The Four Seasons lot design provides four small, interchangeable landscapes (‘season circles’), each reflecting one season: spring, summer, fall, and winter.

This choose-your-own-adventure style design allows you to build one or more season circles on your lot, depending upon your preference.

Each Four Season circle features an ornamental tree or shrub, crowned by a stormwater feature — a colorful, planted rain garden filled with perennials and shrubs.

This design can accommodate stormwater runoff from adjacent properties and allow water to infiltrate back into the soil within about three days.

What is the lot design likely to cost?
The estimated cost of the Four Seasons is high ($2,500 – $5,500) and based on 1.5 inch diameter trees, potted plants, and volunteer labor. To save money, you can buy smaller trees or pots. Residents can also select only one or two Four Seasons gardens or phase rain gardens over a few planting seasons. The cost assumes that residents or volunteers have access to basic safety gear and garden tools.

How much upkeep will this lot design require?
This lot design requires a medium level of maintenance to thrive. Maintenance will include weeding and watering the newly planted rain garden, particularly during the first two growing seasons while the plants establish themselves. Be careful not to let your rain garden dry out or to become overrun by weeds.

Will installation of this lot design require a professional?
The installation of this lot design should not require professional assistance if you have the help and support of friends, family or neighbors. Refer to the Step-By-Step section for guidance. If you do not have the required support or feel unable to tackle this lot design, please seek professional assistance.

How long will it take to install this lot design?
While people tackle projects in different ways and at different speeds, the Field Guide estimates installation time of this lot design to be one to two full weekends. The UNI Vacant to Vibrant Guide recommends the help of at least 12 healthy adults or youth (3 people per rain garden). The Guide also assumes that the lot is ‘construction ready,’ and all equipment and materials required for the lot have been acquired and are ready to use.
The Four Seasons is best on a single lot and can be used by one or two neighboring properties. Position the design close to houses, garages, or another rain water catchment area so the rain garden can collect stormwater runoff.

Where Do I Grow?
Before You Start

Test Your Soil
Harmful pollutants have made their way into many urban soils. To proceed with awareness, consider having your soil tested before construction.

University of Missouri Extension provides soil testing for a small fee. They can test for individual contaminants or for certain categories of contaminants, such as heavy metals. A Soil and Plant Environmental Analysis Form is available at [http://extension.missouri.edu/explorepdf/miscpubs/mp0953.pdf](http://extension.missouri.edu/explorepdf/miscpubs/mp0953.pdf). Additional information can be found at University of Missouri Extension’s Soil and Plant Diagnostic Services page, [http://soilplantlab.missouri.edu/soil/](http://soilplantlab.missouri.edu/soil/), or by contacting the Soil and Plant Testing Laboratory, at soiltestingservices@missouri.edu or 573-882-0623.

Till Safely
Before you till, inspect your lot for signs of buried concrete or rubble that was not removed during the cleanup stage. Large debris can ruin tiller blades.

When tilling, wear appropriate safety gear, such as covered boots with socks, long pants, safety glasses, dust mask, and ear protection. Make sure you understand the safe operating procedures of your tiller. Refer to the user’s manual.

Remove Your Grass
Need to remove grass in areas where you are constructing your lot design?

Refer to the Clean + Green Lot Design template of the UNI Vacant to Vibrant Guide for step-by-step instructions.

Call Before You Dig
Locate underground utilities before beginning your lot design. Call 1-800-DIG RITE (800-344-7483) or 811 at least three days before you plan to start digging on your lot.
What You Need: Shopping List

Shopping List

The shopping list provides a breakdown of potential materials, tools, and resources required to construct this lot design.

This shopping list is designed for a single lot (30 by 100 feet).

Materials List

Materials
- Rain Garden Planting Soil, 4.5 cubic yards (50% sand, 25% topsoil, and 25% compost or leaf litter)
- Mulch and Wood Chips, 4.5 cubic yards

Planting Option 1: Spring
- Black-Eyed Susan, 6 pots
- Thimbleweed, 7 pots
- Blue Flag Iris, 7 pots or bulbs
- Pawpaw or Wild Plum, 1 pot, or balled and burlapped
- Mixed Daffodils, 125 bulbs
- Mixed Crocuses, 250 bulbs
- Mixed Tulips, 125 bulbs

Planting Option 2: Summer
- Bee Balm, 6 pots
- Marsh Blazing Star, 7 pots
- Swamp Milkweed, 7 pots
- Pagoda Dogwood, 1 pot
- Slender Mountain Mint, 50 pots
- Wild Ginger, 50 pots
- Butterfly Pea, 50 pots
- Wild or Wild Nodding Onion, 50 bulbs

