



waterway™

AQUA FALL
WATERFALL SYSTEMS



INSTALLATION MANUAL

The Waterway Aqua Fall is a water feature system. The unit is a self-contained plumbing fixture that is easy to plumb and simple to install. The Waterway Aqua Fall unit provides a continuous sheet of water falling evenly from an inconspicuous horizontal opening eight inches or two feet in length. The front blade is removable, making the Waterway Aqua Fall the easiest waterfall to service on the market. The blade is available in various colors and different styles. The sound and visual effect created by the Waterway Aqua Fall provides an animated, interesting landscape feature and brings your swimming pool to life. Made from the finest materials available, the Waterway Aqua Fall is efficient, durable, and will provide a sense of personal satisfaction, enjoyment, and trouble-free service for many years.



Designed,
Engineered &
Manufactured
in the USA.



waterway™

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LIMITED WARRANTY

Waterway Plastics manufactures its products and equipment in accordance with very high standards of workmanship. We use the best materials available and maintain the highest quality procedures practical in the industry. For Warranty, product must be registered at time of purchase/installation at www.waterwayplastics.com. **For Warranty claims or questions, please contact point of purchase.**

24" WATERWAY AQUA FALLS

The 24" Waterway Aqua Fall ranges from 20 GPM and higher depending on the desired look of the fall. Plumbing is a 1 ½" socket / 2" spigot straight out of the back of the body. The 24" Aqua Fall comes with either a 1" or 6" lip. Plumbing blade included.

Part No.	Description	Color
675-5020	1" lip - 1 ½" S / 2" Spigot	White
675-5021	1" lip - 1 ½" S / 2" Spigot	Black
675-5027	1" lip - 1 ½" S / 2" Spigot	Gray
675-5029-BEI	1" lip - 1 ½" S / 2" Spigot	Beige/Tan
675-5030	6" lip - 1 ½" S / 2" Spigot	White
675-5031	6" lip - 1 ½" S / 2" Spigot	Black
675-5037	6" lip - 1 ½" S / 2" Spigot	Gray
675-5039-BEI	6" lip - 1 1½" S / 2" Spigot	Beige/Tan

8" WATERWAY AQUA FALLS

The 8" Waterway Aqua Fall has a range of 8 GPM to 25 GPM. Plumbing is a 1" socket / 1 ¼" spigot on the bottom. The 8" Waterway Aqua Fall has a 1" lip.

Plumbing blade not included.

Part No.	Description	Color
675-5000	1" lip - 1" S / 1 ¼" Spigot	White
675-5001	1" lip - 1" S / 1 ¼" Spigot	Black
675-5007	1" lip - 1" S / 1 ¼" Spigot	Gray
675-5009-BEI	1" lip - 1" S / 1 ¼" Spigot	Beige/Tan

PLUMBING & WINTERIZE BLADE

Part No.	Description
675-5000	8" Blade
675-5001	24" Blade

The unit must be installed according to the manufacturer's installation instructions. If questions arise, please contact Waterway at (805) 981-0262.

- **Please read and follow all instructions.**
- **Please save these instructions.**

PREPARATION & INSTALLATION

(Protect face when installing)

This manual provides easy reference illustrations to help you identify each part of the Waterway Aqua Fall. Use this manual to guide you through the routine procedures and adjustments for a trouble-free installation. These instructions were developed with the aid of experienced contractors and have proven to be a simple, consistent and trouble-free method of installation.

During all phases of installation, care should be taken not to damage the Waterway Aqua Fall. Keep the unit in the original packaging until the site is prepared for permanent installation.

The Waterway Aqua Fall has a plumbing blade (included with 24"; sold separately for 8"). This blade does not have an opening slot in the front. Install with screws provided. **Do not over tighten; hand tighten only! Do not use power tools!** The plumbing blade keeps the spillway clean and damage free. Do not remove plumbing blade until the start up of the pool equipment. The plumbing blade must be left in the opening during the entire installation, or damage to the unit may occur, which would affect its ability to perform and also void warranty.

