



- Tree Protection Plan -

JUBILEE LODGE ADDITION

8487 Bainbridge Loop NE
Lacey WA 98516

Prepared for: Jubilee Community Association
Prepared by: Washington Forestry Consultants, Inc.
Date: April 17, 2024

Introduction and Overview

Jubilee Community Association is planning to remodel the Jubilee Lodge at 8487 Bainbridge Loop NE in Lacey. The City of Lacey has retained WFCI to:

- Evaluate all existing trees on the site, pursuant to Chapter 14.32 of the Lacey Tree Protection and Vegetation Preservation Ordinance.
- Make recommendations for trees suitable to be saved in open space or tree tract areas, along with required protection and cultural measures.

Observations

Methodology

WFCI has evaluated all trees 4-inches and larger in the project area and assessed their potential to be incorporated into the new project. Potential save trees were given a tree risk assessment as well. All trees are labeled at the base with a number corresponding to the table in Attachment 3.

The tree evaluation phase used methodology developed by Nelda Matheny and Dr. James Clark in their 1998 publication Trees and Development: A Technical Guide to Preservation of Trees during Land Development.

Site Description

The 4.13-acre site is mostly flat. The site was developed as part of the Jubilee at Hawks Prairie community in 2004. Most of the site area is covered with parking lots and lodge building. The property is bordered by a golf course to the north; single family homes to the east and west; and Bainbridge Loop NE to the south.

Soil Depth and Productivity

Figure 1. Soil Map of Jubilee Lodge Addition site.



2- Alderwood gravelly sandy loam

According to the Thurston County Soil Survey the one soil type on the site is the Alderwood gravelly sandy loam, a moderately deep, moderately well drained soil found on glacial till plains. It is formed in ablation till overlying basal till. A weakly cemented hardpan is at a depth of 20 to 40 inches. Permeability is moderately rapid above the hardpan and very slow in the pan. Available water capacity is low. Effective rooting depth is 20-40 inches. A perched seasonal high-water table is at a depth of 18-36 inches from November to March. The potential for windthrow of trees is moderate under normal conditions. New trees require irrigation for establishment.

In areas where grading brings the hardpan nearer to the surface, the hardpan must be fractured under new trees to provide soil volume for root development and to improve drainage around the tree.

Tree Conditions

There is one forest cover type for the purposes of description.

Type I.- The trees on the site are all landscape plants that were planted during site development. Species include Alaska cedar (*Callitropsis nootkatensis*), crab apple (*Malus sylvestris*), an unknown deciduous, deodar cedar (*Cedrus deodara*), Douglas-fir (*Pseudotsuga menziesii*), flowering dogwood (*Cornus florida*), hawthorn (*Crataegus spp.*), star magnolia (*Magnolia stellata*), red maple (*Acer rubrum*), and western redcedar (*Thuja plicata*). Tree size ranges from 4 to 18 inches DBH. There are a total of 86 trees ≥ 4 inches DBH planted throughout the landscaping and another 64 trees that are smaller than 4 inches DBH. The condition of trees ranges from ‘Very Poor’ to ‘Very Good’, with all but one tree classified as healthy. The root zones of most trees are limited by the planting beds. Some trees are beginning to cause lifting of the parking lot asphalt.

Table 1. Summary of Trees on the Jubilee Lodge Addition Site.

Species	DBH Range (in.)	Condition Range	# Healthy Trees	# Unhealthy Trees	Total # of Trees
Alaska Cedar	5	Very Good	1	0	1
Crab Apple	4	Very Good	7	0	7
Deciduous	4 – 6	Good	5	0	5
Deodar Cedar	11	Good	1	0	1
Douglas-fir	8 – 18	Good – Very Good	30	0	30
Flowering Dogwood	4 – 6	Good – Very Good	6	0	6
Hawthorn	4	Very Good	1	0	1
Star Magnolia	4	Very Good	2	0	2
Red Maple	4 – 14	Very Poor – Very Good	18	1	19
Western Redcedar	4 – 15	Fair – Very Good	14	0	14
Totals	4 – 18	Very Poor – Very Good	85	1	86



Photo 1. View of trees on The Lodge Addition site.

The understory shrub stocking includes various shrubs, small, non-significant sized trees, grasses, and broadleaved weeds.

