Semi Inground And Inground Pools

Ultra Sport, Aluminum Wall Pools, Steel Wall Value 20 Gauge Wall Pool, Titan 14 Gauge Ultra Strong Pool

Installation Manual

Warnings

⚠ Manufacturer is not responsible for any damage or injury resulting from errors or omissions in this manual. If you have any questions call for technical support. We will be happy to assist you.

⚠ Always install the warning decals and signs. They are designed to remind you and your guest of the possible dangers associated with pool use and shallow water. Failure to follow safety warnings can lead to severe personal injury or death.

⚠ Risk of accidental drowning: extreme caution must be exercised to to prevent unauthorized access by children or non-swimmers. To avoid accidents, ensure that children or non-swimmers cannot use this product unless they are supervised at all times.

⚠ Risk of accidental drowning: the use of alcoholic beverages, drugs, or medication before or during pool use may lead to unconsciousness and the possibility of drowning or health complications.

⚠ Risk of accidental electric shock: do not permit any electric appliance (such as a light, telephone, radio, television, etc.) within 5 feet (1.5 meters) of the pool. All electrical items anywhere in the vicinity of the pool must be on an approved G.F.C.I..

⚠ All bolts, nuts, and screws must be installed and securely tightened! All bracing must be installed correctly and in the proper locations. Failure to do so will result in pool failure and cause serious personal injury or death as well as significant property damage!

⚠ Your pool must be level. A pool that is not level may cause excessive stress on the pool walls. This may result in pool wall failure which could cause serious personal injury.

⚠ All pool walls must be placed on undisturbed soil. Failure to do so will result in pool failure and cause serious personal injury or death as well as significant property damage. Manufacturer accepts no responsibility for damages or injuries incurred as a result of improper installation.

⚠ When assembling your pool, keep parts not currently in use in an area out of the way. Disassembled parts are easily tripped over and may be damaged or cause personal injury.

⚠ Do not attempt to lift heavy boxes by yourself. To reduce the possibility of personal injury, have someone help you move heavy boxes (such as pump, filter, liner, etc.).

⚠ Be sure to have a licensed electrician perform any hook-ups for your pool. Failure to follow the manufacturer's instructions, B.O.C.A., N.E.C., and local building codes will for installation will not only void the warranties, but will also put the lives of you or anyone else using the pool at risk.

⚠ Secure your pool when not in use. All means of accessing the pool should be secured to reduce the possibility of unauthorized entry and possible serious accidents.

⚠ Check to see if building permits or utility clearances are required. Comply with local, state, and federal building codes and safety codes regarding barriers, all electrical codes, or any other codes.

⚠ The use of main drains can cause an extreme risk of entrapment, serious injury, and death. If you install one, install it in such a way that it can never be used as the only suction line coming from the pool and thus have the full suction power of the pump working through it. Even installed in this way, there is still a grave risk of entrapment, serious injury, and death. Drains must meet all local, state, and federal codes.

⚠ Metal parts have sharp edges. Always wear gloves to protect against cuts, scrapes, splinters, abrasions, and other possible injuries.

⚠ Warning: If you somehow get a leak in your inground pool, you must deal with it right away. Allowing a leak to continue in any pool or spa will cause deterioration of the pool or spa structure leading to structural failure. This is considered failure to properly maintain your pool and is not covered under any warranty.

⚠ Installing this or any product, regardless of wall type (polymer, fiberglass, steel, aluminum, stainless steel, concrete, etc.) in corrosive soil or other harsh conditions can lead to product deterioration and/or failure. If you are uncertain consult a local soil and/or corrosive engineer for recommendations on proper protective measures..

⚠ If this pool is being installed in an area with a high water table or where water may accumulate, a french drain or other means of relocating the ground water must be provided.

****NOTE****

This manual applies to aluminum, Millennium (20ga.) galvanized steel, 14ga. galvanized steel, and stainless steel pool walls. Manufacturer reserves the right to modify this manual at any time.

Due to the fact that the manufacturer offers so many sizes, shapes, wall types, and wall heights; many parts of this manual will be broken down to include specific instructions for as many of these factors as possible. It would be impossible to write a manual that includes every measurement for every pool shape, pool size, pool depth, coping height, and yard elevation. Therefore there will be many distances, lengths, widths, and measurements you will have to determine for yourself based on your specific pool and yard. Also, no specific dig drawings or panel layouts are included in this manual. Should you require a copy of the wall layout just let us know and we will fax or e-mail it to you.

For dig specifications, give us a call if you purchased your liner through us. If not, you will need to contact the company who sold you your liner.

Tool List

The following tools will be required for the installation of your pool

* Backhoe or Bobcat
* Broom
* Caulk Gun
* Clamps
* Clean Rag
* Drill
* Drill Bit 3/8”
* Hacksaw
* Knife
* Level
* Mixing Trough
* Nut-driver Bit for Drill 5/16”
* Phillips Head Screwdriver #2
* Phillips Head Screwdriver #3
* PVC Glue (All Purpose)
* PVC Cleaner
* PVC Primer
* Rake
* Ratchet
* Sledge Hammer
* Socket 9/16”
* String
* Tape Measure
* Transit and Measuring Pole
* Trowel (Float)
* Shop Vacuum
* Shovel
* Wrench 9/16”

Pool Layout and Digging

This manual has been written for standard pool installations. This manual can not possibly cover every pool shape, dig type, or specific pool size. You will need to use the dig specifications supplied with your specific pool kit. All measurements listed in this manual are to be used along with your specific pool measurements. If the person you have hired to layout and dig your pool cannot understand these instructions, you should seriously consider hiring someone else.

The Overdig

In order to provide room for the braces that must be placed around your pool, the outer dimensions must be larger than the actual pool. For a 42" wall you will need a minimum 2' over-dig around the entire pool. This means that the overall dig will be a minimum of 4' larger in both length and width than the actual pool size. Example: if you are installing a 16' x 32' rectangular pool, your dig will actually be at least 20' x 36'. For a 48" wall you will need a minimum 3' over-dig around the entire pool. This means that the overall dig will be a minimum of 6' larger in both length and width than the actual pool size. Example: if you are installing a 16' x 32' rectangular pool, your dig will actually be at least 22' x 38'.

Initial Layout

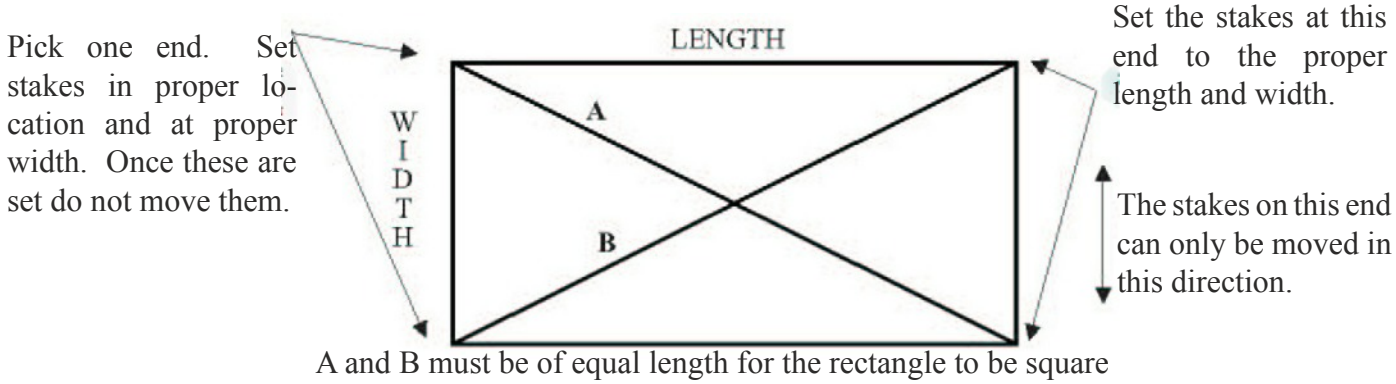
This is where you will mark the ground for the first part of the dig. This is the area you will dig down to the depth that the bottom of the walls will sit. **Note: pool walls must be placed on undisturbed soil. If your pool location is not going to allow this, the pool must be moved or special measures taken.** This section is broken down by pool shapes and corner types.

Rectangular pools with 6", 2', or 4' radius corners, Grecian corners, or oval ends

You will need 4 stakes or rebar to mark the outside corners of your dig. Using Technique #1, set the length and width of your pool plus the appropriate over-dig for your wall height and square it.

Technique #1: Squaring Rectangles

Every pool shape in this manual is squared using one or more rectangles. This method is very simple using the diagram below as a guide. Drive rods in the four corners making sure the length and width are correct. Measure the diagonals (lines A & B in the diagram). If they are identical, the rectangle is square. If they are not, adjust the 2nd set of stakes until the diagonals are the same.

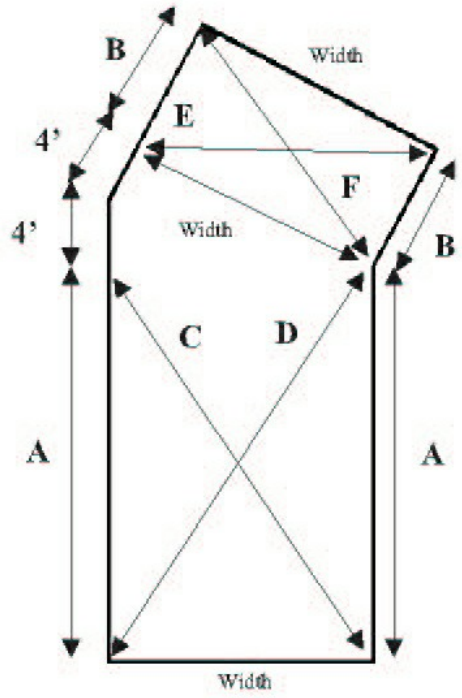


A and B must be of equal length for the rectangle to be square

Lazy-L pools with 6”, 2’, or 4’ radius corners, Grecian corners, or oval ends

Please note: you do not need to know the angle that the Lazy-L turns in the shallow end. It is not required for any reason.

Please note: the image to the left is for a Lazy-L right. If your pool is a Lazy-L left, your short wall will be on the left instead of on the right and you will turn you pool to the left in the shallow end instead of to the right.



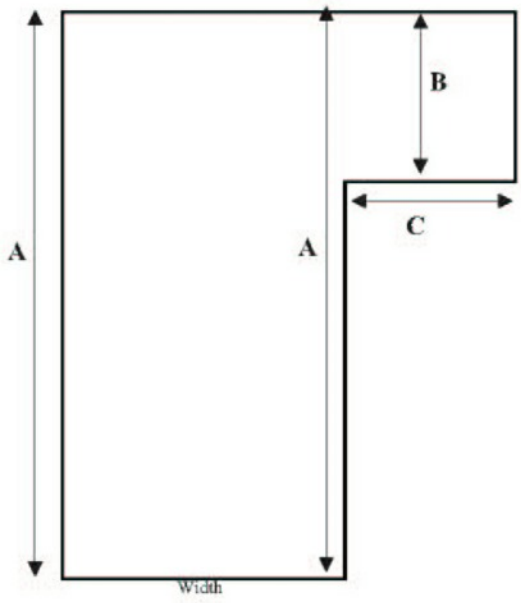
1. Using the diagram to the left and your pool’s specifications as a guide, lay out your pool.

