

# INGROUND STEEL WALL POOL

## Usage and Installation Manual

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# STEEL WALL INGROUND POOL INSTALLATION

## INTRODUCTION

Please read right through the instructions in order to get an overall picture of what is required, which will avoid the possibility of mistakes, particularly on the excavation, at the early stages. Check to ensure that existing services, i.e. electricity and water are adequate. Also check with the water and telephone companies for underground cables before excavating. Check with local city or township office to see what size and shape of fencing will be required. A building permit is required before starting, which can be obtained from the local city or township office.

## PRELIMINARIES

In selecting the site for the pool, choose an open sunny area with no underground pipes or wires and away from septic tanks, etc. The pool should be located so that the surface water tends to drain away from the pool deck. Another factor to consider when locating the pool, is that pipes running to and from the filter should be kept as short as possible.

## TOOLS REQUIRED

(AVAILABLE AT RENTAL OUTLETS)

Utility or Sight Level Rod or Transit	Shovel
Pick	4' level
9/64" Drill Bit	9/16" Drill Bit
3/8" Drill (variable speed)	Small Level
Wheelbarrow	Screw Drivers: Slot 6", Phillips #2 & 3
16 Oz. Hammer (Light)	2 Lb. Hammer (Heavy)
Rake	50' Tape Measure
Magnetic Bit	Propane Torch
9/16" Open End Wrench	Cement Trowels Two - 12" to 14"
9/16" Socket and Ratchet	One Hand Wood Saw
Handle Broom	Lime or Spray Paint
1/2" Open End Socket and Wrench	Hose with Spray Nozzle
50' - 75' Extension Cord	String - Line
Industrial Shop Vacuum	Square
Hacksaw	Miter Box
One Plumb Bob	Small Rubber Mallet
File	Pliers
15" Extension Ladder	Stakes
Cement Mixer (if you are mixing your own cement)	Knife

# MATERIALS REQUIRED

## CONCRETE FOR A-FRAMES AND POOL WALLS

Type - 3/4 stone - no air 3,000 PSI

Quantity: It is recommended that a concrete collar is poured around the perimeter of the pool wall approximately 8" deep and 24" wide.

Each A-Frame Brace should be covered to a depth of 12"

A 16' x 32' rectangle requires approximately 3-1/2 cubic yards.

Method to calculate cement:  $.038 \times \text{linear footage of pool} = \text{cubic yards of cement required.}$

Example:  $16' \times 32' = 96 \text{ linear feet} \times .038 = 3.6 \text{ yards}$

## HARD BOTTOM MIX

Method to calculate quantity of hard bottom mix required:

$.014 \times \text{surface square footage of pool} = \text{cubic yards required.}$

Example:  $16 \times 32 = 512 \text{ square feet} \times .014 = 7.2 \text{ cubic yards}$

Type: It is recommended that a hard bottom mix be used for the bottom of the pool. There are different methods and materials which can be used for the hard bottom.

- a) One method is to pour a concrete shell and after the concrete is set, a finished coat is applied.
- b) Another method is to pour a hard mix, provided by your local ready mix company which can be finished to a smooth surface.

One mix to ask for is as follows:

4 parts mason / one part portland cement / 6% air / 3000 P.S.I.

Your local concrete company may have other recommendations

## BACK FILLING

Quantity:  $.25 \times \text{linear footage of pool} = \text{cubic yards required.}$

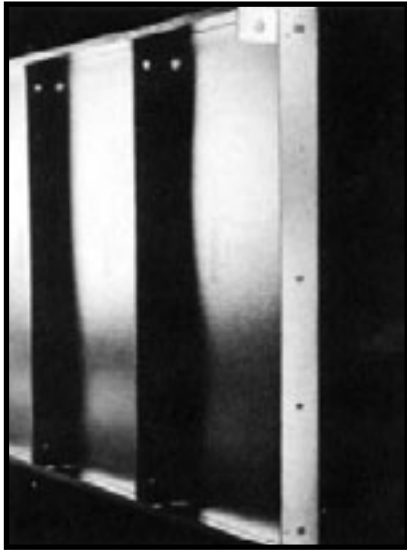
Example:  $16 \times 32 = 96 \text{ linear feet} \times .25 = 24 \text{ cubic yards}$

3/4" clear sand

A 16' x 32' rectangle requires approximately 24 cubic yards

# PARTS IDENTIFICATION

## STEEL WALL



Both straight and curved wall steel panels have strategically located holes (predrilled) at both ends. Adjoining panels are then securely fastened together using corrosion resistant hardware supplied, ensuring positive and accurate alignment.

## "A" FRAME



Our engineers have designed a unique "A" frame that ensures a perfect alignment.

X-frame or Deck support - upgrade



**HIDDEN DURABILITY**  
Imagine for a moment if you had X-ray eyes and could see through the deck on your pool, you would see many of the features that have made our pools famous. The walls are made of 14 gauge steel with a tough galvanized zinc coating, the thickest in the industry. They are supported by our unique "A" frame bracing and reinforcing ribs and protected by a lifetime warranty.

**UNIQUE "A" FRAME BRACE**  
Ask us for specifications on our adjustable "A" Frame and our deck supporting system.

**ADJUSTABLE "A" FRAME**      **ADJUSTABLE DECK SUPPORT SYSTEM**

**A SOUND INVESTMENT**

While your family enjoys your pool, you can bask in the knowledge that your investment appreciates year after year adding to the value of your home. So forget the rising costs of family vacations, enjoy the fun and convenience of a vacation wonderland right in your own backyard.

Your steel walled vinyl liner pool is affordable because of our automated production techniques and the precise pre-design engineering involved.

The steel components are made modular for ease of installation. This attention to design and manufacturing assures a sound investment for you, one that is sure to increase in value.

**DISCOVER THE 7-11 QUALITY THAT'S BUILT-IN TO ALL OUR POOLS AND ACCESSORIES.**

- 1 Ladder - Super hi-rise handrails and generous 5" treads backed with a 3 YEAR WARRANTY makes this stainless steel ladder a welcome addition to any pool.
- 2 Diving Board - Extra strength and durability combined with a non-skid finish keeps this 6' board above industry standards.
- 3 Bracing - Engineered beyond recommended standards.
- 4 Steel Walls - 14 gauge Z700 (G285) galvanized steel panels assure lasting durability and they're backed with a LIFETIME WARRANTY.
- 5 Liner - 30 mil virgin vinyl liners, in attractive patterns with industry leading 25 YEAR WARRANTY.
- 6 Filter - Constructed of polyethylene with a rotational moulding, this tank is virtually indestructible. All four sizes of 7-11 filters carry a 5 YEAR WARRANTY.
- 7 Heaters - Gas or propane heaters available, as well as our own ELECTRIC model, are designed to keep the pool water at optimum temperature.
- 8 Steps - Made of acrylic or novel, adds beauty and easy access to your pool.
- 9 Handrail - Solid securely fastened stainless steel handrail assures safer use of your steps.
- 10 Main Drain - Skimmer & Returns ... Necessary for good pool water circulation.

# POOL LAYOUT

## Wall Depth Only:

To provide space for the “A” Frames and for working around the pool later on, the initial excavation to wall depth only is made 2 foot greater all around, i.e. a 12' x 24' pool will have an initial excavation to wall depth only of 16' x 28'. If you are installing an in-wall step, be sure to stake out an over dig to accommodate step.

Refer to the chart diagram #1. Drive two stakes into the ground the appropriate distance apart, line No. One)

Lay out line No. 2 and diagonal A and drive a stake into the ground where they meet.

Lay out line No. 3 and diagonal B, and drive a stake where they meet.

Check line No. 4 for length which should be equal to line No. 2

Recheck all other lines in accordance with diagram. Diagonal lines A and B must be equal or pool will not be rectangular in shape.

