Your land. Your water. Your solution.

Managing Rainwater at Home
Rain Barrels and more!

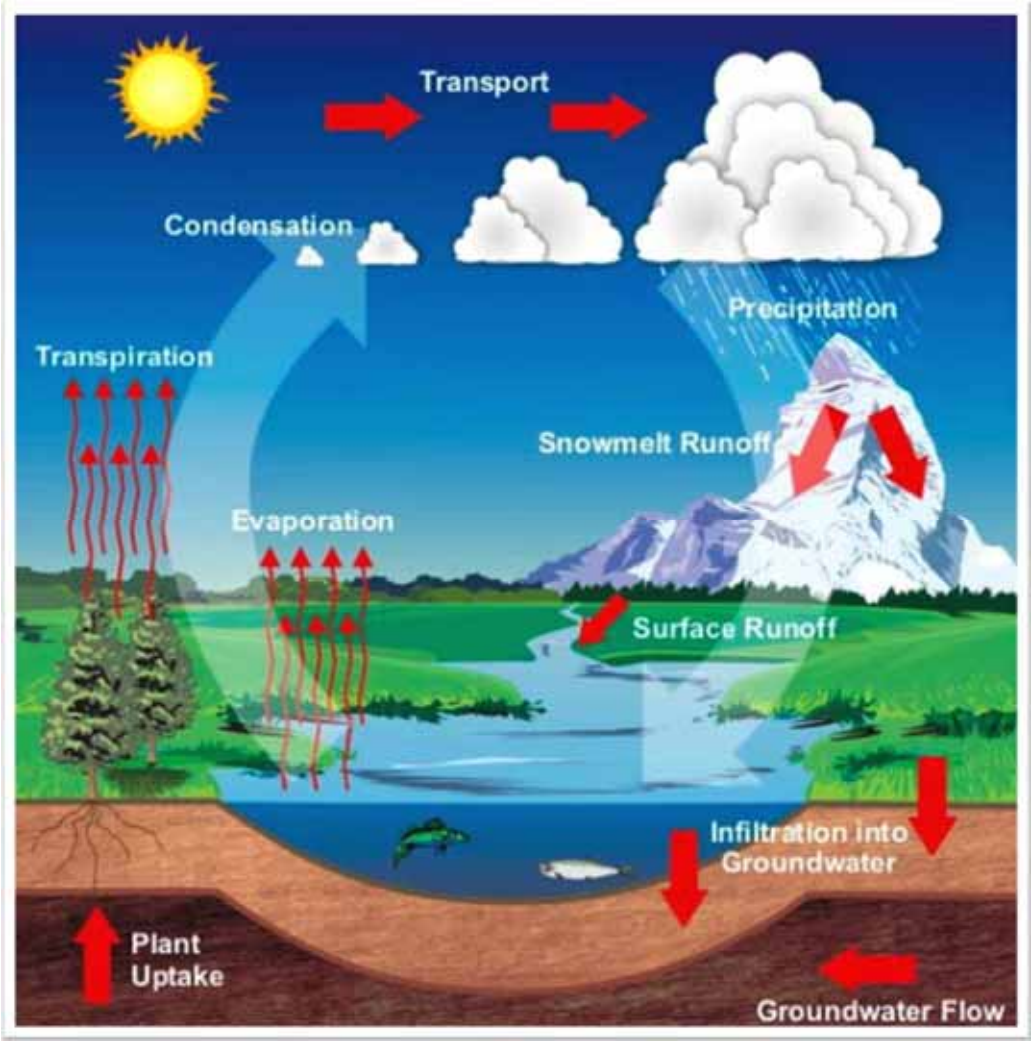
NEW HAMPSHIRE DEPARTMENT OF Environmental Services

- Stormwater 101
- Soak Up the Rain NH
- Rain Barrels and so much more!

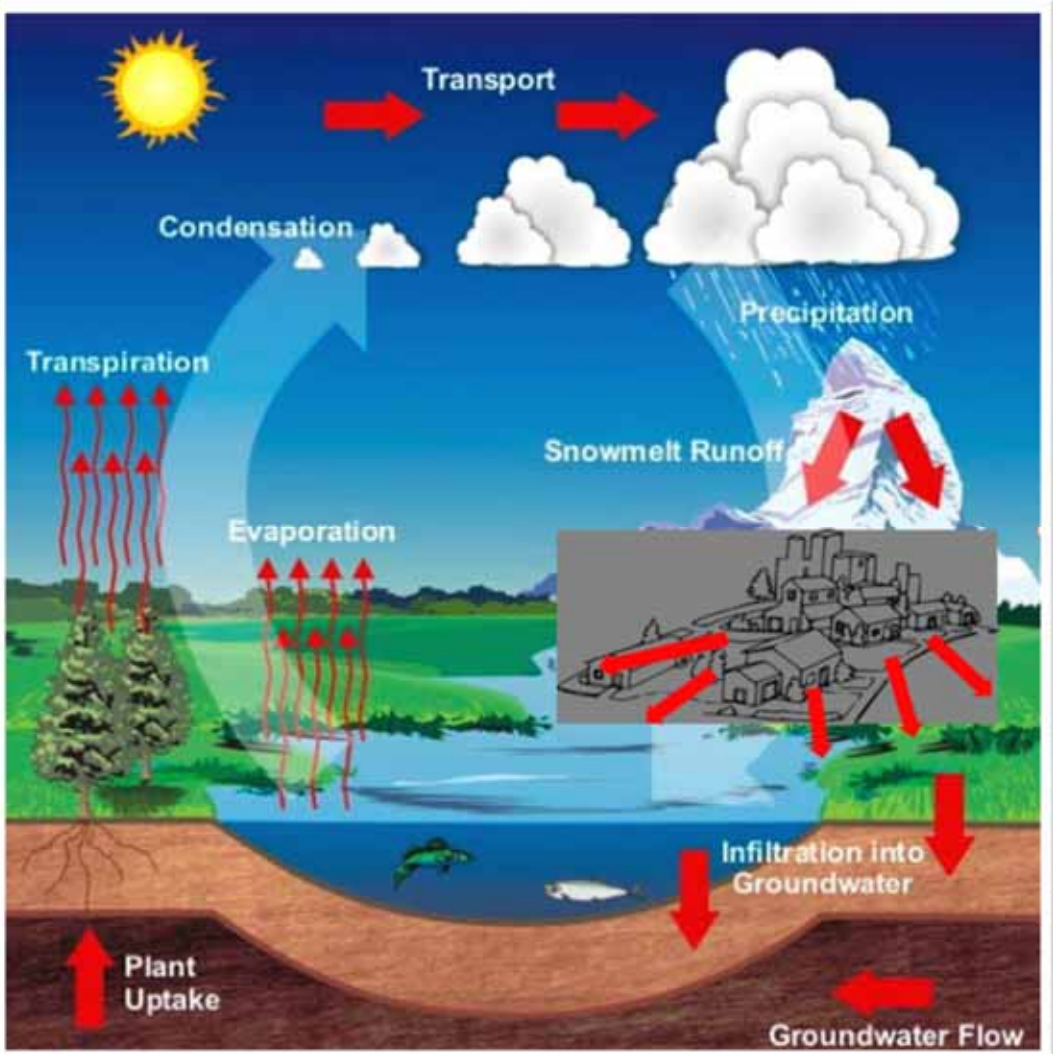
What is rainwater runoff (a.k.a. stormwater runoff)?

Water from rain or melting snow that doesn't soak into the ground.

