

# Steps to build wooden pillars

## MAKE YOUR HOUSE SAFER

To make your house more resistant to hurricanes and earthquakes, you need to build a proper foundation and you need to attach the house to the foundation.

**Note:** the dimensions of the foundation are determined by the type of soil and the size of the house. This technical sheet applies to single-storey wooden houses with a maximum size of 18' x 24', in a soil with acceptable resistance.

**Step 1:** Fix temporarily 2 pieces of 2" x 4" on both sides of the pillar that you want to replace. They should be located at 3 ft from the existing pillar. Then, demolish the pillar that you need to replace.

**Note:** You cannot demolish the pillar that you want to replace before you fix the supports (2" x 4") on both sides. If you don't, you are putting the house at risk!

**Step 2:** dig a hole 18" x 18" x 18" where you want to place the wooden pillar.

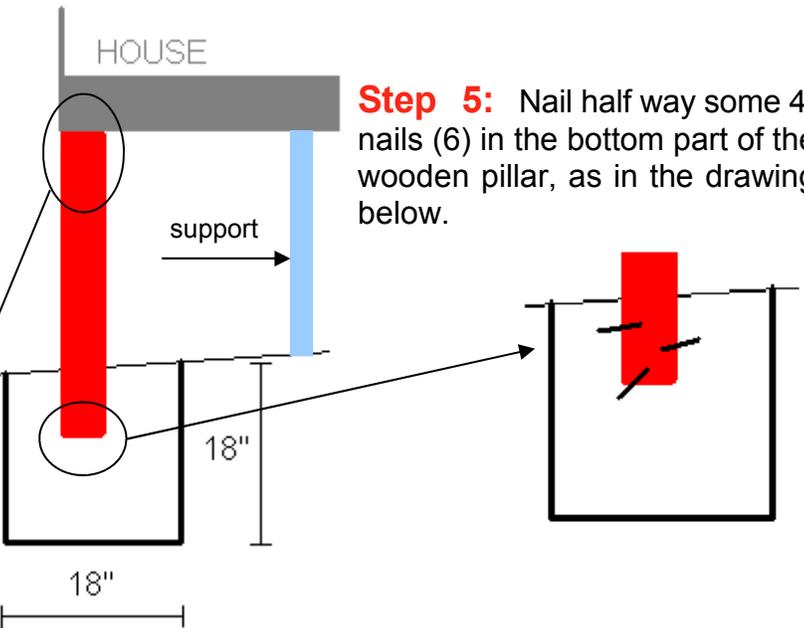
**Step 3:** measure the height from below the house (below the beam) to the ground level. E.g.  $H = \text{height} = 36"$ .

**Step 4:** cut the wooden pillar (4" x 4") at the height that you just measured + 8 inches. E.g. height of pillar =  $36" + 8" = 44"$  → you will cut the pillar at 44 inches.

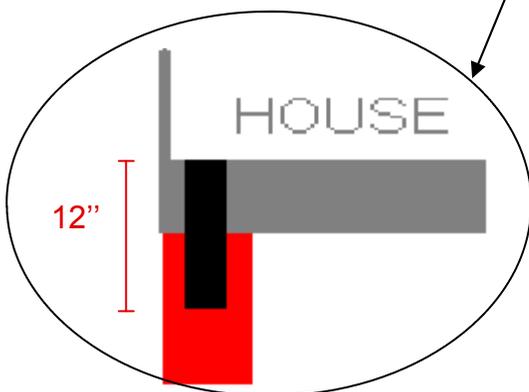
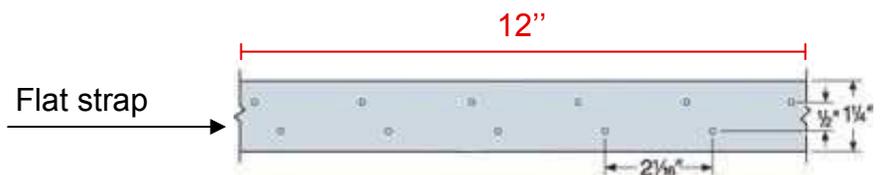
To replace 4 corner pillars (3 ft high), you need:

- cement, sand, gravel, water
- 4" x 4" x 16 ft (1 piece)
- 2" x 4" x 12 ft (2 pieces)
- 4" nails (40 units)
- 1 1/2" nails (1 lb)

**Step 5:** Nail half way some 4" nails (6) in the bottom part of the wooden pillar, as in the drawing below.



**Step 6:** cut a flat metal strap 12 inches long. Fix half of it (6") on the top side of the wooden pillar (4" x 4"), as in the drawing.