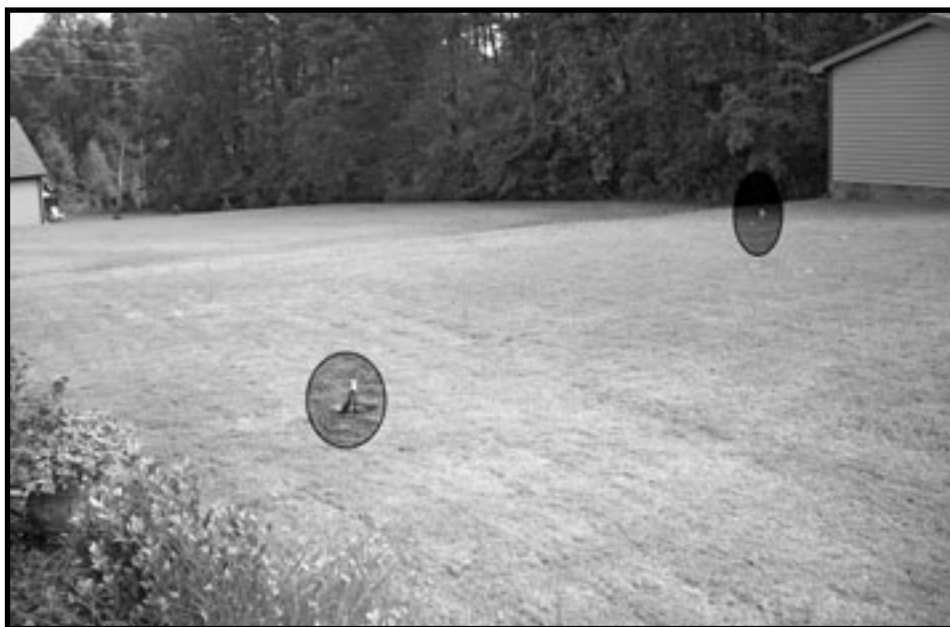


PHOTO ONE

### Diagram One

Pool Size Dimensions	12' x 24'	14' x 28'	16' x 32'	18' x 36'	28' X 40'
Line No. 1	28'	32'	36'	40'	44'
Line No. 2	16'	18'	20'	22'	24'
Line No. 3	28'	32'	36'	40'	44'
Line No. 4	16'	18'	20'	22'	24'
Diagonal					
A	32'-3"	36'-8"	41'-2"	45'-8"	50'-1"
B	32'-3"	36'-8"	41'-2"	45'-8"	50'-1"

## **FULL POOL DEPTH – See Diagram #2 on Next Page**

To mark the actual pool size start with stake A, 2 feet inside the initial excavation lines.

From stake A mark off the distance of one side of pool to stake B (Line No.1).

Lay out line No. 2 and No. 6 and drive a stake in the ground where they meet (stake C).

Lay out line No. 3 and No. 5 and drive a stake in the ground where they meet (stake D).

Check line No.4 for length which should be equal to line No.2

Recheck all other lines in accordance with diagram #2. Lines No. 5 and No. 6 must be equal.

After the pool is staked out, put in an additional 8 stakes in line with stakes A, B, C, and D, 6' to 10' away from the pool (see diagram 2 stakes E). If the original stakes are removed during excavation string lines can be run from stakes E to relocate the pool's position. The string lines can also be used to position the pool wall panels as described in Section 7. Under no circumstances must walls be erected on recently excavated material. The depth of excavation and other dimensions are shown in the Digging Specification Manual, all of which are finished dimensions, so that an extra 3" - 4" of excavation should be allowed for the hard bottom.

Run a string line between stakes and use chalk or spray paint to mark out lines.

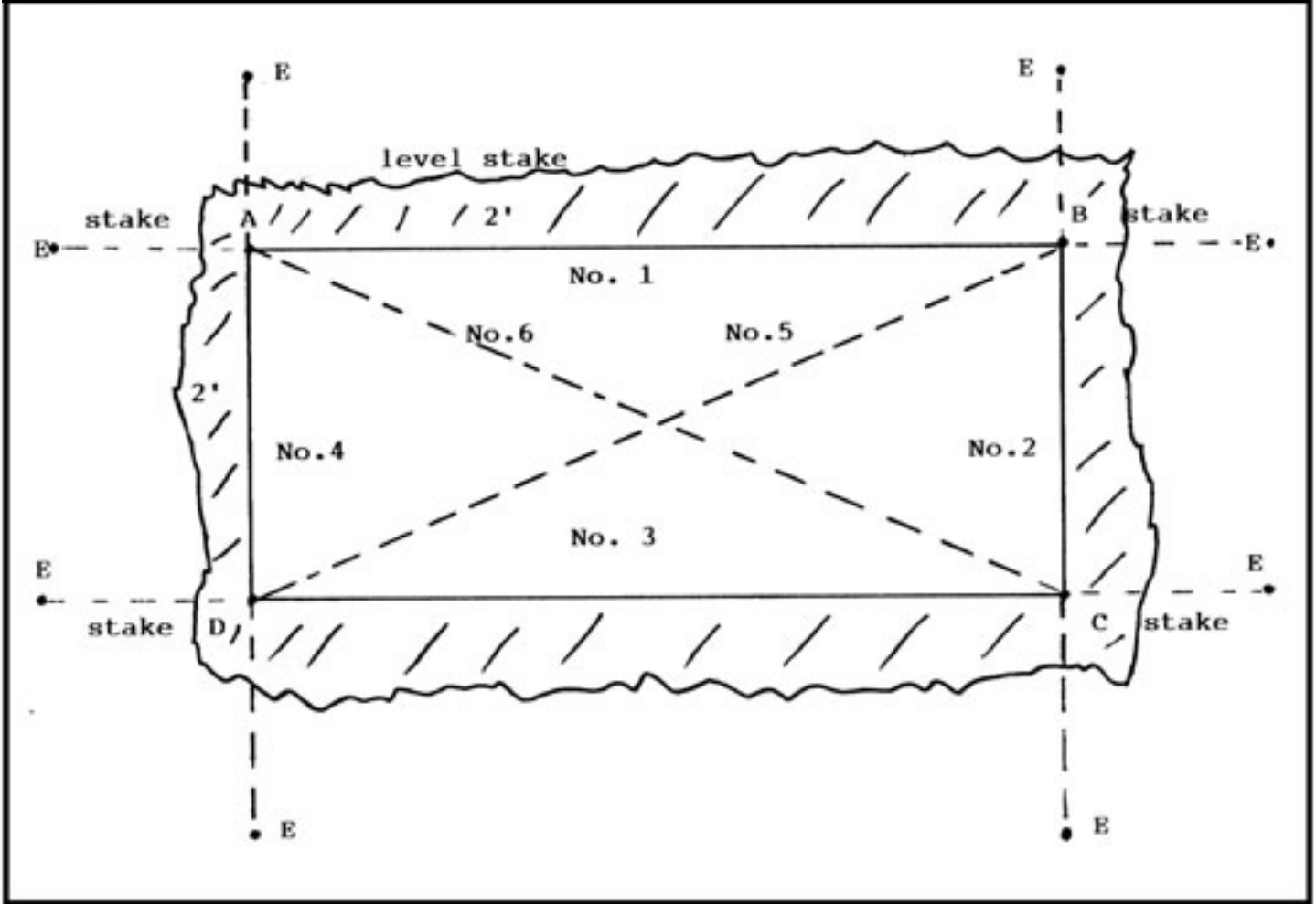
The shaded area is to be excavated to a maximum depth of 42" (See Diagram 2 on Level Stake).

The same method is used to stake out shaped pools. Refer to excavation drawings for details on squaring shaped pools. Note that all excavation drawings show finished dimensions.



PHOTO 2

## Diagram 2



### Pool Size

Dimensions	12' x 24'	14' x 28'	16' x 32'	18' x 36'	20' x 40'
Line No. 1	24'	28'	32'	36'	40'
Line No. 2	12'	14'	16'	18'	20'
Line No. 3	24'	28'	32'	36'	40'
Line No. 4	12'	14'	16'	18'	20'
Line No. 5	26'-10"	31'-3"	35'-9"	40'-3"	44'-9"
Line No. 6	26'-10"	31'-3"	35'-9"	40'-3"	44'-9"

### LEVEL STAKE

Drive a stake in the ground approximately 4 feet away from the pool. The height of this stake should be set at the height the top of the steel walls are to be at. The depth of the initial excavation will depend on how deep the pool walls are to be in the ground.

