



- Preliminary Tree Protection Plan -

## TACO TIME PUYALLUP

1115 East Main Street  
Puyallup, WA

Prepared for: Taco Time Northwest

Prepared by: Washington Forestry Consultants, Inc.

Report Date: August 11, 2023

### Introduction

The project proponent is planning to re-develop the existing Puyallup Taco Time site on two parcels totaling 3.30-acres in Puyallup, WA. The proponent has retained WFCI to:

- Evaluate and inventory all trees over 15 inches DBH on the site with the exception of red alder and black cottonwood.
- Make recommendations for retention of significant trees, along with any required protection and cultural measures.

### Observations

#### Methodology

WFCI has evaluated all 'Significant' trees 15 inches diameter at breast height (DBH) and larger in the proposed project area and assessed their potential to be incorporated into the new project. Red alder (*Alnus rubra*) and black cottonwood (*Populus trichocarpa*) are not considered significant by the City of Puyallup and were noted but not evaluated as part of this project.

The tree evaluation phase used methodology developed by Matheny and Clark in their 1998 publication<sup>1</sup> and the International Society of Arboriculture Best management Practices for tree risk assessment<sup>2</sup>

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<sup>1</sup> Nelda Matheny and Dr. James Clark. 1998. *Trees and Development: A Technical Guide to Preservation of Trees during Land Development*. International Society of Arboriculture. Champaign, IL.

### Site Description

The project area consists of 2 parcels totaling 3.30-acres. The site is bordered by the Puyallup River to the north, an undeveloped lot and commercial building to the east, East Main Street to the south, and a RV park to the west. The topography of the project area is flat. The existing Taco Time restaurant and parking lot are located on the southern parcel. The northern parcel is undeveloped.

### Soil Depth and Productivity

According to the USDA Web Soil Survey, there are two soil types on this site: the Puyallup fine sandy loam and the Pilchuck fine sand. Descriptions of each soil type are provided below.

**Figure 1. Taco Time Puyallup Soils Map.**



**29A – Pilchuck fine sand**  
**31A – Puyallup fine sandy loam**

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<sup>2</sup> Smiley, E. Thomas, Nelda Matheny, and Sharon Lilly. 2011. *Best Management Practices: Tree Risk Assessment*. International Society of Arboriculture. Champaign, IL.

31A – Puyallup fine sandy loam, a deep, well-drained soil on terraces. It formed in alluvium outwash. Permeability is moderately rapid. Available water capacity is moderate. The effective rooting depth for trees is more than 80 inches. A seasonal high-water table fluctuates between depths of 48 - 79 inches from December to March. Runoff is slow and the hazard to erosion is slight. Windthrow potential is rated as ‘slight’.

29A – Pilchuck fine sand, a deep, excessively drained soil on flood plains. It formed from river alluvium. Permeability is high to very high. Available water capacity is low. The effective rooting depth for trees is more than 80 inches. The depth of the water table is 24 – 48 inches. Windthrow potential is rated as ‘slight’.

### **Tree Conditions**

There are two forest cover types on this site for the purpose of description. A 100% inventory of all trees 15 inches DBH and larger (significant trees) was conducted to determine the composition and health of the forest. Non-significant species and sizes (<15 inches DBH) exist on site as well.

**Type I** -- This 0.92-acre type covers the developed portion of the project area. There are 8 significant trees in the type. Seven of the trees have been planted as part of the landscape and one was naturally seeded. Tree species in the type include Douglas-fir (*Pseudotsuga menziesii*) and Freeman maple (*Acer × freemanii*).



**Photo 1. View of parking lot trees in Type I of Taco Time Puyallup site.**

Tree diameters range from 15 to 32 inches DBH. All the trees were classified as sound, healthy, long-term trees. The maples are growing in parking islands on the site with limited growing

space. At this time the trees are not causing any hardscape damage to surrounding curbs or parking lot.