Forest Practices Permit

Trees removed from this parcel will not contain more than 5,000 board feet. **Therefore, a forest practices permit from the City of Lacey is not required.**

Recommendations

Tree Retention in Tree Tract

No tree tract is required due to the size of the area of disturbance being under 1-acre in size.

Lot Tree Planting Requirement

The City of Lacey Tree and Vegetation Protection and Preservation Ordinance (Chapter 14.32) requires 2 trees per 10,000 ft² for Developed Commercial/Industrial/Multifamily Proposing an Addition, Tree Removal, or Other Soil Disturbance to meet the minimum density.

The following is a summary of tree retention requirements:

Total Project Area:	4.13 acres
Required Commercial Tree Retention (2 Trees/10,000 ft. ²):	36 trees
Total Number of Significant Sized Trees:	86 trees
Number of Unhealthy Trees:	1 tree
Planned Tree Removal:	<u>2 trees</u>
Number of Trees Saved:	83 trees

At least 36 trees are required to be retained or planted in the buildable area of the site. There are a total of 85 healthy significant trees on-site. The site plan shows two trees that will need to be removed to complete the planned addition. The required retention is 47 trees over the minimum ($83 - 36 = 47$), no additional trees are required.

Street Tree Planting Requirement

There are already street trees planted on Bainbridge Loop NE. No additional street trees are required.

Hazard Tree Removal

One tree was found to be in ‘Very Poor’ condition and should be removed.

Tree Protection Requirements

Trees and tree tracts to be saved must be protected during construction by temporary orange mesh fencing on driven posts, located at the edge of the critical root zone. The individual critical root zones are 5 feet outside the dripline of all edge trees unless otherwise delineated by WFCI.

There should be no equipment activity (including rototilling) within the critical root zone. No irrigation lines, trenches, or other utilities should be installed within the critical root zone. If roots are encountered outside the critical root zone, they should be cut cleanly with a saw and

covered immediately with moist soil. Noxious vegetation within the critical root zone should be removed by hand. If a proposed save tree must be impacted by grading or fills, then the tree should be re-evaluated by WFCI to determine if the tree can be saved and mitigating measures, or if the tree should be removed.

Timeline for Tree Protection Activity

Submit ‘tree protection plan map’ on the face of the grading plan to the City of Lacey for approval. The tree plan map should include the locations of tree protection fencing, a tree protection fence schematic and this ‘Timeline for Tree Protection Activity.’ The tree protection plan map should be part of the construction drawings packet sent out to contractors for bid.

1. Flag and stake the clearing limits.
2. Conduct a pre-job conference with WFCI prior to the start of clearing.
3. Complete the tree removal.
4. Install tree protection fences after tree removal but prior to the start of construction. Maintain fences throughout construction.
5. WFCI should be contacted to inspect the fences prior to the start of grading.
6. Construct project.

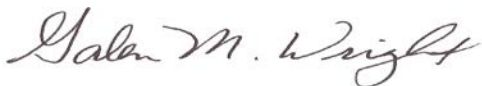
Summary

The project proponent is planning to remodel the Jubilee Lodge on 4.13 acres in Lacey. A tree tract is not required due to the project area being under 1-acre in size. The Lacey Tree Protection and Vegetation Preservation Ordinance requires 36 trees to be retained or planted for Developed Commercial/Industrial/Multifamily sites proposing an addition. This plan saves 83 of the 85 healthy significant trees. Two Douglas-fir will require removal to complete the project. No tree replacement is required.

Please give us a call if you have any questions.

Respectfully submitted,

Washington Forestry Consultants



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Attachment 1. Aerial Photo of Jubilee Lodge Addition Parcel

(2022 Thurston County GeoData)