Natural vs Interrupted Water Cycle



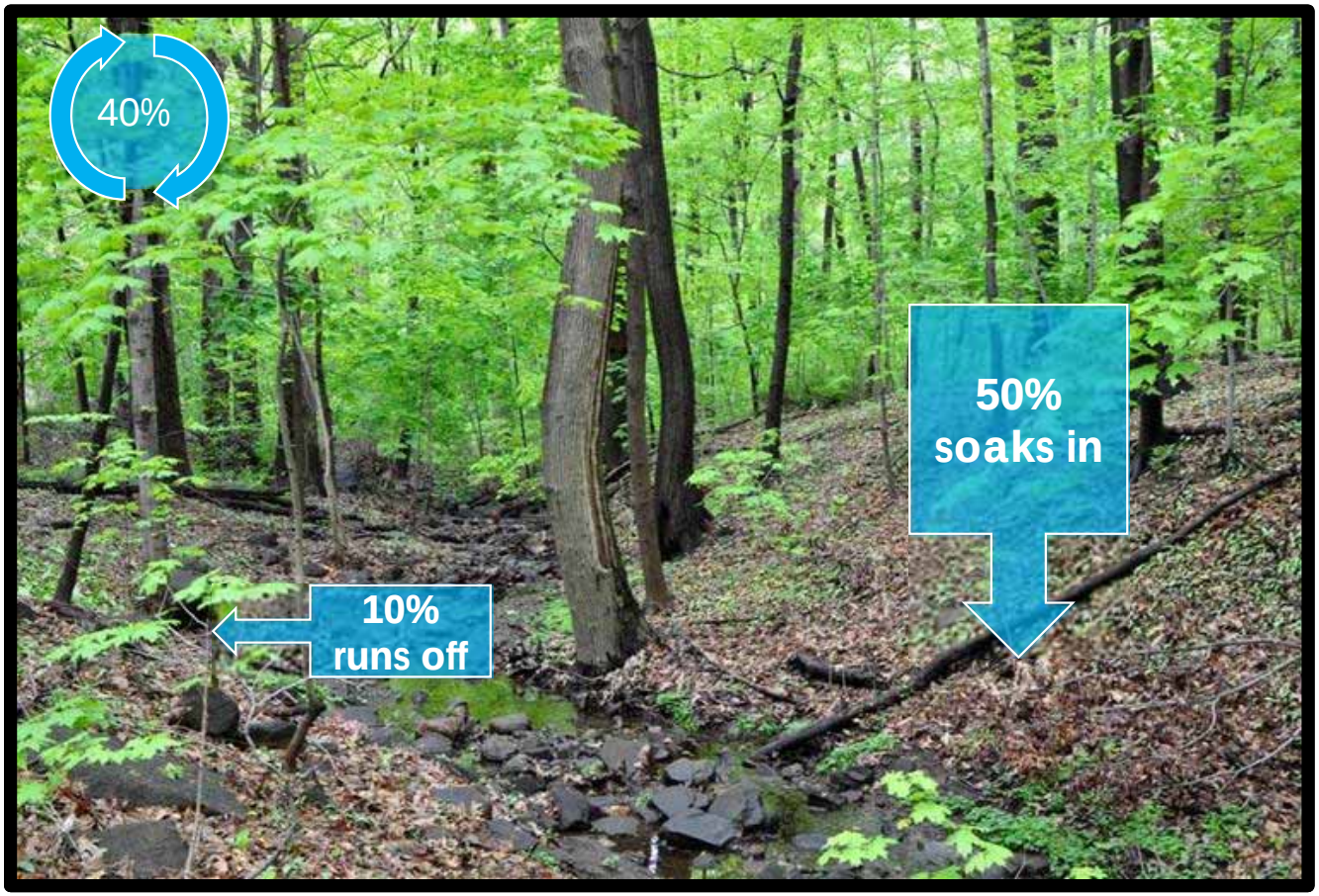
Natural vs Interrupted Water Cycle



INCREASED HARD/IMPERVIOUS SURFACES

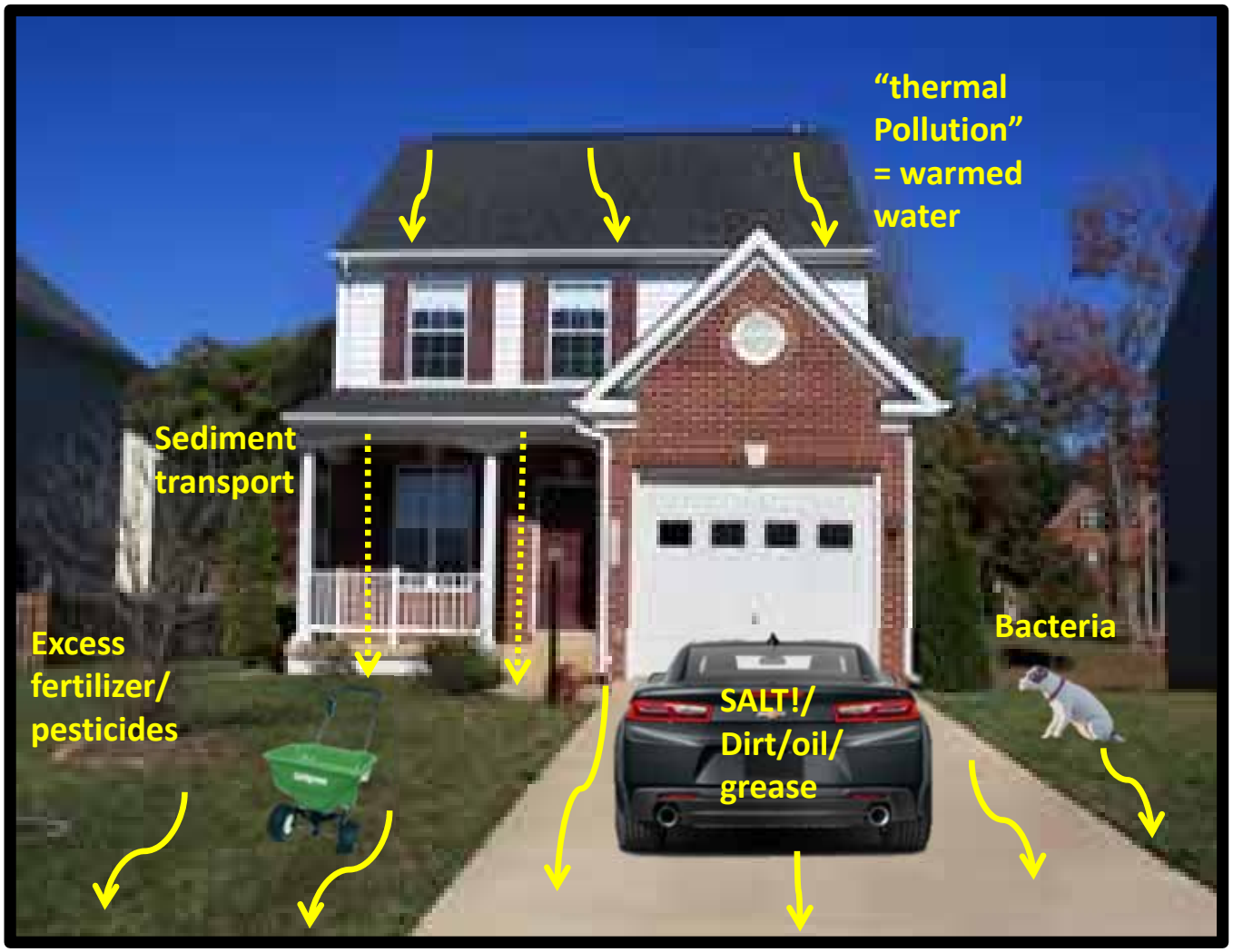
- **Excess Rainwater Runoff**
- **Reduced ground water recharge**
- **Decreased Drought Resistance**