**Table 1. List of Significant Trees in Cover Type I.**

Tree #	Species	DBH (in)	Condition	Min. RPZ (ft.)	Potential for Retention based only on Tree condition - Yes or No	Project Plan – Save or Remove	Comment
1	Douglas-fir	32	Good	13	Yes	Save	
2	Freeman Maple	17	Very Good	3	Yes	Remove	limited rooting 9'-N&S, 3'-E&W; growing into parking lot light
3	Freeman Maple	19	Very Good	3	Yes	Remove	limited rooting 9'-N, 3'-E&W, 5'-S; growing into parking lot light
4	Freeman Maple	17	Very Good	2	Yes	Remove	limited rooting 7'-N, 2'-E&W, 8'-S; growing into parking lot light
5	Freeman Maple	17	Very Good	2	Yes	Remove	limited rooting 7'-N&S, 2'-E&W; growing into parking lot light
6	Freeman Maple	16	Very Good	2	Yes	Remove	limited rooting 2'-N&S; no limit E&W
7	Freeman Maple	15	Very Good	2	Yes	Remove	limited rooting 2'-N&S; no limit E&W
8	Freeman Maple	22	Fair	2	Yes	Remove	limited rooting 16'-N, 8'-S, 2'-E&W; poorly attached co-dominant stem

The understory plants include grass and shrubs in the landscape.

**Type II.** -- This 2.38-acre type covers the undeveloped northern portion of the project area. The trees in this type are a native riparian forest growing along the Puyallup River. Tree species include black cottonwood (*Populus trichocarpa*), red alder (*Alnus rubra*), and black locust (*Robinia pseudoacacia*). Tree diameters range from 6 to 30 inches DBH. There was one black locust over 15-inches DBH located in the type that was inventoried, tree #9. All other trees in the type are smaller than 15” or are non-significant tree species, black cottonwood or red alder.

**Table 2. List of Significant Tree in Cover Type II.**

Tree #	Species	DBH (in)	Condition	Min. RPZ (ft.)	Potential for Retention based only on Tree condition - Yes or No	Project Plan – Save or Remove	Comment
9	Black Locust	15	Good	12	Yes	Remove	crown is growing over parking lot

**Table 3. Summary of Trees in Cover Type II.**

Species	DBH Range (in)	Condition Range	# of Healthy Trees	# of Trees in Poor Health*	Total # of Trees
Black Cottonwood**	10 – 30	Dead – Fair	194	22	216
Black Locust	6 – 15	Fair – Good	22	0	22
Red Alder**	6 - 15	Dead – Fair	6	4	10
<b>Sum</b>	<b>6 - 30</b>	Dead – Good	<b>222</b>	<b>26</b>	<b>248</b>

\*Dead, diseased, or hazardous; \*\*Non-significant tree species

The understory plants include salmon berry (*Rubus spectabilis*) and Himalayan blackberry (*Rubus armeniacus*).



**Photo 1. View of non-significant trees in Type II of Taco Time Puyallup site.**

## **Off-Site Impacts**

Tree removal on this parcel will not impact any trees on the surrounding parcels. Three European hornbeam (*Carpinus betulus*) street trees on East Main Street will be saved.

## **Recommendations**

### **Tree Retention**

The grading and site utilization of the site will require removing seven trees in Cover Type I and 52 trees in Cover Type II. The plan retains one Douglas-fir in the developed area and 196 non-significant trees in the undeveloped area.

### **Tree Protection Measures**

Trees to be saved must be protected during construction by a six-foot-high chain link fencing (Attachment #6), located at the edge of the critical root zone (CRZ). Placards shall be placed on the fencing every 50 feet indicating the words, "NO TRESPASSING - Protected Trees". The individual CRZ are a radius of one foot for each one inch of DBH (6 feet minimum), unless otherwise delineated by WFCI (see tables).

Tree protection fences should be placed around the edge of the critical root zone (CRZ). The fence should be erected after logging but prior to the start of clearing. The fences should be maintained until the start of the landscape installation.

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 CRZ. Cuts or fills should impact no more than 20% of a tree's root system. If topsoil is added to the root zone of a protected tree, the depth should not exceed 2 inches of a sandy loam or loamy fine sand topsoil and should not cover more than 20% of the root system.