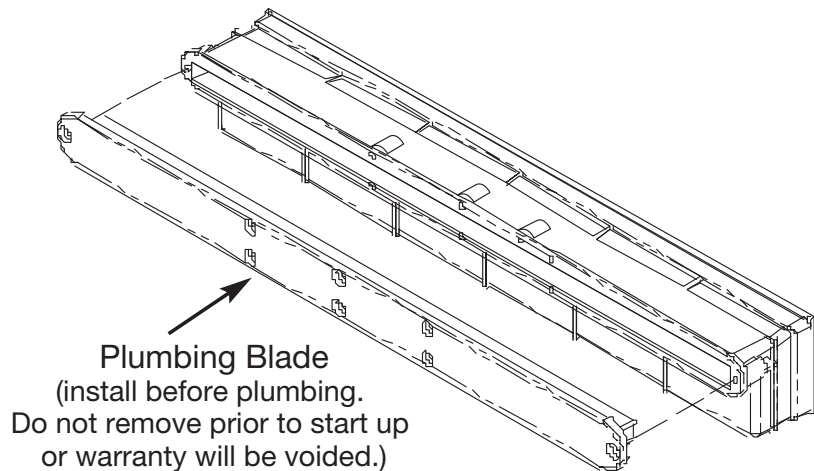


Figure 1

HEIGHT SPECIFICATION

Waterfalls naturally narrow as they fall. Waterway presents the following height specifications for each Waterway Aqua Fall unit (see Figure 2):

- A** Length of Waterway Aqua Fall fixture
- B** Recommended waterfall height from the lip of the fixture to the pool water surface
- C** Width of the sheet of water at the pool water surface (when installed at height **B**)
- D** Maximum waterfall height
- E** Width of sheet of water at maximum waterfall height (**D**)

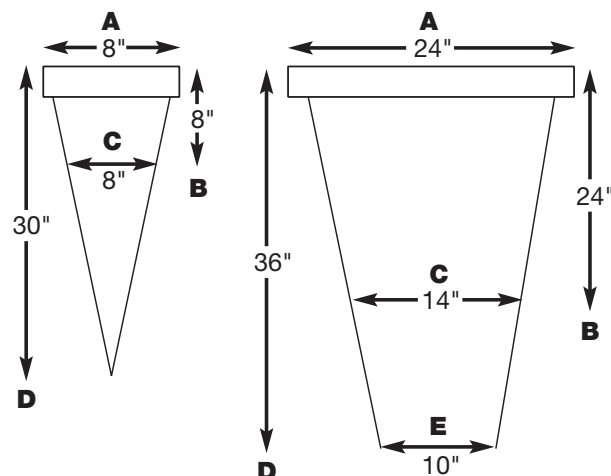
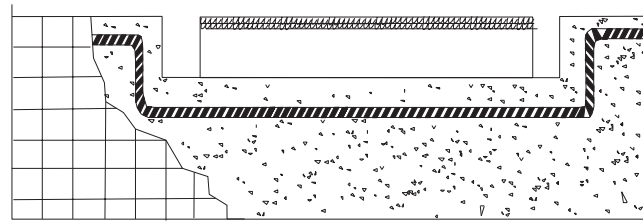


Figure 2

EXCAVATION & STEEL MODIFICATIONS

It is recommended that the area designated for the Waterway Aqua Fall is marked off during the framing process, prior to excavation. In preparation for the installation of the steel rebar, mark the exact area designated for the Waterway Aqua Fall. To allow room for notching the bond beam and installing the unit, offset the steel pattern by 3" below the original form and 1" on both ends of the Waterway Aqua Fall waterfall. For example, if the Waterway Aqua Fall is 24" in length, offset the steel pattern to measure 4" down from the top of the frame and 26" in length (this allows 1" of space on each side of the Waterway Aqua Fall unit) (see Figure 3).