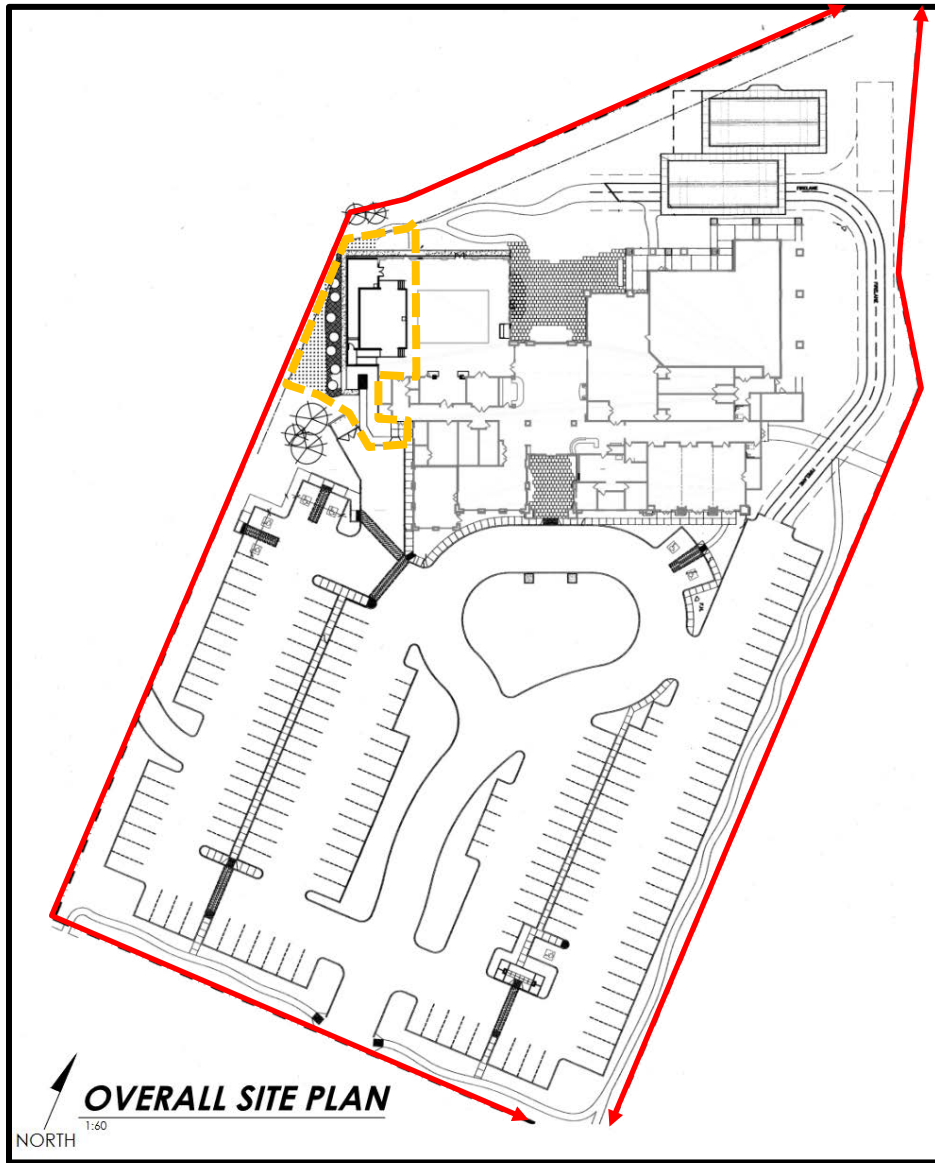


— Project Area Boundary

★ Healthy Tree

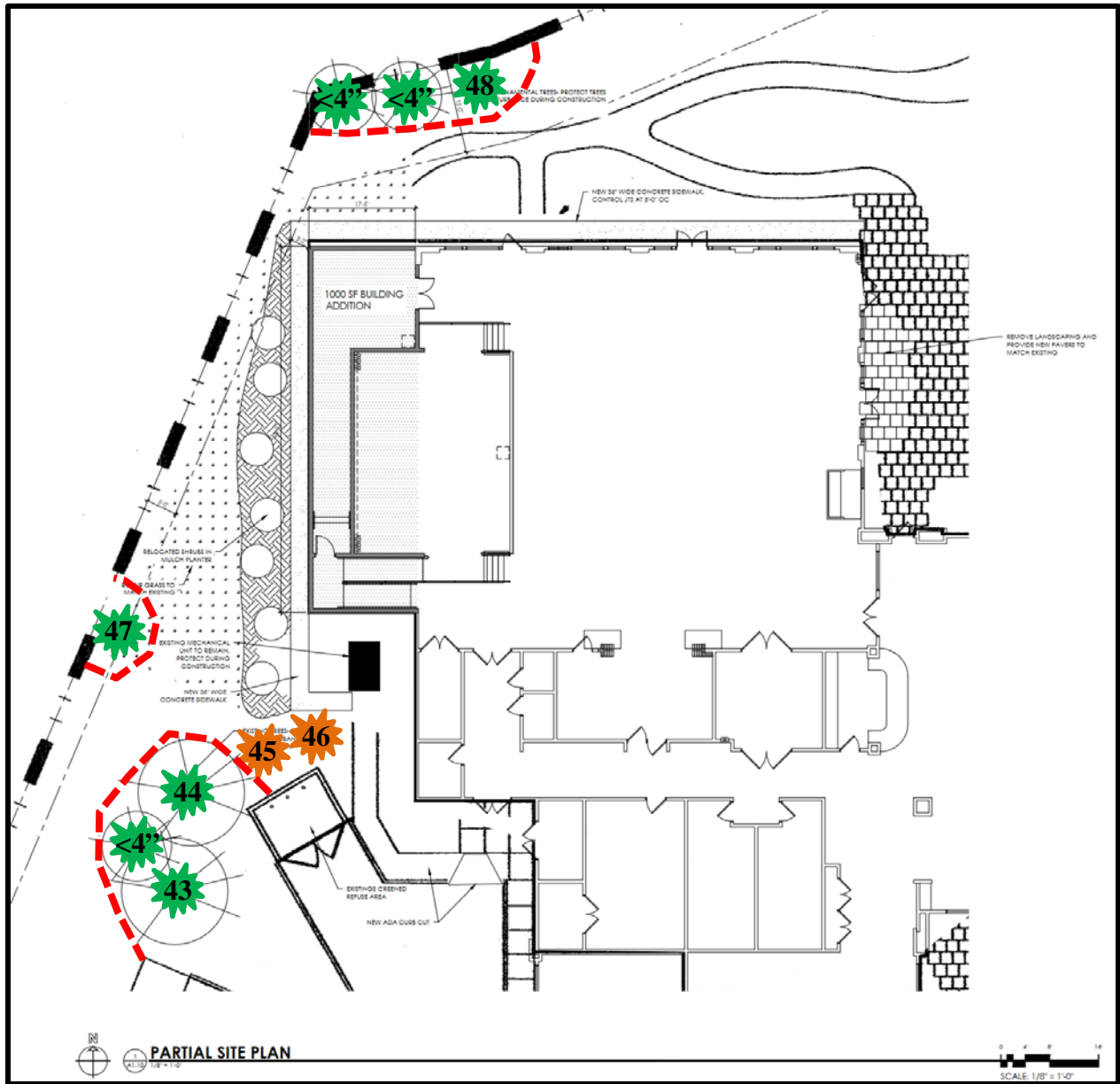
★ Unhealthy Tree




Attachment 2. Jubilee Lodge Addition Site Plan



--- Project Area

Detail of Project Area:



-  Removal Tree
-  Save Tree
-  Tree Protection Fence Location

Attachment 3. Jubilee Lodge Addition Tree List

Tree #	Species	Diameter of Breast Height (Inches)	Condition	Savable Based on Tree Condition Only? Yes or No	Project Plan Save or Remove	Minimum Root Protection Zone Radius	Notes
1	Flowering Dogwood	4	Very Good	Yes	Save	planting area	
2	Flowering Dogwood	4	Very Good	Yes	Save	planting area	
3	Douglas-fir	18	Very Good	Yes	Save	planting area	
4	Decidious	5	Good	Yes	Save	planting area	
5	Douglas-fir	12	Very Good	Yes	Save	planting area	
6	Douglas-fir	14	Very Good	Yes	Save	planting area	
7	Decidious	5	Good	Yes	Save	planting area	
8	Douglas-fir	15	Very Good	Yes	Save	planting area	
9	Douglas-fir	17	Very Good	Yes	Save	planting area	
10	Decidious	6	Good	Yes	Save	planting area	
11	Red Maple	6	Very Good	Yes	Save	planting area	
12	Douglas-fir	12	Very Good	Yes	Save	planting area	
13	Red Maple	6	Good	Yes	Save	planting area	
14	Douglas-fir	8	Good	Yes	Save	planting area	
15	Douglas-fir	8	Good	Yes	Save	planting area	
16	Red Maple	11	Good	Yes	Save	planting area	
17	Douglas-fir	11	Good	Yes	Save	planting area	
18	Red Maple	12	Good	Yes	Save	planting area	
19	Western Redcedar	8, 8	Very Good	Yes	Save	planting area	
20	Deodar Cedar	11	Good	Yes	Save	planting area	