Planting Option 3: Fall
- Aromatic Aster, 5 pots
- Globe Sedge, 5 pots
- Purple or Sullivant’s Milkweed, 5 pots
- Red Maple, 1 pot, or balled and burlapped
- Butterfly Weed, 5 pots
- Autumn Crocuses, 100 bulbs
- Cedar Sedge, 1 per square foot

Planting Option 4: Winter
- Lead Plant or Gro-Low Sumac, 2 pots
- American Beautyberry, 3 pots
- Eastern Red Cedar, 1 pot, or balled and burlapped
- Arrowwood, 2 pots
- Spring Beauty, 100 bulbs
- Woodland Spiderwort or Virginia Bluebells, 50 bulbs

Tools + Resources

Suggested Tools
- Marking Paint, Spirit Level, Tape Measure, String and Stake
- Safety Gear: Gloves, heavy work boots, tall socks, pants, long sleeve shirts, dust masks, protective eye wear, ear plugs, and hard hats (if using heavy machinery)
- Garden Tools: Spades, shovels, rakes, trash bags, and wheelbarrows
- Hacksaw and Screwdriver
- Ball Cart, for moving heavy trees

Potential Water Sources
- Garden Hose with potential extension hose
- Sprinkler
- Rain Barrel in addition to other water source

Resources

Remaining Lot (Optional)

Groundcover
- Fescue Mix, 12 to 13 pounds of seed
- Compost Blanket, 3 rolls (8 by 112.5 feet)
Let’s Start

Want to create the Four Seasons but don’t want to hire a professional? Here are a few guiding principles to help you construct your lot design.

- Check off tasks as you go along.

Lot Design Steps

Volunteer Opportunities:

- Prepare Your Lot
- Dig Rain Gardens
- Disconnect Your Downspout
- Plant Trees
- Plant Perennials + Bulbs
- Maintain Your Lot Design

Prepare Your Lot

Select the best location for your Four Season rain gardens. Gardens should be ten feet from any house foundation and at least five from the sidewalk. We recommend aligning your planting beds with the front setback of adjacent houses—this will help strengthen the identity and character of your block. This lot design offers four small rain gardens that can be constructed all at once or individually.

A rain garden only works if water is directed into it. The UNI Vacant to Vibrant Guide recommends constructing your rain garden near downspouts from roofs of houses or garages or near other hard surfaces such as driveways or patios. Ensure water flows from these surfaces into your rain garden.

Once you find the area you wish to direct into your rain garden, calculate the minimum size of your rain garden. Your rain garden should be one square foot for every 10 square feet of stormwater area directed into your rain garden. Each Four Seasons garden is approximately 122 square feet and can handle stormwater from 1,220 square feet of hard surface area. Installation of all four rain gardens is ideal for two homeowners who are interested in sharing a side lot. The UNI Vacant to Vibrant Guide recommends adjusting the design to meet your stormwater needs.

After the number of rain gardens has been determined, use marking paint and tape measure to map out the size, shape, and dimensions of your design. Each Four Seasons circular garden is approximately 10 feet in diameter surrounded by a rain garden 2.5 feet wide.

Make a Circle

Place a stake at the desired location for the center of the circle. Tie a string 10 feet long to the stake. Walk in a circle using the string to create an even-radius circle in the landscape. As you walk in the circle, mark your path on the ground. You can use these markings to help locate the edge of your rain garden.
Four Seasons Step-By-Step

☐ Dig Your Rain Gardens

Once the area is ready for construction, dig one foot deep within the rain garden area and use removed soil to create a mound or other desired shape next to the rain garden area.

After removing the soil, check that the bottom of the rain garden is level. An easy way to check this is with a string level or a spirit level attached to a two-by-four board. A level bottom is important to maximize infiltration and minimize the chance of standing water in the rain garden.

After leveling the bottom, the soil should be prepared by scarifying, raking, or tilling the soil four to six inches deep to loosen any compaction. If tilling the rain garden, be aware of what is underneath the soil, such as cement, debris, or large rocks.

☐ Disconnect Your Downspout

One of the easiest ways to collect stormwater is by disconnecting your downspout and directing it into your rain garden. Before you start, remember that disconnected downspouts should extend at least 6 feet from any house foundation and 5 feet from adjacent property or public sidewalk. Avoid disconnecting downspouts where they might discharge water across walkways, patios, or driveways or where they might be a tripping hazard. Do not disconnect directly over a septic system.

Follow these steps to help you redirect your roof water into your rain garden.

• Measure the existing downspout and mark it approximately nine inches above the sewer connection or standpipe.