Steel Offset

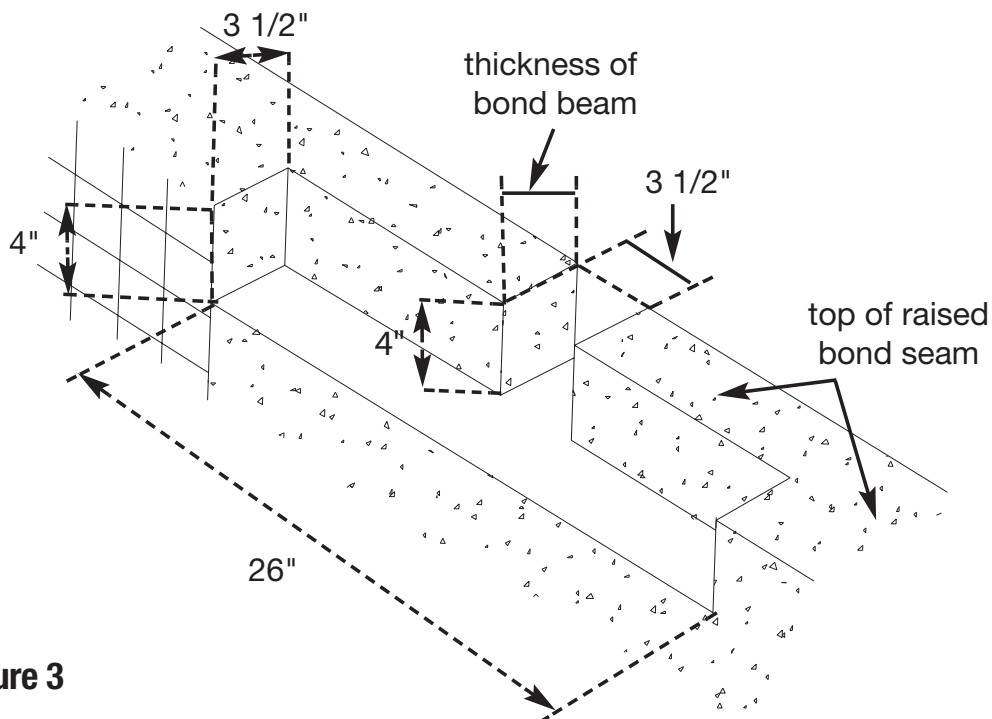


Figure 3

Finished notch in beam for 24"

NOTE: Notching of the bond beam is the next step in the process. The change to the steel will make the notch a simple procedure.

The 24" Waterway Aqua Fall is also available in an extended lip model (6").

CONCRETE INSTALLATION & MODIFICATIONS

As the concrete installation (or similar process) nears completion, a notch must be cut into the inner edge of the bond beam in the same area at which the steel was offset to allow for the installation of the Waterway Aqua Fall (see Figure 4).

Cutting the Bond Beam (for Waterway Aqua Fall sizes 8" or 24")

Select the exact location for the Waterway Aqua Fall waterfall. The notch in the bond beam should be cut 3" deep by 3 ½" wide and 2" longer than the length of the proposed Waterway Aqua Fall (1" per side). For example, if a 24" model is to be installed, the notch length should be 26". In addition, mark a single slot on the top of the beam in the center of the proposed notch, 4" wide by 4" deep. The notch will be used to plumb 1 ½" pipe to the Waterway Aqua Fall. Mark the bond beam and proceed with cutting the beam. The 8" Waterway Aqua Fall needs 3 ½" depth cut in the bond beam to allow for plumbing. The 24" units are back-fed; 8" units are bottom-fed (see Figure 4).

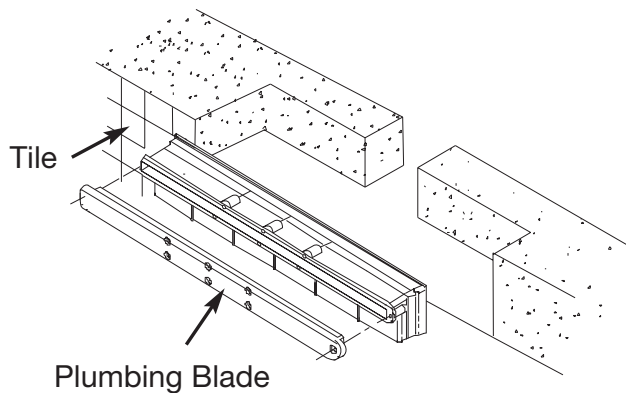


Figure 4

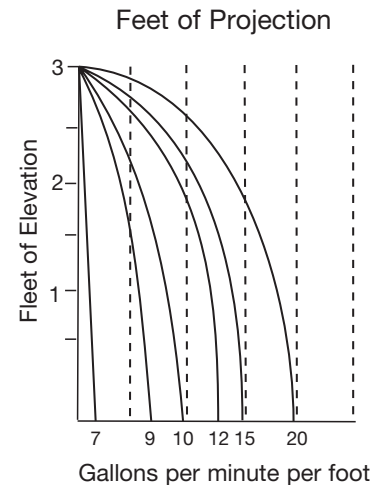


Figure 5

PUMP SIZING & INSTALLATION OPTIONS

One of the advantages of the Waterway Aqua Fall is the ability to provide a continuous sheet of water flow. A standard 24" model, for example, requires as little as 20 GPM to operate. In order to size your pump properly, refer to the Water Flow Requirement Chart (Figure 5). In most cases, a properly sized standard swimming pool will operate the Waterway Aqua Fall and filter the pool with little loss of total water turnover. As a general rule of thumb, the Waterway Aqua Fall requires approximately 1 GPM per inch with little head loss. For a more dramatic effect, more GPM can be applied to project the waterfall further away from the wall.

