

Volunteer

Professional

Volunteer + Professional

Friendly Fence

Image Source: Raul654., "Hydrangea Macrophylla Bigleaf Hydrangea1.jpg" 1 May 2005 via Wikimedia, CC-BY-SA 3.0



HELLO

MY NAME IS

Friendly Fence

The Friendly Fence is a large rain garden with a twist. The design captures stormwater and slowly releases it into the soil, keeping water from entering into Detroit’s sewer system.

The Friendly Fence is ideal for two homeowners who are interested in sharing a side lot. The design has been sized to accommodate rainwater from up to two houses.

A serpentine hedge divides the lot - one side of the hedge has a rain garden while the other has a grassy mound. The plants in the Friendly Fence are a mix of well-suited native and non-native species, selected for beautification, habitat creation, and broad availability.

For more information refer [DFC-lots.com](https://dfc-lots.com)

What is the lot design likely to cost?

The estimated cost of the Friendly Fence is high (\$2,500 – \$5,500) and based on utilizing volunteer and professional labor. Residents can save money by hand digging the rain garden, but keep in mind, a rain garden of this size could require a significant number of volunteers. 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.

Will installation of this lot design require a professional?

The installation of this lot design will require professional assistance for the first few steps. The Field Guide identifies volunteer opportunities if you, with the help and support of friends, family, or neighbors, would like to complete the planting portion of this lot design. Refer to the Step-By-Step section for guidance on the recommended professional and volunteer steps. If you do not feel able to tackle the volunteer aspect of this lot design, a professional can construct the entire project.

How long will it take to install this lot design?

This lot design requires a professional for the completion of several steps. The projected installation time listed below only accounts for volunteer opportunities listed in the Step-By-Step section. While people tackle projects differently, the Field Guide estimates the installation time of the lot design to be one to two full weekends, utilizing a volunteer group organized by a knowledgeable lot leader. The Field Guide recommends the help of at least ten healthy adults or youth to construct this lot design. The Field Guide assumes that the lot is ‘construction ready,’ and all equipment and materials required for the lot design have been acquired and are ready to use.

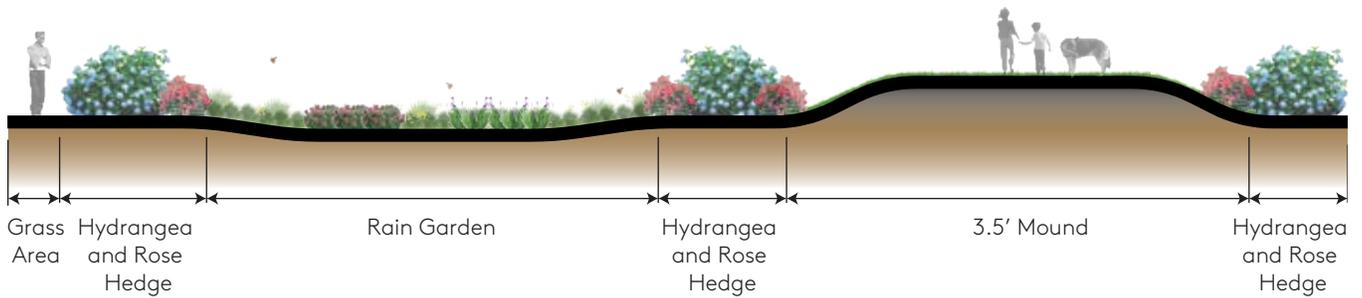
Cost	\$50 - 1,000	\$1,000 - 2,500	\$2,500 - 5,500	\$5,500 +
People	Volunteer	Professional	Volunteer + Professional	
Experience	Beginner	Intermediate	Advanced	
Upkeep	Low	Medium	High	
Stormwater	Good	Better	Best	
Location	Residential Lot in Full Sun to Shade (Between Two Houses is Ideal)			