Undeveloped Area



Highly Developed Area

Sources of Residential Runoff



Residential Pollutant Examples

Nutrients

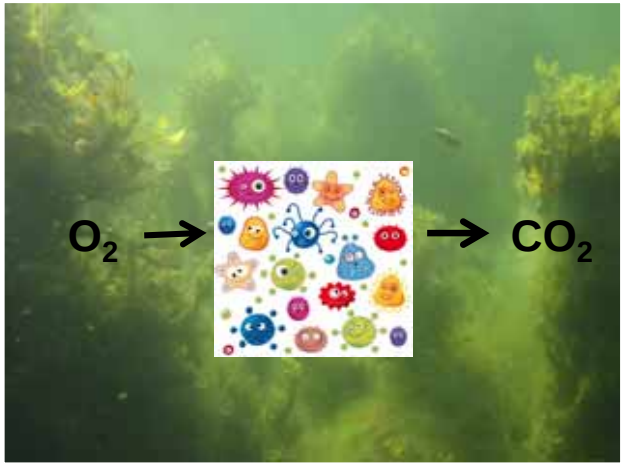
Sediment

Bacteria

Why do we care about stormwater runoff?

Stormwater runoff carries pollutants to our waterbodies!

Nutrients



Follow the Flow

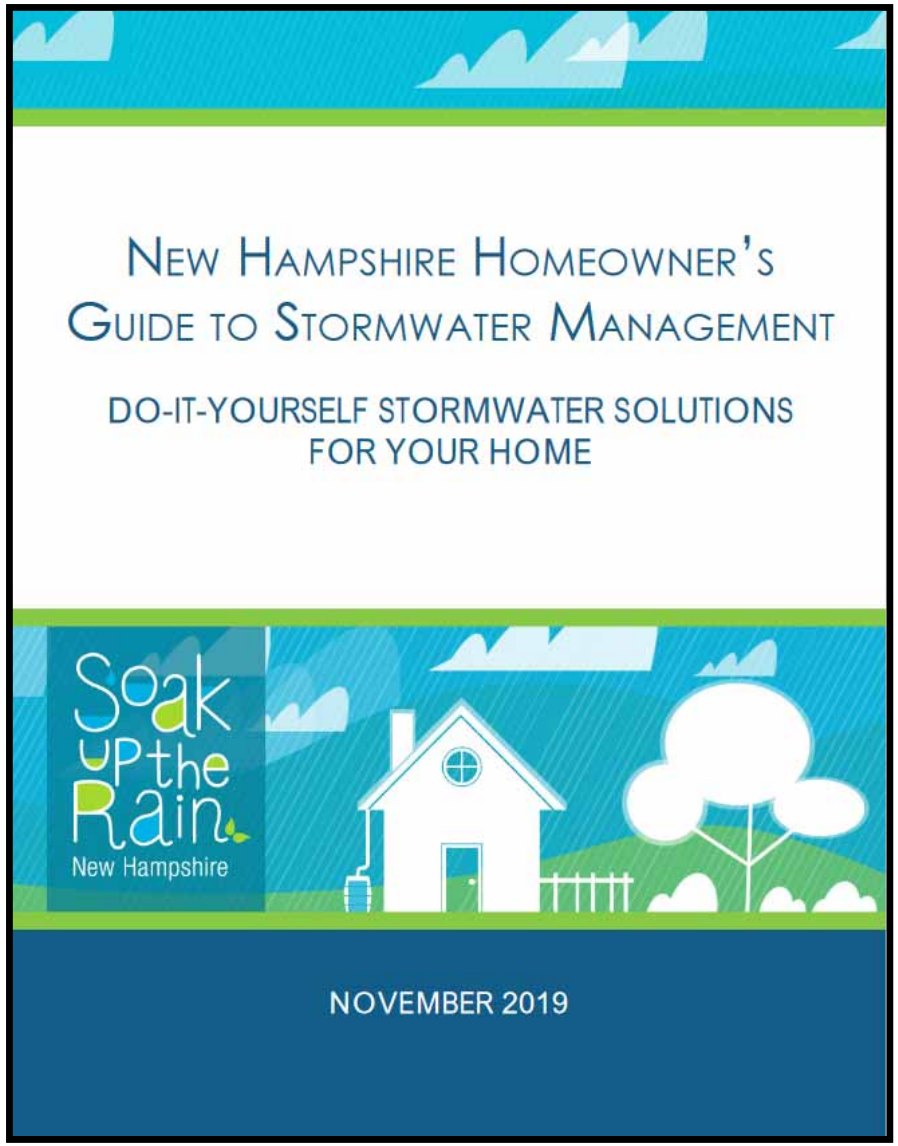
Runoff to collection system

Eroded path

Follow the Flow

Bare soil

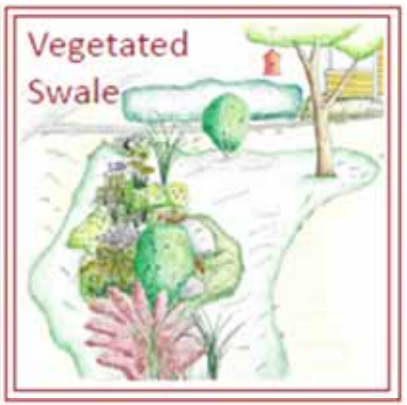
Unstable soil