NOTE: When plumbing multiple falls, add the total length of waterfalls together to determine GPM required. For example, when plumbing three 24" units, you have 6 ft. of waterfall, which requires approximately 72 GPM.

EXISTING POOL FILTER PUMP INSTALLATION

The installation of the Waterway Aqua Fall using the main pool filter pump is the most common plumbing system, due to the unique low flow aspect of the waterfall system. Simply plumb a three-way valve on the return line after the filter, and plumb the waterfall feed line in a minimum of 1 ½" PVC SCH 40 pipe. Multiple units need a minimum of 2" plumbing (see Figure 6).

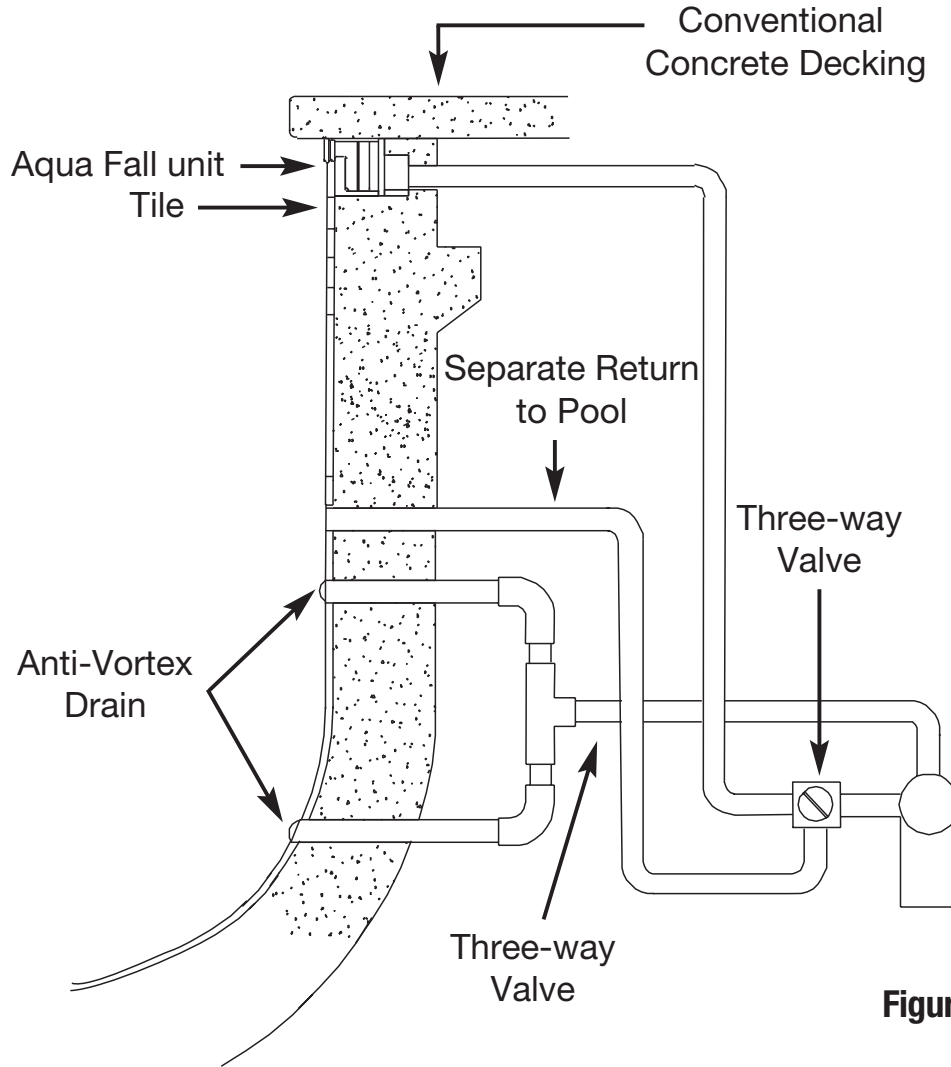


Figure 6

SEPARATE PUMP FOR WATERWAY AQUA FALL

If multiple Waterway Aqua Falls are being installed, we recommend installing a separate pump. When plumbing is dedicated for use by the Waterway Aqua Fall, a separate suction line with two or more drains to the pool must be plumbed. This should be plumbed in a minimum of 2" SCH 40 pipe.