Friendly Fence

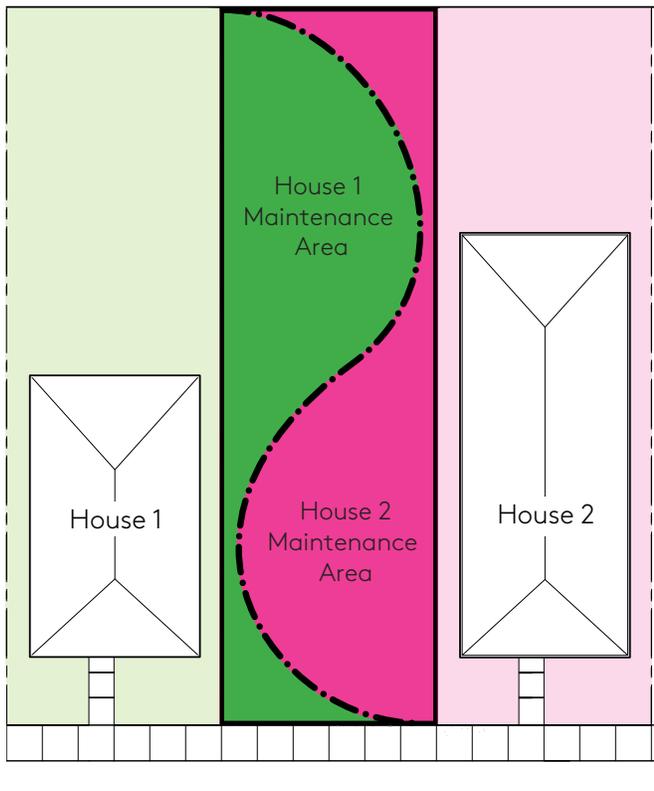
Examples of Friendly Fence Plants



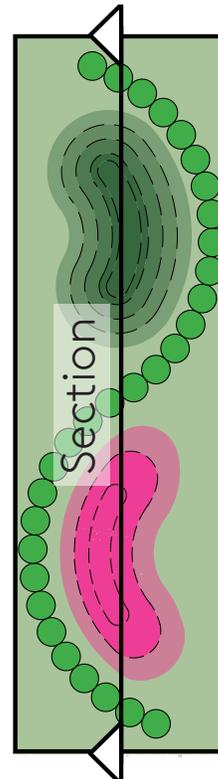
Section



Where Do I Grow?



Lot Design



The Friendly Fence design is ideal for two homeowners who are interested in sharing the side lot. The design can be amended to create two rain gardens.

- Rain Garden
- Mound
- Hedge
- Grass or Optional Groundcover

Before You Start

'Construction Ready'

This lot design assumes that you have prepared the lot to a 'construction ready' state.

'Construction Ready' refers to a lot that is clean and clear of trash, hazardous objects, unwanted trees, brush and vegetation, fences, and other unwanted structures.

It may be necessary to remove grass in preparation for your lot design. Refer to the Remove Your Grass box located on the right hand side of this page for more information.

Is there an available water source near your lot? Consider how and where you will access water during and after construction to ensure that your plants can establish.

If your lot is not ready for construction, refer to the [Clean + Green](#) lot design.

You can find the lot design at DFC-lots.com.

Call Before You Dig

Locate underground utilities before beginning your lot design. MISS DIG provides a free service to Michigan residents by locating and marking utilities on requested properties. Call (800) 482-7171 or 811 at least three days before you plan to start digging on your lot.

Test Your Soil

Harmful pollutants have made their way into many urban soils. To proceed with awareness, consider having your soil tested before construction. Two great options are available:

Soil testing is free to members of Keep Growing Detroit's Garden Resource Program. Call (313) 757-2635 for more information or visit detroitagriculture.net.

If you are not yet a member, you can work directly with Michigan State University's (MSU) Extension Program. They have a Home Lawn and Garden Soil Test Mailer for \$25. For more information call (888) 678-3464 or visit msusoiltest.com.

If you are concerned about the presence of lead or other contaminants in your soil, call the Michigan Department of Health and Human Services at (866) 691-5323 or (800) 424-LEAD.

Remove Your Grass

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

There are many ways to remove unwanted grass. The first is to remove the grass and its root system by digging up the grass. Another option is to cover your lot with cardboard or a plastic tarp to smother your grass in darkness. It will take several weeks, but after being covered, the dead grass will be easier to remove.

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.

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).

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
- Tiller, 6 inch depth

Potential Water Sources

- Garden Hose with possible extension hose
- Sprinkler
- Rain Barrel in addition to other water source
- Downspout Disconnect (shown in lot design)

Field Guide Resources

Resources are available on the Field Guide's web site.

