



# 26' GROWING DOME LAYING OUT YOUR DOME For Concrete Piers Foundation

## LAYING OUT YOUR DOME

You should now have a level site about 3 feet larger than the diameter of your Growing Dome® and you have verified there are no underground utilities in the area where you will be digging for the concrete piers. You are now ready to layout the dome foundation for your concrete piers.

Place a stake in the center of your Growing Dome site, making sure it is firmly set in place and plumb (and the top doesn't "wobble") to ensure accuracy of your layout dimensions. **Make sure the center stake is not disturbed until the foundation wall is completely anchored to the foundation and the dome structure is anchored to the top of the foundation wall.** Procure a large washer that will fit over the center stake, and from the washer, stretch a radius of linen twine (which is non-stretching) or wire toward the true north (not magnetic north) point of the Growing Dome. Mark this point first. The radius for the 26' Growing Dome using concrete piers is 12' 8-1/2" (152-1/2") to the center of the first pier. Insert a rebar stake at the north point and verify that the distance from the middle of the center stake to the inside edge of the north stake is exactly 12' 8-1/2". Even a half inch discrepancy can move the layout off by 8".

The 26' dome has 15 sides and 15 corners or points. There are 5 "B" wall sections and 10 "C" wall sections. For the circumference you are going to use 2 more shorter wires or a measuring tape to measure out 5' 2-3/8" (62-3/8") for the "B" sections and 5' 3-7/8" (63-7/8") for the "C" sections. Make sure the wire or measurement considers the diameter of the stakes, as the measurement is taken from the actual center of the stake, and small errors add up quickly. *Do not be overly upset if the layout does not come out exact the first time.* It is important to understand that when you are doing the layout, the points that you are measuring to are the center points of the 12" piers. This gives you the most tolerance when aligning the foundation to the cement piers.

Once you have a stake at the north point, it is time to begin working around the circumference of the dome. Remove the radius wire from the north point stake but keep it on the center stake. Loop the "C" length wire (the "C" segment wire) over the north point (1st stake). Where the radius wire and the segment wire meet is the next point or corner of the Growing Dome. With both wires stretched tight, place another stake at this point. (This can also be done with a tape measure.) For the next stake, use the "B" length wire (the "B" segment wire). Continue to layout the succeeding points following a "C", "B", "C" pattern using the appropriate wires. See the "Layout for Concrete Piers" Diagram 2b-D1 for a visual of this pattern.

Continue to layout the succeeding points until you've gone halfway around.

- After you have positioned the 8th stake, it is time to check for layout accuracy.
- Mark the center of the segment wire as it stretches between the 7th and 8th stakes.
- Stretch a line from the north point stake through the center point so that it intersects the segment wire.
- If it cuts this segment wire within 1" either way, you are within tolerance. Continue around back to the north point stake.
- If the layout doesn't reach the expected position, then either:
  - The radius wire is too long or
  - The segment wire is too short.
- Divide the error in inches by 7 to get a length (i.e. for an error of 3-1/2" = 1/2"), which we call the adjustment length, and add this length to the segment wire.
- If the layout goes past the expected position, then either:
  - The radius wire is too short or
  - The segment wire is too long.

- Divide the error in inches by 7 and subtract this adjustment length from the segment wire.
- Go back and readjust the stakes already installed until you arrive at the correct layout at the halfway point between the 7th and 8th stakes.
- Continue to the north point with this readjusted segment wire length.

The last segment wire should fall within an inch or two from the north stake. If not, use the above procedure, but divide by 14 instead of 7.

Once you have all the stakes in place, and have verified accuracy, it is helpful to spray paint the intersections of the radius and the segment wires before you start digging out the holes. This will make it easier to verify the hole position once the stakes are removed.

Spray paint lines between each of the outer stakes. And then use the radius wire to spray paint the intersection of the radius wire on the inside and outside of the outer sections. If they are not dug properly, the spray paint will help see which hole(s) are out of place.

Once all the holes are dug, and the Sono tubes are in place, but before concrete is poured, it is recommended to verify the centers by using your wires or tape measure to re-measure the radius and center to center segment lengths.

See “Using Concrete Piers” Written Instructions 2b-W2 for expanded instructions and considerations when using concrete piers.

**Congratulations! You have just successfully laid out the basics of your  
Growing Dome Concrete Piers Foundation.**