26’ GROWING DOME
ABOVE GROUND POND STAGE 2

MATERIALS LIST

The Growing Dome® above ground pond consists of the following:

1. 4 pieces of galvanized pre-primed or pre-painted (black or other dark color) 22-gauge sheet metal: 2 pieces 4’ by 10’ and 2 pieces 4’ by 4’ (Available from local sheet metal shop)
2. 1 quart of muriatic acid (if metal is not primed or painted)
3. 1 quart of paint suitable for metal - any dark color (if metal is not pre-painted)
4. *2 pieces of aluminum angle (2” x 2” x 4’ with 3” on center holes)
5. *1/4”-20 x 1/2” ss bolts and nuts
6. *Six spacer blocks - 24” high (fabricated from 2x6 pressure-treated wood provided – 2 @ 3 pieces, 2 @ 4 pieces, and 2 @ 5 pieces) for behind pond metal supports
7. *5/16” x 2” lag screws (pond metal to pond spacer blocks)
8. Duct tape for covering bolt heads and lag screw heads
9. One piece 2” x 6”, 14’ long of pressure-treated lumber for bottom brace
10. Sand for bottom of pond
11. *Vinyl pond liner, 22 mil thick, 14’ by 24’ flat (Stage 2)
12. *Pond liner retainer 28’ (1 @ 14’ for front of pond / 1 @ 14’ for back of pond) (Stage 2)
13. One piece 2” x 6”, 14’ long for top horizontal “T” top brace crossbar, redwood (Stage 2)
    One piece 2” x 6”, 14’ long for top vertical “T” top brace crossbar, redwood (Stage 2)
14. *5/16” x 3” lag screws and washers (pond “T” top brace crossbar) (Stage 2)

* *Provided by Growing Spaces® (Other items from Owner Supplied List)*

INSTALLATION OF THE RECTANGULAR POND LINER

For domes purchased in Summer 2020 and later, you may have received a custom fit, “drop-in” pond liner with your kit. For these liners to fit correctly, it requires that the spacer blocks be installed exactly as shown in “Pond Fabrication Step 1” Diagram 18-D1. If these plans were not followed exactly, it is best to use this larger, rectangular pond liner and fit it to the shape of your metal enclosure. Instructions for installing a “drop-in” liner follows this section.

Climbing in and out of the pond metal enclosure can be done with a combination of ladders, a taller step-ladder immediately outside the metal enclosure and a small one that you can easily place inside the enclosure when needed. (Make sure it doesn’t poke into the liner.) It is helpful, but not necessary, to fabricate the “T” top brace prior to installing the liner. Having it finished and within easy access to install once the liner is in helps with you being able to get out of the pond enclosure without damaging the liner. Make sure you allow about 1/2" for the thicknesses of the liner in the corners. Instructions on fabricating the “T” top brace follows as the last section at the end of this Step.

The first step in installing the rectangular liner is to unpack it from the box, unfold the liner totally (preferably on a clean surface, like a garage floor or grassy area), then re-fold it to center, first length-ways to center, then cross-ways to center, so that it can be unfolded easily from the center of the pond metal enclosure. See “Rectangular Pond Liner Installation” Video 19-V1 for visuals on this entire process. (It is also helpful to mark the centers of the length sides and width sides on the inside of the liner with a piece of duct tape so the centers are easy to identify while standing in the tank and trying to unfold it.) Place the re-folded liner in the pond metal enclosure and try to centralize it side to side and front to back.

Next, climb into the pond metal enclosure and remove the ladder. Remember to remove your shoes once you have opened the liner to expose the inside bottom. It is also advisable to attempt to walk on the bottom wood brace rather than on the sand. Put yourself in the middle of the liner standing on the bottom section and unfold the liner toward the corners. Place your foot at the junction of the floor and the inside wall of the pond metal, pull up vertically on the liner, and drape it over the sheet metal edge. You can use a clamp to hold it in place. There may

be an occasion when you need to readjust the bottom of the liner. Sometimes this can be difficult when you are actually standing on the liner, but you can usually jump up and kick it at the same time to make it move. Proceed to do this in a systematic fashion starting at the middle of the long side of the pond and working outwards towards the corners. As you move out to the corners, the pond liner will need to be pleated (folded) to accommodate the extra material that is created when you try to fit a rectangular piece of plastic into an oval shape. Try to have no more than three thicknesses of liner in any one place. It is very common to re-pleat several times to get it even and looking good. Attempting this when it's warm makes the liner easier to work with. Make absolutely sure that the liner is well pushed into the corners at the bottom of the angle and that all edges of the liner hang over the edge of the pond metal by at least 6".

Check the fit by running your foot around the bottom edge where the sides meet the bottom. When the liner is snug at the base, and both sides are pleated and the liner is even and looking good, you can attach the pond liner retainer to the back metal. See instructions on installing the retainer for the liner in a later section of this Step.

INSTALLATION OF THE DROP-IN POND LINER

For domes purchased in Summer 2020 and later, you may have received a custom fit, "drop-in" pond liner with your kit. For these liners to fit correctly, it requires that the spacer blocks be installed exactly as shown in "Pond Fabrication Step 1" Diagram 18-D1. If these plans were not followed exactly, it is best to use the larger, rectangular pond liner and fit it to the shape of your metal enclosure. Instructions for installing a rectangular liner precedes this section.

