

RAIN GARDENS FOR ROCK ISLAND

Improving the Environment, One Garden at a Time

City of Rock Island Rain Garden Facts:

- Rain gardens reduce flooding, absorb pollutants, and sustain wildlife.
- Rain gardens come in a number of shapes and do not require much space.
- A typical rain garden is only four to eight inches deep.
- Many different types of perennials can be used but native plants are typically the better choice.
- Before you dig, call JULIE at 1-800-892-0123.
- The City will reimburse citizens based on the total square footage of the rain garden at the rate of \$4.00 per square foot.
- If you are able to incorporate the use of a rain barrel into your rain garden, the City will supply one free of charge.



**City of Rock Island
Public Works Department
1309 Mill Street
Rock Island, IL 61201
309-732-2200
www.rigov.org**

What is a Rain Garden?

Rain gardens are shallow depressions planted with perennial plants that are located near a downspout or an area that sheds noticeable amounts of rainwater. Rain gardens provide beneficial functions that are lost with conventional lawns. Rain gardens reduce flooding, absorb pollutants, and sustain wildlife. Conventional lawns, on the other hand, can be costly to maintain, require the application of environmentally damaging chemicals, and do little to regenerate the water table or promote natural cleansing of stormwater. There are several different types of rain gardens explained in this application packet. They include the Native Plant Garden, Lily Garden, Shrub Garden and the Butterfly Garden.

Where to Plant a Rain Garden

Even though you may not notice it, your property has an existing drainage pattern. Rain gardens are the easiest to construct in areas that accumulate storm runoff naturally. If you are not sure of where runoff travels on your property, wait for a rainstorm or use water from a hose to help determine a good location for a rain garden. Rain gardens can have an infinite number of shapes and do not require much space. Any size rain garden, even a small one, makes a difference.

Homeowners with basements should locate the rain garden a few feet away and down-slope from the building.

Avoid excavating areas under trees. Excavation could damage the tree root system.

If you have a septic system, do not construct a rain garden in the drain-field.

Before digging anywhere, call JULIE 1-800-892-0123 and have the utilities located in your yard. You do not want to accidentally dig up your phone line or another buried utility.

Do not excavate in the boulevard area adjacent to the street without an excavation permit from the Public Works Department. For more information regarding excavation permits, please contact the Public Works Department at 732-2200.



NATIVE PLANT GARDEN



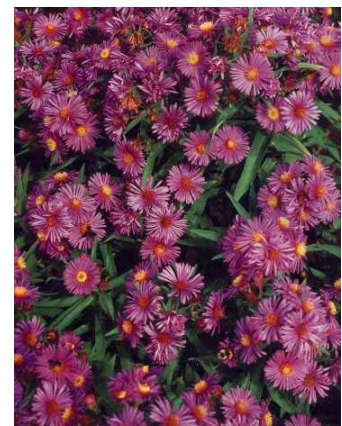
Physostegia virginiana
(Obedient Plant)



Eupatorium maculatum
(Joe Pye)



Iris cristata
(Dwarf Crested Iris)



Aster novae-angliae
(New England Aster)



Heliopsis helianthoides
(False Sunflower)



Rudbeckia hirta
(Black-Eyed Susan)



Schizachyrium scoparium
(Little Bluestem)



Tradescantia (Ohiensis)
(Spiderwort)

Native Plant Garden

<u>Botanical Name</u>	<u>Common Name</u>	<u>Space (ft)</u>	<u>Height (ft)</u>
Iris cristata (Dwarf Crested Iris)	Dwarf Crested Iris	1	1
Physostegia virginiana	Obedient Plant	2	4
Rudbeckia hirta	Black-Eyed Susan	1	2
Schizachyrium scoparium	Little Bluestem	2	3
Eupatorium maculatum	Joe Pye	2	5
Tradescantia (Ohiensis)	Spiderwort	2	3
Heliopsis helianthoides	False Sunflower	2.5	3
Aster novae-angliae	New England Aster	2	4

Improving the Environment, One Garden at a Time

Preparing the Site for Your Rain Garden

The rain garden must absorb rainwater and not retain standing water for periods longer than a few days. The planting bed should be dug up and loosened to a depth of one to two feet before the plants are put in.

