



FACT SHEET 6.4

INFILTRATION TRENCHES AND DRY WELLS

It is common for hobby farms to have one or more covered structures such as a storage shed, barn, compost area or animal shelter in addition to the main residence. Paved driveways, roads or compacted travel ways may also be present on a hobby farm.

Roofs and roadways can significantly contribute stormwater runoff to the overall volume of water that requires management on your hobby farm. If this water can be captured and infiltrated near its source, then the overall amount of stormwater runoff that has to be managed elsewhere can be significantly reduced. One way to do this is to install infiltration trenches or dry wells adjacent to these areas.

An infiltration trench is a shallow, horizontal excavation filled with crushed stone, which stores stormwater runoff in the spaces between the stone and allows for a gradual infiltration of runoff into the ground. Similarly, a dry well is a deeper vertical excavation that serves the same purpose. Both of these techniques are used to treat runoff that has had minimal contact with contaminants such as bacteria and nutrients that are less likely to be found in roof runoff or runoff generated from driveways and private roadways.



WATER QUALITY BENEFIT

Stormwater practices that promote infiltration return stormwater runoff to the ground. This not only benefits groundwater resources, but reduces the amount of runoff that can potentially pick up pollutants from the hobby farm and flow into nearby surface water.





BENEFITS

- Promotes infiltration of stormwater runoff
- Reduces overall stormwater runoff volume
- Helps remove sediment
- Supports groundwater recharge

ARE YOUR SOILS SUITABLE?

The primary function of infiltration trenches and dry wells is to return water to the ground. To achieve this, the soils have to be porous enough to accept the water at the rate it is received. Different soils do this at different rates. A simple percolation 'Perc' test can help determine if your soil can do this at a rate sufficient to support an infiltration trench or dry well. A rule of thumb is that the soils should infiltrate water you've collected within 24-hours. Soils that take longer are not suitable for these types of techniques and often result in flooding and erosion.

How to do a Perc Test:

Note: The following method is for a small system. Large non-residential systems serving extensive impervious areas will require a more in-depth soil investigation and engineering design.

Step 1

Dig a 12" x 12" x12" hole where you want to install your dry well or infiltration trench.

Step 2

Fill it with water.

Step 3

If it drains within 24-hours, your soils will likely support an infiltration trench or dry well. If it doesn't drain completely or fills with water, then a new location is needed.

CAUTION!

Always call Dig Safe (811) before any type of digging or excavation to help ensure you do not come into contact with utilities, pipes or wires. This must be done at least 72-hours prior to the start of work. See www.digsafe.com for more information.

