



BONNEY
Lake



Bonney Lake Community Forestry Program

I. INTRODUCTION

At first glance nothing could be more innocuous than community urban forestry. Beautiful green trees, summertime shade, a home for birds that sweeten the air with song. And all of it a free gift from nature. But something is wrong with this view of Paradise. First of all, it is not free. Each year communities spend large sums of scarce tax dollars planting and caring for trees. The utility industry alone spends \$1.5 billion a year trying to keep tree limbs and power lines apart. Trees sometimes become hazardous and kill people, resulting not only in human suffering but expensive lawsuits. Trees are sometimes blamed for damaging sidewalks, blocking signs, dropping fruits on walkways, harboring insects, wasting water, adding pesticides and fertilizers to water supplies, and overburdening landfills with leaves and wood.

Part of today's challenge is to stop viewing urban trees as pretty pictures and begin treating them as urban ecosystems and essential parts of a city's infrastructure. Trees should be viewed as assets, not liabilities. The Bonney Lake community forestry program strives to demonstrate that landscapes and their trees can be designed and managed to minimize negative impacts and maximize financial returns on dollars invested.

Elements of the Bonney Lake Community Forestry Program include a tree ordinance; an inventory of city-owned trees; a contracted arborist and other professional assistance; careful planting of the right species in the right place; training of workers who deal with trees; systematic protection of trees during street construction projects; professional management staff; and the cultivated support of elected officials and city administrators.

Community and urban forests provide many benefits, including:

- Provide sound buffers for large urban areas.
- Reduce utility bills (air conditioning in summer, heating in winter) when planted properly, such as for use as windbreaks, summer shading, etc.
- Reduces flooding by intercepting rainfall.
- Produce a sense of "rootedness" and community.
- A tree can be a natural air conditioner. The evaporation from a single large tree can produce the cooling effect of 10 room size air conditioners operating 20 hours a day.
- Cleans the air. Removes dust, particulates, absorbs ozone, carbon monoxide, sulfur dioxide and other pollutants.
- Softens harsh contours of buildings.
- Increases commercial and residential property values. Homes on lots with many trees have 6% - 12% higher appraised values.
- Reduces urban blight by adding beauty.

- Trees act as a carbon-sink by removing the carbon from CO₂ and storing it as a cellulose in the trunk while releasing oxygen back into the air.
- Prevent soil erosion
- Freshen the atmosphere with the trees own pleasant fragrances. For example, 1 cherry tree can perfume the air with 200,000 flowers.
- Provide wildlife habitats for birds, squirrels, etc.
- Provide privacy.
- Help direct pedestrian traffic.

Brief History of Urban Forestry

In the United States urban forestry can be traced back to a Philadelphia ordinance that required homeowners to plant trees outside their doors. That was in 1700, fifty years before Philadelphia began systematically planting street trees.

In 1872, J. Sterling Morton introduced Arbor Day to encourage tree planting on Nebraska farms, but his idea was soon taken up by school children and the tree planting holiday spread to every state in the nation. To care for trees in the city, Philadelphia again pioneered, this time in 1896 when the city hired its first “chief forester.” Three years later in 1899 the Tree Warden Act of Massachusetts required every town in that state to elect a person to care for its trees. Although the value of community trees was recognized quite early, it took the onslaught of Dutch Elm Disease in the 1930’s to truly wake up America to the need for continuous, organized municipal tree care. The disease in some Midwest communities took out virtually all the graceful elms that beautified lawns and arched over the streets and avenues.

In 1965, Erik Jorgensen of the University of Toronto is credited with coining the term “urban forestry” and applying it “not... (to) city trees or...single tree management, but rather...tree management in the entire area influenced by and utilized by the urban population.”

In 1972 Congress passed legislation amending the Cooperative Forest Management Act of 1950 and charged the U.S. Forest Service with developing a program to address urban forestry, primarily by working with state foresters to provide technical assistance to local governments, organizations and individuals. Another major event in 1972 was the founding of The National Arbor Day Foundation, with its Tree City USA program following four years later.

1990, the Farm Bill of that year was signed into law and with it the most significant urban forestry legislation in history. Its provisions:

- Expanded Forest Service authority to provide grants to state and local governments, volunteer groups and nonprofit organizations to plan and carry out urban forestry projects.
- Established The National Tree Trust and an endowment of \$20 million to assist nonprofit organizations and help municipalities obtain trees for planting on public property.

- Created the National Urban and Community Forestry Advisory Council, charging it with developing a national action plan and authorizing it to award grants to help implement provisions of the plan.

The Bonney Lake Comprehensive Plan envisions a City that conserves the natural amenities of the community (p. 1-7). While there is nothing in the Comprehensive Plan that specifically addresses the urban forest, the importance of trees is implicit in a number of policies and goals relating to streetscapes and preserving/enhancing the scenic resources of the community.

II. BACKGROUND

The City of Bonney Lake developed this Community Forestry Plan. It contains goals, policies, practices, standards, and projects intended to guide the City in its actions and decisions affecting municipally owned trees within the city limits. The plan will help the City effectively and equitably manage trees on municipal property. This plan focuses on the tree component of an urban forest, including trees along streets, in parks, and on other municipal properties. It is hoped that the City of Bonney Lake can lead by example with its actions regarding trees on municipal property. Through this example, and an effective public outreach and education program, private property owners can in turn more effectively manage trees on their property. In addition, the City's land use codes contain regulations relating to the retention and removal of trees on private property.

In developing the plan, the following assumptions were made:

- The people of Bonney Lake believe that an urban forest adds to the quality of life.
- Properly selected and maintained trees contribute to the character of the community and enhance its attractiveness.
- With sufficient information, the citizens of Bonney Lake will make sound choices with regard to the maintenance, selection and protection of trees.
- Trees provide a visual and noise buffer.
- Public safety is highly valued in the community. It is essential to remove dead wood; remove low limbs over traffic ways; clear critical visual zones at intersections; and control planting so that a tree's growth does not interfere with safe traffic movement.

While this plan focuses on the overall management of urban trees, other documents also address this subject and were used as a starting point to develop this plan.

- Washington Growth Management Act, Goal 9, Open Space and Environment. This goal encourages the retention of open space and development of recreational opportunities; conserve fish and wildlife habitat; increase access to natural resource lands and water; and develop parks.
- Washington Growth Management Act, Goal 10, Environment. This goal is to protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.

- Bonney Lake Comprehensive Plan, Policy 2-4d: Encourage developers to retain mature trees to the extent possible, particularly in residential areas.

The City of Bonney Lake Urban Forestry Plan should help raise citizen awareness of the benefits of a healthy and diverse urban forest, proper tree selection, and care. This should lead to an increase in the number, condition, and diversity of trees in the urban area.