If roots are encountered outside the CRZ during construction, 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 impacting by grading or fills, then the tree should be re-evaluated by WFCI to determine if the tree can be saved with mitigating measures, or if the tree should be removed.

### **Pruning and Thinning**

All individual trees to be saved near or within developed areas should have their crowns raised to provide a minimum of 8 feet of ground clearance over sidewalks and landscape areas, 15 feet over parking lots or streets, and at least 10 feet of building clearance.

All pruning should be done according to the ANSI A300 standards for proper pruning and be completed by an International Society of Arboriculture Certified Arborist<sup>®</sup>, or be supervised by a Certified Arborist<sup>®</sup>.

## Conclusions and Timeline for Activity

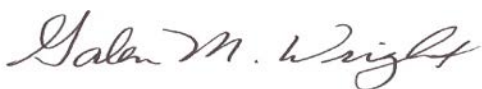
1. The final, approved tree protection plan map should be included in the construction drawings for bid and construction of the project and should be labeled as such.
2. Stake and heavily flag the clearing limits.
3. Contact WFCI to attend pre-job conference and discuss tree protection issues with contractors. WFCI can verify all trees to be saved and/or removed are adequately marked for retention.
4. Complete logging. Complete necessary hazard tree removals from within the tree protection areas along with invasive plant removals from the tree protection areas. No equipment should enter the tree protection areas during logging.
5. Install tree protection fences along the 'limits of construction'. The fences should be located at the limits of construction or 5 feet outside of the dripline of the save tree or as otherwise specified by WFCI. Maintain fences throughout construction.
6. Complete clearing of the project.
7. Do not excavate stumps within 10' of trees to be saved. These should be individually evaluated by WFCI to determine the method of removal.
8. Complete all necessary pruning on save trees or stand edges to provide at least 8' of ground clearance near sidewalks and trails, and 15' above all driveways or access roads.
9. Complete grading and construction of the project.

## Summary

Of the 9 significant trees onsite, all but one will be removed to complete the construction of the project. The remaining trees in the project area are not of significant size or are non-significant species. One significant tree in the developed area and 196 non-significant trees in the undeveloped area will be retained.

Please give us a call if you have any questions.

