

# Construction and Installation Instructions For the A&A Splash Pad

These instructions are not meant to be detailed construction plans since you will be using your standard plumbing and deck construction methods. The deck itself will be constructed with your normal forming and reinforcement. These instructions will, however, give some construction suggestions and methods to give optimum performance of the A&A Splash Pad.

## Excavation of the Pad Area

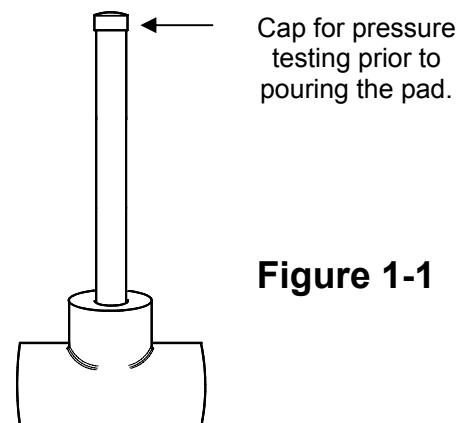
Excavate an area large enough to accommodate the forms for the desired size and shape of the pad. All plumbing lines and fittings to and under the pad must be deep enough to be completely buried so that only the risers and the jet heads will be seen in the pad area prior to and during the “pour”.

Since the surface of the pad must have a  $\frac{3}{8}$ ” per foot drop from the perimeter to the center, the finished surface below the pad must have the same drop from the perimeter to the center of the excavation. **Note** that the A&A actuator valve comes *pre-cross-plumbed*, converting it from a 6 port valve to a 3 port valve. So that the valve runs efficiently, the plumbing schematic must be followed so that each jet stream is equal in height and duration of time. See the section, **Plumbing the Valve Speed Control**

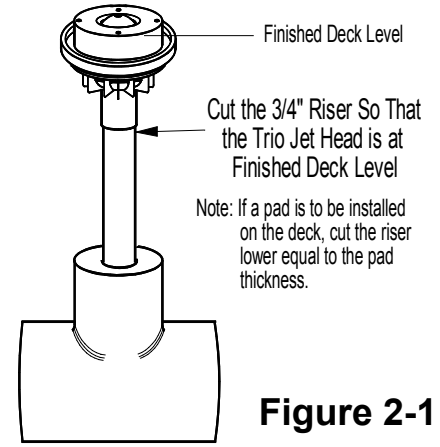
## Plumbing the Pad Area

When planning the plumbing, the following **must** be followed:

1. **The perimeter “Standard” Trio Jet heads must be placed a minimum of 14 inches from the edge of the pad (Triple spray heads are recommended for the inner-loop).** This will allow proper drainage of the surface of the pad toward the center with a minimum of “splash off”.
2. **Each Trio Jet zone must be plumbed in a continuous loop (see Figure 2-2)** so that the pressure and flow at each jet is the same throughout each zone. (See the A&A Splash Pad Schematic)
3. The placement of each Trio Jet is important so that a symmetrical pattern of water is displayed from one zone to the next. For illustration purpose, these instructions are for a round pad that is 14’ in diameter with 9 jets around the perimeter and 4 jets in the center, however, the size can be changed as well as the shape and number of jets. (See Figure 2-2 for the plumbing suggestion to sequence the 9 perimeter jets and the 4 center jets.)
4. The feed lines from the A&A water valve should be laid in the same trench and in the order of the “firing” sequence. (See the suggested method of joining the feed lines to their respective “loops” in Figure 2-2)
5. At the location of each Trio Jet, install a  $1\frac{1}{2}$ ” x  $\frac{3}{4}$ ” Tee. In the Tee, install a 12” length of  $\frac{3}{4}$ ” PVC with a cap so that the system can be pressure tested prior to pouring the pad. (See Figure 1-1)