Note: Two or more anti-vortex safety suction drains must be installed at poolside as a safety precaution. The anti-vortex suction are recommended to be positioned 18" above the floor of the pool (see Figure 6). The pump must have a leaf trap with a basket. No other filter or rock trap is necessary.

See start-up instructions for debris removal on page 11.

Water Return Line Plumbing

The waterfall feed line, from either the main filter pump or a separate pump, should be plumbed in a minimum of 1 ½" PVC pipe. **NOTE: 2" plumbing or larger is suggested for multiple Waterway Aqua Falls.** Refer to the Hydraulic Guideline Chart for specifications (see Figure 7). The feed line should end near the back of the bond beam near the center of the waterfall location. It is important to have a valve in a convenient location on the feed line to regulate the flow of water to the Waterway Aqua Fall. A three-way valve is suggested to be used as the "T" from the return line of the pool to the Waterway Aqua Fall. A properly plumbed valve in that position will allow full control of the water to the Aqua Fall, as well as to the rest of the pool. In most cases, this valve can be located after the filter, near the equipment pad (see Figure 6).

HYDRAULIC GUIDELINE	TYPICAL PUMP PERFORMANCE																		
<ul style="list-style-type: none">• Use minimum of 1 ½" pipe.• Use minimum of 2" pipe for runs in excess of 60 ft. or if multiple units are to be used.• Dedicated plumbing lines are recommended.• Maximum recommended flow for a typical installation:<ul style="list-style-type: none">1 ½" pipe for 60 GPM2" pipe for 100 GPM2 ½" pipe3" pipe	<p>(At 50 feet of head)</p> <table><tbody><tr><td>½ HP</td><td>=</td><td>26 GPM</td></tr><tr><td>¾ HP</td><td>=</td><td>58 GPM</td></tr><tr><td>1 HP</td><td>=</td><td>68 GPM</td></tr><tr><td>1 ½ HP</td><td>=</td><td>93 GPM</td></tr><tr><td>2 HP</td><td>=</td><td>106 GPM</td></tr><tr><td>3 HP</td><td>=</td><td>140 GPM</td></tr></tbody></table>	½ HP	=	26 GPM	¾ HP	=	58 GPM	1 HP	=	68 GPM	1 ½ HP	=	93 GPM	2 HP	=	106 GPM	3 HP	=	140 GPM
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2 HP	=	106 GPM																	
3 HP	=	140 GPM																	

Figure 7

PLUMBING MULTIPLE UNITS

Plumbing two or more Waterway Aqua Falls together is done exactly the same way as the installation procedure for a single unit, with the exception that additional two-way valves are required for each Waterway Aqua Fall. These valves regulate and balance the amount of water between the various waterfalls (see Figure 8).

- **Ensure plumbing lines to the unit are clear of debris.**
- **Ensure plumbing is properly sized.**

**24" units are back-fed.
8" units are bottom-fed.**

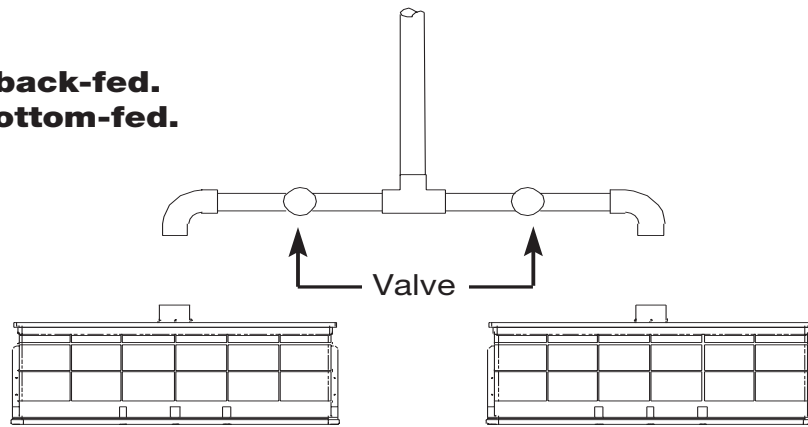


Figure 8

INSTALLING THE WATERWAY AQUA FALL

The installers generally install the Waterway Aqua Fall. **NOTE: The Waterway Aqua Fall must be installed prior to installing the decks and coping.** Place the Waterway Aqua Fall in the pre-cut notch in the bond beam. Level the Waterway Aqua Fall unit to the upper edge of the bond beam with tile shims.