Clay type soils can create soggy conditions in the garden. Test the ability of your soil to soak up runoff by digging a hole approximately eight inches in diameter by eight inches deep. Pour water into the hole until it is full and time how long it takes for the water to soak in. The water should take an hour or less to drop each inch. If the water hasn't drained away in eight hours or less, you will need additional site preparation to improve the soil's ability to drain off the collected runoff.



The use of a rope laid-out on the ground, or just painting the garden shape directly on the ground with a ground marking spray paint, will help you define the garden outline before starting to dig.

If the area to be used was lawn, the grass should be removed from the proposed garden area. The grass may be dug up and used in another area of your yard or turned into the soil to help improve the organic content of the garden soil. If you plan on blending the grass into the garden soil, use a black plastic or another type of light-blocking material to kill the grass before working the grass into the soil.

A typical rain garden is only four to eight inches deep. A depth deeper than eight inches could pond water in the garden too long, unless additional work is done to increase the subsurface drainage. Depths up to eighteen inches can be constructed in gardens that have a drain tile installed below the plant bed or have favorable soil types that soak up very large volumes of water.



If soil removal and replacement is needed, the soil should be replaced with a mixture of 50% sand, 25% new topsoil, and 25% compost or peat moss.

The use of compost or peat moss will enrich the soil and allow the plants to establish themselves better. For a soil that doesn't need total replacement, dig the depression a little deeper to compensate for the added compost or peat moss. To add three inches of compost or peat moss, you would need to increase the depth excavated by this same amount first before adding and mixing the compost or peat moss into the soil remaining in the planting bed.

Most gardens may only require loosening up the dirt in the planting bed and readjusting the removed dirt onto the downstream side of the depression being formed. Starting at the uphill side and putting the removed soil along the rope or paint mark at the downstream edge will help you keep a defined garden shape. The dirt piled along the downstream edge helps you build up a small dam often referred to as a berm. The use of a level sitting on a 2x4 board is a good way to help you check the depth of the garden depression as the berm is being built up.

While forming the berm, occasionally stomp down along the dirt being piled up at the edge. It is important that the berm be well compacted to avoid erosion later.

The depression being formed should have gently sloping sides down into the flatter area on the bottom of the rain garden.

Make sure the soil in the planting bed has been loosened up to a depth of around one to two feet deep before plants are brought in. A roto-tiller can be used to make this work easier, but it is not absolutely necessary. A shovel can do the same thing.

After all the work of putting the berm in place and forming the rain garden, you will want to prevent erosion of the berm and any exposed soil. Subsequently, you will need to decide whether to plant grass or to use a mulch groundcover in the area outside of the berm. If grass is desired, an erosion control blanket might be used on the outside of the berm to help this along. An erosion control blanket has grass seed built into it, and it will protect the sloped-berm with a woven mesh material that biodegrades with time. Sod is another option and is faster than growing the grass, but is more expensive. Depending upon how you want your finished garden to look, you can also just apply a few inches of mulch to any exposed soil.

SHRUB GARDEN



Heuchera
(Purple Petticoats/Coral Bells)



ILEX verticillata
(Winterberry Holly)



Spirea X bumalda
(Goldflame Spirea)



Aquilegia chrysantha
(Columbine)



Veronica spicata
(Royal Candles Speedwell)



Veronica
(Icicle Veronica)



Viburnum trilobum
(Compact American Cranberry)



Cimicifuga racemosa
(Bugbane)

Shrub Garden

<u>Botanical Name</u>	<u>Common Name</u>	<u>Space (ft)</u>	<u>Height (ft)</u>
Viburnum trilobum	Compact American Cranberry Bush	4	5
ILEX verticillata "Red Sprite"	Winterberry Holly Female	4	4
ILEX verticillata "Jim Dandy"	Winterberry Holly Male	4	5
Spirea X bumalda	Goldflame Spirea	3	2
Hemerocallis	Stella de Oro Daylily	1	1.5
Asclepias tuberosa	Butterfly Flower	1	2
Baptista australis	False Indigo	1	3
Heuchera	"Purple Petticoats" Coral Bells	1	2
Veronica	Icicle Veronica	1	1
Veronica spicata	"Royal Candles" Speedwell	1	1
Aquilegia chrysantha	Columbine	1	2
Cimicifuga racemosa	Black Snakeroot, Bugbane	2	5

Improving the Environment, One Garden at a Time

Plant and Mulch Your Rain Garden

Many different types of perennials can be used in a rain garden, but native plants are typically the better choice. Plants native to this area are better adapted to the weather, soil, and our ecosystem than non-native plants. Plus, native plants tend to have a deep root system that allows them to tolerate drought conditions better. This deep root structure also helps to break up the soil and allows runoff to more easily migrate down into the water table.

