AGENDA

Town of Lake Park, Florida
Stormwater Policy Committee Meeting
Tuesday, December 17, 2019, 6:00 P.M.
Lake Park Town Hall
Commission Chambers
535 Park Avenue
Lake Park, FL 33403

John D'Agostino	**—**	**Town Manager**
Richard Scherle	**—**	**Public Works Director**
Raul Mercado	**—**	**Certified Floodplain Manager**
Ronnie Lee Cohen	**—**	**Committee Member**
Dena Davis	**—**	**Committee Member**
Vivian Mendez, MMC	**—**	**Town Clerk**

PLEASE TAKE NOTICE AND BE ADVISED, that if any interested person desires to appeal any decision of the Storwmwater Policy Committee, with respect to any matter considered at this meeting, such interested person will need a record of the proceedings, and for such purpose, may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. ***Persons with disabilities requiring accommodations in order to participate in the meeting should contact the Town Clerk's office by calling 881-3311 at least 48 hours in advance to request accommodations.***

A. CALL TO ORDER/ROLL CALL

B. PLEDGE OF ALLEGIANCE

C. Consent Agenda:
Stormwater Policy Committee Meeting Minutes of November 19, 2019.

D. New Business:

1) Introduce Floodplain Management Plan (FMP) Planning Meeting Topic

There are three (3) Public Outreach Components in the FMP process:

- Website
- Flood Preparedness Public Survey
- Public Outreach Meetings and Open Houses

In compliance with Floodplain Management Plan (Activity 512), the topic of the meeting will continue to be related to steps 4 and 5 of the of the FPM planning process.

Step 1 – Assess the hazard
Step 2 – Assess the problem
Step 3 – Set goals
Step 4 – Review possible activities
Step 5 – Draft an action plan

At the October 29, 2019 meeting the Steering Committee addressed the *Flood Preparedness Public Survey* Component of the Public Outreach plan. In this meeting the Steering Committee will continue drafting an Outreach *Action Plan* and will refine possible activities related to the *Website and Public Meetings and Open Houses* components of the plan.

REVIEW POSSIBLE ACTIVITIES & DRAFT AN ACTION PLAN

Website

The Steering Committee will discuss the implementation of the first Survey Monkey questionnaire through the Town's website and further address the placement of educational Stormwater Master Plan (SWMP) material in the website.

Public Outreach Meetings and Open Houses

The Steering Committee will discuss type and timetable of public outreach meetings and educational material to introduce the FMP process to the public.

- **First Workshop Meeting and Presentations**
- The Steering Committee will discuss the type of public meeting and presentations to be implemented as part of the action plan. The following formats will be considered:

- Special Meeting Town Commission Workshop (or other)
- This will be an introduction of the SWMP to the public via Power Point (PP) presentation to:
- take place early February 2020.
- Presentation of SWMP to Realtors/Chamber of Commerce audience in March 2020.
- Presentations of SWMP at local meetings with property owners and homeowner associations along shoreline (to feature upcoming seawall structural assessment project).

- **Educational Materials & Events**
- Discuss the implementation of a Rain Garden Pilot Project at the Town Hall site (When, where, and select project leader). The link below includes a video of how to build a rain garden.

http://jamescitycountyva.gov/stormwater

- Discuss upcoming Town events and SWMP showcase opportunities.
- Discuss criteria for press releases, as needed, for the Town's Public Information Officer and Mayor's office (Possible first quarter 2020 Palm Beach Post article about Green Infrastructure and Climate Change in Palm Beach County)

E. PUBLIC COMMENT:

This time is provided for addressing items that do not appear on the Agenda. Please complete a comment card and provide it to the Town Clerk so speakers may be announced. Please remember comments are limited to a TOTAL of three minutes.

F. ADJOURNMENT:

Next Scheduled Stormwater Policy Committee Meeting TBA

SURVEY PARTICIPANTS NEEDED!

THE TOWN OF LAKE PARK DEPARTMENT OF PUBLIC WORKS WANT TO KNOW…

ARE YOU PREPARED FOR A FLOOD?

ARE YOU PREPARED FOR THE IMPACTS OF CLIMATE CHANGE?

