

# RAINDECK

## BASIC SPLASH PAD INSTALLATION MANUAL





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# Company Information

Thank you for choosing a splash pad kit from Rain Deck. Our kits are designed to fit in a variety of applications and this manual is intended to give you general installation instructions while allowing you to customize your splash pad to your needs. All of our Splash Pad kits are completely expandable!

If, during the course of installation you require technical support or have questions regarding your Rain Deck product, please don't hesitate to contact us.

**888-445-RAIN (7246)**  
**[www.raindeck.com](http://www.raindeck.com)**  
**[support@raindeck.com](mailto:support@raindeck.com)**

Hours of operation are Monday through Friday 8:00am – 5:00pm Pacific time.



**LET THE  
FUN  
BEGIN!**

\*Note: To ensure the proper installation of the splash pad kit, Rain Deck highly recommends that you use qualified, licensed tradesmen for plumbing, concrete and electrical as required to complete the installation of the splash pad.



ALL ELECTRICAL CONNECTIONS MUST CONFORM TO NATIONAL AND LOCAL ELECTRICAL CODES AND STANDARDS. A QUALIFIED, LICENSED ELECTRICIAN IS REQUIRED TO PERFORM ELECTRICAL CONNECTIONS.



# Permits & Inspections

In some areas, it may be necessary to acquire permits and have inspections on your splash pad installation.

Please verify the permit and inspection requirements with your local city, county, state or other municipalities *before* you begin the installation of your splash pad.

Some municipalities may require a design with specific details. Rain Deck has an experienced design team that can assist with the design and layout of your splash pad. Please call, email or visit our website for details.

For a commercial splash pad, please call us at 888-445-RAIN. Commercial splash pads almost always have additional requirements.





# Material List

Although the Rain Deck splash pad kit contains most of the components required to install your splash pad, there are additional materials that will be needed before construction begins. Here is a general list of items that will be required for installation:

- Rain Deck complete splash pad kit
- Schedule 40, 3/4" or 1/2" PVC pipe (approximately 150 to 300 feet depending on distance from manifold to splash pad)
- Schedule 40, 3/4" or 1/2" PVC fittings (T's, elbows, couplings, 45's, etc)
- 4" drain pipe and fittings for drain line(s)
- 1 1/2" schedule 40 PVC pipe (approximately 40' to 80' depending on distance from tank to equipment)
- 1 1/2" schedule 40 fittings (elbows, couplings, 45's)
- PVC primer and glue
- Standard irrigation box for tank lid and additional irrigation box for manifold unless wall mounted
- Concrete
- Electrical wiring and connections
- Fresh water source for water leveler



## Warnings

**The Rain Deck splash pad kit must be powered by a supply circuit that is protected by a ground fault circuit interrupter (GFCI).**

A GFCI is generally a minimum code requirement. A GFCI is required by most building codes and should be provided by the installer and must be tested before each use. Installer should consult the GFCI manufacturers' instructions for correct installation and operation. All electrical components should be properly bonded per national and local codes.



**ALL ELECTRICAL CONNECTIONS MUST CONFORM TO NATIONAL AND LOCAL ELECTRICAL CODES AND STANDARDS. A QUALIFIED, LICENSED ELECTRICIAN IS REQUIRED TO PERFORM ELECTRICAL CONNECTIONS.**

**DANGER – RISK OF ELECTRICAL SHOCK.** Electrical components for the Rain Deck splash pad kit should be installed at least 10 feet (3m) away from the splash pad surface. All electrical components should be properly bonded per national and local codes.

**Do not permit any electrical apparatuses (such as radio, TV etc.) within 10 feet (3m) of splash pad surface.**



## Warnings

**EXTREME CAUTION – Children should ALWAYS be supervised by a responsible adult while using the Rain Deck splash pad.**

The splash pad drain should never be plugged or restricted allowing for pooling of water on the splash pad area. The surface of ANY Rain Deck splash pad installation should be designed to NEVER accumulate more than 2 inches of water in the event the drain should be plugged or restricted. Due to this requirement, larger splash pads may require more than one drain to meet proper slope guidelines.

