Approved Plant List and Xeriscaping Guide

Fact to Know

INTRODUCTION:

The approved tree and plant list has been compiled by highly qualified experts in the field of horticulture and High Plains native plants. This list includes hundreds of species of plants and trees that are suited to the city's environment. This list is to be used by property owners, developers, and the city as a standard for selecting native and adapted plant species to minimize maintenance costs, conserve water and improve longevity.

Emerald Ash Borer:

Please be advised that Ash Borer (*Podosesia Syringae, Harris)* infestation concerns have been raised by the U.S. Forestry Services and Colorado State University for Ash Trees along the Front Range, including Commerce City. The Ash Borer is a beetle native to north-eastern Asia that has been found feeding on ash trees. An infestation can kill an ash tree in 0ne to three years. In response, The Commerce City Planning and Parks divisions have issued a temporary, but indefinite, restriction on the use of ash trees in development within the city. The city's policy regarding ash trees is as follows:

1. Ash trees will not be approved for use in:
    a. Any tree lawn or other right-of-way plantings that are associated with site plans, development plans, or improvement plans
    b. Any public park within the city
    c. Any new private park, commercial development, or industrial development
2. Other Recommendations:
    a. The replacement of any dead or diseased Ash trees with new Ash trees is discouraged
    b. The city discourages homeowners from installing Ash trees on their private property

Approved Street Trees:

The City of Commerce City's Department of Community Development has identified specific deciduous tree species for planting within tree lawns. These species have been chosen for their drought tolerant or low to moderate water usage and rooting characteristics. Several species should be incorporated into the landscape plan for the tree lawn area. Please see Section 21-7550 of the Land Development Code for additional information regarding the landscape standards for tree lawns.

Deciduous Shade Trees (Drought Tolerant)
The trees contained in this list are identified as drought tolerant, but will require low to moderate watering frequency to grow and flourish:

Columnar Norway Maple (*Acer Platanoides "Columnar")*
Prairie Pride Hackberry (*Celtis Occidentails "Prairie Pride")*
Shademaster Honeylocust (*Gleditsia Triacanthos "PNI 2835")*
Skyline Honeylocust (*Gleditsia Triacanthos "Skycole")*
Kentucky Coffee Tree (*Gymnocladus Dioicus)*
Swamp White Oak (*Quercus bicolor)*
English Oak (*Quercus Robar)*

Deciduous Shade Trees (Additional)
The tree species included in this list are suitable for street trees but are not identified as drought tolerant. These species will require a moderate watering frequency to grow and flourish:

Bur Oak (*Quercus Macrocarpa)*
Red Oak (*Quercus Rubra)*
Glenleven Linden (*Tilia Cordata "Glenleven")*
Greenspire Linden (*Tilia Cordata "PNI 6025")*
Turkish Filbert (*Corylus Colurna)*
Red Maple (*Acer Rubrum)*

Ornamental Trees

Ornamental Trees shall be planted in substitution of the canopy shade trees where overhead lines and fixtures prevent normal growth and maturity:

Tatarian Maple *(Acer tataricum)*
Spring Snow Crabapple (*Malus "Spring Snow")*
Golden Rain Tree (*Koelreuteria Paniculata)*
Chanticleer Pear (*Pyrus Calleryana*)
Japanese Tree Lilac (*Syringa Reticulata)*
Thornless Cockspur Hawthorn (*Crataegus Crus-Galli Inermis)*

Discouraged Tree Species

The following species will not be approved for use on a landscape plan. Installation of any of these tree species is done at the owner's risk:

Boxelder (*Acer negundo*)
Silver Maple (*Acer saccharinum*)
Tree-of-Heaven (*Ailanthus altissima*)
Birch (*Betula species*)
Russian Olive (*Elaeagnus angustifolia*)
Ash, American or Green cvs. (*Fraxinus species*)
Honeylocust, Thorny (*Gleditsia triacanthos*)
Crabapple, Hopa (*Malus "Hopa"*)
Crabapple, Bechtel (*Malus ioensis "Plena"*)
White Poplar (*Populus alba*)
Cottonwood (*Populus sargentii*)
Cottonwood, cottonless (*Populus species*)
Aspen (*Populus tremuloides*)
European Mountain ash (*Sorbus aucuparia)*
Willow, including Austrees (*Salix species)*
Tamarisk (*Tamarix species*)
Siberian (Chinese) Elm (*Ulmus pumila*)
All Ash species

Noxious Weeds and Invasive

Noxious weeds are non-native plants that disrupt native vegetation because they have no natural controls and are able to adapt to varied climate conditions. To prevent the spread of these invasive species, please consult the list below for visually similar alternatives:

Table 1: Noxious Weeds and Invasive Species	
Please do not plant these invasive non-native species:	**Instead, try visually similar native species:**
Purple Loostrife *(Lythrum Salicara)*	**Fireweed** (*Chamerion (Epilobium) Daniesii)* **Spotted Gayfeather** (*Liatris Punctata)* **Beebalm** (*Monarda Fistulosa)* **Lewis Flax** (*Linum Perenne var. Lewisii)*
Myrtle Spurge or Mercer's Spurge (*Euphorbia Myrsinites)*	**Sulfur Flower** (*Eriogonum umbellatum*) **Bearberry or Kinnikinnick** (*Artcostaphylos Uva-Ursi)*
Russian Olive *(Elaeagnus Angustifolia)*	**Peachleaf Willow** (*Salix Amygdaloides)*
Tamarisk *(Tamarix Spp.)*	**Rabbitbush** *(Chrysothamnus spp.)* **Leadplant** *(Armorpha Canescens)* **Thimbleberry** *(Rubus Deliciosus)* **Wax Currant** *(Ribes Cereum)*
Bouncing Bet or Soapwart *(Saponaria Officinalis)*	**Native Penstemon** *(Penstemon spp.)* **Native White Yarrow** (*Achillea Lanulosa)* **Rocky Mountain Beeplant** *(Cleome Serrulata)*
Dame's Rocket or Sweet Rocket *(Hesperis Matronalis)*	**Native Blue Columbine** (*Aquilegia Caerrulea)* **Harebell** *(Campanula Rotundifolia)*
Pernnial Sweet Pea *(Lathyrus Latifolius)*	**Western Virgin's Bower** *(Clematis Lingusticifolia)*
Dalmatian Toadflax, Butter & Eggs Toadflax, or Yellow Toadflax (*Linaria genistifolia ssp. Dalmatica L. Vulgari)*	**Golden Banner** *(Thermopsis spp.)* **Wallflower** *(Erysimum Asperum)* **Scarlet Gilia** *(Gilia Aggregata)*
Mediterranean Sage *(Salivia Aethiopsis)*	**Pussy Toes** *(Antennaria spp.)* **Native Sage** *(Artemisia spp.)*
Ox-Eye Daisy *(Leucanthemum Vulgare, chrysanthemum)*	**Native Daisies** *(Erigeron spp.)* **Black-Eyed Susan** *(Rudbeckia Hirta)* **Blanket Flower** *(Gaillardia Aristata)*

Xeriscaping

Xeriscaping is a landscaping technique that emphasizes water conservation by designing gardens and landscapes that require minimal irrigation. The term "xeriscape" originates from the Greek word "xeros," meaning dry, and "scape," referring to a view or scene. Xeriscaping is particularly relevant in regions with limited water resources, making it an ideal approach for Colorado, a state known for its arid climate and frequent drought conditions.

Colorado's climate is characterized by low annual precipitation, ranging from semi-arid to arid conditions across different regions. The state experiences hot summers, cold winters, and rapid temperature fluctuations throughout the year. These environmental factors pose significant challenges to traditional landscaping practices that rely heavily on water-intensive grass lawns and non-native plant species.

Xeriscaping offers a sustainable alternative by promoting the use of native and drought-tolerant plants that are naturally adapted to Colorado's climate. By carefully selecting plants that require less water and can thrive in arid conditions, xeriscaping reduces the reliance on artificial irrigation. This approach not only conserves water but also minimizes the need for fertilizers, pesticides, and other chemical inputs, promoting a healthier and more environmentally friendly landscape.

Why Xeriscaping?