Jubilee Lodge Addition – Tree Protection Plan

Tree #	Species	Diameter of Breast Height (Inches)	Condition	Savable Based on Tree Condition Only? Yes or No	Project Plan Save or Remove	Minimum Root Protection Zone Radius	Notes
21	Alaska Cedar	5	Very Good	Yes	Save	planting area	
22	Flowering Dogwood	4	Very Good	Yes	Save	planting area	
23	Red Maple	5	Very Good	Yes	Save	planting area	
24	Red Maple	5	Very Good	Yes	Save	planting area	
25	Douglas-fir	16	Very Good	Yes	Save	planting area	
26	Douglas-fir	17	Very Good	Yes	Save	planting area	
27	Western Redcedar	3, 4, 4, 5	Good	Yes	Save	planting area	
28	Western Redcedar	15	Good	Yes	Save	planting area	
29	Douglas-fir	10	Good	Yes	Save	planting area	
30	Douglas-fir	12	Good	Yes	Save	planting area	
31	Douglas-fir	15	Very Good	Yes	Save	planting area	
32	Douglas-fir	14	Very Good	Yes	Save	planting area	
33	Douglas-fir	15	Very Good	Yes	Save	planting area	
34	Flowering Dogwood	4	Very Good	Yes	Save	planting area	
35	Douglas-fir	14	Very Good	Yes	Save	planting area	
36	Western Redcedar	6, 8	Very Good	Yes	Save	planting area	
37	Red Maple	10	Very Good	Yes	Save	planting area	
38	Red Maple	10	Very Good	Yes	Save	planting area	
39	Red Maple	9	Very Good	Yes	Save	planting area	
40	Red Maple	8	Very Good	Yes	Save	planting area	
41	Western Redcedar	5	Very Good	Yes	Save	Dripline	

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Tree #	Species	Diameter of Breast Height (Inches)	Condition	Savable Based on Tree Condition Only? Yes or No	Project Plan Save or Remove	Minimum Root Protection Zone Radius	Notes
42	Western Redcedar	5	Very Good	Yes	Save	Dripline	
43	Douglas-fir	18	Very Good	Yes	Save	Dripline	
44	Douglas-fir	14	Very Good	Yes	Save	Dripline	
45	Douglas-fir	15	Very Good	Yes	Remove	Dripline	remove for new sidewalk
46	Douglas-fir	14	Very Good	Yes	Remove	Dripline	remove for new sidewalk
47	Flowering Dogwood	4	Very Good	Yes	Save	6 feet	
48	Magnolia	4	Very Good	Yes	Save	6 feet	
49	Magnolia	4	Very Good	Yes	Save	6 feet	
50	Crab Apple	4	Very Good	Yes	Save	6 feet	
51	Crab Apple	4	Very Good	Yes	Save	6 feet	
52	Crab Apple	4	Very Good	Yes	Save	6 feet	
53	Crab Apple	4	Very Good	Yes	Save	6 feet	
54	Crab Apple	4	Very Good	Yes	Save	6 feet	
55	Crab Apple	4	Very Good	Yes	Save	6 feet	
56	Crab Apple	4	Very Good	Yes	Save	6 feet	
57	Red Maple	10	Very Good	Yes	Save	Dripline	
58	Red Maple	10	Very Good	Yes	Save	Dripline	
59	Red Maple	14	Very Good	Yes	Save	Dripline	
60	Douglas-fir	11	Very Good	Yes	Save	Dripline	
61	Red Maple	13	Very Good	Yes	Save	Dripline	
62	Hawthorne	4	Very Good	Yes	Save	planting area	