2. Using Technique #1, square the shallow end and deep end rectangles.

3. Note that C must be the same as D and E must be the same as F.

4. The two 4’ measurement indicated on the drawing are the same for all Manufacturer Lazy-L pools unless your Lazy-L was ordered special.

True-L pools with 6” 2’, or 4’ radius corners, Grecian corners, or oval ends



1. Set 2 stakes or rebar to mark the two corners of your deep end. All markings for now will be for the size of the pool only. We will add the over-dig at the end.
2. From each of these corners, measure out the distance of A, mark these two points, and square this rectangle.
3. On the side of the pool the L will extend from, measure back toward the deep end the shallow end distance B and set another stake.
4. From these two stakes measure out distance C and set two more stakes.
5. Square this rectangle.
6. Now measure out from the pool the proper amount over-dig for your wall height all the way around the pool.
7. Mark these 6 new points with stakes or rebar.
8. Remove the 7 stakes you used to in steps 1-5.

Once all of your corners have been marked and squared, use lime or flour to mark the lines between the rods. These lines will be the outside edges of the initial dig.

Pool Elevation

It is now time to determine the elevation of the pool. Using a transit, determine the existing elevations of the ground where the corners of the pool will be located. After this is determined the finished height of the top of the pool walls can be set. It is recommended that this height be a minimum of six inches above the existing grade at the highest corner. Please note that yard conditions may require this elevation to be higher than six inches.

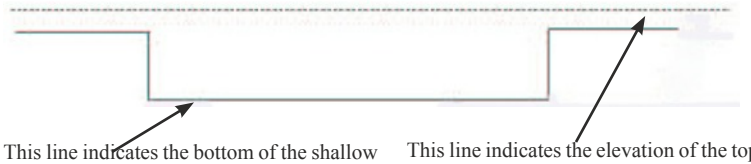
Keep in mind that the top of the wall is not the same thing as the top of your deck. The top of the wall is just that, the top of the pool wall. If you are using receptor coping with a concrete deck your deck will be approximately two inches higher than the top of the wall. If you are planning any other type of deck you will need to determine this for yourself.

Once you have determined the elevation for the top of the pool wall you will want to mark it in case you have to move your transit. Place a stake or other object in an out of the way location where you can still take a transit reading. Set the top to the same elevation as the top of the wall. If your transit is moved or hit you can use this stake/object to regain your proper elevation.

Digging The Pool

While virtually any earth moving machine can be used to dig a pool, a backhoe or bobcat works best. When digging the pool, dirt can either be placed around the dig, in an out of the way location, or both. The dig is broken up into three stages: the rough dig of the shallow end and wall shelf, the rough dig of the deep end, and the finished dig.

Digging the shallow end and the wall shelf



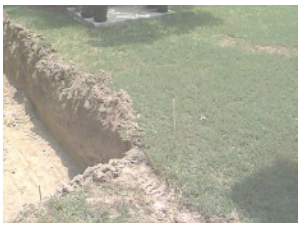
This line indicates the bottom of the shallow end dig and is exactly the height of the walls lower than the elevation line above.

This line indicates the elevation of the top of the pool wall. It is approximately 6" higher than the ground surrounding the pool.

Digging with a bobcat

Excess dirt piled out of the way.

* The line drawing on the left is a side view of a pool after the shallow end and wall shelf have been dug out.
* The depth of this dig is determined by the height of your pool walls. If you have 42" high walls, this dig is 42" below your elevation line. If you have 48" pool walls, this dig is 48" below your elevation line. The pictures below indicate what this area can look like during this process.
* As the dig proceeds, constantly check to be sure you remain level. The shelf on which the panels are to rest must be absolutely level and must be on undisturbed earth.



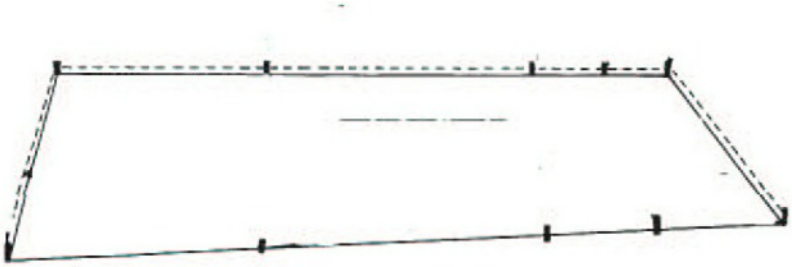
Edge of a Dig

A finished initial dig on a rectangular pool.

A finished initial dig on a rectangular pool.

Lay out the pool walls

Once the shallow end and shelf are dug you will need to lay out the actual wall locations and the deep end so you can dig it. Refer back to the section of the manual on Initial Layout. As you did in that section, lay the pool out inside the hole you just dug using the stakes or rebar. Be sure to leave the appropriate amount of space between the final pool location and the outside of your over-dig. Refer Overdig section earlier in this manual to determine what this



should be for your pool. Run strings between the rods. Once these rods are in place do not move them. You will be building your entire pool based on the locations of these rods.

Corner types

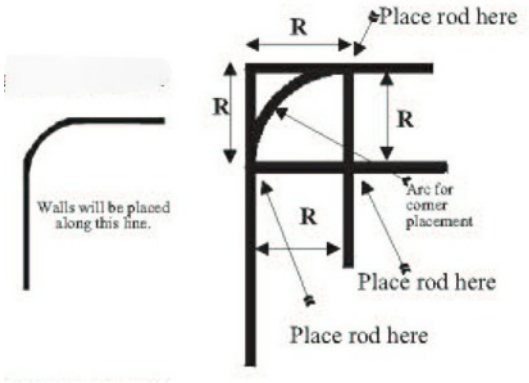
Once you have laid out the pool with square corners, it is time to mark the actual corners.

6" radius corners

If your pool has 6" radius corners, you are done. Your walls bolt together with square corners and the coping and inside corner fillers take care of the rest.

Other radius corners

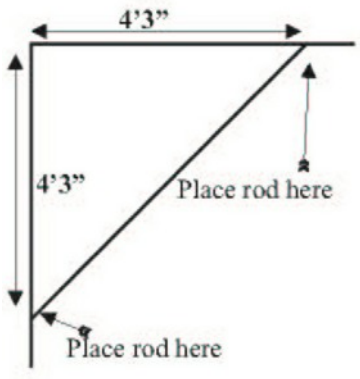
1. Measure out of the corner along both strings the length of that radius (R) and drive a rod.
2. From each of these rods, come into the pool the same distance and place a rod where these lines meet.
3. Using your tape measure and whatever material you are using to mark the ground, measure the length of the radius from the last of these three rods and draw the corner arc.



Grecian Corners

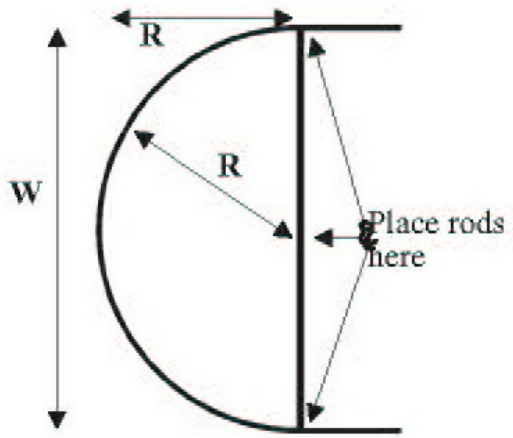
The standard Medallion Grecian corner is a 6' wall placed at a diagonal across the corner. If you ordered a non-standard Grecian corner, consult your pool's drawings for this section.

1. Measure out of the corner along both strings 4'3" and drive a rod.
2. Run a string between these two new rods. This is where your 6' long wall is placed for the Grecian corner.



Oval ends

1. The radius (R) of the oval end is equal to ½ the width (W) of the pool.
2. Measure out of the corner along both strings the length of the radius (R) and drive a rod.
3. Run a string between these two new rods.
4. In the middle of the string, which should be R from each rod, drive another rod.
5. Using your tape measure and whatever material you are using to mark the ground, measure the length of the radius from the last of these three rods and draw the arc between the two outside rods.
6. Remove the center rod from the shallow end. If your pool has a deep end, leave that center rod in place to later mark the bottom of the hopper.



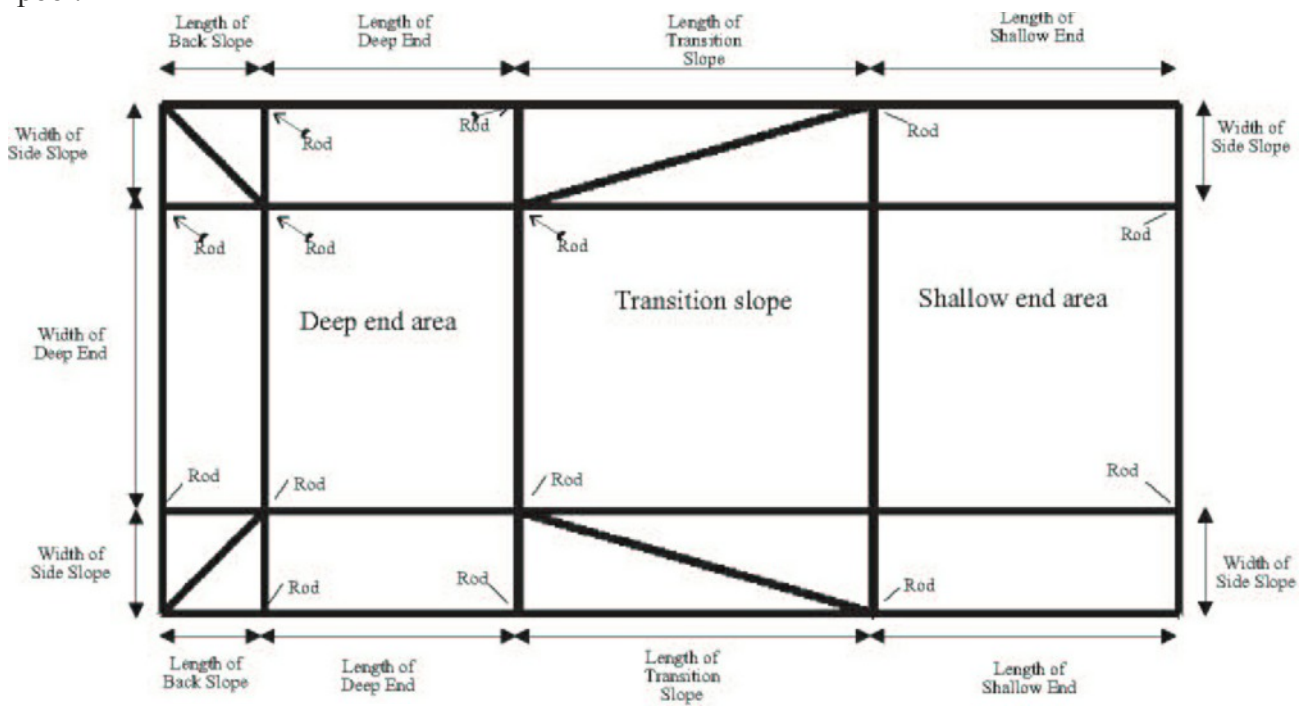
Lay out and dig the deep end.

Once the wall layout is complete it is time to mark out the bottom of the hopper or deep end. If you ordered your pool with a flat bottom that is the same depth as your wall height, you may skip this section as you do not have a deep end.