- In the western United States, over half of potable water is used on landscapes, with a lot of the going to turf grass. Switching to xeriscape reduces can reduce potable water use by more than 50%.
- Your landscape is an investment in the value of your property – a quality xeriscape garden could increase your property value by as much as 15%.
- By eliminating turf grass, you eliminate the mowing, herbicides, and fertilizers that turf needs to thrive. Switching to a xeriscape can reduce maintenance costs by up to 60%.
- Xeriscape is more drought-tolerant than turf grass. When temperatures soar and water use is restricted, water-thirsty landscapes are the first to suffer. Protect your landscape investment by drought-proofing it.
- Xeriscaping also promotes biodiversity; native plants attract pollinators such as butterflies, bees, and birds.

Tips for Xeriscaping

1. Plan and design:
    a. Assess your site: Consider factors such as sun exposure, soil type, and slope.
    b. Plan for water flow: Identify areas where water naturally accumulates or drains and design accordingly.
    c. Create functional zones: Divide your landscape into zones based on water needs and usage patterns.
2. Choose Native and Drought-Tolerant Plants:
    a. Select plants adapted to your local climate: Choose native species that are naturally suited to the region's rainfall and temperature patterns.
    b. Opt for drought-tolerant plants: Look for plants that can withstand extended periods of dry conditions.
    c. Try planting turf such as buffalo grass, blue grama grass, turf-type tall fescue and fine fescues to reduce water use in your landscape.

3. Improve Soil Health:
    a. Amend the soil: Incorporate organic matter, such as compost, to improve soil structure and water-holding capacity.
    b. Mulch: Apply a layer of mulch around plants to suppress weeds, conserve moisture, and regulate soil temperature. Organic mulches, such as bark chips, should be applied at least 4-inches deep since they decompose over time. Inorganic mulches such as rock or gravel, should be applied at least 2-inches deep.
4. Efficient Irrigation:
    a. Use drip irrigation: Install a drip irrigation system to deliver water directly to the root zone of plants, minimizing evaporation and water waste.
    b. Water deeply and infrequently: Encourage deep root growth by watering deeply but less frequently, allowing the soil to dry out between watering sessions.
    c. Install rain sensors or smart controllers: Use rain sensors or smart controllers that adjust irrigation schedules based on weather conditions.
5. Plant Zones:
    a. To minimize water waste, group together plants with similar light and water requirements and place them in an area that matches these requirements. Put high-water-use plants in low-lying drainage areas, near downspouts, or in the shade of other plants.
    b. Dry, sunny areas or areas far from irrigation are ideal places for low-water-use plants that thrive in Colorado's climate. Planting a variety of plants with different heights, colors, and textures creates a landscape that's visually appealing.
6. Practice Water Conservation:
    a. Collect rainwater: Install rain barrels or cisterns to collect rainwater for later use in irrigation.
    b. Monitor and adjust: Regularly check plants for signs of overwatering or underwatering and adjust watering schedules accordingly.
7. Maintenance and Care:
    a. Proper pruning: Prune plants to remove dead or damaged branches and promote healthy growth.
    b. Weed control: Keep weeds in check to prevent competition for water and nutrients.
    c. Regularly monitor plant health: Check for pests, diseases, and signs of water stress, and take appropriate action if needed.
8. Education and Resources:
    a. Seek local expertise: Consult with local gardening or landscaping professionals familiar with xeriscaping principles specific to your area.
    b. Attend workshops or classes: Look for educational programs or workshops offered by local botanical gardens, extension offices, or water utility agencies.
    c. Utilize online resources: Access websites, blogs, and forums that provide information on xeriscaping, native plants, and water conservation practices. Additional resources are listed below!

Remember that xeriscaping is a flexible approach, and you can adapt these tips to suit your specific needs and local conditions.

Things to avoid when xeriscaping:

When xeriscaping, it's important to avoid certain practices that may hinder the effectiveness and sustainability of your garden. Here are some things to avoid:

1. Overplanting or overcrowding: Avoid planting too many plants in a limited space. Overplanting can lead to increased competition for water, sunlight, and nutrients, resulting in stunted growth or poor plant health. Give your plants enough room to thrive and mature.
2. Using non-native, invasive, or water-intensive plants: Steer clear of non-native plant species that are not adapted to Colorado's climate or require excessive water. Invasive plants can outcompete native species and disrupt the ecological balance of your garden. Choose drought-tolerant and native plants that are well-suited to your region.
3. Poorly designed irrigation systems: Avoid inefficient or wasteful irrigation practices. Common mistakes include using sprinklers that water sidewalks or driveways, or watering during windy conditions, leading to water loss through evaporation. Install a well-designed, water-efficient irrigation system and regularly check for leaks or malfunctions.
4. Ignoring soil health and preparation: Neglecting soil improvement can hinder the success of your xeriscape garden. Avoid planting directly into poor-quality soil without amending it with organic matter or improving drainage. Take the time to prepare the soil properly to ensure optimal plant growth and water absorption.
5. Neglecting proper maintenance: Xeriscape gardens still require regular maintenance and care, particularly in the beginning. Avoid neglecting tasks such as pruning, weeding, and monitoring plant health. Proper maintenance helps prevent pest and disease issues, promotes healthy plant growth, and ensures the long-term success of your xeriscape garden.
6. Not adapting to changing conditions: Environmental conditions can change over time, including variations in rainfall patterns or temperature. Avoid sticking rigidly to a xeriscape design without considering how it may need to adapt to changing conditions. Monitor your garden regularly and be prepared to make adjustments as necessary.
7. Focusing solely on aesthetics: While creating a visually appealing xeriscape garden is important, avoid prioritizing aesthetics over sustainability and water conservation. Balance the selection of attractive plants and design elements with their water efficiency and suitability to your local climate.
8. Using excessive mulch or inappropriate materials: Mulch is beneficial for conserving soil moisture, suppressing weeds, and regulating soil temperature. However, avoid using excessive amounts of mulch that can smother plant roots or retain too much moisture. Additionally, avoid using inappropriate materials such as non-organic mulches that do not break down and contribute to soil health.

By avoiding these common pitfalls, you can ensure that your xeriscape garden is sustainable, water-efficient, and thriving in the long run.

Artificial Truf:
As stated in Sec. 21-7515 in the City's Land Development Code, partial or full synthetic designed and manufactured to simulate living turf grass is prohibited, with the exception of private or public recreation fields.

Because it is not a living, transpiring plant, artificial turf does not provide the cooling effect of a living lawn and becomes quite warm on a sunny day. On hot days, there is often a distinct hot rubber odor. Additionally, artificial turf materials contain PFAS, lead to soil contamination, and are bad for wildlife.

Companies that sell and install these lawns insist that they are virtually maintenance free, but artificial turf collects leaves and other wind-blown dirt and debris that must somehow be removed. Pet feces and urine deposits are also problematic since these artificial surfaces do not naturally disinfect themselves by biological means like a living lawn does. Although artificial turf does not require mowing, fertilizing, or watering and can be a legitimate solution for high traffic sites, it fails to provide the traditional landscape with the many environmental benefits of living grass.

Xeriscaping Resources

Xeriscaping offers a transformative approach to landscaping that not only conserves water but also creates beautiful, sustainable, and low-maintenance gardens. By embracing xeriscaping principles, homeowners, businesses, and communities in Commerce City can make a positive impact on the environment while enjoying a vibrant outdoor space.

Discover the joys of a vibrant, water-efficient landscape that enhances the beauty of your property, saves resources, and makes a positive impact on the environment. Help create a more sustainable future for Commerce City through the power of xeriscaping!

Design layout ideas: https://plantselect.org/design/downloadable-designs/

Find a list of City-approved plants here, beginning on page 5:
https://www.c3gov.com/home/showpublisheddocument/19757/638188955828400000

Beginner's guide to xeriscaping: https://www.5280.com/the-beginners-guide-to-xeriscape-in-denver/

Find a plant link: https://plantselect.org/?action=plants

Additional xeriscape design plans: https://www.denverwater.org/residential/rebates-and-conservation-tips/remodel-your-yard/xeriscape-plans

Xeriscaping Visual Examples

Plant Selection Guide

The following plant selection guides are separated into three types of plants: large deciduous trees, small deciduous (ornamental) trees, and evergreen trees. These guides contain important considerations which should be considered when selecting plants for landscape areas, including the available space, the soil conditions, and the water requirements, among other factors. The tables on the following pages list species which have been identified for planting in landscape areas other than tree lawns and include important information about each species to determine which best meets the needs of the proposed location. Plants best suited for xeric landscaping have been highlighted in yellow.