**CHEMICAL SAFETY – To ensure a safe water play experience, the water chemistry in the Rain Deck holding tank should be checked before each use. Ensure that the water contains 3-5 ppm of chlorine OR bromine. NEVER mix chlorine and bromine.**

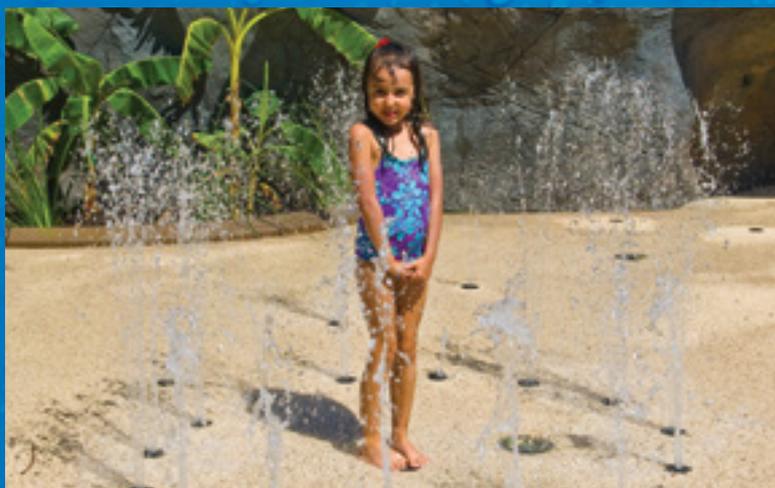




# Stand Alone Splash Pad Kit Parts

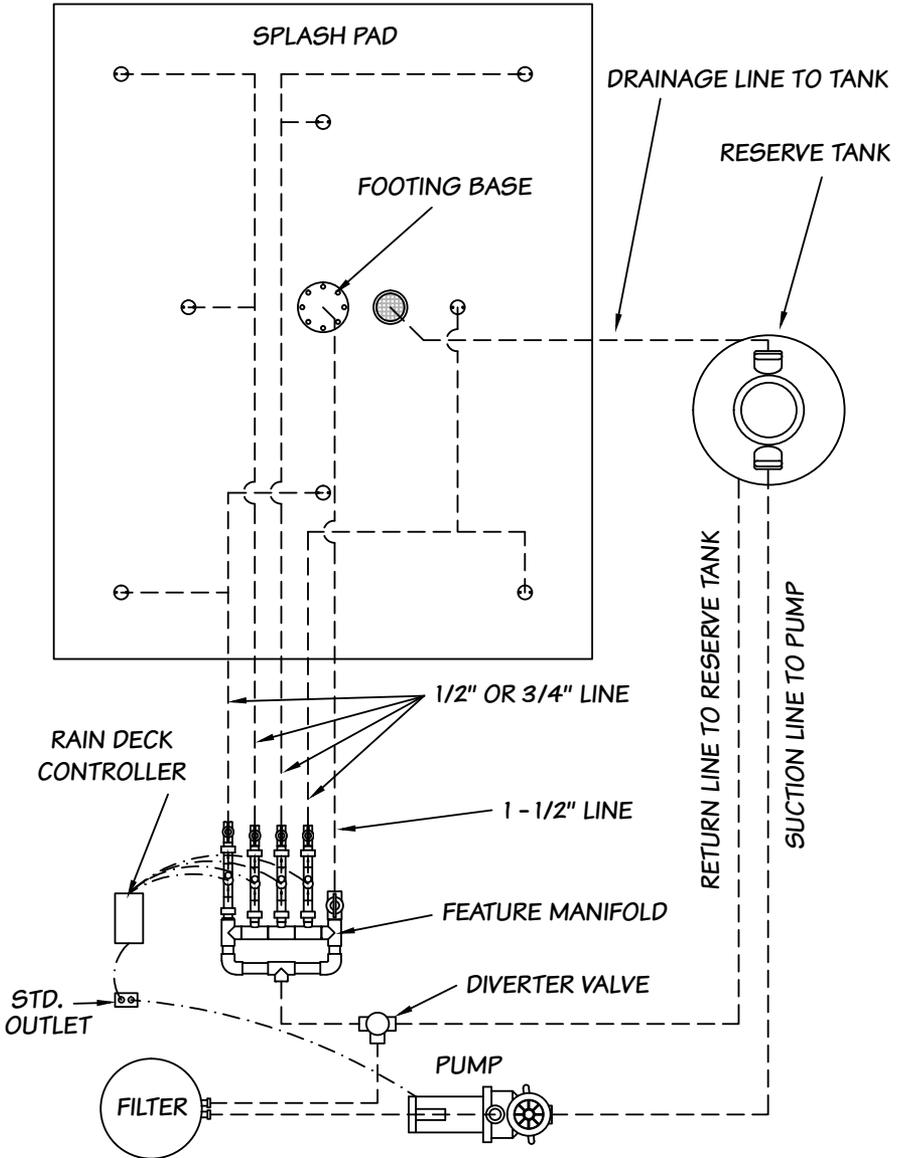
## Included Items

1. Rain Deck Nozzle Tool
2. Rain Deck 3" Housings (6, 8, 12, or 16)
3. Rain Deck Nozzles (6, 8, 12, or 16)
4. Rain Deck 8 Zone Electronic Controller
5. Four (4) Solenoid Manifold
6. 6" Drain Grate with Strainer Basket
7. 1.5 HP Pump
8. 150 Square Foot Cartridge Filter
9. Rain Deck 150 Gallon Holding Tank
10. Two 1 ½" & One 1/2" Bulk-Head Fittings
11. Auto Water Leveler for Tank
12. 1 ½" Check Valve
13. 3-Way 1 ½" Diverter Valve
14. In-Line Chlorinator