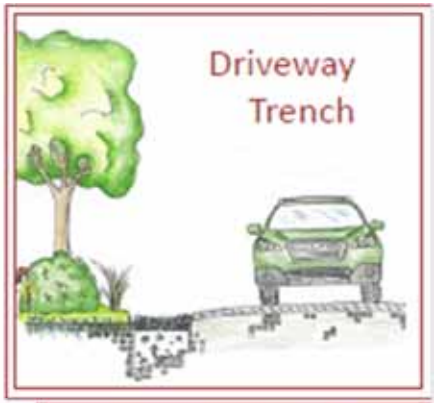


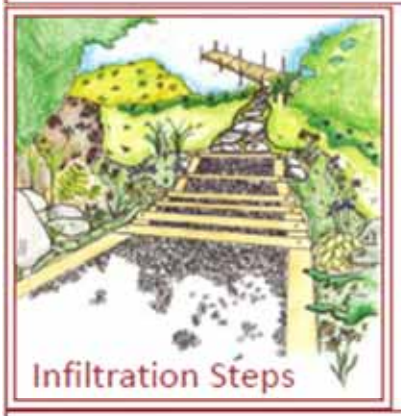
Search for:
Soak Up the Rain NH

Go to:
Publications

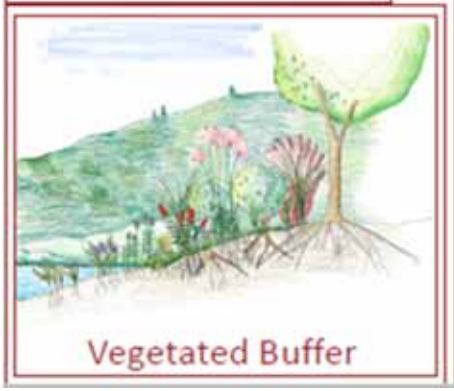
Soak UP the Rain
New Hampshire

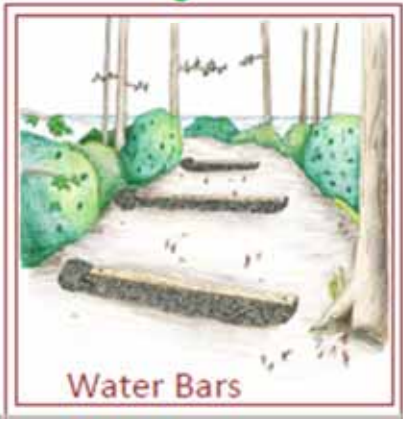






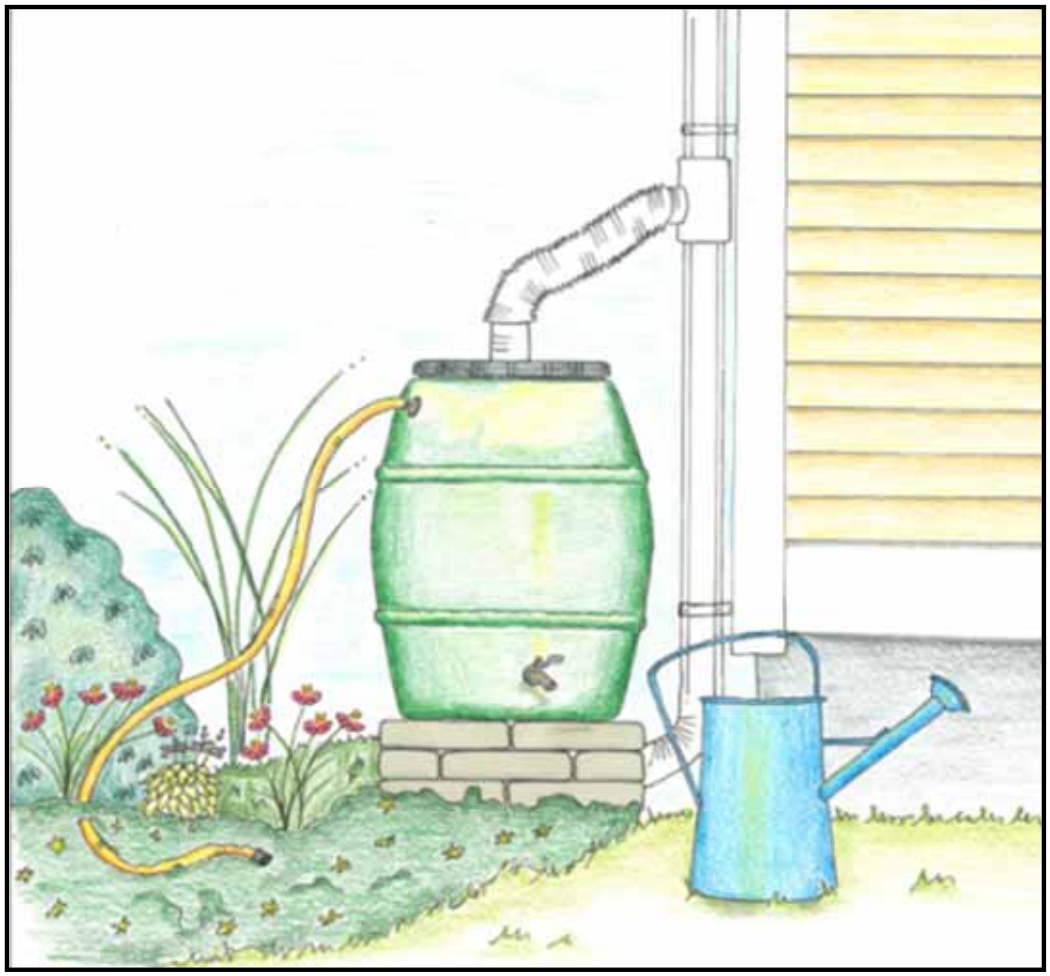
How can you
SOAK UP the RAIN?
Find Do-It-Yourself Instructions
and more at
www.soaknh.org





Rain Barrel

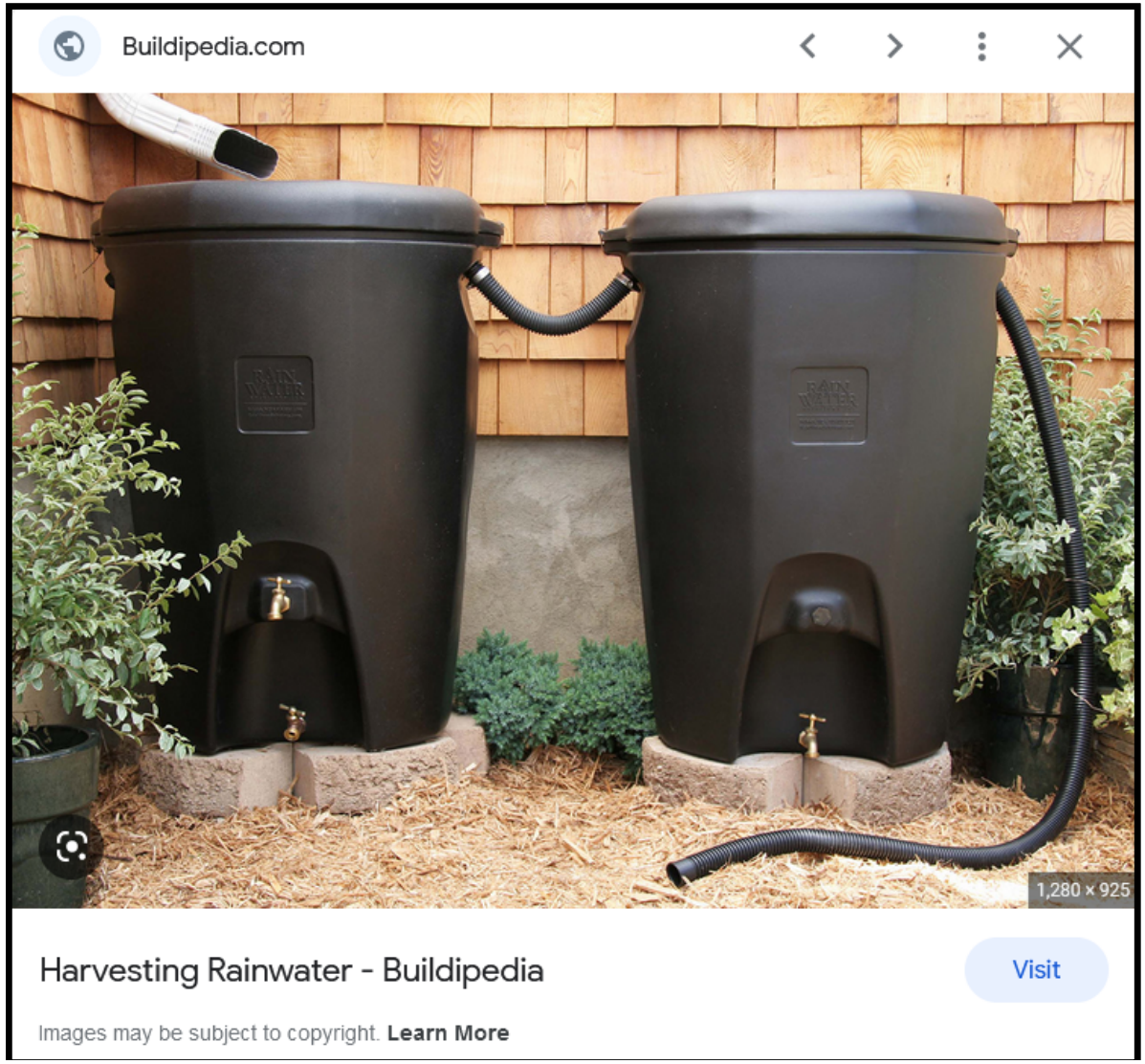
Captures and stores rainwater from a roof for later use.