- Clean + Green
- Perennials + Grasses Planting Detail
- Bulb Planting Detail

Materials List

Materials

- **Rain Garden Planting Soil**, 23 cubic yards (50% sand, 25% topsoil, and 25% compost or leaf litter)
- **Mulch or Wood Chips**, 11 cubic yards
- **Downspout Disconnect:** Standpipe cap, downspout elbow, downspout connection pipe, rubber cap, and hose clamp (one set per house)

Planting

- **Endless Summer**, 9 pots
- **White Annabelle**, 9 pots
- **Pink Bella Anna**, 9 pots
- **Double Knockout Rose**, 38 pots
- **Variegated Sweet Flag**, 58 pots
- **Red Velvet Yarrow**, 3 pots
- **Blue Flag Iris**, 14 pots
- **Bee Balm**, 7 pots
- **Black-Eyed Susan**, 10 pots
- **Purple Coneflower**, 10 pots

Remaining Lot (Optional)

Groundcover

- **Low-Maintenance Fescue Mix**, 8 pounds of seed
- **Germination Blankets**, 2 rolls (8 by 112.5 feet)

Friendly Fence Step-By-Step

Let's Start

Want to create the Friendly Fence? The Field Guide recommends hiring a professional for some tasks. Here are a few guiding principles to help you understand the tasks involved in the lot design and the steps appropriate for volunteers.

- Check off tasks as you go along.

Lot Design Steps

Professional Recommended:

- Prepare Your Lot
- Create Rain Garden + Mound

Volunteer Opportunities:

- Disconnect Your Downspout
- Plant Perennials
- Maintain Your Lot Design
- Sow Remaining Lot

Make a Circle

Place a stake at the desired location of each center or proposed tree location. 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.

Prepare Your Lot

Although the Friendly Fence is not one of the more complex lot designs within the Field Guide, it may require specialized equipment and experience to undertake the excavation and earth shaping. It is recommended that you hire a professional for these steps: Prepare Your Lot and Create Rain Garden + Mound.

If you decide to construct this lot design without the recommended assistance of a professional, the Field Guide has provided guiding principles below to help assist you with the installation of the lot design.

- This lot design utilizes a majority of the 30 by 100 foot lot.
- Friendly Fence should be constructed as shown in the lot design plan to ensure the rain garden and mound are the correct depth and height. Ensure a setback of ten feet from adjacent lots and sidewalks.
- For the rain garden to work, water must be directed into it. **The Field 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.
- Your rain garden should be one square foot for every ten square feet of hardscape or stormwater area directed into your rain garden. **The Field Guide recommends an approximately 12 by 35 foot rain garden (420 square feet) and an approximately 35 by 15 foot mound (525 square feet).**
- **The Friendly Fence is designed to accommodate or collect stormwater runoff from two standard single family houses up to 4,200 square feet of roof area.** (The average Detroit house is 920 to 1,350 square feet.)
- Once you locate your rain garden and mounds, use marking paint and measuring tape to map out the size, shape, and dimensions of your design.

Friendly Fence Step-By-Step

○ Create Rain Garden + Mound

The Field Guide recommends hiring a professional for this lot design or at least to complete the earthwork. The lot design can also be dug and sculpted by hand, but will require a large group of volunteers.

Dig the rain garden approximately 2.5 feet deep. The mound is created from soil excavated from the rain garden, limiting the need to haul soil off site.

After removing 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 to loosen up any compaction.

Fill the rain garden with 18 inches (23 cubic yards) of rain garden planting soil to create a one foot depression. Rain garden planting soil should consist of approximately 50% sand, 25% topsoil, and 25% compost or leaf litter. Mix together and place in rain garden.

The rain garden edges should slope at 50% (1 unit of rise for 2 units of run) under the hedge area, and slope 33% (1 unit of rise to 3 units of run) on the other side of the rain garden.

After the rain garden size has been determined, use marking paint and a tape measure to map out the size, shape, and dimensions of your design.

Use the soil removed from the rain garden area to create a 3 foot and 6 inch high mound as shown on the plan.

○ 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 six feet from any house foundation and five 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 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 cap.
- Attach elbow joint over the downspout.
- Add downspout extension to elbow joint. Extension should be length needed to carry water away from house and towards 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 plants in the rain garden from stormwater.

For more information, refer to the [DWSD's How to Disconnect a Downspout](#) document.



The Friendly Fence can accommodate or collect stormwater runoff for areas up to 4,200 square feet.

Friendly Fence Step-By-Step

○ Plant Perennials

Sunny to partly-sunny plantings are recommended for the Friendly Fence. If your lot is in shade seek alternate planting options.

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

The Field Guide recommends adding three inches (11 cubic yards) of wood chips or organic mulch to the rain garden and underneath the serpentine hedge. Use four cubic yards of mulch for the rain garden. Adding wood chips or mulch will help suppress weeds.

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

For more guidance on planting perennials refer to the [Perennials + Grasses Planting Detail](#).

○ Maintain Your Lot Design

A rain garden requires care and maintenance to thrive. The Friendly Fence is a large rain garden and will require regular watering and weeding, especially during the first few years. **Do not let your rain garden dry out in the first warm season.** Add mulch annually to help suppress weed growth.

Rain gardens are a work in progress. Perennials may need to be replaced to keep gardens dynamic and playful. Be creative and make it your own!

Friendly Fence Step-By-Step



Visit the Resources page on the Field Guide's web site (DFC-lots.com) to discover other vendors and places to purchase plants.

Average Height of Plants



Shrubs and Perennials

○ Sow Remaining Lot

If you are seeking a lower maintenance alternative to a traditional lawn, the Field Guide recommends a fescue seed mix. **If you follow the Friendly Fence lot design you will need approximately eight pounds of fescue seed mix for the remaining lot (1,461 square feet) and two 8 by 112.5 foot rolls of single net germination blankets.**

This family of floppy grasses is drought-resistant and requires one cutting (in August or September) per year. Fescue can be established in full sun to shade and should be seeded in spring (mid-March to mid-May) or fall (August to September).

Soil should be prepared for seeding by scarifying, raking, or tilling the soil four to six inches deep to loosen any compaction, allowing for easier seed germination and better water infiltration. Apply seed mix to a damp lot.

Sow seed across remaining lot by using a seed spreader or by hand. A seed rate of five pounds per 1,000 square feet is recommended. Gently water seedlings daily until they are four to six inches in height. Placing a thin layer of straw or a germination blanket over seeded areas will help ensure that your seed establishes by keeping seeds from blowing away and protecting them from birds. Germination blankets or straw can be purchased at most nurseries and garden stores.

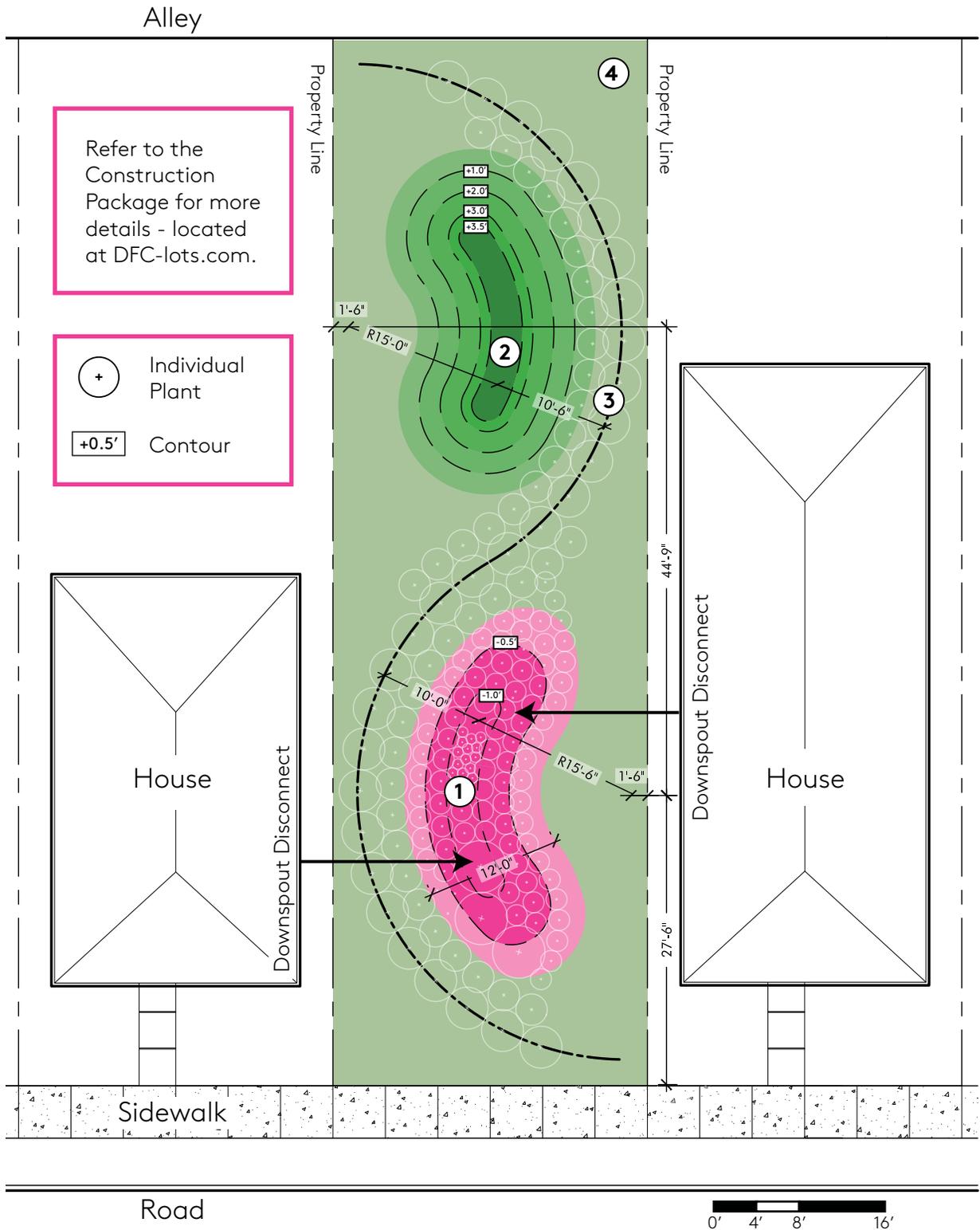
Once established, grass will not require supplemental watering except during unusually dry periods. Eco-Turf Low Maintenance Fescue Mix is one recommended seed mix and can be purchased through Michigan Wildflower Farm.

Other Field Guide lot designs can be used as groundcovers. Check out the web site for additional options and ideas.

Next Level: If you would like to bring additional color to your grass you can always plant bluebells, crocuses and/or daffodils to create a decorative show in spring. Bulbs should be planted in the fall.

For more guidance on bulb planting refer to the [Bulb Planting Detail](#).

Friendly Fence Lot Design



- 1** Rain Garden
- 2** Mound
- 3** Serpentine Hedge
- 4** Grass or Optional Groundcover

Planting: Sun To Part Sun



Endless Summer¹
Hydrangea macrophylla
'Endless Summer'
48" Height x 36" Width
Blooms May - August
Prune After Blooming
Quantity: 9 pots



White Annabelle²
Hydrangea arborescens
'Annabelle'
48" Height x 36" Width
Blooms May - August
Prune Late Winter or Spring
Quantity: 9 pots



Pink Bella Anna³
Hydrangea arborescens
'Bella Anna'
48" Height x 36" Width
Blooms May - August
Prune Late Winter or spring
Quantity: 9 pots



Double Knockout Rose⁴
Rosa 'Radtko'
36" Height x 24" Width
Blooms May - August
Prune Early Spring
Quantity: 38 pots



Variegated Sweet Flag⁵
Acorus gramineus 'Ogon'
12" Height x 24" Width
Spreading Groundcover
Quantity: 58 pots



Red Velvet Yarrow⁶
Achillea 'Red Velvet'
12" Height x 60" Width
Blooms June - September
Attractive to Butterflies
Quantity: 3 pots



Blue Flag Iris⁷
Iris virginica
24" Height x 12" Width
Blooms May - June
Quantity: 14 pots



Bee Balm⁸
Monarda fistulosa
24" Height x 28" Width
Blooms July - September
Attractive to Butterflies
Quantity: 7 pots



Black -Eyed Susan⁹
Rudbeckia hirta
24" Height x 24" Width
Blooms June - October
Attractive to Butterflies
Quantity: 10 pots



Purple Coneflower¹⁰
Echinacea purpurea
24" Height x 12" Width
Blooms July - August
Attractive to Butterflies
Quantity: 10 pots

Plant Sizes



Pots: Plants can be purchased in one to five gallon pots. The size of pots can change based on availability.

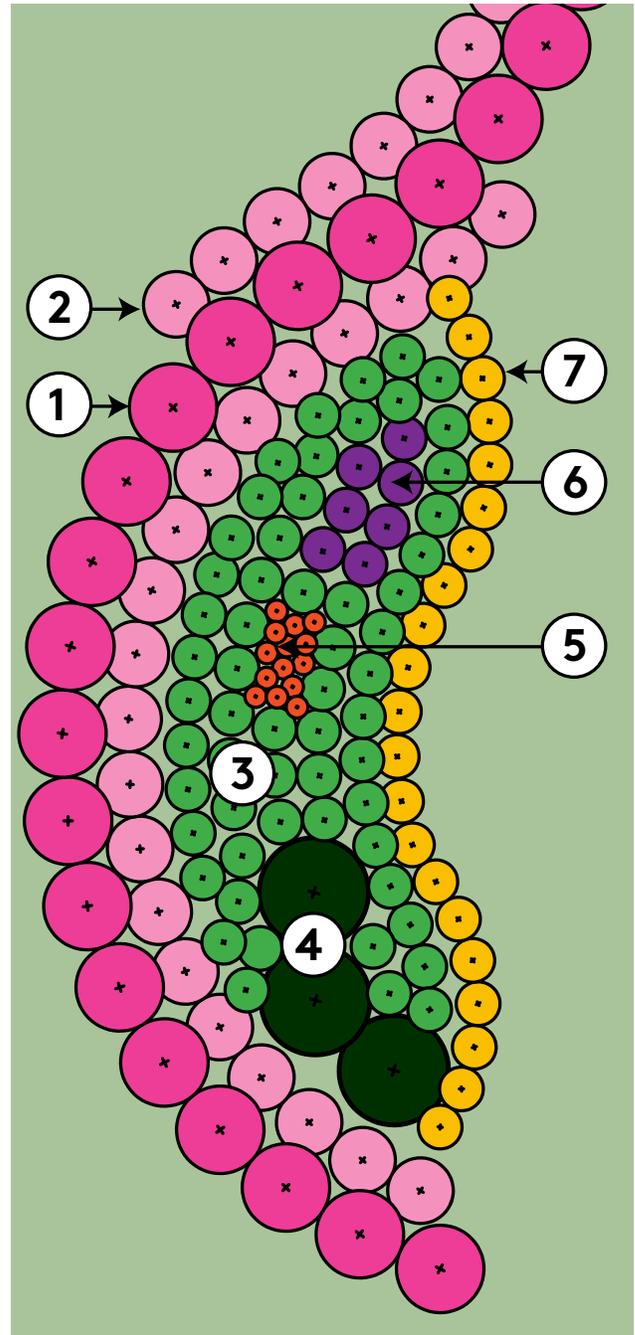


The larger the pot, the greater the immediate impact your design will have when first installed.

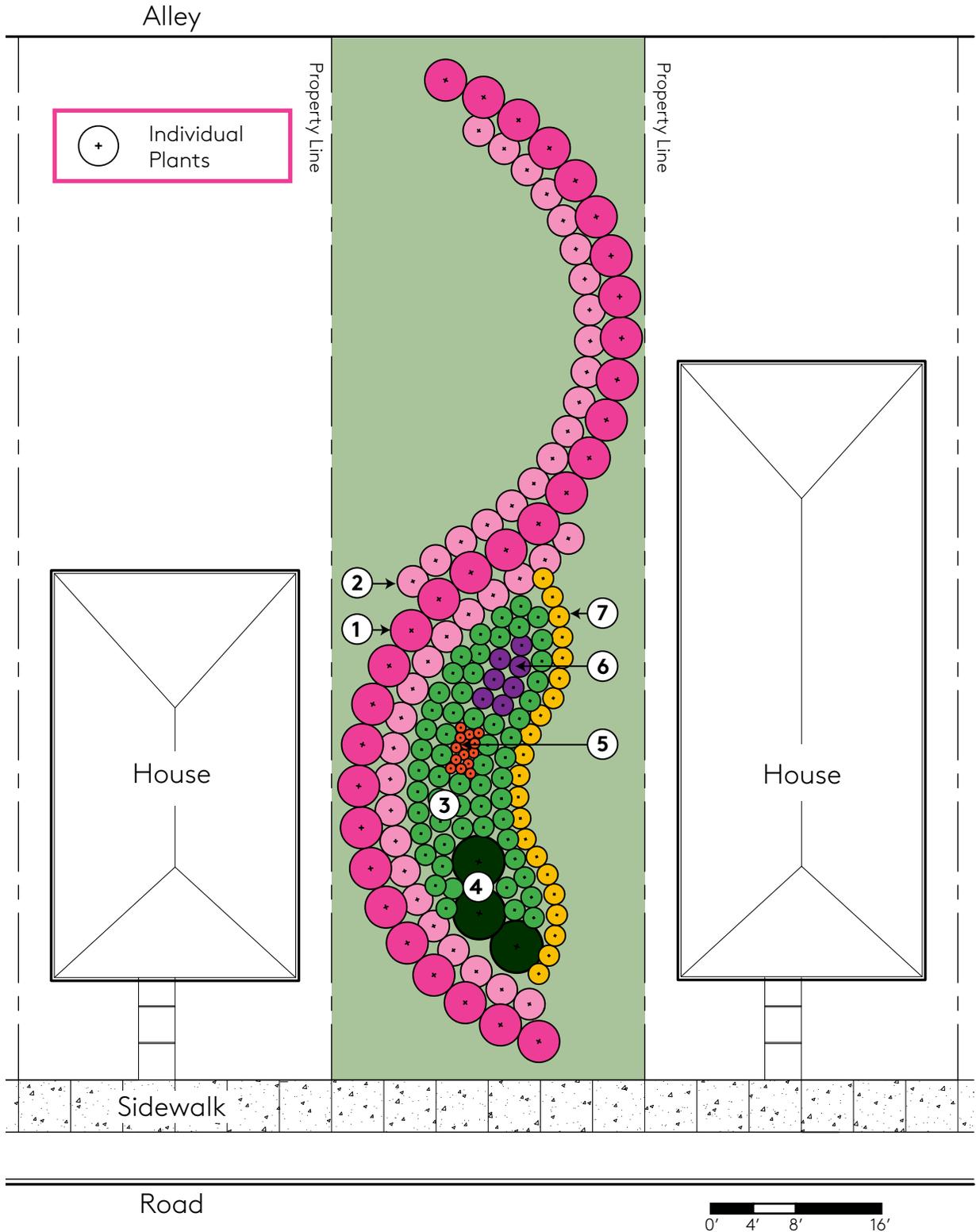
Planting: Sun To Part Sun

Key

- 1
Hydrangeas: Endless Summer, White Annabelle, & Pink Bella Anna (Space approximately three feet apart and mix evenly.)
- 2
Double Knockout Rose (Space approximately three feet apart.)
- 3
Variegated Sweet Flag (Space approximately two feet apart.)
- 4
Red Velvet Yarrow (Space approximately four feet apart.)
- 5
Blue Flag Iris (Space approximately one foot apart.)
- 6
Bee Balm (Space approximately two feet apart.)
- 7
Black-Eyed Susan & Purple Coneflower (Space approximately two feet apart.)



Friendly Fence Planting Design



- | | | | |
|---|---|--|--|
| 1 Hydrangea | 3 Variegated Sweet Flag | 5 Iris | 7 Black-Eyed Susan & Purple Coneflower |
| 2 Knockout Rose | 4 Yarrow | 6 Bee Balm | 8 Grass or Optional Groundcover |

Did You Know?

Professionals Can Help!

The Field Guide to Working With Lots provides a Construction Package for each lot design. The Construction Package includes information and details required for a professional to construct this design. On the Field Guide web site, use the [Construction Package](#) link located near the top of this lot design page to download and print. Your selected professional will then be able to provide a cost estimate and schedule based on the condition of your lot and the design you select.

Want to Hire Locally?

DFC-lots.com has a growing list of Detroit-based professionals and suppliers of landscape materials and services.

Still unsure of where to start?

Call (313) 294-LOTS or email fieldguide@detroitfuturecity.com for assistance.