Large Deciduous Trees

Considerations

1. **Available space**. The location you chose for each tree should have enough space to allow for growth without severe pruning. Check for obstructions of buildings, overhead utility lines, and tall fences. If lateral space is limited, select a tree that has a narrow, upright growth habit. Refer to height, branch spread, and shape in the tree list show in the table on the next page. If overhead lines are near, you may want to choose small trees.
2. **Soil conditions**. Most trees perform best in well-drained soil. If you have compacted soil that is hard to work, loosen the soil and mix in organic material to at least 12 inches depth before planting your tree.
3. **Irrigation lines**. If you have an underground irrigation system, plant trees to allow for the tree trunk and basal root flare to expand without encroaching an irrigation pipe. If not, tree roots may eventually compress the pipe and shut off the irrigation line.
4. **Growth rates vs. brittleness**. As a general rule, fast growing trees tend to be brittle and can be damaged by limb-breakage in storms. Plant these trees away from buildings, sidewalks, driveways, and utility lines.
5. **Water requirements**. Trees vary in water requirements. Do not plant trees that have low water needs in heavily irrigated lawn areas or at the bottom of slopes. Plant trees with high water requirements in locations where supplemental watering is possible and desired.

Table 2: Large Deciduous Trees for Shade

Key:	Growth Rate:	f= fast m= moderate s= slow	Soil moisture:	L= low-water needs, can withstand drought M= moderate water needs, normal lawn watering H= heavy-water needs, more than normal lawn watering

Plant Name	Height (ft)	Branch Spread (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
Buckeye, Ohio *Aesculus glabra*	35	20	Broad, columnar	m	M	Reddish-orange fall color. Light yellow flowers in terminal clusters in late spring. Nut-like fruit.
Catalpa, Northern *Catalpa speciosa*	50	25	Narrow, columnar	s	M	Showy, white orchid-like flowers in early summer. Bean-like pods often remain on trees all winter.
Hackberry, Common *Celtis occidentalis*	65	50	Broad, spreading	s-m	L	Adapts to most soils. Yellow fall color. Corky bark. Street tree.
Honeylocust, Thornless *Gleditsia triacanthos inermis*	65	40	variable	m	M	Seedling selection, not always thornless.
'Imperial'	40	40	Rounded	m	M	Foliage is fern-like and bright green. Thornless. May produce pods.
'Shademaster'	70	50	Broad, spreading	m	M	Dark green ferny foliage. Podless and thornless. Street tree.
'Skyline'	45	40	Broad, conical	m	M	Compact, dark green foliage. Street tree
'Sunburst'	35	45	Variable	m	M	Yellow-tipped foliage. May be prone to disease
Hornbeam, columnar Carpinus betulus 'Fastigiata'	35	15	Narrow, columnar	s	H	Dark green, glossy foliage much like elm. Plant where soil stays cool. Avoid south or west exposures.

Plant Name	Height (ft)	Branch Spread (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
Horsechestnut *Aesculus hippocastanum*	60	45	Broad, conical	s	M	Large clusters of white flowers in late spring. Best used in large open lawn areas.
Japanese Pagodatree *Sophora japonica*	50	40	Rounded	m	M	Creamy flowers in mid-summer. Bead like pods in late fall. Street tree.
Kentucky Coffeetree *Gymnocladus dioica*	45	25	Variable	s	L	May be male or female. Female has leathery pods, interesting winter form.
Linden, American *Tilia americana*	60	50	Broad, conical to columnar	m	M	Heart-shaped leaves. Fragrant flowers in early summer.
Linden, Littleleaf *Tillia cordata*	45	30	Conical	m	M	Dense foliage. May sucker near base. Street tree.
'Greenspire'	45	25	Conical	m	M	Near formal appearance. Glossy, dark green leaves. Street tree.
Linden, Redmond *Tillia x euchlora*	45	40	Broad, conical	m-f	M	Striking reddish bark/twigs. Narrow crotch branch habit may result in storm breakage.
Maple, Norway *Acer plantanoides*	50	40	Rounded	m	M	Dark green, dense foliage. Yellow fall color.
'Columnar'	50	20	Narrow	m-f	M	Good for tight, narrow locations. Street tree.
'Emerald Queen'	50	40	Rounded	m	M	Dark green foliage with dense branching habit.
'Jade Glen'	50	40	Rounded	m	M	Good yellow fall color.
'Royal Red'	40	30	Rounded	m	M	Dark, glossy red foliage all summer. Similar to Crimson King, but more cold hardy.
'Schwedler'	50	40	Rounded, columnar	m	M	Red foliage in spring changing to bronze and dark green in summer. Street tree.

Plant Name	Height (ft)	Branch Spread (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
Maple, Red *Acer rubrum*	45	40	Conical	f	H	Red flowers in early spring. Red fall color. Avoid very alkaline soils.
'Armstrong'	50	30	Narrow, columnar	m	M	Red fall color. Street tree. Avoid very alkaline soils.
'Red Sunset'	45	40	Broad, conical	f	H	Red flowers in early spring. Red fall color. Avoid very alkaline soils.
Oak, Burr *Quercus macrocarpa*	60	50	Broad, spreading	s	L	Tolerates alkaline soils and drought.
Oak, English *Quercus robur*	50	50	Rounded	m	M	Broad, stout spreading branches. Glossy dark green, thick-textured leaves. Street tree.
Oak, Red *Quercus rubra*	40	50	Broad, spreading	m	M	Often broader than tall. Fall color usually red. Avoid very alkaline soils. Street tree.
Oak, Swamp White *Quercus bicolor*	50	45	Upright, spreading	m-f	M	Adapts best of all oaks to clay soils and irrigated lawns. Fall color usually yellow. Street tree.

Small Deciduous Trees:

Considerations

1. **Soil.** It is important to prepare soil before planting. Loosen the soil several fee in all directions from the spot you wish to plant. If the soil is a heavy, clay texture and hard to work, add aged manure or compost and work into the soil at least 12 inches deep.
2. **Color and texture**. For landscape variety, plant several different kinds of trees if space allows. Through careful selection, you can have flowers, colorful and interesting fruits, varied foliage texture and fall colors.
3. **Water**. The following table indicates the general soil moisture needs of each small tree. Try to match the plant with the moisture conditions of the site. Trees tend to grow too rank if they are low-moisture trees planted in an irrigated lawn. On the other hand, trees that require moderate to heavy moisture will do poorly if placed in an area where little or no supplemental irrigation can be applied.