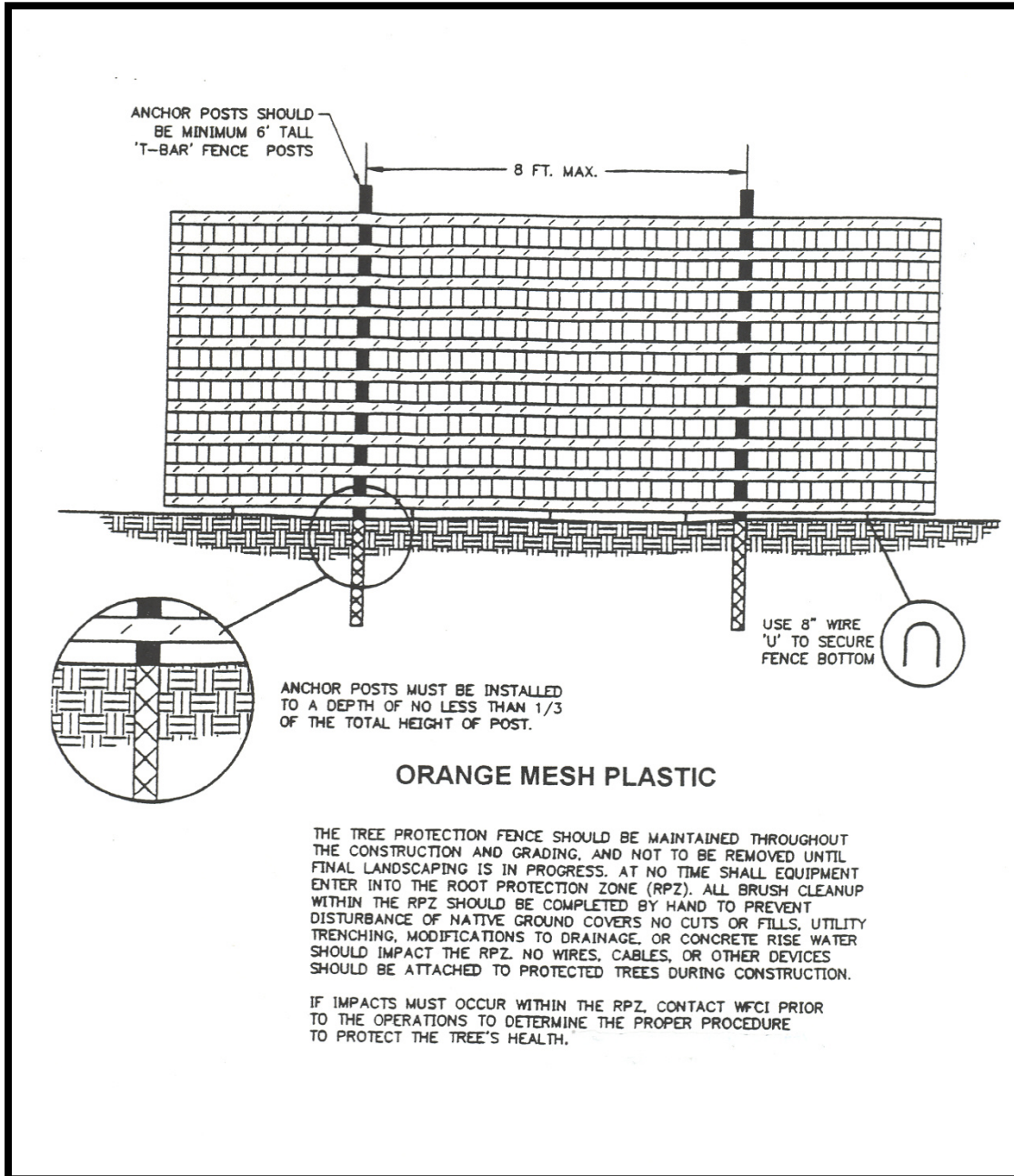
Jubilee Lodge Addition – Tree Protection Plan