Rain Barrels: Split gutters to both corners to increase capacity

Rain Barrels: Split gutters to both corners to increase capacity

Rain Barrels: “daisy chain” two or more to increase capacity



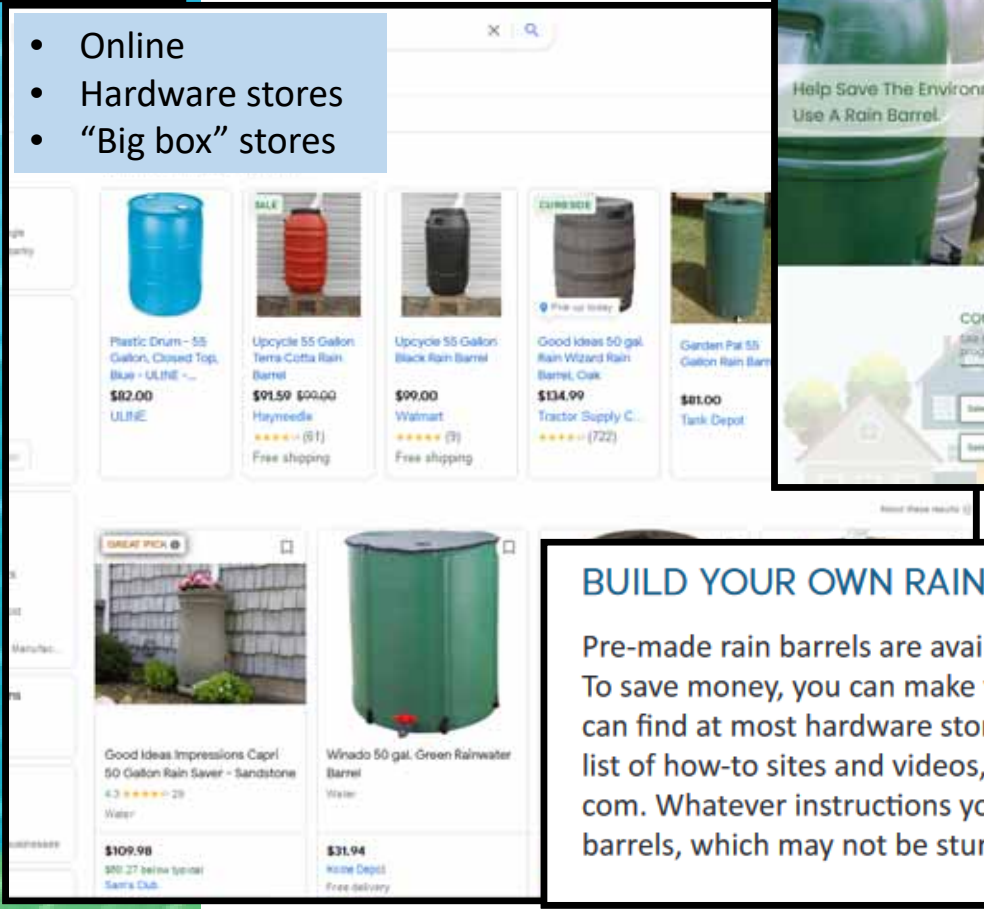
Rain Barrels: connecting to downspout

Rain Barrels: Notes and Maintenance

- ✓ Plan for overflow
- ✓ Mosquito control
  - ✓ Screened opening
  - ✓ Mosquito tabs
- ✓ Monitor for algae growth
  - ✓ Treat with a bit of bleach
  - ✓ Empty between storms
- ✓ Scrub at end of season, if needed
- ✓ Empty and store for winter
  - ✓ Empty it out so water doesn't freeze and damage barrel!

Rain Barrels: Where to purchase

- Online
- Hardware stores
- “Big box” stores

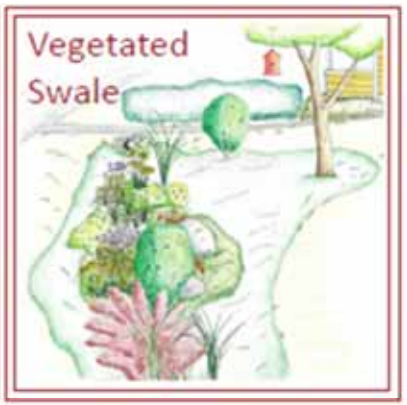


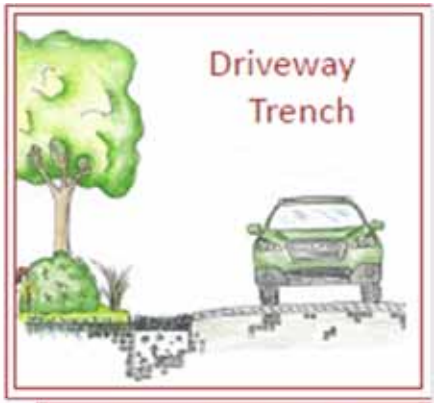
- Great American Rain Barrel Company Community Programs

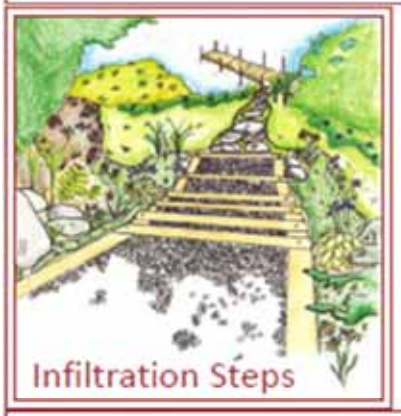
BUILD YOUR OWN RAIN BARREL

Pre-made rain barrels are available in many sizes and styles. They range in price from $50 to over $200. To save money, you can make your own rain barrel out of a food-grade drum and plumbing parts that you can find at most hardware stores. An internet search of “How do I make a rain barrel” will result in a long list of how-to sites and videos, such as the Rainwater Harvesting: Rain Barrel DIY video on Instructables.com. Whatever instructions you follow, we recommend using a food-grade drum and avoiding trash barrels, which may not be sturdy enough to stand up to the pressure of being full of water.

