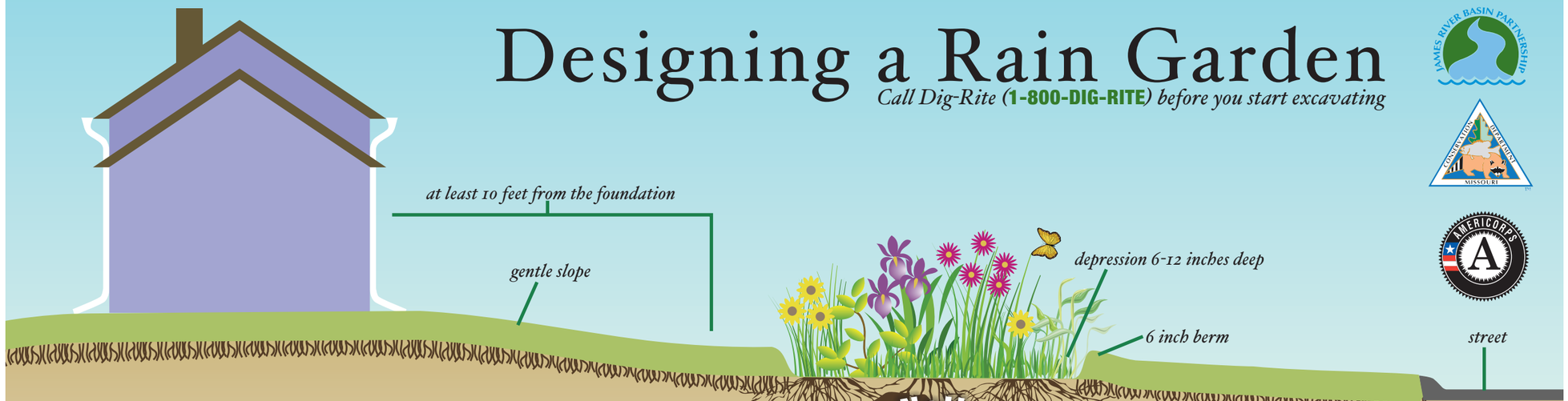
Designing a Rain Garden

*Call Dig-Rite (**1-800-DIG-RITE**) before you start excavating*



1. Determine the size of your rain garden by estimating your roof area or driveway square footage. The garden should be about one-third the size of the area providing runoff.

2. Choose a spot at least 10 feet away from your foundation, and down-slope from your downspout or sump-pump outlets.

3. Dig a shallow, flat-bottomed hole with gradually sloping sides. The average depth of a rain garden is 6"—12". Have a spot located in your landscape for excavated materials or build a berm on the downside of your rain garden. You may want to test your soil's pH, as wildflowers grow best in soil with a pH level between 5.5—7.5. *Be sure to call 1-800-DIG-RITE before you dig.*

4. Test the overflow pattern. Fill the excavated area with water and observe the overflow. If necessary, dig a shallow channel to direct water away from buildings and toward the street.

5. Direct your down spout or sump-pump outlet to your rain garden depression, either by digging a shallow channel or by piping runoff through a buried 4-inch, black plastic drainpipe.

6. Plant! Mix your amendments in the bottom of the garden *(if you are using them)*. Place the plants at the appropriate spacing, then check your arrangement before digging holes and planting. Evaluate the texture and color of adjacent plants and make any design adjustments. Once planted, put a 3-inch layer of untreated shredded hardwood mulch around the plants to conserve moisture and deter weeds.

Why Use Native Plants?

Roots of native plants are much longer than non-natives, so they can filter more rainwater, absorbing 30% more water than a lawn of the same size.

Maintain your rain garden:

- Water your newly-planted rain garden during its first growing season.
- Weed regularly for the first year.
- Remove any dead stems or seed heads that do not appeal to you.
- Evaluate your rain garden each year. Fill any holes with the addition of other appropriate native plant species.
- To keep your garden looking neat, maintain its boundary by clipping and mowing. Consider edging the rain garden with natural stone on the downhill side. Avoid using a raised edge treatment where water flows into the rain garden.
- In early spring, cut back the dormant vegetation to stimulate new growth. Leave the plants standing throughout the winter, for visual interest. Many of the native grasses look especially attractive during this time of year.
- Do not spread or spray lawn fertilizers too close to your rain garden. When native plants are fertilized, especially with nitrogen, they tend to grow too tall to hold themselves upright. Fertilizing can stimulate weed growth and create competition for the native plants.

What About Mosquitoes?

Stormwater run-off that enters your rain garden should disappear within 24-48 hours of a rain event. The water will either infiltrate through the soil, be taken up by the massive roots of the native plants growing in the garden, or evaporate into the air. Mosquitoes need at least a week of standing water to complete their life cycle. A poorly maintained bird bath or rain gutter is more likely to serve as a mosquito breeding ground than a rain garden. In time, your rain garden will become its own ecosystem, attracting hungry bats, dragonflies and other predators of the mosquito, thus naturally eradicating them from your area.

Percolation Test

Test your soil to calculate how much water will infiltrate in 24 hours.

1. Dig 8" Hole.
2. Fill with water. Let saturate for an hour.
3. Refill Hole. Mark water level.
4. Measure water level after 1, 2, & 4 hours.
5. Calculate how much will infiltrate in 24 hours.

Fix Your Soil

If the composition of the soil does not allow for proper drainage (see percolation test, above) you may need to fix it. Excavate to twice the desired depth, then fill the bottom half with the amendment materials. You can mix materials right in your garden.

50% sand **+**
25% topsoil **+**
25% organic matter

Calculate Garden Size

Figure the amount of space and number of plants you'll need for an adequate rain garden.

How much water?

Define your runoff area *(e.g. 200 sq. ft. of roof or driveway)*

What size garden?

Divide the runoff area by 3 to obtain the rain garden size *(200: 3=66.6 or 67 sq. ft)*

How many plants?

Your garden size divided by 2.25 for plants spaced 18" apart. *(67 divided by 2.25=29.7. Round to 30).* 30 plants will be needed for the 67 sq. ft. garden in our example.

Use same calculation to add a rain garden to any drainage area.

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