Respectfully submitted,



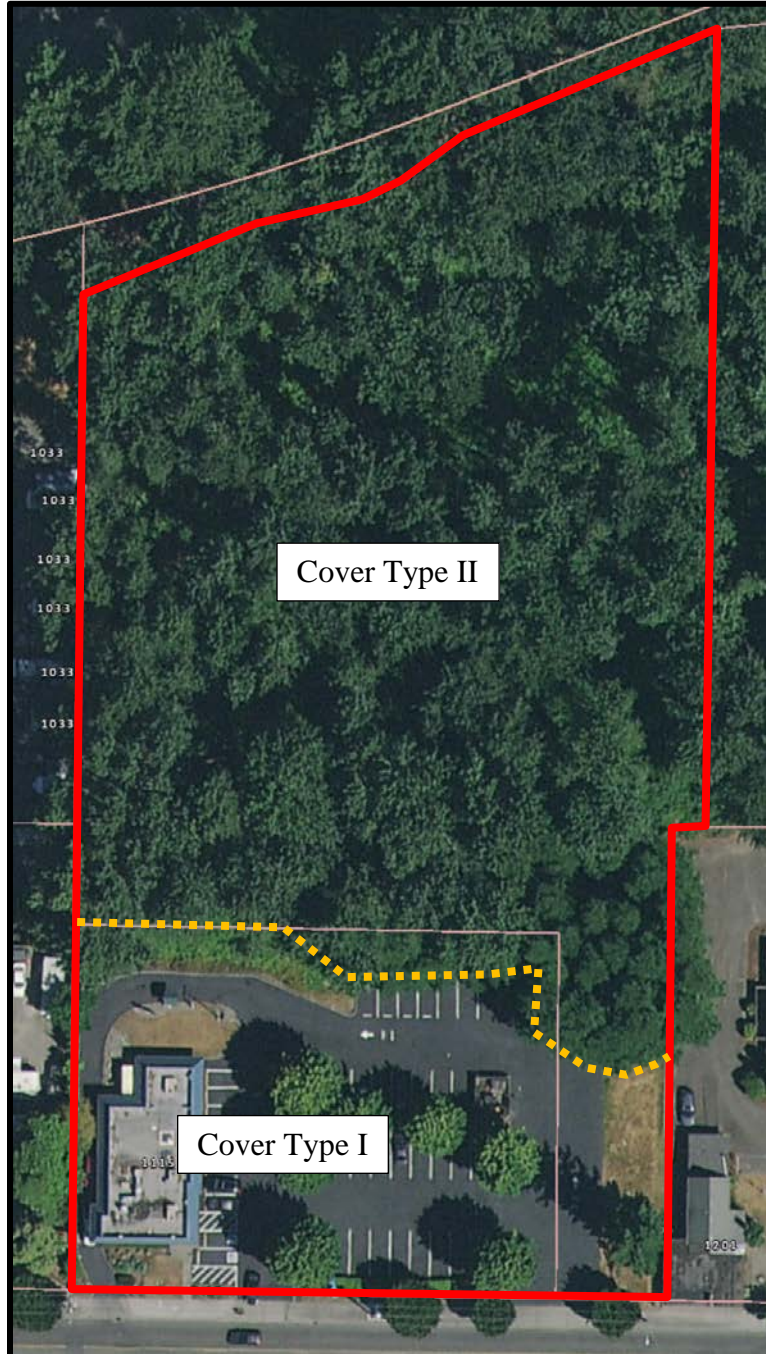
Galen M. Wright, ACF, ASCA  
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Certified Forester No. 44  
ISA Tree Risk Assessor Qualified  
ASCA Tree and Plant Appraisal Qualified



Joshua Sharpes  
Professional Forester  
ISA Certified Arborist  
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ISA Tree Risk Assessor Qualified