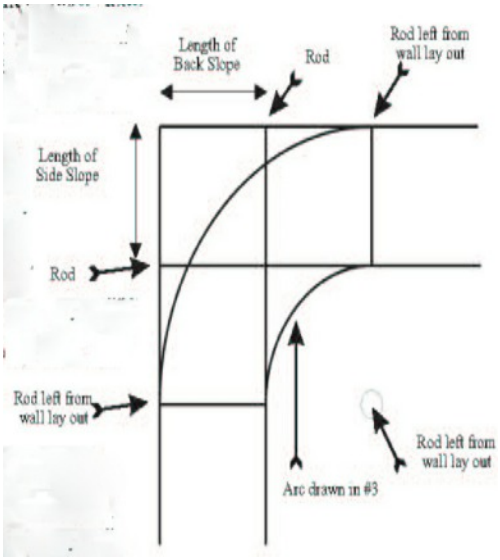
Note: the depth of your deep end (for example 5', 6', or 8') is the finished depth measured from the top of the wall, after the vermiculite has been installed. When digging the deep end, dig it 1" deeper than this.

6" radius corners

For pools with 6" radius corners, drive rods in at all of the points indicated on the diagram below. Run strings between all of the rods as indicated by the lines below. Using lime or flour, mark the diagonal lines, the line marking where the transition slope and the shallow end meet, and the rectangle for the deep end area. These will be the guides your excavator will use to dig out the deep end along with the measurements for your pool.

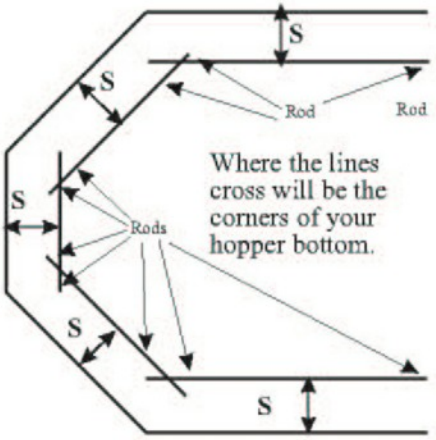


Other radius corners



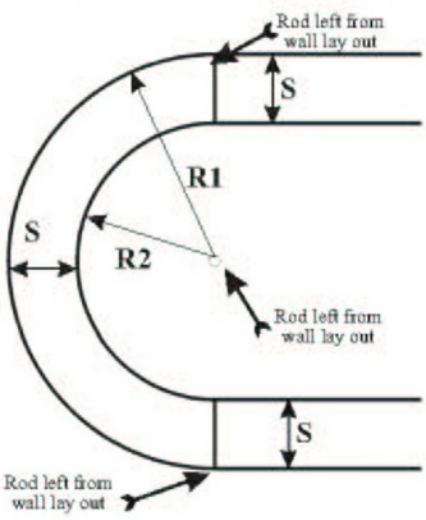
1. Drive rods in all of the locations indicated above for the 6" radius corner pool, run all of the strings except for the diagonal ones in the corners of the deep end.
2. If the rods in the corners of the deep end you are driving in now are closer to the corner than the ones you left in the corner from the wall lay out section earlier, go to step 3. If they are further from the corner go to step 5.
3. Measure the distance from the old rod to the strings marking the deep end. Using a tape measure and the lime or flour, make an arc with this radius as indicated in the diagram.
4. Drive a rod at the points where the arc meets the strings. Run strings between these rods and the ones left from the wall layout. Mark these with the lime or flour along with the rest of the deep end rectangle. These will be the guides your excavator will use to dig out the deep end along with the measurements for your pool.
5. If the rods in the corners of the deep end you are driving in now are further from the corner than the rod left from the wall layout, the corners of your deep end will be square. Run strings from the rods you left from the wall layout to mark the end of the radius walls to the deep end corner rod. Mark these with the lime or flour along with the rest of the deep end rectangle. These will be the guides your excavator will use to dig out the deep end along with the measurements for your pool

Grecian Corners



1. Mark the shallow end and transition slopes as indicated for the 6" radius corner pool.
2. At two points on each wall, measure inward from the walls of the deep end the length of the back and side slopes (S) and drive rods.
3. Run strings between the rods in front of each wall.
4. Drive rods where these strings cross and remove the other rods.
5. These rods are now the corners of the bottom of your deep end.
6. Run strings between these new rods, and then from each of these rods to its corresponding wall corner. Mark these with the lime or flour along with the rest of the deep end rectangle. These will be the guides your excavator will use to dig out the deep end along with the measurements for your pool.

Oval ends



1. Mark the shallow end and transition slopes as indicated for the 6" radius corner pool.
2. The radius (R1) of the oval end is the same as the R in the wall layout section earlier.
3. The radius of the bottom of the deep end (R2) is equal to R1 minus the length of the back and side slopes (S).
4. Using your tape measure and whatever material you are using to mark the ground, measure the length R2 from the rod you left from the wall layout section and draw the arc as shown in the diagram. Also mark the remainder of the deep end rectangle.
5. These will be the guides your excavator will use to dig out the deep end along with the measurements for your pool.

Wall Setup

Images in this manual are generic in nature. These instructions apply regardless of panel type, wall size, or flange size. See blueprints for details.

Now that the dig is complete, it is time to install the walls, braces, and stairs and pour the concrete bond beam. You will need to refer to your wall layout diagram to determine where to place each wall and the stairs. It is extremely important that you follow this diagram.

Mark the walls

Before the wall sections are lowered into excavation, mark each panel along its entire length with a straight crayon line 1" to 1-1/2" from the bottom. This line will measure the finished pool depth once the walls are in place. Be sure not to go above this line when vermiculite is later installed or the pool will be too shallow.

Installing the walls

Start bolting the panels together at one corner, using as a reference mark the stakes that mark the corners of the pool and the strings you have running between them.. Working out from the corner in both directions will make the panel self-supporting as work progresses around the pool. Take a sight through the transit as each panel is bolted to insure that the pool level is maintained.

In the bottom of each wall you will find holes. Drive rebar through these holes and into the ground to help hold the walls in place until the bond beam is poured. At least one rebar is required in every wall, but every hole does not require a rebar.

Check for level at each panel joint in relation to the first corner assembly. Be sure to install a temporary anchoring A-frame brace at each panel joint to help support the walls. See the section below on installing the bracing for instructions and photos. As each panel is level and the inside surfaces are in line, bolts may be tightened.

On pools with 6" radius corners and Grecian corners, you will need to use the outside corner fillers to bolt the corners together.

Non-Liner Recessed stairs, swim-outs, in-wall seats, and in-pool ladders

If your pool has recessed stairs, swim-outs, in-wall seats, or in-pool ladders that are not made for the liner to fit over them, set these units between the two walls as indicated on your wall layout diagram. The top of all of these units except the in-pool ladder should be level with the top of the coping, not the pool wall. The QP-1000 in-pool ladder is installed even with the top of the wall.

Level and plumb the stairs using the leg support system that came with your stairs. If necessary, you can use wood or patio blocks to do this. Note that when the front of the stairs are flush with the front of the walls the top of the stairs should slope downward slightly toward the back. This is to allow for the deck to be poured so that water will run away from the pool not into it.

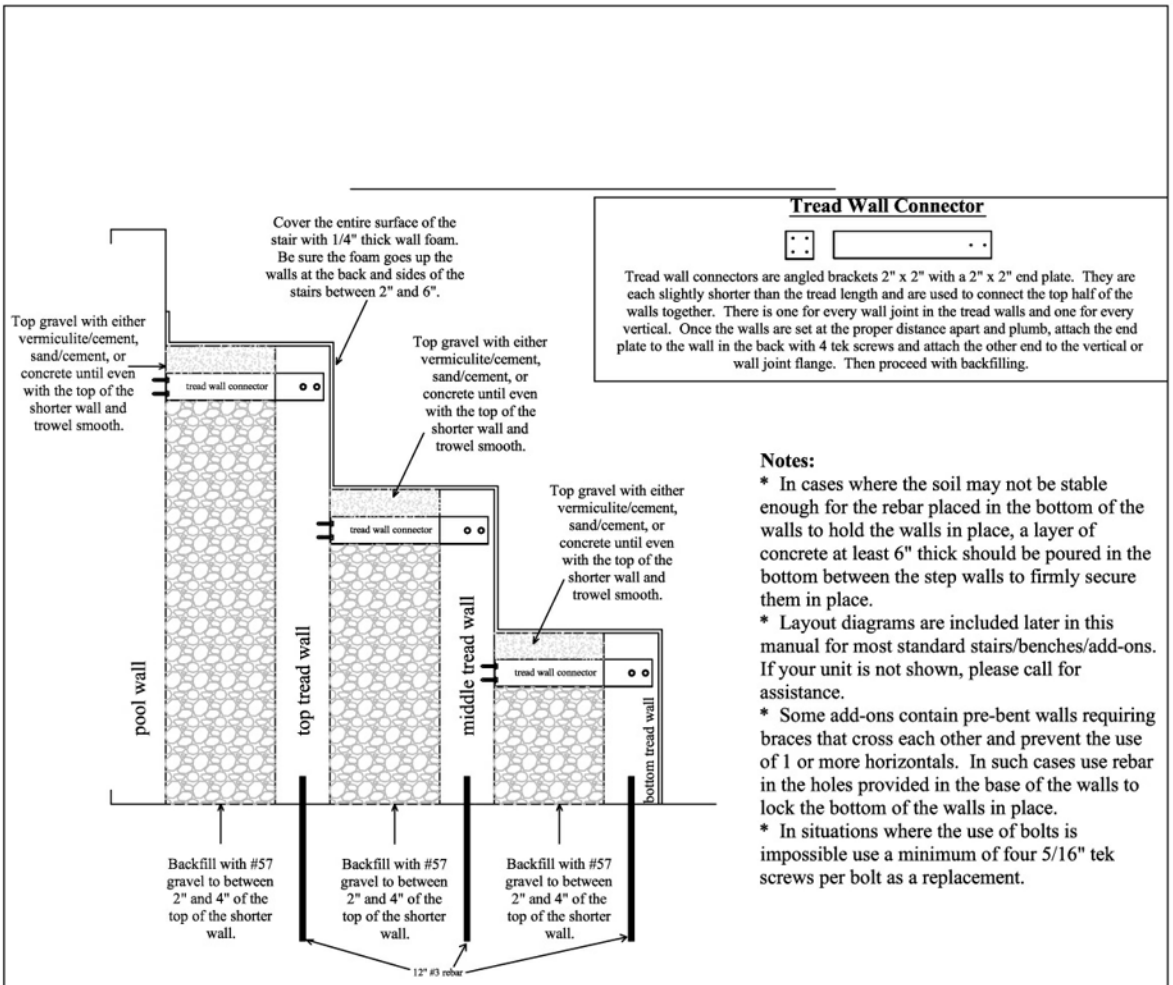
Next, lock the stairs into place with vice grip pliers. Using the bolt holes in the pool walls as a pattern, drill through the stair side flange and bolt the stairs to the walls.

Place stakes or rebar in front of stairs (see picture on left) to help hold front in place when bond beam is poured. Be sure to remove them before installing the liner.

Liner covered stairs, swim-outs, seats, and other add-ons

If your pool kit has any liner covered add-ons they must be installed where indicated in your pool layout and liner order diagrams. If not, the liner will not fit. The assembly diagrams for many of our standard add-ons are found at the end of this manual. If the diagram for your add-on is not there please contact Medallion Pools and we will gladly send you one.

