



## Invasive Species\*

Japanese honeysuckle\*



Nepalese Browntop\*

Chinese Privet\*\*



Tree of Heaven\*

Large Hop Clover\*\*\*



## Small Steps...

- ◆ **Plant native species** in your garden. They create better soil and provide habitat for native birds.
- ◆ **Build a rain garden** to encourage water runoff to soak into the ground.
- ◆ **Plant a garden.** Plants and vegetables improve the soil, slow down water and provide groceries!
- ◆ **Install a rain barrel** to collect storm runoff from your roof. You can reuse it to water your plants
- ◆ **Sweep your patio and driveway** instead of using a hose. You may even reduce your water bill.
- ◆ **Get involved with a local advocacy group** to prevent land misuse.

## Did you know?

1.05% of the land area in the United States is covered by an impervious surface (like concrete and asphalt.)  
 0.43% of the world's land surface is covered by an impervious surface, making the US stand out way above other countries in the amount of impervious land cover.^

Knoxville was ranked as the 8th worst metropolitan area in the country for urban sprawl.^



Images Source:\*Barger, C., UGA. , \*\* Billings, F. Texas Forest Service, \*\*\*LaForest, J., UGA  
 ^Elvidge, et al., ^^Smart Growth America

CITY OF KNOXVILLE

*Citizen's Guide to Sustainability*

## Land Use



CITY OF KNOXVILLE

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# Big Steps... Plant a Rain Garden

## TOOLS

- Shovel
- Gardening gloves
- Sunblock
- Stakes and string to mark perimeter of the garden
- Assortment of native perennials and grasses
- Compost to cover

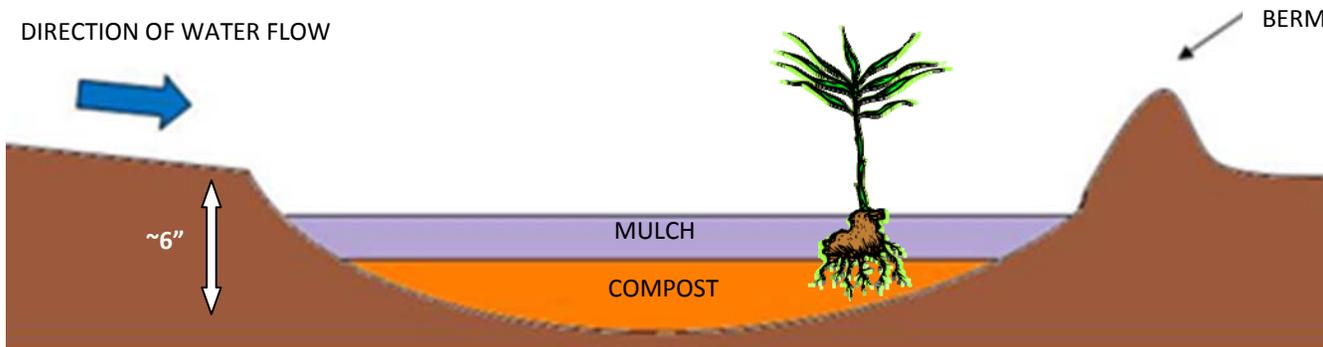
1. Stake out the garden area. Use string and stakes to mark the perimeter of the rain garden.
2. Dig out the marked area 6" deep. It can either be flat across or slightly deeper in the center. Use the soil that you remove to build up a slightly raised area on the lowest side of the garden (called the berm). This berm will help contain the stormwater and allow it to percolate slowly through the rain garden. To prevent erosion, plant the berm with grass or mulch.
3. Add two to three inches of compost. The compost will help loosen the soil so the roots of the plants can take more easily, and it will add nutrients.

4. Direct the downspout from your roof toward your rain garden. Use a natural slope, dig a shallow canal, or pipe the runoff directly to the garden.



5. Plant the garden! This step should be fun and subject to your creativity, but use perennials that are native to the area.
6. After planting, water the plants. New plants should be watered every other day for the first two weeks or so.
7. Add a two inch layer of mulch. Mulch restrains weeds and reduces soil evaporation and erosion.

DIRECTION OF WATER FLOW



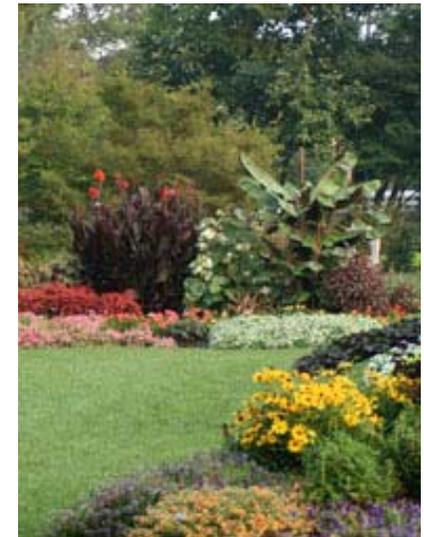
## HELPFUL HINTS AND TIPS

Always check with the city and local utility providers to determine the ground you are digging in does not have any important structures or cables running below it.

The rain garden should be at least 10 feet from the house so infiltrating water doesn't seep into the foundation.

There should be a natural slope (at least 1% grade) leading from the water collection area (your roof or driveway) down to the rain garden. Choosing a relatively level spot for the garden will keep digging to a minimum.

Use plants that originate from your area. Do not plant vegetation that has come from other parts of the world because they will require more garden upkeep, be less likely to take root in the soil, and not percolate water at maximum levels. They also could be invasive species.



The University of Tennessee Gardens