

Here you will find free ramp plans on how to build an outdoor mini halfpipe. The halfpipe shown in the pictures is 2'8" high, 8 feet wide with an 8 foot flat bottom and 3 foot platforms. We used treated wood to build this pipe, which protects the ramp from the sun and rain. If you are building your pipe outdoors, you will also want to do this. I realize many people will not be surfacing with skatelite like we did, so you will need to read about your other options [here](#).

## *Materials required*

<u>Quantity</u>	<u>Material</u>	<u>\$(1 unit)</u>
42	treated 8' 2x6	\$5.97
5	treated 8' 2x4s	\$3.69
4	treated 8' 2x8s	\$5.99
12	treated 8' 1x6s	\$4.97
4	treated 8' 4x4s	\$8.97
2	(3/4)" treated plywood (4'x8')	\$37.97
12	(3/8)" plywood (8'x4', not treated)	\$11.99
2	8 feet long 1.5" diameter metal pipe	\$18
1	(Optional) roll tar paper	\$10.93
6	(Optional) 4'x8' skatelite	\$150
6	(Optional) 4'x8' (1/4)" massonite	\$10.99



## *Total Cost*

Using Skatelite for surface	\$1550
Using Massonite for surface	\$716
Using plywood as surface	\$650
Indoor mini halfpipe (see adjustments below)	\$450

If you are building this halfpipe indoors, treated wood is not necessary (it protects from sun and rain). 2x4s can be used instead of 2x6s for the support beams, and plywood is sufficient for surface.

These prices are taken from a Home Depot in Minnesota, wood prices will vary depending on where you live and what store you go to. Not included in the price is screws and tools (or tax).

# Step 1 - The Flat Bottom

## Materials Required

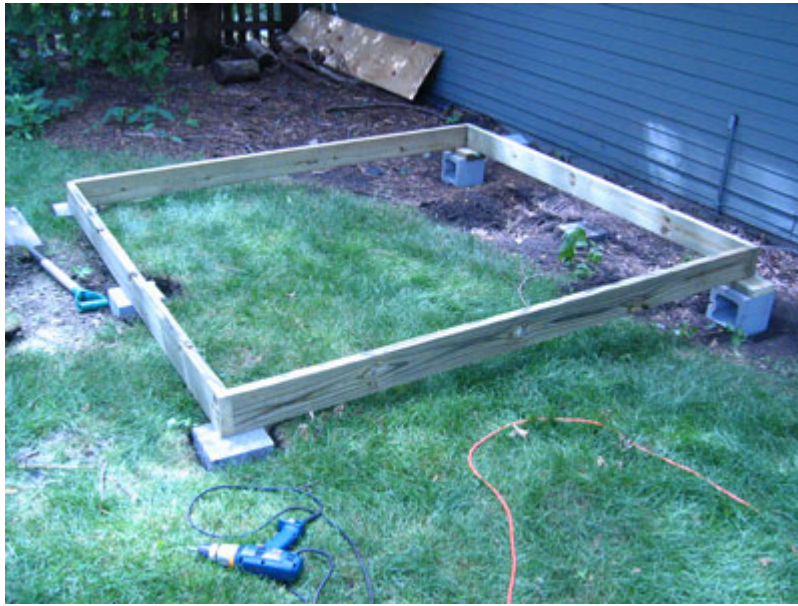
- 15 pieces of treated 8' 2x6s
- 4 pieces of concrete

## Part 1: Make an 8' by 8' Square

Dig spots for the four pieces of concrete which create a square that is 8' by 8'. Make sure that they are exactly level by placing an 8' 2x6 on them and putting a leveler on top.



Cut two pieces of 2x6 to 7' 9" and use two pieces of 8' 2x6s to make a square on the cement blocks (putting the shorter 2x6s on the inside).



It is crucial that these four pieces create an exact square or else you will run into problems later, measure along the diagonal from each corner to corner to make sure that it is the same length.



## Part 2: 2x6 Support

Next make marks at every 8" along the outside 2x6s, which is where you will put in each additional 2x6 support (if you mark every 8 inches, there should be 11 marks). Next cut 11 pieces of 2x6 to 7' 9" and screw them in where you put the marks.



# Step 2: Cut the Sides

## Materials Required

- Two pieces of 4' by 8' treated 3/4 inch plywood

## BE SURE TO READ THIS

This page was made before I created the [String and Compass](#) page, which describes this step better, I'm leaving these plans here so you can see both.

This is the step that will determine how tall your halfpipe will be. You can make it any height up to 4 feet (actually a max of 3' 6.5" feet since you start 5.5" off the ground). To cut the sides you use the string and compass method to trace the first side then use that piece to trace the three remaining sides.

### *The String and Compass Method*



First off you want to make sure that you will be able to get two side pieces out of each piece of plywood. You might need to do a few trials to make sure where to draw the lines, how far into start depends on how high you decide to make your halfpipe.

On average you will need to start about one foot into the piece of plywood. place a 2x6 vertical on top of the plywood (like shown in the picture above, except one foot into the plywood). measure 5.5" up from the bottom of the plywood and

draw a dot, this is where you will start drawing the transition. You start 5.5" up so that the side is flush with the flat bottom you made last step.

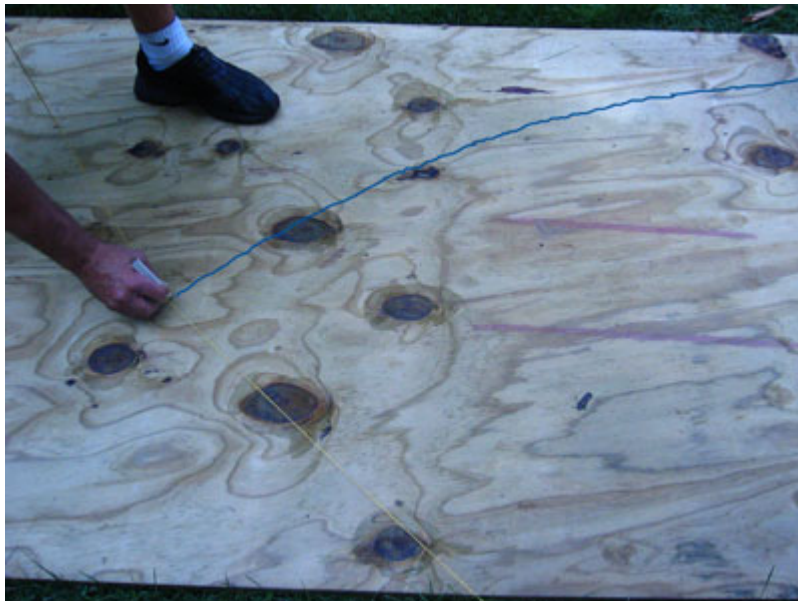
Now you need to determine the transition of your halfpipe, for a mini pipe I would recommend about a 6' 10" transition. Starting from the dot you drew, measure up 6' 10" along the 2x6 you set on top of the plywood.



Next screw in a piece of string at this point, again the picture shows a 2x6 laying at the end of the plywood, but yours should be somewhere around one foot into the plywood.

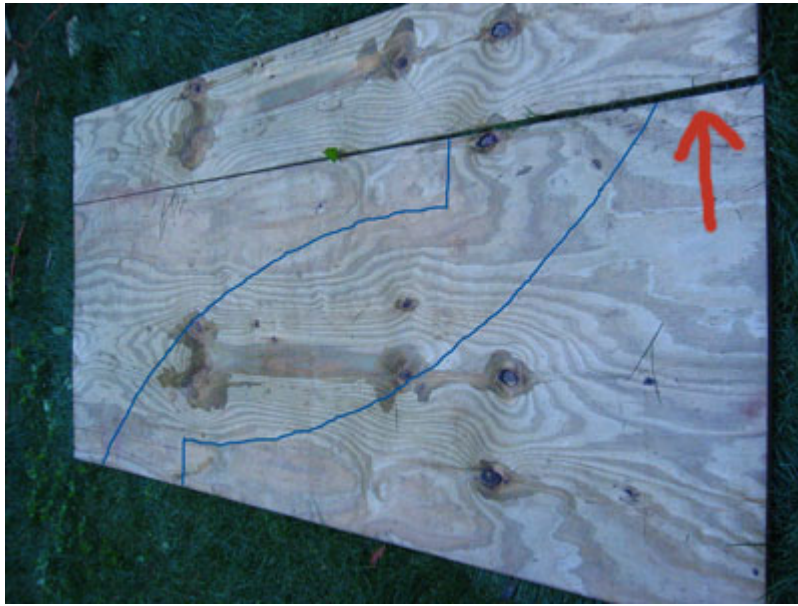


Now tie the string around a pencil so that the pencil just reaches the dot you drew and trace the transition.



Do the same thing on the other side of the plywood to make sure that you can cut two sides out of one piece of plywood. It doesn't really matter how much plywood is left at the top, but it should be somewhere between 6" and 2 feet.

We made this halfpipe 2' 8" high, so we cut a piece 10" off the top of the plywood then drew the transitions, if you wanted a 3' 6" pipe, you would not cut anything.



Again it is not important how much is left at the top (where the red arrow is drawn in the picture above) as long as it is more than 6"

It was not necessary to cut the top of the plywood, but it saves wood and makes it so the tops are flat without having to cut again. We traced two lines to make sure that we would get two pieces out of the plywood.

Next cut one of the sides and use that to trace the other three pieces. Now you should have three pieces that look like this.



## Step 3, 2x6s

Materials required: 18 pieces of treated 8' 2x6s, two pieces of treated 8' 2x8s.

First, dig two holes for the concrete pieces on each side where the side pieces you cut from the last step will go.



Again, use a 2x6 to make sure that the blocks are level. Place two cement blocks on each side where the end of the side piece will go, make sure that the cement blocks are 8' apart.



From the previous step, you should have 4 pieces of the side transition pieces of plywood. Lay them all on top of each other and make marks every 8", drawing a line along each 4 side piece as shown below.



Joyce hangers are optional. They don't actually make the halfpipe stronger but it makes it easier to screw in the 2x6s. If you are working by yourself I highly recommend using joyce hangers. If you choose to use them, use a stub of a 2x6 and place it in a joyce hanger, then screw in the joyce hanger on each side piece at each of the marks you made.



Here is what one side piece should look like after adding the joyce hangers. Do this for all four pieces, make sure that two are done on one side, then two on the other so that the joyce hangers face the inside of the halfpipe.



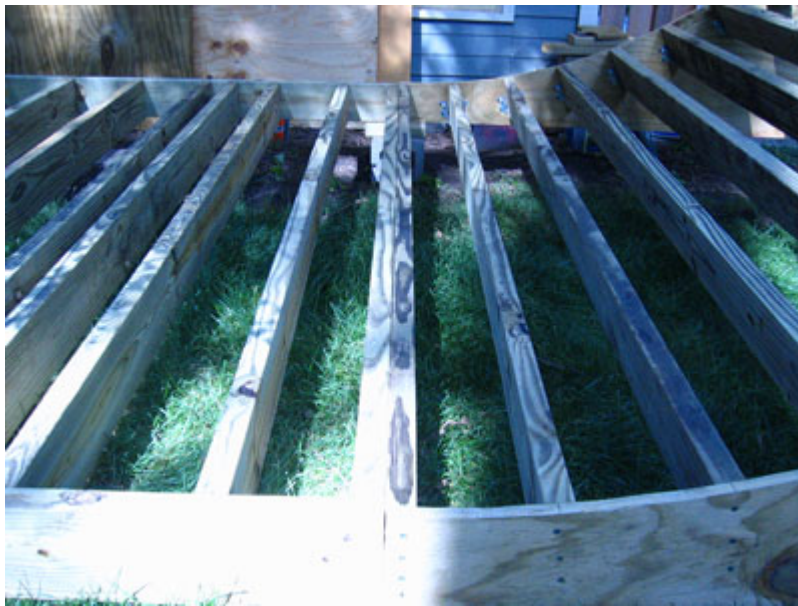
Place the side pieces on the cement blocks you dug holes for.



Now cut 18 pieces of the treated 2x6s to 7' 10.5" and screw them into the side pieces, like so.



Make sure to put a 2x6 at the very bottom of the side piece, so where the side piece meets the flatbottom should look like this.



Screw in a 2x6 at each mark you made earlier (every 8").



Next take a treated piece of 2x8 and cut it to 7' 10.5" and screw it vertically into the top. This will add support to your ramp and help make a groove for the coping.



Something that I have not mentioned before now, the notches in the sides where the coping will rest. I forgot to take pictures of us cutting these notches, nor did I measure. Fear not, to determine how much to cut out for the notch first cut small pieces of what your surface, platform, and coping will be, for example we had two small pieces of 3/8" plywood, skatelite, 1.5 black metal coping, and the 1x6 deck pieces. Next keep cutting into the sides slightly and test how the coping will stick out by putting your small pieces in place until you like the way it looks. How

much the coping will stick out is a matter of preference, personally I like the coping to be flush with the transition and sticking out a lot above the platform, but some like it to stick out from the transition so it hits your wheels when you ride up to it.

Thats it for step 3, your halfpipe should now look something like this



Or from far away...

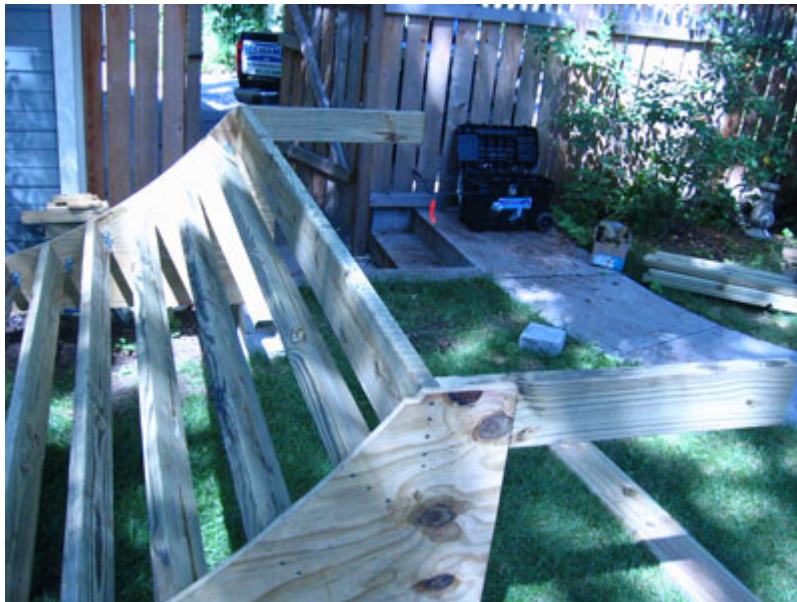


## Step 4, Platform Skeleton

Materials required: 7 pieces of treated 8' 2x6, 4 pieces of treated 8' 4x4, 2 pieces of treated 8' 2x8, 5 pieces of treated 8' 2x4s

Just like the height of the halfpipe, the size of the platform can be adjusted. In the halfpipe pictured we made the platform about 30". We probably would have made it bigger but the owner wanted the halfpipe to be as hidden as possible. However, by making the platform 30" long we were able to get 3 cuts out of each 8' 2x6 so it saves some wood. Another popular length might be around 4', which would be two pieces from each 8' 2x6.

For the 30" platform, use 6 pieces of treated 8' 2x6s to cut 18 pieces that are 30" long. Screw two into the side pieces made in step 2. Screw them into the 2x8 at the top of the side piece.



Next cut the treated 2x8 to 8' and screw it into the back of the 30" 2x6s you just tied in. The 2x8 will stick out 3/4" on each side of the 2x6s since they are screwed into the inside of the plywood sides.



Now take an 8' 4x4 and stand it vertically inside the corner made by the 2x6 and 2x8 you just screwed in. Use a level to make sure that the 4x4 is straight up and down. Dig a spot for a concrete block to go where the 4x4 hits the ground and place the 4x4 on top and screw it into the 2x6 and 2x8.



Next make a mark every foot on both the outside and inside 2x8, there should be 7 marks on each side. Take the remaining 14 pieces of 30" treated 2x6s and screw them in at the marks you made.



Now you need to add extra supports under the platform. Cut a piece of treated 2x4 to 8 feet. Place one at the bottom behind the 4x4s and screw that in. Next cut a 2x6 to the height of the halfpipe from the cement block to the top and screw it into the side. Cut another 2x4 to about 35" (5" longer than however big you made your platform). Screw this piece at the bottom to the outside of the 4x4 and inside of the vertical 2x6 you just tied in. Finally cut a 2x4 to 7' 10.5" and screw it in on top of the 2x4 you just put in. This whole support part is a little hard to put into words but the pictures below should clarify everything.





That's it for step 4, your platform should look something like this.



## Step 5, Platform Surface

Materials required: 12 pieces of 8' 1x6s (deck surfacing) and two 8' 2x6s.

Another option here is to use 2x6s, which are actually a little cheaper than the rounded edge deck surfacing 1x6s. Also you could use 3/4" plywood.

Each 1x6 should be cut to 8'. For the first piece you will need to cut out a square so that the 4x4 fits, like this.



Finish screwing in the rest of the pieces, you might need to cut the last piece so that it is flush with where the coping will go.

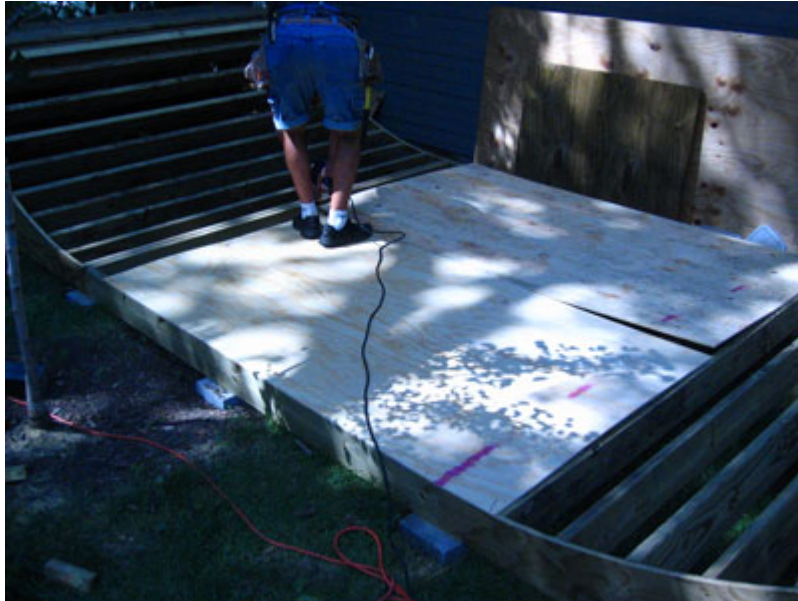
At this point you can also build a simple bench. There are many options available, but this model only requires two 2x6s and is quite easy to make. Cut the tops of the 4x4s to the height you want your bench to be and screw in the 2x6s as shown.



## Step 6, Plywood

Materials required: 10 pieces of 3/8" plywood (untreated)

Now to start the halfpipe surface. You should use two layers of 3/8 inch plywood. Start by laying the first two sheets in the center like this



Dont lay them exactly in the center, but stagered by 8 inches, when you do the next layer, you will stagger the first two sheets 8 inches in the other direction, this is important to make sure the seems of the plywood do not line up. Notice how the edges of the plywood end up at a 2x6 support, this should be planned from the beginning.



Add the next pieces of plywood, laying them sideways on the halfpipe (opposite of how you just layed them), so it will look like this



again, each piece should have its edge on a 2x6 support



It will take two pieces of plywood on each side, the top piece will have extra, screw the top pieces in uncut, you can cut them later.



Leave the top pieces sticking out like this and start the second layer. This time for the first two sheets you cut one in half the long way (hot dog) and lay them like this. Again you do this so that the seems don't align. As I mentioned before for the first sheets of the second layer you stagger them 8" off center in the opposite direction that you placed the first layer, again this is so the seems do not line up. Like the first layer these sheets should end on a 2x6 support.



Screw in the rest of the second layer, again you will have extra plywood sticking out of the top. Now cut off the excess at the top.



You should cut the excess plywood off so the coping will fit perfectly, like this



Thats it, your mini pipe should now look something like this



# Step 7, Tar Paper

Materials required: One roll of tar paper

This step is not needed, but it will help your pipe last longer. The plywood you used in the last step is not waterproof. The skatelite that you will put on the top later will be, but some water will seep in, the tar paper will stop this water from getting to the plywood. Its pretty self explanatory, just use a staple gun and cover all of the plywood with the tar paper.



# Step 8, Surfacing

Materials required: 5 sheets of Skatelite

For an outdoor halfpipe, I highly recommend skatelite, however, this stuff is very expensive, around \$150 per sheet. Go to [www.skatelite.com](http://www.skatelite.com) to start researching how to get this stuff.

Other options are to either use no surface material and just skate on the plywood, or use massonite, which isn't water proof but it is smooth like skatelite. If you choose either of these options you cannot let your pipe get rained on. One option would be to cover it with a giant tarp every time it rains, or maybe just replace the massonite every few months.

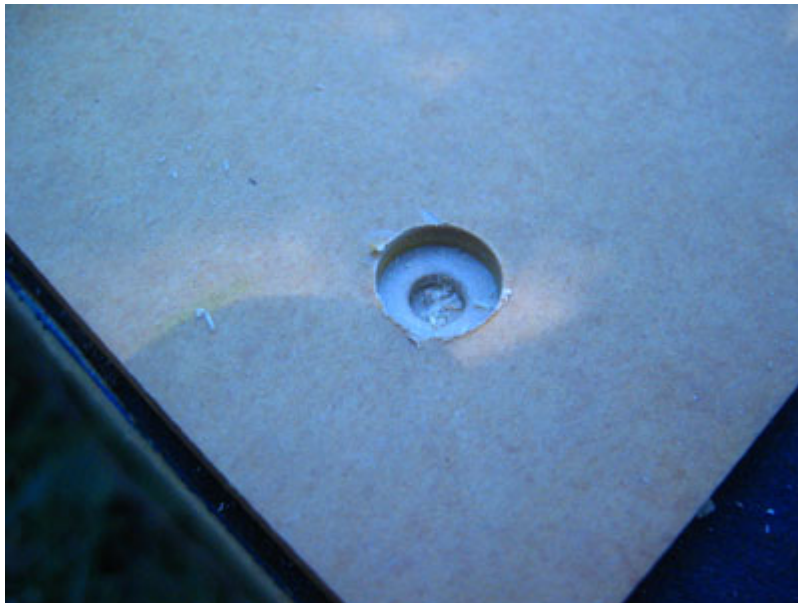
For these plans I'll assume you will use skatelite.

