

TO: Craig Sears, Kirkmond

JOB SITE: 10032 134<sup>th</sup> Ave NE, Redmond

SUBJECT: Tree Inventory and Arborist Report

DATE: Original: December 6, 2012  
Revised: June 13, 2013

PREPARED BY: Sean Dugan Registered Consulting Arborist #457, ISA Board Certified Master Arborist #PN-5459B, ISA Qualified Tree Risk Assessor

---

## Contents

*Summary*  
*Assignment & Scope of Report*  
*Methods*  
*Observations*  
*Discussion*  
*Recommendations*  
*Glossary*  
*References*  
*Appendix A - Assumptions & Limiting Conditions*  
*Appendix B - Tree Risk Assessor Method*  
*Appendix C – Google Maps Aerial Satellite Image*  
*Attachments:*  
*Table of Trees*  
*Site Survey*

## Summary

Two-hundred and fourteen (214) trees were assessed on the subject property. Five (5) trees were tagged in the field, but later were determined to be below the significant tree size threshold. Fifteen (15) trees were found to be unhealthy. One hundred and ninety-three (193) trees in the project limits meet the City's definition of a Significant or Landmark tree; Ten (10) of these meet Landmark tree status, one hundred and eighty-three (183) tree meet the definition of a healthy /Significant tree. None of the trees present a high risk to the surrounding targets. One tall dead Douglas-fir tree that needs to be removed due to risk was not included in the inventory.

One-hundred and six (106) trees will need to be removed based on the proposed design; five Landmark trees; 101 significant trees. One-hundred and sixteen (116) trees will be required to replace the removed trees. Eleven (11) trees will be impacted, of which three are landmark trees. Seventy-six (76) trees will be retained including two landmark trees and 74 significant trees. Both impacted and retained trees should have protection measures applied to them before the commencement of site work. Many of these trees will require crown cleaning to remove dead parts in the canopy. Trees on adjacent properties are likely to be preserved with minimal disturbance, if careful construction techniques are implemented.

Provide the City with an exception request for the removal or impact of any Landmark tree. Obtain the necessary tree removal permission from the City before developing the site development.

### **Assignment & Scope of Report**

This report outlines the site inspection by Sean Dugan and Scott Selby of Tree Solutions Inc. made on April 26, 2012. We were asked to visit the site and assess all significant trees located on 7.23 acres of the Ogden Farms LLC project. We were asked to review the Redmond Municipal Code (RMC) requirements as they pertain to the project. We were asked to provide a formal report, including the size, health, risk assessment, and designation of each tree as it relates to the City code. Craig Sears of Ogden Farms LLC, requested these services to acquire information for project planning purposes.

### Limits of Assignment

Unless stated otherwise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, climbing, or coring unless explicitly specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

The International Society of Arboriculture's Standard of Care defines "Hazard Tree" as "a tree that has been assessed as having characteristics that make it an unacceptable risk for continued retention. A hazard tree, or a hazardous component, exist when the sum of the risk factors equals or exceeds a predetermined threshold of risk." The predetermined threshold for risk and the actions required to reduce the risk below that threshold is established by the risk manager.

As a Certified Tree Risk Assessor, my job is to provide the risk manager, in this case the project manager, with technical information required to make informed decisions. The risk manager must make the decision about how to implement the actions required to reduce risk levels to acceptable levels.

Additional assumptions and limiting conditions can be found in Appendix A.

### **Methods**

I evaluated tree health and structure utilizing visual tree assessment (VTA) methods. The basis behind VTA is the identification of symptoms, which the tree produces in reaction to a weak spot or area of mechanical stress. A tree reacts to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts. (Mattheck & Breloer 1994) An understanding of the uniform stress allows me to make informed judgments about the condition of a tree.

Using the Pacific Northwest International Society of Arboriculture (PNWISA) Tree Risk Assessment method, I assigned a risk potential rating to the tree. This method is adapted from the United States Forest Service risk assessment approach and is considered the present Standard of Care. This method provides assessors a structured process, based on good science and arboriculture, to assign recommended thresholds for action for the purpose of informing risk managers. The PNWISA Tree Risk Assessment method requires assessor certification. Additional information regarding this method can be found in [Appendix B](#).