Table 3: Small deciduous tree for privacy and color

Key:	Growth Rate:	Soil moisture:
	f= fast **m= moderate** **s= slow**	**L= low-water needs, can withstand drought** **M= moderate water needs, normal lawn watering** **H= heavy-water needs, more than normal lawn watering**

Plant Name	Height (ft)	Branch Spread (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
Cherry, Canadian Red *Prunus virginiana 'Shubert'*	30	20	Upright, clump	f	M	Leaves both red and green on same plant. Tends to root sucker like aspen
Cherry, European Bird *Prunus padus*	30	15	Upright, spreading	m	M	Fragrant chains of white flowers in spring. Fruit good for jellies.
Chokeberry, Amur *Prunus maackii*	25	20	Upright, vase	m	M	Striking, shiny orange-red bark. White flowers
Crabapple *Malus spp.*	Sizes and shapes vary as indicated below:			m-f	M	Many varieties are available. Below are listed some for various aesthetic uses.
'Red Splendor'	25	15	Upright	m-f	M	Single rose-red flowers. Purple fruit

Plant Name	Height (ft)	Branch Spread (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
'Radiant'	25	15	Upright	m-f	M	Single pink or rosy red flowers; red to purple fruit.
'Royalty'	15	15	Rounded	m-f	M	Dark red flowers. Purple foliage.
'Snowdrift'	15	15	Upright	m-f	M	White flowers; red fruit.
'Spring Snow'	20	15	Spreading	m-f	M	Usually fruitless. Dense foliage.
'Dolgo'	30	25	Upright	m-f	M	White flowers. Fruit good for jelly
'Centurion, Red Baron'	20	10	Upright	m-f	M	Rosy-red flowers. Red fruit. Street tree.
Golden Rain *Koelreuteria paniculata*	30	20	Irregular, globe, vase	m-f	M	Yellow flowers in July; lantern-like pods in late summer; salt tolerant. (May not be hardy north of Fort Collins.)
Hawthorn, Cockspur *Crataegus crus-galli*	20	15	Stiffly upright	m	L	Snowy white flowers and red fruit. Glossy.
Hawthorn, Downy *Crataegus mollis*	25	20	Broad globe	m	M	Snowy white flowers in spring. Red fruit late summer. Bronze fall color
Hawthorn, Toba *Crataegus x mordenensis 'Toba'*	15	15	Rounded	m	M	Fragrant, double, white flowers. Red fruit
Hawthorn, Russian *Crataegus ambigua*	20	15	Upright, Spreading	m	L	Finely cut glossy leaves. White flowers, persistent red fruit.
Hawthorn, Washington *Crataegus phaenopyrum*	20	15	Upright, spreading	m	M	White flowers; showy orange red fruit. Red-orange fall color. Prominent thorns.
Lilac, Japanese tree *Syringa reticulata*	20	20	Stiffly, upright	m	M	Creamy panicles of flowers in late spring.

Plant Name	Height (ft)	Branch Spread (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
Locust, New Mexican *Robinia neomexicana*	15	15	Oval	m	L	Fragrant pink flowers in June; often shrubby and spread from root sprouts.
Maple, Amur *Acer ginnala*	25	15	Broad, spreading	m	H	Sometimes shrubby. Scarlet fall color. Avoid in alkaline soils
Maple, Wasatch *Acer grandidentatum*	25	15	Broad, spreading	m	L	Survives in very dry sites once established. Orange-red fall color.
Oak, Gambel's *Quercus gambelii*	20	15	Rounded	s-m	M	Forms groves by creeping root stocks. Often more shrubby than tree-like. Needs acid, well-drained soils to do well.
Pear, Callery *Pyrus calleryana*	Sizes and shapes vary as indicated below:			m	M	Many varieties are available. Below are listed some for various aesthetic uses.
'Aristocrat'	25	20	Upright, open broad, oval	m	M	White flowers in early spring. Red to bronze fall color.
'Bradford'	25	15	Narrow	m	M	Subject to freeze injury some years.
'Redspire'	25	10	Upright	m	M	Tight, conical tree for accent and possibly subject to freeze injury in some years.
Plum, Double-Flowering *Prunus triloba multiplex*	15	10	Upright	m	M	Often shrubby. Double, deep pink flowers in spring. Moist soils best.
Plum, Newport *Prunus cerasifera 'Newport'*	25	15	Upright, vase	m-f	M	Pinkish-white flowers followed by maroon-red foliage. Avoid wet sites.
Redbud, Eastern *Cercis canadensis*	30	20	Upright, vase	m	M	Pink flowers along twig before foliage. Plant in part shade.

Plant Name	Height (ft)	Branch Spread (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
Serviceberry, Shadblow *Amelanchier canadensis*	25	15	Upright	m	L	Snowy white flowers in spring. Crabapple-like red fruits make good jelly.
Sumac, Staghorn *Rhus typhina*	2	20	Broad, Spreading	f	L	Showy orange to red fall color. Spreads by suckers. Cut –leaf form, Laciniata, has fernlike foliage.

Evergreen Trees

Considerations:

1. Placement. Examine the intended planting space for good soil drainage, adequate sunlight and sufficient space to accommodate the desired evergreen tree at its mature size. Allow for clear access to driveways, sidewalks and entryways. Determine whether the tree's growth will affect any overhead utility lines. In smaller sites, consider smaller trees or shrubs.
2. Planting. Prepare soil before planting by adding organic materials (such as sphagnum peat moss, aged manure, shredded leaves or compost) in a 1 to 3-inch thick layer over the planting area. Extend the planting area for several feet in all directions from the actual planting spot. Spade or rototill the organic materials into the soil and mix well before planting, 10 to 12 inches deep. If there is sufficient space, use several kinds of evergreens to add variety to the landscape.
3. Watering and Maintenance. The following list indicates the relative moisture needs of evergreens. Plant species with similar water needs in the same general area; do not mix trees with widely different water needs. Evergreens that need less moisture may work well on slopes. All evergreens usable in Colorado prefer well-drained soils; therefore, avoid planting them in swales or poorly drained, soggy areas. Evergreens that need less moisture do not do well in lawn areas because of the amount of water needed to sustain the lawn. Even for those trees that need more moisture and are compatible with lawn watering, leave the planting area free of sod (lawn) to allow for good root development. Sod roots will compete with tree roots for soil air, nutrients and water. An organic mulch is recommended over the entire planting area.

Most evergreens growing in Colorado landscapes, whether recently transplanted or well established, will benefit from supplemental water given during winter dry spells. Often such spells are characterized by drying winds or unseasonably warm temperatures, further emphasizing the need for watering.

Table 4: Evergreen Trees

Key: *Native to Colorado	**Growth Rate:**	**f= fast m= moderate s= slow**	**Soil moisture:**	**L= low-water needs, can withstand drought M= moderate water needs, normal lawn watering H= heavy-water needs, more than normal lawn watering**

Plant Name	Approx. Mature Size (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
Fir, White* *Abies concolor*	60' x 20'	Conical	m	H	Flat blue-green needles, may winterburn in windy sites. May perform poorly in clay soils.
Fir, Subalpine or Rocky Mountain *Abies lasiocarpa*	60' x 15'	Conical	m	H	Very spire-like, best above 7000', shorter, blue-green needles.

Plant Name	Approx. Mature Size (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
Douglas, Fir *Pseudotsuga menziesli glauca*	60'x20'	Conical	m-f	M	Unique cones with "mouse-tail" bracts. More wind tolerant and soil adaptable than true firs
Juniper, Chinese *Juniperus chinensis*	Sizes and shapes vary as indicated below:		m-f	L	Many varieties are available. Below are listed some for various aesthetic uses.
'Hentzi Columnaris'	10'x5'	Columnar	m	L	Bright green needles, abundant blue-green fruit producer.
'Keteleeri'	15'x10'	Broadly columnar	m	L	Abundant fruit, good screening plant.
'Robusta Green' columnar	12'x12'	Broadly	m	L	Abundant fruit, can be irregular.
'Spartan'	12'x5'	Conical	m-f	L	Dense green foliage.
Juniper, Rocky Mountain *Juniperus scopulorum*	Variable	Broadly columnar	s-m	L	Foliage color varies from green to blue-green.
'Blue Heaven'	12'x6'	Columnar	s-m	L	Dense, blue foliage.
'Cologreen'	12'x10'	Broadly columnar	s-m	L	Dense, medium to dark green foliage, abundant fruit.
'Grey Gleam'	12'x6'	Conical	s	L	No fruit; dense gray foliage.
'Moonglow'	15'x10'	Broadly columnar	s-m	L	Dense silver-blue foliage.
'Pathfinder'	12'x6'	Conical	s-m	L	Sparse fruit, blue-green foliage.
'Skyrocket'	12'x3'	Narrowly columnar	s-m	L	Very narrow & spruce-like, subject to snow damage, formerly listed a J. virginiana.'
'Sutherland'	12'x3'	Broadly columnar	s-m	L	Dense, blue-green foliage, abundant fruit.
'Welchli'	8'x6'	Broadly columnar	s-m	L	Blue-green to medium green foliage.
'Wichita Blue'	12'x8'	Broadly columnar	s-m	L	Good blue foliage color.
Juniper, Eastern *Redcedar Juniperus virginiana*	40'x15'	Conical	s-m	L	Open horizontal branching, foliage brownish in winter
'Canaertii'	20'x10'	Conical	s-m	L	Abundant whitish blue fruit contrasts with green foliage.