Enabling Legislation

The Bonney Lake Community Forestry Program was adopted in May of 2005 by Ordinance No. 1124. The ordinance does a number of things:

- Designates the Public Work Department as the “Tree Department” legally responsible for the care and management of trees on municipally owned property. In practice, it will be the Park division of Public Works that administers the community forestry program.
- Designates the Parks Board as an Advisory Tree Board. The Bonney Lake Park has assumed additional duties to advise the Tree Department, Mayor, and City Council on the Community Forestry Plan, Heritage Trees, and related community tree issues.
- Prohibits destroying, defacing or injuring any tree in a city park or in city right-of-way, including but not limited to the following: Pouring any toxic material on any tree or on the ground near any tree; Attaching any sign, poster, notice or other object on any tree, or fastening any guy wire, cable, rope, nails, screws or other device to any tree except to support young or broken trees; and except that the city may tie temporary signs or banners associated with street improvement, parades, holiday lighting, or other city activities; Cause or encourage any fire or burning near or around any tree; Harm any tree by cutting the bark or branches with a knife, hatchet or similar object.
- Prohibits the planting of certain species of trees such as willow, cottonwood, poplar, and other trees the roots of which are likely to obstruct or damage sidewalk, curb, gutter or underground utilities. Also prohibits plantings of trees or shrubs in or abutting any public parking strip, street right-of-way, or any other public place in the city, including sidewalks, without permission of the Tree Department.
- Declares it to be a nuisance when trees, plants, shrubs or vegetation, or parts thereof, endanger the security or usefulness of any public street, sidewalk, sewer or other underground utility. Tree branches may extend over the sidewalk when kept trimmed to a height of eight feet above sidewalks and fourteen feet above a roadway.
- Requires that the stumps and roots of trees or shrubs removed from City parks or rights-of-way shall be excavated or ground to a point at least one foot below the top of the adjacent curb or proposed curb grade. The remaining roots may require treatment with a suitable compound to prevent or control future sprouting.
- Provides for participation in Arbor Day. This includes, at a minimum, a proclamation issued by the Mayor and the annual observance of Arbor Day.

- Adopts a provision to designate “Heritage Trees” which may be any tree that because of its age, size, unique type, or historical association is of special importance to the City and has been designated as a Heritage Tree by the City Council.

III. OVERVIEW AND TERMINOLOGY

Policies, goals, actions, procedures, definitions, standards and guidelines are all incorporated into the City’s community forestry plan. The policies will guide the City in its decisions and actions affecting trees on municipal properties within the City.

The terms used in the plan have the following meanings:

- **City Building Trees:** Trees located on the grounds of City Buildings (i.e., City Hall, Police Department).
- **Condition Class:** A rating given to a tree that evaluates the overall health of the tree. The higher the rating, the healthier the tree. It is recorded in percentages of 0-100%. (Not too clear what is meant by this. Are there standards and who would make the judgments?)
- **Cover Type:** The identification of dominant vegetation in an area based upon species and size.
- **Cul de Sac Planting Islands:** Landscaped areas in the center of street cul de sacs typically protected by curb and gutter.
- **Diameter Breast Height (dbh):** The diameter of a tree’s trunk at 4.5'. Is a universal forestry measurement for tree size.
- **Group Planting:** Planting design where trees are clustered together for greater impact. Best if used in conjunction with mulch beds.
- **Hazard Tree/Condition:** A tree with a structural defect that may cause the tree or a portion of the tree to fall on someone or something else of value (a home). These trees should be either removed or safely pruned to reduce or eliminate the hazard.
- **Hazard Tree Survey:** Inspection performed by a qualified individual to identify problem trees prior to damage occurring to people or property.
- **Heritage Tree:** a tree in the City of Bonney Lake which, because of its age, size, unique type, or historical association, is of special importance to the City.
- **Live Crown Ratio:** The relative proportion of green crown to overall height recorded in percent. Most easily measured during leaf out in deciduous trees. Generally, healthy trees will have 50% or greater live crown ratios.
- **Maintenance Pruning:** Any pruning performed on a tree to increase its health, vigor, strength, structure (training), clearance and aesthetics. This is accomplished through the pruning of dead, dying, diseased, poorly structured and interfering limbs. Types of Maintenance Pruning:
 - **1. Maintenance Clearance Pruning** - pruning of trees for vehicle and pedestrian traffic;

- 2. *Maintenance Routine Pruning* - pruning done usually on a set cycle or rotation to establish and maintain tree health and structure;
- 3. *Maintenance Training Pruning* - pruning done generally to younger trees (<8" dbh) to establish good structure, health and increase longevity. Often done more frequently than other types of pruning.
- 4. *Maintenance Safety Pruning* - pruning of large deadwood or hazardous limbs to eliminate a hazardous tree condition.
- **Management Plan:** A community and urban forestry plan specific to field operations of the Community Tree program. They are based upon tree inventory and identify and prioritize specific tree planting and care activities.
- **Naturalized Park Areas:** Park lands left in their natural state (i.e., woodlands, field, wetlands that receive little or no maintenance.)
- **Park Tree:** Trees located in public parks in high use, maintained areas. Does not include trees in naturalized park areas.
- **Planting Site:** An area designated by size and location where a tree may be planted.
- **Pruning Cycle:** The length of time required to prune an entire designated tree population as needed.
- **Routine Tree Removal:** Non-hazard trees that should be removed for health, insect, disease or aesthetic reasons and their potential to become a hazard.
- **ROW Road Trees:** Trees located within the rights-of-way along the streets of Bonney Lake that are not in a typical street tree site. They are inventoried for the following reasons:
 - 1. Have the potential over time to damage the street surface.
 - 2. Interfere with vehicular or pedestrian traffic or street maintenance.
 - 3. Upon tree health decline or structural failure, will become a hazard tree. These trees are volunteer trees and mainly existed prior to development in these areas.
- **Safety Pruning:** Pruning of large deadwood or hazardous limbs to reduce or eliminate a hazard tree condition.
- **Street Tree:** Typically a tree located within a City terrace or boulevard. Bonney Lake street trees also exist on private property along the street resulting from developer planting requirements during new developments.
- **Terrace:** The area located between the curb or proposed curb line and city sidewalk. Where no sidewalk exists, the terrace is the area between the street and right of way boundary. This is the typical planting area for street trees but is not the norm for existing streets in Bonney Lake due to the storm water conveyance system of ditches and culverts.
- **Tree Repair:** Any care given to a tree to improve its condition other than pruning (i.e., cabling, bracing, staking, etc.)
- **Volunteer Tree:** Any natural (non-planted) tree occurring from seed or root or stump sprouts.
- **Windshield Survey:** A driving survey used to gather large amounts of data quickly.

IV. PROGRAM GOALS, POLICIES, AND ACTIONS

The principle elements of the community forestry program for the City of Bonney Lake include appropriate tree selection, proper management of the city's urban forest, and education.

A. Tree Selection

Introduction

The conditions under which trees grow in Bonney Lake are often less than optimal. Trees may have restricted rooting space,. Some of the spaces may be covered with, or located next to, concrete or asphalt.

Because the urban environment is unlike any natural environment, the choice of trees used to create a stable urban environment should include a mixture of native and nonnative trees, with no single species dominating. The predominance of a single species may increase the susceptibility of some of the urban forest to insect or disease pests.

Goals

1. Increase the diversity of trees in the Bonney Lake community forest.
2. Increase the use of desirable trees in the Bonney Lake community forest.
3. Minimize loss of forest canopy cover on city-owned public lands.
4. To establish a full complement of beautiful, healthy trees along streets, in parks, and open spaces throughout Bonney Lake compatible with adjacent landowners.
5. To maintain trees to the highest possible standard of health and safety.
6. Plant trees in locations that maximize their ability to grow normally while minimizing damage to the essential infrastructure of the city.

Policies and Proposed Actions

POLICY 1.0

The City will plant on public property trees that have potential for good local performance and will over time achieve diversity of species for greater stability of the urban forest.

