

RECOMMENDED SCREENING TREES FOR HAYDEN

a subset of the

Master Recommended Tree List For Hayden
Spring 2008

Recommended Trees for Hayden
and a Guide to Their Selection,
Planting, and Long Term Care

Prepared by
City of Hayden Community Development Department
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RECOMMENDED SCREENING TREES FOR HAYDEN, IDAHO

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Introduction

This list is established to provide a quick reference of allowable street trees for use by homeowners, business owners, developers, engineers, and landscape architects. This list also serves as a reference guide for selecting trees to meet Code shading requirements.

Using the List

The list is divided into three height groups, Type I-Small trees, Type II-Medium trees, and Type-III-Large trees. Each group lists the trees by common name and botanical name. Where a cultivated variety, or cultivar, is available, the cultivar is listed below the species.

The characteristics of each specie or cultivar are listed to the right of the common name. When selecting a tree, determine the limitations of the planting site. Look for trees that are suitable for your site based upon the site limitations.

Where a cultivar has characteristics different from the parent species, such as height or spread, those characteristics will be identified separately. Where the cultivar characteristics are similar to the parent species, such as rooting depth or growth rate, the box will be blank.

On sites where shading is needed, the amount of shade cast by the tree is located in the shading column. The approximate square footage of shade cast by a tree is calculated by the shadow of a 15 year old tree at noon on the first day of Summer. Actual shade production will be determined by the growth rate of a tree on a particular site.

When a proposed tree is not on the list, consult with the Urban Forester before planting the tree.

Selection

The master list of recommended trees for the Hayden area contains a general description of each tree and the appropriate use for the tree. For ease of use, the list is divided into Type I-Small, Type II-Medium, and Type-III-Large trees. Type I-Small trees are generally 30 feet in height or less. Type II-Medium sized trees are generally 30 feet to 50 feet in height. And finally, Type III-Large trees are generally 50 feet in height or taller.

All of the trees on this list have characteristics which make them desirable. Most of the trees on this list could be used for locations other than along city streets. The trees listed have been selected for their resistance to injurious insects or diseases, though there are no pest free trees. The information accompanying each tree species is meant to be used as a guide for decision making purposes.

The height and spread figures are given for trees at maturity. Trees with rapid growth rate can be expected to grow at least two feet per year when young. Those with moderate growth rates will grow between one and two feet per year when young. Slower growing trees will generally grow less than one foot per year when young. Please remember, growth rates are considered in general terms. Soil conditions and water availability will greatly influence the actual growth rate of a tree.

For purposes of calculating the approximate shading area provided by a particular tree specie or cultivar, shading square footages are provided. The square footage area is based upon the shadow of a 15 year old tree on June 21 at noon. The shadow is based upon the growth of the tree under normal landscape conditions. In *Manual of Woody Landscape Plants – Their Identification, Ornamental Characteristics, Culture, Propagation and Uses* 3rd Ed., Dr. Michael Dirr provides growth estimates based upon field observation throughout North America.

Root growth is listed as shallow, medium or deep. These are relative terms and describe the root system in its natural setting. The majority of a trees root system is typically within the upper three feet of soil. However, actual soil conditions on site, as well as irrigation patterns, will ultimately determine the depth of rooting of a tree.

Spacing recommendations are based upon future growth estimates. These minimum spacing distances provide for adequate canopy growth, while still providing for aesthetics. Planting trees too close together for initial effect will typically result in poor performance as the trees mature.

The planter width column provides a minimum planter size for each tree. The widths are based upon typical rooting patterns in a natural setting, and the mature size of the tree. Specific site conditions may require a wider planter than that recommended. Planting a tree in too small of a planter will typically lead to poor tree performance, infrastructure damage, or both.

The comments section provides helpful insight into special characteristics of a particular tree. Specific comments are noted for those species that have limiting characteristics. General pruning requirements are also included.

Users of this list should keep in mind that no tree species is perfect and no one species will meet all the needs of a particular area. It is important that a selected tree species or cultivar be adaptable to the space available, laterally, horizontally and vertically, while meeting the aesthetic needs of the area.