Please do not take plants from the wild. This can affect local plant ecosystems and is often illegal. Nurseries have many native perennials available in addition to other perennials that do well in our area.



Spring is typically the best time to plant, but some perennials or shrubs can be planted in the fall.

Try to mark plant groups with a label, so that young plants can be more easily identified from weeds that might take root.

After the plants are in or if the season is getting too cool for planting, you will need to protect any remaining exposed soil from erosion. This is accomplished with a uniform layer of mulch in the planting bed. Apply mulch around two inches deep. Avoid burying the crown of any new transplants or plants that will come back in the spring. Shredded hardwood mulch will work best in the rain garden. Chipped bark and bark nuggets tend to float and are not recommended for use in a rain garden. In addition to helping to protect against erosion, the mulch discourages weed growth and retains moisture for the plants during dry periods.



Native perennial plants are typically low maintenance. Unfortunately, this doesn't mean "no maintenance". Weeds will need to be removed, especially in the first few years after the garden is planted. With time, the plants should fill in the garden and crowd out weeds. If you have trouble identifying weeds, the University of Illinois has a good reference website at:

<http://web.aces.uiuc.edu/weedid/>

New plants need around an inch of water per week to get started. Water your new plants immediately after they are planted and continue to water twice a week, unless it rains. Continue this watering until the plants are established and growing well.

If runoff is too forceful where it enters the rain garden, erosion and loss of mulch or small plants may take place. Strategically place some rocks or bricks at the inlet area to the garden to help break up excessive runoff velocities.

Keep an eye on your garden. If a plant is not doing well, relocate it. Some plants do better in the lower wet areas and others better in the higher dry areas. Also, readjusting mulch may be needed in the spring or after a rainstorm, to allow new plants a chance to grow. Plant identification labels help you relocate plants just starting out.

Hopefully this is enough to get you started. Enjoy your rain garden, and thank you for helping Rock Island improve the environment.



*Public Works Department Shrub Garden
1309 Mill Street, Rock Island*

LILY GARDEN



**Hemerocallis
(Pardon Me Daylily)**



**Hemerocallis
(Happy Returns Daylily)**



**Hemerocallis
(Jungle Beauty Daylily)**



**Sedum X
(Autumn Joy Sedum)**



**Hemerocallis
(Little Grapette)**



**Aster novae-angliae
(New England Aster)**



**Heliopsis helianthoides
(False Sunflower)**



**Asclepias tuberosa
(Butterfly Flower)**

Lily Garden

<u>Botanical Name</u>	<u>Common Name</u>	<u>Space (ft)</u>	<u>Height (ft)</u>
Hemerocallis (Pardon Me)	Pardon Me Daylily	2	1.5
Hemerocallis (Happy Returns)	Happy Returns Daylily	1	1.5
Heliopsis helianthoides	False Sunflower	2.5	3
Hemerocallis (Little Grapette)	Little Grapette Daylily	1	1
Sedum X (Autumn Joy)	Autumn Joy Sedum	1.5	2
Hemerocallis (Jungle Beauty)	Jungle Beauty Daylily	2	2
Asclepias tuberosa	Butterfly Flower	1	2
Aster novae-angliae	New England Aster	2	4

How to Participate in the Rain Gardens for Rock Island Program

The Rain Gardens for Rock Island Program is intended to enhance neighborhoods and educate the citizens of Rock Island on the benefits and reasons for rain gardens. The Rain Gardens for Rock Island Program will assist homeowners and businesses install proper rain gardens through financial assistance and advice.

PART 1:

- Carefully review the application material in this packet.
- Complete the application with a sketch of the proposed rain garden.
- The City will review the application and meet with you to discuss your proposed garden. If you are able to incorporate the use of a rain barrel into your design, the City will supply one free of charge.
- The City will send you an approval to begin building your garden.
- Approved rain gardens for applications received from August 2 through April 1 must be completed and scheduled for inspection by July 1. Rain gardens approved for applications received from April 2 through August 1, must be completed and scheduled for inspection by November 1.

PART 2:

- Build the rain garden that was approved by the City .
- Contact the Public Works Department at 732-2200 if you have any questions about your garden.