Actions

- 1.1 Monitor the composition and performance (health) of existing trees on public property and assess their sustainability.
- 1.2 Develop a recommended species/variety list based on local experience for use on public property.
- 1.3 Over time, seek to attain the optimal number of quality trees.
- 1.4 Participate in an annual Arbor Day ceremony and project, and maintain designation in the national Tree City USA program.
- 1.5 Planting projects will take place only when a means for follow-up care has been identified. The two should go hand-in-hand.

1.6 All tree selection will be done based on suitability of the species or cultivar for the site.

1.7 A size will be planted that is suitable for the site. In heavily-used areas, large caliper trees (1 1/2" or larger) will be specified to reduce vandalism.

1.8 Diverse planting will be done to encourage species diversity not only within the community, but also within specific planting sites (street, park, parking lots, etc.).

1.9 All City maintenance workers assigned to work on trees will receive training ranging from proper preparation of the planting hole to proper pruning techniques.

POLICY 2.0

The City will plant desirable tree species in appropriate locations on public land and encourage their use on private lands, but not to the detriment of species diversity.

Actions

2.1 Compile and distribute to the citizens and appropriate businesses a list of recommended tree species and their potential uses in the urban forest. The list would include notable traits and appropriate locations for planting individual species.

2.2 Work with representatives of the landscape industry and local tree retail outlets and wholesale firms to stock quality native trees.

2.3 Work with representatives of local community groups to accomplish tree planting projects.

B. Trees on Public Property

Overview

The City plants and cares for trees in its parks, along certain city-owned riparian areas, some streets, and on other City properties (public safety building, city hall, etc.). It is largely unknown at this time how many trees the City owns, cares for and maintains. It is a goal of the City to develop a future inventory of the city's urban forest.

Many planting opportunities exist in the City, such as along under-planted arterials; on older established neighborhood streets where trees may have been lost; and in new, treeless neighborhoods. Planting must follow landscaping standards that take into consideration current and future maintenance needs; ensure that selected trees have adequate room to grow; and ensure their mature size and placement add to the quality of life in the community.

Once trees have been established, proper maintenance is critical to ensure that they remain vital. It is important that maintenance provided to public trees is of the highest quality, and that private citizens, public employees (city, county and state), and utility companies use correct procedures when servicing public trees. This element addresses a reasonable level of maintenance for existing public trees; acceptable criteria under which public trees can and will be removed; and strategies for planting new trees and replacing others along street rights-of-way.

Bonney Lake, like most cities, has limited resources to address all the work needed to plant, maintain, and when necessary, remove trees along streets, parks, and other publicly-owned properties. Street trees on rights-of-way adjacent to private ownership are maintained by the individual property owner. Predictably, this has resulted in varying levels of maintenance.

Goals

1. Monitor and improve the condition of public trees by improving the quality of maintenance provided.
2. Balance development needs with the protection of public trees.
3. Identify suitable planting locations for trees on public property and identify appropriate trees for those sites.
4. Maintain a heritage tree program.

Policies and Proposed Actions

POLICY 3.0

The City will establish or enhance the character of its streets through the use of trees in rights-of-way, where adequate right-of-way exists.

Actions

- 3.1 Inventory all trees and available planting spaces in street rights-of-way to determine composition and planting needs, as budget allows.
- 3.2 Consider the implications of having the City assume maintenance responsibilities for all street trees in rights-of-way. This may be desirable in highly visible areas where consistent cultural practices are desired.
- 3.3 Consider the option of developing a unified street tree theme as part of a future appendix to this community forestry plan, or in the City's development regulations.
- 3.4 Increase the level of contract maintenance for street trees currently maintained by the City.
- 3.5 Maintain a heritage tree program as outlined in Ordinance No. 1124

POLICY 4.0

The City will enhance the quality of all developed public land by planting and maintaining appropriate trees.

Actions

- 4.1 Inventory trees on developed public lands in landscaped areas for species, number, condition, and maintenance needs, as budget allows.
- 4.2 Ensure that future development of public lands is consistent with this Community Forestry Plan.

4.3 Investigate the budgetary impacts of contracting for annual maintenance of trees within developed landscaped City lands.

4.4 Pursuant to BLMC 12.24.070 and 12.24.080, the following trees shall not be planted in City parks or along public rights-of-way for the following reasons:

Deciduous Trees:

- *Nut trees.* Nuts on sidewalks.
- *Mountain Ash.* Berries create mess on sidewalks
- *Oregon or Big Leaf Maple, American Elm.* Roots cause injury to sidewalks, curb/gutter and pavement
- *Acer negundo, Acer saccharinum, Acer macrophyllum.* (Boxelder, Silver Maple, and Big Leaf Maple) Break badly in storms.
- *Ailanthus altissima.* (Tree of Heaven - Ailanthus) Roots are invasive, has brittle wood, suckers freely (produces new trees off of the root system, which may create a maintenance nightmare).
- *Alnus rubra.* (Red Alder) Brittle wood. Favorite of tent caterpillars.
- *Malus.* (fruiting apples) Fruit on walks.
- *Prunus.* (fruiting cherries) Fruit on walks. Many cherry and plum species are highly susceptible to various disease such as brown rot.
- *Pyrus.* (fruiting pears) Fruit on walks.
- *Populus spp.* (Poplars) Tops are brittle and break up easily in storms.
- *Robinia pseudoacacia.* (Black Locust) Thorny, brittle.
- *Salix spp.* (willows, including weeping) Roots are particularly hard on sewers and the trees break up easily.
- *Populus deltoides* (Cottonwood) Fast growing, tall, messy. Roots have a natural tendency to seek water – including in sewer pipes

Conifer Trees:

- *Chamaecyparis lawsoniana* (Port Orford cedar). Extremely susceptible to a root rot.
- *Abies amabilis* (Pacific Silver Fir), *Abies lasiocarpa* (Alpine Fir), *Abies fraserii* (Fraser Fir). Very susceptible to balsam woolly adelgid – a very devastating insect.
- All spruce species. Very susceptible to spider mites, spruce aphid and spruce gall coolly adelgid insects.

POLICY 5.0

The City will maintain and remove trees in accordance with best management practices.

Actions

5.1 All City maintenance workers assigned to work on trees will be trained in the care of young trees.

5.2 Mulch will be installed as part of the planting project and mowing and weed control personnel will be instructed in protecting the base of the trees. A mulch covered vegetation free area should be maintained for at least 24 inches around all sides of the trunk of all newly planted trees.

5.3 When stakes are used during planting, they will be removed preferably after one, but no more than two growing seasons.

5.4 Inspections to identify hazards will be conducted annually for mature trees and corrective measures taken promptly.

5.5 Routine pruning of mature trees will be scheduled on a rotational basis so that all trees are pruned as needed approximately every 3 – 5 years.

5.6 Pruning practices will be in compliance with ANSI A300.

5.7 Maintenance of mature trees will be done in consultation with the City's arborist.

5.8 Removal of municipal trees will be an action of last resort.

5.9 When trees are removed, stumps will also be ground.

5.10 For each tree or inch of dbh (diameter breast high) removed, at least one new tree will be planted at the site, or nearby when site restrictions prevent replanting. For example, 10 new trees of at least 1-inch caliper measured at 6-inches above ground will be planted if a 10-inch dbh tree is removed. (Don, is this an objective or an absolute requirement?)