Soak UP the Rain
New Hampshire







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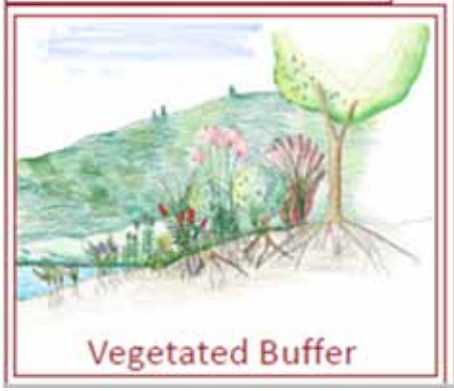
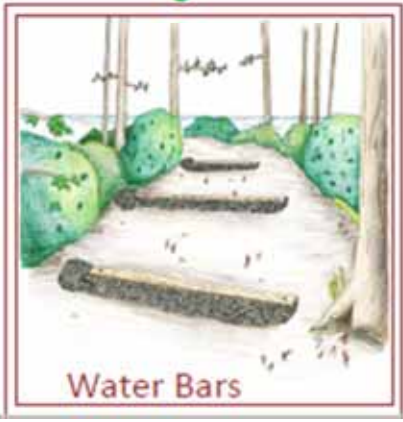
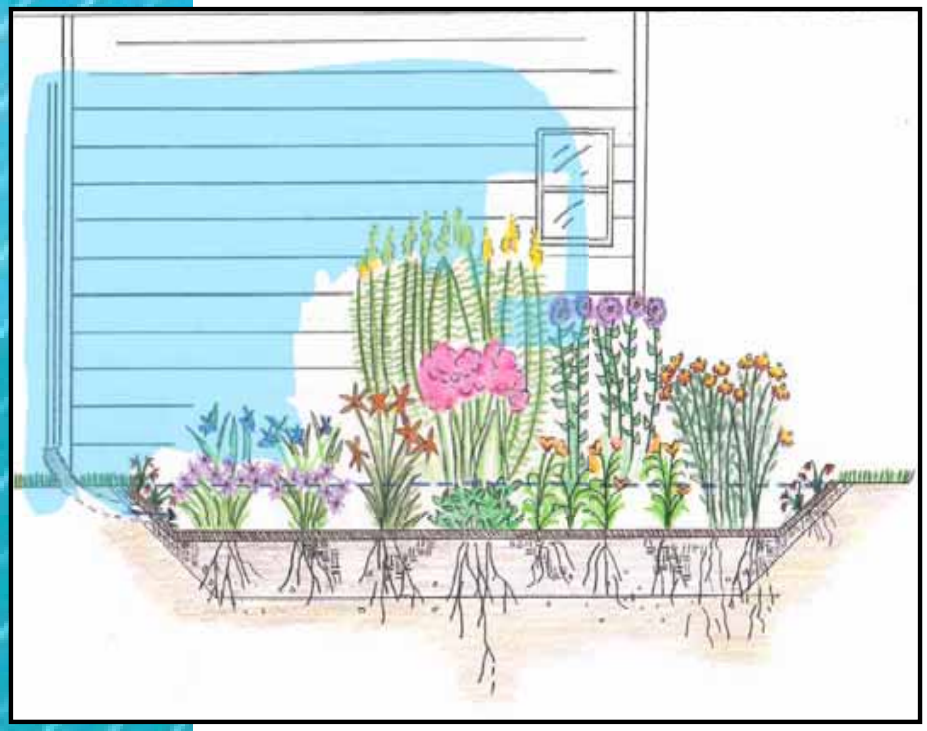