The Town of Lake Park Public Works Department has begun an update of the Floodplain Management Plan for the Town of Lake Park. Collecting data on public perception of flood risks and climate change is a vital component of this process. By taking this survey you are helping to improve the management of floodplains!

PLEASE TAKE OUR SURVEY!

SURVEY LINK

www.surveymonkey.com/....

The survey should take 10-15 minutes to complete. Thank you for participating!

THE SURVEY WILL ASK ABOUT:

- ✓ Your perception of flood risks in the Town of Lake Park.
- ✓ Flooding in home, neighborhood, or at work.
- ✓ Your experience with flood insurance.
- ✓ Your perception of climate change and how it affects flooding.

FOR MORE INFORMATION ABOUT THE FLOODPLAIN MANAGEMENT PLAN, VISIT THE WEBSITE AT:

QUESTION FOR SURVEY #1

SURVEY ON FLOODING HAZARD

1. How worried are you about flooding in your community?

- ☐ Very worried
- ☐ Somewhat worried
- ☐ Not very worried
- ☐ Not at all worried

2. Which of the following flooding hazards may apply to your property?

- ☐ Nuisance flooding (clogged swale or culvert pipe, drainage system not working well)
- ☐ C-17 Canal flooding (Properties west of Congress Avenue)
- ☐ Coastal Surge from Hurricanes or Tropical Storms (Properties along Lake Worth Lagoon)
- ☐ High (King/Sea Level Rise) Tides

3. Are you aware that the Town of Lake Park website has links to the Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Maps (DFIRMS) showing Special Flood Hazard Areas (SFHA) in the Town?

- ☐ Yes
- ☐ No
- ☐ Don't know

4. Are you aware that the Town of Lake Park participates in the National Flood Insurance Program (NFIP), and that you can get flood insurance at reduced rates?

- ☐ Yes
- ☐ No
- ☐ Don't know

5. Would you be interested in learning more about flooding hazards and the Town's efforts to update the Stormwater Masterplan.

- ☐ Yes
- ☐ No
- ☐ Don't know

SURVEY ON CLIMATE CHANGE

1. **Climate Change (or Global Warming) is the idea that the Earth's average temperature has been on the rise for the past 150 years and the world's climate may change as a result: Do you think that Climate Change is happening?**

- ☐ Yes
- ☐ No
- ☐ Don't know

2. **How worried are you about climate change?**

- ☐ Very worried
- ☐ Somewhat worried
- ☐ Not very worried
- ☐ Not at all worried

3. **When do you think climate change will start to harm people in the Town of Lake Park?**

- ☐ Being harmed now
- ☐ 10 years
- ☐ 25 years
- ☐ 50 years
- ☐ 100 years
- ☐ Never

4. **Do you know that the two major causes of global Sea Level Rise (SLR) are thermal expansion caused by warming of the ocean (The oceans are absorb more than 90 percent of the increased atmospheric heat associated with emissions from human activity and water expands as it warms), and increased melting of land-based ice, such as glaciers and ice sheets?.**

- ☐ Yes
- ☐ No
- ☐ Don't know

5. **Do you know that Sea level Rise is already occurring along the Town of Lake Park waterfront and that the Town management is playing a leading role to minimize SLR and Climate Change impacts?**

- ☐ Yes
- ☐ No
- ☐ Don't know

SURVEY ON A GREEN INFRASTRCTURE AND LOW IMPACT DEVELOPMENT (GI/LID) PRACTICES

1. **How well inform are you about Green Infrastructure and Low Impact Development Best Management Practices to address climate change?**

- [x] Very informed
- [ ] Somewhat informed
- [ ] Not very informed
- [ ] Not at all informed

2. **Do you know that GI/LID best management practices can be applied to maximize rainfall infiltration to the ground, minimize the production of runoff, decrease the cost of drainage system maintenance, and minimize the long term impact of climate change?**

- [ ] Yes
- [ ] No
- [ ] Don't know

3. **Do you know that GI/LID best management practices are currently being applied for the updating of the Town's Stormwater Masterplan?**

- [ ] Yes
- [x] No
- [ ] Don't know

4. **Are you aware that the Stormwater Masterplan update is considering the implementation of Bioswales, Bio-retention, Pervious Pavements, Green Rooftops, and Rains Gardens Green Infrastructure instead of replacing stormsewers?**