5.11 Removed trees will be utilized to the greatest extent possible. Where markets exist, revenue will be generated for use by the community forestry program. This may be through direct sales or charging for permits (such as to cut firewood from log stockpiles).

5.12 Removed trees will be handled as necessary to prevent spread of insects or disease.

C. Education

Introduction

Although this Urban Forestry Plan concerns trees on public property, it is recognized that public education regarding the importance of trees is an important part of any urban forestry program. This plan recommends that the City of Bonney Lake lead by example. If trees on public property are cared for and managed properly, the City can, in combination with educational materials, go far in assisting the public in management of their own tree resources.

Policy and Proposed Actions

POLICY 6.0

The City will provide an example through the highest standard of care and management for all publicly-owned trees, in order to ensure the perpetuation of the urban forest.

Actions

6.1 The City will make use of the City's Bonney Lake Reporter newsletter, web site, and other media outlets for periodic articles on the proper care and maintenance of trees on private property.

6.2 Compile and distribute or make available to the public a list of local tree species and their performance under known conditions.

V. HERITAGE TREE PROGRAM

Designating and Maintaining Heritage Trees (See BLMC 12.24.130)

A Heritage Tree is a tree in the City of Bonney Lake which, because of its age, size, unique type, or historical association, is of special importance to the City

Request for Designation. In order for a tree to be designated as a heritage tree, a person must submit a written request to the Tree Department (Parks Division of the Public Works Division) on a form provided for this purpose (see Attachment 1). The request shall include a signed declaration by the land owner approving of this declaration; a site map showing the lot, any structures on the site, the current use of the site, the species and size of tree proposed for heritage status; and a narrative explaining why the applicant wishes to designate that tree as a Heritage Tree.

Criteria for Designation. No tree standing on private property shall be designated a heritage tree without the consent of the property owner. No tree on City-owned property shall be designated a heritage tree without the consent of the Mayor or a majority of the city council members. Upon receiving a complete and valid request for heritage tree status, the Tree Department shall obtain an arborist's report evaluating the condition of the tree. The arborist's report shall include an evaluation of the tree's health, aerial space, open ground area for the root system, longevity of the species, and suitability for long-term retention.

Adoption of Heritage Tree Status. City Staff shall present to the Parks Board all information, including the application, arborist's report, and any additional information discovered by staff. The Parks Board shall consider the application at a public meeting and make a recommendation to the City Council whether or not to adopt the tree as a Heritage Tree. Adoption of a tree as a heritage tree shall be accomplished by a motion or resolution of the City Council based on the tree's historical, cultural, or other value as determined by the City Council.

Protection of Heritage Tree. When a tree is designated as a Heritage Tree, a plaque so signifying shall be placed near the tree. The City shall place a notice in the land records of the Pierce County Auditor for all properties upon which a heritage tree is located, stating that the

heritage tree is protected by the provisions of this Chapter. The restrictions placed on a Heritage Tree shall bind all successors, heirs and assigns. It shall be unlawful to remove, damage in any way, or defile a heritage tree, its plaque, or any protective measures taken for that tree.

Maintenance. The City shall maintain all heritage trees that are located on City property or on public rights of way within the City. It shall be the duty of every owner of property upon which a Heritage Tree is standing to maintain that tree to the best of their ability. The City may give advice and assistance to property owners regarding proper maintenance of heritage trees.

Hazardous Heritage Tree: If, in the best judgment of the Tree Department, a heritage tree, whether standing on public or private property, has become a hazard, an arborist's report shall be obtained evaluating the condition. The arborist shall evaluate the condition of the tree and recommend a suitable course of action. With the Tree Department's approval the recommended course of action shall be carried out by the owner of the Heritage Tree.

Removal of Heritage Tree Designation. A tree that has been designated as a Heritage Tree can be removed from designation upon a finding by the City Council, by motion or resolution, that one or more conditions exist: (1) The tree is of poor health, diseased or no longer alive; (2) The tree no longer meets the criteria for designation as a Heritage Tree; (3) The tree interferes with the needed location of proposed improvements or structures; or (4) The tree is on private property and the property owner no longer wants the designation.

Acts of Nature. In cases where a heritage tree was damaged by a natural disaster or other acts of nature, the Tree Department may waive the provisions of this subsection to the extent that the City may alleviate immediate hazards.

VI. STANDARDS AND SPECIFICATIONS

City of Bonney Lake Street Tree Specifications

1. All plant material shall conform to American Standard for Nursery Stock.
2. All plants shall be protected during all shipments from sun and drying winds.
3. All plants shall be true to species and variety specified and nursery grown in accordance with good horticultural practices and suitable for a hardiness zone 6b or lower.
4. All plants shall have been freshly dug and trained in development and appearance as to be good quality in form, compactness and symmetry.
5. All plants shall be sound, healthy, vigorous, well branched and densely foliated at time of leaf out, and free of disease and insects (eggs, larvae, or adults). They shall have healthy, well developed root systems and be free from physical damage.
6. All plants shall be labeled with plant name and size.
7. Trees with multiple leaders may be rejected. Trees with pruning cuts over 3/4" in diameter that are not calloused may be rejected.
8. Trees will have a trunk diameter between 1 1/2" to 2 1/2" unless due to a variance particular to a specific species. Measurement shall be taken at 6" above ground level. Trees shall be a minimum of 7' in height unless due to a variance particular to a specific species.

9. Tree root systems shall be balled and burlapped or delivered in a growbag. Ball sizes should always be of a diameter and depth to encompass enough of the fibrous and feeding root system for the full recovery of the plant.
10. Burlap shall completely cover the root ball and be tightly bound with rope or twine. All materials shall be of a biodegradable nature.
11. Root flares shall be within 3" of the top of the root ball.
12. Root balls that are dry, cracked, or broken before or during planting may be rejected.
13. Root balls shall correspond to the following chart:

Trunk Diameter	Minimum Diameter Ball	Ball Depth Minimum
1½"	20"	13.5"
1¾"	22"	15.0"
2"	24"	16.0"
2½"	28"	19.0"

Species Selection

All tree species shall be selected from the provided City of Bonney Lake Street Tree Species List unless otherwise indicated and approved by the City. No more than 35% of any one species shall be used on any street.

Tree species will be selected using the “right tree in the right place” principle. The growing space and anticipated size at maturity will dictate the size category from which tree species will be chosen.

Plant Certification

All plant material shall comply with State and Federal laws and regulations governing the inspection, shipping, selling and handling of plant stock. A certificate of inspection for injurious insects, plant diseases and other plant pests shall accompany each shipment of plant material. The certificate shall bear the name and address of the source of the stock.

Plant Inspection

Plants shall be subject to inspection for conformity to specifications by the City of Bonney Lake prior to planting.

Tree Planting Specifications

The standards and specifications shall be followed for planting of all trees regardless if done by the City of Bonney Lake or a developer/contractor.

