

DISCONNECTING YOUR DOWNSPOUT

Roof gutter downspouts typically discharge rainwater (also called stormwater) to driveways, sidewalks, roads, sanitary sewer systems, or storm sewer systems. This drainage path directs rainwater off-site and into pipes or roadside ditches, which conveys it to local streams, lakes, rivers, and estuaries. Rainwater runoff negatively impacts local waterbodies, because it contains multiple pollutants and travels at high velocities to these waterbodies. Rainwater runoff typically contains atmospheric pollutants, roofing material particles, nutrients, motor oil, pesticides, and bacteria. You can take control of where your rainwater goes by disconnecting your downspout to allow the water to drain into a vegetated area on your property (garden, lawn).

Figure 1 illustrates a couple ways in which a downspout can be connected.



Figure 1: Different ways a downspout can be connected. Starting at the left: Downspout connected to sewer intake pipe (standpipe), downspout directly connected the storm sewer system, and downspout discharging to driveway, which discharges to road and storm sewer system.

What are the benefits?

There are many benefits to disconnecting your downspout. If your downspout is connected to the sanitary sewer system, the simple act of disconnecting your downspout can divert hundreds of gallons of water from the sanitary sewer system each year. This diversion of rainwater benefits the environment, the public, and homeowners as it decreases the amount of raw sewage discharged into local waterbodies and helps to prevent sewage backup and basement flooding. If your downspout is connected to the storm sewer system, disconnection will reduce the amount of water that flows into the storm sewer system, thereby reducing the amount of erosion caused by high volumes of water that flow from storm drain outfall pipes into local waterbodies.

Disconnecting a downspout that directs rainwater to driveways and sidewalks will help reduce the amount of polluted rainwater (also referred to as stormwater) that enters local waterbodies. Rainwater that flows over driveways and sidewalks picks up various pollutants such as motor oil, pesticides, fertilizers, pet waste, and sediment. This polluted rainwater negatively affects water quality and can harm fish, wildlife, and plants that depend on healthy streams, rivers, lakes, or estuaries.

Infiltrating water on your property is also beneficial for groundwater. Many communities depend on groundwater for their drinking water and the process of infiltration helps clean the water and recharge groundwater supplies. Directing roof rainwater to your lawn or garden will also save you money. Using rainwater to water your lawn or garden will reduce or eliminate the need for additional watering, thereby reducing your water utility bill.

How do I know if I should disconnect mine?

If you want to know if you should disconnect your downspout, first determine where your downspout drains to (a sanitary sewer system, storm sewer system, drywell, gravel-filled trench, splash block, driveway, or sidewalk). If your downspout drains into a gravel-filled trench, splash block, or drywell; it is not necessary to disconnect your downspout. If you think your downspout is connected to the sanitary sewer system or storm sewer system, call your local sewer system authority or public works department to find out for sure. If it is, inquire if there are any regulations against disconnecting the downspout or if a professional is required to do the work.

How do I disconnect my downspout?

The task of disconnecting your downspout is relatively simple, but it must be well-planned out. The process involves drawing a site plan, designing your disconnections, cutting of the end of your downspout, capping the pipe, and attaching an extension to carry the water away from the foundation of your house.

Visit the Cornell Cooperative Extension of Tompkins County website (cctetompkins.org) for step-by-step instructions on disconnecting your downspout, as well as a list of materials to use or avoid.

How do I maintain my new system?

When you disconnect your downspout, you may need to do occasional maintenance procedures to your gutters, downspouts, and landscape.

For gutters, make sure that you clean them and caulk leaks and holes at least twice a year. Also, make sure that the gutters are pitched to direct water to downspouts and that the roof flashing directs water into gutters. Look for low spots or sagging areas along the gutter line and repair it with spikes or new hangers.

As for downspouts, remember to check and clear elbows to prevent clogging. Make sure each elbow or section of the downspout funnels into the one below. All parts should be securely fastened together with sheet metal screws.

What else should I know about disconnecting my downspout?

- The slope of the ground should allow water to flow away from all structures, but you should not disconnect a downspout on slopes over 10 percent.
- There must be enough landscaped area for the rain to safely soak into the ground. Specifically, the ground area must be at least 10 percent of the roof area. For example, if your roof is 500 square feet, you should have at least 50 square feet of landscape.
- If your house is set on a crawl space, concrete slabs, or has a basement; use a downspout extension with a splash block to move the discharge point away from the foundation. If your home has a basement, disconnected downspouts must be extended to discharge water at least 6 feet from the basement. If your home is set on a crawl space or concrete slabs, disconnected downspouts must be extended at least 2 feet from the crawl space or slab foundation.
- The end of the downspout extension must be within your property line by at least 5 feet at least 3 feet from a public sidewalk.
- Try to avoid safety hazards by not extending downspouts across walkways, patios, or driveways, or in front of gates.
- Keep downspout drainage away from a septic system, drain field, drinking water well or underground oil tank.
- Do not disconnect downspouts within 10 feet of a retaining wall.
- You can incorporate stormwater management practices into your downspout disconnection. Consider installing a rain barrel or rain garden to capture, store and infiltrate rain water.