# Stand Alone Kit Plumbing Diagram





# Pool Tie-In Kit Parts

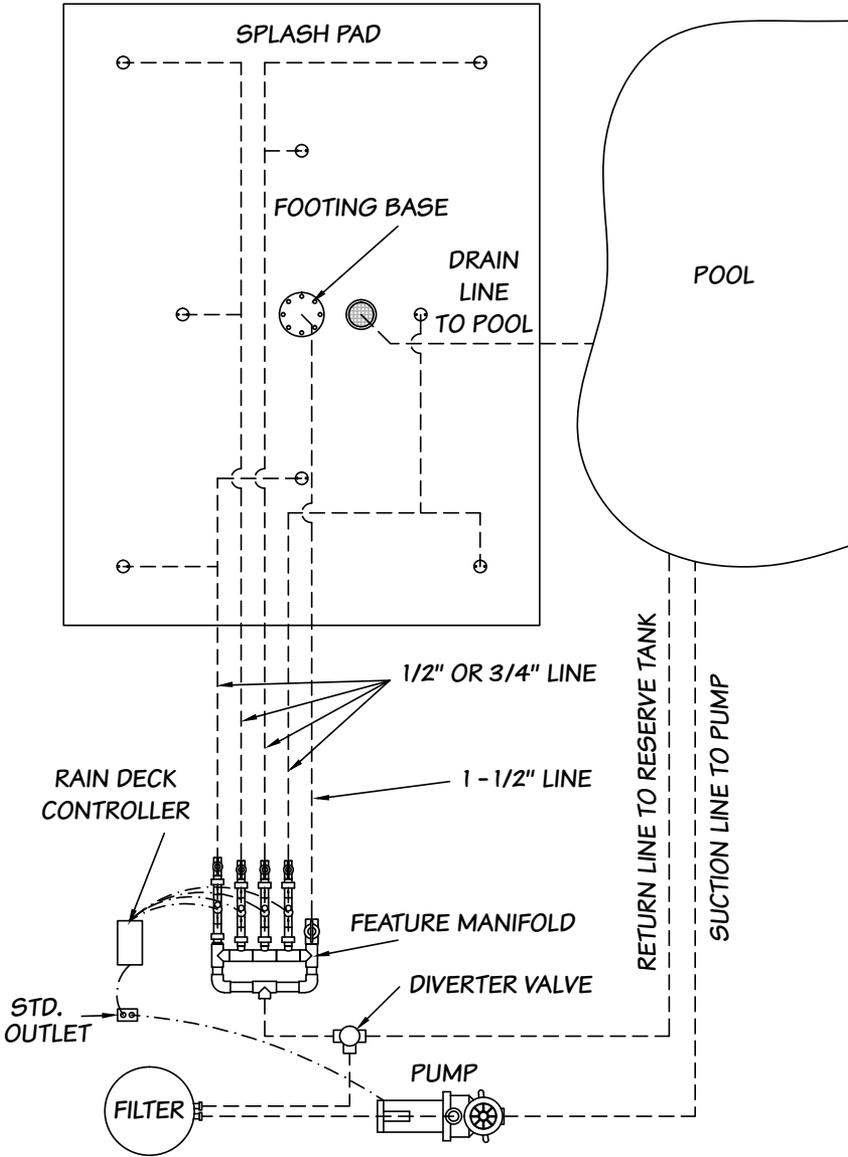
## Included Items

1. Rain Deck Nozzle Tool
2. Rain Deck 3" Housings (6, 8, 12, or 16)
3. Rain Deck Nozzles (6, 8, 12, or 16)
4. Rain Deck 8 Zone Electronic Controller
5. Four (4) Solenoid Manifold
6. 6" Drain Grate with Strainer Basket