Planting Hole

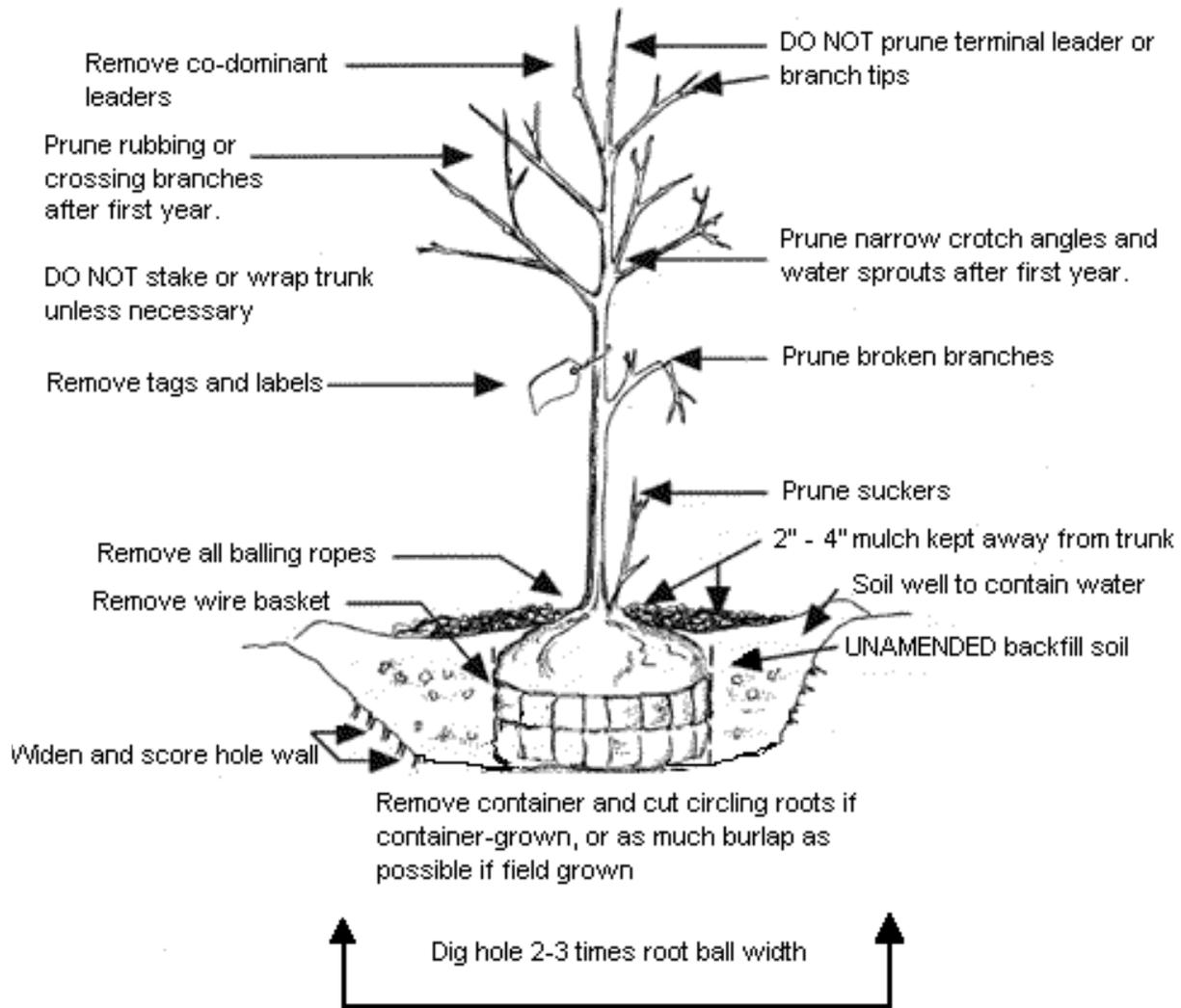
1. Trees shall be planted so that they will not interfere with solar access to south walls, roof tops, underground or overhead utilities, fire hydrants or public street lights.
2. Planting holes shall be dug in accordance with the Planting Diagram (Figure 1).

3. Planting holes shall be at least 2 - 3 times the diameter of the root ball. The root ball shall be set to rest on undisturbed soil in the bottom of the planting hole so as to leave the trees root flare at ground level or slightly higher (no more than 1" higher).
4. Excavated planting holes could pose as a safety hazard and shall be adequately barricaded if to be left unattended.
5. When soil conditions prove unsatisfactory to the promotion of plant growth, or if underground conflicts exist, an alternate planting location may be selected by the City.

Don, regarding the tree planting Diagram, I have two comments:

- 1) What is meant by the "Do not stake or wrap trunk unless necessary"? I am not aware when such a step would be recommended.
- 2) Add: "Leave a small raised berm around the edges of the cleared area to hold water."

Figure 1
Tree Planting Diagram



Planting Operation

1. All plants shall be moved, lifted or carried by supporting the root ball. Plants shall not be carried by grasping the trunk or branches, nor shall they be dragged. Plants will not be thrown or bounced.
2. All plants shall be watered daily while in storage.
3. All plants shall be protected while in transport from sun and drying winds.
4. All plants shall be planted in the center of the planting hole.
5. Ropes, strings, baskets, and burlap shall be removed completely from the root ball, unless in so doing will destroy the integrity of the root ball. In this instance, then as much as possible will be removed with at least the upper half of the ball clear of foreign material.
6. Plants in growbags or pots must be removed before planting.
7. If the roots are "rootbound", attempt to loosen some or slice some of them before backfilling the hole.

8. Planting holes shall be backfilled halfway with excavated soil then watered, if possible, to settle the soil. Otherwise, the soil should gently tamped to remove air pockets and pack the dirt around the roots. The remainder of the hole will then be filled with the excavated soil and be tamped once again..
9. Planting areas shall be finish graded to conform to the Planting Diagram leaving the tree's root flare at ground level or slightly higher (no more than 1" higher).
10. Secondary roots (adventitious roots) located above the root flare shall be pruned off.
11. Form a "water dam" around the planting area at least 2-feet from the tree to hold water for deep soaking.
12. Planted trees shall be mulched with aged wood chip/shredded bark mulch to a depth of 2 - 4". Mulch will be pulled back from the trunk for 3-inches so as not to be touching it.
13. Trees shall be watered upon completion of mulching. Frequent watering will assure survival. Infrequent watering during the summer will stress and possibly kill the trees.
14. All planting labels and other foreign objects shall be removed from the trunk, branches, and foliage and removed from the planting site.
15. Only those trees unable to remain upright after planting shall be staked. Drive treated 2'x 6' pine tree stakes through the bottom of the planting holes, outside of the root ball.
16. The supporting material shall be 1-inch wide plastic chainlock tree tie.). Unless otherwise determined by the developer or contractor, the stakes and staking material shall be removed by the Homeowner and they may retain them.
17. (Not sure this needs to be present. Recommend removal.) Trees shall not be trunk wrapped when planted in the spring.
18. Only broken and damaged limbs shall be pruned at time of planting.
19. Post planting watering shall be the responsibility of the Homeowner unless the City assumes the responsibility in certain instances.

Location of Street Trees

Landscaped plans required by the City for private developments which include the dedication planting strips, parks or other public open spaces, should include a requirement to prepare a Master Street Tree Planting Plan. The plan should be at a scale of 1" = 100', and should adhere to the following minimum standards:

Trees should be at least:

- 30' from any street corner
- 10' from a driveway
- 20' from a street light or utility pole
- 10' from a fire hydrant
- 10' from a gas/water valve or utility laterals
- *30' tree spacing between small tree species
- *50' spacing between large tree species

* Tree species selected for the City of Bonney Lake Street Tree Species List (See Appendix C).