The final consideration is the availability of trees on the list. Every effort is made to list trees that are commercially available, and to work with local nurseries to ensure they are stocked. If the tree is not in stock at a local nursery, ask the salesperson to order the tree and have it shipped in. When a particular tree is not available at the grower, a substitute with similar characteristics maybe selected from the list.

Questions regarding street tree characteristics may be called into the City at 208-772-4411.

Planting

Heavily compacted soils, or soils with high clay content, typically limit the movement of oxygen to within only a few inches of the surface. To minimize the potential impact to curbs and sidewalks, adequate soil preparation is essential. Proper soil preparation not only fosters deeper root systems, it provides adequate growing conditions, which ultimately leads to healthier trees. Where possible, till the soil within the entire planter to a depth reaching uncompacted soil.

Landscape Detail 1 provides directions for proper tree planting. Proper planting will ensure the tree thrives for many years. Improperly planted trees will not attain their full potential, and will be adversely affected by pest problems. Place the root crown of the tree at or slightly above finish grade. The top of root ball is not always the top of root crown. Trees are typically planted deep in the container, and in the field. You will need to remove excess soil and girdling roots before planting the tree.

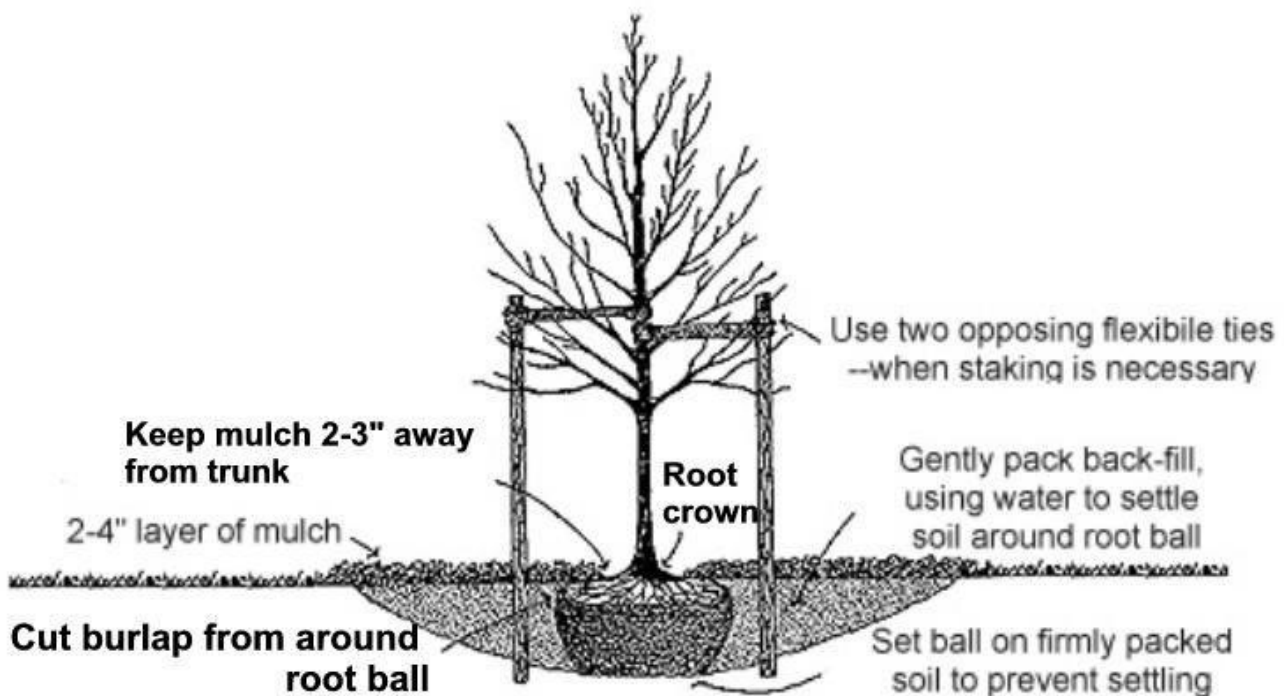


Figure 10 - Planting

Plastic root barriers provide a measure of protection for curbing and sidewalk. However, they do not guarantee damage prevention. To provide the greatest level of protection, root barriers must be installed properly, with at least ½-inch of barrier above final grade, mulch, or turf thatch layer. Failure to install the root barrier properly will result in roots growing over the top of the barrier, rendering it ineffective.

