



Downspout Water Drainage System

List of Tools Needed, Shopping List, and Installation Instructions



High Capacity

10-12 Hours
Total Man Hours\$395-\$475
Material Costs

15 Tools Needed

TOOLS NEEDED



Duct Tape



Hammer



Saw



Level



Measuring Tape



Pick



PVC Glue



Shovel



Plastic or Tarp

Phillips
ScrewdriverWheelbarrow
(Optional)Plastic Cable
TiesGeotextile
Fabric (Optional)Clear Waterproof
SiliconeTrenching Machine
(Optional)

SHOPPING LIST

Quantity needed of each part will vary based on several factors specific to your project including system length, rainfall intensity, and number of problem areas. Pipe and fittings are offered in two sizes: 3" and 4". Size availability will vary based on region and store.

Ensure that component sizes are consistent throughout your drainage system.

Refer to drainage calculators on NDSPRO.com for pipe & system sizing.

NDS Part Number	Description
EZ-0702F or EZ-0802F	7" or 8" EZ-Drain Bundle with 3" or 4" Pipe
3C05 or 4C07	3" or 4" Corrugated Couple
3C06 or 4C06	3" or 4" Corrugated End Cap
351 or 451	3" or 4" Corrugated Adapter
321 or 421	3" or 4" Pop-up Emitter with Elbow
FWAS24	Flo-Well
FWSD69	Flo-Well Surface Drain
900BLKIT	9" Catch Basin Kit
Generic	3" or 4" SDR35 Drain Pipe
900DSG	9" Downspout Defender Grate

INSTALLATION INSTRUCTIONS



Note Before You Dig

Prior to installation, have your local utility companies locate and mark the location of existing utilities. Layout your drainage system and mark the location of trenches and individual parts to be installed with marking paint before digging. Carefully remove grass or plants that are located where the trench will be dug so they can be replanted after installation. Trenches should be dug such that they slope a minimum of 1% away from your house. Place all excavated dirt on a tarp so that it can be used later to backfill.

To speed up installation, a trenching machine can be used to dig all trenches, especially in areas with particularly hard soil. NDS drainage products have been designed to be installed in any soil type. Due to the variety of pipe types and sizes, double check that all pipe connection points are the correct size. Please follow all installation directions included with the individual parts of your drainage system. To create watertight connections between products, apply a bead of waterproof silicone to both parts and connect.

This system requires that the elevation of the Pop-Up Emitter be lower than the elevation of the area drain or the system will not drain.

Step 1:

Lay out system, dig trenches and holes

Dig holes and trench for pipe, catch basin, Flo-Well, and EZ-Drain. Dry fit (no glue) the entire drainage system from the catch basin to the pop-up emitter. The Flo-Well and EZ-Drain should be installed at least 10' away from any existing structure. Measure and cut all pipe to necessary lengths. After completing each step, glue parts together if a water tight connection is required.



TIP: If installing the drain in an existing concrete area, a wet concrete saw will be required to cut the concrete prior to installation.

Step 2:

Install Catch Basin beneath downspout

Before beginning your installation, check if your downspout has a downspout elbow connected. If not, connect a downspout elbow to your downspout. If needed, connect the Catch Basin Universal Outlets to the Catch Basin by inserting the Outlet into the Catch Basin and twisting to lock in place. One of the outlets should have a plug. This plug must be inserted into the outlet that will not have a drain pipe connected. The Catch Basin can be used to clean out any debris that may enter the system and also serves as an inlet for surface water. It should be installed in the ground directly beneath the downspout elbow to catch all water draining from the downspout. Place the Downspout Defender Grate on the Catch Basin and screw in place. Connect the drain pipe to the Catch Basin using the Catch Basin Universal Outlet.

TIP: Dig the hole for the basin an additional 6" deeper than needed. Place 6" of gravel in the bottom of the hole. Drill small holes in the bottom of the basin to prevent standing water in the bottom of the basin, eliminating a potential mosquito breeding area.



Step 3:

Install Flo-Well and EZ-Drain

Run drain pipe from other end of Catch Basin to the Flo-Well. Knock out the appropriate holes in the side panels of the Flo-Well where the drain pipe and EZ-Drain will be installed. Assemble the Flo-Well using the interlocking side panels. Slide the Drain Pipe and EZ-Drain through the holes in the Flo-Well side panels.

TIP: Lay the Flo-Well panels on bricks or other hard surfaces and use a hammer to knock out the holes in the side panels.



Step 4:

Connect Flo-Well Surface Inlet

Knock out the center hole of the Flo-Well lid. Place the lid on the Flo-Well side panels then place the Flo-Well Surface Inlet onto the Flo-Well lid.



Step 5:

Install Pop-Up Emitter

Using a Corrugated Pipe Adapter, connect the EZ-Drain to an elbow with a weep hole. The elbow should be installed with the weep hole on the horizontal side of the elbow. Slide the Pop-up Emitter onto the elbow. An additional length of pipe can be used to bring Pop-up emitter to the surface.

TIP: To avoid damaging your Pop-Up Emitter with your lawn mower, raise the cutting level of the blades or avoid passing the mower over the Pop-Up Emitter.



Step 6:

Backfill and Replant

Backfill and replace any grass or plants that were removed.

TIP: DO NOT BACKFILL WITH SOIL WITH HIGH CLAY CONTENT. Water must be able to easily pass through the backfilled soil.