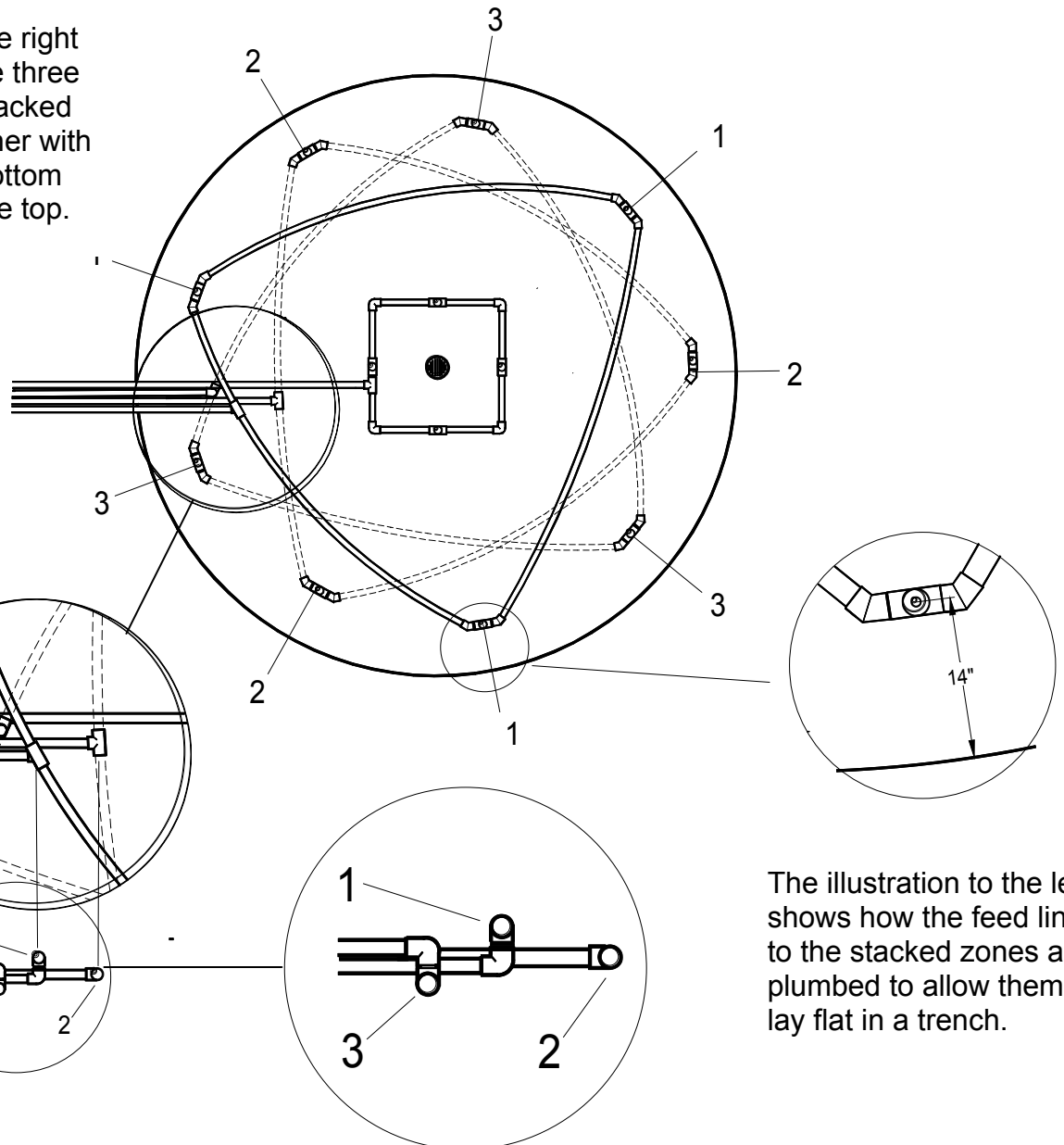
6. After all the lines and risers have been installed in the pad smooth the surface back to the same original slope so that the pad will maintain the 3/8" drop per foot.
7. Once the forms for the pad have been built, use a string across the forms to determine how much of the 3/4" riser is to be cut to allow the top of the Trio Jet head to be set at the deck level. If a rubber pad is going to be installed, cut the riser by the thickness of the pad so that the top of the Trio Jets are set level with the pad. (See Figure 2-1)



