

Instructions for cutting and assembling the Foam Farm chassis.

Cutting the panels

Using paper templates

The farm's chassis is designed around 3/4" foam material for maximum modularity. The material is easy to purchase, cut, and frame with as little as a razor blade. If your project or institution affords access to a "troller," large format printer, templates for the cuts can be printed from a set of printable templates on this project's Github page. Instructions for this method of cutting are as follows:

Tools:

3/4" x 2' x 8'
insulation board
razor blade
t-square
4" hole saw
1" hole saw
power drill
zip ties



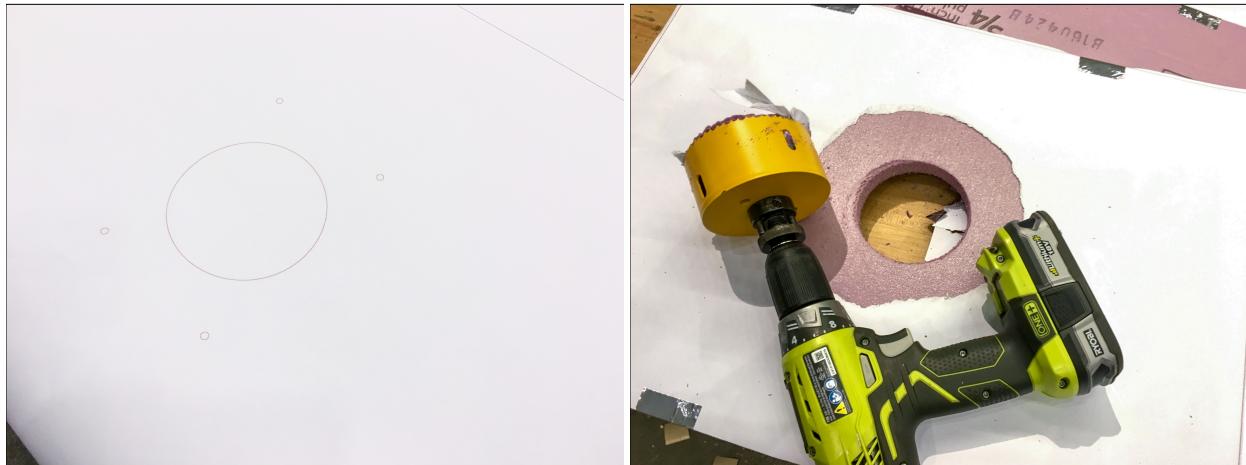
Print out the templates to scale: 8' long and 3' wide. The templates are specifically drawn for compatibility with 2' x 8' foam, with a total of six box panels requiring two boards of foam and respective templates. Once printed, simply lay the templates across the two foam boards and anchor down with tape along the length of the boards.

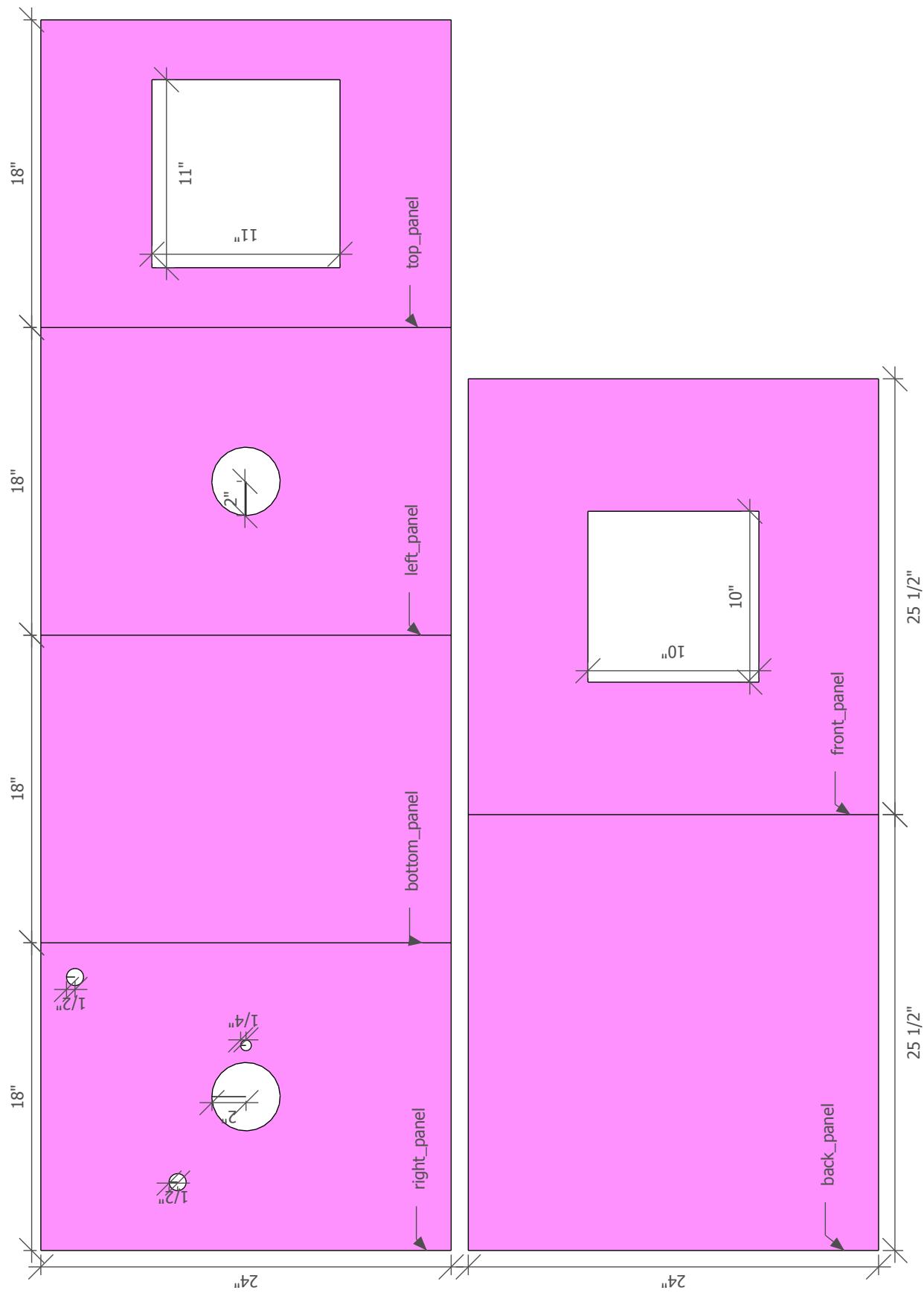
Ensure that the templates are square along the boards so that resulting cuts are equally square. After anchoring with tape, use a razor blade to cut along the horizontal lines of the templates, perpendicular to the length of the boards. A t-square comes in handy to ensure perpendicularity. Note that you merely need to score the foam—not cut all the way through it—and it will cleanly break along the scored edge. This process will yield all six panels of the chassis, and a remainder of roughly six feet of extra foam board which can be saved as spare or modification material for your farm!

Without paper templates

No large format printer? No sweat. Panels can be cut out manually according to the dimensions in the templates. Use a t-square or any measuring tape to draw your own cut lines on the foam boards. Notice that each of the six panels is either 24" in height or width (the same width of the foam board), making them easy to measure and cut out manually.

Once the panels are measured and cut, a few holes will be carved out of the foam. In particular, four holes on the right (electrical) panel include a 2", 1/4", and 2x 1/2" radius holes. These holes can be carved out with hole saws, drills, or merely carved out with a blade and should be placed roughly according to the panel diagrams for the best subsequent layout of the electronics panel. Lastly, a 11" x 11" square and 10" square should be carved out of the top panel (for the light fixture) and the front panel (for the

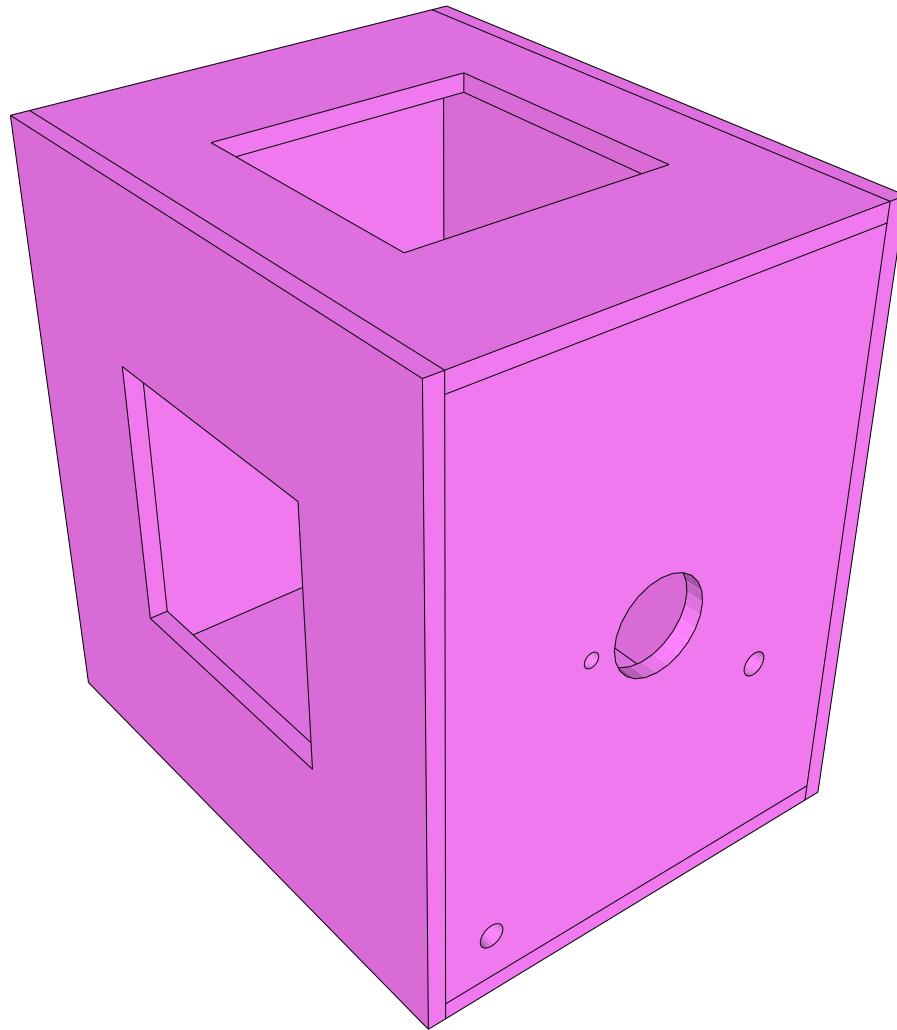


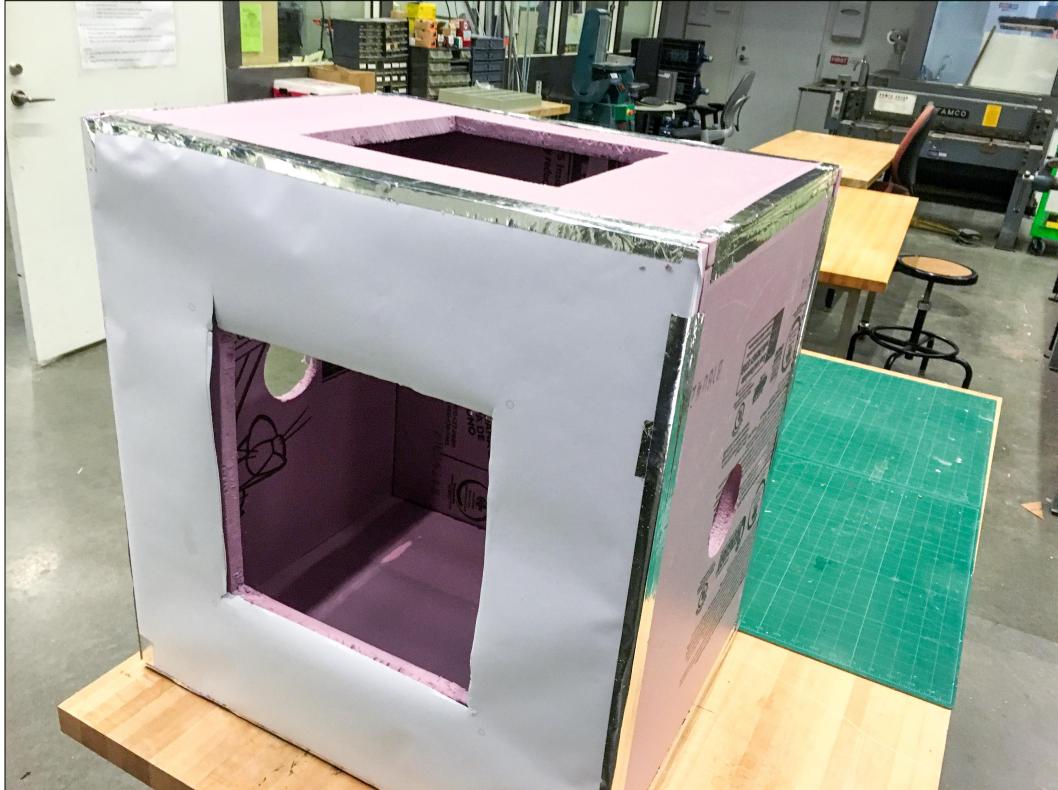


window) respectively.

Assembling the Panels

With all panels cut and modified, you're ready to assemble the chassis. Below is a visual overview of how the panels align at their corners for a quick reference. Strong tape is all that's needed to bring the structure together. It helps to have an extra set of hands for this process, one to align and hold the panels and another to do the taping. Run tape along the lengths of all of the structure's edges to ensure its strength.





Cutting the window

The Foam Farm design incorporates a front-facing window, for easy view and access to your plants. The window is ideally cut from an 1/8" sheet of acrylic plastic on a laser cutter, if your institution has access. It can otherwise be manually cut with a table saw or scoring it with your utility knife. Dimensions are as described in the diagram below.