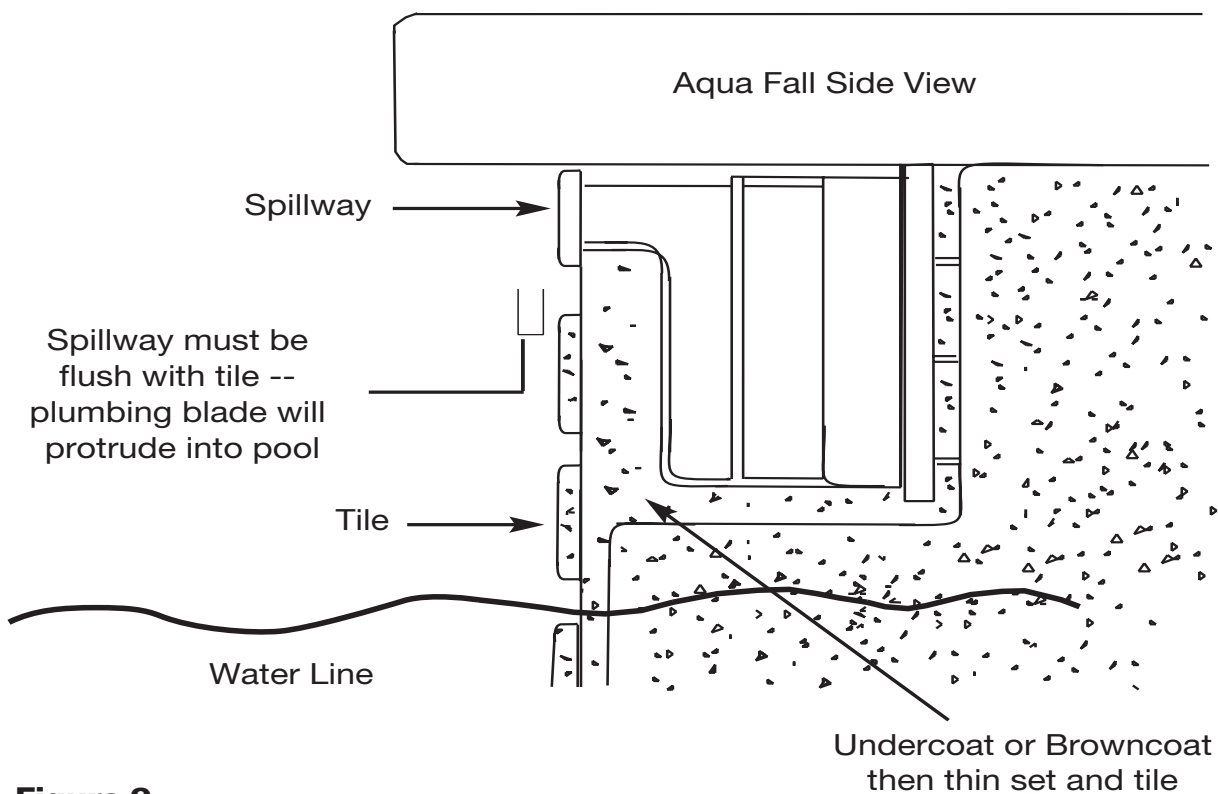


Figure 9

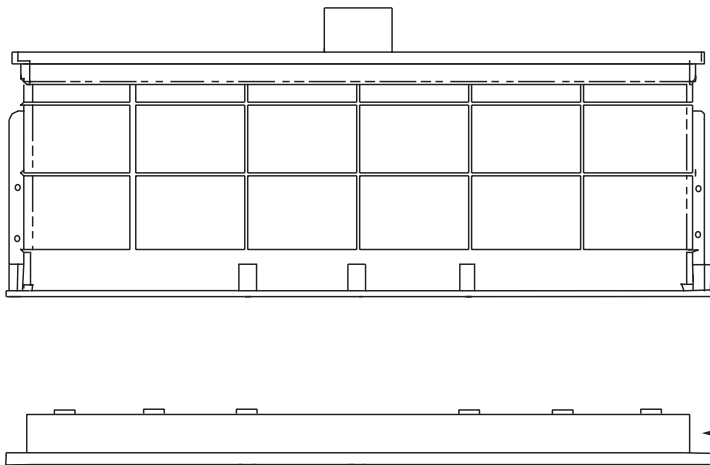
NOTE: The top of the Waterway Aqua Fall has the Waterway logo symbol (W). Cut the tile to fit under the "lip" of the unit and secure with "thin set" or similar compound (see Figure 9).