# Pool Tie-In Kit Plumbing Diagram





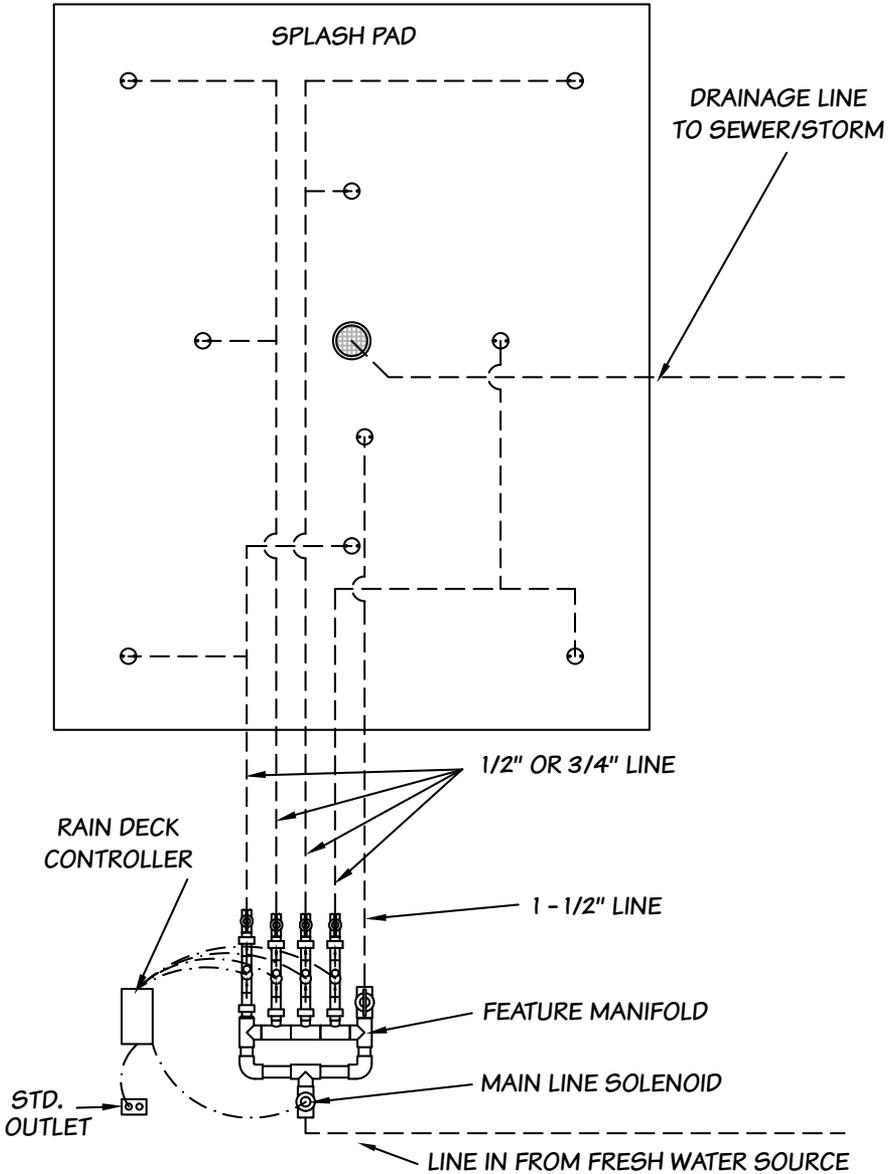
## Included Items

1. Rain Deck Nozzle Tool
2. Rain Deck 3" Housings (6, 8, 12, or 16)
3. Rain Deck Nozzles (6, 8, 12, or 16)
4. Rain Deck 8 Zone Electronic Controller
5. Four (4) Solenoid Manifold
6. One (1) Main Solenoid
7. 6" Drain Grate with Strainer Basket





# Fresh Water Kit Plumbing Diagram





# Pre-Site Grading

Always check *before* digging to be sure the site is free from utility lines or other obstructions. We recommend that you contact a local utility detection company or call 811 within the United States to locate a certified utility detection company in your area. It is recommended that you spray paint the splash pad location, valve location, tank location, plumbing runs, electrical runs and equipment location before construction begins.

Excavate the splash pad area so that your finished concrete slab is at desired elevation. Keep in mind that the concrete slab must be a minimum of 4" thick or per local codes and guidelines.

Grade all other areas around the splash pad site so that water not captured within the splash pad area will drain away from the splash pad.



Depending on site conditions, other grading may be necessary.

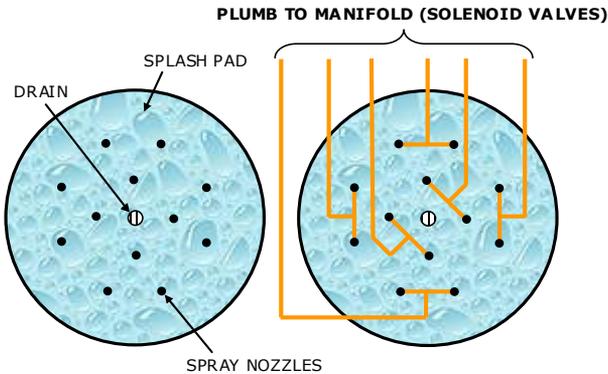




# Plumbing Schematic

Your Rain Deck controller is designed to accommodate up to 8 zones. Each zone (solenoid) will accommodate up to 3 spray jets. Here is a simple diagram illustrating the plumbing schematic for a 12 nozzle splash pad:

## Sample 12 Nozzle Plumbing Layout



Trench each supply line a minimum of 6" below grade. Use 90° elbows for ½" pipe at desired nozzle locations. We recommend using ½" PVC pipe for the riser portion of the nozzle. This will allow for adjustability when setting the Rain Deck housings. If your finished splash pad surface is concrete, you will need to set your nozzles before pouring concrete. However, if a surface material will be applied over the concrete (for example, Rain Deck rubber surfacing or acrylic lace), we recommend using a 4" sleeve at the nozzle locations and setting the Rain Deck housings as a separate step after the concrete has been poured. SEE THE SECTION TITLED "HOUSING/NOZZLE INSTALLATION" FOR DETAILS.

Be creative! Locate the spray nozzles in a pattern that works best for you. Take caution to keep the spray nozzles a minimum of 24" from the splash pad edge. All plumbing between the manifold and the spray nozzles is 1/2" or 3/4", schedule 40 or equivalent PVC pipe and fittings unless otherwise recommended by Rain Deck.



## Pressure Testing

Before covering any plumbing with hardscape or concrete, cap all spray lines and pressure test the system. It is recommended the system be pressurized between 20psi and 30psi for a minimum of 2 hours. Maintain a pressurized system during the concrete phase of construction to be sure no damage is done to the pipes.