- [ ] Yes
- [ ] No
- [ ] Don't know

5. **Would you like to know more about GI/LID practices, and would you like to participate in the implementation of a working Rain Garden example at the Town Hall Park Avenue site?**

- [ ] Yes
- [ ] No

DRAFT PLAN PRESENTATION

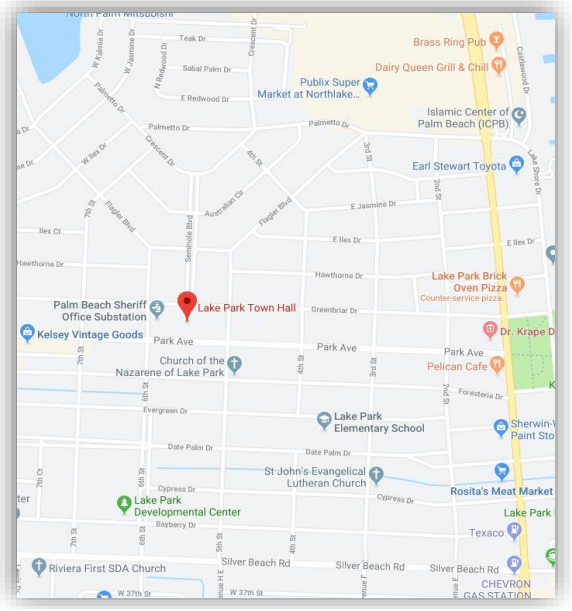
STORMWATER MANAGEMENT PLAN
2020 UPDATE

….., 2020
6:00PM TO 7:30PM

Town Hall
535 Park Avenue
Lake Park, FL 33403

NATIONAL FLOOD INSURANCE PROGRAM

The Town of Lake Park Public Works Department is pleased to present the Draft 2020 Stormwater Management Plan (SWMP) for public review. The purpose of the SWMP update is to provide the Town with a long-range stormwater management planning tool or "Road Map" that will allow for the rehabilitation of the existing drainage infrastructure over the next 25 years, and address climate change/ environmental stressors that pose a challenge to the system's capacity to handle storm events of even small magnitude.



WHY DO THIS???

CAN HELP REDUCE FLOOD INSURANCE PREMIUMS!

CAN MAKE US BETTER PREPARED FOR CLIMATE CHANGE

FOR MORE INFORMATION AND TO REVIEW THE DRAFT PLAN PLEASE VISIT OUR WEBSITE AT: HTTP:

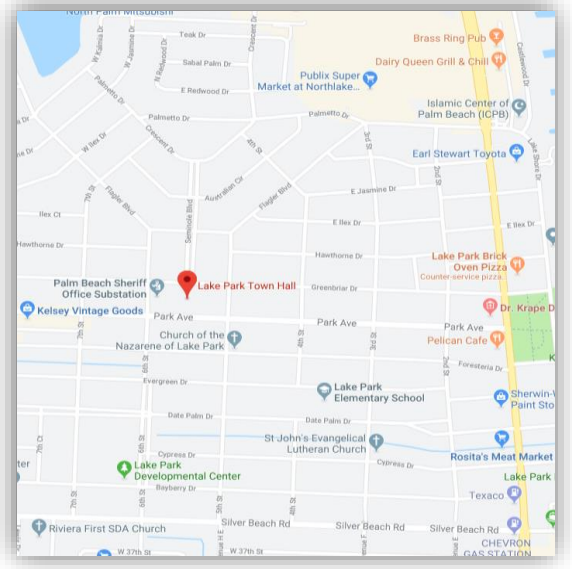
STORMWATER MANAGEMENT PLAN (SWMP) 2020 UPDATE

GREEN INFRASTRUCTURE WORKSHOP

Town Hall
535 Park Avenue

….., 2020
6:00PM TO 7:30PM

The Town of Lake Park Public Works Department is pleased to announce a Workshop on Green infrastructure as part of the 2020 Stormwater Master Plan Update. ***Join us to learn how you can make a difference in your community by helping to manage stormwater where it falls!*** **Green Infrastructure stormwater practices beautify neighborhoods, improve water quality in our canals and the Lake Worth Lagoon, and help reduce flooding while addressing the impacts of Climate Change. The SWMP is a planning tool or "Road Map" that will allow for the rehabilitation of the existing drainage infrastructure over the next 25 years, and address climate change/ environmental stressors that pose a challenge to the system's capacity to handle storm events of even small magnitude.**



WHY DO THIS???

