

Log Building NEWS



**Pencil in
Our 2011
Conference!**
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Hobbit Doors

By Graeme Mould

A customer asked us if the log home shell we were building for him could have a Hobbit door. Or, for any of you unfamiliar with the "Lord of the Rings" movies: a completely round door in a round opening. Of course we said "yes," no problem.

One opening, (as there were now to be two Hobbit doors in the project) was a large wooden door with elaborate sprawling steel hinge, and the second was an interior opening with two glass doors.

As you can imagine, the openings had to be quite large to get a 1.8m (6-foot) person through. And for all of you who know about log construction, if we cut a circular hole, then the opening would settle in height, and the opening would become some odd, squashed oval shape, not round.

As we built the log home shell, we drew a circle of the approximate shape on the logs, so we could maximize log use—because we like to use log pieces instead of full-length logs, for some openings. Photo 1 shows the rough-formed opening in the completed log wall.

To lay out and cut the shape of the opening in the unsettled log wall, the designer had us cut the bottom half of the circle to be a true circle, and had us cut the top half of the circle about 60mm (2-1/4") oval. (See sidebar, page 2.)



Photo 5

To do this, we laid the top curve out in two halves, with a slightly offset centre, up and to the left and up and to the right respectively for each half. Photo 1 shows the centre piece set up, and the offset. This was done on both sides of the wall.

This created a slightly oval top half, to account for the calculated settling amount. Now our logbuilders had a line on both sides of the wall which they could easily follow with a two handled saw. Photo 2 shows how the saw men cutting to these layout lines, which proved to be really easy.

The opening was then sanded smooth and square. A centreline was put back in place around the whole opening. Large flexible rulers are good for this, or thin strips of ply or manufactured board.



Photo 1



Photo 2

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MISSION STATEMENT

This association is a non-profit organization comprised of log crafters and affiliated members from many countries. We are dedicated to the education of both our members and the public. Our association has a mandate to research, develop and share techniques relevant to the construction of superior handcrafted log buildings.

Photo 3—the log ends needed to be necked down to 200mm (8-inches) to fit inside the steel frame. A block screwed to the saw bar acted as a depth gauge, and an MDF strip screwed to the log ends on the inside of the opening was the width gauge. This cut was made all around the opening, and then the process was repeated for the other side of the wall.

Our openings had wings on the necked portions, like the ramps that lead into a saddle (scarf) notch, but these were easier to cut one-log-at-a-time after the shell was taken apart.

On assembly day the sill log portion through the opening was removed, and then some concrete had to be removed from the slab. After assembling about 3 rounds of logs, the half-ton steel rings were lowered into place in each opening, Photo 4.

If we ever get another Hobbit Door job we'd have the steel frame fabricated with a flat section on the bottom, instead of totally round. We had to remove concrete from the slab to install the ring.

The steel was made of two formed, rolled 150mm x150mm (6" x 6") angles. One circle was slightly smaller in diameter than the other circle, so the smaller one could slide inside the larger one, and then the two steel circles were screwed to each other with the flanges 200mm apart, to match the thickness of the tenons on our log ends.

Because the log ends were being enclosed in a steel channel 200mm (8-inch) wide with 150mm (6-inch) flange-sides we were not worried about the small step in the log-end surface that happens as archways settle because the remainder of the settling could be easily taken up in the 150mm (6") deep channel of steel.

The rest of the building was assembled, and as planned, the top header log opening over the Hobbit door was just visible (about 20mm, 3/4") above the steel ring, so after some settling it will slide down into the steel frame for full cover.

The exterior door is a hollow, steel box-section with wood T&G cladding, and fancy hinges, Photo 5. And the owners report they can shut the door with their pinky.



Photo 3



Photo 4

Editor's note: In drawing or CAD software, draw a true circle the diameter that you want the opening to be after settling. Now use the scale tool, and stretch the circle 6%, or the settling you expect, vertically (Y axis), and do not stretch at all horizontally (X axis). The taller shape is the cut in the green log wall. Since this is a scale drawing, you can add in the actual top of each log in the wall. If you added a rectangular grid to your drawing (maybe 1-foot centers), then you could lay out the shape you want to cut on the green log wall using the grid. Or just take a photo of the green log wall, import it into the CAD program as a background, and scale it!