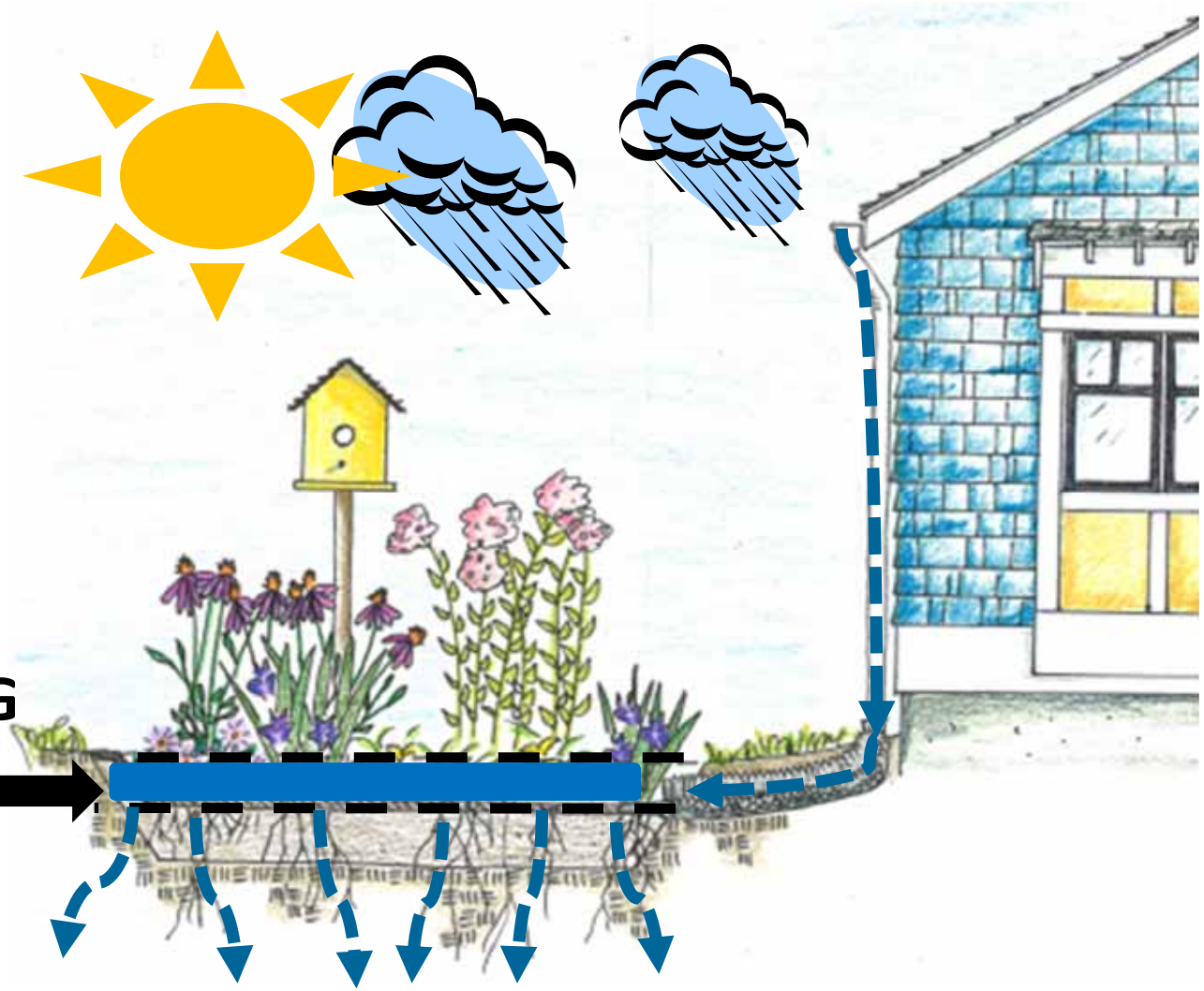


Rain Garden

A sunken, flat-bottomed garden designed to capture rainwater



Rain Garden - Key Feature



PONDING AREA

Dripline Infiltration Trench

A stone-filled trench around the perimeter of a building

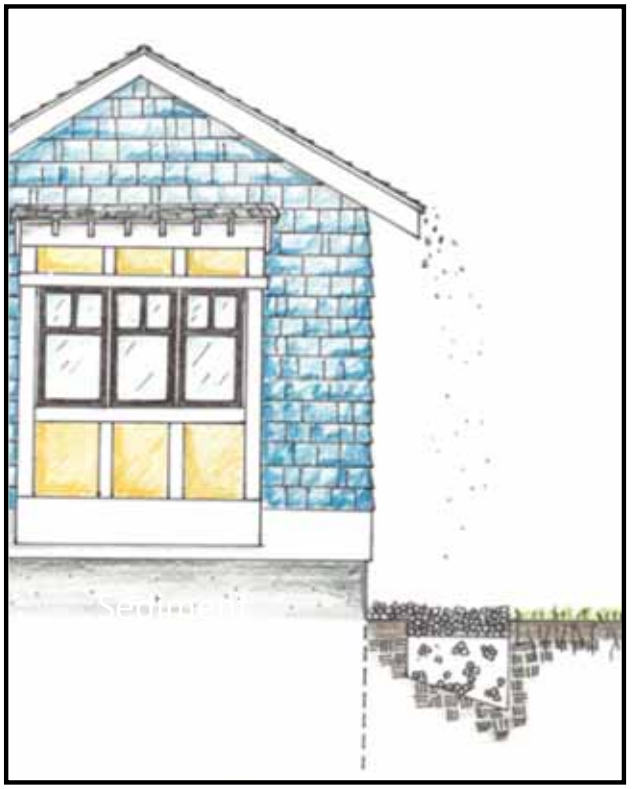
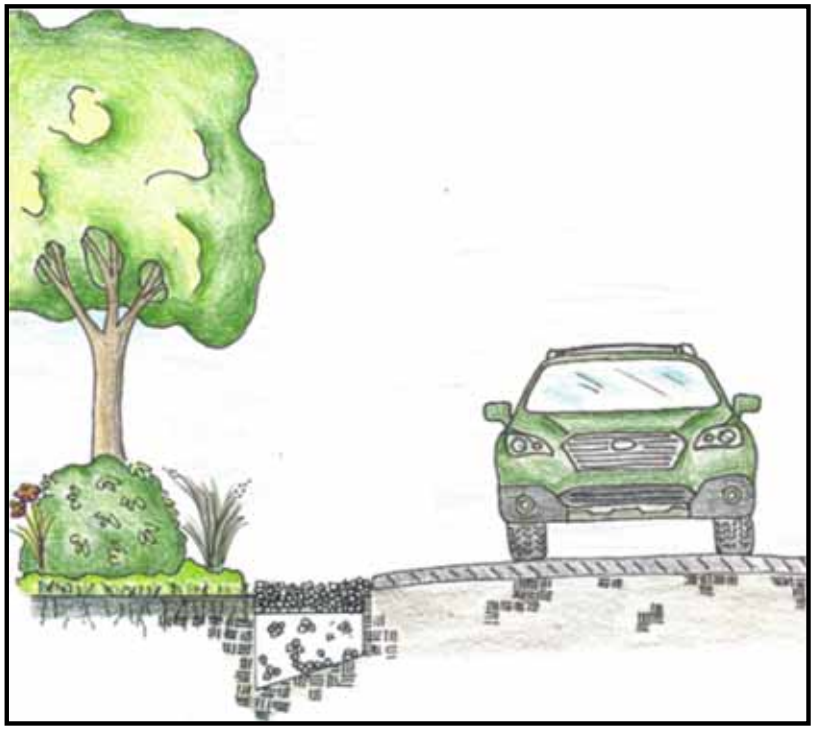


Photo Courtesy Nippo Lake Association, Barrington

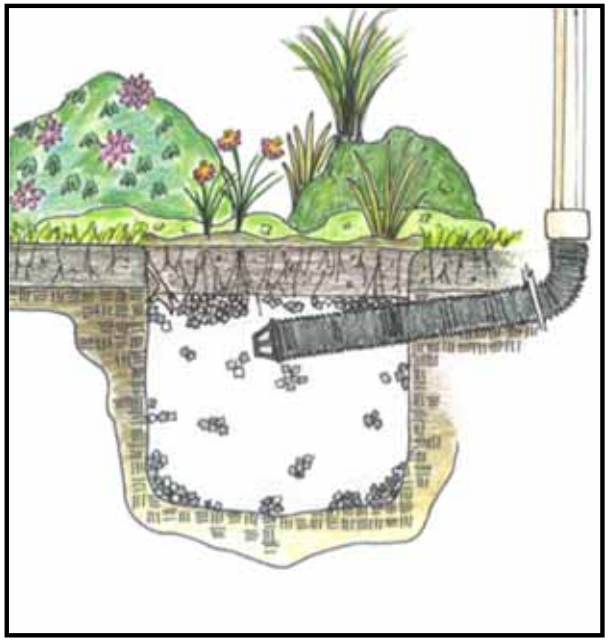
Driveway Infiltration Trench

A stone-filled trench along the edge of a driveway.



Dry Well

Classic hole in the ground filled with stone.



Project Partner: Great Bay Stewards, Greenland

Dry Well

Classic hole in the ground filled with stone.

Project Partner: Green Mountain Conservation Group

Infiltration Steps

Stabilize sloped paths, reduces erosion.

Project partner: Friends of Hothole Pond, Loudon

Infiltration Steps

Stabilize sloped paths, reduces erosion.

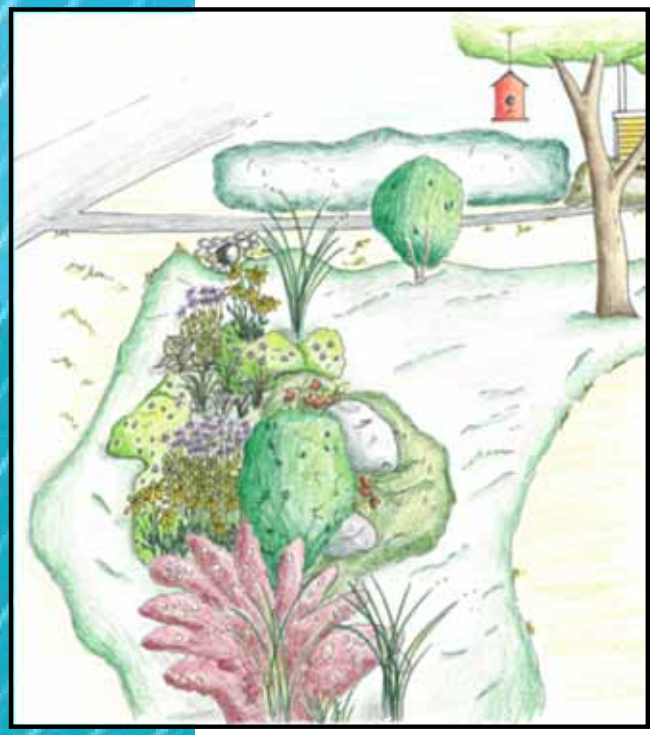
Porous Pavers

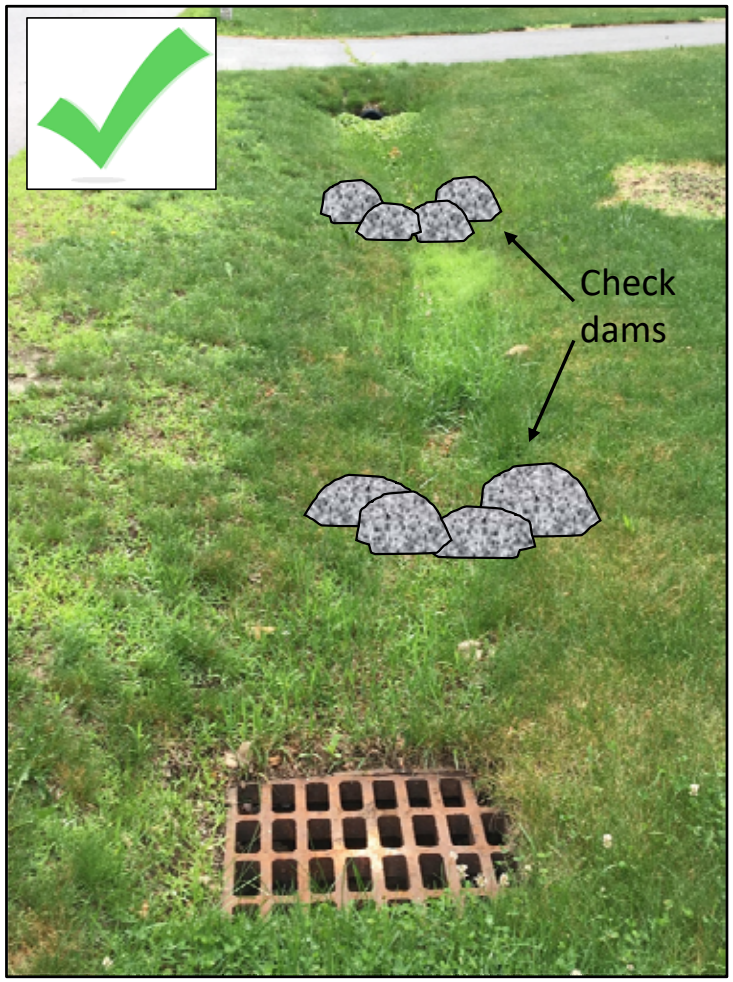
Stone reservoirs under pavers.