For any add-ons with special walls that are part of the pool perimeter (examples include the Cove Seat and Swim Out) then bolt them into the perimeter as indicated on the pool layout. Once the perimeter walls and braces are in place refer back to the diagram below as well as any other applicable diagrams for assembling the internal parts.



Tread Wall Connector

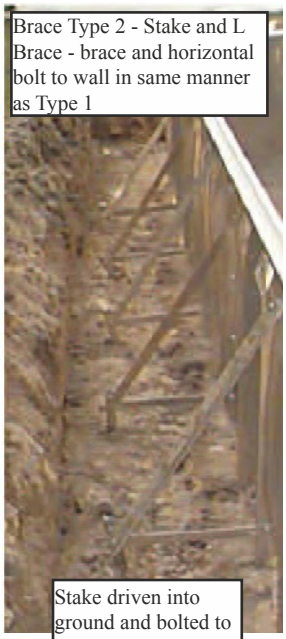
Tread wall connectors are angled brackets 2" x 2" with a 2" x 2" end plate. They are each slightly shorter than the tread length and are used to connect the top half of the walls together. There is one for every wall joint in the tread walls and one for every vertical. Once the walls are set at the proper distance apart and plumb, attach the end plate to the wall in the back with 4 tek screws and attach the other end to the vertical or wall joint flange. Then proceed with backfilling.

Notes:

* In cases where the soil may not be stable enough for the rebar placed in the bottom of the walls to hold the walls in place, a layer of concrete at least 6" thick should be poured in the bottom between the step walls to firmly secure them in place.
* Layout diagrams are included later in this manual for most standard stairs/benches/add-ons. If your unit is not shown, please call for assistance.
* Some add-ons contain pre-bent walls requiring braces that cross each other and prevent the use of 1 or more horizontals. In such cases use rebar in the holes provided in the base of the walls to lock the bottom of the walls in place.
* In situations where the use of bolts is impossible use a minimum of four 5/16" tek screws per bolt as a replacement.

1. Install, level, and plumb all perimeter pool walls.
2. Starting with the top tread, mark the location for each of the stair/bench/add-on walls based on your pool layout diagram.
3. Set the walls in place and make sure they are straight, level, and plumb.
4. Where necessary, drill 7/16" holes in perimeter pool walls to match the bolt holes in the stair/bench/add-on walls. In some cases it may be necessary to temporarily remove the stair walls in order to drill the holes.
5. Bolt the stair/bench/add-on walls together and to the perimeter walls.
6. Drive rebar through the holes in the bottom flanges to lock the bottom of the walls in place as shown in the diagram above.
7. Using the Tread Wall Connectors as shown in the diagram above attach the shorter tread wall to the taller wall behind it.
8. Repeat steps 2 - 7 each remaining tread in order from tallest to shortest.
9. Use duct tape to cover all wall joints, corners, and any notches in radius or reverse radius panels.
10. Fill in the gaps between walls with gravel and top off as shown in the diagram above.
11. Cover the entire stair/bench/add-on area with 1/4" wall foam as shown in the diagram above.

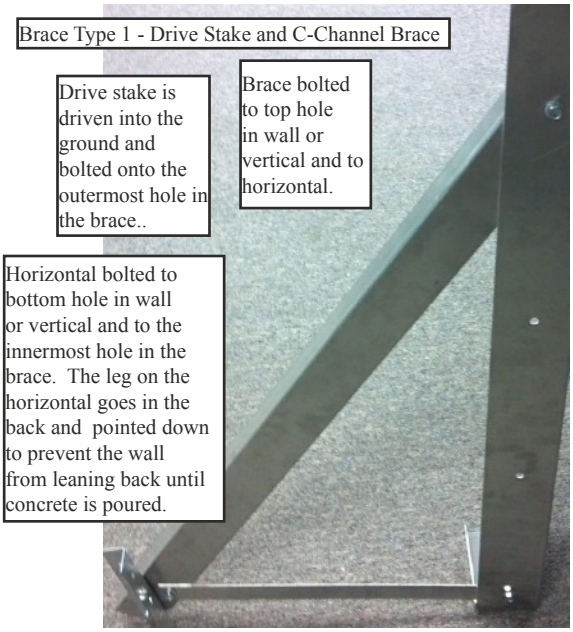
Installing the A-frame braces



This manual shows both brace types. See your blueprints for which brace type is on your pool.

Properly installing the brace sets is extremely important to the strength and safety of your pool. Exact bracing quantities and locations will vary from pool to pool. Brace placement should always conform to the rules listed below.

* Pools are shipped with the exact number of brace sets required. If you run out or have any left over recheck your placement immediately. Do not pour your bond beam or proceed any further until this has been resolved.



* Braces on aluminum, Millennium steel and stainless steel walls should be no more that 4’ apart except as noted below. Braces on 14 Ga. steel walls should be no more than 8’ apart except as noted below. Thus if you have an 8’ wall with a cutout in the middle, you would need to place a brace on either side of the cutout to maintain proper spacing on aluminum, Millennium steel and stainless steel walls.
* Braces are placed everywhere two walls are bolted together and on both sides of stairs, swim-outs, etc.
* Braces are never placed in the corner of a 6” radius corner pool, but start 4’ or 8’ from the corner.
* Braces are never placed in the corner of a Grecian corner pool (unless a stair, swim-out, etc. is directly in the corner), but start 4’ or 8’ from the corner. Each of the 6’ walls in the corners requires one brace on aluminum, Millennium steel and stainless steel walls.

Adjusting the walls

After making sure all of the braces are in their proper locations it is time to make sure the walls are properly adjusted. Using the transit, verify that the tops of the walls are at the correct elevation. Using a level on the inside of the pool, verify that every wall is plumb vertically. To adjust the top of the walls forward or backward, loosen the bolt in the slot of the brace. To adjust the bottom, loosen the bolt in the slot of the horizontal.

Pouring the bond beam

It is extremely important to double and triple check everything before proceeding with this phase of the construction. If any part of the assembly is not right, you will probably not be able to fix it after pouring the bond beam. This phase locks everything you have done up to now in concrete. Do not say to yourself “I think that’s right” ... make sure it is right.

** The bond beam must be one solid pour of a 2500 lb. mix from a cement truck. DO NOT ATTEMPT TO MIX BY HAND! The bond beam must be at least 6” thick, completely surround the pool, and cover the base of every wall, the entire length of every horizontal, the top of every drive stake, and around every leg of every stair.

** Before pouring, be sure to fill in any voids you may have that would allow concrete to go under the walls and into the interior of the pool. If this happens, it will be difficult to remove.
** Be careful when pouring not to move the walls. Set the chute against the back of the dig and let it flow around the pool.

Finishing the Bottom

It is now time to finish up on the inside of the pool until it is time to install the liner.

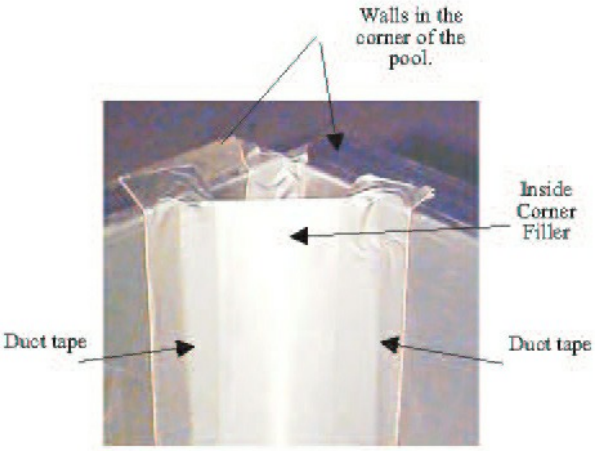
Finishing the dig

If you have not already done so, you will need to do whatever hand trimming is necessary to finish shaping your hole. All of the strings marking all of the corners of your hopper should be floating freely their entire length just slightly above the ground. All surfaces between the strings should be flat. Back and side slopes may have slight notches cut out so the vermiculite will stay in place.

Now raise all of your strings up 1". You can now use them as guides for the top of your vermiculite base.

Duct taping the seams

6" radius corner pools



On this type of corner pool the walls meet at 90 degree angles but the coping has a 6" radius. Thus you will need to install the inside corner filler . This is the flat piece of metal approximately 4" wide and the same height as your pool walls. Place it in the corner of your pool so that it covers the entire height of your pool wall and is evenly spaced across the corner. Duct tape it in place. No screws are required to hold it in. Once this is done, continue with the directions for all other corner types.

All other corner pools

Cover all of the seams between walls and between walls and stairs with a layer of duct tape. The tiny, round dimples you see in the face of the walls do not need to be covered with duct tape.

Installing the vermiculite

What kind of vermiculite and how much do I need?

Vermiculite is available in three different forms: insulating, agricultural, and pool base. Only the pool base variety can be used for pools. If you purchased pool base vermiculite with your pool then use the directions that follow. These bags of vermiculite, when properly mixed as indicated below, will each cover approximately 25 sqft at a 1" depth. Please note that this coverage is only approximate. You may need more vermiculite or you may need less. If you are using pre-mix vermiculite follow the directions on the bag.

Mixing the vermiculite

Vermiculite is mixed with Portland cement and water for installation as a pool base

The ratio for these materials is two bags of vermiculite, one 94lb bag of Portland cement, and approximately 20 to 25 gallons of water. **Note: this ratio only applies when using the bags of vermiculite you may have purchased with your pool.** If you use vermiculite from another source, make sure it is the proper type and ask your supplier for mixing instructions. These instructions will not help you if you do not use vermiculite purchased with your pool kit.
The procedure for mixing vermiculite is as follows:

1. In a mixing trough, combine the cement and water and mix thoroughly. Avoid skin contact with this mixture as some people may have and allergic reaction.

2. Add vermiculite and mix thoroughly, but do not over mix.

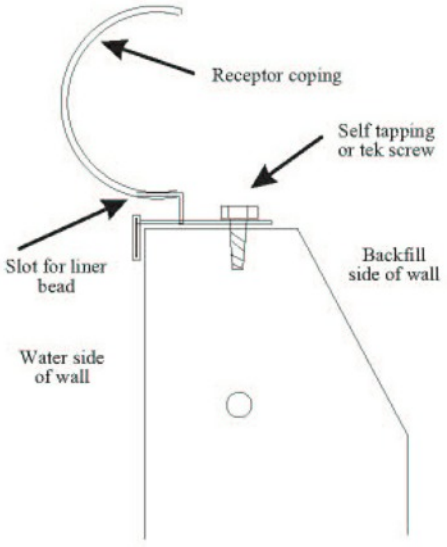
3. Begin spreading the mixture along the side slope with a shovel and rake.

4. Using a concrete float, press and smooth the vermiculite. Be sure to form nice, crisp corners. It is best to start with the side slope at the top of the transition slope and work your way around the pool finishing the back and side slopes as well as finishing all of the corners.
5. Once all of the slopes are complete, finish the rest of the deep end and all of the transition slope except for a strip down one side about 3' wide. This strip is so you can work your way backwards up the slope to the shallow end.
6. Trowel out the shallow end and finish up at the stairs so you can get out of the pool without stepping on the troweled surface. Some installers like to allow the vermiculite to dry for at least 2 hours before walking on it or attempting to install the liner. It is also acceptable practice to install the liner immediately after completing the bottom.

Installing the Coping

It is now time to install the coping. Two different types of coping are described here; side mount and receptor. Both are made from aluminum and can be cut with a hacksaw.