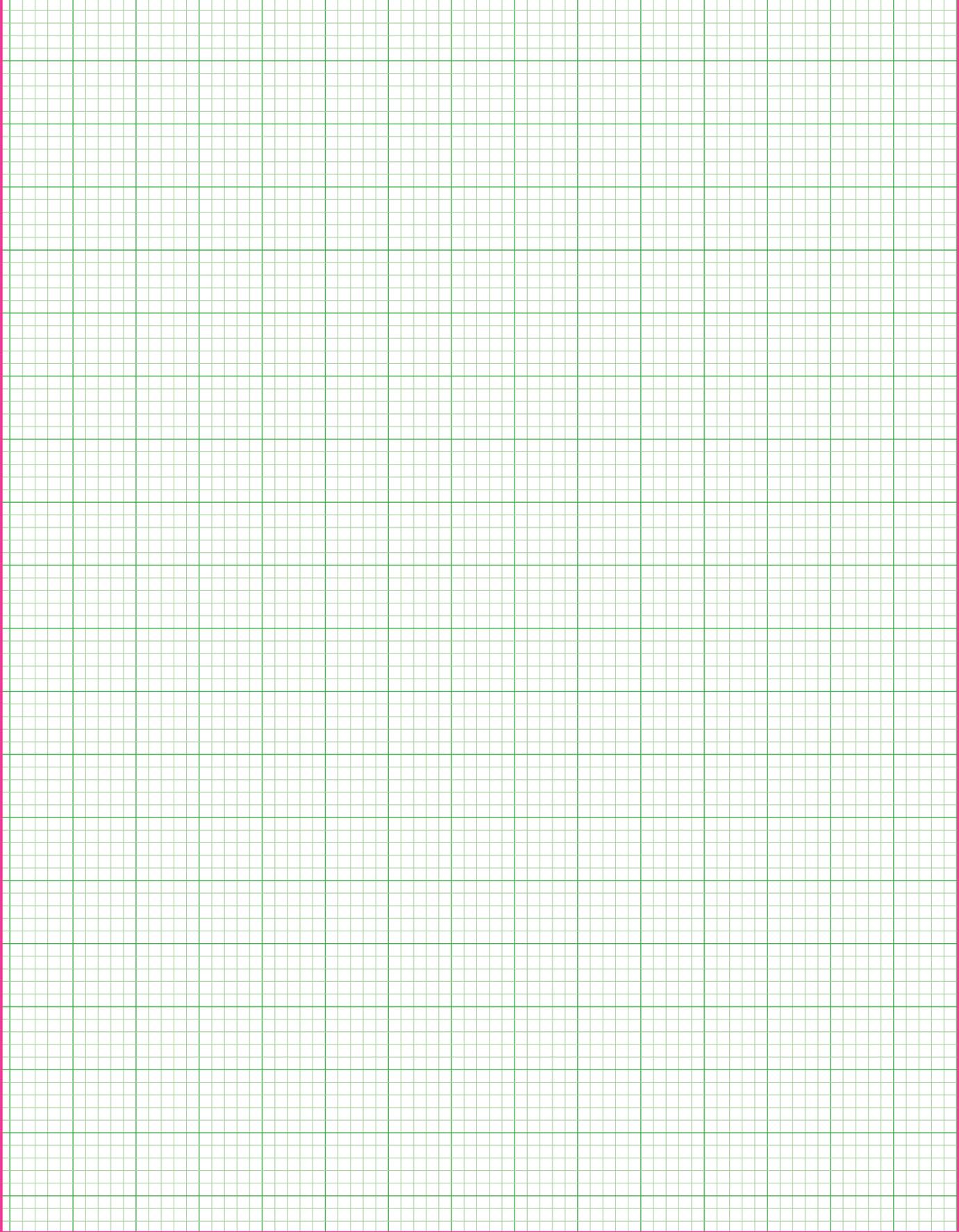
Helpful Facts

- The recommended plants for this lot design are selected for their beauty, habitat creation, and local availability.
- Rain gardens are designed to decrease the amount of rainwater flowing off your roof and property into the city's storm system.
- Rain gardens capture, hold, and release stormwater gradually back into the soil.
- This rain garden is designed to provide habitat and food for a variety of birds and pollinators.
- Looking for more information on rain gardens? The Sierra Club of Detroit has been running a rain garden program since 2012 and is happy to help.

Planting Tips

- Call ahead to be sure the nursery or garden store has the plants you need for your lot design.
- 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.
- Looking for a more cost efficient planting option? Consider a rain garden seed mix, such as ERNMIX-180 (Ernst Rain Garden Meadow Mix).
- The best time to plant is spring or fall.
- Do not plant in extreme heat.
- Water after planting and as needed. Do not allow soil to dry out.
- Weed weekly or as needed.

Draw Your Lot





**DETROIT
FUTURE
CITY**

**working
with lots**
A FIELD GUIDE

**Visit DFC-lots.com
#DFClots**

Image Source: Isamiga76, "Roses & Hortensias." 10 July 2009 via Flickr CC BY 2.0