Clean Up

No debris shall be left at the planting site nor shall any conditions exist after planting as to result in a safety hazard.

Acceptance

The City of Bonney Lake shall perform an inspection of all plant material at a 1 - 3 week interval after planting. Any discrepancies will be noted in plant health and vigor and the developer or contractor will be notified. Those plants healthy and vigorous will be accepted. A second inspection shall be performed by the City of Bonney Lake at 12 - 18 months following planting to ensure that the trees are in a healthy and flourishing condition.

Guarantee

All plants shall be guaranteed to be healthy and in a flourishing condition for a minimum of 18 months from the date of planting if performed by the developer or contractor. The guarantee excludes loss due to abnormal weather conditions, vandalism, animal damage, insect/disease, or maintenance negligence. The developer or contractor shall replace at their cost (one time only) all of those trees found not to be in a healthy, flourishing condition.

Appendix A Operations and Maintenance Guidelines

TASK: #1: PRUNING - STREET TREES

DESCRIPTION: Pruning of Street Trees in Street Scape Areas.

OPTIMAL QUALITY: Trees pruned to provide vehicle and pedestrian safety, to develop strong branch structure and attachment, to remove dead, diseased, rubbing and weakly attached limbs, and to maintain an aesthetic, natural, beautiful form.

EQUIPMENT & MATERIALS: Pruning shears, loppers, saw, chain saw, tarp, rake, broom, blower, chipper if applicable, and safety equipment. Bucket truck and/or climbing saddle & rope if necessary.

WORK METHOD:

1. Inspect Tree.
2. Set up and maintain vehicle and pedestrian traffic control.
3. Prune, using care not to injure healthy wood.
4. Clean up debris and haul to compost site.
5. Clean up walkways and streets

CREW SIZE: 2 to 3 persons depending on the traffic control requirements.

LOCATION: All Streetscape areas.

SEASON: (year round)

FREQUENCY: Refer to the Street Tree Pruning Matrix (see attached)

TASK STANDARD: 53 – 212 minutes per tree depending on size

TASK: #2 - STREET TREE MAINTENANCE

DESCRIPTION: All street tree maintenance except pruning. This includes removing suckers, spraying herbicide, staking, mulching, watering, grate inspection, cleaning, and maintenance.

OPTIMAL QUALITY: Clean and level grates, gravel in wells, and all street trees looking healthy.

EQUIPMENT & MATERIALS: Flat shovel, leaf rake, garbage can, pruning shears sledge

hammer, blower/vacuum, sprayer. Materials needed: wooden stakes, pea gravel, herbicide, mulch.

WORK METHOD:

1. Remove litter from grates and wells at base of tree.
2. Add pea gravel if necessary.
3. Cut back interior of the grate if trunk is growing into it.
4. Root prune tree if buckling grate and/or sidewalk.
5. Control Weeds around base of trees.
6. Mulch trees in areas where there are no grates. Keep mulch at least 3-inches away from the trunks.
7. Remove sucker growth.
8. Remove any broken limbs that can be reached from the ground.
9. Stake new trees as necessary.

CREW SIZE: Two persons (Arterials and Collectors)
Three persons (Downtown)

SEASON: (year round)

FREQUENCY: Three times per year (Downtown trees)
Once per year (other street trees)

TASK STANDARD: 5 minutes per tree

TASK: #3 - STREET TREE SCOUTING

DESCRIPTION: Rapid visual inspection of street trees. Generally performed from a vehicle, by two staff people who are knowledgeable of street tree maintenance needs.

OPTIMAL QUALITY: Potential and existing tree problems should be identified so preventative measures can be taken to ensure healthy safe street trees..

EQUIPMENT & MATERIALS: Vehicle, maps, notepad with scouting tally sheet.

WORK METHOD:

1. Drive each management unit, visually inspecting each tree.

2. Record location, tree species, size, etc. for trees with problems.
3. Transfer information from work sheets to computer data base and submit as a work order.

CREW SIZE: Two persons

LOCATION: Street trees as indicated in the master street tree plan.

SEASON: Summer, and after every storm event.

FREQUENCY: 1-2 times per year.

TASK STANDARD: 15 minutes per management area

TASK: #4 - STREET TREE WATERING

DESCRIPTION: Manual watering of newly established street trees during the first two growing seasons after planting. Use “tree canteens” when appropriate. See description sheet.

1. Water twice weekly during the first month after planting. Then water weekly through the remaining summer months. Water at least once a month during the second summer.
2. Use 5 gallons per inch of diameter for each tree.

OPTIMAL QUALITY: Healthy well established street trees not stressed from drought.

EQUIPMENT & MATERIALS: Water truck, water injector, traffic cones and signs, tree canteens and plastic chainlink tree tie.

WORK METHOD:

1. Set up and maintain necessary traffic control devices.
2. Hand water street trees using water from water truck.
3. If using tree canteens, add water to several along a street and return to add more after first application has drained.

CREW SIZE: One person

LOCATION: Street trees as indicated in the master street tree plan.

SEASON: May - October

FREQUENCY: Once per week for 25 weeks during dry part of season, in the absence of

adequate rain.

TASK STANDARD: 10 minutes per tree.

Appendix B Tree Removal Evaluation

It is often difficult to make a final determination upon when a City tree should be removed. It is essential that the first priority in all City Forestry operations is public safety. Public perception is very often incorrect in believing that if a tree has leaves it is safe and sound. Tree structural soundness is not a direct correlation to tree vigor.

The information in this Appendix is provided to assist in determining when a tree needs removal and is, or is becoming a hazard. This form and accompanying text is also a means of documentation but it not necessarily to be the sole determinant. Experience, common sense, knowledge, and ability will always be additional tools used to determine tree removal potential.

Using the Tree Removal Evaluation Form

This form is used in the evaluation process of a tree to determine whether the tree should be removed, repaired, or reinspected at a later date, and is designed to be completed by knowledgeable field personnel.

Tree Removal Evaluation Form

Site/Address: _____ Tree #: _____

Date: _____ Inspector: _____

Location Map: A layout sketch of the tree and its relationship to other fixed objects, streets, walks, structures, other trees, utilities, signs, etc (if necessary):

Tree Characteristics

Species: _____

Dbh: _____ Live crown ratio: _____%

Age (circle one): *young* *intermediate* *mature* *over mature*

Site (circle one): *street tree* *park tree* *other:* _____

Tree Health Rating: A rating of 1 in any category may warrant tree removal

Crown Evaluation: (leaf color and size, growth rate, callus growth over wounds, branch attachment, branch structure, crown density, included bark, epicormic sprouts, dieback, decline, defects, wounds, deadwood, live crown ratio, insects, disease, exterior fungal bodies)

very poor 1 2 3 4 5 excellent

Stem Evaluation: (bark intact, cracks, decay, wounds, callus growth, included bark, exterior fungal bodies, lean, canker, multiple stems, epicormic sprouts, cavity)

very poor 1 2 3 4 5 excellent

Root System and Basal Evaluation: (root flare, girdling roots, surface roots, basal wounds, decay, cavity, root pruning, root zone area, basal sprouts, exterior fungal bodies, canker, mushrooms around base, grade change due to adding fill or cutting of roots)

very poor 1 2 3 4 5 excellent

Tree Health Rating Total: (Is there a guide for what various totals mean like the "Hazard tree scoring?")