**Figure 2-1**

8. The pad drain line must be a minimum of 4" diameter PVC pipe and since the water is removed from the pad area by gravity rather than pump suction, the recovery tank must be no more than 8' from the edge of the pad. This is necessary to prevent the possibility of the suction line having an air lock and resist the return flow of water to the tank.
9. The top of the recovery tank is to be set 4" below the top of the pad. This will assure that the drop in the suction line is sufficient to carry the water away from the pad to the tank.

The drawing to the right illustrates how the three zone loops are stacked one above the other with zone #3 on the bottom and zone #1 on the top.

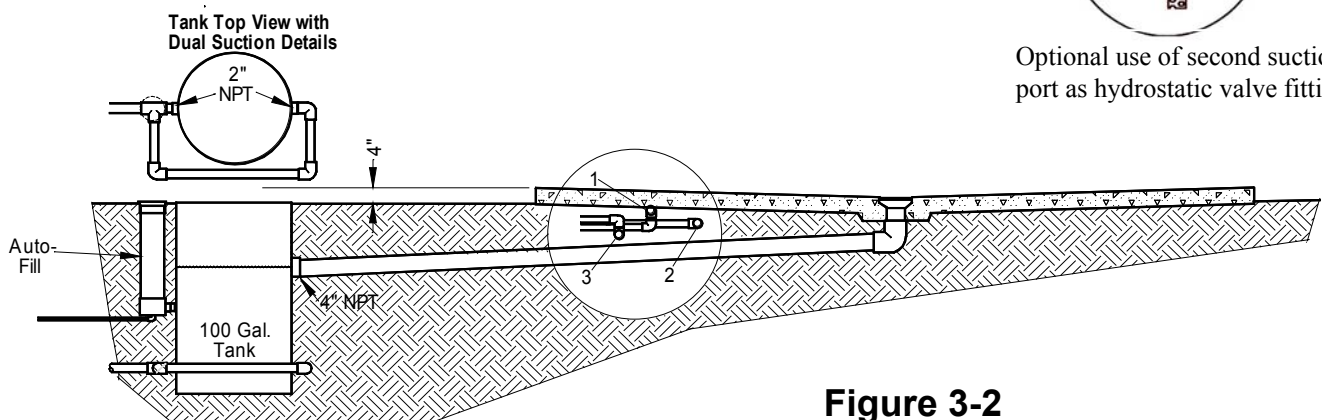
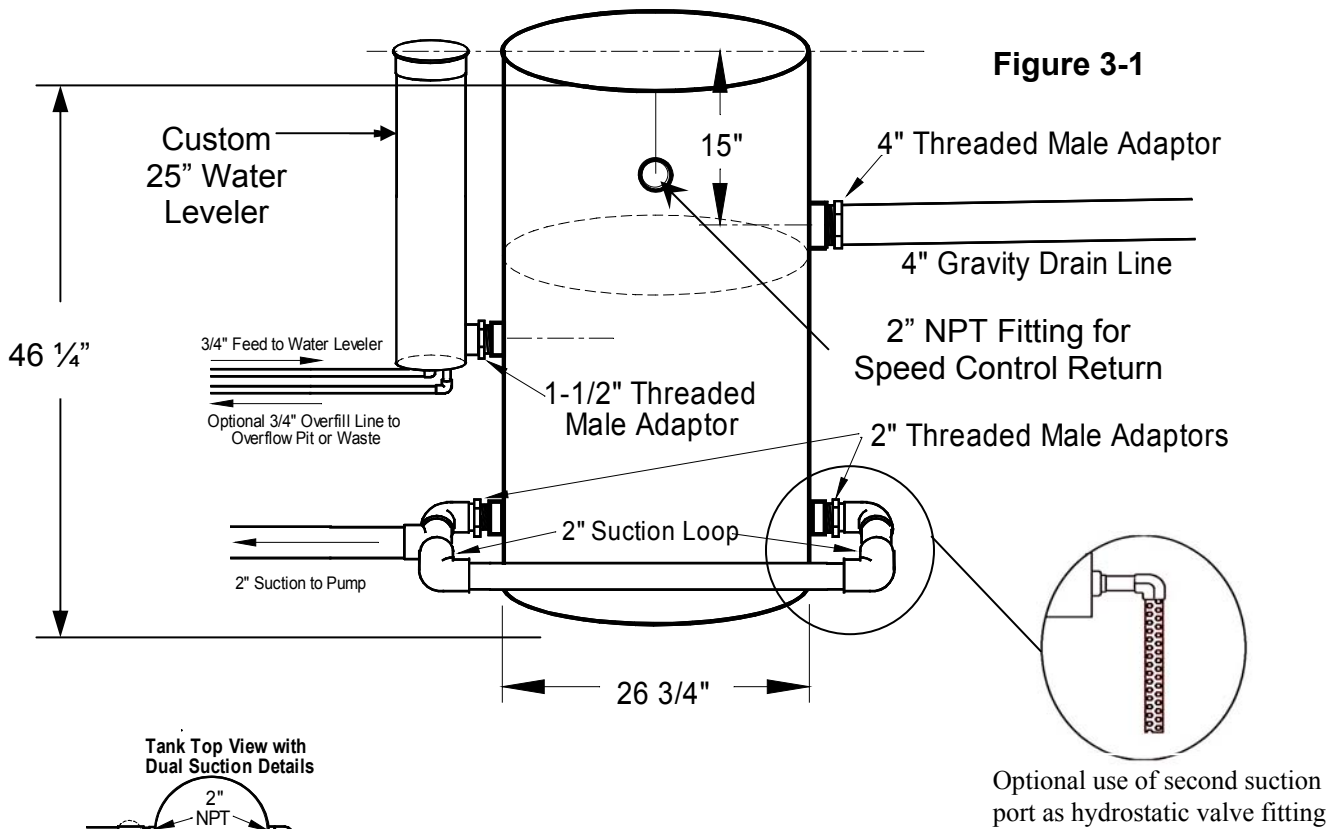