Plant Name	Approx. Mature Size (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
'Hillspire' Cupressifoila	15'x6'	Conical	s-m	L	Columnar, with bright green foliage.
'Manhattan Blue'	20'x15'	Broadly columnar	s-m	L	Foliage blue-green becoming med. green in winter, open growth habit.
Pine, Austrian *Pinus Nigra*	50'x25'	Broadly columnar	m	M	3-5", dark green needles, tolerates many soil types and urban pollution
Pine, Bristlecone *Pinus aristata*	20+'x10+'	irregular	s	L-M	Shorter dark green needles, with white resin dots, specimen plant.
Pine, Eastern white *Pinus strobus*	50'x20'	Broadly	m-f	M	Horizontal branching; fine-textured blue-green needles, best in protected sites.
Pine, Limber* *Pinus flexilis*	40'x20'	Broadly	m	L-M	Wind-tolerant and adaptable to dry soils, very flexible branches, needles about 3"
Pine, Southwestern white* *Pinus flexilis reflexa*	40'x20'	Broadly	m-f	L-M	Blue-green needles, very similar to Limber Pine, not readily available, should be used more.
Pine, Lodgepole* *Pinus contorta latifolia*	50'x20'	Conical	m	L-M	Shorter, yellowish-green needles. Best above 7000'
Pine, Mugo *Pinus mugo*	variable	irregular	m	L-M	Extremely variable growth habit. Some tree-like to shrubby; dwarf forms sold commonly.
Pine, Pinyon* *Pinus Edulis*	20'x10'	Broadly columnar	s-m	L	Not suited for frequently watered lawn areas, edible seeds may not develop dependably in urban landscapes.
Pine, Ponderosa* *Pinus Ponderosa*	60'x25'	Broadly columnar	m	L	Longer yellow-green needles. Older trees develop cinnamon brown bark.
Pine, Scotch *Pinus sylvestris*	40'x25'	Broadly columnar	m	M	Sharp, blue-green twisted needles. Mature bark is orange-brown.
Spruce, Colorado *Picea pungens*	60'x25'	Broadly columnar	m	H	Needles short, sharp, green to bluegreen. Colorado State Tree.
Spruce, Colorado Blue* *Picea pungens glauca*	60'x'25'	Broadly columnar	m	H	Needles short, sharp, blue. Several varieties selected for blue-color needles
'Hoopsli'	45'x15'	Broadly columnar	m	H	Intense silver-blue needles.

Plant Name	Approx. Mature Size (ft)	Shape	Growth Rate	Soil Moisture	Aesthetic Value/ Cultural Hints
'Koster'	45'x'15'	Broadly columnar	m	H	Silver-blue needles, less dense.
'Moorheim'	35'x15'	Broadly columnar	m	H	More compact, with blue needles.
Spruce, Engelmann* *Picea engelmanni*	50'x20'	Broadly	m	M-H	Needles blue-green, shorter and not as sharp as P. pungens, best above 7000'
Spruce, Norway *Picea abies*	50'x'25'	Broadly columnar	m-f	M-H	Needles green, short; branches droop with age
Spruce, White *Picea glauca*	40'x15'	Broadly columnar	m	M	Short greenish-white needles, tree is adaptable.
Spruce, Black Hills *Picea glauca densata*	30'x15'	Conical	s	M	Dense shorter foliage.
Dwarf Alberta Spruce *Picea glauca 'Conica'*	10'x4'	Conical	s	H	Subject to winterburn in windy sites; maintains dense, formal growth habit, best in protected sites.
Arborvitae, Eastern or American *Thuja occidentalis*	20'x10'	Conical	s	H	Prefers higher humidity; subject to winterburn and snow damage.
'Pyramidalis'	15'x5'	Columnar	s	H	More formal appearance: subject to winterburn and snow damage.
'Smaragd' (Emerald)	12'x4'	Columnar	s	H	Dense, medium green foliage; subject to winterburn and snow damage.
'Techny'	12'X8'	Broadly columnar	m	M	Better cold tolerance, dark green foliage; subject to winterburn and snow damage.

Evergreen Shrubs

Considerations

1. **Placement**. Broadleaved evergreens do best if located on an east or north exposure. As a general rule, broadleaved evergreens require constant soil moisture. The general soil moisture conditions for good plant performance are shown in the following tables.
2. **Spacing**. Consider mature growth and proper spacing before planting. If evergreens are planted too close together or too close to a structure, the natural shape and beauty of the plants can be ruined. To determine spacing between plants or distance from structures, divide by one-half the height given in the following tables.
3. **Drainage and Soil Conditions**. In all cases, good drainage and soil aeration are essential for optimum growth. Where soils tend to be heavy clay, amend them with a coarse organic material, such as compost, peat or aged barnyard manure to a minimum depth of 9 inches. It takes about 3 cubic yards of organic material for 1,000 square feet to improve a heavy soil. Thoroughly mix the organic material and soil to avoid layering. If soil tends to be too sandy, improve its water-holding capacity by adding the amounts of an organic amendment mentioned above.

Table 5: Evergreen Shrubs – Narrow Leaved

Key:	**DT = exceptionally drought-enduring once established (natural rainfall)**	**S = full sun (open, south or west exposure)**
	D = dry, well-drained soils (2 or 3 waterings per year)	**Sh = shade (north exposure)**
	M = moist, well-drained soils (4 to 6 waterings per year)	**E = east exposure**

Plant Name	Height (ft)	Soil Moisture	Exposure	Remarks
Arbor-vitae, Globe *Thuja occidentalis globosa*	3-4	M	E	Protect from winter sun and wind.
Cliffrose, Mexicana *Purshia mexicana*	5-6	DT	S	Creamy yellow/White flowers, feathery plums in the fall
Juniper, Armstrong Globe *Juniperus chinensis 'Armstrong'*	3-4	D	S	Popular globe form for formal effect.
Juniper, Pfitzer *J. chinensis pfitzeriana*	8-10	DT, D	S	Available in blue and gold-tipped foliage varieties
Juniper, Sabin *Juniperus Sabina*	12-15	D	S	Upright, vase-shape. Green foliage.
'Broadmoor'	2			Foliage bluish-green.
'Buffalo'	1-2	M		"Feathery," green foliage
'Tamarix'	3-4			Rich green foliage
Pine, Mugo *Pinus mugo*	3-8	D	S	Quite variable in size. Dwarf forms available.
Spruce, Maxwell *Picea abies 'Maxwell'*	2-3	M	E	Slow-growing. Forms mound twice as broad as high.

Plant Name	Height (ft)	Soil Moisture	Exposure	Remarks
Yew, Hick *Taxus media 'Hicks'*	8-10	M	S	Soil must be well drained. Protect from winter sun and wind.
Yew, Japanese Spreading *Taxus cuspidate densiformis*	4-5	M		Other varieties may be available.
Yucca, Narrowleaf *Yucca angustissima*	2-3	DT	S	Sword-like foliage with white, pendant flowers growing on tall stalks

Table 6: Evergreen Shrubs – Broad Leaved

Key:
DT = exceptionally drought-enduring once established (natural rainfall)
D = dry, well-drained soils (2 or 3 waterings per year)
M = moist, well-drained soils (4 to 6 waterings per year)
S = full sun (open, south or west exposure)
Sh = shade (north exposure)
E = east exposure

Plant Name	Height (ft)	Soil Moisture	Exposure	Remarks
Barberry, Mentor* *B. mentorensis*	6–7	M	E	Spiny. Dark red fruit in fall.
Barberry, Wintergreen *B. julianae*	5-6	M	E	Yellow flowers in May. Bluish fruit in fall.
Barberry, Warty *B. verruculosa*	3-4	M	E	Yellow flowers in May. Makes a good ground cover.
Boxwood, Korean *Buxus koreana*	3-4	M	E, Sh	Protect from winter sun and wind.
Cotoneaster, Cranberry* *Cotoneaster apiculata*	2 – 3	M	E	Large showy red fruit hold on through winter
Cotoneaster, Rock Spray* *C. horizontalis*	3-4	M	E	Showy red fruit. Attractive "herringbone" branch pattern.
Cotoneaster, Small-leaved *C. microphylia cochleata*	2 – 3	M	E	Showy white flowers in May. Red fruit in fall. Tiny foliage.
Euonymus, Manhattan *Euonymus kiautshovica (patens)*	4 – 5	M	E, Sh	Needs extra protection from sun and wind in winter.
Euonymus, Sarcoxie *E. fortunei 'Sarcoxie'*	5-6	M	E, Sh	Needs extra protection from sun and wind in winter
Oregon grape *Mahonia aquifolium*	6	M	E	Yellow flowers in May. Bluish, grape-like fruit in late summer. Foliage, holly-like.
Oregon grape, Compact *M. aquifolium 'Compacta'*	3	M	E	Yellow flowers in May. Bluish, grape-like fruit in late summer. Foliage, holly-like.
Pyracantha (Firethorn)* *Pyracantha coccinea 'Wyatt'*	5-6	M	E	Orange-red fruit in fall.