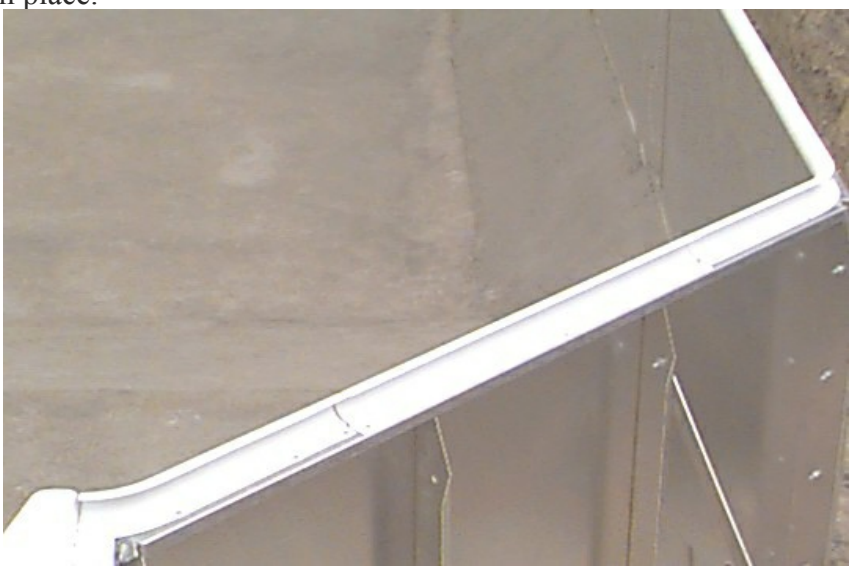
Receptor coping



The most common type of coping found on inground pools is receptor coping. The cross section on the left shows the coping and how to attach it to the pool wall.

- The self tapping screws are placed on the end of each piece and approximately 1' apart in the middle.
- Pre-made corners should have a minimum of 4 screws no matter how small.
- Pre-drilling the holes is not required on aluminum wall pools and may not be necessary on galvanized steel or stainless steel wall pools.
- When installing the tek screws, be careful not to strip them. A snug fit is all that is required.
- Leave 1/64" gap between pieces of coping. The clips will cover this later.

1. Install all of the corners first.
2. True-L pools come with one welded outside coping corner for the 90 degree turn from the shallow end to the deep end.
3. For Lazy-L pools, you will have to miter the coping to fit the two special corners where the L bends.
4. In some cases you will have to cut the pre-made corners to fit next to the stairs.
5. After all of the corners are in place install all full lengths of coping you can. Only after all full lengths are installed should you cut pieces to fill in the smaller spaces.
6. The coping clips should be set aside for now and installed after the liner is in place.



Plumbing

In this section you will install skimmer/s, return/s, jet/s in step/s, and set up the pump, filter, heater, and any other items that are in the plumbing lines. Please note that all installations are unique. Use these instructions as a general guide. You will have to determine some of the plumbing for yourself as we cannot anticipate every situation.

The pool equipment area

First choose a location for placing your pool equipment. This area should be within 15' to 20'of a skimmer on the pool. This is to prevent loss of flow due to excessively long plumbing lines. The ideal elevation for this location should place the base of the pump level with the top of the pool wall. If it is necessary for the equipment to be below the water level, purchase and install cut off valves so that you can isolate your equipment from the pool.
You will need a level surface to place your equipment on. You may purchase pre-formed, ultra-light slabs from Manufacturer or form and pour your own cement slab. If you pour your own slab keep in mind you will have pipes coming out of the ground in this area.
All pool pumps, filters, heaters, etc. sold by Manufacturer can be set up outdoors. A pool house is not required, but you can build one if you so choose.

*****WARNING*** if you purchased a gas pool heater and place it indoors you MUST purchase a vent stack and properly vent the heater outside the building.**
An Improperly Vented Heater Will Cause Serious Injury Or Death!

Technique #2: Sealing Threaded Pipe Fittings

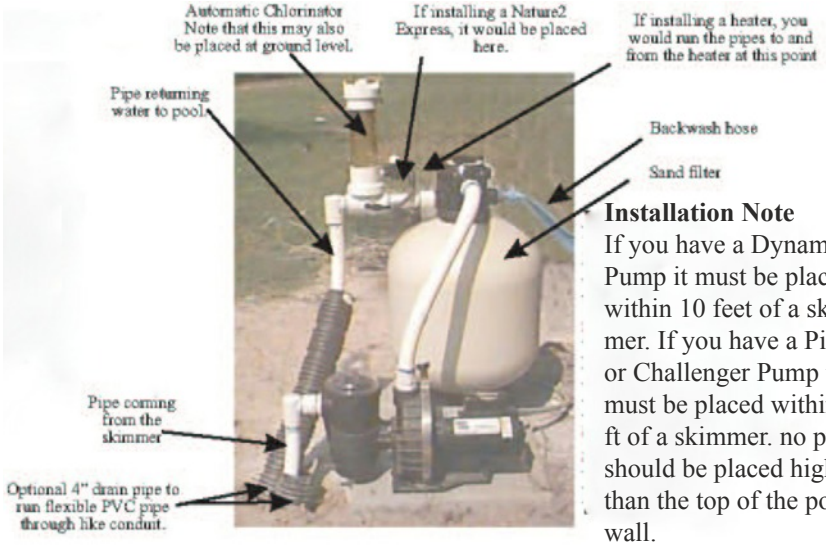
When connecting plumbing fittings that are threaded, first wrap the male threads in Teflon tape. Then place a bead of silicon around the end of the male threads. Tighten the fitting hand tight only. Do not use a wrench or pliers. If you over tighten the fitting as you can split the female part of the connection.

Technique #3: Glueing Pipe

When glueing the pipe fittings and the PVC pipe you will need to use the following procedure. Use the primer on the fittings themselves and/or the rigid PVC pipe. Use the cleaner on the flexible PVC pipe and wipe it off with the clean rag. When gluing flexible PVC pipe be sure to use an all purpose PVC glue or one made specifically for flexible PVC. Apply glue to the end of the fitting you are going to glue and to the part of the pipe going into the fitting. Put the pipe in the fitting and give it a ¼ turn. Make sure the pipe and fitting are angled in the proper direction. If they are not, adjust one or both of them. Hold the pipe and the fitting together for approximately 2 - 3 minutes. This will give you a good, clean fit and allow the glue to set long enough to keep the pipe from backing out of the fitting. You must do this with every glue joint to

Setting up the pool equipment

The image to the right shows one possible setup for the pool equipment. It shows a pump, filter, and automatic chlorinator. Depending on what you ordered your setup may look nothing like this picture. Do not be alarmed. Use the instructions that follow as a general guide for setup, not step by step directions. You will have to figure some things out for yourself as every pool installation is unique.



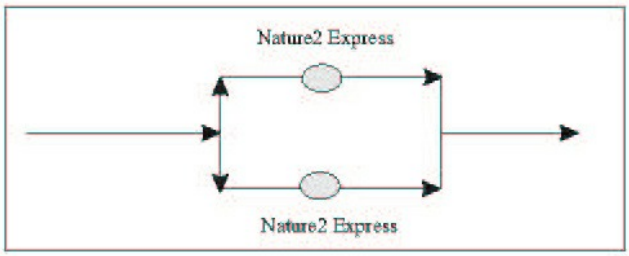
Installation Note
If you have a Dynamo Pump it must be placed within 10 feet of a skimmer. If you have a Pinnacle or Challenger Pump they must be placed within 20 ft of a skimmer. no pump should be placed higher than the top of the pool wall.

The pump
Pick the spot where you want the line coming from the skimmer to come out of the ground and set the pump in front of that. Thread the appropriate fittings into the pump so you can glue the pipe into it. In the front of the pump glue the spigot part of a 90 degree street elbow into the adapter. The pipe coming from the skimmer will glue into this.

The filter
Set the filter next to the pump, allowing enough room to work if necessary. Follow the setup instructions that came with your filter for proper assembly and where to run the plumbing to and from the filter.
Run the plumbing line from the top of the pump to the appropriate opening on the filter and connect with the appropriate fitting.

The heater
If you purchased a gas heater with your pool, it is the next item in line to be installed. Follow the instructions that came with your heater for proper assembly, location, and where to run the plumbing. After the water goes through the filter, if a heater is present it is the next place for it to go.

The Nature2 Express
If you purchased a Nature2 Express, it is the next item in line for installation. If your pool because of its size requires two of these units, tee the line, install the two Nature2 Express, then bring them back together to return to the pool. Follow the instructions that came with your Nature2 Express for proper assembly and installation.



The Automatic Chlorinator or Chlorine Generator
If you purchased an automatic chlorinator or chlorne generator, it is always the very last piece of equipment the pool water passes through before returning to the pool. Any equipment you put after the automatic chlorinator will probably be destroyed with a matter of weeks due to the strong concentration of chlorine in the water leaving the chlorinator. Follow the instructions that came within your automatic chlorinator for proper assembly and installation.

Finishing up around the equipment area
After the last piece of equipment has been set up, you will now set up the fittings for the return to the pool. On a standard installation, pool returns are teed at the pool at each return. One line is teed off for each set of jets in steps at the equipment area. If the step has more than one jet the extra jet/s are teed at the step. Valves should be installed for each line leaving the equipment area.

The Trench

Dig a trench or trenches as needed to run the pipes from the pool to the equipment area. If possible this trench should be deep enough to be below the freeze line in your area. If not you will need to blow all of the water from the lines in the winter.

Around the pool

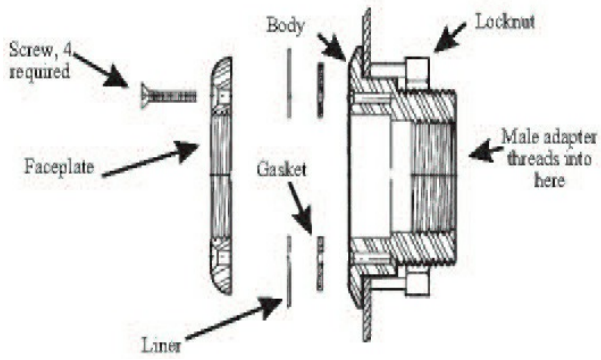
The skimmer/s

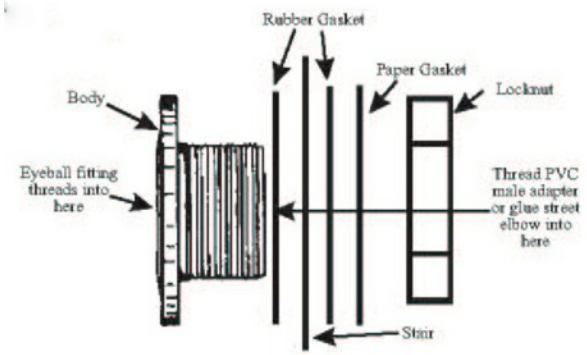
Follow the installation instructions included with your skimmer for the through wall installation.

At this point you will only need the body of the return fitting and the locknut. Remove the locknut from the return fitting. Slide the return fitting body through the pool wall from the inside toward the outside. Once the return fitting is in place, attach the locknut and tighten.

Using technique #2 above, install a PVC male adapter in the back of the return fitting. Then glue the spigot end of a street elbow into the back of the male adapter with the slip opening pointed in the direction you need the pipe from this fitting to go.