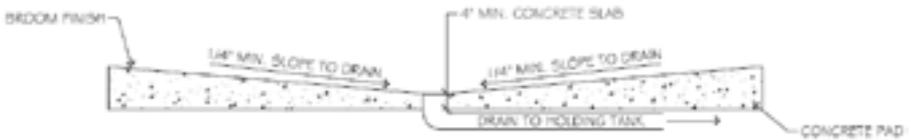


# Concrete Preparation and Pour

NOTE: Some Rain Deck products (including all above ground features) require additional preparation and footings that need to be complete before the concrete pour. See “Above Ground Water Feature Installations” if this applies to you.

Prepare a proper subsurface grade to allow for a minimum 4” concrete slab with a minimum slope of 1/4” per foot to the centralized drain(s). All plumbing should be a minimum of 6” below subsurface grade or as per the local code requirements. We recommend using steel mesh or rebar for concrete reinforcement. Our design team can review your splash pad design to determine control joints and/or reinforcement requirements. Depending on your area, your project may have additional concrete requirements. Please check with a professional to be sure you meet the minimum standards for a quality concrete slab.

If using sleeves, be sure they are in place for all vertical water supply lines.



PAD SECTION

SCALE: N.T.S.



## Housing / Nozzle Installation

**NOTE: Please refer to the section heading “Surface Material” before installing the Rain Deck housings.**

If your supply lines have concrete sleeves, pull the sleeves exposing the concrete around the ½” risers. Cut the ½” PVC pipe to accommodate the proper installation of the Rain Deck housing. The ½” riser should be cut so that when the housing is installed, the top of the housing will be flush with the top of the finished surface material (for example, if ½” rubber surfacing will be applied as a surface material, set the housings ½” above the finished concrete).



After the Rain Deck housing has been connected to the supply line, use mortar or a similar concrete product to fill the void around the housing. As the mortar sets up, use a level to ensure that the housing is level.



Take proper precautions to ensure concrete or other debris does not get into the Rain Deck housing.

# Above Ground Water Feature Installations

Rain Deck above ground water features should include a plumbing/footing detail. Please follow the specific instructions that came with your above ground water feature.

If you do not have the install detail sheet for the above ground water feature, please contact Rain Deck before attempting installation.



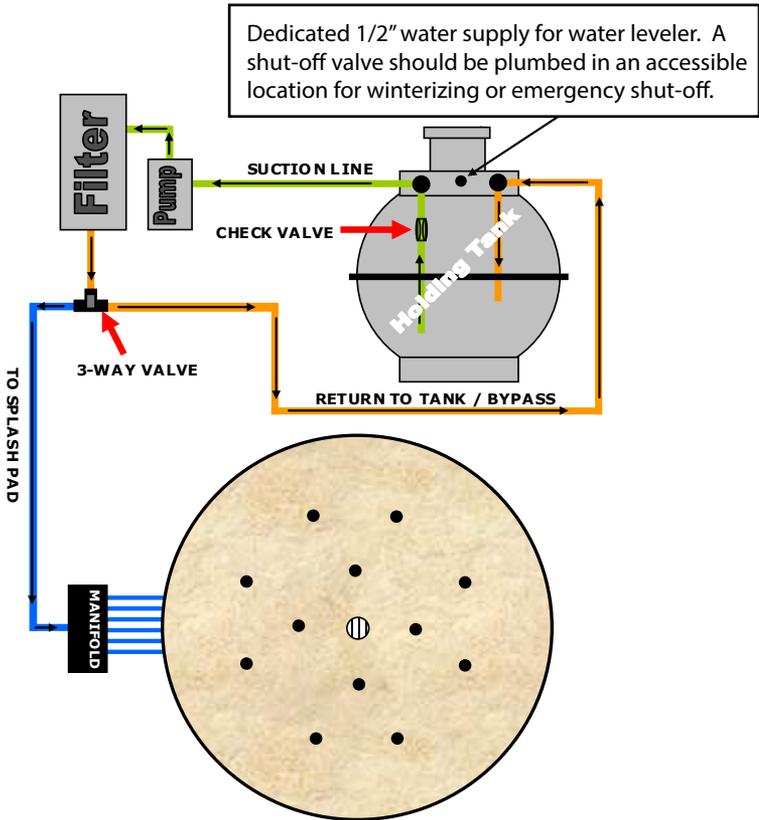


# Pump / Filter Plumbing

The splash pad system should be plumbed as shown in the diagram below.

