

MATERIALS:

- 2 - 18 ft x ½" redwood bender boards
- 1- 6 ft redwood 2 x 4 (for the rails or feet)

In the video I say one 18 foot piece of bender board. You have to do everything right to get all you need out of one. Get two, they are cheap and you will make some mistakes on the first one so you won't have to go back to the lumber store when you screw up a couple of pieces.

There are several thicknesses of bender board. You can make it out of quarter inch and it will be cheaper but it will be very light weight. I have also made it out of full quarter inch material. It is heavier and more expensive but sturdy looking. The only thing that changes is the width of the dado cuts. The video shows me in the shop with bender board but the finished product you see as I assemble it is cedar. The material is a matter of choice. No finish is recommended because you might plant something in it you want to eat. Wood that weathers well is what you want to use.

DIRECTIONS: (Note: I may say things slightly differently in the video. These written instructions were done last and after some trial-and-error on my part to refine them. In the event of a conflict between these instructions and the video, use these instructions.)

1. Make sure the bender board is free of knots with at least one good edge and no cracks the full length to 2 ¾" wide
2. Rip all the bender board to 2 ¾" width
3. Rip the 2 x 4 to 2 3/8" width
4. Cut 2 pieces of 2 x 2 3/8" to 26" length for the rails. Cut a 60° miter on each end making the lower edge 23 ¼" long. OPTIONAL - Center a shallow radius about 12" long to create the feet.
5. Cut 7 pieces of the bender board, each 17 3/8" long. These are for the base.
6. Check the thickness of the bender board along its full length. The thickest part will become the starting point for calculating the width of the slots (dimension Y Drawing A).
7. Using a miter or table saw, cut 18 pieces of the bender board into the following lengths making nine pairs. The pairs face each other in the finished project. There are 5 pieces for each End, and 4 pieces for each Side. The way to tell the difference between "ends" and "sides" is that the bottom edge of the ends fits into the rails. The maximum lengths shown below are dimension X on drawing A)
 - a. 2 – 11 3/8" – For Tops of End pieces
 - b. 2 – 13 1/2" – For Tops of Side pieces
 - c. 2 – 15 3/8" – For End pieces
 - d. 2 – 17 1/2" – For Side pieces
 - e. 2 – 19 3/8" – For End pieces
 - f. 2 – 21 1/2" – For Side pieces
 - g. 2 – 23 3/8" – For End pieces
 - h. 2 – 24 3/8" – For Bottom End pieces
 - i. 2 – 25 1/2" – For Bottom Side pieces

8. At each end of the two Bottom End pieces, cut a miter at 60° with the long point facing up. For the remaining pieces for both Sides and Ends, cut a 60° miter with the long point facing down. The long point faces down on all but the very bottom ends which go into the slots on the rails, these have the long point (with the dado slot in it) facing up.
9. Set the dado head on your table saw to the thickness (of the bender board) that allows some tolerance between the bender board and the slot that the dado cuts. You want the fit to be barely snug.
10. **For the Base:** Set the dado blade height according to Drawing A. Run a piece of scrap through to check height. Test your fit of the bender board in the slot and adjust if necessary.
11. For the rails, two 26" lengths of 2 (nominal) x 2 3/8, run the dado on a straight cut (no miter) with the saw tilt at 32° two inches from each end as shown in Drawing B.
12. Evenly space the 7 - 17 3/8 pieces of bender board on these two 2 x 2 3/8 pieces (the rails) which will be standing on the thinnest side feet down slots up. The 7 pieces must fit between the slots.
13. Using a little waterproof glue and a nail gun, carefully square up the base by attaching the two outside pieces of bender board to the rails with one brad on each end.
14. When the base is square, add a second brad to each end of the outside boards to lock it square. Attach the remaining 5 - 17 3/8 pieces of bender board. Use glue and two brads in each end to make a solid base. There should be spaces between the board for drainage (OPTIONAL: If you plan to use an automated drip system to water it, drill a 1/2 inch hole in the middle of the middle board to accommodate the drip line from below).
15. **For the sides:** The nine pairs of "sides" must be done carefully. What is required is a compound miter (blade tilt 32° , miter fence set at 75°). The sides will only work one way, and it is very easy to make a mistake. The only safe way that I have found, is to lay them out together (matching each length from opposing sides), match them up, number each end, make a pattern - See Drawing C, and CAREFULLY cut each compound dado on each end, checking each time to make sure they work. The "slant" of each side is such that the inside face is tilted up, the dado outside face of slots must face outward. Drawing C shows a pair with the two cuts such that a double arrow (appearing like a chevron) to the outside is the final look from the top edge. Your miter setting of 75° must be constantly changed from inside to outside. (The temptation to make multiple cuts at once should be resisted unless you do a lot of geometry to satisfy yourself that you will have a consistent 1 5/8" from the outside of the slot to the outside corner of each side.)
16. Because redwood is soft and open grain you might want to put a sacrificial piece of scrap behind each cut to prevent the dado head from damaging the back of each cut as it exits.
17. A note about Drawing A—This covers the middle pairs. The top and bottom are slightly different. The top has no slot and is slightly smaller (Drawing B). The bottom is like all the others except it has no offset corner because it fits into the rails on the base. Do not notch out that piece. The bottom is also the only one in which the dado cuts are on the long edge of the piece. All others have the dado slots in the short edge as shown in Drawing A.
18. Before assembly, cut a recess notch in the bottom of each end of the all pieces in each End and each Side except the bottom End pieces that fit into the rails. The 2 bottom 24 3/8" End pieces do not need a recess. This is the end (long point) of each piece as shown in Drawing A.