CAN HELP REDUCE FLOODING, AND LOWER THE COST OF DRAINAGE SYSTEM RENEWAL

CAN MAKE US BETTER PREPARED FOR CLIMATE CHANGE

FOR MORE INFORMATION AND TO REVIEW THE DRAFT PLAN PLEASE VISIT OUR WEBSITE AT: HTTP:

How to Build a Rain Garden in Your Yard

It's a beautiful flower bed—and a reservoir for yard and roof runoff (Source: FAMILY HANDYMAN, 2019)

Introduction

Nurture the land in your yard and protect the environment by channeling rain water and runoff from gutters into a rain garden planted with deep-rooted, colorful native plants.

Tools Required

1. Level
2. Spade
3. Wheelbarrow

Materials Required

1. 1-1/2-in. river rock
2. Decorative rocks and boulders
3. Landscape fabric
4. Native plants and grasses
5. PVC pipe

Too Much Water Can Undermine Your Home

If you worry about a wet or damp basement, a busy sump pump, or muddy puddles in your yard after a heavy rainfall, this story is for you. We want to introduce you to a new tool to improve drainage— a rain garden.

A rain garden is basically a plant pond, that is, a garden bed that you plant with special deep-rooted species. These plants help the water rapidly seep into the soil, away from your house and out of your hair. You direct the rainwater from the downspouts to the garden via a swale (a stone channel) or plastic piping. The garden captures the water and, when properly designed, drains it into the

soil within a day. You don't have to worry about creating a mosquito haven; the water drains before mosquitoes even have time to breed.

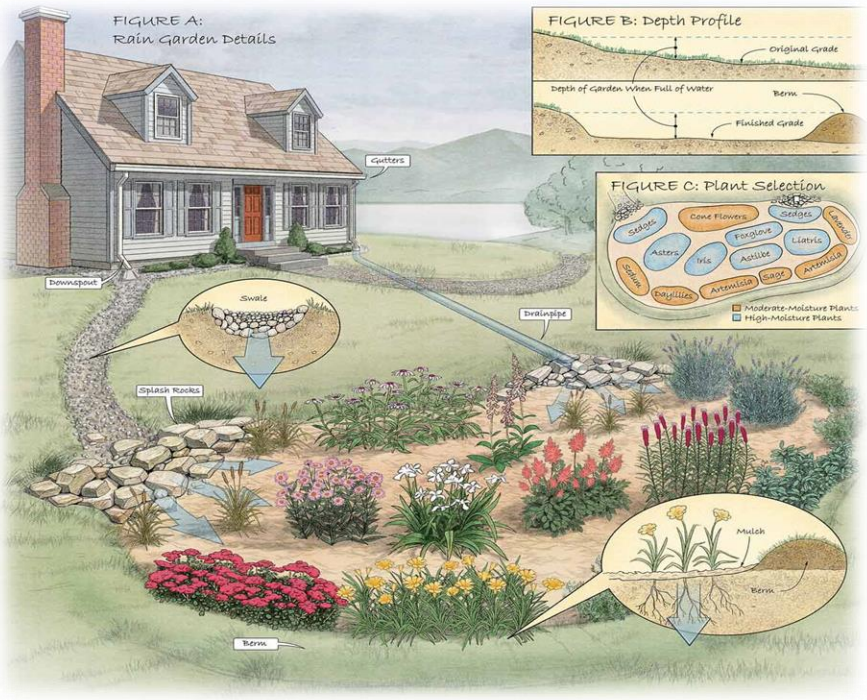
If there's an especially heavy rainfall, excess water may overflow the rain garden and run into the storm sewer system. Even so, the rain garden will have done its job. It will have channeled water away from your foundation and reduced the load on the sewer system. A rain garden also reduces the amount of lawn chemicals and pet wastes that may otherwise run off into local lakes and rivers. In some communities, the runoff problem is so big that homes with rain gardens qualify for a tax break! Call your municipality to learn your local policy.

