

Tree Pit Installation

August 11, 2010

For Your Home

Need more shade?

Installing a tree pit is an easy way to improve the look of your yard. A tree pit will increase the health of your tree and your lawn. Trees need about one inch of water a week and are good water retainers.



A tree pit is most often a depression around a tree or shrub that allows diverted water to be absorbed by the plant, and filters out harmful chemicals. The pit can also be a hole that is lined with gravel around the tree to help retain water.

Cold Climate Adaptation:

We have a list of specific trees that will survive in a Fairbanks tree pit.

Materials:

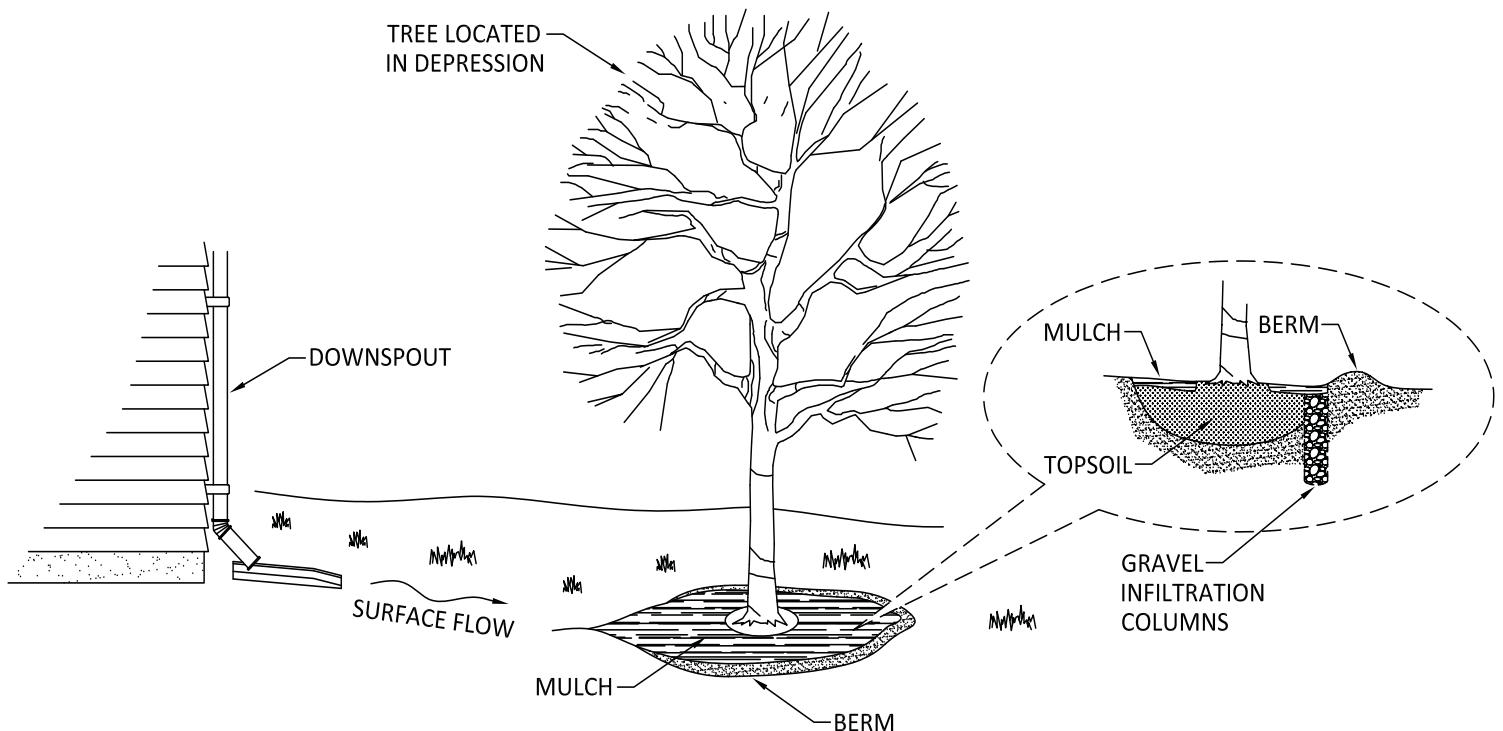
- Gravel
- PVC pipe

Tools:

- Post hole digger or drain spade
- Drill
- Shovel
- Camera

Steps:

1. Find a suitable tree on your property or plant a new tree, using these guidelines:
 - a. Should be downhill and at least 10 feet away from buildings with basements.
 - b. Tree can be in a small depression, but not where water stands for more than a day.
 - c. Location should not be on or near septic tanks or wellheads.
 - d. Be aware of underground service lines or utilities. Call 907-278-3121, 1-800-478-3121 or go online to www.akonecall.com to have the underground lines marked for you. It is a good idea to take a picture of the markings to record their locations.
2. 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.
3. Use a post hole digger or a drain spade to make a few narrow holes around the tree. The holes should be between three to six feet deep and six inches to one foot in diameter.
 4. Fill the hole with gravel or place a perforated PVC pipe in the hole. Fill with gravel.
 5. Redirect downspouts to flow into designated area by constructing channels, swales, or pipes. Or use berms to retain water if needed by piling up an appropriate amount of soil along the downhill side of the tree.
 - To create berms along the downhill side of the tree pit:
 - a. Pile up an appropriate amount of soil using left over soil from the tree pit 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 tree pit:
 - 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.

Plants Suited to an Alaskan Tree Pit		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</i> ‘Royalty’	☀☀☀
	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 papyrifera var. neoalaskana</i>	☀☀☀
	Siberian Crabapple	<i>Malus baccata</i>	☀☀☀
	Quaking Aspen	<i>Populus nigra</i>	☀☀☀ ☀☀
	Amur Chokecherry	<i>Prunus maackii</i>	☀☀☀

Maintenance:

Clearing debris from the area to keep rainwater flowing into the pit and to maintain absorption.

Cost Estimate:

- \$10 - \$100 per tree.

Time Estimate:

- This project could take one half to one day to complete.

Pros:

- Improves tree health
- Reduces water runoff
- Increases groundwater infiltration
- Requires limited space
- Easy to install
- Inexpensive

Cons:

- Can't process large volumes of water
- Surface freezing reduces the water retention potential

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

Sources:

TLC for Trees

http://www.tlcfortrees.info/transplanting_landscape_trees.htm

University of Alaska Fairbanks, Cooperative Extension Service, Transplanting Trees Successfully

<http://www.uaf.edu/ces/publications-db/catalog/anr/HGA-00335.pdf>

University of Alaska Fairbanks, Cooperative Extension Service, Managing Your Trees and Shrubs in Alaska Part Two: Planting Guide for Trees in Urban and Rural Alaska

<http://www.uaf.edu/ces/pubs/catalog/detail/index.xml?id=132>



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