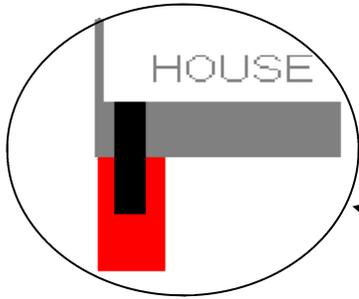
Drafted by:



with the support of:

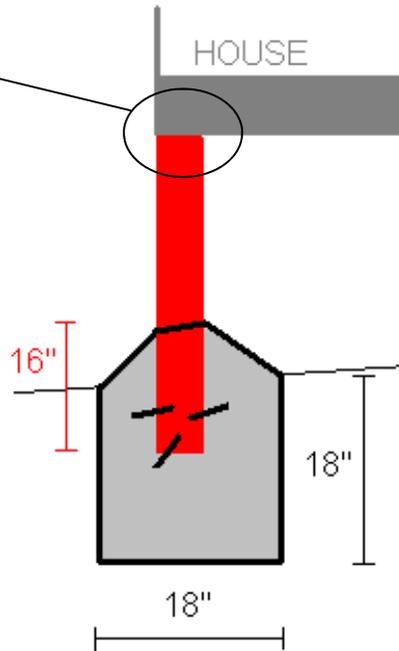


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**Step 7:** fix the wooden pillar (4" x 4") in the beam with the 4" nails and nail the extended piece of the flat metal strap (6") onto the beam to reinforce the connection, as in the drawing.

**Step 8:** prepare the concrete (ratio 1:3:6). Cast the footing as in the drawing and **vibrate well** the concrete. Insure that the wooden pillar is well anchored in the concrete (16 inches at a minimum).



For one pillar (3 ft above ground), you need:

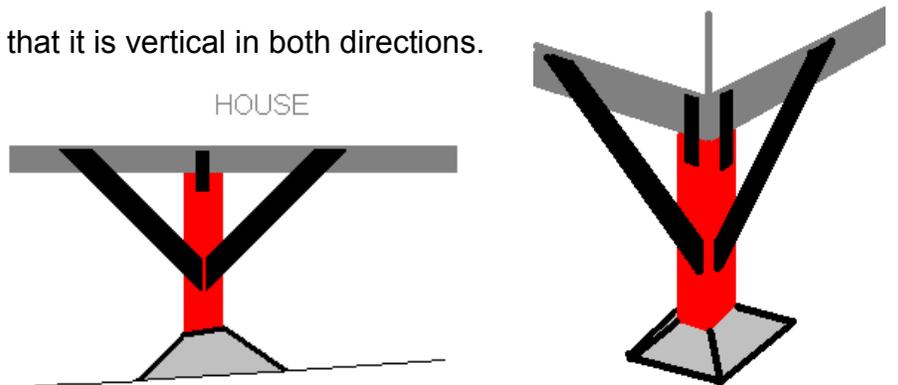
- cement -- 0,5 bag
- sand -- 8 buckets
- gravel -- 16 buckets
- water
- 4" x 4" x 4ft -- 1 piece
- 2" x 4" x 3ft -- 2 pieces
- 4" nails -- 10 units
- 1 1/2" nails -- 1/4 lb

**Note:** the more you vibrate the concrete, the more it will be compact and resistant.

**Note:** shape the concrete with a 45° slope, the slope will allow the water to run off the pillar and will avoid the pillar rotting.

**Step 9 :** level the pillar, to make sure that it is vertical in both directions.

**Note:** you can add some cement on top of the concrete to smooth the surface and allow a better water-resistance to the concrete.



**Step 10:** brace the pillar in both directions using 2 pieces of 2" x 4", as in the drawings.

## TO AVOID!



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