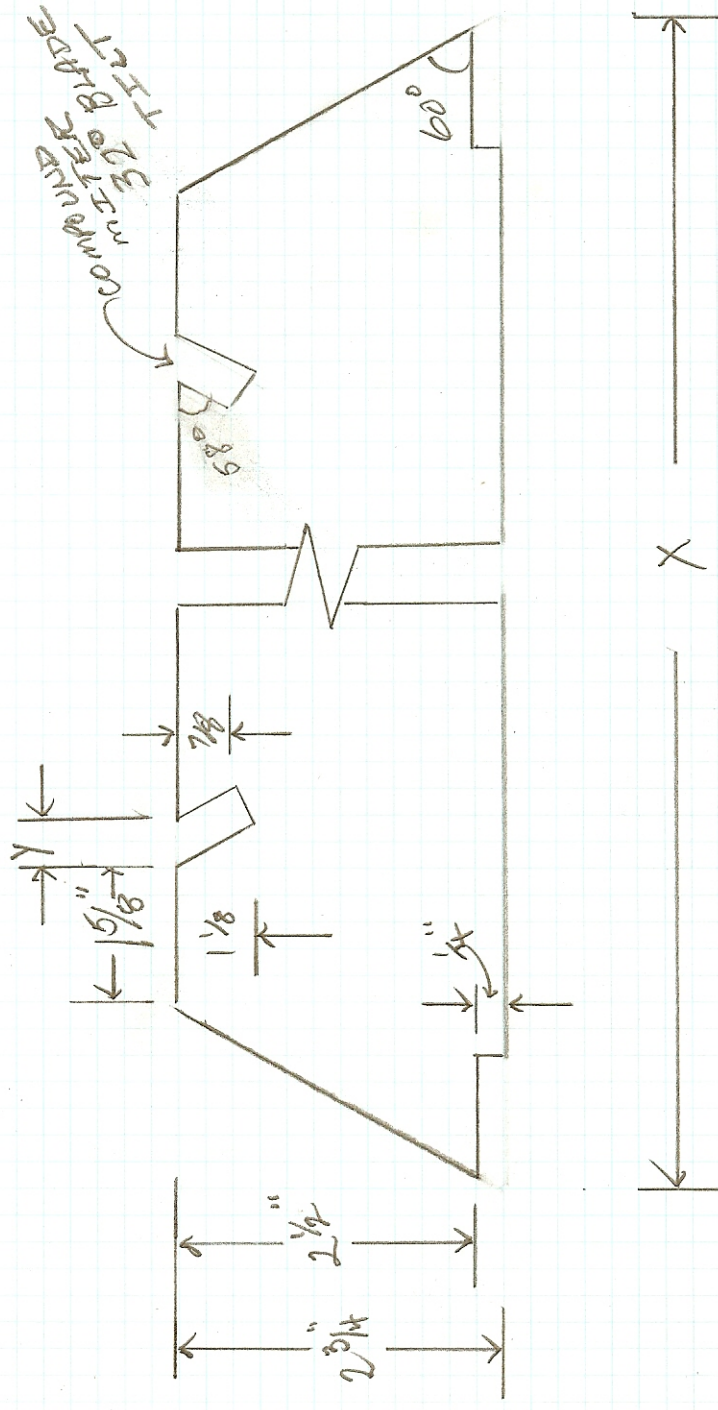
19. When you are assembling the final product you will find that you can achieve a good tight fit by slightly bending and or twisting the adjacent pieces as they are inserted into the slots. You can also gently tap the pieces into place with a small mallet. Be careful not to break off the “tabs” that the corners represent as you will have to cut new ones.