EXTENDED LIP WATERWAY AQUA FALL

The extended lip of the Waterway Aqua Fall is used when the lip of the waterfall needs to extend over wide objects such as brick, glass block, etc. The lip extension is 6" (standard lip is 1"). Operation and installation of both products is identical, with the exception that the steel pattern and notch in the beam may need to be altered to accommodate the lip width. **NOTE:** The extended lip must be fully supported (see Figure 10).

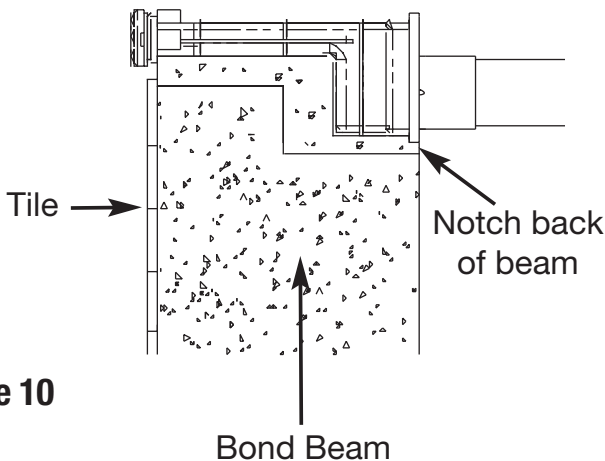
Mortar will not stick to the plastic parts on the Waterway Aqua Fall. When using various types of coping materials, consult with your decking contractor for appropriate installation and or modification to the installation.

Waterway Aqua Fall Extended Lip



NOTE: The plumbing blade must stay in place during entire installation, but make sure it is removed prior to system start up. All aspects of the installation are the same as the standard model Waterway Aqua Fall.

Over the Beam Installation



Over Brick/Rock Installation

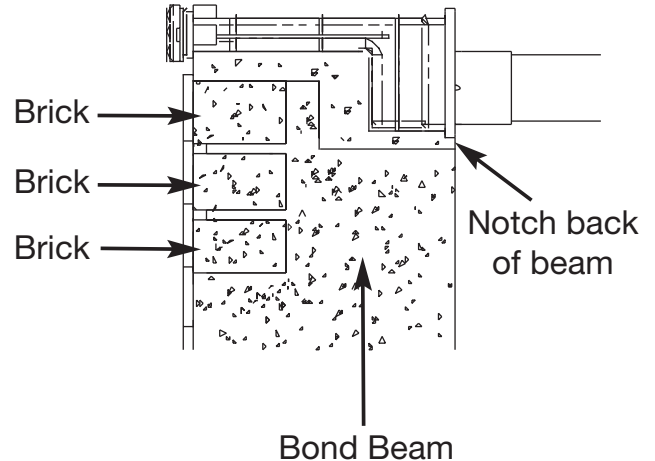


Figure 10

START UP INSTRUCTIONS

After the swimming pool is completed and filled with water, the Waterway Aqua Fall is ready to be activated. **Remove the Plumbing Blade now.** This must be done before water is diverted to the waterfall. Do not install waterfall blade until pool has been running for 24 hours. Allow the pump to run 24 hours to clear the lines of debris. Now the waterfall blade may be installed. Slide the gasket over the back of the blade. Put the screws into the screw cover and thread through the blade into the Waterway Aqua Fall Body (see Figure 11).

The screw cover may not slide over screw. Thread screw into cover $\frac{1}{8}$ ", then install through blade into body. Do not over tighten screws. **Hand tighten only! Do not use power tools!** Snap screw cover face over screw head. Slowly open the regulating valve and supply water to the unit. Adjust the flow of water until the sheet of water extends out onto the pool surface. Allow for air to clear lines. This should only take a few minutes. The Waterway Aqua Fall unit should now provide a clear, continuous sheet of water.

In the event a separate pump was installed, make sure all valves are open prior to starting the pump. Ensure all lines are clear of debris before starting. Start the pump and allow water to circulate through the separate filter system and from the lines.