**Figure 2-2**

The illustration to the left shows how the feed lines to the stacked zones are plumbed to allow them to lay flat in a trench.

## Plumbing the Catch Tank or Reservoir

10. In order to assure that the proper slope of the gravity drain line from the pad to the reservoir, the top of the tank must be 4" below the top of the Splash Pad (see Figure 3-2). This is critical since the water is being returned to the reservoir by the force of gravity alone and not by the suction of the pump.
11. All fittings on the reservoir tank are NPT threaded fittings, therefore, it will be necessary to use threaded male adaptors when installing the 4" gravity drain line, the 2" pump suction loop, and the 1½" water leveler fitting. **Use either Teflon tape or pipe compound on all the threads.**
12. **IMPORTANT!** Plumb a suction loop from the two 2" fittings at the bottom of the reservoir tank. (See Figure 3-1)
13. Fill the tank with water as soon as plumbing is complete; shallow ground water or heavy rain could "float" the tank causing damage to the tank fittings.
14. The second 2" fitting at the bottom of the reservoir can also be used for a hydrostat valve (see inset option Figure 3-1).



**Figure 3-2**

- 15. **Note:** A custom 25" water leveler is required due to the low water level in the reservoir.
- 16. The reservoir lid should be secured to the base using a minimum of two self-tapping screws.

## Plumbing the Valve Speed Control

To prevent damage to the rotating valve it is **HIGHLY** recommended that the in-line chlorinator be plumbed into the manifold at a point that is lower than the inlet to the valve body. This will prevent concentrated chlorine build-up that will damage the internal gears.

To assure that the appearance and performance of each of the Trio Jet zones are equal and that the speeds of transitions are adequate, it is important that this section be followed carefully.