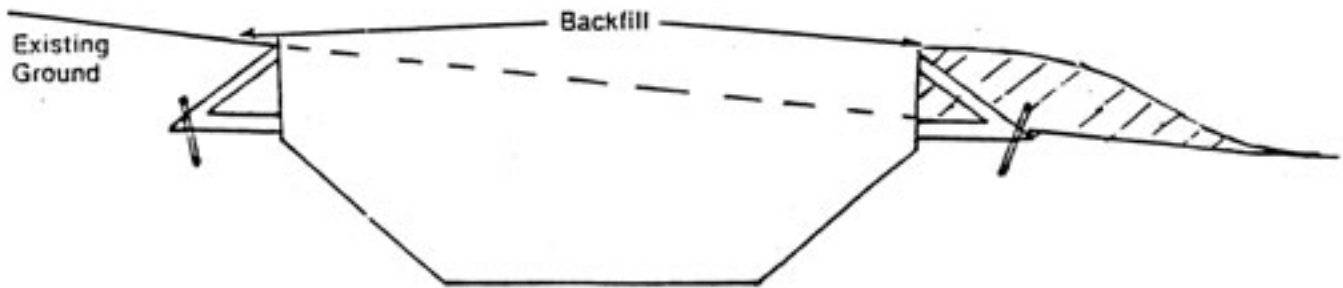


## EXCAVATION

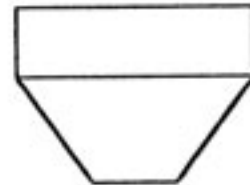
Before starting to excavate, be sure to have a dump site lined up to dump the excavated material.

Get the excavator operator to study the drawing of your particular size pool and stress the importance of the fairly close tolerances for the walls and inside finish. In particular, ensure that the width and length of the deep part of the excavation is not too great, since it is better to have a little extra hand trimming after the walls are firmly in position, than to find that you are trying to install the walls on thin air.

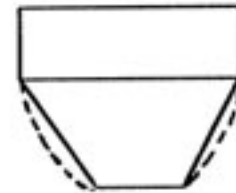
The depth of the initial excavation will depend on how deep you intend the pool walls to be in the ground. The best way to tackle a sloping site is illustrated below.



While the hole is being dug, a man with a shovel should work in the hole, grading and making periodic checks on all measurements to ensure accuracy and avoid unnecessary hand digging later.



All installation drawings show finished dimensions as show in the following drawings.



The hole can now be shaped to a bowl in the deep end, if so desired.





PHOTO 3

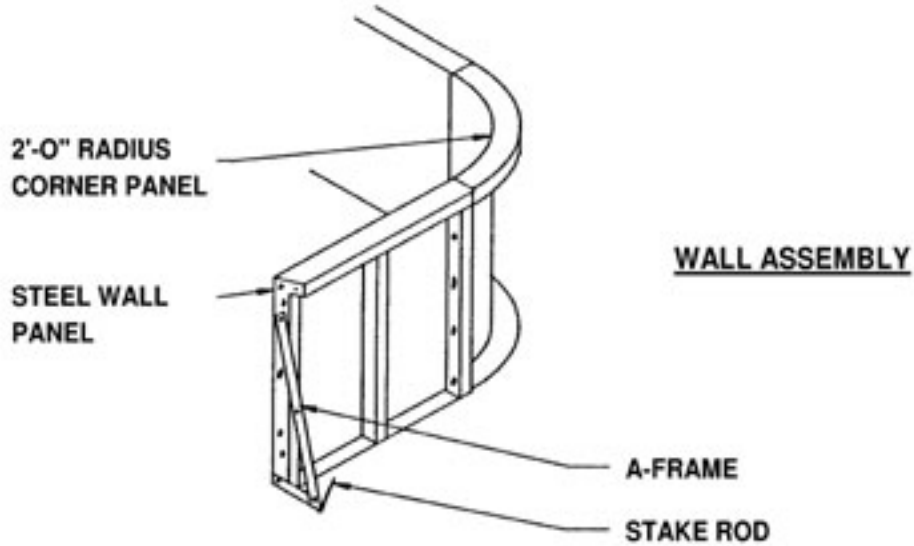


PHOTO 4

## POOL WALL ERECTION

A level foundation of undisturbed earth should be provided where the wall sections will be installed. A level area where the "A" frames will be placed should also be provided at this time. As final hand trimmings of the excavation is being made, the wall panels should be lowered onto the working border and leaned against the side of the excavation. Make a final check to see that the skimmer panel, both return panels are in their desired positions. If the panels have been correctly placed, the next step is to bolt them together.

### WALL ASSEMBLY



Bolt panels and A-frames together. One A-frame is required at each panel joint.\*

\*Except on 2' and 4' radius corners



PHOTO 5



PHOTO 6



PHOTO 7



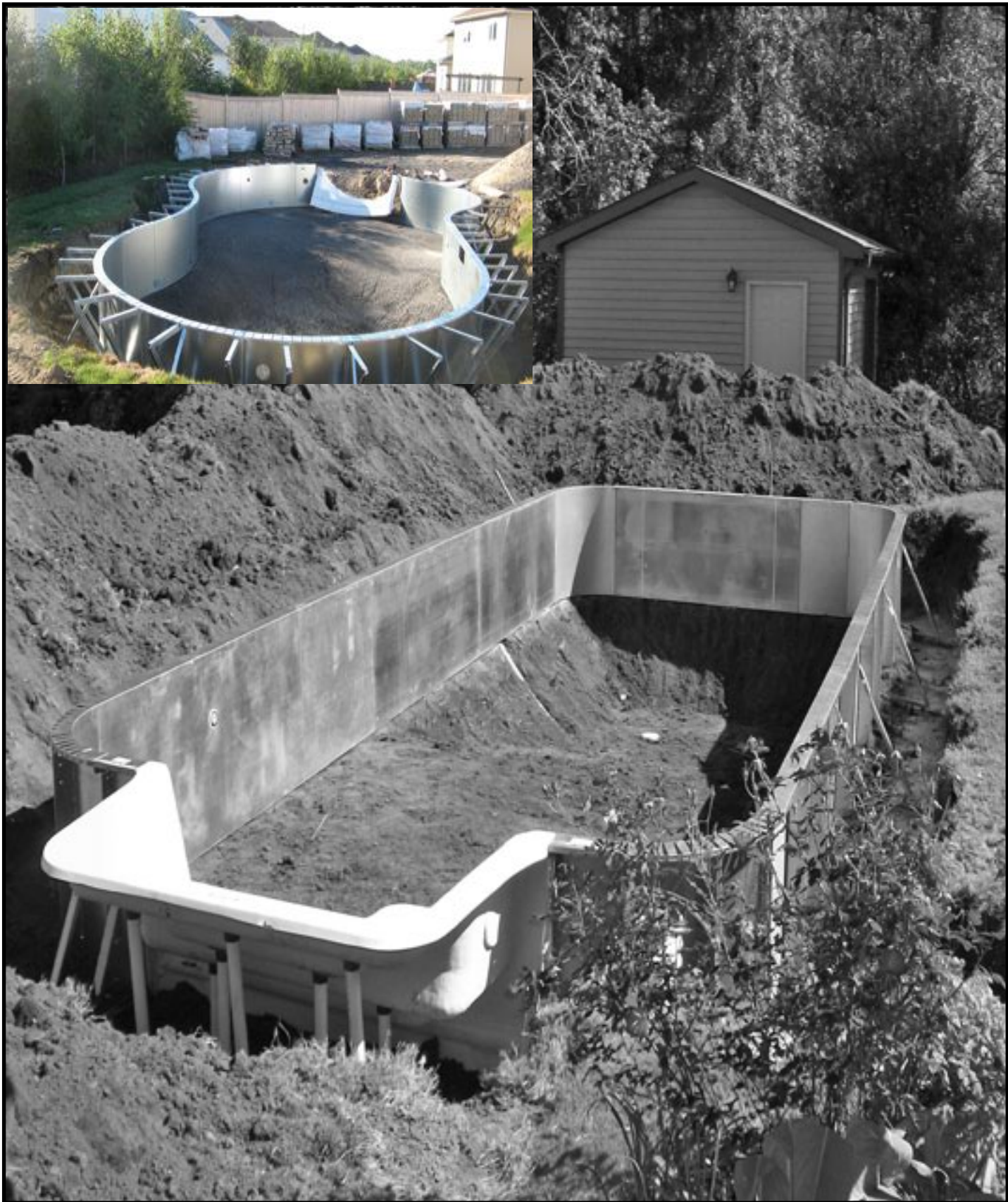


PHOTO 8

Bolt inwall step in place. One A-frame is required on both sides of the step.  
Use step supports to level the step.