20. Assembly:

- a. Center 2 – 24 3/8” End pieces between the notches in the rails of the base.
- b. Center the 2 – 25 1/2” Side pieces into the notches of the last set of pieces
- c. Alternate End and Side pieces until finished.

NO SCALE

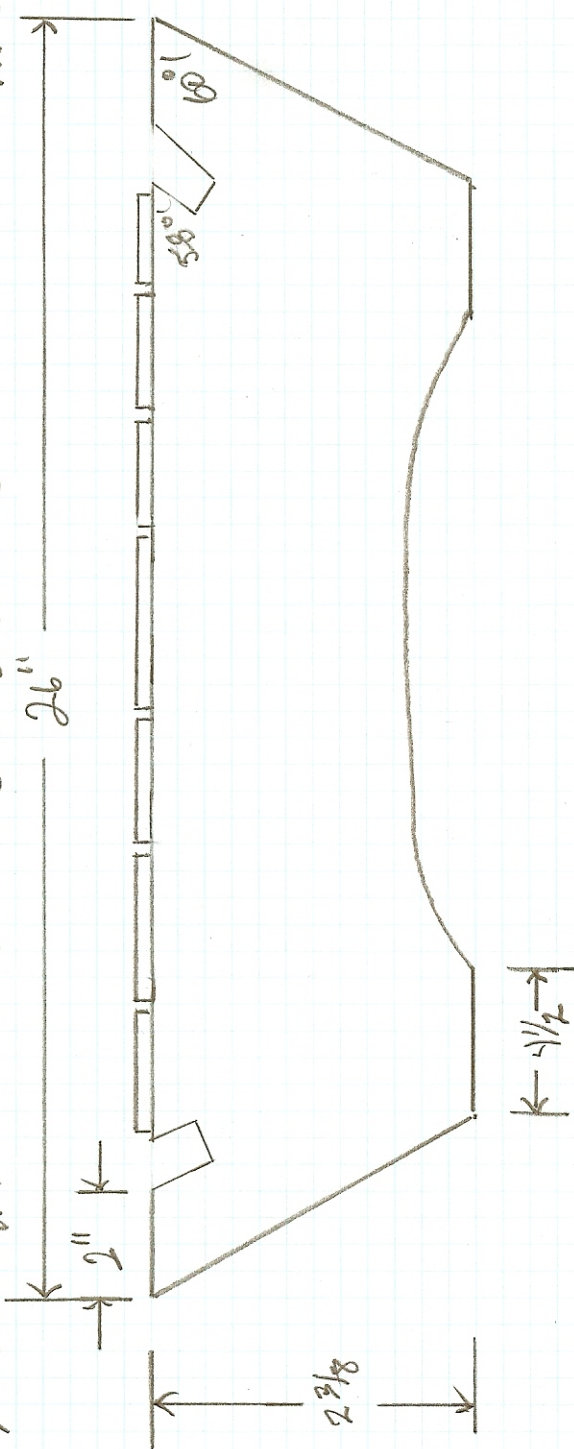
DRAWING "A"
TYPICAL SIDE (END) PIECE



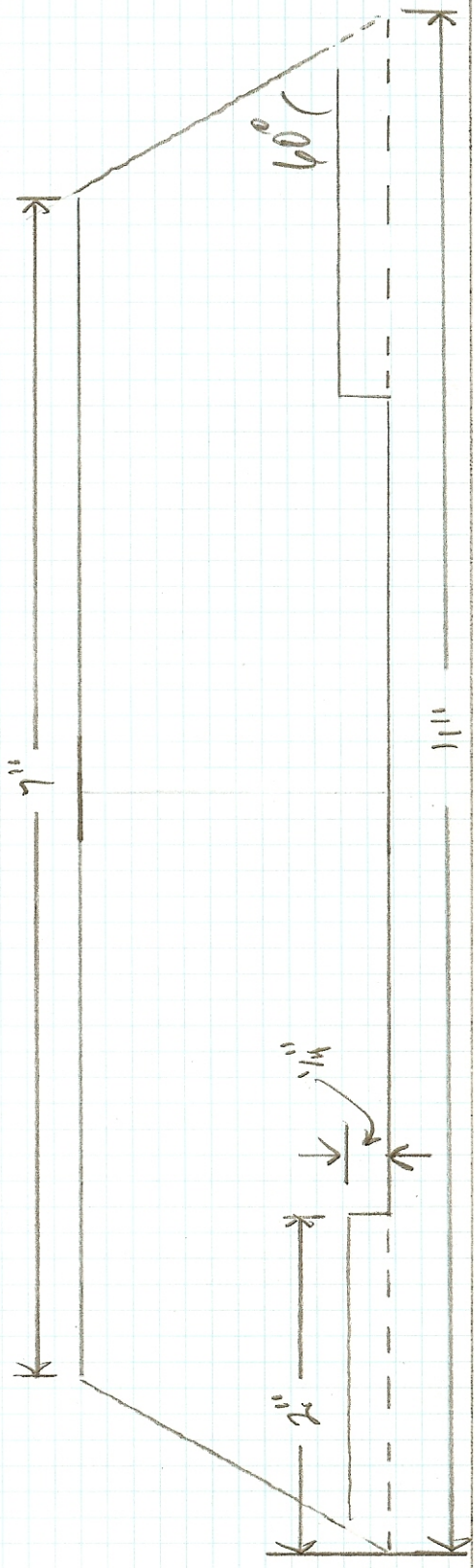
TYPICAL RAIL (FEET)