Turf at the base of a young sapling can inhibit the production of new roots, stunting the trees growth. Chemicals secreted by the roots of turfgrass act as a growth regulator for tree roots. Further, string trimmers and mowers used to maintain the turf will damage the trunk of the tree. The easiest way to solve this problem is to create and maintain a turf ring around the tree. Community Canopy recommends creating a circle at least three feet in diameter. The Hayden tree planting detail shows a minimum tree ring diameter of three feet.

Apply a three to four-inch thick layer of composted mulch within the tree ring. Mulch keeps the soil cooler for new roots, reduces water loss, and reduces the growth of weeds. The mulch also provides a visual barrier for weed eaters and lawn mowers. Make sure the mulch is kept from the base of the tree. Do not form mulch “volcanoes” around the base of the tree. Not only are the “volcanoes” unsightly, they damage the trunk of the young tree.

Maintenance

Proper irrigation is essential to good tree growth. Do not over water the tree! Over watering removes oxygen from the soil. Inadequate oxygen in the soil leads to root death and shallow rooting. In turn, shallow rooting causes damage to turf, maintenance equipment, sidewalks, buildings, and other landscape improvements. In either case, the tree is often removed prematurely. Water trees, shrubs, groundcovers, and turf based upon need, not time! Less water needs to be applied in the Spring and Fall than in the Summer. The typical water need is 0.26 inches of water per day in the middle of July, but only a tenth of that in early Spring or late Fall! Increase water applications as the need increases. Begin to decrease the water application as the season cools and the days shorten. Apply water more infrequently, but to a greater depth. Proper irrigation saves money and fosters good plant growth!

Maintain a tree ring around each tree. The ring will provide basic protection from string trimmers and lawn mowers. Increase the ring size as the tree grows. Apply additional mulch as the old mulch decays. Do not allow weeds or turf to overgrow the tree ring!

Prune the trees only as necessary, removing no more than one-quarter of the canopy at any one time. Early developmental pruning will establish the long-term structure of a tree. Reference the comment section for information on the developmental pruning needs. Some species or cultivars require more aggressive developmental pruning than others. “Bleeding” trees should be pruned in late-Summer or Fall. For more pruning information, please reference the ANSI A300 Pruning Standards and the Best Management Practices for Pruning Manual.

Do not top trees. This practice destroys the natural defense mechanisms of a tree, and allows wood decay to progress unimpeded. Plant a smaller tree if space is limited.

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Type I – Small Stature Trees