Figure 4-1 represents a section removed from the **A&A Splash Pad Schematic** found on the last page. This section will be referred to as the "Valve Speed Control" since it will indirectly control the speed of the actuator valve by allowing more water to pass through the valve without going to and through the Trio Jets. Since the valve rotates faster as more water passes through it, the 1" by-passes controlled by 1" brass gate valves allows more water to pass through the valve. Since each of the zones from the valve has its' own 1" by-pass, it also enables the equalization of the flow through the Trio Jets from zone to zone. The installation of a check valve on each speed control line is required to prevent water from returning to the rotating valve.

Figure 4-2 illustrates how the 1" by-pass lines can be installed so that the gate valves remain accessible for adjustments.

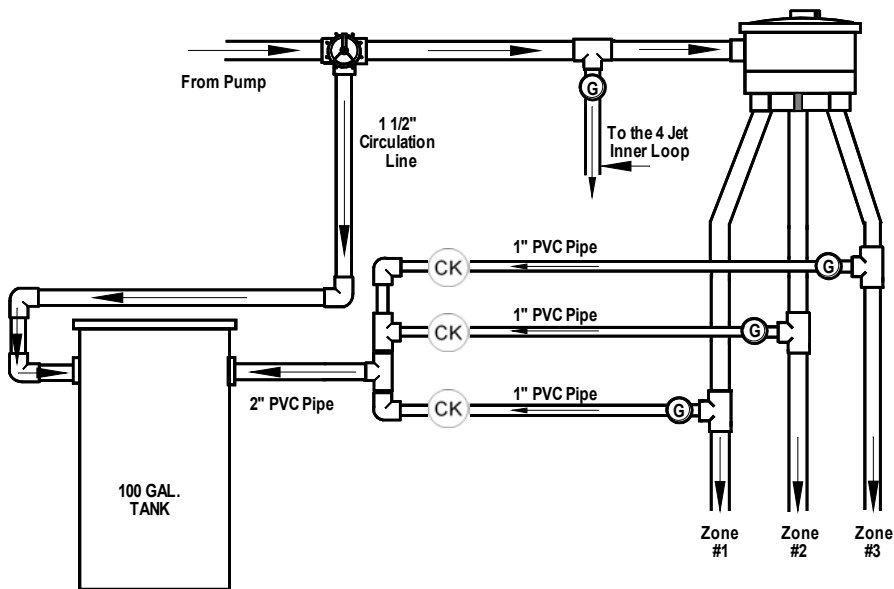


Figure 4-1

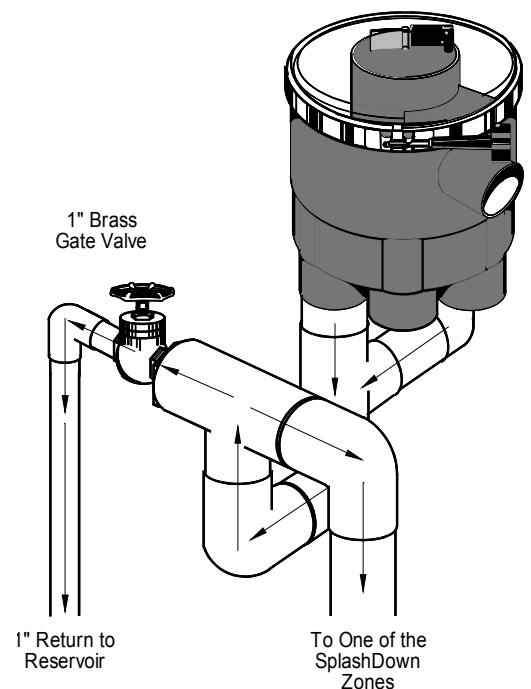


Figure 4-2

# A&A Splash Pad Plumbing Schematic

This is not a scale drawing and is not intended to be used as plumbing instructions. It is merely a schematic of the water circuits within the Splash Pad System.

