

NOTEWORTHY TREES
Of
SEATTLE UNIVERSITY

A Report of Eighteen Trees of
Noteworthy Importance
At
Seattle University Campus
Seattle WA

Prepared for the
Department of Grounds and
Landscaping

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NOTEWORTHY TREES

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The specimen trees and landscape plantings at the campus of Seattle University (SU) are renowned for their exceptional quality. It is common knowledge among professional gardeners, arborists and landscape architects that the grounds at SU are a foremost location to see great specimens of uncommon and unusual trees, and for skillfully designed gardens.

The plantings at SU are among the finest in our State. Outside of Washington Park Arboretum, I know of no finer campus collection of mature trees and shrubs, or historic plantings, than at SU.

In March 2008 I visited the campus to assess a recently planted maple tree, and I met with Becki Koukal-Liebe of the Grounds and Landscaping Department. During our conversation, she expressed the need for increased knowledge of and appreciation for the trees on campus among the various campus departments at SU. We agreed that a report documenting specific trees, their characteristics and appraised value, would accomplish this objective.

We arrived at the name Noteworthy Trees because it's a fitting title, and it carries no legal significance in any nearby municipalities.

My assignment is to identify 18 trees, which, as individual specimens, or as a species, stand out among the plantings at SU.

On May 22, 2008 I met on campus with Becki Koukal-Liebe and Janice Murphy of Grounds and Landscaping Department, and with Ciscoe Morris, former Lead Gardener. We walked through campus and discussed specific trees and landscape plantings, and their history on SU campus.

The purpose of this report is to identify and report on specific noteworthy trees, and establish their appraised value. This report also recognizes the many magnificent specimen trees and landscape plantings on SU campus.

Summary: Eighteen noteworthy trees are identified and documented. Their total appraised value is \$355,500.

During June 2008 I inspected, measured and photographed the subject trees. The total tree count in this report is 25, as some trees are included as pairs (dogwood, spruce and beech), or as a grouping (palms). Trees are identified by their Latin binomial, and common name.

Tree height and canopy width are reported in feet. Trunk diameter is recorded in inches as DBH (diameter measured 4.5 feet from grade), or as caliper (diameter measured 12 inches from grade). Live crown ratio is the ratio of tree height to the length of trunk bearing live branches.

Appraised value is determined using Trunk Formula Method, or replacement costs.

The table below identifies each tree by number, common name, location, noteworthy characteristics, and appraised value. Specific information on each tree follows.

No.	Tree name	Location	Noteworthy Characteristics	Appraised Value
1	Mugho pine	Union Green	Outstanding form, historic.	\$6,330
2	Pink Star Magnolia	Admin.	Uncommon & large.	\$4,800
3	Sargent Magnolia	Admin.	Very rare and unusual.	\$5,900
4	Ponderosa Pine	Garrand	Large, mature specimen.	\$23,025
5	Golden Catalpa	Garrand	Uncommon, showy foliage.	\$3,500
6	English Laurel	Garrand	Outstanding form, historic.	\$11,435
7	Mount Omei Dogwood (Pair)	Piggot	Very rare and unusual.	\$5,700
8	Moerheim Spruce	The Quad	Classic form and color.	\$6,845
9	Hollywood Juniper	Loyola	Unusual shape, mature form.	\$6,220
10	Japanese Maple	Loyola	Mature form and structure.	\$6,210
11	Weeping Beech (Pair)	Library	Unusual form, large size.	\$21,350
12	Nest Spruce (Pair)	Library	Outstanding size, uncommon.	\$54,000
13	Red Oak	Bannan	Mature form and structure.	\$18,385
14	Oriental Spruce	Piggot	Outstanding size, uncommon.	\$15,785
15	Giant Redwood	Piggot	Outstanding size, classic form.	\$63,495
16	Incense Cedar	Piggot	Outstanding size, classic form.	\$36,345
17	Deodar Cedar	Union Green	Outstanding size, classic form.	\$41,175
18	Windmill Palm (5)	Lynn	Uncommon, large specimens.	\$25,000
				\$355,500

Mugo Pine

Pinus mugo

Tree Height	25 feet	Tree No. 1
Canopy Width	26 feet	Location: Union Green – Spring St.
Trunk Diameter	(5) 5-8.5" CAL	Distinguishing characteristics and features: Outstanding form and structure. Among the oldest trees on campus.
Live Crown Ratio	80%	
Appraised Value \$6,330		

Mugo pine is a very hardy large shrub or small tree. Modern-day cultivars (cultivated variety) have selected for compactness and slow growth, a far cry from this impressive specimen.

Installed here as part of the original garden, it is among the oldest trees on campus.

Supported by five trunks, this tree has escaped cloud pruning and has grown into the quintessential form of its species.



This tree is specimen quality for its outstanding canopy form and branching architecture.

Pink Star Magnolia

Magnolia stellata f. 'Rose veitch'

Tree Height	28 feet	Tree No. 2 Location: Administration – 10 th Ave.
Canopy Width	14 x 18 feet	
Trunk Diameter	6.5" CAL	Distinguishing characteristics and features: Uncommon cultivar, large size.
Live Crown Ratio	100%	
Appraised Value \$4,800		

Originating in Japan, this species is very slow growing and very uncommon in Seattle. This specimen is also unusually tall and wide for a star magnolia.

Pink star magnolia is one of the early bloomers in the garden and gives a dazzling display of two-tone pink flowers.



Sargent Magnolia

Magnolia sargentiana

Tree Height	41 feet	Tree No. 3
Canopy Width	18 x 29 feet	Location: Administration 10 th Ave
Trunk Diameter	8.5" CAL	Distinguishing characteristics and features: Rare in Seattle.
Live Crown Ratio	100%	
Appraised Value \$5,900		

Sargent magnolia is a very rare tree in Seattle. A native to China, from the forests in Szechwan Province, this tree has a bold and masculine form in its branch structure, flower size and leaf shape.

This tree is a young specimen and is becoming a stately addition to the Administration Building.



Ponderosa Pine

Pinus ponderosa

Tree Height	118 feet	Tree No. 4
Canopy Width	26 feet	Location: Garrand – North side
Trunk Diameter	31" DBH	Distinguishing characteristics and features: Large, mature specimen.
Live Crown Ratio	80%	
Appraised Value \$23,025		

A handsome tree with a striking appearance, Ponderosa pine commonly sports a stout clear trunk with spreading branches. Its distinctive bark, as the tree matures, is orange with black lining the crevasses. Some find the bark of the Ponderosa Pine to also have a vanilla-like aroma.

The State Tree of Montana, it is somewhat common in Seattle. Among the trees of this campus, this specimen stands out as one of the giants.



Golden Catalpa

Catalpa bignonioides 'Aurea'

Tree Height	20 feet	Tree No. 5
Canopy Width	28 feet	Location: Garrand – 10 th Ave
Trunk Diameter	8" CAL	Distinguishing characteristics and features: Uncommon, showy foliage and fruit.
Live Crown Ratio	100%	
Appraised Value \$3,500		

Framed among the dark green foliage of conifers, this golden specimen is the youngest in the *Noteworthy* collection. Janice Murphy planted this tree in 2002.

The large, heart-shaped golden leaves catch the eye on a brilliant sunny day. When in bloom, the erect panicles of white flowers are reminiscent of foxglove. These are followed later in the summer by dangling, beanlike seedpods.



Catalpa is native to the southern United States.

English Laurel

Prunus Name

Tree Height	37 feet	Tree No. 6
Canopy Width	51 feet	Location: Garrand – Marion & 10 th
Trunk Diameter	23" DBH	Distinguishing characteristics and features: Historic specimen, natural un-pruned form.
Live Crown Ratio	60%	
Appraised Value \$11,435		

Cicsoe Morris related to us, “Years ago, I was told by an old priest that the tree was planted when the building was built in 1891. I don't know if that is true, but it's been there a long time for sure.”

Most individuals of this species never make it through their juvenile stage before being topped and forced into a hedge. This tree has escaped that fate and displays the beauty of its natural form. (And based on its form, it is likely a cultivar of unknown origin.)



Mount Omei Dogwood (Pair)

Cornus capitata 'Omeiense'

Tree Height	25 & 27 feet	Tree No. 7
Canopy Width	13 & 16 feet	Location: Piggot – 10 th Ave
Trunk Diameter	3 & 5" CAL	Distinguishing characteristics and features: Very rare and unusual.
Live Crown Ratio	80%	
Appraised Value \$5,700 (pair)		

Native from the Himalayas to Indochina, this species was introduced into the nursery trade from Nepal to England in 1825.

Ciscoe Morris admits that when he selected these trees for use in the gardens, he wanted to plant a species that would stump all the plant identification classes that used the SU campus. Indeed, he was successful.



A tree very rare in the PNW, this dogwood is evergreen. It is covered in blossoms by early summer.

Moerheim Spruce

Picea pungens 'Moerheimii'

Tree Height	51 feet	Tree No. 8
Canopy Width	18 feet	Location: The Quad – Marion & 10 th
Trunk Diameter	14.5 “ DBH	Distinguishing characteristics and features: Classic conifer form, pest resistance, foliage color.
Live Crown Ratio	95%	
Appraised Value \$6,845		

This tree is from the 'Blue' or Colorado group of spruces and was introduced from Holland in 1912. Moerheim is selected for its intensely glaucous-blue needles and dense compact form.



This specimen stands at the SW corner of the Quad. Now at maturity, is a medium-sized tree, and displays a classic dense conical form.



Insect pests that often disfigure other 'Colorado' spruces in our region avoid this cultivar.

Hollywood Juniper

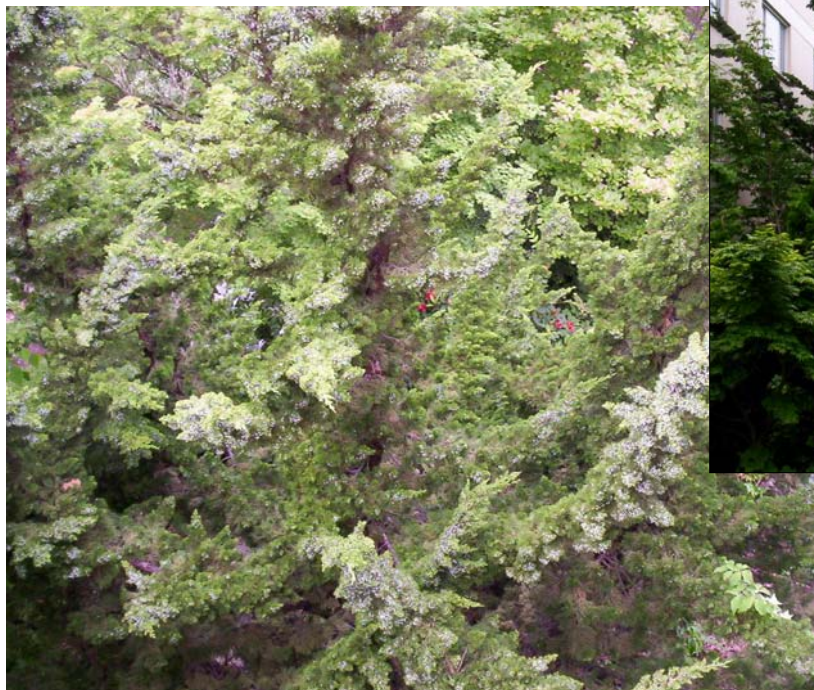
Juniperus chinensis 'Kaizuka' ('Torulosa')

Tree Height	33 feet	Tree No. 9
Canopy Width	33 feet	Location: Ciscoe Morris Biodiversity Garden
Trunk Diameter	14" DBH	Distinguishing characteristics and features: Unusual shape, mature form.
Live Crown Ratio	95%	
Appraised Value \$6,220		

A handful of Hollywood junipers grace the campus in their full mature and erect form. It is impossible to mistake these for anything else because of their twisted and irregular structure. This cultivar was not introduced from Japan until the 1920s; American-grown shrubs are relatively young. Most Hollywood junipers on campus are in their grandeur as mature specimens.

This specimen (right) fills the corner of the Ciscoe Morris Biodiversity Garden behind Loyola Hall.

The offices above view a rare glimpse into the tree's canopy from above covered in a copious display of blue waxy berries (below).



Japanese Maple

Acer palmatum

Tree Height	32 feet	Tree No. 10
Canopy Width	23 x 37 feet	Location: Loyola (Columbia & 10 th)
Trunk Diameter	14" CAL	Distinguishing characteristics and features: Mature canopy form and branch structure.
Live Crown Ratio	90%	
Appraised Value \$6,210		

Not an easy task to choose one among the many splendid Japanese maple trees on campus. Even though pressed up against the building, this tree has a brilliant full canopy, and beautifully exemplifies the characteristic form of this species.

The architecture of the branches (below) remains a hidden secret when in leaf, visible only to those who pause for a peek.



European Weeping Beech (Pair)

Fagus sylvatica 'Pendula'

Tree Height	43 & 38 feet	Tree No. 11
Canopy Width	39 x 39	Location: Lemieux Library (Columbia & 10 th)
Trunk Diameter	13" and 14" DBH	Distinguishing characteristics and features: Unusual form, large specimen size.
Live Crown Ratio	70%	
Appraised Value \$21,350 (pair)		



(Larger tree against North wall.)

These trees appear as a pair of graceful dancers the NW corner of the A. A. Lemieux Library. Their form changes slowly with time and it's impossible to predict their final shape.



(Smaller tree against West wall.)



These trees add a welcome playful softness against the solid lines and edges of the library.

Nest Spruce (Pair)

Picea abies "nidiformis"

Tree Height	16 feet	Tree No. 12
Canopy Width	18 feet	Location: Lemieux Library steps. (11 th)
Trunk Diameter	12 CAL	Distinguishing characteristics and features: Very rare, uncommon size and form.
Live Crown Ratio	100%	
Appraised Value \$54,000 (pair)		

This pair of trees is an absolute rarity and one of a kind. Almost identical in size and shape, this pair of Nest Spruces are in outstanding condition. Commonly called "Bird's Nest Spruce", these specimens are an *old fashioned* selection of this cultivar, and are a extraordinary find indeed.



Red Oak

Quercus rubra

Tree Height	80 feet	Tree No. 13
Canopy Width	48 x 53	Location: Bannan Hall – 11 th
Trunk Diameter	21" DBH	Distinguishing characteristics and features: Mature canopy form and branch structure.
Live Crown Ratio	80%	
Appraised Value \$18,385		

Several red oaks are scattered throughout campus. This large specimen is by far the healthiest, and provides scale and relief from the otherwise massive Bannan Hall.

This tree has beautiful form, and striking branch architecture.



Oriental Spruce

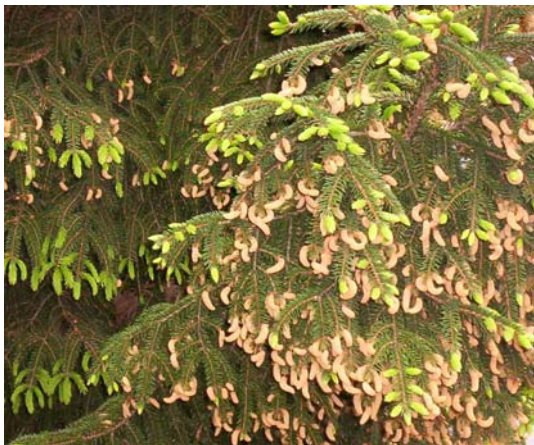
Picea orientalis

Tree Height	48 feet	Tree No. 14
Canopy Width	25 feet	Location: Piggot - Marion & 11 th
Trunk Diameter	(3) 12" DBH	Distinguishing characteristics and features: Outstanding size, uncommon species.
Live Crown Ratio	100%	
Appraised Value \$15,785		

The dark green foliage and erect branches make for a handsome and dignified form, offset by the graceful drooping branchlets.

Keeping all of its branches has preserved the quintessential form of this species. Its canopy extends fully to the ground.

Seasonal interest is provided by a profuse display of male cones. (Below)



Giant Redwood

Sequoiadendron giganteum

Tree Height	140 feet	Tree No. 15
Canopy Width	42 feet	Location: Piggot, South
Trunk Diameter	61" DBH	Distinguishing characteristics and features: Outstanding size and classic form.
Live Crown Ratio	100%	
Appraised Value \$63,495		

By far the largest, and arguably the stateliest tree on campus.



Incense Cedar

Calocedrus decurrens

Tree Height	96 feet	Tree No. 16
Canopy Width	28 feet	Location: Pigott, North side
Trunk Diameter	32" DBH	Distinguishing characteristics and features: Outstanding size and classic form.
Live Crown Ratio	90%	
Appraised Value \$36,345		

A handsome and dignified tree, its columnar habit creates a formal effect shown by these three mature specimens that flank the south edge of Union Green. The subject of this report is the center tree.

A native to Oregon State and parts of Nevada, its mature bark is a bedazzling spectacle of color and texture. (Bottom left.)



The lustrous long-decurrent dark green foliage is crowded into dense, fan-like sprays, which easily distinguishes it from other conifers. (Bottom right)



Deodar Cedar

Cedrus deodara

Tree Height	91 feet	Tree No. 17
Canopy Width	63 feet	Location: Union Green (NE corner)
Trunk Diameter	(2) 27" DBH	Distinguishing characteristics and features: Outstanding size and classic form.
Live Crown Ratio	90%	
Appraised Value \$41,175		

True cedars are from only four species in the plant kingdom, though many trees bear that common name. *Deodar* is the largest and most graceful of the four.



Selecting which among the true cedars on campus is most noteworthy is impossible, but this specimen on Union Green is outstanding and classically displays the grandeur of this tree.

The mature cones stand erect (above left) in contrast to the drooping branches and twigs.



Windmill Palm (Group of Five)

Trachycarpus fortunei

Tree Height	11' – 15' to crown	Tree No. 18 Location: Lynn Building
Canopy Width	12-18 feet	Distinguishing characteristics and features: Unusual and large specimens for PNW region.
Appraised Value	\$25,000	

Our mild winter temperatures, and the hardiness of these palms make a good match for use in gardens throughout the Pacific Northwest.

This collection of five palms magically transforms this garden, and the yellow flowers and ripe fruit provide seasonal interest.

These palms are exceptionally large specimens, and are in outstanding condition.



References, Resources and Supporting Information

Big Trees, Inc., Snohomish, WA.

Ohashi Specimen Trees, Fall City, WA

Kendall Palm Nursery, Fallbrook, CA

Patterson Nursery, Boring, OR

Hillier's Manual of Trees & Shrubs. 5th Ed, 1972. David and Charles, PLC.

Guide for Plant Appraisal. 2000, 9th Edition. International Society of Arboriculture.

Species Ratings for Landscape Tree Appraisal, 2nd, 2007. Edition. PNWISA

Jacobson, Arthur Lee. 1996. *North American Landscape Trees*. Ten Speed Press.

Jacobson, Arthur Lee. 1989. *Trees of Seattle*. Sasquatch Books.

Plant Appraisal

Methods for plant appraisal are determined by the Council of Tree and Landscape Appraisers and described in Guide for Plant Appraisal, (ninth edition, 2000), and published by International Society of Arboriculture (ISA). *The Guide* outlines several methods for appraising the value of amenity plants and trees. This appraisal uses *Trunk Formula Method* (TFM) for most trees. Smaller specimens are appraised using replacement costs and were collected from regional nurseries and plant brokers via phone conversation and email.

What is the Trunk Formula Method?

TFM is the standard for trees considered too large to be replaced with nursery or field-grown stock and is a depreciated cost approach to appraising value. The depreciating factors are species, condition and location. They are reported in the appraisal as ratings, and are the inverse of the depreciation. (E.g. A rating of 80% = a 20% depreciation.)

Appraised Value = [Basic Tree Cost] x Species% x Condition% x Location%

Basic Tree Cost = Trunk Area Increase of the appraised tree x Unit Tree Cost +
Installed Tree Cost

Basic Tree Cost

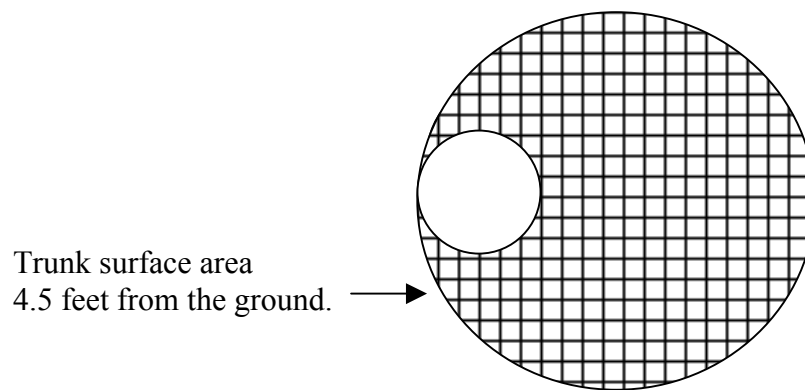
A standard unit of measure for trees is DBH: the trunk diameter 4.5 feet from the ground. This is converted to cross-sectional area (TAa) and reported as square inches. The **Trunk area increase** (TA Inc.) is the difference between the cross sectional area of the appraised tree (TAa) and that of the largest commonly available transplantable tree, or a 3-inch caliper (TAr).

Example:

Trunk Area of Appraised Tree (TAa)= large circle

Trunk Area of Replacement Tree (TAr) = small circle

Trunk Area Increase (TA Inc.) = shaded area



(Note: TAa for trees over 30" DBH are adjusted down because of the disproportionate increase in trunk diameter and canopy size on mature trees. The *adjusted areas* are reported in the table below, without showing the formula or calculations.)

Unit Tree Cost is set by committee for our region and is based on associations between trunk diameter of the largest commonly available transplantable replacement tree, and the costs to produce and install that size tree. For conifers this amount is \$57 per square inch. For deciduous and broadleaf evergreens this amount is \$72 per square inch. For trees with unusual growth rates, the unit tree cost is adjusted up for slow growing trees (weeping beech), and down for fast growing trees (giant redwood).

Installed Tree Cost represents the cost of the *largest commonly available transplantable replacement tree*, referred to above. This amount is also set by a regional ISA committee at \$380 for conifers, and \$480 for deciduous and broadleaf evergreens.)

Species

A vast number of plant species and cultivars grow in landscape and forest settings. Even within a species, individuals and cultivars have wide ranges of aesthetic, architectural, functional, environmentally adaptive and maintenance characteristics. A plant species or cultivar is judged on many characteristics. Species ratings are recognized regionally from Species Evaluation List, 2nd Ed., published by Pacific Northwest Chapter of ISA, 2007.

Species Ratings are listed individually in the table below.

Condition

The condition of the appraised tree is determined by evaluating the roots, trunk, scaffold branches, smaller branches and twigs, and foliage. Both tree structure and health are evaluated.

Condition Ratings for each tree are listed in the table below.

Location

The location is the averaged ratings for the site, contribution and placement of the subject tree. **Site:** quality of development, appearance and use; **Contribution:** functional and aesthetic value; and **Placement:** how effectively do plants provide function and aesthetics.

Location Ratings for each tree are listed in the table below.

Table of Data and Ratings used in Trunk Formula Method Appraisal.

Tree No.	Tree Species	DBH	Species	Condition	Location	Appraised Value	Basic Tree Cost	TA Inc.	Unit Tree Cost	Install Tree Cost	TAr	TAa
1	Mugho pine	15	70%	100%	90%	\$ 6,330.00	\$10,050.02	169.649	\$57.00	\$380.00	7.065	176.714
2	Star magnolia	6.5	90%	80%	80%	\$ 4,800.00	Replacement cost data used.					
3	Sargent magnolia	8.5	90%	80%	80%	\$ 5,900.00	Replacement cost data used.					
4	Ponderosa pine	31	75%	80%	91%	\$23,025.00	\$ 42,121.10	732.3	\$57.00	\$380.00	7.065	754.767
5	Catalpa	8	60%	100%	91%	\$3,500.00	Replacement cost data use.					
6	English laurel	23	60%	70%	91%	\$11,435.00	\$29,885.54	408.41	\$72.00	\$480.00	7.065	415.475
7	Cornus capitata	3	90%	100%	91%	\$ 2,500.00	Replacement cost data used.					
7	Cornus capitata	5	90%	100%	91%	\$ 3,200.00	Replacement cost data used.					
8	Moerheim spruce	14.5	80%	100%	91%	\$ 6,845.00	\$ 9,389.69	158.065	\$57.00	\$380.00	7.065	165.13
9	Hollywood juniper	14	90%	90%	88%	\$ 6,220.00	\$ 8,751.76	146.873	\$57.00	\$380.00	7.065	153.938
10	Japanese maple	14	80%	80%	88%	\$ 6,210.00	\$11,054.85	146.873	\$72.00	\$480.00	7.065	153.938
11	Beech (W)	13	90%	100%	91%	\$ 9,875.00	\$12,041.38	125.667	\$92.00	\$480.00	7.065	132.732
11	Beech (N)	14	90%	100%	91%	\$11,475.00	\$13,992.31	146.873	\$92.00	\$480.00	7.065	153.938
12	Nest spruce (S)	12	90%	90%	91%	\$27,000.00	Replacement cost data used.					
12	Nest spruce (N)	12	90%	90%	91%	\$27,000.00	Replacement cost data used.					
13	Red oak	21	90%	90%	91%	\$18,385.00	\$24,909.26	339.295	\$72.00	\$480.00	7.065	346.36
14	Oriental	20.8	90%	100%	91%	\$15,785.00	\$19,252.57	331.098	\$57.00	\$380.00	7.065	338.163
15	Giant Redwood	61	95%	90%	91%	\$63,495.00	\$81,508.10	1886.7	\$43.00	\$380.00	7.065	2922.46
16	Incense cedar	32	90%	100%	90%	\$36,345.00	\$44,868.22	780.495	\$57.00	\$380.00	7.065	804.247
17	Deodar cedar	38	80%	90%	94%	\$41,175.00	\$60,548.92	1055.6	\$57.00	\$380.00	7.065	1134.11
18	Windmill palms			100%	91%	\$25,000.00	Replacement cost data used.					

Assumptions & Limiting Conditions

- 1) A field examination of the site was made June 2008. My observations and conclusions are as of that date.
- 2) Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/arborist can neither guarantee nor be responsible for the accuracy of information provided by others.
- 3) Unless required by law otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant/appraiser.
- 4) This report and any values/opinions expressed herein represent the opinion of the consultant/appraiser, and the consultant's/appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
- 5) Replacement cost values do not represent an estimate or bid for any work or service described or recommended. Nor do they represent any guarantee of availability for goods or services.