Common Name Scientific Name	Height	Spread	Growth Rate	Rooting Depth	Minimum Planter Width	Optimum Spacing	Swale Suitable	Description
Allum lawson cypress <i>Chamaecyparis lawsoniana</i> 'allumii'	25'	15'	Slow	Shallow-Medium	6'	10' – 15'	No	Prefers moist, but well drained soils. Small scale evergreen screening tree for use under power lines. Root rots can be a problem if soil remains saturated for long periods. Dark green canopy is denser than Stewart golden cypress. <u>NOT FOR USE AS A STREET TREE.</u>
Stewart golden cypress <i>Chamaecyparis lawsoniana</i> 'stewartii'	25'	15' – 20'	Slow	Shallow – Medium	6'	15'	No	Prefers moist, but well drained soils. Small scale evergreen screening tree for use under power lines. Root rots can be a problem if soil remains saturated for long periods. Golden green canopy is more open than Allum lawson cypress. <u>NOT FOR USE AS A STREET TREE.</u>
Cripps golden cypress <i>Chamaecyparis obtusa</i> 'Crippsii'	25'	15' – 20'	Slow	Shallow – Medium	6'	15' – 20'	No	Prefers moist, but well drained soils. Small scale evergreen screening tree for use under power lines. Root rots can be a problem if soil remains saturated for long periods. Golden canopy similar to Stewart golden cypress. <u>NOT FOR USE AS A STREET TREE.</u>
Long stalked holly <i>Ilex pedunculosa</i>	20' – 30'	15' – 25'	Slow – Moderate	Medium	5'	15' – 20'	No	Small scale holly provides year round interest. Likes moist, but not water logged soil. Could tolerant to -20 degrees. <u>NOT FOR USE AS A STREET TREE.</u>
Tolleson's Weeping Rocky Mountain juniper <i>Juniperus scopulorum</i> 'Tolleson's Weeping'	20'	10' – 15'	Slow	Medium	5'	10' – 15'	No	Small scale weeping juniper for evergreen screens under power lines. Will withstand some drought once established. Will not tolerate wet soils. Disease and insect pests can cause problems. <u>NOT FOR USE AS A STREET TREE.</u>
Tanyosho pine <i>Pinus densiflora</i> 'umbraculifera'	10' – 25'	10' – 25'	Slow	Medium	5'	15' – 20'	No	Small pine with an umbrella shaped canopy. Decorative orange-red bark. Tolerant of cold temperatures.
Mugo pine <i>Pinus mugo</i>	15' – 20'	20' – 25'	Slow	Medium	5'	15' – 20'	Yes	Small pine for use as an evergreen screen. Can tolerate moist soils if they eventually drain. Place at the upper edge of a swale. <u>NOT FOR USE AS A STREET TREE.</u>
Brandon Arborvitae <i>Thuja occidentalis</i> 'Brandon'	10' – 15'	4' – 6'	Slow – Moderate	Shallow – Medium	6'	5'	Yes	Smaller scale arborvitae. Protection from snow and ice may be needed. Will tolerate wet soils. <u>NOT FOR USE AS A STREET TREE.</u>

Type I – Small Stature Trees

Common Name Scientific Name	Height	Spread	Growth Rate	Rooting Depth	Minimum Planter Width	Optimum Spacing	Swale Suitable	Description
Weeping Canadian hemlock <i>Tsuga canadensis</i> 'sargentii'	10' – 15'	15' – 25'	Moderate	Shallow – Medium	8'	20' – 25'	Yes	Will tolerate wet soils. This species has many pest problems. However, it provides screening under moist conditions. Plant at the upper edge of swales. <u>NOT FOR USE AS A STREET TREE.</u>

Type II - Medium Stature Trees

Common Name Scientific Name	Height	Spread	Shade Area at 15 Years	Growth Rate	Rooting Depth	Minimum Planter Width	Optimum Spacing	Swale Suitable	Description
Sub-alpine fir <i>Abies lasiocarpa</i>	50' – 70'	25' – 30'	50 SF	Very Slow	Shallow – Medium	6'	25'	No	Evergreen conifer. This tree grows very slowly. The typical height over many years is approximately 50' in our area. Under ideal conditions, this tree can grow over 100' tall.
Insencecedar <i>Calocedrus decurrens</i>	40' – 50'	25' – 35'	176 SF	Slow – Moderate	Shallow – Medium	10'	30'	No	Slower growing conifer for use as a screen. This tree can reach tall heights overtime. Well draining soil is needed.
White spruce <i>Picea glauca</i>	40' – 60'	20'	113 SF	Moderate	Shallow – Medium	10' – 12'	15' – 20'	No	Narrow canopied conifer for restricted sites. However, the root system needs adequate space. Needles are a whitish-gray color. Low branches can cause visibility problems. Susceptible to root rots in wet soils.
Golden-larch <i>Pseudolarix amabilis</i>	30' – 50'	30' – 40'	35 SF	Very Slow	Medium	6'	25' – 30'	No	Deciduous conifer similar to tamarack. Seedlings may be difficult to find. Best used as an accent tree.