PHOTO 9

Square the pool making all measurements match pool layout diagram.

**Level panels using a 4' level or sight level. Check level of panels at panel joints. Shim panel to level.**

**Note:** Check the level of curved panels at the center of the panel. After panels are leveled, double check the pool to be sure it is still square.



PHOTO 10

Secure panels in place with stake rod and or anchor pin and plate. If the ground is soft, also drive wooden stakes down in front of the panels to hold them in place.



PHOTO 11

A string line can be used to align panels. Once aligned tighten all nuts and bolts on panels and A-frames.



## IN-WALL STEP INSTALLATION

There are a variety of walk in step packages available. The pool can be ordered to accommodate a 4'/6'/8' straight or curved wall step depending on the shape and size. The step can be installed in different positions as shown in the step position chart. If the pool is ordered with a step position the panel mix will be changed to suit the step position.

Review the step manufacturers instructions for proper installation. Instructions will vary from different manufacturers. *Cantelever steps will require special mounting.*

Here are some basic guide lines to follow:

- Bolt the step in between two steel wall panels making sure the top of the step will be leveled with the top of the coping (not the top of the steel wall)
- The back of the step must be supported, and these supports can be used to level the step. Adjustable metal step supports can be ordered with the pool kit. If you do not have adjustable step supports, concrete blocks can be used.
- The step should be leveled to the same slope as the deck which will slope away from the pool.
- When pouring concrete around the pool, be sure to pour concrete behind the step.
- The step should be backfilled in the same manner the rest of the pool is backfilled (crushed stone or clear sand).

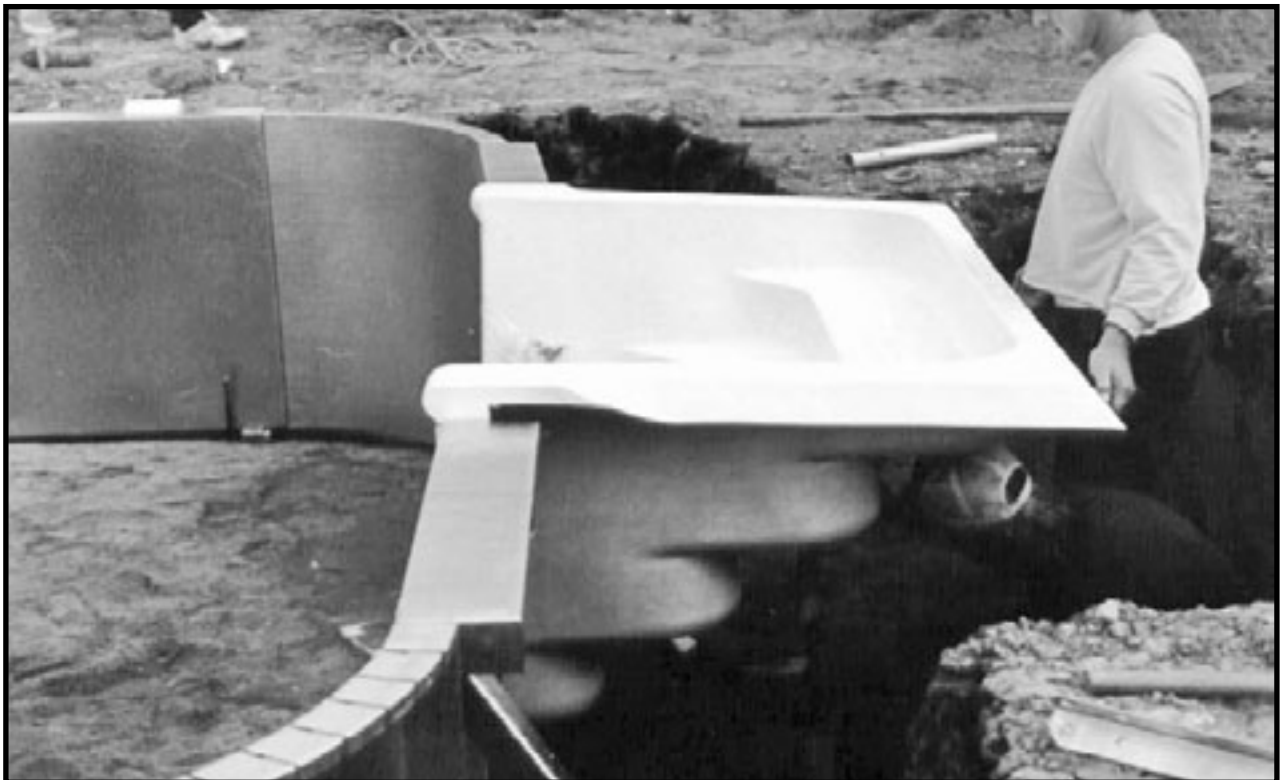


PHOTO 12



## SKIMMER INSTALLATION

Multiple skimmer types and styles from different manufacturers are available.  
SEE MANUFACTURERS INSTRUCTIONS FOR CORRECT INSTALLATION.

- A) Locate the skimmer in the pool so that the prevailing winds and water recirculation promotes drift of surface debris towards the skimmer.
- B) The Skimmer Face Flange mounts through the pool wall opening. A gasket must be installed between the Skimmer mounting flange and the pool wall. Align the Skimmer with the six mounting holes in the pool panel and fasten in place with the six one inch Phillips screws into brass skimmer inserts.
- C) Tape the exposed heads of mounting screws and bolts with duct tape.
- D) Support the Skimmer by bracing it behind the pool wall with a skimmer support which is included in the skimmer pack.
- E) When the vinyl liner is installed and the water level has reached the Skimmer, proceed with installation of the face flange.
- F) Gaskets are required on both sides of the liner, one on the Skimmer Throat and one on the Face Flange. Installation of the face flange – begin by placing the Face Flange and the Gasket in position and pierce holes through the Face Flange holes, one at a time, prior to inserting each of the 16 one inch flat head screws. Tighten the screws to make a water tight assembly.
- G) Cut out the liner material along the inside edges of the Face Flange.

**NOTE:** When connecting plumbing, use Teflon tape, **do not use** pipe caulking of any kind as this will attack the ABS material that the skimmer is made of causing cracking.

**WINTERIZING:** See operations manual supplied with the skimmer

**SKIMMER OPERATION:** See operations manual supplied with skimmer.

## RETURN FITTING INSTALLATION

Multiple Return types and styles from different manufacturers are available.  
SEE MANUFACTURERS INSTRUCTIONS FOR CORRECT INSTALLATION.

A minimum of two returns are provided for all pools with some models designed with three returns. Inlet panels are pre punched and should be placed as per the installation drawing or in such a way as to take full advantage of the prevailing winds. (See skimmer installation directions)

**IMPORTANT:** A gasket must be between the face flange and the liner. The gasket is factory cemented to the face flange). Place face flange in position and pierce holes in the liner for the 4 screws (one inch long). Install the screws using a #3 Phillips screw driver. Tighten screws evenly to make a water tight assembly.

### INSTALLATION

- A) Insert the body of the fitting through the precut hole in the panel from the inside of the pool. (Part #1013).
- B) Screw the draw nut (Part #1023) on the back of the fitting. The draw nut can be put on smooth flange first. (Do not over tighten.)
- C) When the pool liner is installed and after the water level has reached the return fittings, install the face flange (Part #1012).
- D) Cut out the liner along the inside edge of the face flange.
- E) Insert spring retainer, (beveled edge facing eyeball), spring, and eyeball into the return fitting and thread ball lock ring (Part #1014) in place.
- F) Adjust eyeballs in the desired direction.

**WINTERIZING:** See operations manual supplied with the skimmer package.

## DRAINS

The optional Main Drain must be VGB compliant and installed a minimum of 3' apart. Two Main Drains are required and must be "T'ee'd" together.

### OPTIONAL MAIN DRAIN INSTALLATION

The optional Main Drain is molded out of high technology thermoplastic materials. It is designed to be used for liner pool installations. It features a 1-1/2" side port for residential installations.

Multiple Main Drain types and styles from different manufacturers are available.  
SEE MANUFACTURERS INSTRUCTIONS FOR CORRECT INSTALLATION.

### INSTALLATION

- A) Dig a hole in the center of the deep end of your pool, approximately 18" x 18" square by 18" deep. Dig a trench to the side of the pool to accommodate the pipe to the skimmer or directly to the pump and filter)
- B) Install the plug in the bottom port of the Main Drain.
- C) Install a 1-1/2" threaded adaptor in the side port of the Main Drain, using Teflon tape on the threads. Do not over tighten.
- D) Connect the pipe going to the filter.
- E) Install each Main Drain Body in the 18" x 18" x 18" hole, packing 3/4" of crushed stone around the drain.
- F) Pour a concrete pad around each Main Drain. Bring the concrete even with the top of the Main Drain.  
**NOTE:** You must put tape over the screw holes so that cement does not plug the screw holes.  
(This operation can be done when you pour the hard bottom).  
**NOTE:** Remove the tape used to protect the screw holes before installing the liner.
- G) Install the liner in the pool, ensuring there is a gasket between each Main Drain Body and the liner.
- H) Once the vinyl liner is installed and vacuumed into proper position, install the face flange (#1019).  
**Important:** A gasket must be installed between the Face Flange and the liner. This gasket is factory cemented to the Face Flange. Line the Face Flange screw holes up with the Main Drain Body screw holes. Pierce in the liner for the screws. Insert and tighten the screws to make a water tight assembly.
- I) Cut out the liner along the inside edge of the Face Flange.
- J) Install the Anti-Vortex Cover, fasten with two screws supplied with the Drain (one inch long) for added safety.

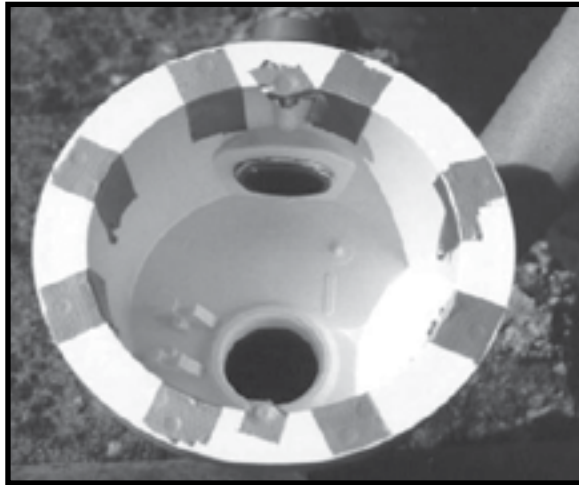


PHOTO 13

Tape screw holes to protect from cement.

**OPTIONAL MAIN DRAINS INSTALLATION**

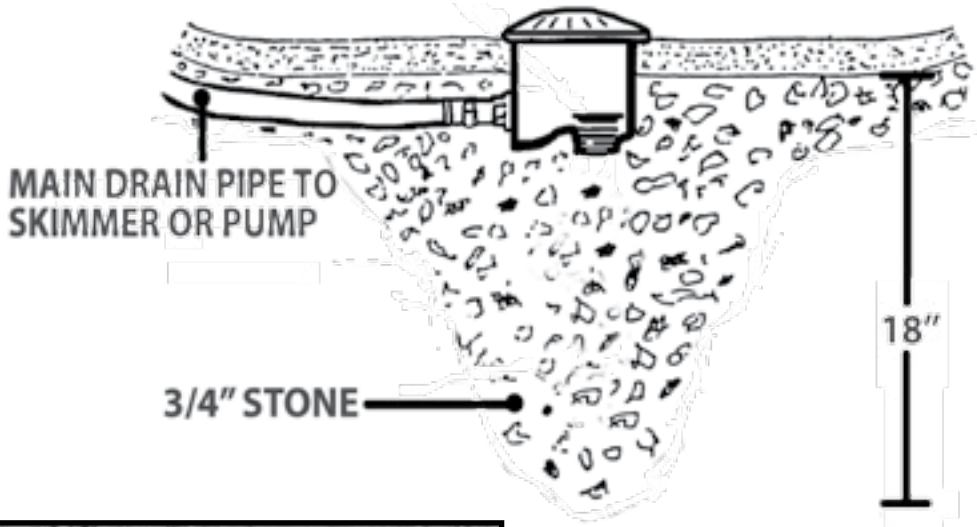


PHOTO 14

Check for proper depth.



PHOTO 15

Install gasket on main drains before installing liner.

## CEMENTING THE POOL WALLS AND A-FRAMES IN PLACE

Pour concrete around the total perimeter of the pool forming a concrete beam.

Before pouring concrete, be sure the pool walls are level and square. The main drain line is run to the filter area, A-frames, deck supports, skimmer support and ladder supports are all installed and level.

Pour concrete behind the panels around the total perimeter of the pool including the area behind any walk in stair cases. The concrete should be 8" deep by 24" wide which should fill the width of the excavation, this will form your concrete beam. Extra concrete should be poured at each A-frame to a depth of 12" to 14".



PHOTO 16



PHOTO 17

## BONDING

In most areas pools are required to be bonded (most provinces) check with your local electrical utility for requirements. All pools having a light installed must be grounded. All metallic parts must be bonded with #6 copper wire.

Metal parts include: steel panels, A-frames, aluminum coping, under water lights, ladders, hand rails, diving board supports, pump and motor.

The local ESA must be contacted for approval before the pool is backfilled and decked.

## PIPE AND FITTINGS INSTALLATION

- A) Ensure piping and fittings are supported, bring piping down to excavation level.
- B) Each fitting connection will require a 1-1/2" adapter with a threaded end for connection to the fitting. The adaptor is screwed into the fitting. Use Teflon tape on thread. Rigid and flex pipe is glued together.
- C) All pipework should slope uniformly in one direction without any kinks or dips to avoid possible air locks. This is particularly important for the suction pipe from the skimmer to the suction connection the filter pump; if an air lock exists it is unlikely that the pump will work. Be sure plumbing does not come in contact with sharp edges such as the pool wall or A-frame.
- D) Connect the skimmer to the filter pump.
- E) Connect the return fittings to the return side of the filter tank. By using a tee, you can connect the two return fittings to one return line.
- F) Pressure test all lines before pouring concrete.

## PLUMBING LAYOUT

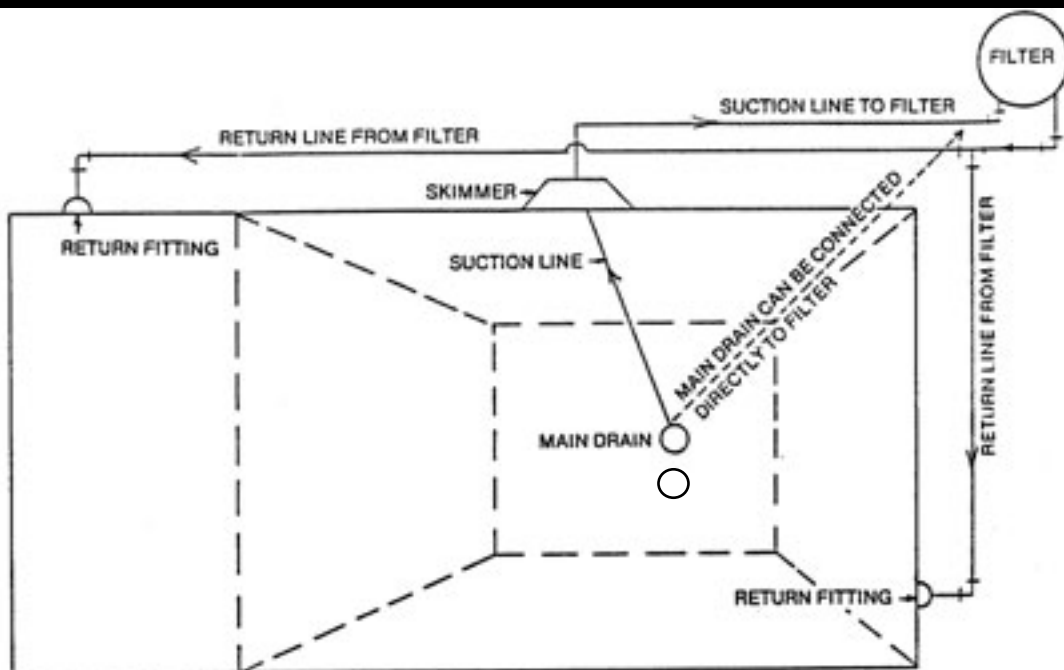




PHOTO 18



PHOTO 19



PHOTO 20



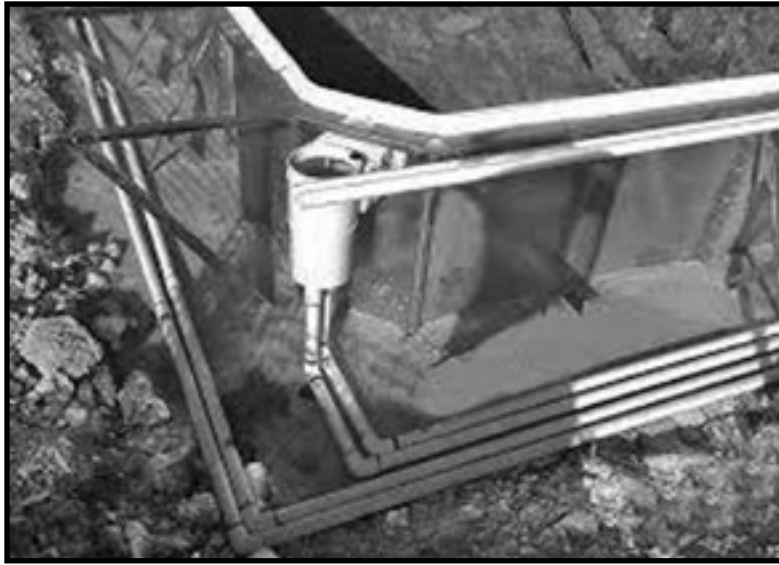


PHOTO 21



PHOTO 22



PHOTO 23

## BACKFILLING

Sono tubes can be used in place of deck supports to support the deck.

- A) If using sono tubes in place of deck supports they must be in place before backfilling.
- B) When using deck supports you will require sono tubes at the corners of 2' and 4' radius corner pools and around walk in stair cases.
- C) In areas where ground water is apt to run to the pool area, it is recommended that drainage tile be installed in excavated area before backfilling.
- D) Test all plumbing before backfilling
- E) Back fill with 3/4" clear sand.

**NOTE:** Do not allow any heavy equipment near the pool to back fill.  
Example: (trucks, backhoe, bulldozer etc)



PHOTO 24

## POOL BOTTOM PREPARATION

- A) Check the depth in various sections of the pool bottom in relation to the top of the walls. If the excavation has been done carefully, only a small amount of hand trimming will be necessary. Depths may be 2" or 3" deeper than the dimensions shown for your particular pool depending on the thickness you plan to make the bottom, but may not be less, since the liner would not fit smoothly in the pool bottom. In the bottom of the shallow end put 2" of hard bottom mix so the finished depth is 40".
- B) Remove all loose dirt before installing finished bottom.
- C) If the excavated hole is a dry hole, i.e. does not need to be continuously pumped out to keep the water out, then the bottom mix can be applied directly on the firm earth approximately 2" to 3" thick; if the hole is a wet hole, the bottom of the deep end should be dug out a further 6". This 6" extra depth should be filled with 3/4" stone. A concrete base 3" thick should now be laid over the entire bottom and rough trowelled. When this has set, a 1/2" thick layer of bottom mix should be spread over the concrete to give you a smooth finish on which the liner will rest. It should be noted that the above is a guide and judgement on the condition of the hole plays an important part in deciding just how wet or dry a given hole is. A concrete base can also be used if the hole is dry.
- D) Premix bottom mixes can be used such as vermiculite – cement pool base which can be mixed on site or premixed bases are available from most ready mix concrete supply companies which delivers to the job site premixed.



PHOTO 25



Smooth bottom mix.

PHOTO 26



Finished bottom.

PHOTO 27

## COPING INSTALLATION

There are various types of coping available both in PVC & aluminum. The following are instructions for installing I style of S/L PVC & aluminum concrete receptor type copings.

### ALUMINUM COPING

- On rectangle radius pools fit the preformed radius corners and fasten by means of self drilling / self tapping screws using a magnetic bit. Ensure alignment lip of the coping is flush against the steel panel.
- The aluminum coping is then fitted and fastened with self drilling / self tapping screws every 12". Ensure alignment is tight against the face of the steel panel.
- An aluminum coupling may be installed at every coping joint. Ensure the base lip of the coupling fits tightly against the base of the coping. Secure with a self drilling / self tapping screw.
- For shaped (curved) pools, preformed aluminum coping is available for inside or convex (reverse) curved panels, or you can form on site using the same methods used for PVC. When installing aluminum coping on a Kidney pool, start by installing the reverse section of the coping first.
- **WHEN PUTTING THE COPING JOINTS TOGETHER, MAKE SURE YOU HAVE A CLEAN, TIDY JOINT!** A small file might be helpful (or miter box). The preformed aluminum coping has all 9' radius pieces 10' long. To adjust for different radius, slotting of "V" notching might be necessary.
- On Snap Lock coping, after liner is installed the snap-lock clip is installed locking in the liner.
- Front mount track is used when a wooden deck or flag stone is being installed to the front edge of the pool. Front mount track is also used to repair older pools with decks.
- For rectangle radius corners, fasten the preformed radius Snap Lock front mount corners to the inside of the pool wall by means of heavy duty self drilling / self tapping screws.
- A small channel is provided where the self drilling / self tapping screws are fastened into the face of the steel panel every 4".
- With Kidney Pools, start in center of reverse panel and let the self drilling / self tapping screws form the bending.



PHOTO 28

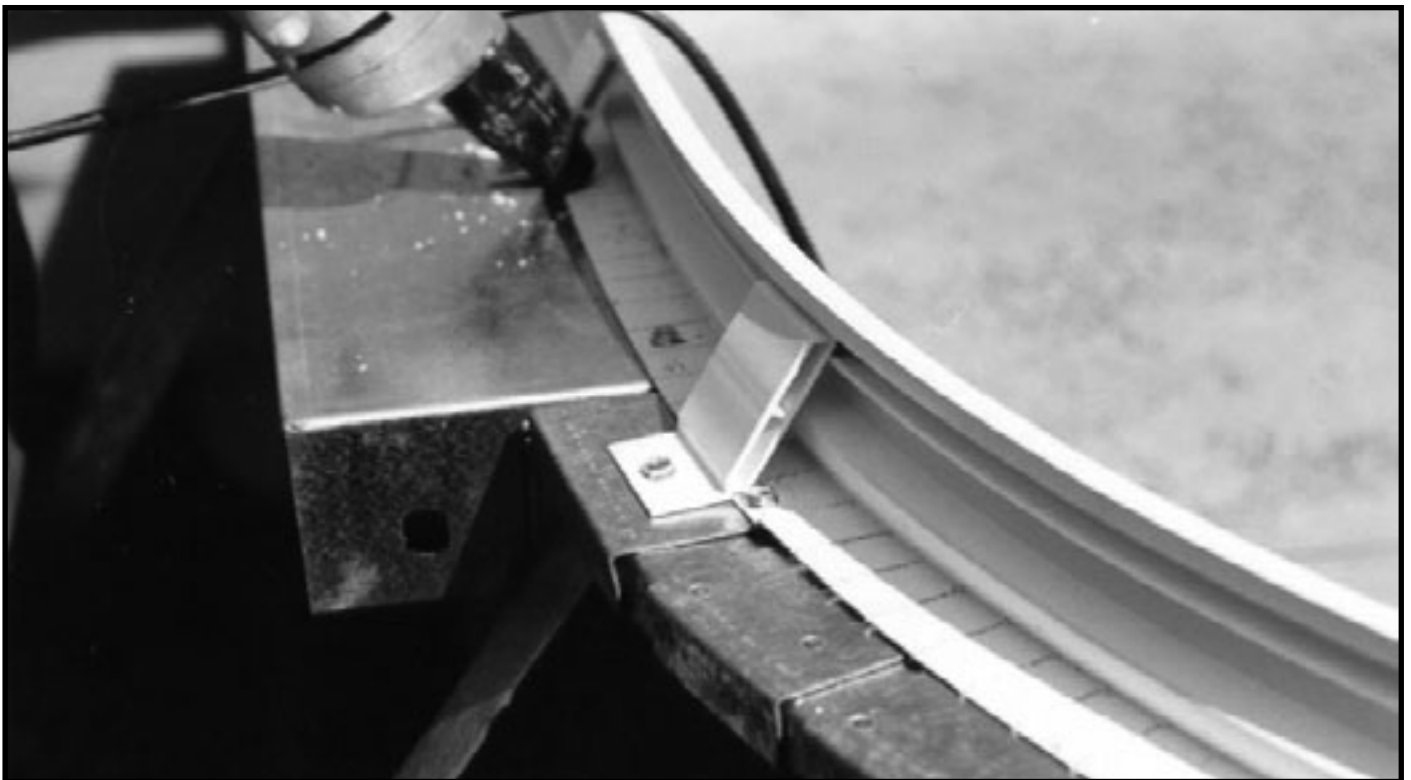


PHOTO 29



## INSTALLING THE LINER

Vinyl liners are best installed in warm weather. The liner can be handled better and the packaging wrinkles will disappear more readily. If the liner is to be installed in cool weather, store in a heated room for a day or two prior to installation.

- A) Before installing the liner, double check the bottom of the pool to be sure there are no stones or sharp objects that might damage the liner. Also make sure any cement splashed on the steel walls is removed. The steel walls should be dry before installing the liner. Tape panel joints and corners and coping before installing the liner.
- B) At this point the main drain gasket(s) must be put in place (see main drain installation)

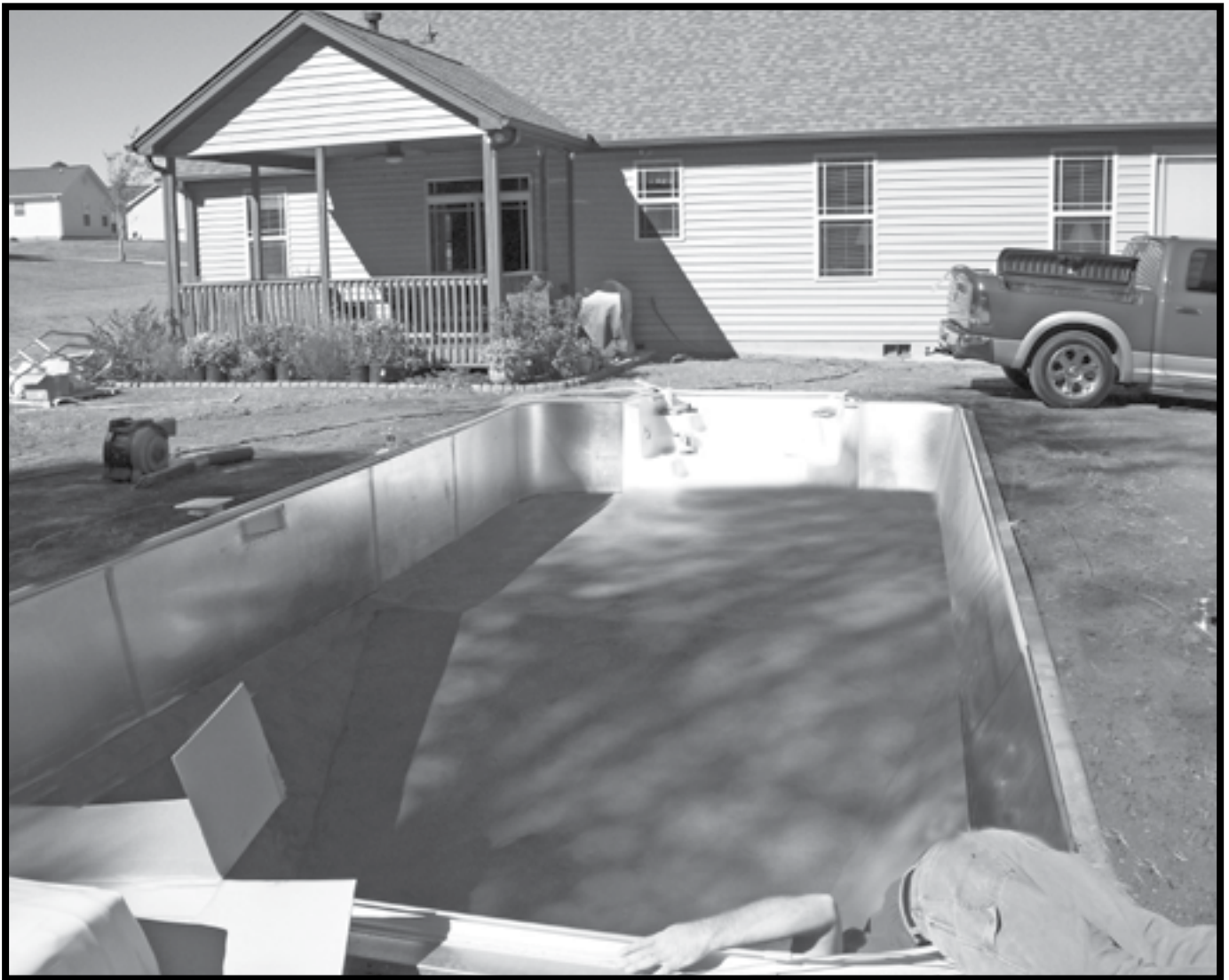


PHOTO 30



## INSTALLING THE LINER



Tape off vertical wall seams.

PHOTO 31



Tape around the perimeter of the coping.

PHOTO 32

## INSTALLING THE LINER

- C) Unroll liner crossways at shallow end of pool. Make sure edges and corners of liner are accessible. Place two people at each end of the unrolled liner. One person at each end should take hold of the liner corner that will be positioned at the deep end of the pool, the other two people should hold the liner corners for the shallow end. The two people holding the deep end corners then walk down their respective sides of the pool, unfolding the liner like an accordion. The liner will then be suspended over the excavation with all sections in the relative positions.
- D) Take the top edge of the liner, and starting from the corners, insert the liner bead into the coping track at several spots to temporarily hold the liner in place. Now finish inserting the liner bead around the rest of the pool. SEE BELOW



- E) When you are satisfied that the liner is in its proper position, remove 6" of the liner bead from the extrusion near the drop off to the deep end. In this opening, insert a vacuum hose to about 30" below the top of the wall. It is best to use an industrial type vacuum rated for continuous use. Where the hose is inserted between the liner and wall, seal with duct tape. Also seal off the pipes from the skimmer and inlets. A wet/dry type vac should be used.
- NOTE:** You may choose to run the vacuum hose through the skimmer, but make sure the opening is sealed to insure good suction. If the deck is not yet in place, put duct tape along the back edge of the coping. This will help the vacuum work better.
- F) When used, the opening for walk-in steps needs to be sealed to prevent suction loss. You may tape the backside of the liner to the step, or lay a sheet of plywood across the top of the steps, taping the liner bead to the plywood. Good suction is important for proper liner installation.

**NOTE:** Refer to step manufacturers instructions for proper installation of gaskets and flanges.

## INSTALLING THE LINER

- G) Start the vacuum cleaner. In about 15/20 minutes, the liner will be drawn against the pool excavation and side walls and you will see if the liner bottom is seated correctly in the excavation or if it needs repositioning. Make adjustments where necessary (if possible with vacuum still running) by pulling liner into place.

**NOTE:** Do not cut any fittings or add water if the liner does not fit properly. Water will not remove wrinkles. Be careful with tools and wear stocking feet, not boots or shoes to avoid damaging the liner.

- H) Once the vinyl liner is installed and vacuumed into proper position, install the face flange. A gasket must be installed between the Face Flange and the liner. This gasket is factory cemented to the Face Flange. Line the Face Flange screw holes up with the Main Drain Body screw holes. Pierce in the liner for the Main Drain Body screw holes. Pierce in the liner for the 8 flat head screws (one inch long). Insert and tighten the screws (using a #3 Phillips screw driver) to make a water tight assembly.
- I) Cut out the liner along the inside edge of the Face Flange.
- J) Install the Anti-Vortex Cover, fasten with the two one inch long screws supplied with the Drain.
- K) If a walk in step has been installed, use water bags to hold the liner against the shallow end wall (see photo below).
- L) You can now start filling the pool with water while the vacuum is still running.

## INSTALLING THE LINER



PHOTO 33



PHOTO 34

## INSTALLING THE LINER



PHOTO 35



PHOTO 36

## INSTALLING THE LINER



PHOTO 37



PHOTO 38

## INSTALLING THE LINER



Optional main drain covers installation.