Tree Hazard Rating

Failure Potential: identifies the most likely part to fail and rates the likelihood that the structural defects will result in the failure.

Low 1 2 3 high

Size of Part:

Small 1 2 3 large

(<2-3" diameter) (>2-3" diameter) (large limbs/section of crown)

Target:

Low use 0 1 2 3 high use

Will branch or trunk failure strike a manmade target? No = 0 Maybe = 2 Yes = 3

A zero rating in Target eliminates a tree from being a hazard

Hazard Rating Total:

Low = 1 - 4

Medium = 4 – 7

High = 8 or more

Hazard Abatement

Are tree defects and hazards repairable?: yes no

If yes, how: _____

Comments: _____

Recommendations: Consult Health/Hazard Rating Sheet

____ Remove tree - tree is hazard

____ Remove tree - poor health/decline - potential future hazard

____ Repair tree - alleviate hazard or defect

____ Reinspect tree in future - _____ months

____ No special action needed

Other _____

Inspector: _____

Date: _____

Tree Health /Hazard Rating Table

Health Rating	Hazard Rating	Comments
Very Poor	Low	Tree may need removal due to health or aesthetics. Size of tree may not warrant it a hazard. Probable removal
Poor	Low	Young tree or tree possibly in decline. May eventually need removal due to health or aesthetics. Eventual removal if health doesn't improve. Re-inspect tree.
Fair	Low	Care may be possible to improve tree health. Should not be an immediate removal concern. Re-inspect tree.
Excellent or Good	Low	Best situation. Tree does not warrant removal.
Very Poor	Medium	Tree is candidate for removal. May not be immediate removal concern. Probable removal.
Poor	Medium	Tree is eventual removal if health cannot be improved. Re-inspect tree.
Fair	Medium	Tree is eventual removal if health declines
Excellent or Good	Medium	Tree should not need removal unless health declines. Care to alleviate hazard. Re-inspect tree.
All trees rated as a high hazard need in-depth, detailed evaluation as to removal needs and time frame.		
Very Poor	High	Hazard tree. Removal necessary.
Poor	High	Removal may not be immediate. Hazard tree. Care to alleviate hazard. Removal probable.
Fair	High	Care to improve health or decrease hazard. Removal probable, though may not be immediate. Possible removal or re-inspection.
Good or Excellent	High	Few trees will fit this category. Decline in health could warrant removal. Care to improve health or lower hazard. Possible removal or re-inspection.

Appendix C
City of Bonney Lake Tree Planting Guide
Small Trees: Appropriate Under Lower Powerlines
Good For Planting Strips With Limited Space

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
<i>Acer ginnala</i> 'Flame' Amur Maple	20	20		red	Select or prune for single stem; can be multi-trunked.
<i>Acer grandidentatum</i> 'Schmidt' Rocky Mt. Glow Maple	25+	15		intense red	
<i>Acer griseum</i> Paperbark Maple	25	20			Smooth, peeling, cinnamon colored bark.
<i>Acer palmatum</i> Japanese Maple	20	24	small red	yellow, orange, red	Hundreds of varied cultivars. Can be slow growing.
<i>Acer platanoides</i> 'Globosum' Globe Norway Maple	20	18		yellow	Rounded top, and compact growth.
<i>Amelanchier grandiflora</i> 'Princess Diana'	20	15	White	bright red	Good for limited space.
<i>Amelanchier x grandiflora</i> 'Autumn Brilliance' Serviceberry	20	15	White	bright red	Reliable bloom.
<i>Cercis Canadensis</i> Eastern Redbud	25	30	Red	yellow	Blooms before leaves are out.
<i>Cornus kousa</i> 'Chinensis' Chinese Kousa Dogwood	20	20	White	reddish to scarlet	Most resistant to disease of the dogwoods.
<i>Fraxinus pennsylvanica</i> 'Johnson' Leprechaun Ash	18	16		yellow	A miniature in every way.
<i>Magnolia x loebneri</i>	20	20	large white	yellow	Several cultivars.
<i>Magnolia grandiflora</i> 'Little Gem'	15	10	white	evergreen	Usefull where larger varieties are inappropriate.
<i>Malus</i> 'Adirondack'	18	10	white		Red fruit. Excellent scab resistance.
<i>Malus</i> 'Red Barron'	18	8	red	yellow	Good for narrow spaces. Red berries.
<i>Malus</i> 'Golden Raindrops'	18	13	white	yellow	Abundant yellow fruit.

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
<i>Parrotia persica</i> Persian Parrotia	30	20	Showy Stamens	Yellow - orange red	Select or prune for single stem; can be multi-trunked.
<i>Prunus</i> 'Frankthrees' St. Helens Plum	Mt. 20	20	pink		Purple foliage.
<i>Prunus</i> 'Newport' Newport Plum	20	20	light pink	reddish	Purple red foliage.
<i>Prunus cerasifera</i> 'Krauter Vesuvius' Flowering Plum	30	15	pink		Upright growth, darkest foliage of the plums.
<i>Prunus</i> 'Snowgoose' Snow Goose Cherry	Snow 20	20	white		Upright when young, spreading when older.
<i>Prunus serrulata</i> 'Amanogawa' Flowering Cherry	20	6	pale pink double	bronze	Particularly useful for very narrow planting strips.
<i>Prunus x yedoensis</i> 'Akebono' Flowering Cherry	25	25	pink	yellow	

**Small/Medium Trees: Appropriate Under Higher Power Lines
(management required to maintain clearance under lower power lines)
Good For Standard 5' Planting Strips**

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
<i>Acer campestre</i> Hedge Maple	30	30		yellow	
<i>Acer campestre</i> 'Evelyn' Queen Elizabeth Maple	35	30		yellow	More upright branching than the species.
<i>Acer truncatum</i> x <i>A. platanoides</i> 'Kiethsform' Norwegian Sunset	35	25	yellow	yellow-orange/red	
<i>Acer truncatum</i> x <i>A. platanoides</i> 'Warren's Red' Pacific Sunset	30	25	yellow	yellow-orange/red	Use root barrier.
<i>Arbutus</i> 'Marina'	25	15	pink	evergreen	Good substitute for Pacific Madrone. May

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
					exceed 25' height under some site conditions.
<i>Crataegus crus-galli</i> 'Inermis' Thornless Cockspur Hawthorn	25	30	small white	Orange to scarlet	Red persistent fruit.
<i>Crataegus x lavalii</i> Lavalle Hawthorne	28	20	small white	bronze	Thorns on younger trees.
<i>Crataegus phaenopyrum</i> Washington Hawthorn	25	20	small white	scarlet	Thorny.
<i>Koelreuteria paniculata</i> Goldenrain Tree	30	30	bright yellow	yellow	Midsummer blooming.
<i>Magnolia grandiflora</i> 'Victoria'	25	20	White	evergreen	
<i>Malus</i> 'Tschonoskii'	28	14	White	scarlet	Sparse green fruit, pyramidal.
<i>Prunus x hillieri</i> 'Spire'	30	10	pink	orange red	
<i>Pyrus calleryana</i> 'Capital' Pear	35	12	White	reddish purple	Smaller than 'Aristocrat', may break up in snow.
<i>Pyrus calleryana</i> 'Aristocrat' Pear	40	45	White	red	
<i>Pyrus calleryana</i> 'Redspire' Pear	35	25	White	yellow to red	Pyramidal.
<i>Pyrus calleryana</i> 'Autumn Blaze' Pear	30	25	White	scarlet	Vigorous.
<i>Styrax japonica</i> Japanese Snowbell	25	25	white	yellow	Plentiful, green 1/2" seeds.
<i>Tilia cordata</i> 'De Groot' Linden	30	20		yellow	Compact, suckers less than other Lindens.