In this article, we'll tell you how to design, build and plant a rain garden suitable for your yard. We've condensed it to a few handy guidelines. You won't need any special tools or equipment. A shovel and a level will do. But expect to sweat through some heavy digging!

Project step-by-step (6)

STEP 1

Rain Garden Details



Create the rain garden by building a berm in a low spot in the yard, then build swales to channel runoff from the gutters and higher parts of the yard. The water is then absorbed into the soil through the network of deep

plant roots. Use a mix of plants adapted to your area and to the different water depths.

STEP 2

Location and Slope

Check the slope of your yard with a level and a long, straight board. You'll need a minimum slope of 1 in. in 4-1/2 ft. (2 percent) for water to flow into your rain garden. If you don't have this slope, you'll have to do major landscaping, both to create the slope and to improve drainage.

- Locate your rain garden where rainwater will feed into it from downspouts, driveways or low points in your yard.

- Lay attractive river rock (1-1/2 in. diameter and, if desired, larger decorative rocks) or run an underground 4-in. PVC pipe to channel water from a downspout to your garden. Use PVC for a better flow if the garden is more than 30 ft. from a downspout.

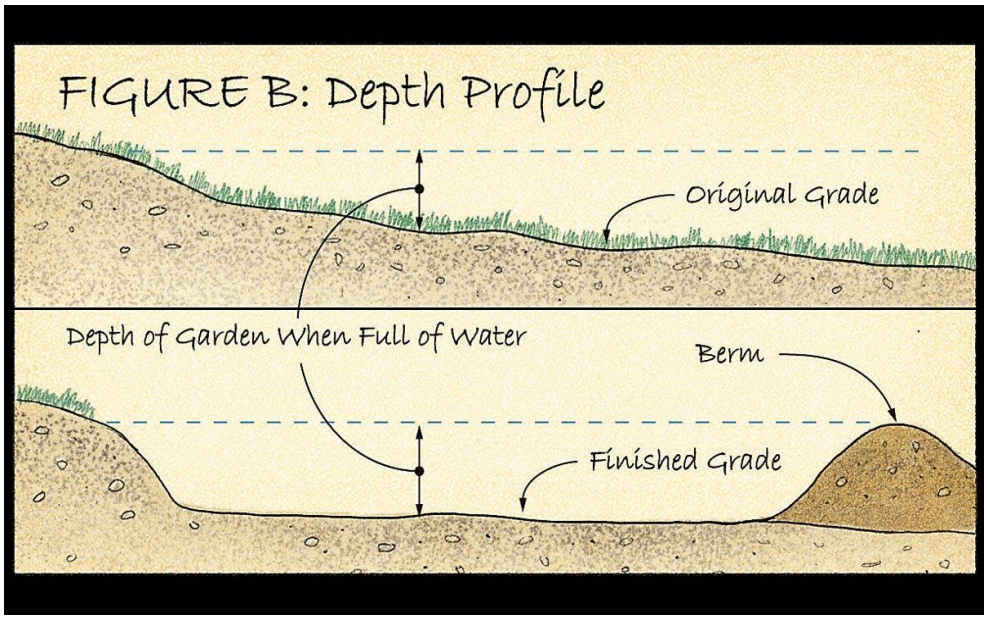
- Place your rain garden at least 10 ft. away from your home. Otherwise, water may saturate the soil close to the foundation or even back up against it. If you already have water pooling close to your home, channel it with an underground PVC pipe to the garden. This may mean tunneling under a walkway or other obstruction.

- Keep in mind "the big rain," that storm a couple of times a year that will overflow your garden. Create an overflow zone, a slightly lower area on one side with stones that will channel water away once the garden fills. Locate it away from your house and your neighbors' homes as well.

- Do not locate the garden over a septic tank or underground utility lines. Remember to call 811 (national number) to have your utilities marked before digging.