PHOTO 39

### M) Installing Walk In Steps

Normal installation of walk in steps would be as follows, but it is recommended you refer to step manufacturers installation.

- 1) Install face flanges on the step when the water reaches the shallow end.
- 2) Install the 2 side flanges fastening the top 3 screws only.
- 3) Cut the liner in the center of the step in the shape of a smile. This will allow the tension to be taken off the liner under the bottom step.
- 4) Install the bottom flange and finish putting the screws inside flange. Be sure there is a gasket between the step and the liner and the face flange and the liner.

N) When installing Kidney liners, start at the shallow end and make sure it fits properly. The shallow end line seam and the panel joints should line up. Then distribute the rest of the liner evenly around the rest of the perimeter.

O) When installing Roman end pools, two vacuums must be used. Sandbags or waterbags are recommended to avoid the liner shifting and causing wrinkles. **WATER WILL NOT REMOVE THESE WRINKLES!**

**NOTE:** With most shaped pools again sandbag or waterbag the shallow end.

P) When there is 6" of water in the shallow end, shut off the vacuum cleaner and remove the vacuum hose. Walk in steps may be cut at this time.



## INSTALLING THE LINER



PHOTO 40



PHOTO 41

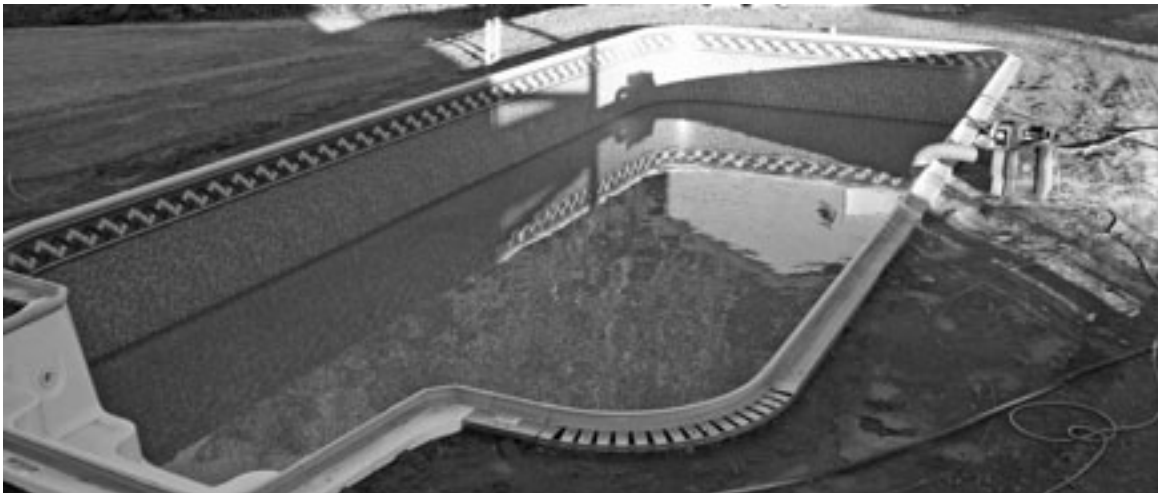


Photo 42

## INSTALLING THE RETURN FACE PLATES

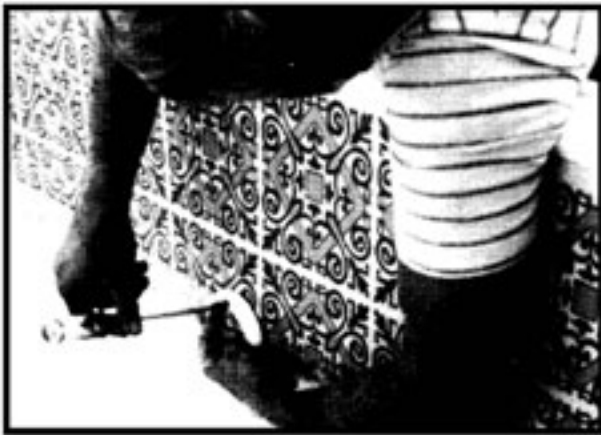


Photo 43



Photo 44

When the water level reaches the return fitting, install the face plate as shown in photo. (See manufacturer's instructions for more details.)

After the face plate is fastened in place, cut out the liner material in the center, using a small blade.





Photo 45

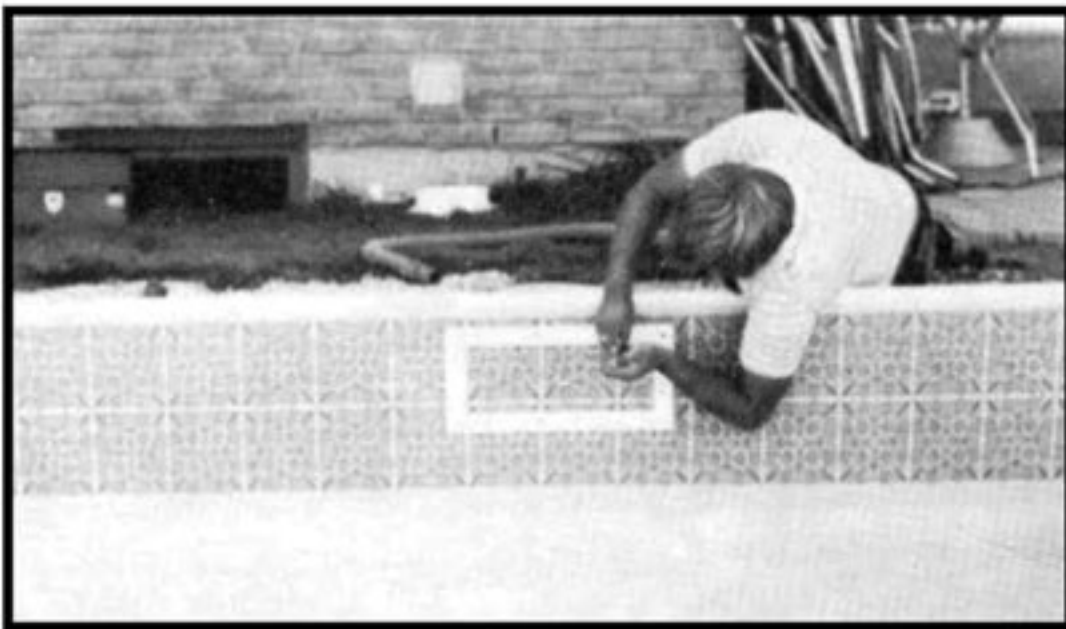


Photo 46



Photo 47

# COMPLETING THE JOB

## CONCRETE DECK

Before pouring a concrete deck, laying interlocking stones or installing a wooden deck, be sure all deck supports and sauna tubes are in place.

If a deck is to be poured against a solid wall such as a house or retaining wall, be sure a space is left for expansion. It is also a good idea to use drain tile to avoid ponding against the wall.

All concrete decks should have expansion joints to limit cracking caused by deck expansion or frost.

## LIGHTS

If a electrical light is being installed, the pool must be grounded and building inspected before backfilling the pool. In some areas all pools must be grounded even if there is no light.

## SERVICES

All electrical/gas services should be inspected before using.

## FENCE

All pools should be fenced for safety reasons. Most areas require a fence to be installed around the pool or around the yard. Different rules apply regarding height and construction. Check the local By Laws.



Photo 48

# SAFETY BEGINS WITH YOU!

**Always refer to the diving board manufacturer's specs before installing any size diving board.**

When it comes to safety, it is up to the installer of the pool to ensure all possible efforts are made to construct the pool to safety standards and to ensure equipment such as diving boards, slides, steps, etc., are only installed on pools designed for this equipment. If in doubt, do NOT install the equipment.

These No Diving labels must be installed in the shallow end, or in the case of shallow depth pools, they are to be installed at both ends of the swimming pool.

Questions on safety can be directed to the company, the equipment manufacturer, or The Association of Pool and Spa Professionals.



## Feet First



For more information with regard to the ANSI/NSPI, ANSI/APSP or ANSI/APSP/ICC standards or for other general information contact:

THE ASSOCIATION OF POOL AND SPA PROFESSIONALS  
211 EISENHOWER AVENUE  
ALEXANDRIA, Va. 22314  
Phone (703) 838-0083  
[www.theapsp.org](http://www.theapsp.org)