## Attachment #1: Aerial Photo of Taco Time Puyallup Site with Forest Cover Types

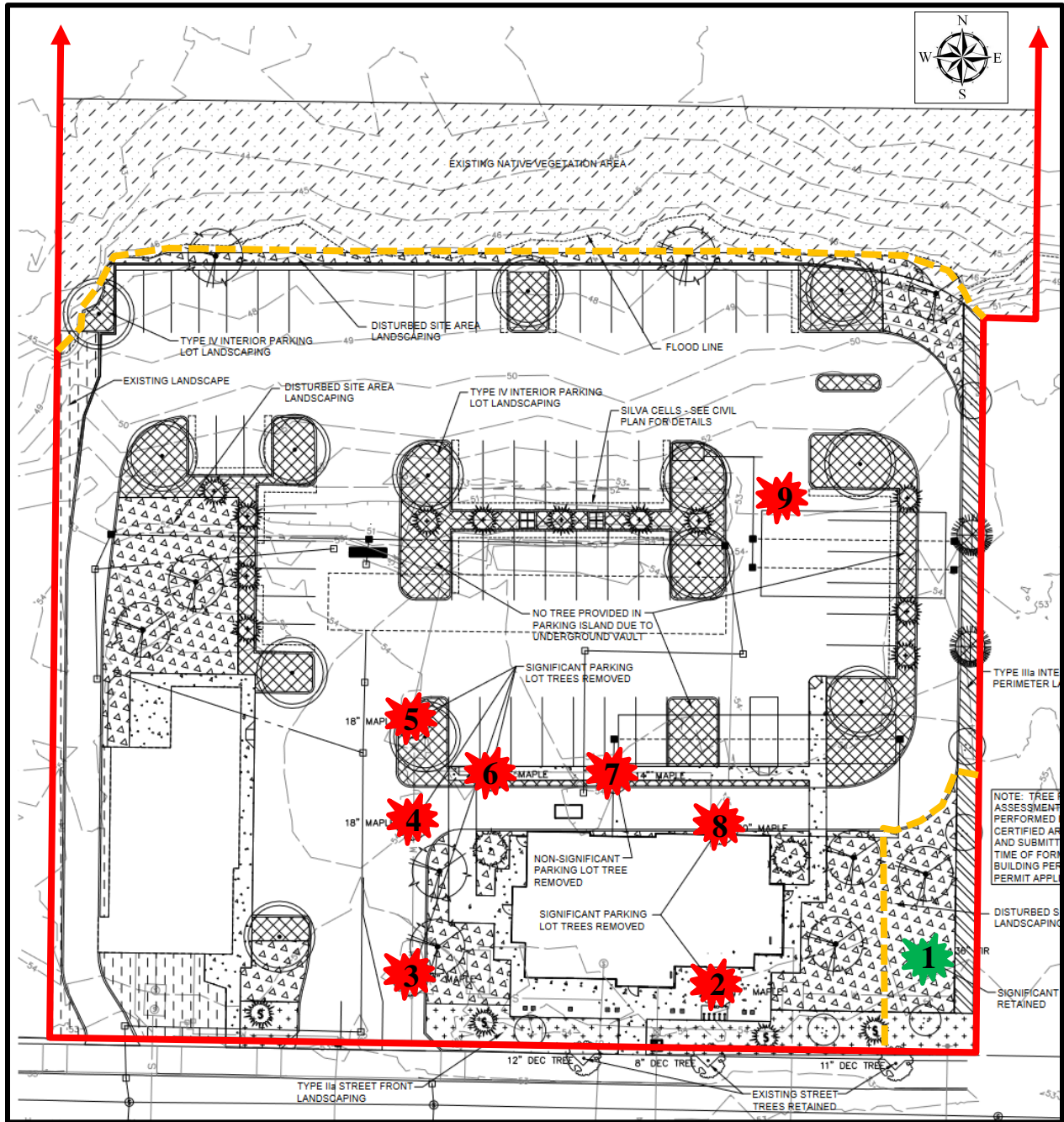
(Pierce County PublicGIS 2021)







- Project Boundary
- - - - - Cover Type Boundary



### Attachment #2. Taco Time Puyallup Site Plan



-  Project Boundary
-  Save Tree
-  Existing Significant Tree to Remove
-  Tree Protection Fence Location

**Attachment #3 Individual Tree Rating Key for Tree Condition**

<b>RATING</b>	<b>SYMBOL</b>	<b>DEFINITION</b>
<b>Very Good</b>	<b>VG</b>	<ul style="list-style-type: none"> <li>• Balanced crown that is characteristic of the species</li> <li>• Normal lateral and terminal branch growth rates for the species and soil type</li> <li>• Stem sound, normal bark vigor</li> <li>• No root problems</li> <li>• No insect or disease problems</li> <li>• Long-term, attractive tree</li> </ul>
<b>Good</b>	<b>G</b>	<ul style="list-style-type: none"> <li>• Crown lacking symmetry but nearly balanced</li> <li>• Normal lateral and terminal branch growth rates for the species and soil type</li> <li>• Minor twig dieback O.K.</li> <li>• Stem sound, normal bark vigor</li> <li>• No root problems</li> <li>• No or minor insect or disease problems – insignificant</li> <li>• Long-term tree</li> </ul>
<b>Fair</b>	<b>F</b>	<ul style="list-style-type: none"> <li>• Crown lacking symmetry due to branch loss</li> <li>• Slow lateral and terminal branch growth rates for the species and soil type</li> <li>• Minor and major twig dieback – starting to decline</li> <li>• Stem partly unsound, slow diameter growth and low bark vigor</li> <li>• Minor root problems</li> <li>• Minor insect or disease problems</li> <li>• Short-term tree 10-30 years</li> </ul>
<b>Poor</b>	<b>P</b>	<ul style="list-style-type: none"> <li>• Major branch loss – unsymmetrical crown</li> <li>• Greatly reduced growth</li> <li>• Several structurally import dead or branch scaffold branches</li> <li>• Stem has bark loss and significant decay with poor bark vigor</li> <li>• Root damage</li> <li>• Insect or disease problems – remedy required</li> <li>• Short-term tree 1-10 years</li> </ul>
<b>Very Poor</b>	<b>VP</b>	<ul style="list-style-type: none"> <li>• Lacking adequate live crown for survival and growth</li> <li>• Severe decline</li> <li>• Minor and major twig dieback</li> <li>• Stem unsound, bark sloughing, previous stem or large branch failures, very poor bark vigor</li> <li>• Severe root problems or disease</li> <li>• No or minor insect or disease problems</li> <li>• Mortality expected within the next few years</li> </ul>
<b>Dead</b>	<b>DEAD</b>	<ul style="list-style-type: none"> <li>• Dead</li> </ul>