NOTE: The pump should be located a minimum of 10 feet (3m) away from the splash pad area and no more than 30 (9m) feet from the holding tank.

NOTE: The 3-way valve must be fully open to the bypass side and closed to the splash pad side when starting up the system. Once the system is running, gradually open the 3-way valve to the splash pad side until desired pressure is achieved.

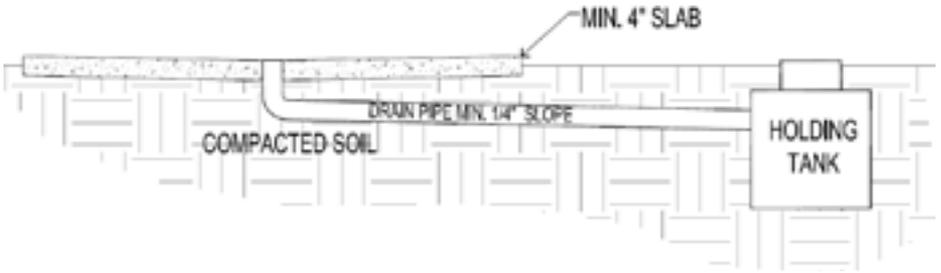


\*Rain Deck recommends using a qualified, licensed plumber during this stage of installation.



# Drain and Holding Tank Plumbing

When excavating for the tank hole, be sure to set the holding tank at a depth that will accommodate for a minimum of 1/4" per foot slope of the drain line. We recommend the tank be located on the outside perimeter of the concrete so it will be accessible for servicing. On a standard splash pad with less than 20 spray jets, use a 4" drain pipe. See the diagram below.



For larger scale projects, please contact Rain Deck for a customized drawing with specifications.

NOTE: *Before* installing the splash pad drain line, check for a proper fitting connection to the tank.



# Electronic Controller

The Rain Deck electronic controller should be wired according to the 12 installation instructions on the following pages. Please also refer to the installation instructions that came with the electronic controller and heed all applicable warnings.



Rain Deck recommends consulting with an **experienced, licensed electrician** at this stage of installation. Rain Deck is not responsible for any damage done to your equipment if you fail to consult with a licensed electrician.

Please do not hesitate to call Rain Deck for FREE technical assistance!  
**1-800-445-RAIN**



# Electronic Controller

## **Step 1**

Mount controller to vertical surface. This should be a rigid structure or wall.

## **Step 2**

Remove the 4 Phillips head screws around the perimeter of the front panel.

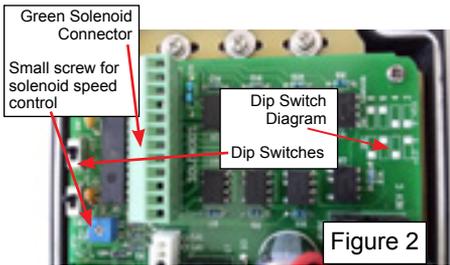
- Carefully lift the front panel making sure to not pull on the attached wire harness.
- If possible, support front cover without letting it hang from the wires. (Figure 1)



Figure 1

## **Step 3**

Install the solenoid wires through the sealed plug/nut on the bottom of the box. You will need about 6 inches of wire passed through the box. This nut may need to be loosened to pass the wires through.



## **Step 4**

Remove the green connector. (Figure 2)

## **Step 5**

Strip approximately ¼ inch of jacket from each solenoid wire.

## **Step 6**

Begin installing hot leads on solenoids beginning with #1. There will be 2, 4, 6, or 8 zones, depending on how many solenoids are on the manifold.

## **Step 7**

Using a sealed wire nut, combine all of the solenoid common wires together with a common wire in the cable bundle (typically white). This will connect to the "C" (common) input on the green connector.



# Electronic Controller

## **Step 8**

For a fresh water system (or rain diverter valve) you can connect the additional solenoid to an “H” (hot) and “C” (common) input.