Medium/Large Trees: Not Appropriate Under Wires
Approved For Planting Strips 5' or larger
(Wider planting strips recommended where space allows)

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
<i>Acer freemanii</i> Autumn Blaze Maple	50	40		orange	
<i>Acer nigrum</i> 'Green Column' Green Column Maple	50	20		yellow to orange	Good close to buildings.
<i>Acer platanoides</i> 'Columnar'	40	15		yellow	Good close to buildings.
<i>Acer platanoides</i> 'Emerald Queen'	50	40	yellow	yellow	Use root barrier.
<i>Acer platanoides</i> 'Parkway'	40	25	yellow	yellow	
<i>Acer rubrum</i> 'Bowhall' Bowhall Maple	40	15		yellow orange	
<i>Acer rubrum</i> 'Karpick' Karpick Maple	35-40	20		yellow to orange	May work under very high powerlines with arborist's approval.
<i>Acer rubrum</i> 'Scarsen' Scarlet Sentinel Maple	40	20		yellow orange	
<i>Acer pseudoplatanus</i> 'Atropurpureum' Spaethii Maple	40	30		not significant	Leaves green on top purple underneath.
<i>Aesculus x carnea</i> 'Briottii' Red Horsechestnut	30	35	large 10" red clusters	no	Resists heat and drought better than other horsechestnuts.
<i>Carpinus betulus</i> 'Fastigiata' Pyramidal European Hornbeam	35	25		yellow	
<i>Fagus sylvatica</i> 'Davyck Purple' Purple Beech	40	12		no	Purple foliage.
<i>Betula jacquemontii</i> Jacquemontii Birch	40	30		yellow	White bark makes for good winter interest.
<i>Fraxinus oxycarpa</i> 'Raywood' Raywood Ash	35	25		reddish purple	

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
<i>Fraxinus pennsylvanica</i> 'Patmore' Patmore Ash	45	35		yellow	Extremely hardy, may be seedless.
<i>Fraxinus Americana</i> 'Autumn Applause' Ash	40	25		purple	
<i>Fraxinus pennsylvanica</i> 'Urbanite' Ash	50	40		deep bronze	
<i>Ginko biloba</i> 'Autumn Gold'	45	35		yellow	
<i>Ginko biloba</i> 'Princeton Sentry'	40	15		yellow	Very narrow growth.
<i>Nothofagus Antarctica</i> Southern Beech	50	35		none	Rugged twisted branching and petite foliage.
<i>Oxydendron arboretum</i> Sourwood	35	12	white, not noticeable	red	Consistent and brilliant fall color.
<i>Gleditsia triacanthos</i> Shademaster Honeylocust	45	35	not noticeable	yellow	Do not confuse with 'Sunburst'.
<i>Quercus</i> 'Crimschmidt' Crimson Spire Oak	45	15			Hard to find.
<i>Quercus Ilex</i> Holly Oak	20	20			Prune to keep small, leave it alone to grow large.
<i>Prunus sargentii</i> 'Columnarus'	35	15	pink	orange to orange red	The cherry with the best fall color.
<i>Prunus cerasifera</i> 'Thundercloud' Plum	20	20	light pink		Dark purple foliage.
<i>Tilia americana</i> 'Redmond'	35	20	fragrant	yellow	Pyramidal, needs water.
<i>Robinia x ambigua</i> 'Idahoensis' Pink Idaho Locust	35	25	rose pink	yellow	Fragrant flowers.
<i>Tilia cordata</i>	35	20	not	yellow	Pyramidal.

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
'Chancole' Chancellor Linden			noticeable		
<i>Tilia cordata</i> 'Greenspire' Greenspire Linden	40	30		yellowish	Symmetrical, pyramidal form.

**Large Trees: Not Appropriate Under Wires
Good For Planting Strips Greater Than 5'**

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
<i>Acer saccharum</i> 'Bonfire'	50	40		bright orange red	Fastest growing sugar maple.
<i>Acer saccharum</i> 'Commemoration'	50	35		orange to orange-red	Resistant to leaf tatter.
<i>Acer saccharum</i> 'Green Mountain'	45	35		red to orange	
<i>Cercidiphyllum</i> <i>japonicum</i> Katsura Tree	40	40		Yellow to orange	
<i>Fagus sylvatica</i> Green Beech	50	40		bronze	Silvery-grey bark.
<i>Liriodendron tulipifera</i> Tulip Tree	60	30	yellow- greenish	yellow	Fast-growing tree.
<i>Nothofagus Antarctica</i> Southern Beech					
<i>Nyssa sylvatica</i> Tupelo	70+	20	not noticeable	Apricot to bright red	Handsomely chunky bark.
<i>Platanus x acerifolia</i> 'Liberty (Island)'	50	45		Red	
<i>Platanus x acerifolia</i> 'Yarwood' Yarwood Planetree	50	40		Yellow- brown	High resistance to powdery mildew.
<i>Quercus bicolor</i> Swamp White Oak	100	80		Varies	Shaggy peeling bark
<i>Quercus palustris</i>	80	40			More upright form of Pin Oak.

Botanical name Common Name	Height in feet	Spread in feet	Flowers	Fall Color	Comments/Notes
"Crownright"					
<i>Ulmus</i> 'Homestead' Homestead Elm	60	35	not noticeable	Yellow	
<i>Ulmus</i> 'Pioneer' Pioneer Elm	60	50	not noticeable	Yellow	Resistant to Dutch elm disease.

Appendix D Action Plan

This section of the Community Forestry Plan sets forth a five year implementation strategy to execute the plan. Each project has a reference to the action identified in the plan, an estimated starting and ending date, the responsible party, and the estimated cost.

Project #1 – Tree Inventory.

Inventory City trees in City Parks and other public places. Apply for an Urban Forestry Assistance Grant from the WA State Department of Natural Resources.

Start/end date: December 2005 (grant app. due end of January 2006)/End TBD

Staff Lead: Gary Leaf/Consultant

Estimated cost: \$12,000

Project #2 - Annual Arbor Day Project

Plan and implement a ceremony and project, and maintain designation in the national Tree City USA program.

Start/end date:

Responsible staff: Gary Leaf

Estimated cost: \$500

Project #3 – Training

All City maintenance workers assigned to work on trees will receive training, including how to properly prepare the planting hole.

Start/end date:

Responsible staff: Rick Shannon/Steve Willadson

Estimated cost:

Project #4- Tree Booklet

Develop and print a tree booklet for homeowners that is unique to Bonney Lake and the natural species that do well here and fit in with the City's community forestry goals and themes. Also place on City website.

Start/end date:

Responsible staff: Gary Leaf

Estimated cost:

Project #5 – Specific Street Tree Planting Projects

Develop unified street tree themes for various sections of town as part of a future appendix to this community forestry plan, or in the City's development regulations. Implement in future years.

Start/end date:

Responsible staff: Gary Leaf/Consultant

Estimated cost: