

“AB” Measuring Guide for Custom Liners

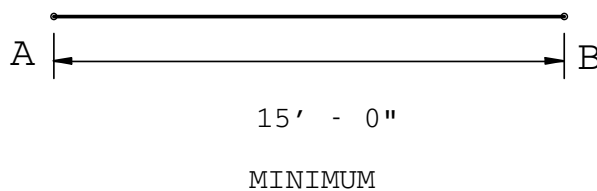
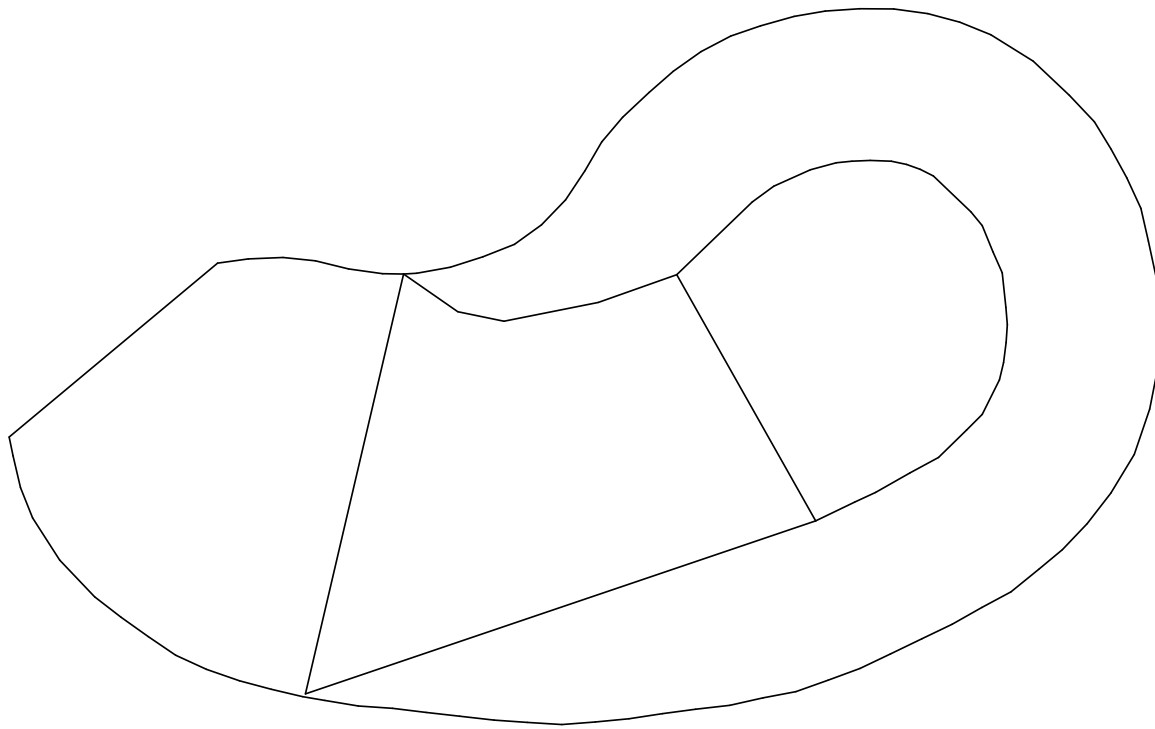
Getting ready for your
AB measurement.
You will need:



- Custom Liner & Safety Cover Order Form
- cloth measuring tape (100 ft.)
- plumb bob & string
- 2 AB stakes (rebar/aluminum)
- steel measuring tape
- level/straight edge
- duct tape (don't leave home without it)
- chalk/builders crayon
- marking stickers
- 1/8" cell wall foam (for stair templates)
- be sure to calibrate your tape
- out & down pole

Position the pool with the shallow end on your left and the deep end on your right. If this is not possible, it will still work on the other side of the pool. Place the first stake in the ground and measure a minimum of 15 feet and place the other stake in the ground. At this time remeasure the distance from the CENTER of the stake on the left to the CENTER of the stake on the right. ***(All measurements from this time on need to be accurate to the nearest 1/4")***. When you are standing behind the "AB" line with the pool in front of you, the stake on your left should be labeled "A," and the one on the right is labeled "B."

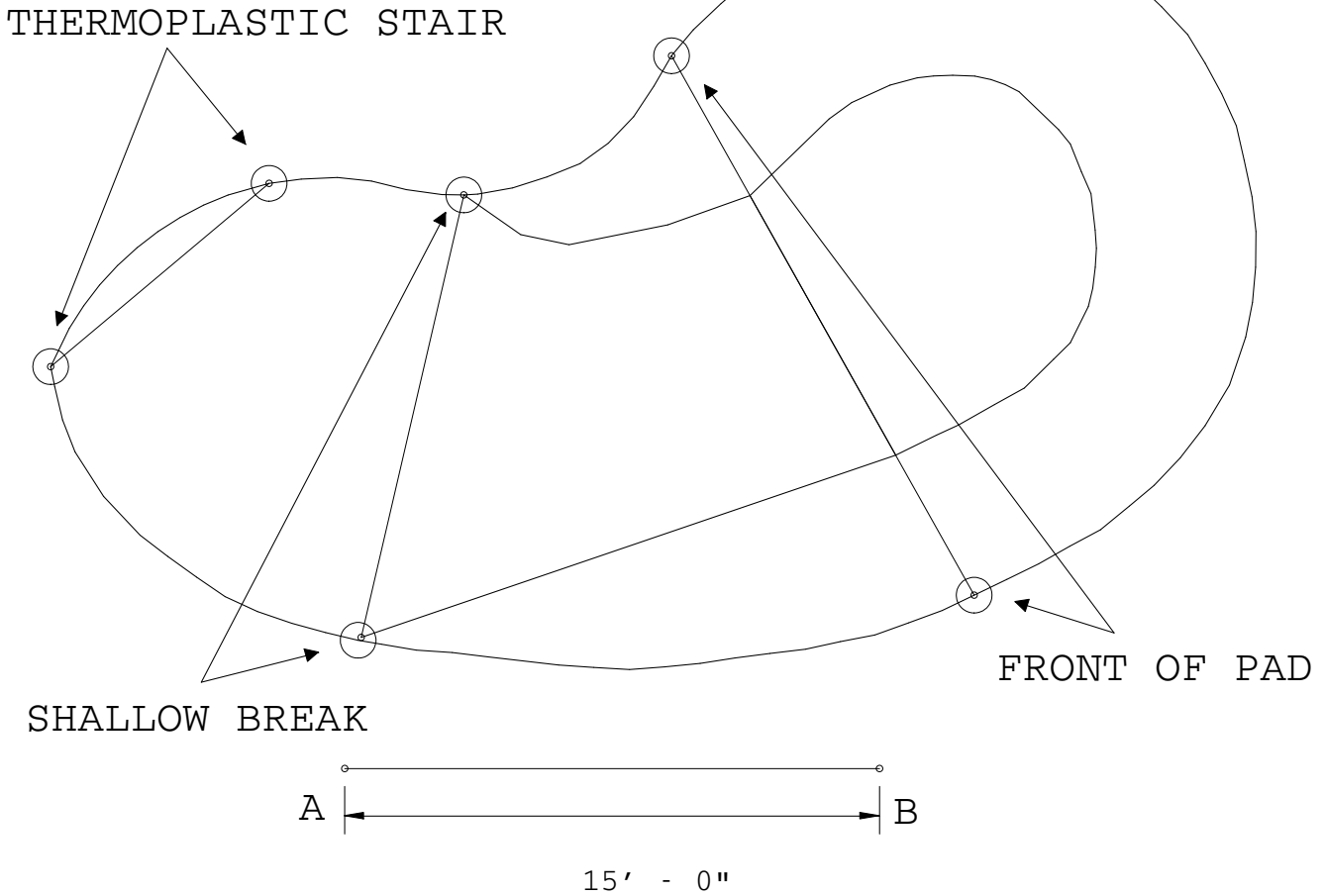
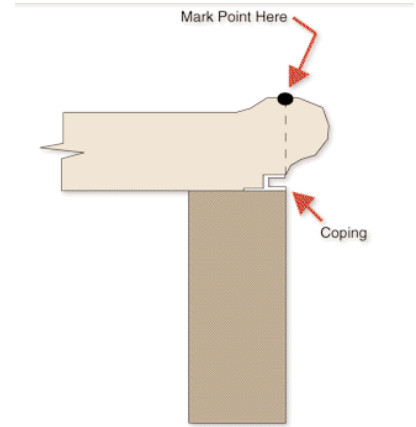
NOTE: The distance that the "AB" line is from the pool is not critical. As a guideline we suggest a distance of about 3 feet to 5 feet. Remember that exact distance from stake "A" to stake "B" is the most important measurement when measuring for your custom liner. Record this measurement in the "**AB line length**" box on the "**CUSTOM LINER & SAFETY COVER ORDER FORM.**"



Mark Key Points on the top of the wall or coping.

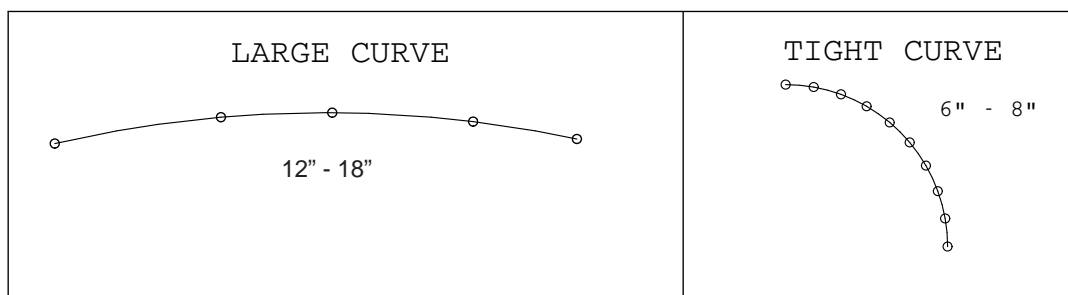
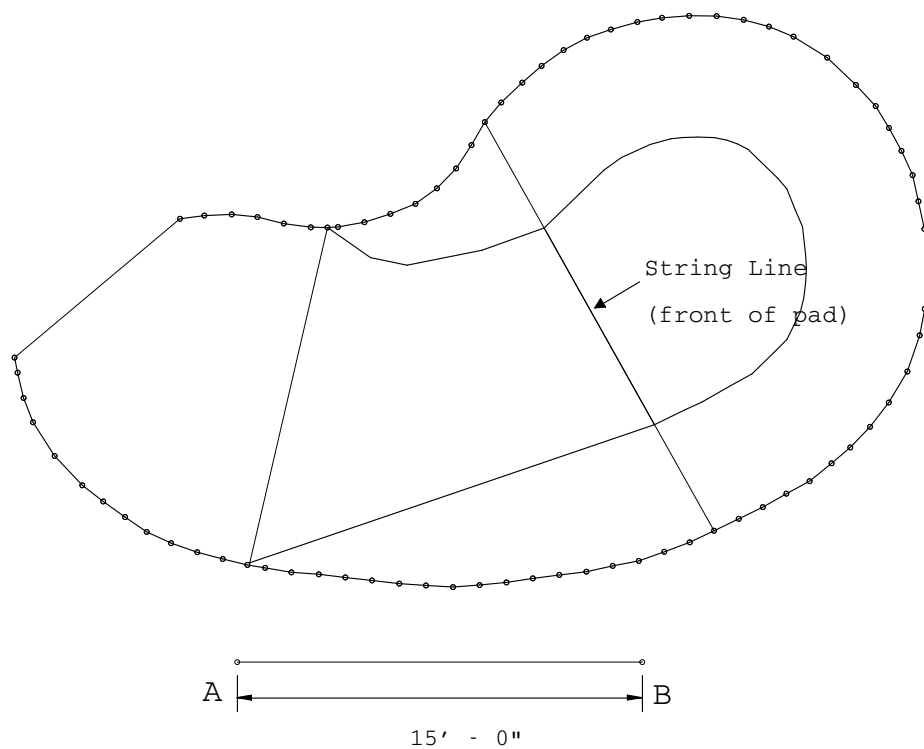
The key points at this stage will be the SHALLOW BREAK, FRONT OF THE PAD, and STAIR LOCATION. Mark points directly over where the liner will hang. (See illustration below.) Also mark features such as loveseats, swimouts, etc.

MARK YOUR POINTS ON THE PERIMETER OF THE POOL WHERE YOUR POOL LINER WILL BE ATTACHED.



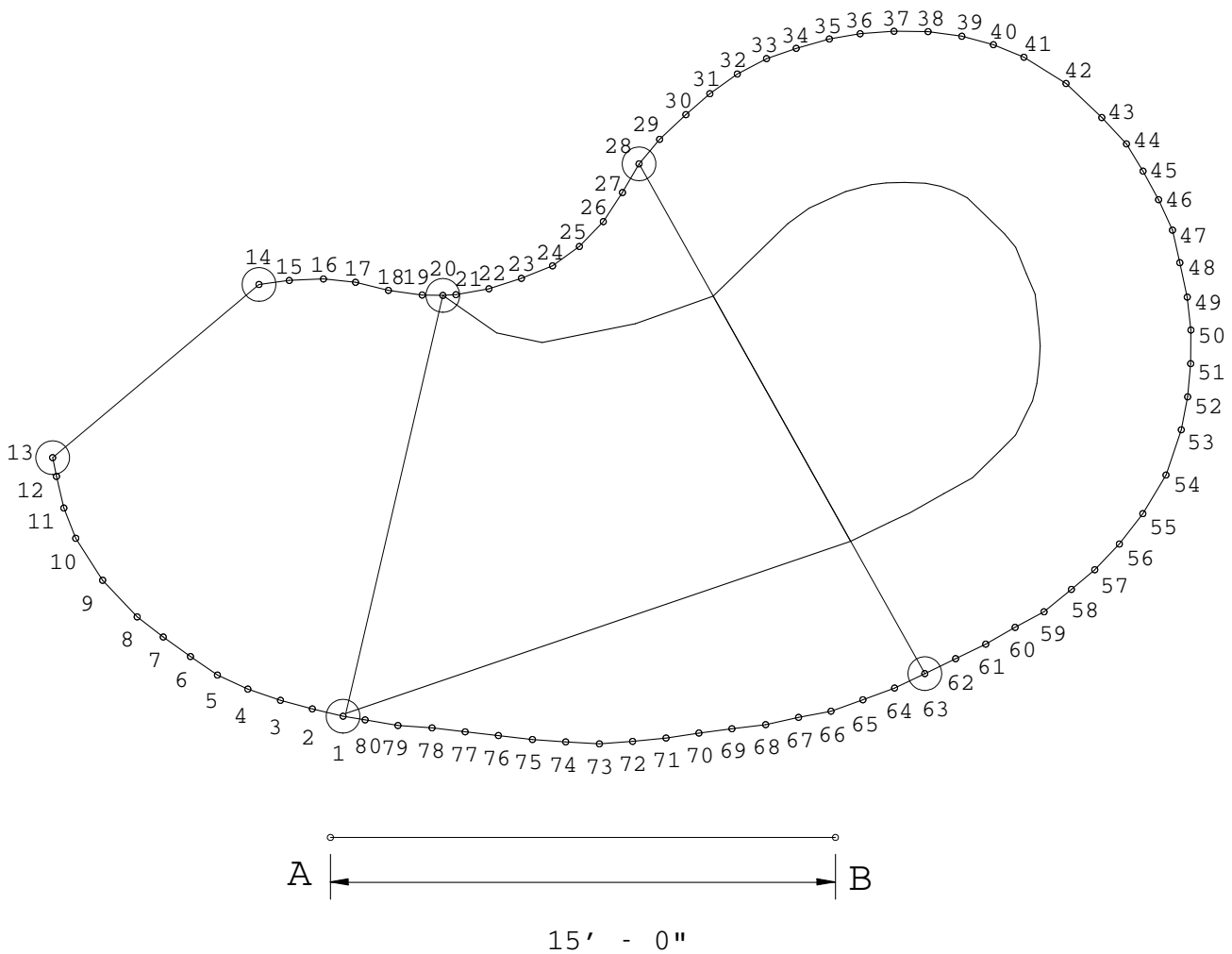
Mark points around the rest of the pool. Place the points about 12 to 18 inches apart around the perimeter. If you have a tight curve, it will require more points than that of a large curve. (See example.) If your pool has straight sections, you only need to mark at the two ends of the straight.

NOTE: The distance between the points do not have to be uniform, 12 to 18 inches is just a guideline. As mentioned before, more points around the perimeter, will give you a more defined pool perimeter. Please use your judgement to determine how many points are needed to define a curve accurately. See illustrations below for examples.



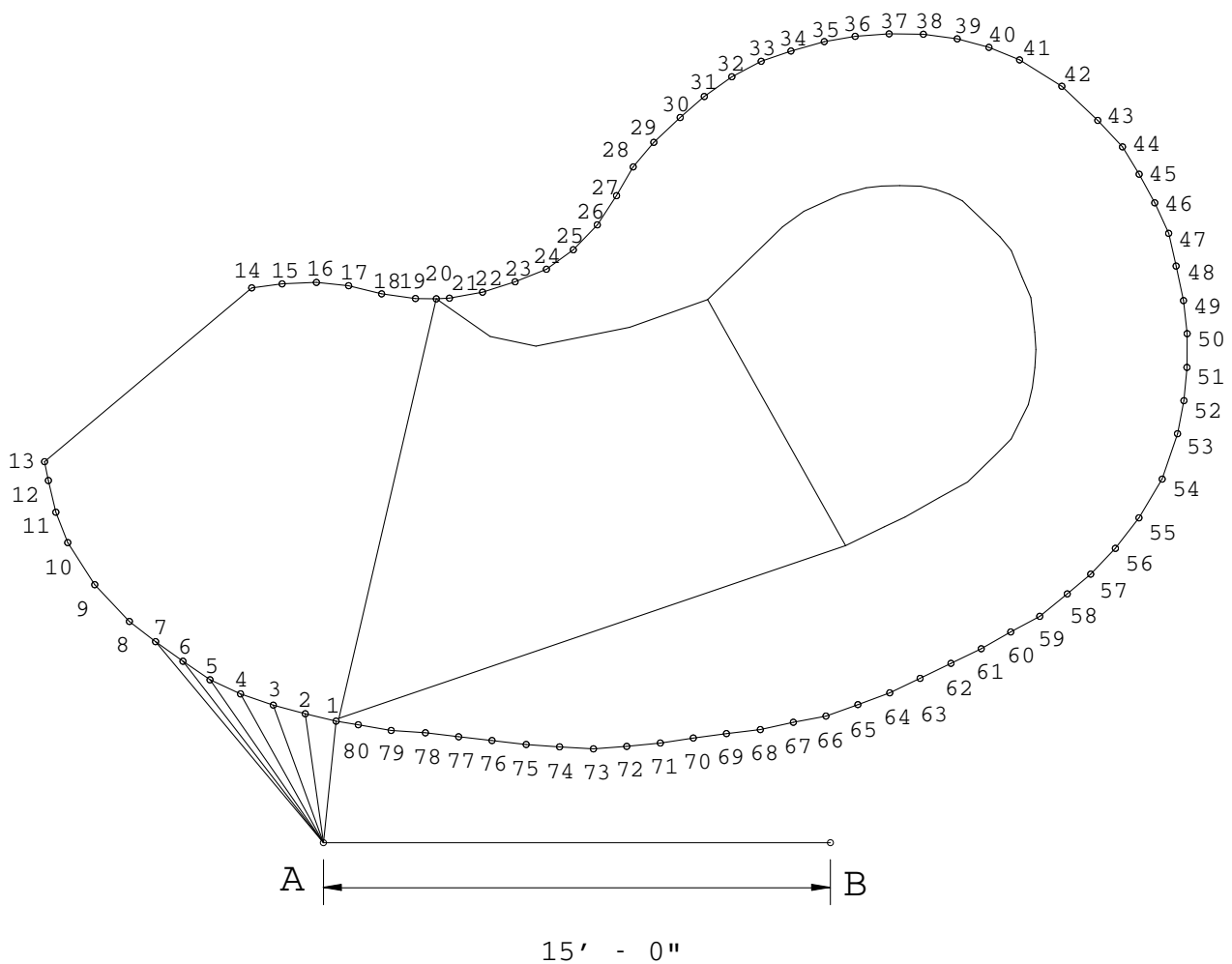
Number the points STARTING at the shallow break, closest to the AB line.
 (Label point #1). Number the points in order CLOCKWISE around the perimeter.
 IT IS CRITICAL THAT EVERY POINT HAS A NUMBER ASSIGNED TO IT AND
 THAT ALL NUMBERS ARE IN ORDER. (DOUBLE CHECK THE NUMBERS AT
 THIS TIME.)

After the numbers have been double-checked, record the total number of points
 in the "number of points" box on the "CUSTOM LINER & SAFETY COVER
 ORDER FORM."



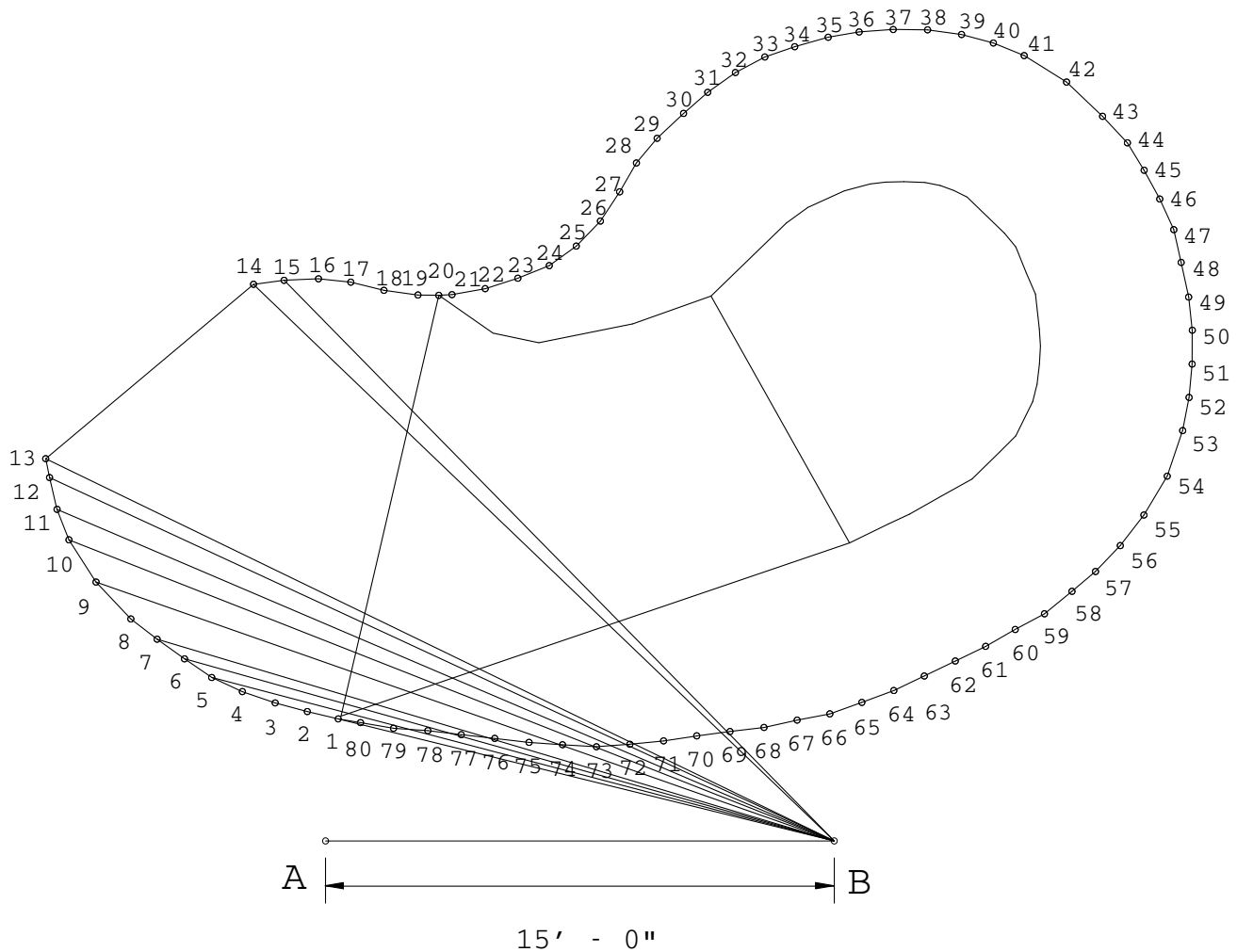
With the 100' cloth tape, start with stake "A" and measure from A to #1; record this measurement on the "CUSTOM LINER & SAFETY COVER ORDER FORM." Now measure A to #2, A to #3 and so on, until the last number is reached. (#80 in this example.) Check your numbered progress often, to make sure you do not skip any.

NOTE: The cloth tape MUST BE PULLED TIGHTLY when taking the measurements. This is to insure that there isn't any "slack," as this would give a false measurement.



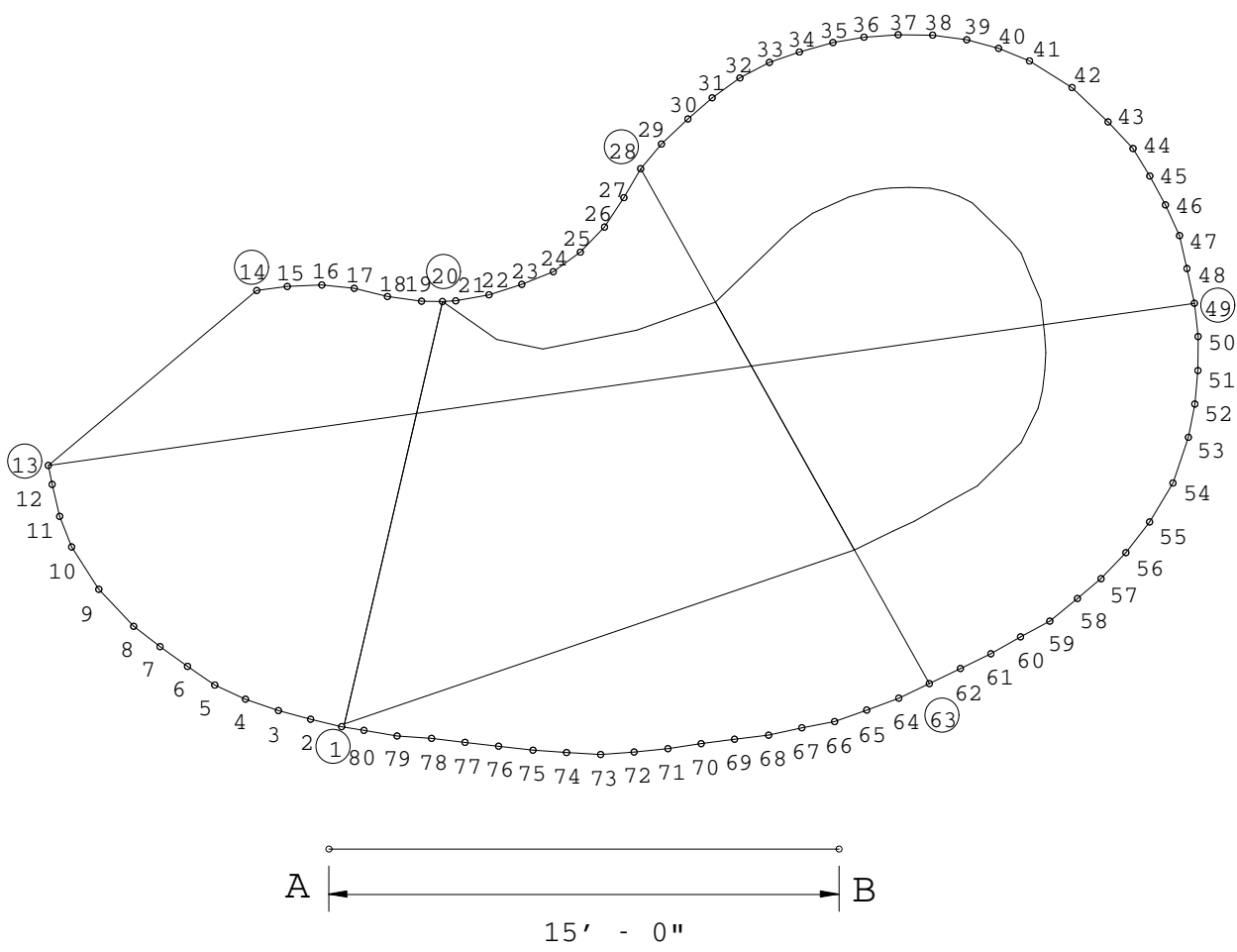
With the 100' cloth tape, move to stake "B" and measure from B to #1; record this measurement on the "CUSTOM LINER & SAFETY COVER ORDER FORM." Now measure B to #2, B to #3 and so on, until the last number is reached. (#80 in this example.) Check your numbered progress often, to make sure you do not skip any.

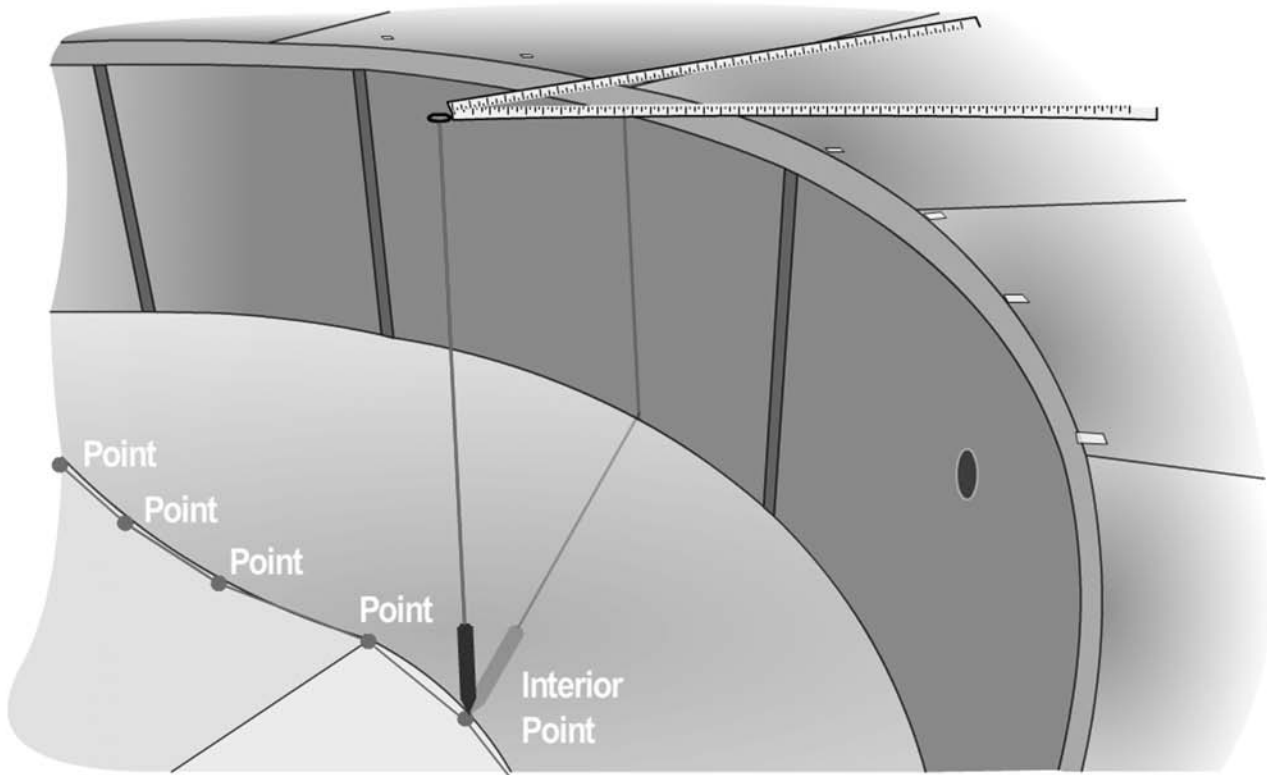
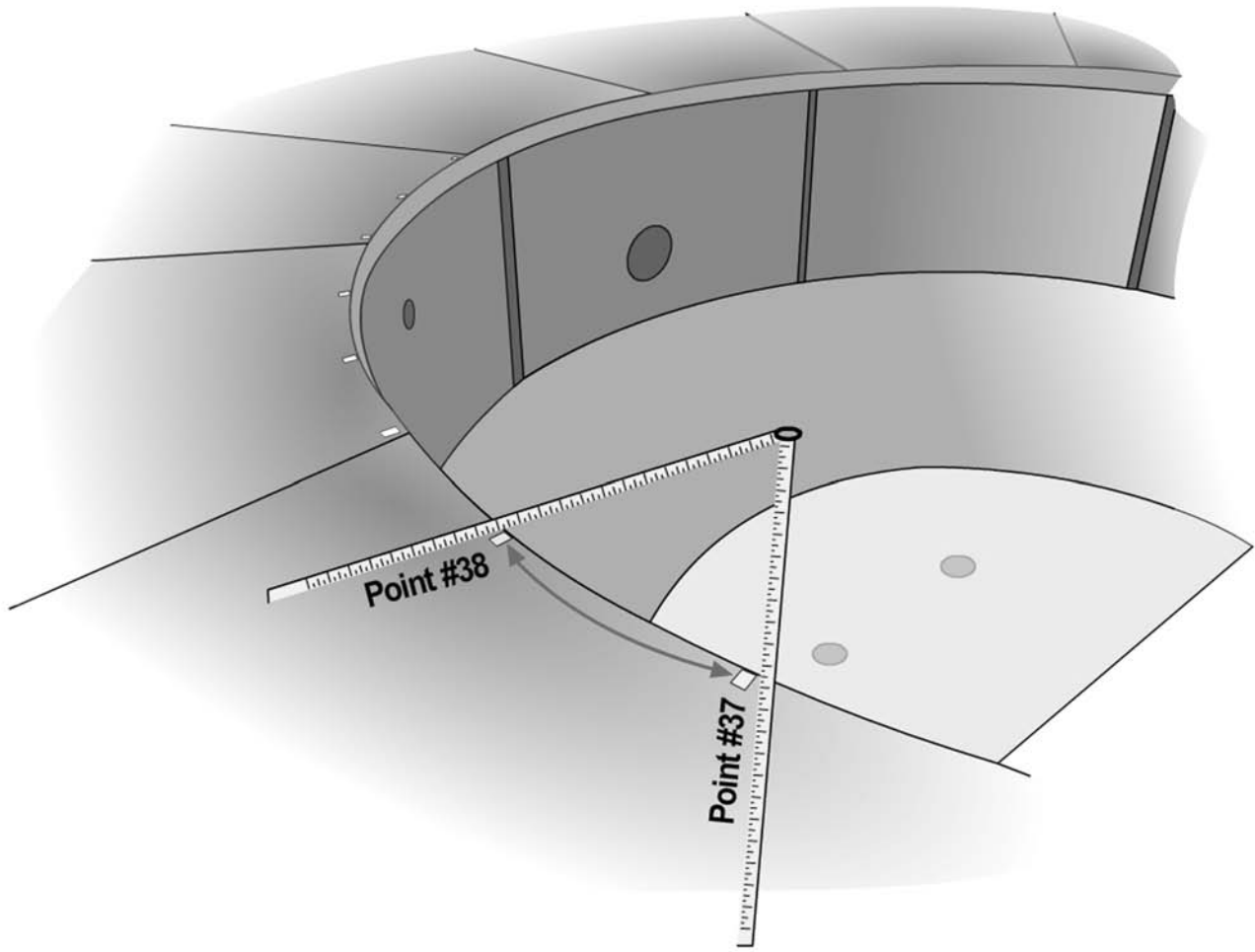
NOTE: Again, it is very important that the cloth tape is pulled tightly for all of these measurements.



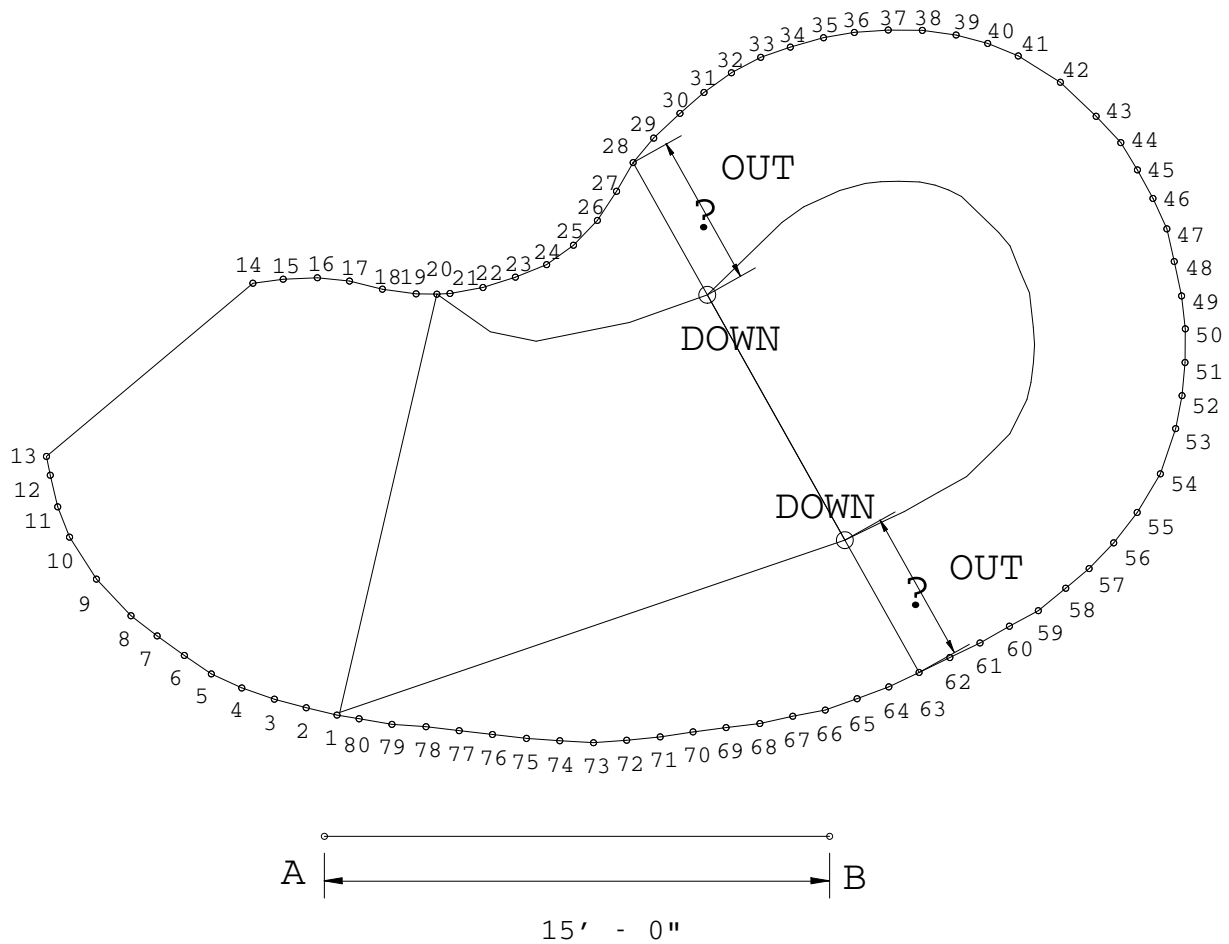
After all the “A” dimensions and “B” dimensions have been measured, reference dimensions need to be taken. For this, you need to measure from a specified numbered point to another numbered point across the pool perimeter. Reference dimensions should include the shallow break (EX: 1-20), width at the front of the pad (EX: 28-63), stair width (EX: 13-14), longest length of the pool (EX: 13-49), and other random lengths. All this information refers to “step 4” of the “CUSTOMER LINER & SAFETY COVER ORDER FORM.”

NOTE: These reference dimensions will be used to confirm the accuracy of the “AB Drawing” that the computer generates from your measurements. This will help us determine that the information you gave us matches what the computer calculates for the scale drawing.





Locate the pad front by using the string line positioned over the front of the hopper. (String line is held on either end by duct taping to the coping.) A plumb bob is run along the string until the front corner of the hopper is found. At this time hold the plumb bob at the pad corner and measure along the string from the point on the perimeter to the plumb bob. (See “step 5” of the “CUSTOM LINER & SAFETY COVER ORDER FORM”). Take this measurement at both sides of the front of the pad, also take a depth from the bead receiver down to the pad corners. This will be the “down dimension.” This can also be done with the out and down method using two AB points, if you prefer.



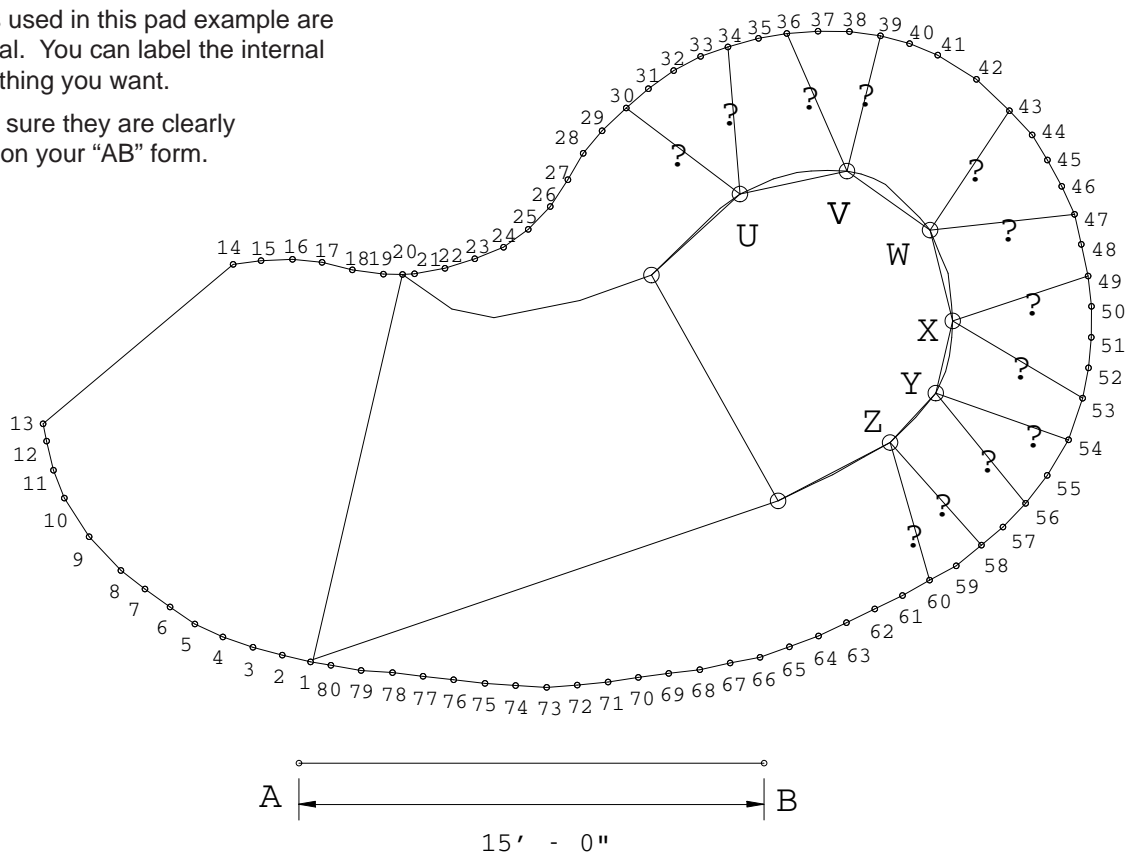
Now the rest of the pad must be located using two points on the perimeter for every internal point. In this example, we will be finding internal points U, V, W, X, Y, and Z. Here's how...

Place the plumb bob so its centered over point "U." Have an assistant up on deck level run a steel tape out from a point on the perimeter to the plumb bob. (The tape measure MUST BE straight out, just like the string line. DO NOT RUN IT DOWN THE SLOPE!) Record this point number and its out dimension in "Section 3" of the "CUSTOM LINER & SAFETY COVER ORDER FORM."

Next, take another out dimension from a different perimeter point, in the same area, to the plumb bob centered over "U." Record this measurement. A down dimension will be needed to locate the depth of point "U." Remember that the down dimension is from bead level to pad level. Repeat this process for the rest of the points around the pad.

NOTE: The more points around the pad, the better we are able to recreate the pad on the scale drawing. For every internal point, five pieces of information are needed: **two # points, two out dimensions and one down dimension.**

** The letters used in this pad example are hypothetical. You can label the internal points anything you want. Just make sure they are clearly described on your "AB" form.

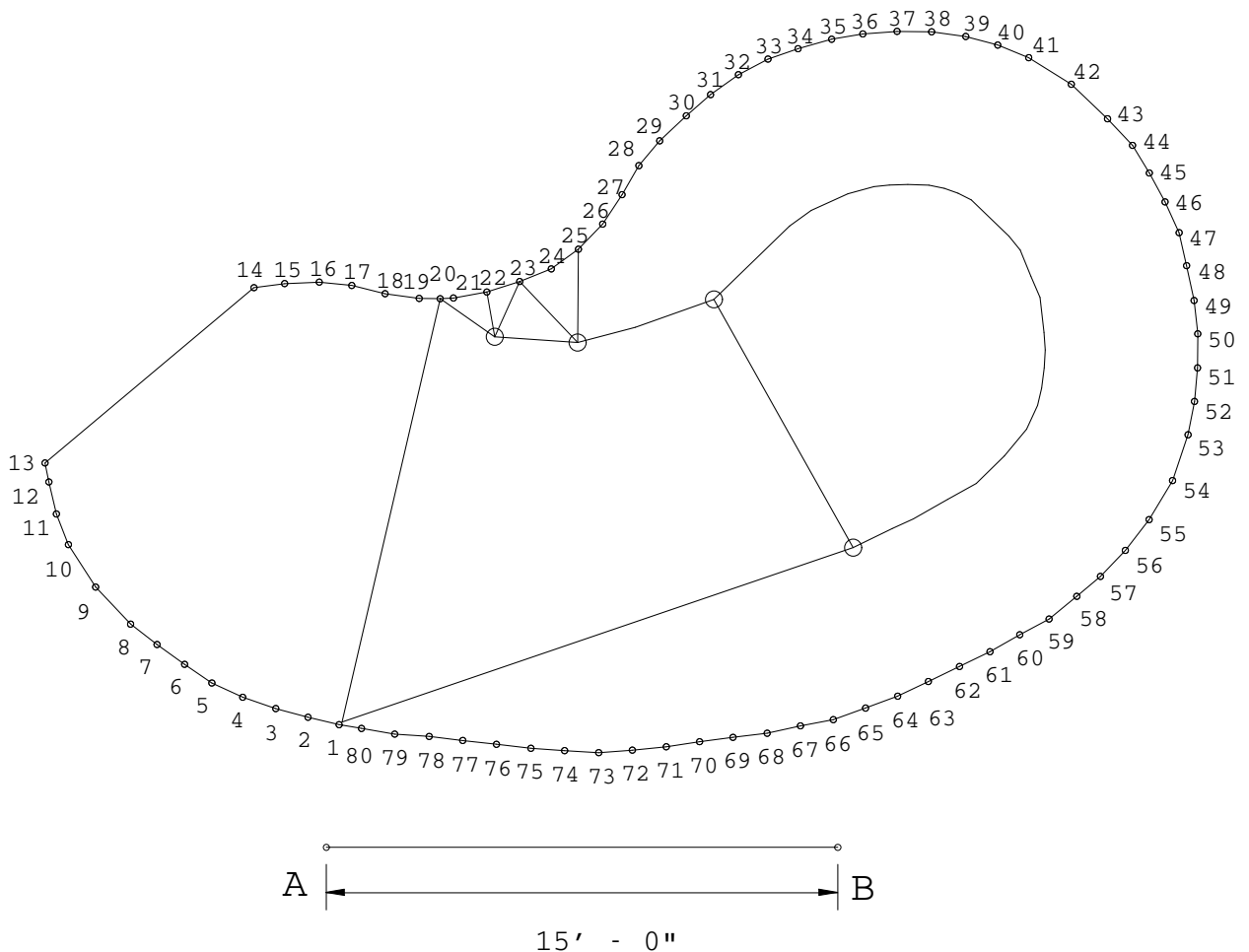


If your pool has a long slope that does not go from the shallow break STRAIGHT to the pad corner, interior dimensions will be necessary. In this example, if you are looking from shallow end to the deep end, the left side of the long slope is curved and the right side is straight. For this, the left side needs to be measured and the right side does not. The left side needs to be measured in the same way you measured the points around the deep end pad.

Again:

- 1) CENTER the plumb bob over the interior points you have chosen.
- 2) MEASURE from the perimeter points STRAIGHT out to the plumb bob line.
- 3) RECORD:

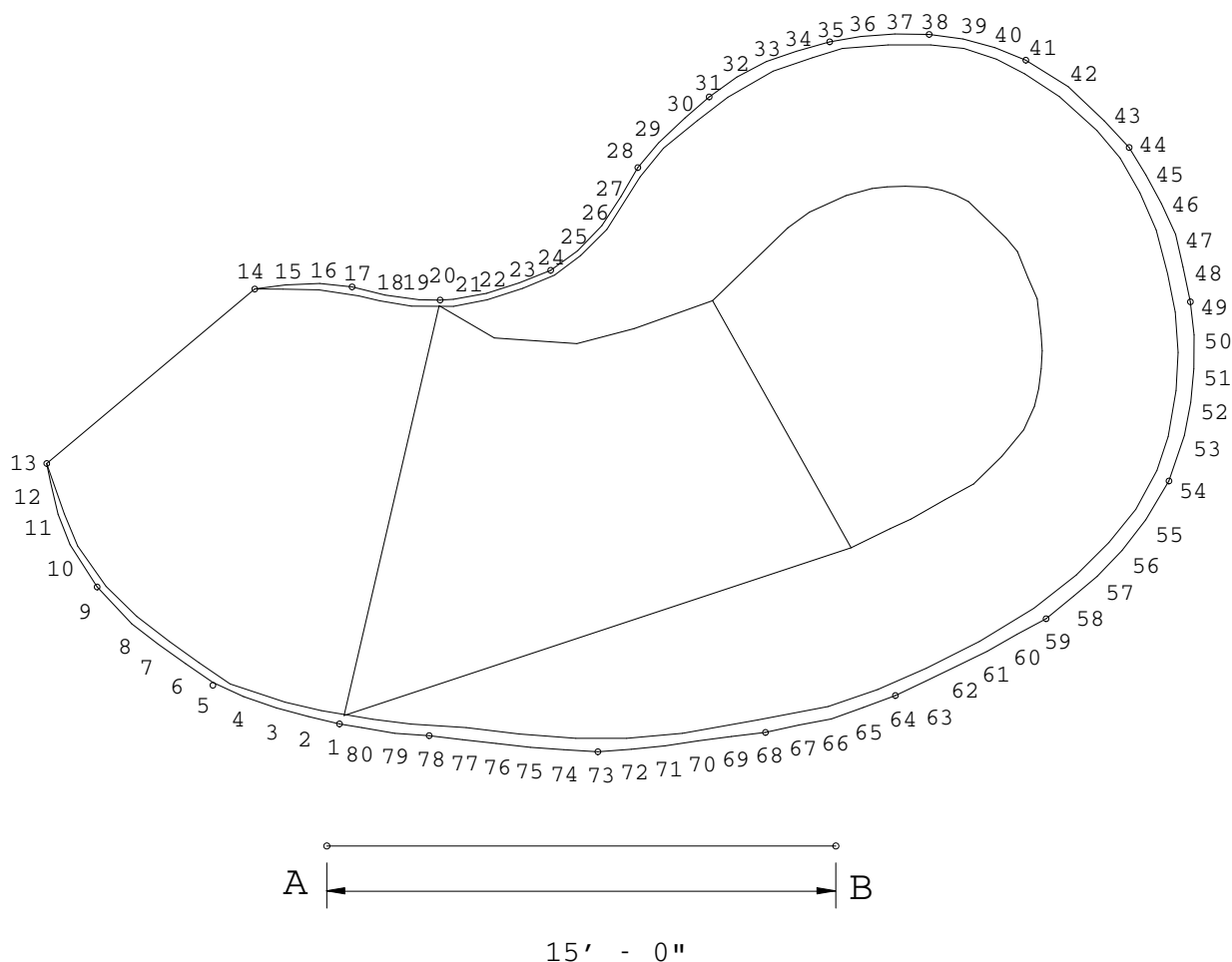
- A) Perimeter numbers you are using. (2)
- B) The OUT distances from the perimeter points. (2)
- C) The DOWN dimension for each interior point. (1)



It is important to recognize at this stage the difference between the COPING perimeter and the BOTTOM OF THE WALL perimeter. In some instances you will find that the walls are not vertical. This can be determined in two ways:

- 1) Placing a level vertically on the pool wall at different areas of the pool.
- 2) Visual inspection standing directly over the pool wall looking down.

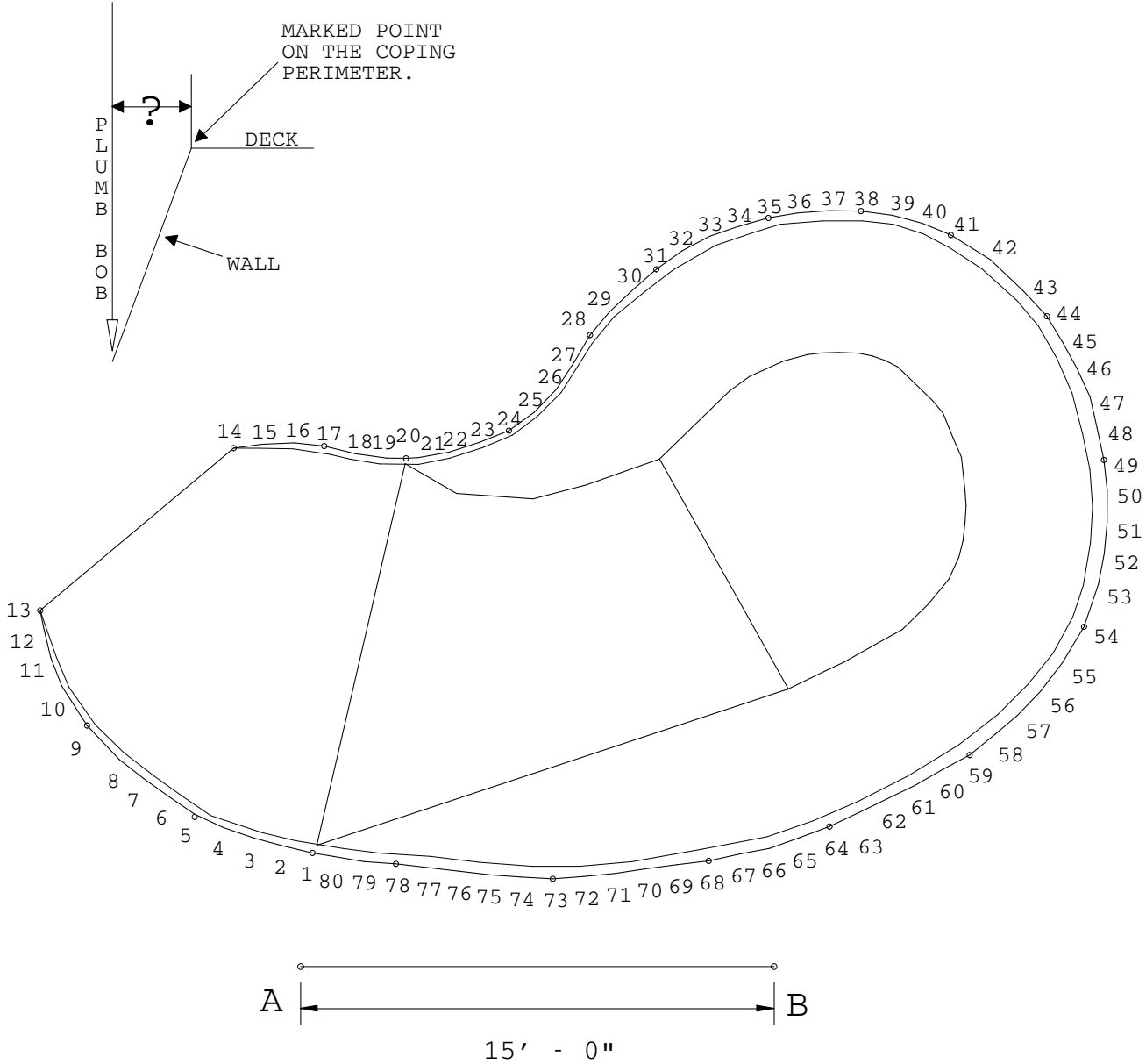
SEE NEXT PAGE FOR MEASURING INSTRUCTIONS.



Use a plumb bob to hold over the bottom of the wall. Align the plumb bob straight out from a perimeter point. Now measure from your perimeter point out to the plumb bob line. Do this about every 3 to 4 points, depending on how close together they are. Remember to keep track of the perimeter numbers you are using and the out distances.

This step is extremely important, because if we are not told of this, we will build a floor perimeter that is based on the larger perimeter at the top of the wall and the floor of the liner /will be too big.

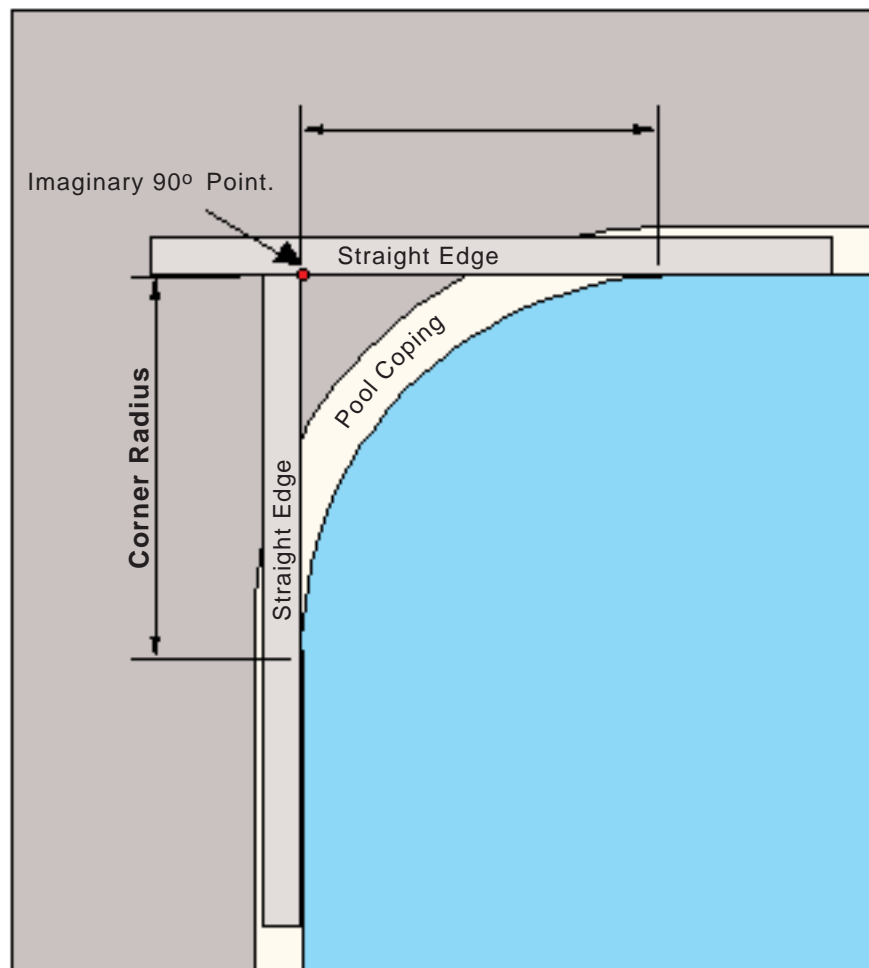
EXAMPLE



HOW TO MEASURE RADIUS CORNERS

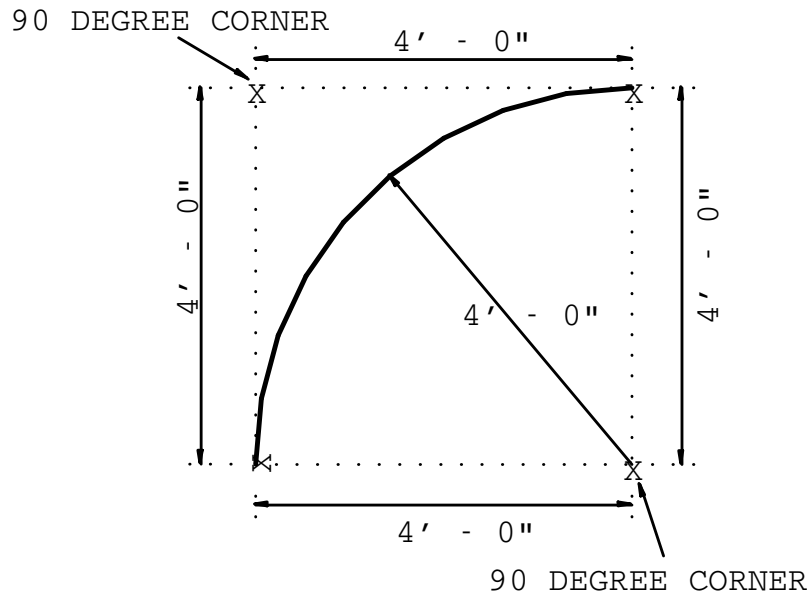
When you have a corner that is less than a 12 inch radius or diagonal, we will require you to create an imaginary 90 degree corner. This point will be used to locate the corner on your “AB” scale drawing. Here’s how to create the imaginary 90 degree corner:

Take two straight edges and place them against the straight walls of the pool, directly over the pool floor. While still holding them against the straight wall, slide the ends toward each other until they touch. The point where they touch is a 90 degree corner.



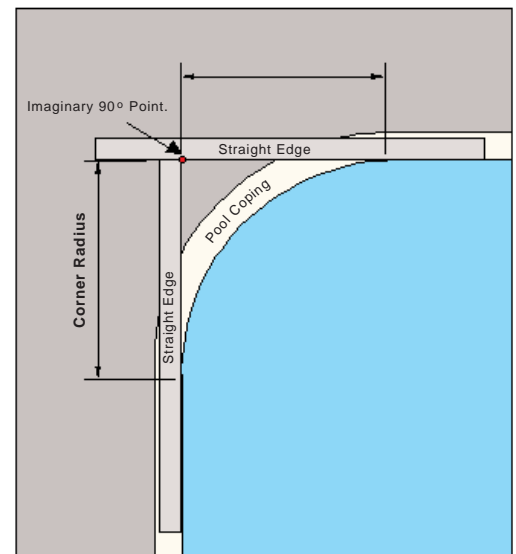
EXAMPLE

4' RADIUS CORNER



To measure a radius corner do the following:

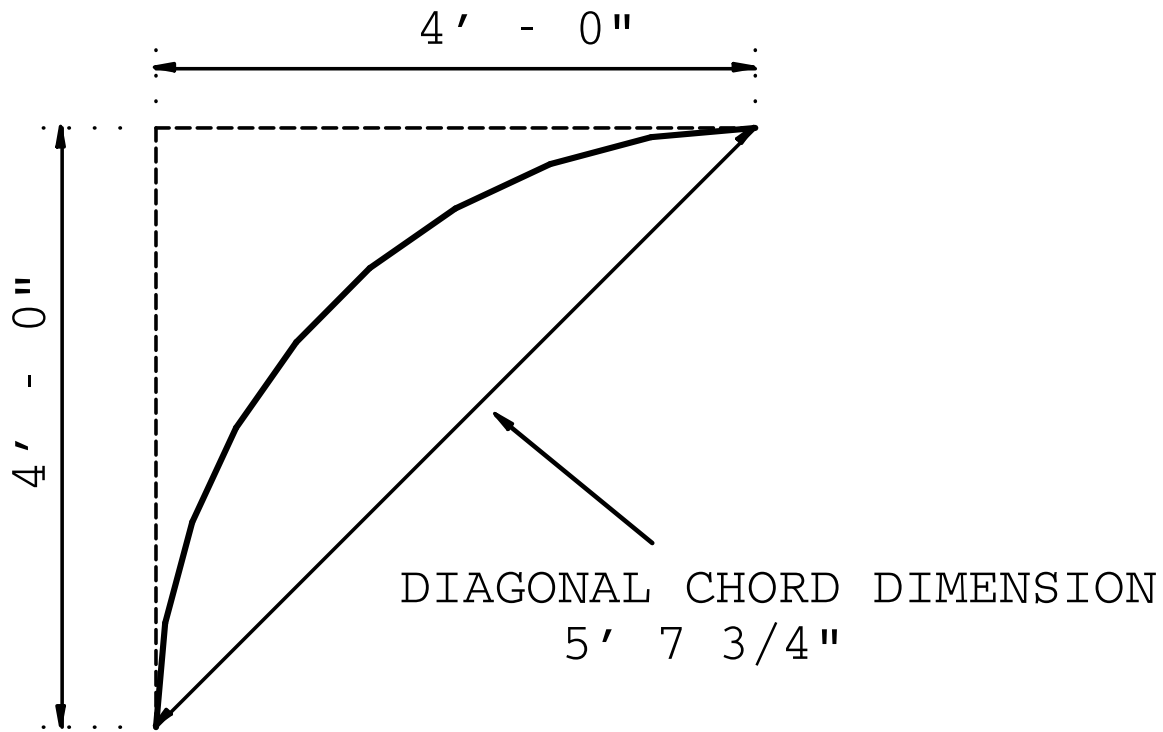
- 1) Extend the pool walls with a straight edge until they meet and form a 90° corner.
- 2) Measure from the 90° corner to where the curve of the radius ends.
- 3) The measurement from the 90° corner to the end of the curve is the size of the radius.



This is a 4' radius corner.

The chord dimension of this corner = 5' 7 3/4".

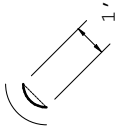
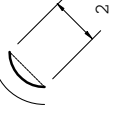
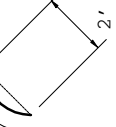
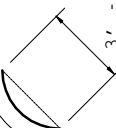
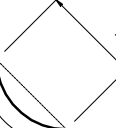
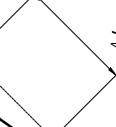
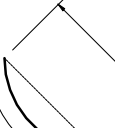
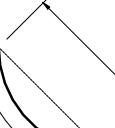
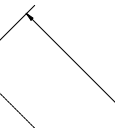
The perimeter of this corner = 6' 3 1/4".



NOTE:

The size of the radius is not the perimeter value or the diagonal chord dimension.

RADIUS CORNER REFERENCE CHART

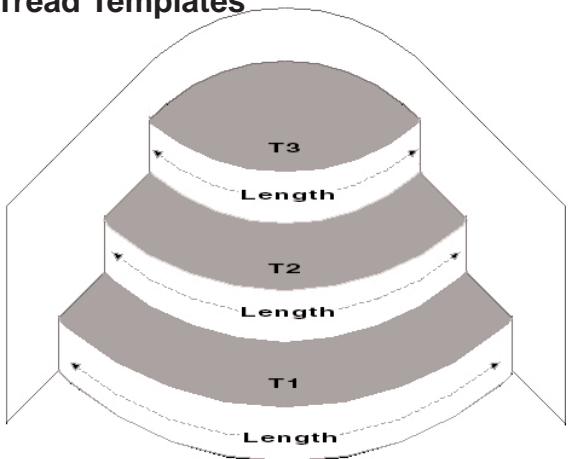
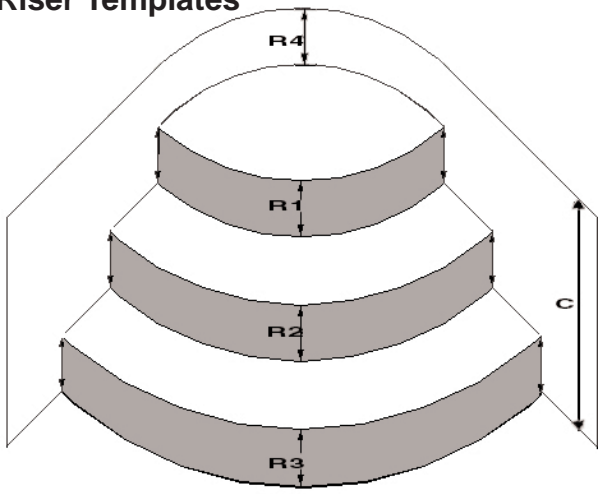
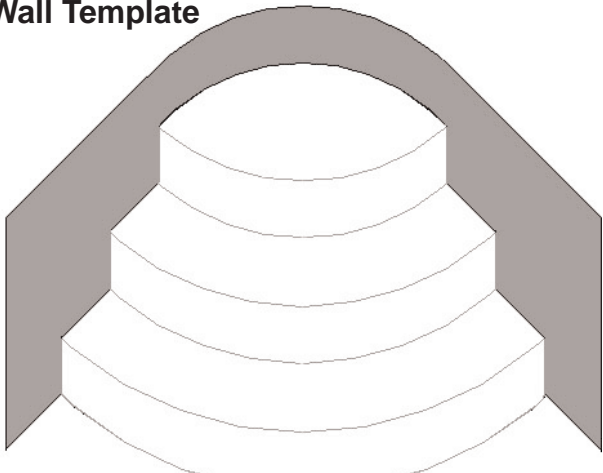
<p>1' - 0" RADIUS CORNER</p> <p>1' - 6 3/4" OF PERIMETER</p>  <p>1' - 4 3/4" DIAGONAL</p>	<p>1' - 6" RADIUS CORNER</p> <p>2' - 4" OF PERIMETER</p>  <p>2' - 1 1/4" DIAGONAL</p>	<p>2' - 0" RADIUS CORNER</p> <p>3' - 1 1/2" OF PERIMETER</p>  <p>2' - 9 3/4" DIAGONAL</p>
<p>2' - 6" RADIUS CORNER</p> <p>3' - 11" OF PERIMETER</p>  <p>3' - 6 1/4" DIAGONAL</p>	<p>3' - 0" RADIUS CORNER</p> <p>4' - 8 1/4" OF PERIMETER</p>  <p>4' - 2 3/4" DIAGONAL</p>	<p>3' - 6" RADIUS CORNER</p> <p>5' - 5 3/4" OF PERIMETER</p>  <p>4' - 11 1/4" DIAGONAL</p>
<p>4' - 0" RADIUS CORNER</p> <p>6' - 3 1/4" OF PERIMETER</p>  <p>5' - 7 3/4" DIAGONAL</p>	<p>4' - 6" RADIUS CORNER</p> <p>7' - 0 1/2" OF PERIMETER</p>  <p>6' - 4 1/4" DIAGONAL</p>	<p>5' - 0" RADIUS CORNER</p> <p>7' - 10" OF PERIMETER</p>  <p>7' - 0 3/4" DIAGONAL</p>

Custom Stair Measurement Wall Foam Template

Please use closed cell high density 1/4" or 1/8" wall foam.

DO NOT USE carpet foam, paper, open cell wall foam.

Note: The shaded areas represent the template area.

<p>Tread Templates</p> 	<p>With these foam templates, please include tread lengths for each tread. If front and back of tread are different, include BOTH measurements.</p> <p>T1 Front = T1 Back =</p> <p>T2 =</p> <p>T3 =</p> <p><i>Be sure to label template with top, left and right, so we have the orientation correct.</i></p>																
<p>Riser Templates</p> 	<p>With these wall foam templates, please measure the riser heights. If the heights are not uniform, include the different measurements (right, left and center). Riser heights MUST equal the C dimension (bead to floor).</p> <table border="1" data-bbox="857 1150 1429 1423"> <thead> <tr> <th></th> <th>Left</th> <th>Center</th> <th>Right</th> </tr> </thead> <tbody> <tr> <td>R1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>R2</td> <td></td> <td></td> <td></td> </tr> <tr> <td>R3</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Left	Center	Right	R1				R2				R3			
	Left	Center	Right														
R1																	
R2																	
R3																	
<p>Wall Template</p> 	<p>This wall foam template is not always necessary, but in some cases we may require it for the manufacturing of the staircase.</p> <p>NOTE: If risers are not plumb, we will require you to make a wall template.</p>																

HELPFUL HINTS

- **SPECIAL NOTE:** When you have a “bowled out” pool that doesn’t have a defined pad, fill the pad area with 4 to 6 inches of water. You have now created a virtual “PAD.” Use the waterline around the “PAD” to locate it.
- It should also be noted with “bowled out” pools, it is recommended to order an “all solid” or “all print liner. This is because “bowled out” pools have a tendency to stretch more. With an “all solid” or “all print” liner, if the wall stretches down on to the slopes, it is camouflaged.
- Whenever you have features you are unsure of measuring or are non-symmetrical (ie: stairs, swimouts, loveseats or benches), make a wall foam template. Do this by placing the foam on the feature and cutting the foam to the exact size of the feature. (Label which side is up.) Use 1/4” closed-cell, high density foam only.

When making a template for a staircase, always cut separate templates for the treads and the risers. (Label tread and riser numbers, and label with top, left and right, to insure proper fabrication.

- Make sure you have perimeter points on your “AB” that locate the template. Don’t forget to indicate which perimeter numbers refer to the specific features.

Always ask questions BEFORE you actually measure a pool. This helps you provide the necessary measurements, preventing you from having to go back to the job site to get further information.

Questions? Please call your local Imperial Pools distribution center for Customer Service assistance.

Thank you!