Climbing in and out of the pond metal enclosure can be done with a combination of ladders, a taller step-ladder immediately outside the metal enclosure and a small one that you can easily place inside the enclosure when needed. (Make sure it doesn't poke into the liner.) It is helpful, but not necessary, to fabricate the "T" top brace prior to installing the liner. Having it finished and within easy access to install once the liner is in helps with you being able to get out of the pond enclosure without damaging the liner. Make sure you allow about 1/2" for the thicknesses of the liner in the corners. Instructions on fabricating the "T" top brace follows as the last section at the end of this Step.

The first step in installing the "drop-in" liner is to unpack it from the box, unfold the liner (preferably on a clean surface, like a garage floor or grassy area), then re-fold it to center. You will want to find the bottom, and fold the sides in, then fold the ends in towards the middle. When placing it in the pond metal enclosure this makes for easy unfolding. See "Drop-in Pond Liner Installation" Video 19-V2 for visuals on this entire process. Place the re-folded liner in the pond metal enclosure and try to centralize it side to side and front to back.

Next, climb into the pond metal enclosure and remove the ladder. Remember to remove your shoes once you have opened the liner to expose the inside bottom. It is also advisable to attempt to walk on the bottom wood brace rather than on the sand. Put yourself in the middle of the liner standing on the bottom section and unfold the liner toward the corners. Secure the corners by pressing your foot into the bottom edge and then drape the liner over the top of the pond angle; try not to pull it up from the bottom. At this point having clamps or clothespins can assist in keeping the liner in place as you work the fit. With the corners secure, work the sides of the liner into the bottom edge and drape these over the sides. There may be an occasion when you need to readjust the bottom of the liner. Sometimes this can be difficult when you are actually standing on the liner, but you can usually jump up and kick it at the same time to make it move. It may be necessary to create a few pleats as you go to take in any extra slack.

Check the fit by running your foot around the bottom edge where the sides meet the bottom. It is important that the liner does not feel like it is pulling in any direction. When both sides are complete, and the liner is not pulling, you can attach the pond liner retainer to the back metal. See instructions on installing the retainer for the liner in the next section of this Step

POND LINER RETAINER

Make sure the liner is still snug at the junction of the floor and the inside wall of the pond. Attach one of the liner retainer pieces to the back section of the pond liner before adding water to the pond unless you don't mind getting your feet wet. Start (and stop) 1" from the corners at each end of the metal to not interfere with the "T" top brace. Slip one end on and work your way to the other end. To trim, use a pair of tin snips. Use a rubber mallet or a

hammer and a piece of excess lumber over the retainer to make sure the retainer is fixed firmly on the pond metal. Do not attach the liner retainer to the front piece of pond metal yet. Begin adding water.

After adding about 12 inches of water to the pond, the liner should be well seated inside the metal enclosure. We suggest letting it sit for 24 hours after the first 12” of water. Then adjust any remaining slack over the top front edge of the pond metal and install the other liner retainer piece. After the front liner retainer is installed, you can install the “T” top brace crossbar, if you haven’t already. See instructions for fabricating it in the next section. Then you can fill the entire pond. Pond is considered filled when it reaches about 1” below the bottom of the vertical piece of the top brace crossbar. On the rectangular liner there will be excess liner that you can remove. Leave about a 4” to 6” overhang on the front pond metal and trim off excess liner. (Excess liner on back wall metal can be left in place.) On the drop-in liner, there should be 2’ to 4” of liner overhang that does not need to be removed.

CAUTION: When the water level reaches between 6” and 12”, backfill dirt around the outside bottom of the front of the pond, especially at each end at the bottom of the aluminum angle, as this is where there is the most pressure. Make sure to keep the front pond metal plumb. ‘Stomp’ or tamp down the dirt so the metal is held firmly in place. If there is not at least 3” to 4” of backfilled dirt holding the base of the pond metal in place, it is advisable to use several wood stakes to hold it.

POND “T” TOP BRACE

The “T” top brace on the oval pond of a 26’ dome consists of one 2x6 top piece set horizontally and one 2x6 set vertically to form a “T” top brace. The weight of the water in the pond metal enclosure wants to force the shape of the enclosure to be round as opposed to oval. The top brace crossbar holds the oval shape of the metal enclosure in place. The “Top Brace Fabrication” Video 19-V3 shows the process of fabricating the crossbar. Also see “Pond Fabrication Step 2” Diagram 19-D1 for additional details. The top horizontal 2x6 is 2” longer at each end, is level with, and sits on the top of the pond metal. This prevents the long lumber brace from sagging and assists the brace to fit snugly at each end. Measure the length of the pond metal enclosure from end corner to end corner before the liner is installed, then subtract about 1/2" (to allow for the liner in the corners) and cut the vertical piece. It requires a double 45º bevel cut on each end as it sits down between the angles of the pond metal. Make sure it fits with about 1/2" extra space before attaching the horizontal top piece.

Measure and cut the horizontal top piece 4” longer than the vertical piece (so it will overlap the vertical piece by 2” on each end). See “Pond Fabrication Step 2” Diagram 19-D1 for details on additional trimming on the ends of the horizontal top piece.

Come in about 5” from each end of the horizontal top piece, centered on the width, and mark the two end positions. The other 7 holes are then equally spaced along the centerline. Using a 5/16” bit, pre-drill holes in the horizontal piece for the 5/16” x 3” lag screws and washers, which will attach the two pieces. Center the top piece over the vertical bottom piece. Once in place, it is helpful to use 3” deck screws in the two outer positions to hold the two pieces together. Then pre-drill 7/32” pilot holes in the vertical piece. Attach with the 3” lag screws and washers. Set into place on the pond metal.