AKA geo grids or grass pavers, etc.

Vegetated Swale

A shallow channel filled with plants to slow flow





Water Bar

Intercepts and diverts water traveling down paths.

Project partner: Green Mountain Conservation Group, Freedom

Water Bar - Rubber Razor

Conveyer belt material sandwiched between lumber and protruding above grade

Project partner: Nippo Lake Association, Barrington

Vegetated Buffer

Vegetation between landscaped area and water

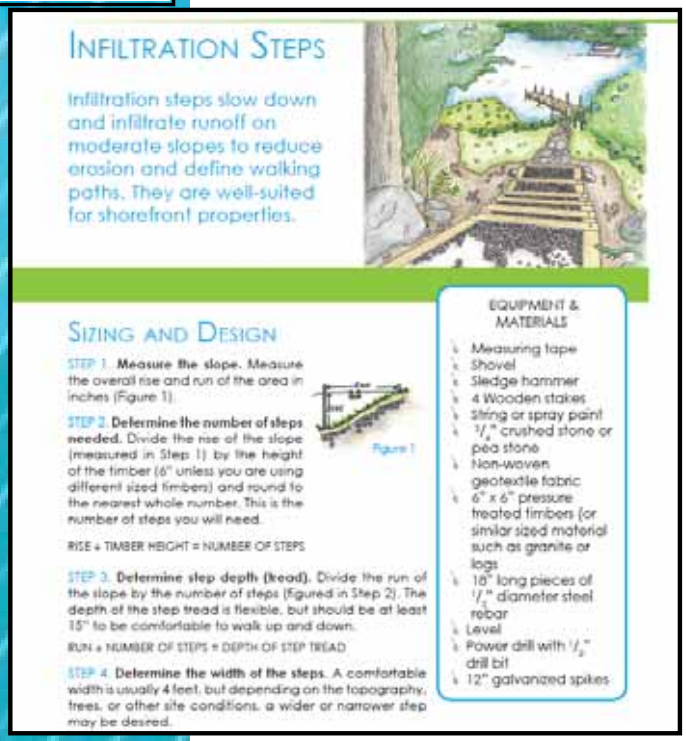
Natural Buffer
Pleasant Lake,
Deerfield

Planted Buffer
Wentworth Lake,
Wolfeboro

Good Housekeeping Tips

www.soaknh.org

Step-by-step instructions



Infiltration Steps

Infiltration steps slow down and infiltrate runoff on moderate slopes to reduce erosion and define walking paths. They are well-suited for shorefront properties.

Sizing and Design

STEP 1. **Measure the slope.** Measure the overall rise and run of the area in inches (Figure 1).

STEP 2. **Determine the number of steps needed.** Divide the rise of the slope (measured in Step 1) by the height of the timber (6" unless you are using different sized timbers) and round to the nearest whole number. This is the number of steps you will need.

RISE ÷ TIMBER HEIGHT = NUMBER OF STEPS

Figure 1

STEP 3. **Determine step depth (tread).** Divide the run of the slope by the number of steps (figured in Step 2). The depth of the step tread is flexible, but should be at least 15" to be comfortable to walk up and down.

RUN ÷ NUMBER OF STEPS = DEPTH OF STEP TREAD

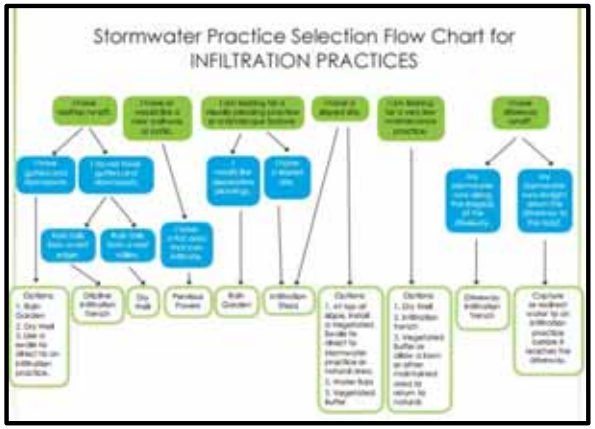
STEP 4. **Determine the width of the steps.** A comfortable width is usually 4 feet, but depending on the topography, trees, or other site conditions, a wider or narrower step may be desired.

EQUIPMENT & MATERIALS

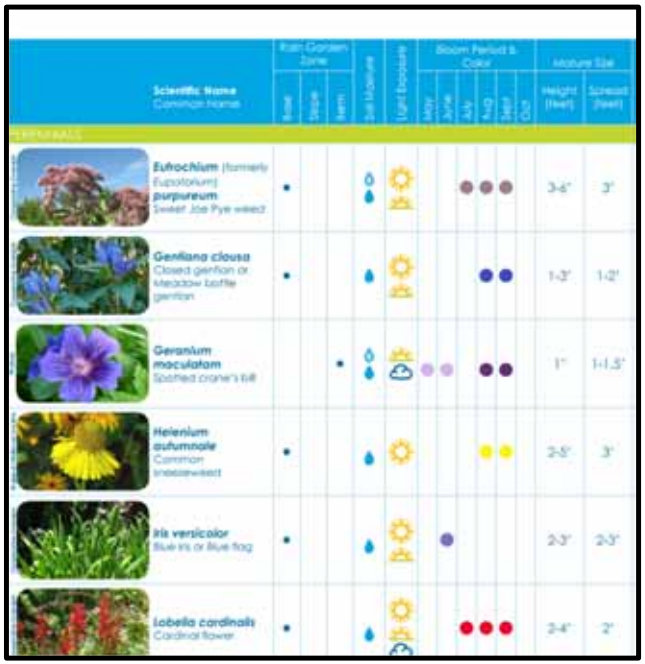
- Measuring tape
- Shovel
- Sledge hammer
- 4 Wooden stakes
- String or spray paint
- ¾" crushed stone or pea stone
- Non-woven geotextile fabric
- 6" x 6" pressure treated timbers (or similar sized material such as granite or logs
- 18" long pieces of ½" diameter steel rebar
- Level
- Power drill with ½" drill bit
- 12" galvanized spikes

Photo galleries & stories

Property assessment tools



Rain garden planning



Rain Garden. Partner: Great Bay Stewards

Infiltration Pad. Partner: Wentworth Watershed Assoc.

QUESTIONS?

www.soaknh.org

Facebook: SoakNH

Lisa Loosigian

lisa.loosigian@des.nh.gov

Soak up the Rain New Hampshire

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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Infiltration Trench. Partner: Green Mtn Conservation Group