Type III - Large Stature Trees

Common Name Scientific Name	Height	Spread	Shade Area at 15 Years	Growth Rate	Rooting Depth	Minimum Planter Width	Optimum Spacing	Swale Suitable	Description
White Fir <i>Abies concolor</i>	50' – 70'	25' – 30'	50 SF	Very Slow	Shallow – Medium	6'	25'	No	Evergreen conifer. This tree grows very slowly. The typical height over many years is approximately 50' in our area. Under ideal conditions, this tree can grow over 100' tall.
Grand Fir <i>Abies grandis</i>	30' – 45'	30' – 35'	154 SF	Slow	Medium	6'	25' – 35'	No	A relatively disease and pest free tree. It tolerates poor soil conditions. Developmental pruning is required to maintain good form.
European Larch <i>Larix decidua</i>	70' – 75'	25' – 30'	176 SF	Moderate – Fast	Medium	8'	25'	Yes	A deciduous conifer. Will cast filtered shade in the Summer, and none in the Winter. Will tolerate wet soils, but prefers draining soils.
Japanese Larch <i>Larix kaempferi</i>	70' – 90'	25' – 40'	254 SF	Moderate – Fast	Medium	8'	25' – 30'	No	Not tolerant of salts. Will not tolerate drought. Needs moist, draining soils. Plant in sunny areas.
Western Larch <i>Larix occidentalis</i>	90' – 120'	25' – 40'	254 SF	Moderate – Fast	Medium	10' – 12'	30'	No	Not tolerant of west soils. Prefers well draining soils. Very cold tolerant. This is a large tree; plant only where there is space!
Dawn redwood <i>Metasequoia glyptostroboides</i>	70' – 80'	25' – 30'	176 SF	Fast	Shallow – Medium	10' – 12'	25'	No	A deciduous conifer. Prefers moist, well draining soil. Few pest problems.
Black Spruce <i>Picea mariana</i>	40' – 65'	10' – 20'	78 SF	Moderate	Shallow	10' – 12'	10 – 20'	Yes	Prefers moist soil. Grows at the edge of streams, bogs and lakes. Will tolerate stagnant water, but prefers soils that drain. Use at the upper edge of a swale. The root system is typically very shallow.
Serbian Spruce <i>Picea omorika</i>	50' – 60'	20' – 25'	78 SF	Slow – Moderate	Medium	8' – 10'	20'	Yes	Tolerates moist soils that eventually drain. Cold tolerant. Subject to aphids and budworms.
Oriental Spruce <i>Picea orientalis</i>	50' – 60'	20'	78 SF	Slow	Medium	8' – 10'	20'	No	Tolerates gravelly soils. Likes draining soils. Better form than white spruce. Very graceful form. Protect from dry, Winter winds when young.
Blue Spruce <i>Picea pungens</i>	30' – 60'	20'	78 SF	Slow – Moderate	Medium	8' – 10'	20'	No	Prefers rich, moist soils that drain well. Subject to spider mites and Cooley's adelgid. 'Glauca' is the most common cultivar.

Type III - Large Stature Trees

Common Name Scientific Name	Height	Spread	Shade Area at 15 Years	Growth Rate	Rooting Depth	Minimum Planter Width	Optimum Spacing	Swale Suitable	Description
Ponderosa Pine <i>Pinus ponderosa</i>	60' – 100'	25' – 35'	113 SF	Moderate	Medium	10' – 12'	30'	No	Drought tolerant native. Prefers deep, well drained soils. Can be attacked by a number of pests if growing conditions are poor. Some tolerance to salts. Three-needle pine with a coarse appearance. Produces large cones!
Southwestern White Pine <i>Pinus strobiformis</i>	60' – 100'	25' – 35'	113 SF	Moderate	Medium	10' – 12'	30'	No	Drought tolerant species from New Mexico. Prefers deep, well drained soils. Blister rust can be a problem. Five-needle pine with a fine appearance. Produces large cones.
Vanderwolf Pine <i>Pinus flexilis</i> 'Vanderwolf'	30' – 55'	15' – 35'	113 SF	Moderate	Medium	8' – 10'	25'	No	Faster growth rate than species. Fine textured five-needle pine with twisting, blue-green foliage. Blister rust can be a problem.
Baldcypress <i>Taxodium distichum</i>	50' – 70'	20' – 30'	78 SF	Moderate	Shallow	10' – 12'	25'	Yes	Very tolerant of wet conditions. Deciduous conifer. May have problems with branch cankers. A crop of small cones are produced each year