form wood and tacked Styrofoam to the inside to prevent a cold edge on our heated slab.)

We will often go ahead and frame the roof before we pour the slab because these buildings frame up so quickly that it can make more sense to bring in the gravel and steel (and radiant heat prep if needed) while the framing is moving forward. In this project we went ahead and installed the shingles and painted the roof.

Our friend Robin from Jones Concrete is shown here mugging for the camera while pouring the floor. She was pouring a carbon black finished slab on this job.



The interior got planked with a curved ceiling with both fiberglass and Styrofoam insulation. The red rosen paper is used so when the rough sawn lumber shrinks the blue foam will not be visible. The paper ages to a light brown over time.



The exterior of got cedar clapboard siding to match the house. Most people associate pole barns with vertical board and batten siding which is the most common exterior for these structures but any siding can be applied.

On this music and dance studio the horizontal inner planking has been applied and covered with foil faced foam with the shiny side out to reflect heat. A rain screen of 1/2" recycled OSB spacers will create an air space between the back of the siding and the foil. The vertical board and batten siding will be nailed through the spacers to the inner planking with galvanized ring shank nails.



A 2 3/4" wide steel flashing combined with a treated 1x4 and soil treatment keep the termites and insects out of the structure. At the top the wall foam is foil-taped to the foam on the roof. The structural roof outriggers are packed up 2 1/4" to accommodate 1" of ceiling planking, a 1/2 inch airspace between the ceiling and the foam, and 3/4" of foil faced foam with the shiny side down. On top of this will go 1/2" OSB and roof shingles.



The bracketed side door allows for protected vehicle access for unloading musical gear.



At 28' x 28' with a 15' ceiling height this space is big enough for hoop/ yoga classes or rock and roll.