PART 3:

- Notify the Public Works Department at 732-2200 that you have completed your garden and are ready for an inspection.
- A member of the Public Works Department will meet with you to inspect your completed garden.
- The City will pay you \$4.00 per square foot of approved rain garden.



*2007 Rain Garden of the Year Award
from the Beautification Commission*

Improving the Environment, One Garden at a Time

BUTTERFLY GARDEN



Rudbeckia hirta
(Black-Eyed Susan)



Lobelia cardinalis
(Cardinal Flower)



Boltonia asteroides
(False Aster/Starflowers)



Physostegia virginiana
(Obedient Plant)



Aster novae-angliae
(New England Aster)



Liatris spicata
(Blazing Star)



Asclepias tuberosa
(Butterfly Flower)



Hemerocallis
(Stella de Oro Daylily)



Monarda fistulosa
(Bee Balm/Bergamot)



Chelone lyonii "Hot Lips"
(Turtlehead)

Butterfly Garden

<u>Botanical Name</u>	<u>Common Name</u>	<u>Space (ft)</u>	<u>Height (ft)</u>
Asclepias tuberosa	Butterfly Flower	1	2
Lobelia cardinalis	Cardinal Flower	1.5	2
Rudbeckia hirta	Black-Eyed Susan	1	2
Chelone lyonii "Hot Lips"	Turtlehead	1	2
Liatris spicata	Blazing Star	1.5	2
Physostegia virginiana	Obedient Plant	2	4
Monarda fistulosa	Bee Balm/Bergamot	1.5	4
Aster novae-angliae	New England Aster	2	4
Hemerocallis (Stella de Oro)	Stella de Oro Daylily	1	1.5
Boltonia asteroides (Nana)	False Aster/Starflowers	2	4

Improving the Environment, One Garden at a Time

City of Rock Island

RAIN GARDENS FOR ROCK ISLAND

APPLICATION

Property Owner Name (please print): _____

Property Owner Address: _____

_____ Rock Island, IL 61201

Property Owner Telephone: (day) _____ (night) _____

I request enrollment in the Rain Gardens for Rock Island Program for the property described above and I hereby certify that...

1. I am the owner or contract purchaser of the property.
2. I agree to maintain the rain gardens after they are built for a minimum period of five years.
3. I will not begin building my rain gardens before I have received approval of participation by the City of Rock Island Public Works Department.

Signature Date

Signature Date

Please return your application and sketch to:
City of Rock Island
Public Works Department
ATTN: Rain Gardens for Rock Island
1309 Mill Street
Rock Island, IL 61201

FOR OFFICE USE ONLY

DESIGN

SAR #: _____

The rain garden design for the property described above is hereby approved for the Rain Gardens for Rock Island Program.

There is a rain barrel included in the design. YES NO

Rain Garden Program Administrator Date

COMPLETED RAIN GARDEN INSPECTION

The rain garden for the property described above has been successfully inspected by the City of Rock Island.

Rain Garden Program Administrator Date

PAYMENT FOR COMPLETED RAIN GARDEN

The rain garden for the property described above has been approved for payment based on the following:

_____ square feet X \$4.00 per square foot = \$_____ reimbursement

Public Works Director Date

Improving the Environment, One Garden at a Time

City of Rock Island

RAIN GARDENS FOR ROCK ISLAND

DETAILS OF PROPOSED RAIN GARDEN

Garden Dimensions (in feet) _____

Garden Depth (in inches) _____

Location of Rain Garden on Your Property _____

YES, I would like to incorporate a rain barrel in my rain garden.

Location of Rain Barrel: _____

NO, I would not like to incorporate a rain barrel in my rain garden.

Tentative List of Perennials to be Planted _____

City of Rock Island

RAIN GARDENS FOR ROCK ISLAND

SKETCH OF PROPOSED RAIN GARDEN



Please return this form with your application to:
City of Rock Island ▪ Public Works Department ▪ 1309 Mill Street ▪ Rock Island ▪ Illinois ▪ 61201

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City of Rock Island

RAIN GARDENS FOR ROCK ISLAND

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1309 Mill Street
Rock Island, IL 61201
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Fax: 309-732-2380
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The Rain Gardens for Rock Island Program helps homeowners and businesses install rain gardens.

City of Rock Island
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Rock Island, IL 61201