



Designing Rain Gardens for Stormwater Solutions

Rain Garden Plant Selection and Design

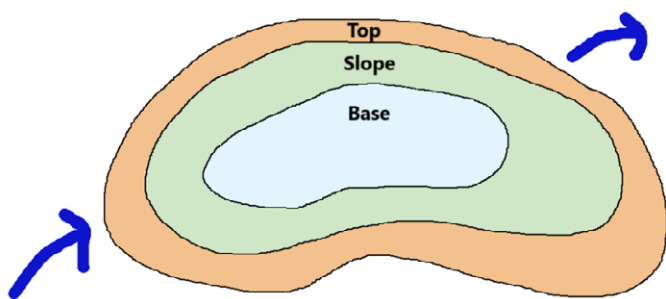
Background: A well-designed rain garden features the right plants in the right places to maximize water absorption, prevent erosion, and enhance biodiversity. Follow these steps to thoughtfully plan your plant selections and garden layout.

SITE AND WATER FLOW

1. Sketch your rain garden design on graph paper (or a digital tool such as Google My Maps or ArcGIS). Include where water enters (inflow) and exits (outflow).
2. Identify topographic zones on your map:
 - Base (moist zone): Stays wet the longest; plants here must tolerate standing water.
 - Slopes (moderate zone): Transitions between wet and dry; plants here should tolerate both wet and dry conditions.
 - Top (dry zone): Drains quickly; plants must be drought tolerant.
3. Identify sunlight conditions throughout the rain garden:
 - Full Sun: At least 6+ hours of direct sunlight daily.
 - Partial Sun: 4-6 hours of sunlight.
 - Shade: Less than 4 hours of direct sunlight.

RESEARCH PLANTS

1. Research native plants that will be suitable for your rain garden. For many states, there are websites (e.g., [Illinois Groundwork's Plant Finder](#), [Wisconsin's Prairie Nursery](#), [Georgia Coastal Plain Native Plants for Sustainable Landscaping and Wildlife Habitat](#)).
 - a. Choose at least three plants per moisture zone (Moist, Moderate, Dry) and take notes on their sunlight needs, height, spread, bloom time, and ecological benefits.
 - b. Aim for 50–70% coverage with grasses, sedges, and groundcover plants to minimize the need for mulch, suppress weed growth, and stabilize the soil.



A sample rain garden diagram with topographic zones and water inflow/outflow indicated.

Credit: L. Brase, AGI

RAIN GARDEN DESIGN

1. Read through these design tips before starting:
 - a. Seasonal Planning
 - Ensure plants bloom in different seasons for continuous color and pollinator support.
 - Consider grasses or evergreens to maintain visual appeal throughout the year.

b. Height Considerations

- Tall plants (3+ ft): Place at the back (if garden has a front/back) or in the center (if viewed from all sides).
- Medium-height plants (1-3 ft): Use as transition layers between tall and short plants.
- Short plants (under 1 ft): Plant along edges or in foreground to maintain visibility.

c. Visual Appeal & Maintenance

- Group plants in odd numbers (3, 5, or more) for a natural look.
 - Consider a grid layout for easier maintenance and weed identification.
 - Repeat colors and plant types throughout the design for visual flow.
2. Use graph paper (or a digital tool) to sketch your rain garden design, including water inflow and outflow areas.
 3. Label plant types with symbols or codes, and color code bloom seasons to see how the garden will look throughout the year.

ESTIMATE ASSOCIATED MATERIALS AND COSTS

1. Calculate the cost of your selected plants, keeping in mind the following tips:
 - ▶ Use plant plugs instead of potted plants to save money and allow plants to establish quickly.
 - ▶ Consider 25% potted plants and 75% plugs if planting in spring for a fuller first-year look.
 - ▶ Estimate one plant per square foot as a general rule, but consider the spacing requirements provided on the Plant Finder website.
2. Mulch helps retain moisture, suppresses weeds, and improves soil health. Calculate the amount and cost of mulch across the rain garden, keeping in mind that a 3" depth is typical.
3. Consider including larger cobbles or gravel at the inflow and overflow points to reduce erosion.