I'll walk you through how we layed the sheets, but it really doesn't matter that much as long as you cover the whole pipe. We used sheets of skatelite that weren't exactly 4' by 8', which they usually come in (we got these sheets cheaper since they were irregular). So again just figure out an efficient way that you will be able to cover the whole surface with the skatelite.

First lay the first sheet of skatelite the long way on the flat bottom.



Unlike plywood, skatelite is very tough so you will have to pre drill the holes before putting the screws in. Use a metal drill bit that is about as wide as the screw head, and drill just deep enough so that when you screw the skatelite in the screw heads will be flush with the skatelite. You might want to practice drilling a few holes before you start on the actual thing.



It is not necessary to put all the screws in now, just enough to get the skatelite laying completely flat, once you have all of the skatelite on you can go back and put all the screws in. Place in the next sheet of skatelite.



We cut the next sheet of skatelite to be less wide, so that the surface would look symmetrical, this had no structural purpose, just makes it look better.



Finish putting all the skatelite on to cover the entire surface

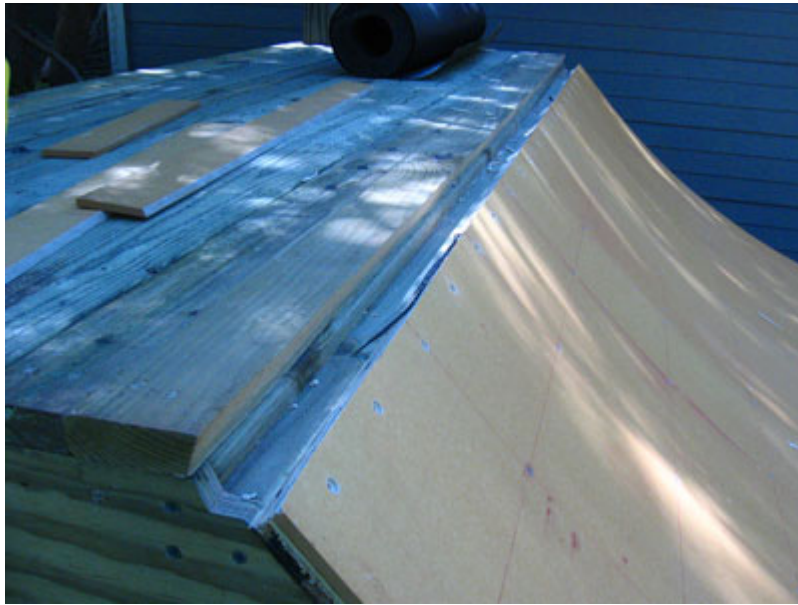


Once you have all your skatelite layed in place, you want each piece to have a lot of screws. Use chalk and sting to mark where your 2x6 supports are, then put a screw about every foot into each piece of skatelite on each 2x6 support. This will take a lot of screws (each sheet will have about 12 2x6s under it, and you should

put about 5 screws across each 2x6, so that makes for about 60 screws per sheet), since you need to predrill for each screw, this will take a lot of time.

You can see the chalk lines we drew in the picture below, also notice we put a lot of screws along the part of the skatelite that will be next to the coping.

Now cut off the excess skatelite sticking off the top of the ramp, so that the coping will fit in snugly.



## Step 9, Coping

2 pieces of 8 foot 1.5" diameter metal pipe

Use a metal drill bit to drill 3 or 4 holes in each piece of coping, spaced evenly along the 8 feet. Only drill through one side of the coping, drill the holes just big enough for a screw head to fit inside. Next drill a smaller hole, just big enough for a screw to fit, on the opposite side of the coping that you drilled the larger holes, and continue to screw the coping into the halfpipe.



The coping should now look like this