DRAWING "B"

NO SCALE



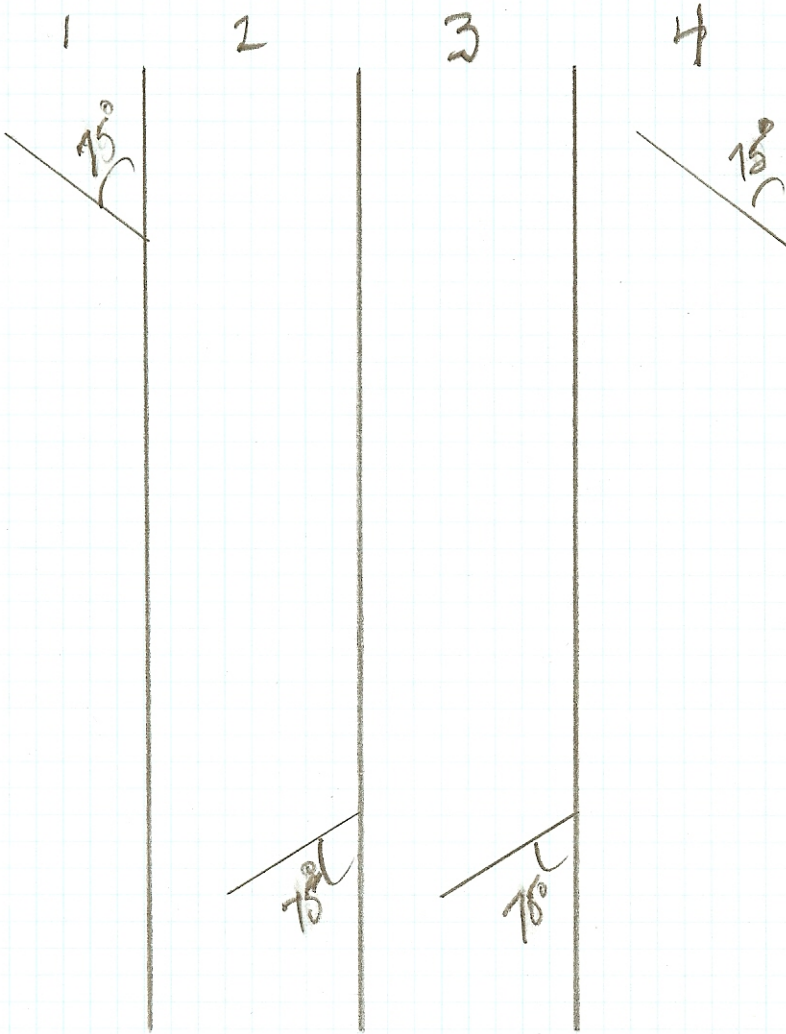
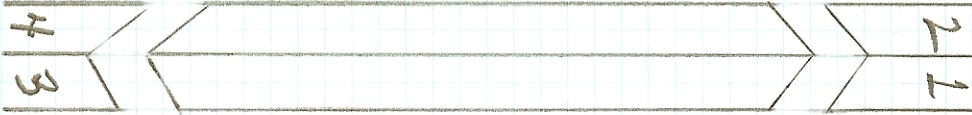
TOP PIECES



DRAWING "C"

NO SCALE

FACING PAIR



METER FENCE
SETTING