**Cultural Care Needs:**

<b>ABBRV.</b>	<b>ACTIVITY</b>	<b>DESCRIPTION</b>
<b>CC</b>	<b>Crown Cleaning</b>	Pruning of dead, dying, diseased, damaged, or defective branches over 1/2 inch in diameter –includes removal of dead tops
<b>CT</b>	<b>Crown Thinning</b>	Pruning of branches described in crown cleaning, plus thinning of up to 20% of the live branches over 1/2 inch diameter. Branch should be 1/3 to 1/2 the diameter of the lateral branch. Thinning should be well distributed throughout crown of tree, and should release healthy, long-term branches.
<b>RC</b>	<b>Crown Reduction</b>	Reduction of the crown of a tree by pruning to lateral branches. Generally used to remove declining branches or to lighten end weight on long branches.
<b>CR</b>	<b>Crown Raising</b>	Pruning of lower branches to remove deadwood or to provide ground or building clearances.
<b>RMV</b>	<b>Remove</b>	Remove tree due to decline or hazardous conditions that cannot be mitigated by pruning.
<b>RS</b>	<b>Remove Sprouts</b>	Remove basal sprouts from stem of tree.
<b>Rep</b>	<b>Replace</b>	Tree is small – is in decline or dead. Replace with suitable tree species.
<b>HT</b>	<b>Hazard Tree</b>	Tree is hazardous and cannot be mitigated by pruning. Recommendation is to remove tree.
<b>None</b>	<b>No Work</b>	No work necessary at this time.

## **Attachment #4: Description of Tree Evaluation Methodology**

The evaluation of the tree condition on this site included the visual assessment of:

1. Live-crown ratio,
2. Lateral and terminal branch growth rates,
3. Presence of dieback in minor and major scaffold branches and twigs,
4. Foliage color,
5. Stem soundness and other structural defects,
6. Visual root collar examination,
7. Presence of insect or disease problems.
8. Windfirmness if tree removal will expose this tree to failure.

In cases where signs of internal defect or disease were suspected, a core sample was taken to look for stain, decay, and diameter growth rates. Also, root collars were exposed to look for the presence of root disease.

In all cases, the overall appearance of the tree was considered relative to its ability to add value to either an individual lot or the entire subdivision. Also, the scale of the tree and its proximity to both proposed and existing houses was considered.

Lastly, the potential for incorporation into the project design is evaluated, as well as potential site plan modifications that may allow otherwise removed tree(s) to be both saved and protected in the development.

Trees that are preserved in a development must be carefully selected to make sure that they can survive construction impacts, adapt to a new environment, and perform well in the landscape. Healthy, vigorous trees are better able to tolerate impacts such as root injury, changes in soils moisture regimes, and soil compaction than are low vigor trees.

Structural characteristics are also important in assessing suitability. Trees with significant decay and other structural defects that cannot be treated are likely to fail. Such trees should not be preserved in areas where damage to people or property could occur.

Trees that have developed in a forest stand are adapted to the close, dense conditions found in such stands. When surrounding trees are removed during clearing and grading, the remaining trees are exposed to extremes in wind, temperature, solar radiation, which causes sunscald, and other influences. Young, vigorous trees with well-developed crowns are best able to adapt to these changing site conditions.

## **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).

**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.

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

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

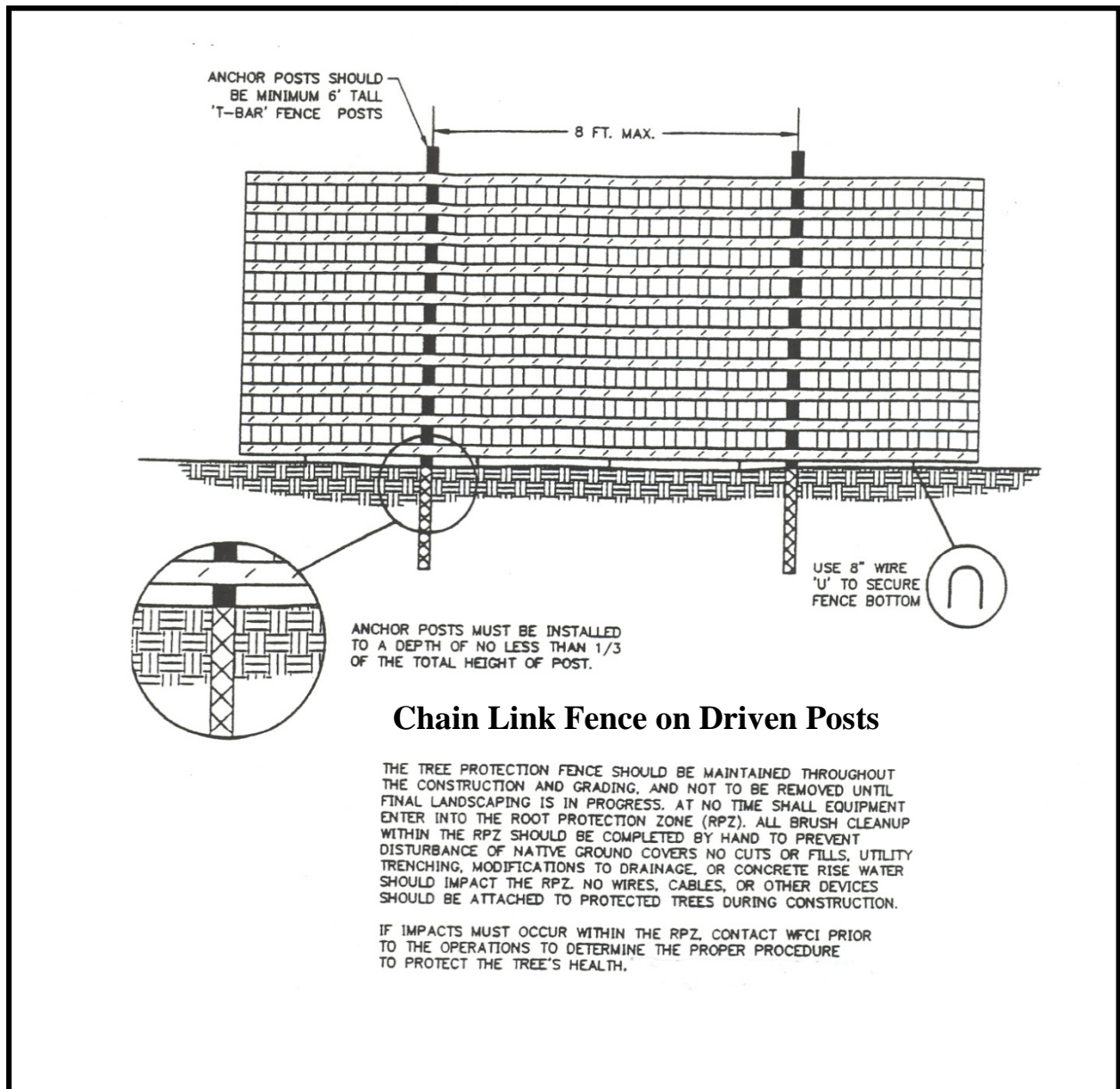
**Dominant Crown Position:** Receives light from above and from the sides.

**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.

### Attachment #6: Tree Protection Fence Detail



## **Attachment #7: 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.
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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.*