• Cut with a hacksaw and remove cut piece.

• Plug or cap the sewer standpipe with a rubber cap secured by a hose clamp. Use screwdriver to tighten and secure the cap. Attach elbow joint over the downspout.

• Add downspout extension to elbow joint. Extension should be long enough to carry water away from house and towards the rain garden.

• Secure pieces with sheet metal screws at each joint.

• Use plastic or concrete splashblocks, rocks, flagstone, or boulders at the end of the downspout to control erosion of soil and avoid plant damage caused by the stormwater.

For more information, refer to the UNI Vacant to Vibrant: A Guide to Working with Lots, 
www.uni-kc.org.
Four Seasons Step-By-Step

☐ Plant Perennials

This lot design provides two planting options for your rain garden, depending on whether your lot is in sun or shade.

Place plants in the desired location, then remove plastic pots, loosen roots, and plant.

The UNI Vacant to Vibrant Guide recommends adding three inches of garden planting soil to your rain garden (1.5 cubic yards) and top with three inches of wood chips or mulch (1.5 cubic yards). Adding wood chips or mulch will help suppress weeds.

☐ Maintain Your Lot Design

Be careful not to let your rain garden dry out. All gardens require time and commitment to flourish until the plants have filled in. Once this occurs, mulch can make a nice edge dressing.

Gardens are a work in progress. Bulbs and perennials may need to be replaced to keep gardens dynamic and playful. Make it your own. Be creative!

Fix Your Soil

Rain garden planting soil should consist of approximately 50% sand, 25% topsoil, and 25% compost.

Repair grass areas damaged during construction. Scarify any soil that may have been compacted, then sprinkle grass seed over damaged lawn areas. Be sure not to sprinkle the seed mix into your rain garden.


Average Height of Plants

Trees, Shrubs, Perennials, and Groundcovers
Four Seasons Lot Design

Refer to the Construction Package for more details - located at UNI Vacant to Vibrant: A Guide to Working with Lots, www.uni-kc.org

1. Perennial Moat (Spring)
2. Perennial Moat (Summer)
3. Perennial Moat (Fall)
4. Perennial Moat (Winter)
5. Tree
6. Seasonal Groundcover
7. Grass or Optional Groundcover
Planting Option 1 – Spring

**Key**

1. **Black-Eyed Susan, Thimbleweed & Blue Flag Iris**
   (Space approximately two feet apart and mix evenly.)

2. **Paw Paw, Mixed Daffodils, Mixed Crocuses & Mixed Tulips**
   (Space bulbs approximately one foot apart and mix evenly.)

**Plant Sizes**

**Pots:** Plants can be purchased in one to five gallon pots. Size of pots can change based on availability. 1.5 inch diameter trees are available at commercial landscape supply stores in pots or balled and burlapped (B & B).

**Bulbs:** Bulbs are cheaper if purchased in bulk. You can find bulk bags at garden stores.

**Black-Eyed Susan**
*Rudbeckia fulgida*  
24” Height x 24” Width  
Blooms June – October  
Quantity: 6 pots

**Thimbleweed**
*Anemone virginiana*  
24” Height x 30” Width  
Blooms April – June  
Quantity: 7 pots

**Blue Flag Iris**
*Iris virginica*  
24” Height x 12” Width  
Blooms May – June  
Quantity: 7 pots or bulbs

**Pawpaw**
*Asimina triloba* or *Wild Plum*  
*Prunus Americana*  
10’ Height x 10’ Width  
Blooms mid-Spring  
Requires Moist Soil  
Quantity: 1 pot or B & B

**Mixed Daffodils**
*Narcissus*  
18” Height x 24” Width  
Blooms in Spring  
Quantity: 125 bulbs

**Mixed Crocuses**
*Crocuses*  
4” Height x 4” Width  
Blooms in Spring  
Quantity: 250 bulbs

**Mixed Tulips**
14” Height x 8” Width  
Blooms April – May  
Doesn’t Like Wet Soil  
Quantity: 125 bulbs

Image Source: 1) Rudbeckia_fulgida_Goldsturm_kz3.jpg by Krzysztof Ziarnek, Kenraiz - Own work. (CC BY-SA 4.0 International); 2) Anemone virginiana, Skaneateles, NY, June 2011 by Randy A. Nonenmacher, (CC BY-NC - 4.0); 3) Iris virginica by Jenny Evans, (CC BY-NC - 4.0); 4) Asimina triloba — Pawpaw flowers, by Krzysztof Ziarnek, June 2010, (CC BY-SA 4.0); 5) Yellow daffodil (Narcissus) at Keukenhof, Holland by Kham Tran - www.khamtran.com, April 2009, (CC BY-SA 3.0); 6) Crocuses, public domain; 7) Tulips, IStock.
**Planting Option 2 – Summer**

**Key**

1. **Bee Balm, Marsh Blazingstar & Swamp Milkweed** (Space approximately two feet apart and mix evenly.)