Table 7: Deciduous shrubs for home grounds

Key:	**DT = exceptionally drought-enduring once established (natural rainfall)**	**S = full sun (open, south or west exposure)**
	D = dry, well-drained soils (2 or 3 waterings per year)	**Sh = shade (north exposure)**
	M = moist, well-drained soils (4 to 6 waterings per year)	**E = east exposure**

Plant Name	Height (ft)	Soil Moisture	Exposure	Flower Color/ Month	Remarks
Althea (Rose-of-Sharon) *Hibiscus syriacus*	10	M	Sh, E	White, red, purple August	Large, showy, hollyhock-like flowers.
Apache Plume *Fallugia paradoxa*	6	D	S	White May-June	Plumy seed heads in late summer.
Autumn Olive *Elaeagnus umbellata*	15	DT	S, Sh	White April - June	White bell-shaped flowers,
Barberry, Japanese *Berberis thunbergi*	4	D	Sh, E	Not showy	Red-leaf varieties available.
Barbery, Crimson Pygmy *B. thunbergi 'Crimson Pygmy'*	1 ½	D	Sh, E	Not showy	Compact, reddish-purple foliage.
Beautybush *Kolkwitzia amabilis*	9-10	M	Sh, S	Lavender pink May-June	Graceful, arching plant
Bladder Senna *Colutea arborescens*	8-10	D	S	Yellow June	Pea like flowers, drought tolerant
Buckthorn, Columnar *Rhammus frangula 'Tallhedge'*	12-15	M	SH, S	Not showy	Useful as a screen planting.
Buckthorn, Sea *Hippophae rhamnoides*	7-13	DT	S	Not showy	Silvery green foliage, thorny, bright orange berries
Buffaloberry *Shepherdia argentea*	15-18	M	S	Not showy	Silvery foliage, scarlet fruit on female only
Butterflybush, Orangeeye *Buddleia davidi*	10-12	D	S	White, pink, purple; August	Lilac-like flowers in late summer.
Caragana, Pygmy *Caragana pygmaea*	3	D	S	Yellow May	Useful as a low hedge.
Caragana, Siberian *Caragana arborescens*	15-18	D	S	Yellow May	Makes a good screen or windbreak

Plant Name	Height (ft)	Soil Moisture	Exposure	Flower Color/ Month	Remarks
Caryopteris (Blue mist) *Caropteris clandonensis*	4	M	S	Blue July-August	Contrasting grayish foliage.
Plant Name	**Height (ft)**	**Soil Moisture**	**Exposure**	**Flower Color/ Month**	**Remarks**
Fendler's Ceanothus *Ceanothus Fendleri*	2-6	DT	S	White June, July	Thick, glossy foliage
Cliff Fendlerbush *Fendlera rupicola*	3-10	DT	S	Creamy White April, May, June	Fragrant flowers, short narrow green foliage
Coralberry, Indian *Currant Symphoricarpos orbiculatus*	4	M	Sh, S	Not showy	Hancock variety has shown purplish-red fruit
Cotoneaster, Cranberry *Cotoneaster apiculata*	3	M	S, E	Pink May	Large, red persistent fruit.
Cotoneaster, Peking *C. acutifolia*	6-7	D	S	Pink May	Black fruit in fall.
Cotoneaster, Small-leaved *C. microphylla*	2	M	E	White June	Tiny leaves, red fruit
Cotoneaster, Spreading *C. divaricata*	5-6	M	S	Pink May	Red fruit.
Currant, Alpine *Ribes alpinum*	5	M	Sh,S	Not showy	Edible red fruit
Currant, Goiden *R. aureum*	6	M	S	Yellow May	Edible purple fruit
Desert Olive *Forestiera pubescens*	5-15	DT	S	Green March, April, May	Small, bluish berry-like fruit
Dogwood, Redstem *Cornus sericea*	6 – 8	M	Sh,S	White June	Bluish fruit in summer. Showy red stems in winter. Var. 'Kelsey's Dwarf' is a compact form to 3'. Var. flaviramea has yellow twigs.
Elder, American *Sambucus canadensis*	12–15	M	Sh, E	White June	Edible black fruit. Var. aurea has yellow foliage.
Euonymus, European *Euonymus europaeus*	12-15	M	E	Yellow May	Red fall color, red fruit.
Euonymus, Winged *E. alatus*	6-8	M	E	Yellow May	Twigs with corky ridges. Scarlet fall color. Var. compacta to 5'

Plant Name	Height (ft)	Soil Moisture	Exposure	Flower Color/ Month	Remarks
Forsythia *Forsythia intermedia*	6-8	M	S, E	Yellow April	Vars. 'Farrand' and 'Lynwood Gold' are most showy.
Heavenly Bamboo *Nandina domestica*	4 – 5	M	Sh, E	Not showy	Brilliant red fall color.
Honeysuckle, Blueleaf *Lonicera korolkowi 'Zabels'*	8 – 10	M	Sh, S	Rose, Pink May	"Twin" red berries in summer
Leadplant *A. Amorpha canescens*	1-3	DT	S	Purple June, July	Flowers grouped in long spike, green gray leaflet foliage
Lilac, Common *Syringa vulgaris*	10–12	D	S	White, lilac, purple May	Many varieties available
Lilac, MacFarlane *Syringa reflexa*	8 – 10	D	S	Pink Late May	Blooms later than common lilac.
Lilac, Persian *Syringa persica*	6 – 8	D	S	Lilac May	Flowers in long panicles.
Mockorange *Philadelphus sp.*	6 – 8	M	Sh, S	White May-July	Fragrant white flowers
Mountain Mahogany *Cercocarpus montanus*	6 – 8	D, DT	S	Not showy	Silky seed heads in fall.
Nanking Cherry *Prunus tomentosa*	6 – 8	M	S, E	White May	Edible fruit
Ninebark *Physocarpus opulifolius*	4 – 6	M	S	White May-June	Avoid highly alkaline soils
Plum, Cistena *Prunus cistena*	10	M	Sh, E	Pink May	Leaves reddish-purple
Potentilla (Cinquefoil) *Potentilla fruticosa*	3	M,DT	S	Yellow June-frost	Several showy varieties available.
Privet, Cheyenne *Ligustrum vulgare*	8-12	D	Sh,S	White May-June	Clusters of fragrant white flowers, dense foliage good for hedges
Privet, Regel *Ligustrum regelianum*	6	M	Sh, S	Not showy	Black fruit. Other types available for hedges
Quince, Flowering *Chaenomeles lagenaria*	4 – 6	M	S	Red, redorange June	Flowers before leaves.
Rabbitbrush *Chrysothamnus sp.*	Variable (3-15)	D DT	S	Yellow	Dwarf and blue-foliaged types available