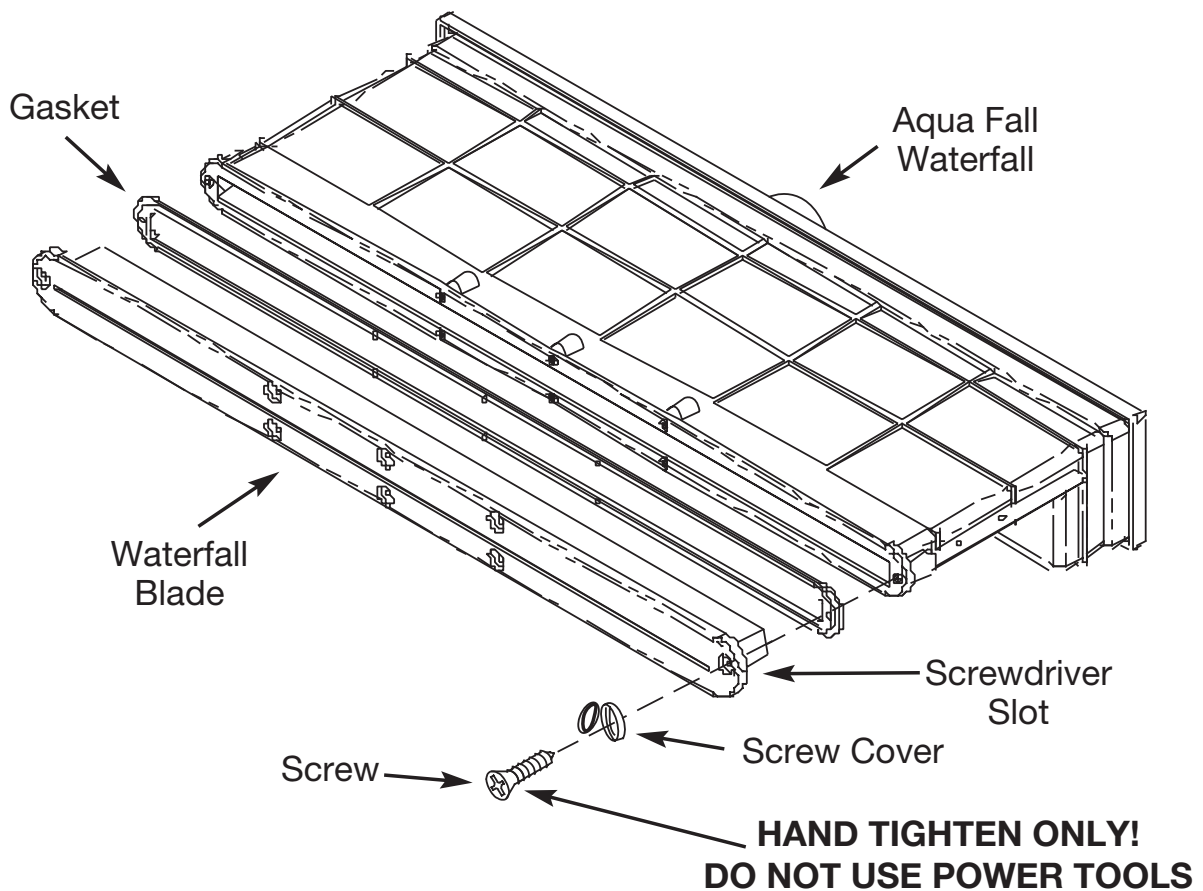


Figure 11

TO REMOVE BLADES

1. Use a flathead screwdriver to unsnap the screw cover.
2. Unscrew screws, then by using a flathead screwdriver, place on side of blade and pry out.
3. Pry each side $\frac{1}{8}$ " until blade can be pulled out by hand.

FREEZE PROTECTION & WINTERIZATION

The Waterway Aqua Fall's unique design has allowed for winterization. In order to prevent freeze damage to the system, the plumbing to the unit must be installed so water drains easily from the system. The Waterway Aqua Fall has been engineered to allow only a minimum of water to stay in the unit as long as the plumbing is installed properly. For winterizing, remove the waterfall blade, blow out the waterline, reinstall the plumbing blade, and then follow normal winterizing procedures.

Before proceeding, make sure the pump system is fully functional and activated. Also ensure all air is purged from plumbing lines.

TROUBLESHOOTING GUIDE

PROBLEM:

The Waterway Aqua Fall is completely smooth. A gap in the water is present.

CAUSE:

Debris in the plumbing has lodged in the opening of the Waterway Aqua Fall.

SOLUTION:

Remove the blade and clean out the blade and body of any debris.

PROBLEM:

Where multiple Waterway Aqua Falls are installed, one of the waterfalls is stronger than the other(s).

CAUSE:

The water supplied to the units is not properly balanced.

SOLUTION:

Adjust the valves for each waterfall until the proper effect and balance is achieved. Refer to section on plumbing multiple waterfalls for exact valve location.