2. **Pagoda Tree, Slender Mountain Mint, Wild Ginger, Butterfly Pea & Onion** (Space groundcover appropriately one foot apart and mix evenly.)

**Plant Sizes**

**Pots:** Plants can be purchased in one to five gallon pots. The size of pots can change based on availability. Mint, Wild Ginger and Butterfly Pea can be purchased in smaller, four inch pots.

**Bulbs:** Bulbs are cheaper if purchased in bulk. You can find bulk bags at garden stores.

**Bee Balm¹**
*Monarda fistulosa*
24" Height x 28" Width
Blooms July - September
Attractive to Butterflies
Quantity: 6 pots

**Marsh Blazingstar²**
*Liatris spicata*
36" Height x 18" Width
Blooms July - August
Quantity: 7 pots

**Swamp Milkweed³**
*Asclepias incarnata*
48" Height x 24" Width
Blooms July - August
Attractive to Butterflies
Quantity: 7 pots

**Pagoda Dogwood⁴**
*Cornus alternifolia*
15' Height x 20' Width
Blooms April
Quantity: 1 pot

**Slender Mountain Mint⁵**
*Pycnanthemum tenuifolium*
36" Height x 24" Width
Invasive if Left Unchecked
Quantity: 50 pots

**Wild Ginger⁶**
*Asarema canadense*
4" Height x 12" Width
Blooms in June - July
Quantity: 50 pots

**Butterfly Pea⁷**
*Clitoria mariana*
36" Height x 18" Width
Quantity: 50 pots

**Nodding Wild Onion⁸**
*Allium cernuum*
18" or 6" Height x 18" or 6" Width
Blooms in June-July
Quantity: 50 bulbs

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*Image Source: 1) 04016 Bee Balm by rockerBOO Own work, (CC BY-SA); 2) Liatris spicata, July 2008 by Hedwig Storch - Own work, (CC BY-SA 3.0); 3) Asclepias incarnata in flower, Maryland, USA. June 2012, Fritzflohreynolds, Own work, (CC BY-SA 3.0); 4) Pagoda tree dogwood Cornus alternifolia, Athens County, Ohio, May 2009, by Giggikanan, Own work, CC BY-SA 3.0; 5) Pycnanthemum_tenuifolium001.jpg by Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1989. Midwest wetland flora: Field office illustrated guide to plant species. Midwest National Technical Center, Lincoln. – USDA; 6) Asarum canadense in Botanic Garden, Hamburg, by Michael Wolf, own work, July 2009 (CC BY-SA 3.0); 7) Clitoria Mariana, Virginia, USA, July 2013, by Fritzflohreynolds - Own work (CC BY-SA 3.0); 8) Allium_cernuum_-Nodding_Onion_2.jpg by Fritzflohreynolds (CC BY SA. 3.0 Unported).*
Planting Option 3 – Fall

**Aromatic Aster**
*Symphyotrichum oblongifolium*
30” Height x 20” Width
Blooms August – September
Quantity: 5 pots

**Red Maple**
*Acer Rubrum*
70’ Height x 60’ Width
Fall color
Quantity: 1 pot or B & B

**Purple or Sullivant’s Milkweed**
*Asclepias purpurascens or sullivantii*
48”, 24” Height x 42”, 26” Width
Blooms July – September
Quantity: 5 pots

**Butterfly Weed**
*Asclepias tuberosa*
24” Height x 32” Width
Butterflies Love This Plant
Quantity: 5 pots

**Cedar Sedge**
*Carex eburnea*
20” Height x 12” Width
Blooms May - July
Quantity: 1 pot per square foot of space

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**Key**

1. Aster, Cedar Sedge, Milkweed & Butterfly Weed (Space approximately two feet apart and mix evenly.)

2. Red Maple, Autumn Crocus & Sedge (Space groundcover appropriately one foot apart and mix evenly.)

**Plant Sizes**

**Pots:** Plants can be purchased in one to five gallon pots. The size of pots can change based on availability. 1.5 inch diameter trees are available at commercial landscape supply stores in pots or balled and burlapped (B & B).