Plant Name	Height (ft)	Soil Moisture	Exposure	Flower Color/ Month	Remarks
Rose, Austrian Copper *Rosa foetida bicolor*	6	D	S	Coppery orange yellow June	Tends to be rambling, vine like.
Rose, Harrison's Yellow *Rosa harrisoni*	4	D	S	Yellow May-June	Profuse flowers
Rose, Persian Yellow *Rosa foetida persica*	3-4	D	S	Yellow May-June	Graceful arching shrub. Double-flowered.
Plant Name	**Height (ft)**	**Soil Moisture**	**Exposure**	**Flower Color/ Month**	**Remarks**
Sage *Artemisia sp.*	Variable (1-4)	D DT	S	Not showy	Dwarf-to-tall varieties available. Striking silvery foliage.
Sand Cherry *Prunus besseyl*	2-6	D DT	Sh	White, April, May	Long green foliage, red to dark purple fruit, Varieties with deep red purple foliage
Siberian Peashrub *Caragana arborescens*	6-10	D	S	Yellow May-June	Bright yellow peas-shaped blossoms, used for erosion control
Silver Fountain Butterfly Bush *Buddleja alternifolia 'argentea'*	12-15	D	S	Purple April-May	Arching, weeping panicles Fragrant and attractive to pollinators
Snowberry *Symphoricarpos albus*	4-5	M	Sh, S	Pink June-July	Showy, white fruit.
Spirea, Bridal Wreath *Spiraea prunifolia plena*	4 – 6	M	Sh, S	White May	Flowers are double and profuse
Spirea, Froebel *S. bumalda 'Froebel'*	3 – 4	M	S	Lavender June	Avoid highly-alkaline soils.
Spirea, Snowmound *S. nipponica*	3 – 4	M	Sh, E	White May	Graceful, arching. Profusely-flowered.
Spirea, Vanhoutte *S. vanhouttei*	6 – 7	M	Sh, S	White May	An old-fashioned favorite. Arching.
Sumac, Dwarf Smooth *Rhus cismontane*	3	DDT	S	Greenish May	Brilliant scarlet fall color. Red cone-like fruit.
Sumac, Threeleaf *R. trilobata*	3-4	DDT	S	Yellow May	Particularly useful for steep slopes

Plant Name	Height (ft)	Soil Moisture	Exposure	Flower Color/ Month	Remarks
Sumac, Staghorn (Cutleaf) *R. typhina laciniata*	8-10	M	S	Greenish May	Ferny foliage. Velvety stems. Scarlet fall color.
Viburnum, Burkwood *Viburnum burkwood*	5 – 6	M	E	Pinkish to white May	Shiny foliage.
Viburnum, Cranberrybush *V. opulus*	10-12	M	Sh, S	White May	Sterile form is the common Snowball bush
Viburnum, Korean-spice *V. carlesi*	5	M	E	Pinkish-white May	Spicy, fragrant flowers.
Viburnum, Wayfaring *V. lantana*	15	D	S	White May	Foliage with grayish cast.
Willow, Bluestem *Salix irrorata*	10-12	W	Sh, S	Not showy	Stems, grayish, showy in winter
Willow, Purpleosier *S. purpurea*	6-8	W	Sh, S	Not showy	Stems purplish in winter. Dwarf form available.

Table 8: Ground Cover Plants for Use in Full Sun

Plant Name	Height (Inches)	Remarks
Border jewel (Himalayan) *Polygonum affine*	12-18	Red showy flowers late in season; excellent ground cover for dry areas.
Creeping broom *Cytisus decumbens*	4-8	Green stems with tiny leaves; yellow pea-like flowers in May
Creeping buttercup *Ranunculus repens*	1-2	Showy yellow flowers on creeping runners up to 2 feet long.
Cushion spurge *Euphorbia epithymoides*	12-18	Mounds of foliage that change from reddish to green in spring, then scarlet in fall
Fescue (blue) *Festuca ovina glauca*	6-8	Tufts of grayish, grassy foliage.
Ham and chicks *Sempervivum sp*	2-4	Forms dense, evergreen mats; grows in very poor soils.
Ice plant (hardy) *Delosperma nubigenum*	1-2	Succulent light-green foliage; yellow flowers.

Plant Name	Height (Inches)	Remarks
Juniper (creeping) *Juniperus horizontalis*	4-10	Perhaps the best year-round cover; many clones and foliage hues available.
'Bar Harbor'	10	Blue-green; purplish winter color.
'Blue Chip'	10	Bluish foliage year-round.
'Hughes'	10	Silvery-blue; distinct radial branching
'Webberi'	4	Very low mat; fine texture.
'Wiltoni (Blue Rug)'	4	Very low silver-blue; purplish tinge in winter.
Lavender-cotton *Santolina chamaecyparissus*	10-12	Blue-gray persistent foliage in dense mats.
Mat saltbush *Atriplex corrugata*	4-6	Evergreen; foliage greenish-white; for salty soils.
Mock Strawberry *Duchesnea indica*	4-6	Aggressive creeper looking much like strawberry; flowers yellow; non-edible red fruit.
Mountain bluet (perennial bachelor button) *Centaurea Montana*	15-18	Grayish foliage; blue flowers
Penstemon (red) *Penstemon pinifolius*	6-10	Has needle-like leaves and orange-red flowers. Takes heat well.
Phlox (creeping) *Phlox subulata*	6-8	Reddish, white or lavender-flowers; moss-like foliage
Potentilla (creeping) *Potentilla verna*	½ - 1	Very low mat with showy yellow flowers; aggressive.
Pussytoes *Antennaria sp.*	1-2	Persistent gray-green foliage in dense mats; excellent for rocky slopes.
Sage *Artemisia sp.*	10-15	Silvery foliage; A. schmidtiana (silver mound sage) most common.
Snow-in-summer *Cerastium tomentosum*	6	Gray foliage; white flowers; very aggressive.
Snow-on-the-mountain *Euphorbia marginata*	4-8	Green and white foliage; very aggressive.
Spirea, Rock *Petrophytum caespitosum*	½	Low mat; may grow peduncles with white flowers
Stonecrop (sedum) *Sedum spp.*	1-15	Many forms available; not usually competitive with weeds.

Plant Name	Height (Inches)	Remarks
Sulpher flower *Enogonum umbellatum*	3-6	Showy flower stalk to 8 inches tall; foliage in low mat.
Thyme *Thymus serphyllum*	3-6	Low, mat-forming herb with tiny leaves. Flowers are purple. A related species, woolly thyme, as gray-green foliage.
Veronica (creeping) *Veronica rupestris*	1-2	Dark green foliage; flowers deep blue in short spikes.
Yarrow (wooly) *Achillea tomentosa*	2-4	Grayish foliage in low mats
Sulpher flower *Enogonum umbellatum*	3-6	Showy flower stalk to 8 inches tall; foliage in low mat.
Thyme *Thymus serphyllum*	3-6	Low, mat-forming herb with tiny leaves. Flowers are purple. A related species, woolly thyme, as gray-green foliage.
Veronica (creeping) *Veronica rupestris*	1-2	Dark green foliage; flowers deep blue in short spikes.
Yarrow (wooly) *Achillea tomentosa*	2-4	Grayish foliage in low mats