If you purchased the materials to install jets in steps, you will now need those wall fittings. They are the ones with no faceplate. Find a flat spot on the stair where you would like to install the jet. Make sure there is nothing on the back of the step in this area that will be in the way of the plumbing fittings. Using the appropriate hole saw, drill a hole in the stair for the wall fitting. Be sure to drill from the inside of the stair toward the outside. Remove the locking ring, the paper gasket, and one rubber gasket from the fitting. Insert the body of the fitting with one rubber gasket still on it through the hole you just drilled from the inside of the step toward the outside. On the back side of the step, place the other rubber gasket, then the paper gasket, then the locking ring on the fitting and tighten. If the fitting has threads on the inside, properly install a PVC male adapter into it and then glue the spigot end of a street elbow into the back of the male adapter. If it smooth on the inside, properly glue in the spigot end of a street elbow directly into the fitting. In either case, make sure the slip opening of the street elbow is pointed in the direction you need the pipe to go. Now screw the eyeball fitting into the front of the wall fitting.





The pipe

Once you have set up the equipment and installed all of the skimmers, returns, and jets on the pool it is time to run the pipe. Tee the skimmers together and run that line back to the front of the pump. Tee the returns together and run that line back to the appropriate line leaving the equipment area. Tee the jets together as needed and run their lines back to the appropriate lines leaving the equipment area.

Liner Installation

1. Take the liner out of the box and place it in the pool. **CAUTION: THE METAL EDGES OF THE POOL ARE SHARP AND WILL CUT OR TEAR THE LINER IF YOU ARE NOT CAREFUL. IF THE LINER IS DAMAGED IN THIS WAY IT IS NOT COVERED UNDER ANY WARRANTY AND IS THE RESPONSIBILITY OF THE INSTALLER.**
2. Spread the liner out and be careful not to disturb the pool bottom in the process.
3. Set the corners of the deep end.
4. Set the corners in the shallow end.
5. Snap the liner bead into the coping all the way around the pool. Leave a small section of the liner bead out to allow the shop vac hose to be inserted.
6. Put the lid on the skimmer and seal it with duct tape.
7. Use duct tape to seal around the back of the liner in the stair areas.
8. Insert the shop vac hose behind the liner and seal it in place with duct tape.
9. Turn on the shop vac and work out the wrinkles. Remember, the liner will never get better after you add water

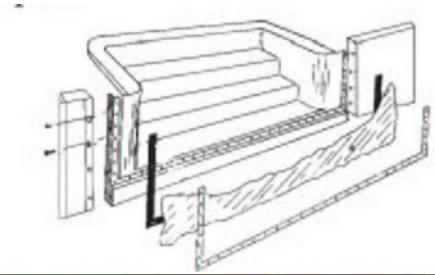
Caution: do not add any water until you are completely satisfied with the liner installation. It is very difficult if not impossible to get wrinkles out once water is in the pool.

Stair installation

You should wait until the water is within a couple of inches of the bottom faceplate of the stairs. Turn off and remove the shop vac and snap the liner back into place. Make sure all of the screws are completely secured but do not strip the screw holes. Make sure that all screws are installed and the cover strip is installed. Carefully cut the liner out on the inside of the faceplate. Do not cut the liner on the outside of the faceplate!

A Note About Liners:

If you discover that you have damaged the liner during the installation by cutting, stagging, or nicking it; don't panic. With the proper adhesive and a piece of the same material your liner is made of you can reseal it on site. Properly resealed you will never see it and it can last longer than the liner itself.



Backfilling

Once you have finished with the steps it is time to start backfilling the pool as the water level rises. You must backfill at the same time as you fill the pool. See the section below for guidelines on backfilling.

Installing the skimmer and return faceplates

Wait until the water level is just below the hole for the return fitting before performing the following steps.

Installing the return faceplate

Take the faceplate and put it over the location of the return fitting. Press the faceplate in and turn it until you feel one of the notches on the back of the faceplate drop over the knob on the return fitting. The screw holes should now be aligned.insert the rest of the screws and make them snug, but not tight. Once all four screws are in place you may then tighten them down.

Use the razor blade to cut out the liner on the inside of the faceplate. **Do not cut the liner on the outside of the faceplate!** Only remove the liner from the inside of the circle created by the faceplate.

Installing the skimmer faceplate

Remove the two screws you installed after installing the set screws through the liner. The holes you leave will give you a guide for installing the faceplate.

Do not remove the set screws. If you do the skimmer will fall down. These set screws are not meant to be removed.

Start all of the screws before tightening them. Tighten one screw and then tighten the one opposite from it on the faceplate. Repeat until all of the screws are tight.

Use the razor blade to cut out the liner on the inside of the faceplate. **Do not cut the liner on the outside of the faceplate!** Only remove the liner from the inside of the rectangle created by the faceplate.

Backfill And Grading

Follow the items below and you will be successful when backfilling and grading your pool

* Never dump backfill material against the walls, steps, skimmer and/or plumbing with a machine - move it against these items by hand only
* If backfilling with any material other than #57 stone, the level of the backfill and the water in the pool must remain within 6” of each other.
* If backfilling with #57 stone and you are completely backfilling prior to filling the pool with water contact you Medallion representative for special instructions on this process.
* Never drive any machines on the over excavated area of the pool (also referred to as the over dig) - damage to the walls, steps, skimmer, and/or plumbing may result.
* Make sure that the drainage runs away from the pool at all times.
* Do not compact the backfill material around the pool with any type of machine - hand or power - allow backfill material to settle naturally or with a light spray of water a little at a time.
*Never drive over any buried plumbing lines.

WARNING: Failure to follow the above guidelines can result in damage to the pool structure. Such damage includes (but is not limited to) bowed walls, verticals ripped from walls, broken clinches, rivets, welds or tek screws, damaged walls, damaged or broken braces, damaged or broken coping, damage to the liner, etc. None of the above is covered under any manufacturer’s warranty.

Possible Digging Issues

When installing a pool, it is usually difficult to say what you will find until you start digging. The following possibilities are fairly rare, but if you do have a problem with a dig it is usually one of these.

Note - For all of the following, Manufacturer can only make general recommendations. Every pool and every installation is different. Consult a local engineer if problems develop.

Underground Water

When a problem is encountered on a dig the most common one is water. This can range from rain to a river. All of these can be dealt with. If you have a large underground water problem you may need to take special measures to keep your liner from floating. Be sure to have proper drainage around the pool and if necessary one or more well points. Consult a local landscaper if necessary.

A thin layer of mud caused by rain

If you have finished your dig and it rains you have a couple of options. As the builder on site you will have to determine which is the best course of action to take for yourself.

1. If you have time you can let the hole sit until it dries out.
2. You can shovel out the mud and fill back in with gravel or extra vermiculite.
3. You can dry mix some cement and vermiculite and spread it on the mud to help soak up the water and dry out the ground.

Water from an underground source

If you hit water in your dig and it comes into the hole at a rate that can be handled by a regular submersible pump you can use this procedure to handle it. If the water is coming in at a rate to fast for a submersible pump to take care of use the procedure in the next section.

1. Dig the flat part of the deep end of the pool an extra 18” to 24” deep and fill this in with #57 gravel.
2. Drill holes in a 5 gallon plastic bucket and bury it in the gravel.
3. Place a submersible pump in the bucket and pump the water out as needed.
4. If you have leaks on your slopes, dig into the slope at the point the water is coming in and trench from there to the gravel base in the bottom. Fill it with the gravel. This will allow the water to flow below the surface to where the pump will remove it and not interfere with the vermiculite.
5. When you install the vermiculite, do so around the bucket. Leave the bucket and the pump in place.
6. When installing the liner, have a bucket of #57 gravel and enough vermiculite mixed up to cover the area the bucket is in now.
7. When the liner is in place everywhere except over the bucket, have someone go into the pool, pull the bucket, fill the hole with gravel, and vermiculite over the area.
8. Quickly exit the hole, finish putting the liner in place, and start pumping in the water.

Note: It is extremely important to fill the pool as quickly as possible so that the water in the pool will be able to hold the liner down against the water pushing up from below the pool.

Excessive amount of underground water

If the water is coming in so fast that a submersible pump can't keep up with it you will need to use the following procedure to cope with it.
1. Dig the flat part of the deep end of the pool an extra 24" deep.
2. Place approximately 6" of #57 gravel in the bottom.
3. Using 1-1/2" rigid PVC pipe and 90 degree elbows, make a rectangle that is 2' smaller in both directions than the flat part of the bottom of your deep end.
4. Take a saw and cut slots in the top of the PVC pipe about 1" apart the go about half way through the pipe.
5. Dig a trench in one of your back or side slopes and under the wall.
6. Run 1-1/2" rigid PVC pipe in this trench and connect it to the rectangle in the pool. DO NOT CUT SLOTS IN THIS PIPE.
7. Fill in the trench and the rest of the extra dig with #57 gravel.
8. Temporarily connect the pipe coming out of the ground to your pool pump and pull the water out of the hole.
9. When installing the skimmer, do not place the support leg in the extra hole, install it to one side. After the deep end is full of water, attach the pipe to the extra hole in the skimmer. This will allow you easy access to this pipe should the need arise in the future.

Underground obstructions

Technique #4: Rebuilding the Ground Under the Pool
When taking care of any of the problems below, you may end up removing earth that is supposed to be undisturbed. If not properly repaired this can cause serious problems. Consult a local engineer to determine what will be necessary for your soil conditions.

Underground obstructions can include anything from rock such as sandstone or granite to buried stumps or old construction materials. This is not the end of the world nor the end of the job, just something to be dealt with.

Stumps
Stumps and roots must be removed from the installation area. If this causes you to disturb the shelf for the walls or part of your floors or slopes, simply rebuild it using Technique #4.

Buried debris
In some cases you may come across buried debris from various sources. This must be removed so that your pool can have a solid surface to rest on. If the removal of this requires you to dig out part of your intended shelf for the walls or part of your floors or slopes you will need to rebuild it using Technique #4.

Underground rock
This does not mean a few large stones. Hitting rock when digging a pool means to hit an entire shelf or layer of solid material. There are several options at this point. What will work for you depends on several factors including the kind of rock, its location, and local restrictions.
1. Remove the rock and keep going. This could be as simple as a hand held jack hammer or as complicated as getting permits and hiring a professional to blast it out. There are several options in between these extremes. If you are uncertain what will be required, consult with a local company that has experience in these matters.

2. Move the pool. If the location of the rock is only in one area, consider moving the pool to a new location that will not be interfered with by the rock.