**Bulbs:** Bulbs are cheaper if purchased in bulk. You can find bulk bags at garden stores.

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Image Source: 1) Aster, United States Fish and Wildlife Service; 2) 3) Asclepias sullivantii, James Woodworth Prairie Preserve, June 2007, by gmayfield10, (CC BY-SA 2.0); 4) Red Maple, Ewing, New Jersey, October 2014, Famartin, Own work, (CC BY-SA 4.0); 5)Butterfly Weed (Asclepias tuberosa), Wisconsin, USA, July 2011, by Aaron Carlson,(CC BY-SA 2.0); 6) Autumn Crocus, September 2006 by gailhampshire, Cradley, Malvern, U.K., (CC BY 2.0); 7) Missouri Wildflowers Nursery, Cedar Sedge “Carex eburnea”
Planting Option 4 – Winter

**Key**

1. **Gro-Low Sumac, American Beautyberry, Lead Plant, & Arrowwood Viburnum** (Space approximately four feet apart and mix evenly.)

2. **Eastern Red Cedar, Spring Beauty, Virginia Bluebells & Woodland Spiderwort** (Space bulbs approximately one foot apart and mix evenly.)

**Plant Sizes**

**Pots:** Plants can be purchased in one to five gallon pots. The size of pots can change based on availability. 1.5 inch diameter trees are available at commercial landscape supply stores in pots or balled and burlapped (B & B).

**Bulbs:** Bulbs are cheaper if purchased in bulk. You can find bulk bags at garden stores.

**Lead Plant**
- *Amorpha canescens*
- 48” Height x 36” Width
- Blooms June
- Quantity: 2 pots

**Gro-Low Sumac**
- *Rhus aromatic ‘Gro-Low’*
- 24” Height x 24” Width
- Blooms April-May
- Quantity: 3 pots

**American Beautyberry**
- *Callicarpa americana*
- 60” Height x 48” Width
- Blooms June - July
- Quantity: 2 pots

**Eastern Red Cedar**
- *Juniperus virginiana “canaertii”*
- 35’ Height x 15’ Width
- Quantity: 1 pot or B & B

**Arrowwood**
- *Viburnum dentatum*
- 10’ Height x 10’ Width
- Quantity: 2 pots

**Spring Beauty**
- *Claytonia virginica*
- 10” Height x 4” Width
- Blooms in March - April
- Quantity: 100 bulbs

**Woodland Spiderwort**
- *Tradescantia ernestiana*
- 24” Height x 24” Width
- Blooms Late Spring – Early Summer
- Quantity: 20 plants

**Virginia Bluebells**
- *Mertensia virginica*
- 24” Height x 24” Width
- Blooms Early Spring
- Quantity: 20 plants

*Image Source: 1) Lead Plant (Amorpha canescens), July 2005, by Blaine Hansel,(CC BY 2.0); 2) Battery Park City – South Cove Park, Rhus aromatica ‘Gro-Low’ by cultivar413, (CC BY 2.0); 3) American beautyberry (Callicarpa americana), Juno Dunes Natural Area, Florida, August 2012, by Bob Peterson, (CC BY-SA 2.0); 4) Quaddel,”juniperus virginiana,” 09 October 2004, CC BY-SA 3.0; 5) Viburnum dentatum in flower, Virginia, USA, June 2013, by Fritzflohreynolds,(CC BY-SA 3.0); 6) Spring beauty (Claytonia virginica), Durham, North Carolina, USA, March 2012, Dcrjsr, Own Work, (CC BY 3.0); 7) Tradescantia ernestiana, Missouri Botanical Gardens; 8) Virginia Bluebells, April 2010, by Hoodedwarbler12, (CC BY 3.0).*
**Did You Know?**

**Helpful Facts**

- Rain gardens are designed to decrease the amount of rainwater flowing off your roof and property into the city stormwater system.

- Rain gardens capture, hold, and release stormwater gradually back into the soil.

- The plants recommended for this lot design have been selected for their beauty, habitat creation, and local availability.

- This rain garden is designed to provide habitat and food for a variety of birds and pollinators.

- For more information, contact Mid-America Regional Council (www.marc.org), Bridging the Gap (bridgingthegap.org), Blue Thumb, (Blue-thumb.org), and Kansas City Water Services (www.kcwaterservices.org).

**Planting Tips**

- Tulips should be planted on a mound. Do not plant in or near your rain garden as they do not do well in wet conditions.

- Water after planting and as needed during the first year. Do not allow soil to dry out. Weed weekly or as needed.

- If you have the option, cover plants in the fall.

- To save money, ask a friend or family member if they have any plants or cuttings they are willing to donate to your rain garden.

Image Source: Liatris spicata, June 2009, Germany, by H. Zell - Own work, (CC BY-SA 3.0).
Draw Your Lot