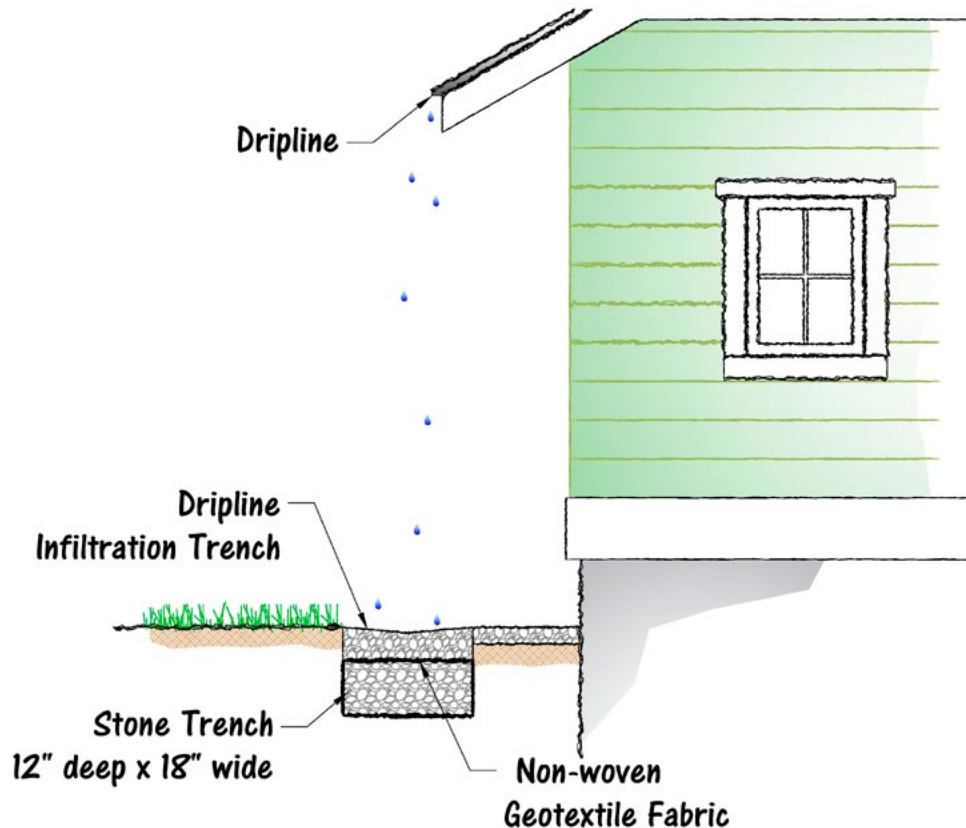


CI



REGULATORY CHECK

Contact your local Conservation Commission before doing any work within 100' of a wetland or water resource or within 200' of a perennial stream



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Dripline Infiltration Trench

SIZING AND INFILTRATION

Once you have determined where to construct your infiltration trench or dry well and confirmed that your soils are suitable to infiltrate runoff, you are ready to size and construct your stormwater element. Below are links to detailed instructions on how to both size and construct your project.

BEFORE CONSTRUCTING YOUR INFILTRATION TRENCH OR DRY WELL, BE SURE TO REFER TO THE FOLLOWING ONLINE RESOURCES:

- **Infiltration Trench for Driveway Runoff:**
<http://soaknh.org/wp-content/uploads/2016/06/Driveway-Infiltration-Trench.pdf>
- **Infiltration Trench for Roof Runoff:**
<http://soaknh.org/wp-content/uploads/2016/06/Dripline-Infiltration-Trench.pdf>
- **Dry Well:**
<http://soaknh.org/wp-content/uploads/2017/01/Dry-Well.pdf>



INNOVATIVE IDEAS

Pervious Walkways and Patios

Pavers used to promote stormwater infiltration along walkways and sitting areas.

<http://soaknh.org/wp-content/uploads/2016/06/Pervious-Walkways-and-Patios.pdf>

Water Bars

Used to intercept stormwater along sloping walkways, paths or gravel driveways, water bars divert runoff into vegetated areas for treatment and infiltration, reducing erosion.

<http://soaknh.org/wp-content/uploads/2016/06/Water-Bar.pdf>

Infiltration Steps

Steps along a sloped walking path to slow down and infiltrate runoff and reduce erosion.

<http://soaknh.org/wp-content/uploads/2016/06/Infiltration-Steps.pdf>

MAINTENANCE AND MANAGEMENT

- ✓ Inspect seasonally and after heavy rains to remove visible sediment and debris.
- ✓ Check often for ponding and slow draining water as this can be an indicator of clogging. If this occurs, the stone and landscape fabric should be removed, washed free of accumulated sediment causing the clog and replaced.
- ✓ Protect the area from compaction by foot traffic, vehicles and equipment.

REGULATORY CHECK

Some dry wells may be regulated as a Class V well (UIC or Underground Injection Control). Visit the following link to determine if your dry well will require state registration: www.mass.gov/eea/agencies/massdep/water/drinking/underground-injection-control.html. Dry wells draining higher pollutant areas may not be allowed so always check first.

HELPFUL LINKS

www.maine.gov/dep/land/stormwater/stormwaterbmmps/vol3/chapter6.pdf
www.dec.vermont.gov/sites/dec/files/wsm/lakes/docs/Shoreland/Infiltration%20Trenches_04162015.pdf
www.extension.unh.edu/resources/files/resource001799_Rep2518.pdf