Tree #	Species	Diameter of Breast Height (Inches)	Condition	Savable Based on Tree Condition Only? Yes or No	Project Plan Save or Remove	Minimum Root Protection Zone Radius	Notes
63	Western Redcedar	4	Fair	Yes	Save	planting area	
64	Western Redcedar	4	Fair	Yes	Save	planting area	
65	Western Redcedar	4	Fair	Yes	Save	planting area	
66	Western Redcedar	4	Fair	Yes	Save	planting area	
67	Douglas-fir	12	Very Good	Yes	Save	planting area	
68	Douglas-fir	10	Very Good	Yes	Save	planting area	
69	Douglas-fir	11	Very Good	Yes	Save	planting area	
70	Red Maple	4	Very Poor	No	Remove	planting area	dead bark & top
71	Western Redcedar	4	Fair	Yes	Save	planting area	
72	Western Redcedar	4	Fair	Yes	Save	planting area	
73	Western Redcedar	9	Good	Yes	Save	planting area	
74	Red Maple	5	Good	Yes	Save	planting area	
75	Red Maple	8	Good	Yes	Save	planting area	
76	Red Maple	7	Fair	Yes	Save	planting area	
77	Western Redcedar	5, 7	Fair	Yes	Save	planting area	
78	Red Maple	11	Good	Yes	Save	planting area	
79	Douglas-fir	14	Very Good	Yes	Save	planting area	
80	Douglas-fir	12	Very Good	Yes	Save	planting area	
81	Douglas-fir	15	Very Good	Yes	Save	planting area	
82	Douglas-fir	13	Very Good	Yes	Save	planting area	
83	Decidious	4	Good	Yes	Save	planting area	

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Tree #	Species	Diameter of Breast Height (Inches)	Condition	Savable Based on Tree Condition Only? Yes or No	Project Plan Save or Remove	Minimum Root Protection Zone Radius	Notes
84	Decidious	4	Good	Yes	Save	planting area	
85	Douglas-fir	18	Good	Yes	Save	planting area	
86	Flowering Dogwood	6	Good	Yes	Save	planting area	

Attachment 4. Tree Protection Fence Detail



Attachment 5. Glossary of Forestry and Arboricultural Terminology

DBH: Diameter at Breast Height (measured 4.5 ft. above the ground line on the high side of the tree).

Crown: Portion of a trees stem covered by live foliage.

Crown Position: Position of the crown with respect to other trees in the stand.

Dominant Crown Position: Receives light from above and from the sides.

Codominant Crown Position: Receives light from above and some from the sides.

Intermediate Crown Position: Receives little light from above and none from the sides. Trees tend to be slender with poor live crown ratios.

Suppressed Crown Position: Receives no light from above and none from the sides. Trees tend to be slender with poor live crown ratios.

Live Crown Ratio: Ratio of live foliage on the stem of the tree. Example: A 100' tall tree with 40 feet of live crown would have a 40% live crown ratio. Conifers with less than 30% live crown ratio are generally not considered to be long-term trees in forestry.

Root Protection Zone/Critical Root Zone: A radius from the trees stem of 1 foot for each 1 inch of DBH unless otherwise determined by WFCI. For example, a 7 inch DBH tree would have a critical root zone radius of 7 feet.

Condition Class Descriptions:

CONDITION CLASS	CHARACTERISTICS
Excellent	Single stem; Normal foliage color; No branch dieback; No apparent insect or disease problems; No other apparent problems;
Very Good	Single stem; Normal foliage color; No branch dieback or only a few minor branches died back; No apparent insect or disease problems; No other apparent problems, or they are minor and do not impact the long-term survival of the tree;
Good	Single stem; Normal foliage color; Minor branch dieback; Minor problems such as crown unbalanced; Minor foliage problems; Expected to be a long-term tree;
Fair	Single stem or double stem that is not expected to fail soon; Crown may be slightly thinned due to exposure or reduced vigor; Minor branch dieback and 1 or 2 major branches died back; Minor insect or disease problems; Tree expected to survive;
Poor	Single or Multiple stem tree; Thinning crown; Foliage color yellowed; Inadequate live crown ratio; Major and minor branch dieback; Not a long-term tree or quality tree for development;
Very Poor	Single or Multiple stem tree; Severe thinning crown; Yellow foliage; Major branch dieback; Expected to die within 5 years or so;
Hazard Tree	Dead, dying, diseased, defective; Would be hazardous to new development or if other targets are placed within reach of tree;

Attachment 6. Assumptions and Limiting Conditions

- 1) Any legal description provided to the Washington Forestry Consultants, Inc. is assumed to be correct. Any titles and ownership's to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
- 2) It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other governmental regulations, unless otherwise stated.
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Note: Even healthy trees can fail under normal or storm conditions. The only way to eliminate all risk is to remove all trees within reach of all targets. Annual monitoring by an ISA Certified Arborist or Certified Forester will reduce the potential of tree failures. It is impossible to predict with certainty that a tree will stand or fail, or the timing of the failure. It is considered an 'Act of God' when a tree fails, unless it is directly felled or pushed over by man's actions.