

Rain Garden

For Your Home

Want to mow less?

A rain garden is generally a low section of land that is planted with water-tolerant plants that absorb rainwater and filter out harmful chemicals. It is a very effective and attractive way of diverting runoff from your home's rain gutters.



www.chisagoswcd.org

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Cold Climate Considerations:

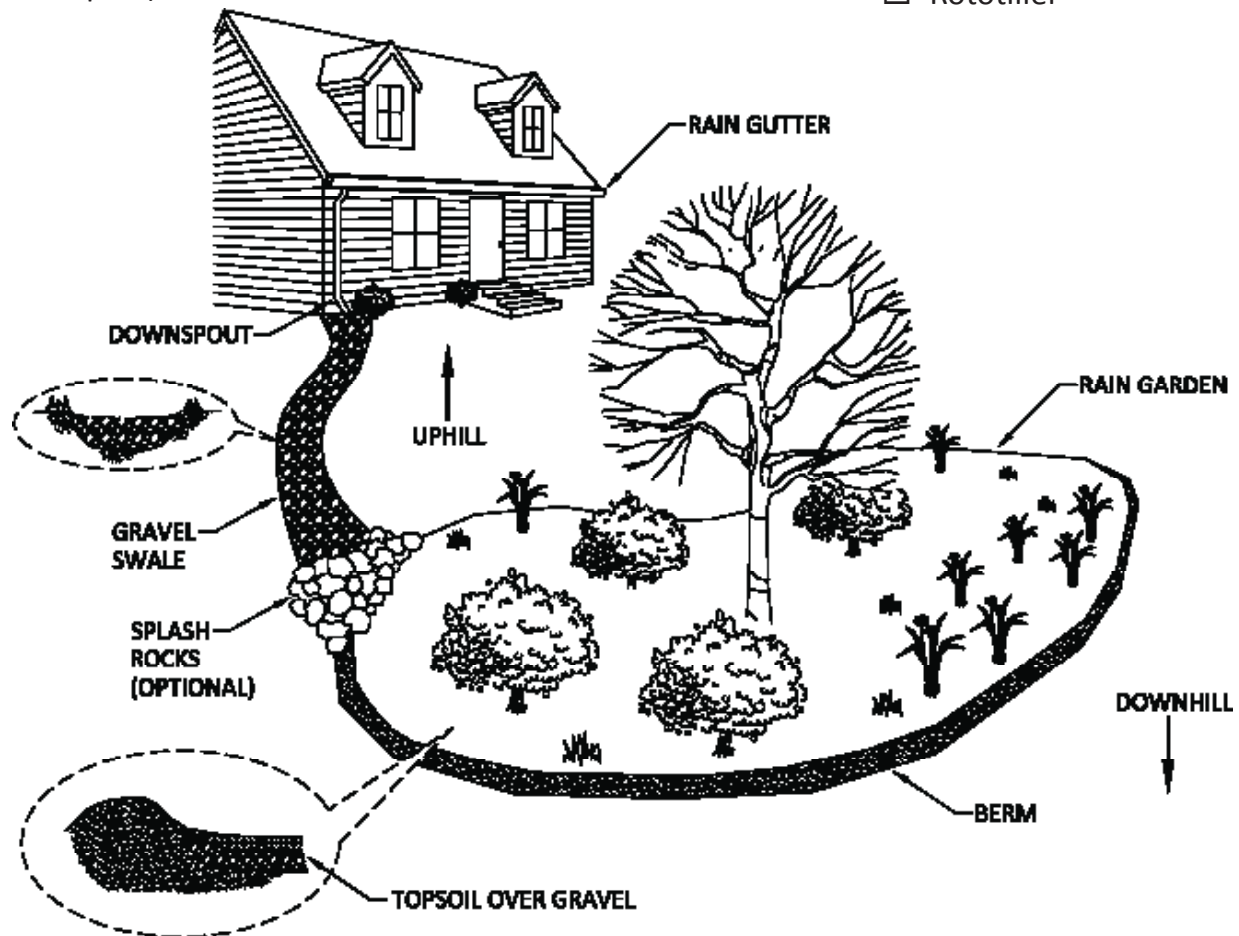
See list on back for specific plants that will survive in a Fairbanks rain garden.

Materials:

- Rain Garden soil mix (if replacing existing soil)
50-60% sand, 20-30% topsoil, 20-30% com-
post
- Fertilizer mix (10-20-10 in the spring)
- Appropriate plants - see list
- Mulch (best to use mulched grass clippings or
aged compost)

Tools:

- Shovel
- Tarp
- Digging fork
- Spade
- Camera
- Bow rake
- Rototiller



Steps:

1. Choose an appropriate size for your rain garden. The more runoff you can redirect to your rain garden, the larger it can be. If you make the garden larger than can be supported by runoff, you will have to water it more during dry periods. See <http://anchorageaingardens.com/RGmanualWEB.pdf> for examples of how to calculate the appropriate size.
2. Choose the right location for your rain garden:
 - a. Do not build a rain garden in permafrost.
 - b. Note the direction of runoff and low spots where water collects.
 - c. Make sure that the chosen location is downhill and at least 10 feet away from buildings with basements.
 - d. Location should not be on or near septic tanks or wellheads.
 - e. Before you dig, be aware of underground service lines or utilities on your property. Call 1-800-478-3121 or go on-line at www.akonecall.com to have the underground lines marked for you.
3. Once you have chosen a location, define the borders using non-toxic paint, stakes and string, etc.