STEP 3

Garden Depth

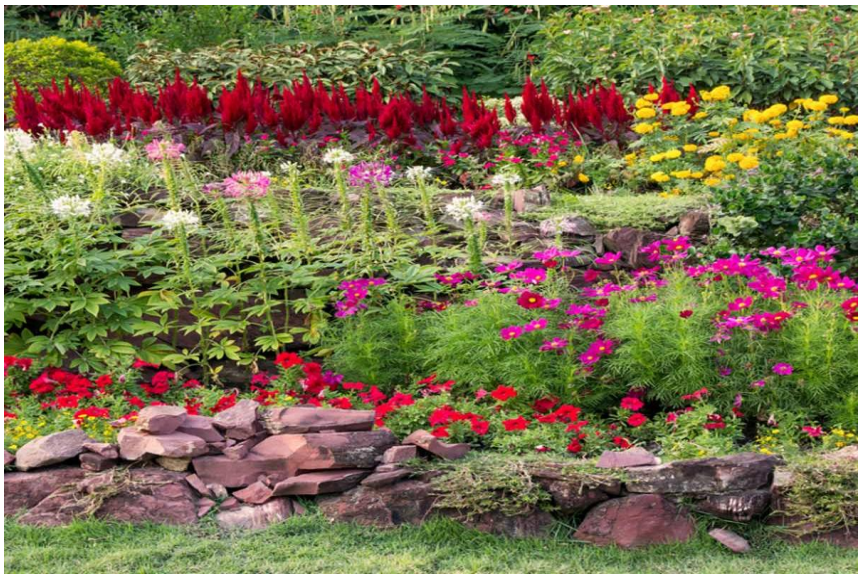


Determine the size and depth of the rain garden based on how quickly the soil absorbs the water. An average rainfall should fill most of the garden but drain away in 24 hours. The easiest way to calculate this is to dig a small test hole in the garden area, fill it with water, and see how fast it drains. Then do a rough calculation of how much runoff will be coming down the gutters (see 'Garden size' below).

You only want to capture as much water as will sink into the soil in 24 hours after a storm—a garden dug in sandy, well-draining soil can be deeper than a garden dug in poorly draining clay. To determine the ideal depth, first test the porosity of your soil.

Dig a hole in your garden area about the size and depth of a large coffee can (8 in. x 8 in. x 8 in.) and fill it with water. Time how long it takes for the water level to drop. If in one hour the water level has dropped by 1/2 in., you can figure the soil drains an inch in two hours. At this rate, the garden soil will handle 12 in. of water in a 24-hour period, making the ideal depth of this garden 12 in. Step 4

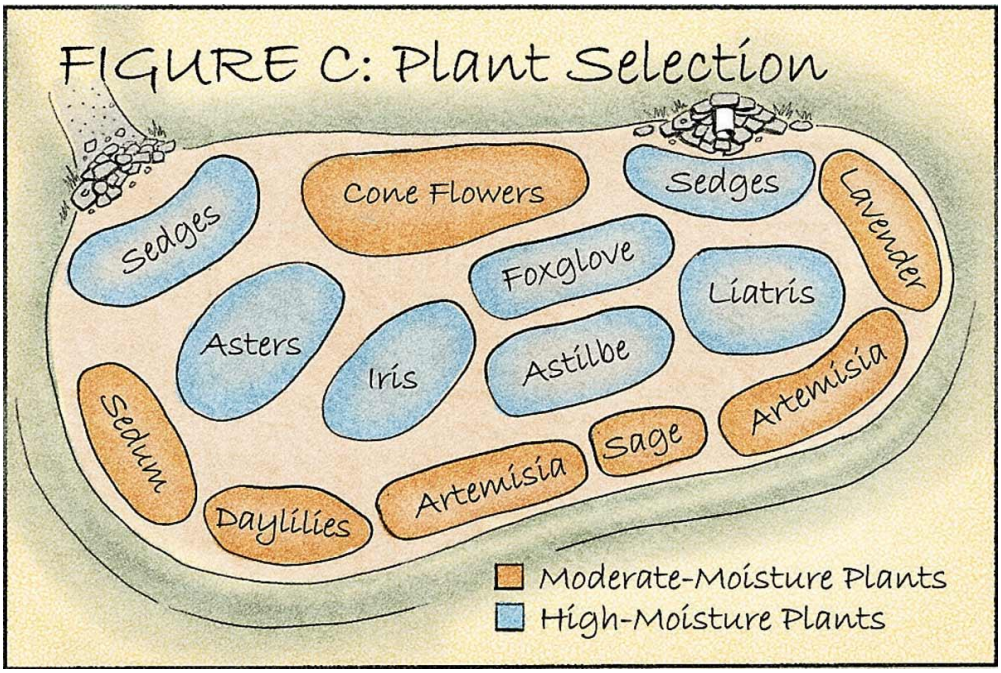
Garden Size



To determine the best size for your garden, estimate the volume of water that would flow off the roof and down the spout that feeds it during a 1-in. rainfall (the rainfall from an average storm). To do this, calculate the rough area of the roof that drains down the spout. For example, in a 2,400-sq.-ft. rectangular home with a downspout at each corner, you'd have approximately 600 sq. ft. of runoff going to each downspout. Multiply by rainfall depth (1 in., or 1/12 ft.) to get the volume of water—50 cu. ft. in this case. If your soil porosity can handle a 6-in.-deep (that is, 1/2 ft.) garden bed, dividing by 1/2 ft. gives you a 100-sq.-ft. (10 x 10 ft.) garden size.

However, it's OK to vary the size. A smaller garden can still yield big benefits. Rain gardens that are 30 percent smaller than ideal still handle nearly 75 percent of the storm watershed from a house. Of course, you can also make it larger. In any case, make sure the size of the garden fits your landscape.

STEP 5
Plant Selection



While growing zones and soils vary dramatically throughout the country, plant selections for this type of garden are fairly standard.

Aster, daylily, iris, sedum, coneflower, artemisia and sedge are examples of good rain garden specimens. Talk to your local university extension or other garden experts about other options for your area.

Choose plants that have "average to moist" water requirements listed on their tag. Position them in the deepest parts of your rain garden. On the higher edges of the bed, position plants that thrive in "average to dry" water conditions. While it may seem intuitive to purchase moisture-loving plants for your rain garden, don't do it. Since your garden is designed to drain in 24 hours, the moisture-loving plants will soon be left high and dry.

While almost any plant with the right moisture requirements will do fine in a rain garden, there are some good reasons to select native plants. Native grasses,

wildflowers and shrubs generally have very deep root systems, sometimes burrowing down 10 ft. or more. Most native plants also cast off their roots annually, growing new roots and providing more soil aeration and pathways for water to flow. And because they're indigenous, you know these plants will thrive in your zone and soil conditions.

STEP 6

TLC for the First Year

Baby your garden its first year. Mulch with shredded hardwood mulch (not pine bark or wood chips, which will float away) and weed regularly.

- Dig a notch into the berm on the low side to allow about half the water to flow out for the first year. Young plants can't handle a large volume of water.
- Add large decorative rocks at the garden's entrance to prevent heavy rain from washing out young plants.
- Water your new garden about an inch per week during dry spells. If you select native species, you'll find that these plants will be highly tolerant of dry conditions once they mature.

Rain Gardens

Rain gardens, also called bioretention facilities, are one of a variety of practices designed to treat polluted stormwater runoff. Rain gardens are a designed depressed area in the landscape that store runoff from impervious urban areas, like roofs, driveways, walkways, parking lots, and compacted lawn areas. Rain gardens typically rely on plants and an engineered soil media to soak up stormwater while absorbing and filtering pollutants carried in urban runoff.

How to Create a Rain Garden - Part 1 Choosing a Site

- Position your garden at least 10 feet (3.0 meters) from your home.
- If your garden is too close to the house, water may erode at the home's foundation. This can cause basement flooding or structural problems.[1] Keep your rain garden away from driveways and sidewalks as well to avoid pathway erosion.[2] Watch your yard's rainfall draining pattern during a storm. Try positioning your garden ...
- Measure your area's slope.
- Test the soil in your location.
- Plot your garden's size using stakes and string.
- Plan your garden's depth based on its slope.

How to build a rain garden in your backyard?

- Locate and select your downspout. Your rain garden will be directly connected to one...
- Determine the size of your rooftop that drains to the downspout.
- Calculate the size of your rain garden.
- Designing the rain garden. Create the garden at the lowest point of your yard,...

1. **What are the best plants for rain gardens?**

- Plants for Your Rain Garden. Good flowering plants for rain gardens are **blue flag iris, goldenrod,**

Rain Gardens - Gardening Solutions - University of Florida ...
gardeningsolutions.ifas.ufl.edu/design/types-of-gardens/r…