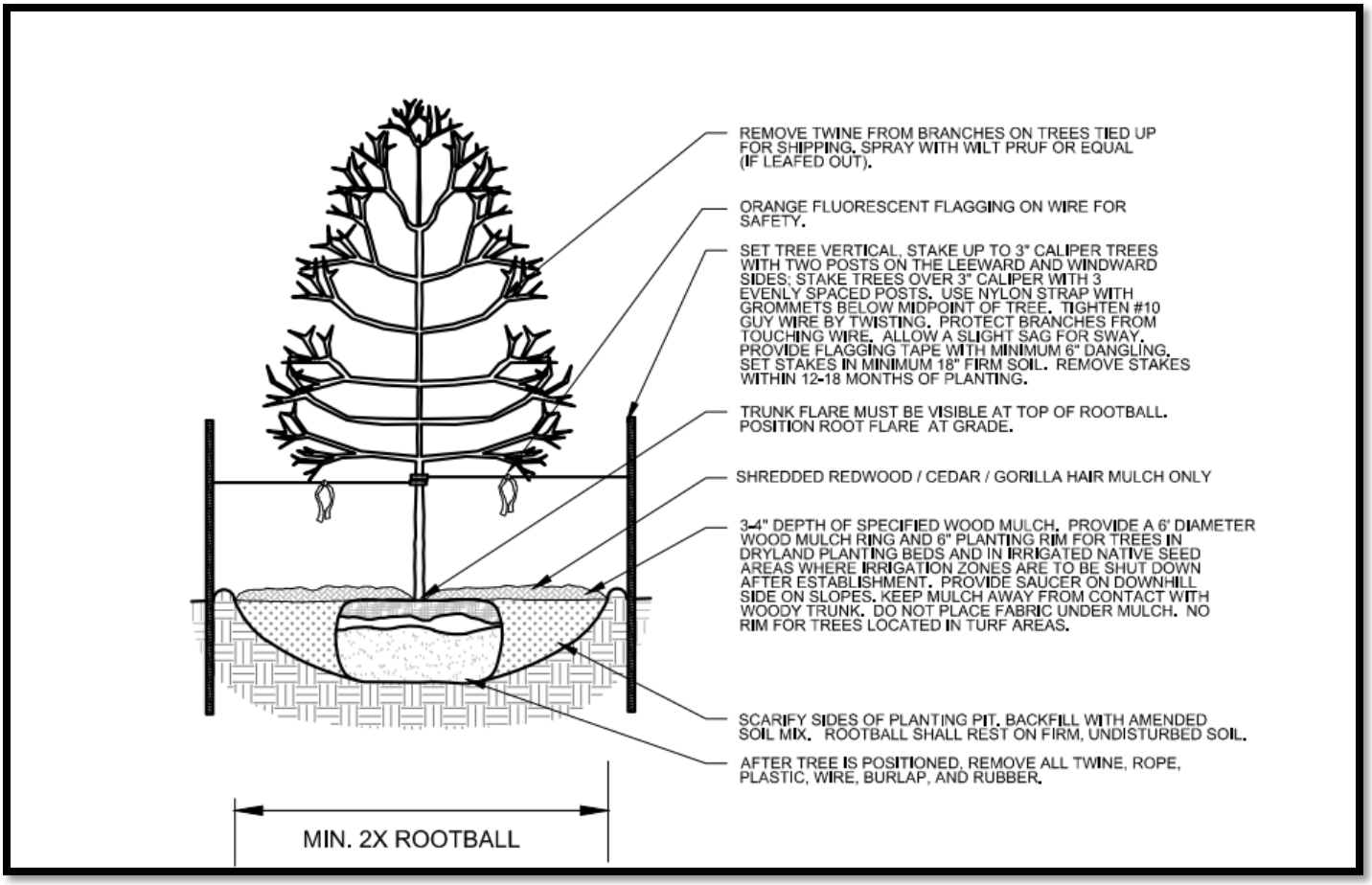
Table 9: Ground Cover Plants for Use in Shade (Beneath Trees and Shrubs or Along North Walls)

Plant Name	Height (Inches)	Remarks
Bishop's weed *Aegopodium podagraria 'variegatum'*	10-12	Variegated green and white foliage; aggressive.
Carpathian harebell *Campanula carpatica*	6-14	Can be aggressive; has blue or white flowers.
Hall's honeysuckle *Lonicera japonica 'Halliana'*	6-12	Will also grow in full sun, but forms denser mats in the shade.
Kinnikinnick *Arctostaphylos uvaursi*	4-6	Evergreen; red edible berries; use beneath established evergreens in acid soils.
Lily-of-the-valley *Convallaria majalis*	6-10	Fragrant white flowers in May-June; red berries (not edible); aggressive.
Mahonia (creeping grape holly) *Mahonia repens*	6-12	Evergreen; yellow flowers in spring; holly-like foliage.
Periwinkle *Vinca minor*	4-6	Semi-evergreen; flowers white or purple in spring.
Penstemon (creeping) *Penstemon caespitosus*	1-2	Very prostrate mat of tiny narrow leaves; flowers in May-June; purplish.
Penstemon (Rocky Mountain) *P. Strictus*	1-2	Blue flowers in June and July.
Sweet woodruff *Galium odorata*	5-8	Very aggressive; strongly scented.

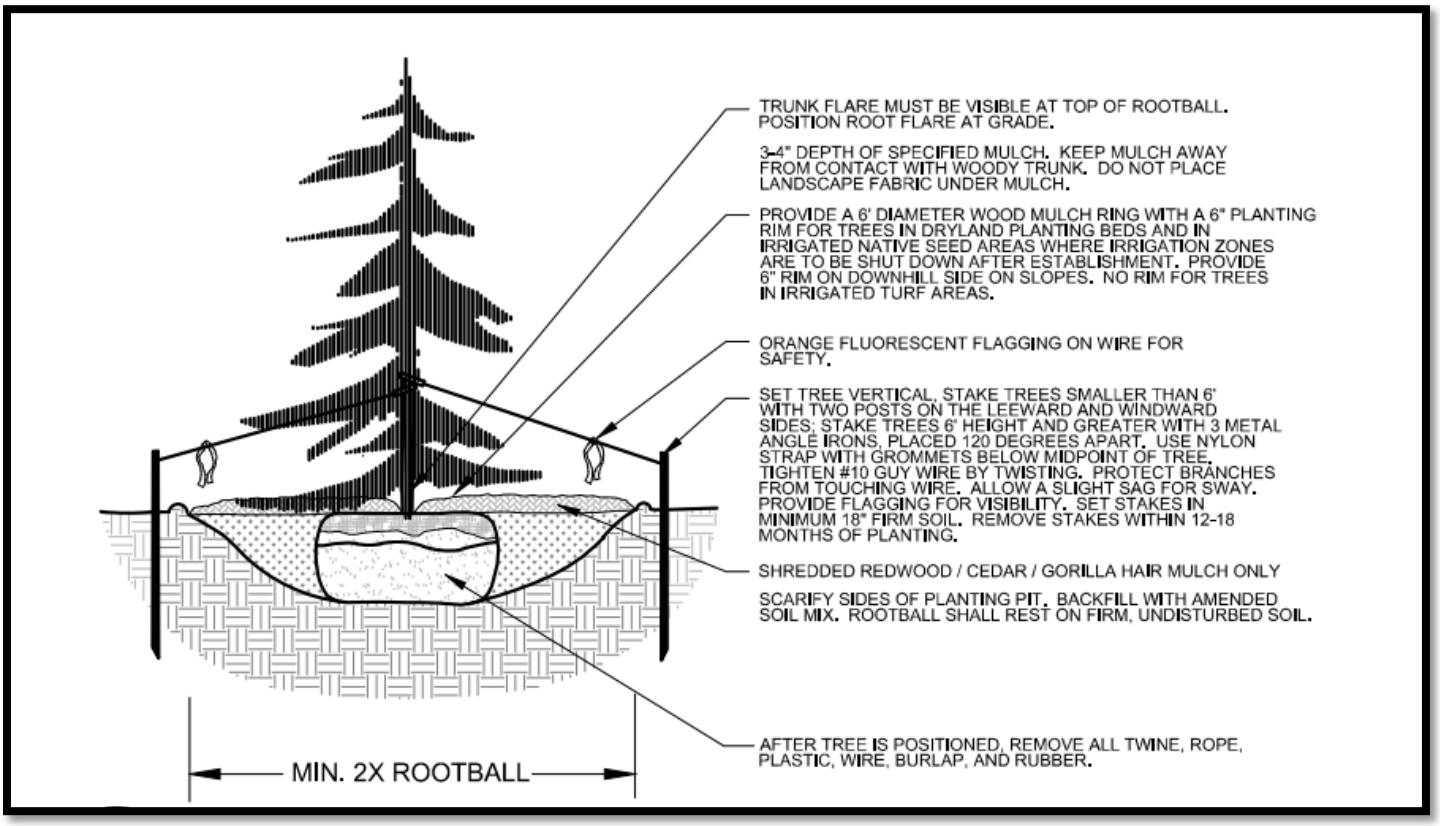
Planting Specifications

The following planting specifications detail how to install each type of plant material to ensure the greatest chance of success. These diagrams must be included in all new landscape plans, except those for single family homes. Examples Provided below:

Deciduous Tree Planting Detail:



Evergreen Tree Planting Detail Example:



Shrub Planting Detail Example