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4. Test the infiltration rate of your soil:
 - a. Dig an eight by eight inch hole within the designated area after the ground has had enough time to thaw in the spring.
 - b. Fill the hole with water and check the depth of the water every hour for at least three hours.
 - c. If the water level in the hole goes down on average at least one inch an hour your soil will be able to drain effectively for a rain garden.
 - d. If it takes longer than eight hours for the hole to completely drain, then you will want to put a gravel layer under your rain garden.
 - e. Most locations in Fairbanks have well draining soils. If you live in the hills surrounding Fairbanks, you may have poorly draining soils.
 5. Remove sod, if needed, and dig a three to four foot deep hole, piling the soil off to the side onto a tarp. Making the rain garden hole this deep and amending the soil will help ensure proper drainage.
 6. Loosen the soil in the hole with a digging fork or a rototiller.
 7. You can place a layer of gravel before replacing the soil. The gravel should be no more than twelve inches deep.
 8. Loosely pile the soil back in or replace the soil with rain garden soil mix: 50 - 60% sand, 20 – 30% topsoil, and 20 – 30% compost.
 9. The height of the finished garden bed should be lower than the height of the soil surrounding the bed, of six to eight inches in the rain garden. This may mean that not all of the soil will fit back in the rain garden.
 10. Redirect downspouts to flow into designated area by constructing channels, swales, or pipes:
 - To create berms along the downhill side of the rain garden:
 - a. Pile up an appropriate amount of soil using left over soil from the rain garden hole. Usually five inches tall is sufficient to retain water but not drown plants.
 - b. Compact the soil by walking on it and tamping it down well.
 - c. To help minimize erosion of the berms, either put a two inch layer of mulch on the berm or plant drought resistant plants for ground cover. Rock Cress (*Arabis arendsii*), Gold Creeping Jenny (*Lysimachia mummularia* 'Aurea'), and Field Pussytoes (*Antennaria neglecta* 'Greene') are some good choices.
 - To create a swale from the downspout to the rain garden:
 - a. The swale can be as wide or narrow as you want it, and does not need to be very deep.
 - b. The slope of the swale should be not more than 3:1, horizontal to vertical.
 - c. Remove the sod and dig a trench with the dimensions you wish your swale to be.
 - d. Once you have finished your trench, either replace the sod or reseed the swale. You will need to water the sod or seeds well until they are established.
 - e. Attach a universal downspout adapter to the downspout and redirect it into the swale.
 11. Grade the area so that water entering the garden will spread out over the whole bermed area.
 12. Plant selected plants.
 13. Feed plants using fertilizer mix according to the package directions.
 14. Put a three to four inch layer of mulch down to help retain moisture and deter weeds.
 15. Water young plants until well established.

Maintenance:

- Weeding
- Fertilizing
- Watering, frequently until the garden is established, then occasionally

Cost Estimate:

- Self installed \$3 - \$7 per sq ft
- Professionally installed \$10 - \$15 per sq ft

Time Estimate:

- This project could take one to three days to complete.

Pros:

- Aesthetically pleasing
- Reduces water runoff
- Increases groundwater infiltration
- Increase property value
- Creates habitat for birds and butterflies

Cons:

- Surface freezing in the fall reduces the water retention potential
 - A restricted list of suitable plants
 - Possible breeding ground for mosquitoes
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Plants Suited to an Alaskan Rain Garden		Key: Shade - ☀ Partial Shade - ☀☀ Full Sun - ☀☀☀	
Plant Type	Plant Name	Latin Name	Growing Conditions
Evergreen Shrubs	Creeping Juniper	<i>Juniperus horizontalis</i>	☀☀☀
Deciduous shrubs	Saskatoon Serviceberry	<i>Amelanchier alnifolia</i>	☀☀☀
	Nanking Cherry	<i>Prunus tomentosa</i>	☀☀☀
	Flowering Almond	<i>Prunus triloba</i>	☀☀☀
	Rugosa Rose	<i>Rosa rugosa</i>	☀☀☀
	Royalty Lilac	<i>Syringa x prestoniae 'Royalty'</i>	☀☀☀
	Highbush Cranberry	<i>Viburnum edule</i>	☀☀☀
Evergreen Trees	White Spruce	<i>Picea glauca</i>	☀☀☀
	Scotch Pine	<i>Pinus sylvestris</i>	☀☀☀
Deciduous Trees	Alaska Paper Birch	<i>Betula neoalaskana</i>	☀☀☀
	Siberian Crabapple	<i>Malus baccata</i>	☀☀☀
	Quaking Aspen	<i>Populus tremuloides</i>	☀☀☀
	Amur Chokecherry	<i>Prunus maackii</i>	☀☀☀
Perennials	Columbine	<i>Aquilegia</i>	☀☀☀
	Alaska Wild Iris	<i>Iris setosa</i>	☀☀☀
	Ostrich Fern	<i>Matteuccia struthiopteris</i>	☀☀☀
	Native Bluebells	<i>Mertensia paniculata</i>	☀☀☀
	Globeflower	<i>Trollius</i>	☀☀☀
	Common Yarrow	<i>Achillea millefolium</i>	☀☀☀
	Larkspur / Delphinium	<i>Delphinium glaucum</i>	☀☀☀
	Siberian Aster	<i>Aster sibiricus</i>	☀☀☀
	Asiatic Lily	<i>Lilium</i>	☀☀☀
	Daylily	<i>Hemerocallis</i>	☀☀☀
Cranesbill Geranium	<i>Geranium erianthum</i>	☀☀☀	

For more information about the Green Infrastructure Project please visit: www.cchrc.org/green-infrastructure

Sources:

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www.wildlife.alaska.gov/index.cfm?adfg=birds.plants
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www.lowimpactdevelopment.org/raingarden_design/index.htm
- Cuyahoga Soil and Water Conservation District, Rainwater Garden Plans
www.cuyahogawcd.org/grantfunded-raingardens.htm
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- Rain Gardens of West Michigan, Rainwater Garden Plans
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