## **Step 9**

Route and plug in the green connector. Ensure that the solenoid wires are not making contact with the circuit board.

## **Step 10**

Make sure the dip switches match the number of solenoids on your manifold (Figure 2). Follow the dip switch diagram to make the change.

## **Step 11**

Fasten the sealed plug/nut so that it creates a seal and clamps onto the solenoid wires.

## **Step 12**

Re-install the front cover and electrical connections.

## **Step 13**

Leaving the power off to the controller, plug the controller into a GFCI protected outlet or Rain Deck timer box. (RD550-1).

## **Installation is now complete!**

To turn on the RD-500-0 controller, push the power button on and choose a pre-programmed setting labeled A, B, C, and D. A is Random, B is Sequential, C is Random with random amount of zones, D is All On.

Once the RD 500-0 multiple programmed controller has been wired, you may want to test your splash pad and make minor adjustments to the rate of speed between each zone. To do so, locate the small white screw. Adjust by rotating the screw right or left depending on the sequenced speed desired. (See Figure 2 on previous page.)



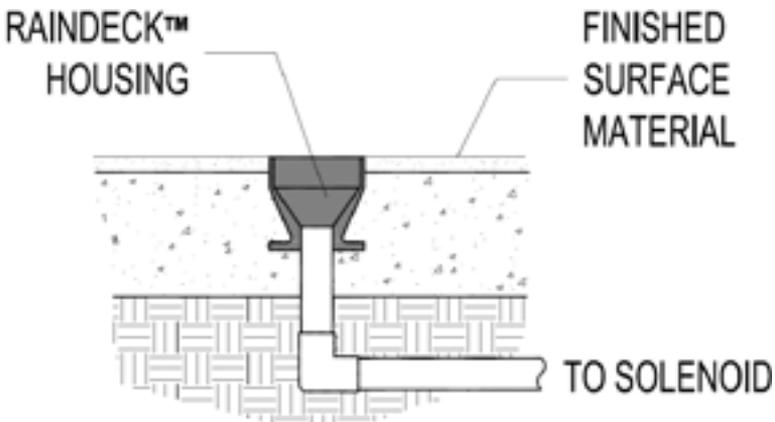
# Surface Material

Your surface material can be anything from a non-slip broom finish concrete to rubber surfacing. We recommend using a non-slip surface material. Your surface material needs to be determined before setting the Rain Deck housings. Determine the thickness of the surface material so that when the Rain Deck housings are mortared into place, the top of the housing will be flush with the top of the surface material.

When installing the surface material, take precautions to ensure no debris enters the Rain Deck housings. Generally, taping off the opening on the Rain Deck housing will be sufficient.

Ensure that the surface material does not interfere with the slope to the drain. When installing the surface material, occasionally check for proper slope to the drain.

The finished surface material should cover the entire pad and NOT leave any gaps around the housings, drain(s) or other areas on the splash pad.





## Start-Up

The last step to completing your splash pad is the start-up. At this stage, all plumbing, electrical, concrete and surface material should be complete. If the water source (i.e. holding tank, pool) is not yet full, fill it up. Determine that the 3-way diverter valve is set to the bypass position so that the water will be returned to the water source and not the splash pad.

**NOTE:** The 3-way valve must be fully open to the bypass side and closed to the splash pad side when starting up the system — failure to do so may result in over heating the pump and causing damage.



To get the pump and filter primed and running properly, follow the instruction manual that came with the pump and filter. In general, you will need to fill the pump basket with water, secure the pump lid and run the pump while bleeding air from the filter until completely primed.

Once the system is primed and running, slowly divert the water to the splash pad using the 3-way diverter valve until the desired pressure is achieved. This should be done before inserting the Rain Deck spray nozzles to cause any debris in

the system to be flushed. Attach the Rain Deck spray nozzles by screwing them into the Rain Deck housings.

**CONGRATULATIONS!** Your splash pad should now be complete.

If you have any questions during the start-up of your splash pad or require troubleshooting assistance, please feel free to contact Rain Deck.





  
**RAINDECK**

**YOUR SPLASH PAD RESOURCE**

**888.445.RAIN**

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***www.raindeck.com***

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