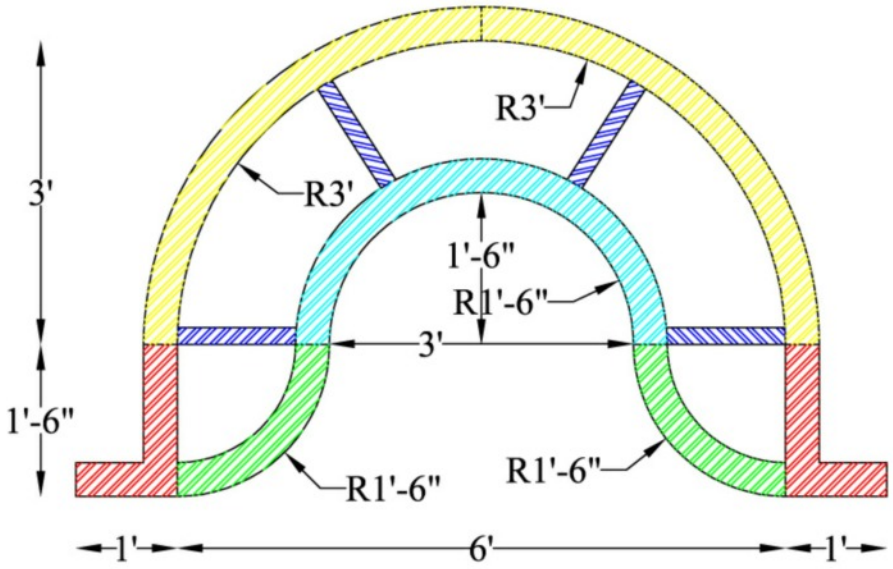
3. Change the pool's depth. Say you are digging a pool with a deep end of 8' and you strike rock at 6'. One option is to stop digging and this point, buy a new liner, and shape the hole for a deep end depth of 5'. **NOTE: before making this decision, consult your sales representative. You will be required to purchase a new liner at your own expense and there will be changes to the measurements on your dig.**

THANK YOU FOR YOUR PURCHASE.

Medallion

6' Cove Seat

Top View



2' 6" wall pre-bent at 1' - 1'6" - 42" Tall
Quantity: 2 each bent as a mirror image of the other.
1' leg bolts to pool perimeter and 1'6" leg bolts up to the 3' radius walls that compose the back of the Cove Seat.

3' Radius Walls - 42" Tall
Quantity: 2

Seat Walls - 1'6" Reverse Radius - 18" Tall
Quantity: 2 - These walls bolt to the 1'6" leg of the L walls even with the edge of the 1' leg on one end. The other end bolts to the 1'6" radius seat wall.

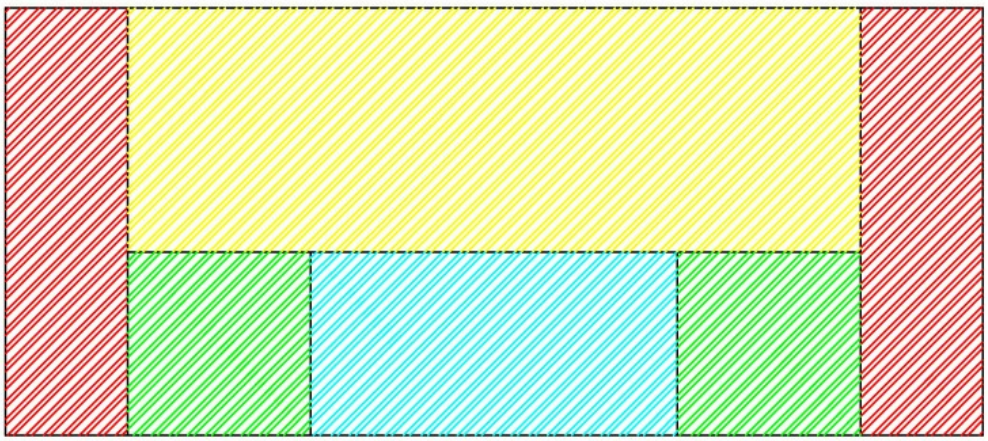
Seat Walls - 1' 6" Radius - 18" tall
Quantity: 1 - bolts to the two 1' 6" reverse radius seat walls.

Tread wall connector for 18" treads
Quantity: 4 - 1 at each of the 2 wall joints and 1 on each of the 2 verticals on the 1'6" radius seat wall.
Note: vertical locations may vary.

Medallion

6' Cove Seat

Front View



2' 6" wall pre-bent at 1' - 1'6" - 42" Tall
Quantity: 2 each bent as a mirror image of the other.
1' leg bolts to pool perimeter and 1'6" leg bolts up to the 3' radius walls that compose the back of the Cove Seat.

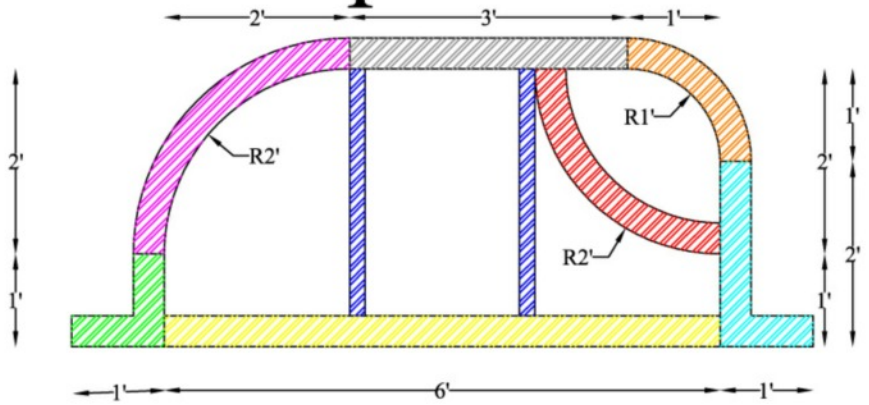
3' Radius Walls - 42" Tall
Quantity: 2

Seat Walls - 1'6" Reverse Radius - 18" Tall
Quantity: 2 - These walls bolt to the 1'6" leg of the L walls even with the edge of the 1' leg on one end. The other end bolts to the 1'6" radius seat wall.

Seat Walls - 1' 6" Radius - 18" tall
Quantity: 1 - bolts to the two 1' 6" reverse radius seat walls.

Medallion Swim-Out

Top View



Top Tread Wall - 2' Reverse Radius - 34" Tall
Quantity: 1 - Bolts into the pre-punched slots on the 3' rear wall and the 2' leg of the 3' pre-bent wall.

Swim Out Area Wall - 6' Long - 23.5" Tall
Quantity: 1 - Bolts into pre-punched slots on the two pre-bent walls.

2' Wall pre-bent at 1' - 42" Tall
Quantity: 1 - Blank leg bolts to the pool walls and the leg with the slots faces inside the swim-out to allow bolting of the front wall.

3' Wall pre-bent at 1' / 2' - 42" Tall
Quantity: 1 - 1' blank leg bolts to the pool walls. The 2' leg with the slots faces inside the swim-out and attaches to the 1' radius corner wall.

2' Radius Corner Wall - 42" tall
Quantity: 1 - Bolts to the 2' pre-bent wall and the 3' rear wall.

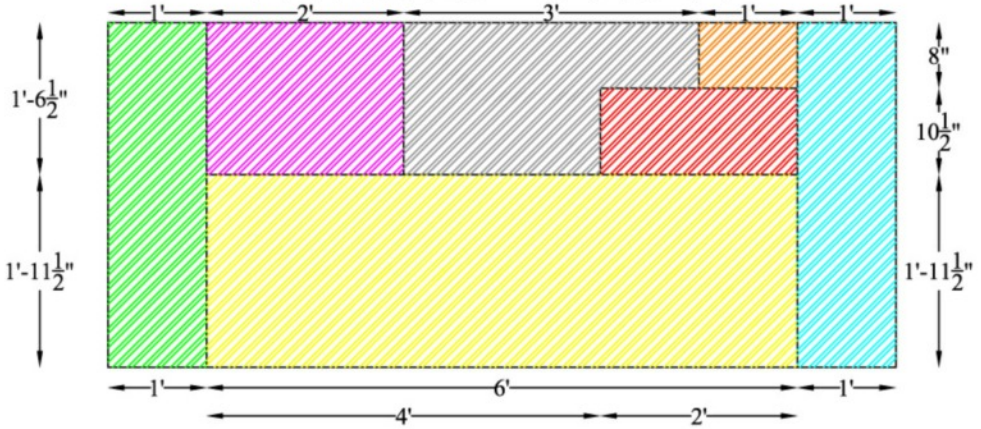
3' Long Back Wall - 42" Tall
Quantity: 1 - Bolts between the 2' radius corner wall and the 1' radius corner wall.

2' Wall pre-bent at 1' - 42" Tall
Quantity: 1 - Blank leg bolts to the pool walls and the leg with the slots faces inside the swim-out and bolts to the 2' radius corner wall.

Tread wall connector for 36" treads
Quantity: 2 - 1 at each of the 2 verticals on the swim-out area wall. Note: vertical locations may vary.

Medallion Swim-Out

Front View



Top Tread Wall - 2' Reverse Radius - 34" Tall
Quantity: 1 - Bolts into the pre-punched slots on the 3' rear wall and the 2' leg of the 3' pre-bent wall.

Swim Out Area Wall - 6' Long - 23.5" Tall
Quantity: 1 - Bolts into pre-punched slots on the two pre-bent walls.

2' Wall pre-bent at 1' - 42" Tall
Quantity: 1 - Blank leg bolts to the pool walls and the leg with the slots faces inside the swim-out to allow bolting of the front wall.

3' Wall pre-bent at 1' / 2' - 42" Tall
Quantity: 1 - 1' blank leg bolts to the pool walls. The 2' leg with the slots faces inside the swim-out and attaches to the 1' radius corner wall.

2' Radius Corner Wall - 42" tall
Quantity: 1 - Bolts to the 2' pre-bent wall and the 3' rear wall.

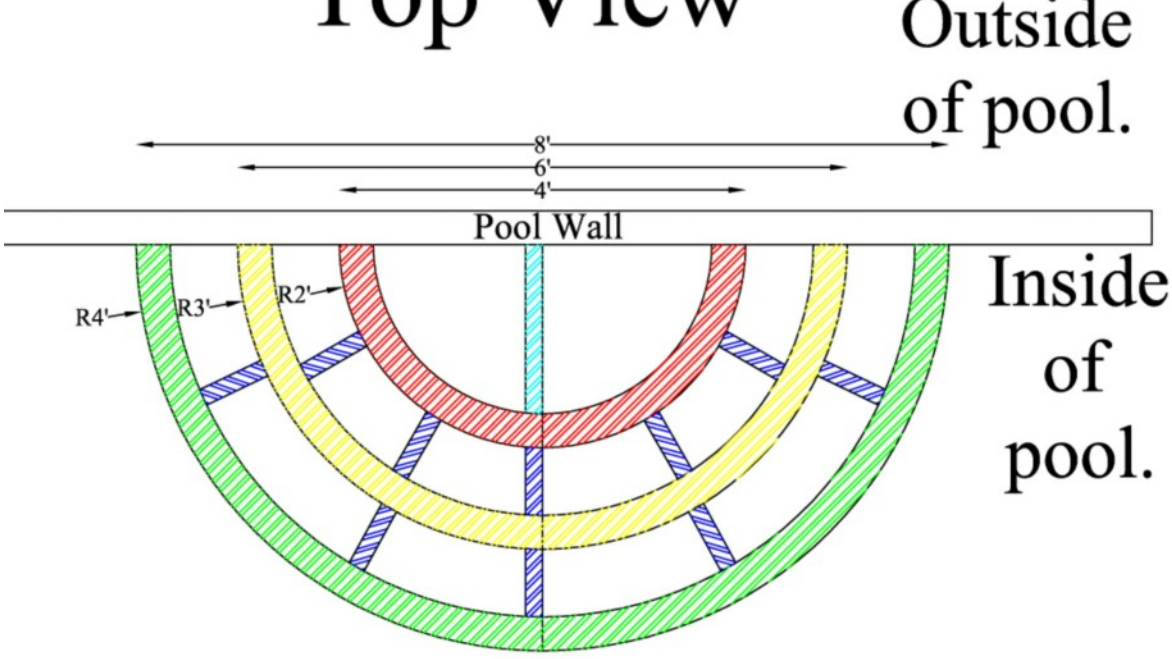
3' Long Back Wall - 42" Tall
Quantity: 1 - Bolts between the 2' radius corner wall and the 1' radius corner wall.

2' Wall pre-bent at 1' - 42" Tall
Quantity: 1 - Blank leg bolts to the pool walls and the leg with the slots faces inside the swim-out and bolts to the 2' radius corner wall.

Medallion

8' Wedding Cake Stair

Top View



Top Tread Wall - 2' Reverse Radius - 34" Tall

Middle Tread Wall - 3' Reverse Radius - 23.5" Tall

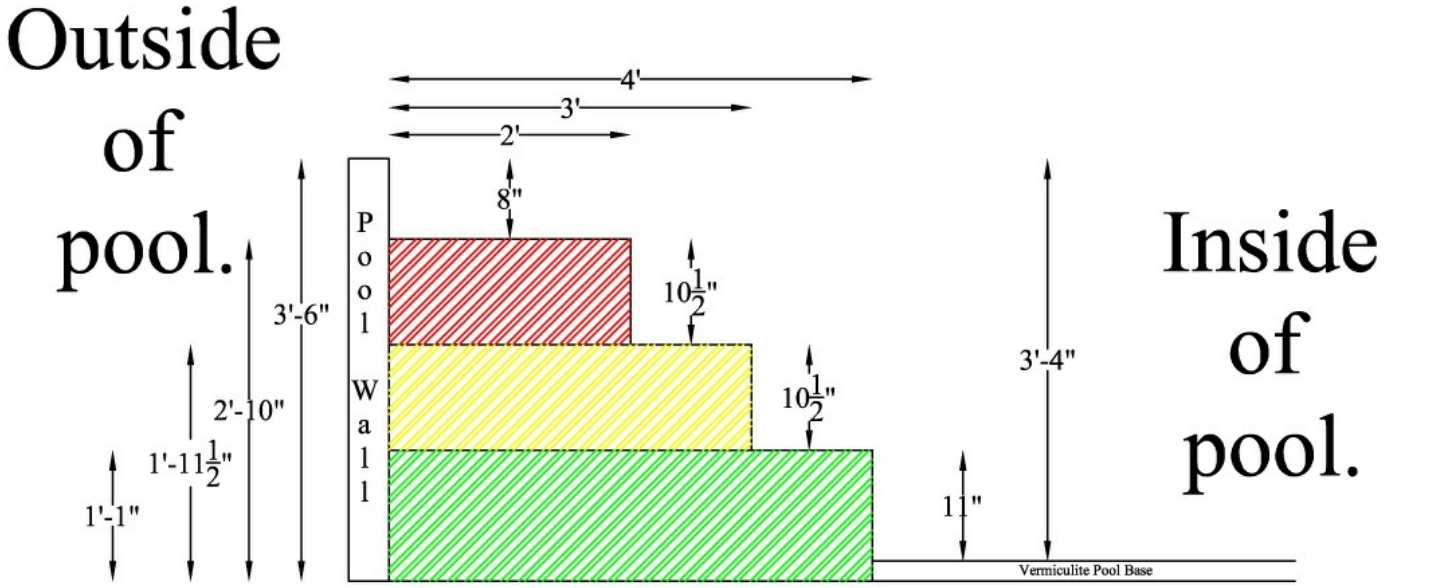
Bottom Tread Wall - 4' Reverse Radius - 13" Tall

Tread wall connector for 24" treads
Quantity: 1 from wall joint on top tread wall to pool wall.

Tread wall connector for 12" treads
Quantity: 10 - 1 at each of the 2 wall joints and 1 on each of the 8 verticals on the middle and bottom tread walls. Note: vertical locations may vary.

Medallion
8' Wedding Cake Stair

Side View



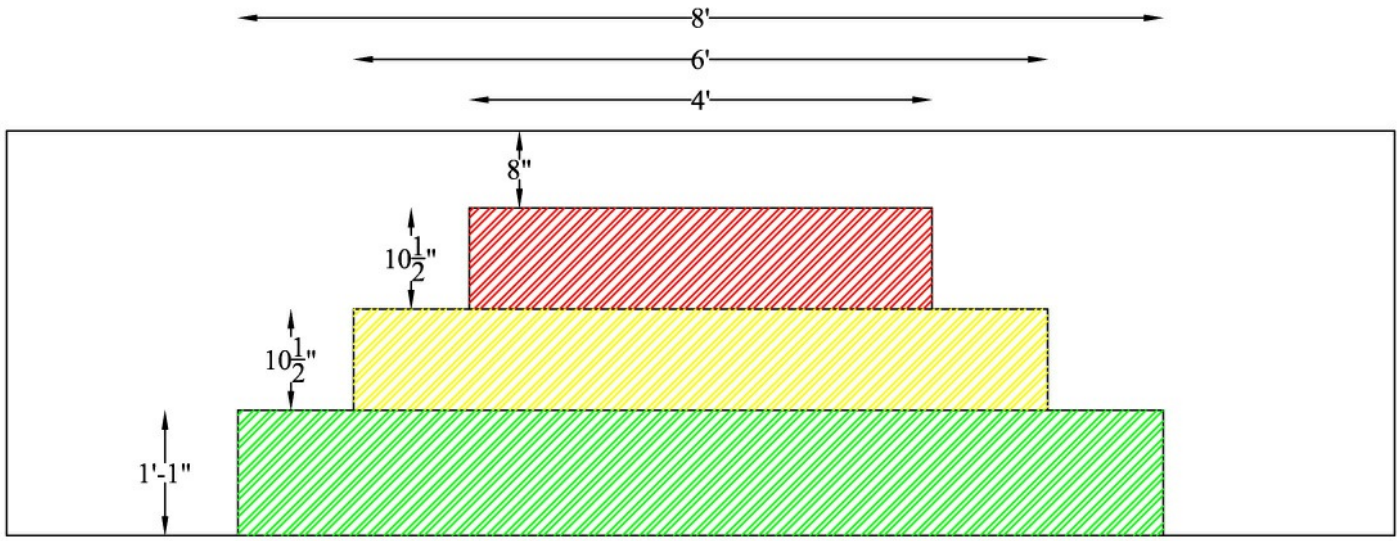
Top Tread Wall - 2' Reverse Radius - 34" Tall

Middle Tread Wall - 3' Reverse Radius - 23.5" Tall

Bottom Tread Wall - 4' Reverse Radius - 13" Tall

Medallion
8' Wedding Cake Stair

Front View



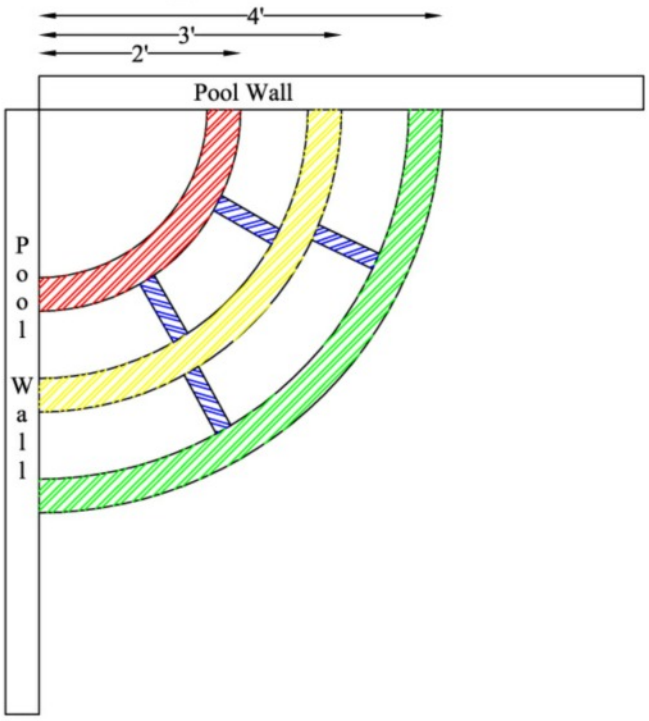
Top Tread Wall - 2' Reverse Radius - 34" Tall

Middle Tread Wall - 3' Reverse Radius - 23.5" Tall

Bottom Tread Wall - 4' Reverse Radius - 13" Tall

Medallion Wedding Cake Corner Stair

Top View



Top Tread Wall - 2' Reverse Radius - 34" Tall

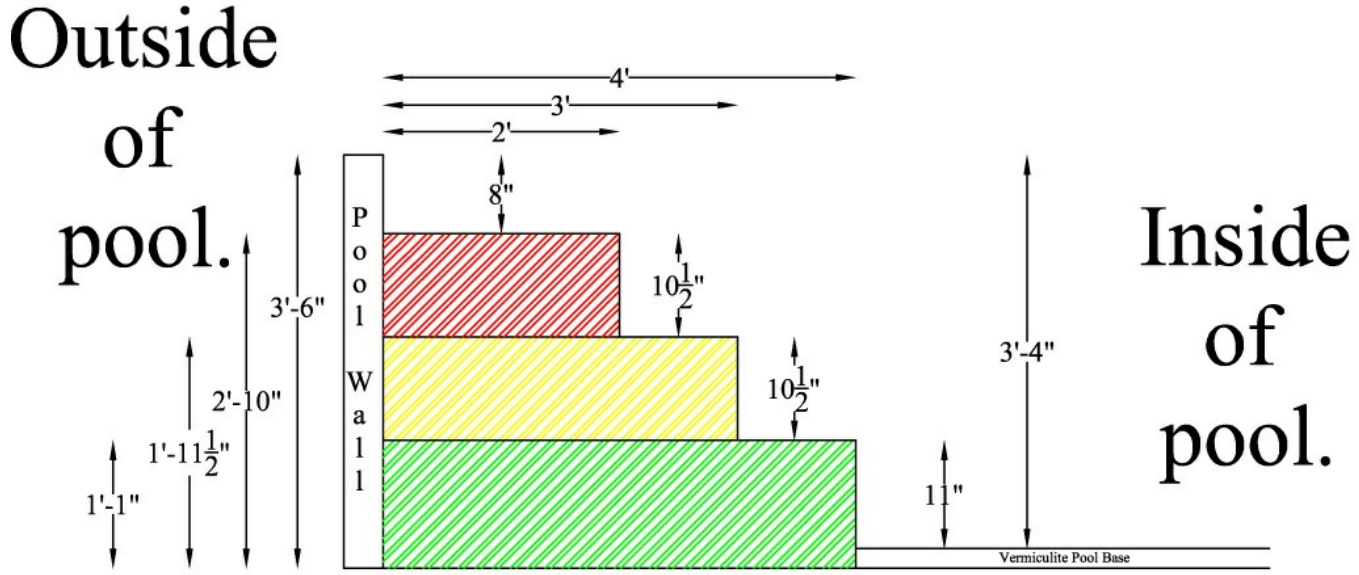
Middle Tread Wall - 3' Reverse Radius - 23.5" Tall

Bottom Tread Wall - 4' Reverse Radius - 13" Tall

Tread wall connector for 12" treads
Quantity: 4 - 1 on each of the 4 verticals on the middle and bottom tread walls. Note: vertical locations may vary.

Medallion Wedding Cake Corner Stair

Side View



Top Tread Wall - 2' Reverse Radius - 34" Tall

Middle Tread Wall - 3' Reverse Radius - 23.5" Tall

Bottom Tread Wall - 4' Reverse Radius - 13" Tall