The diameter of each tree was measured at 54 inches above grade, diameter at standard height (DSH). The drip line radius was obtained by measuring the furthest extent of the canopy spread on any one side of the tree. The species, health and structural condition, risk potential rating, notes, and recommendations for each tree can be found in the attached [Table of Trees](#). A marked up [Site Survey with Tree Locations](#) can be found attached to this report.

Each tree identified on the site survey and in the Table of Trees was identified on site with an oval numbered aluminum tag. The tags were placed on the tree between four and six feet above grade or where most easily visible.

A Google Maps satellite image of the site can be found in [Appendix C](#).

Trees designated as Removed, Impacted, or Retained have been done so according to the Redmond Municipal Code (RMC). In instances where the impacts to the circumference of a tree's drip line or critical root zone are potentially beneficial, negligible, or will have no negative impact the tree has been calculated as a retained tree. Assurance of a retained tree's continued vigor and survivability requires the application of tree protection measures as outlined in the RMC or those that are more restrictive as outlined by the project arborist.

## **Observations**

### The Site

This 7.32 acre property is located in Redmond's Residential Innovative Zone and is currently under consideration for development. The site consists of vacant land with one residence and several outbuildings. The property fronts 134<sup>th</sup> Ave NE in Redmond. There are no critical areas on the site and the topography is mostly flat, with fifteen feet of fall across the entire property. The site was very wet during our visit and the ponding of water was occurring in several locations near trees.

The extent of the site can be seen on the attached Site Survey with Tree Locations and Google Maps satellite photo in [Appendix C](#). The site is proposed to be developed.

### The Trees

Two hundred and fourteen (214) trees on site were tagged and assessed for health and structural conditions. Five of these trees were later determined to be less than six inches in DSH, and therefore, not significant. Fifteen (15) trees were found to be in poor condition. None of the trees present a high level of risk to the surrounding targets. One tall dead Douglas-fir (*Pseudotsuga menziesii*) tree on the west property line near tree 851 was not tagged due to being a risk tree that needs to be removed and does not count into the overall calculations for site density.

One hundred and ninety-three (193) trees were found to be in fair to good health condition. Ten (10) of the trees meet the City's definition of Landmark, having a DSH of greater than 30 inches. One hundred and eighty-three (183) healthy trees meet the City's definition of Significant.

Significant and Landmark tree species included Douglas-fir, Bigleaf maple (*Acer macrophyllum*), Red alder (*Alnus rubra*), Black cottonwood (*Populus trichocarpa*), Austrian pine (*Pinus nigra*), Bitter cherry (*Prunus emarginata*), Plum (*Prunus domestica*), Scouler's willow (*Salix scouleriana*), Western red cedar (*Thuja plicata*), and Lawson cypress (*Chamaecyparis lawsoniana*) trees.

The understory vegetation is dominated by invasive Himalayan blackberry, English ivy, and buttercup. Additional vegetation found on the site includes Indian plum, hawthorne, apple, pussy willow, arborvitae, English yew, and English laurel. No endangered or threatened species were observed.

## **Discussion**

In general, there appears to have been very little maintenance on the trees. Most are likely to be volunteer trees that self-seeded and were not planted. Most of the trees are primary succession species such as Red alder and Black cottonwood. These trees grow fast and can fail fast, and are not considered good candidates for development sites, due to falling parts, but can be preserved if monitored.

The potential for Black cottonwood trees to fail due to windthrow is always present, especially on sites where the soils remain saturated for extended periods of time. This condition may be present on this site. A site development plan should consider keeping structures away from these trees or removing the trees. This includes the Landmark tree 899.

Many of the retained trees are located in possible open space areas or open portions of individual sites. Any tree that will be located in these areas can be removed due to poor health, these should be reduced in height and left as a snag if feasible. Snag trees are useful to wildlife for food and habitat.

Trees that are located near proposed development that are unlikely to experience any negative impacts from the proposed construction and have a high probability for survival provided that the minimal tree protection measures are applied have been included as retained trees rather than impacted as they are unlikely to be impacted.

### Retained, Impacted and Removed Trees

The RZC states that the tree protection area shall be a minimum of the drip line plus five additional radial feet added to the furthest extent of the drip line. Trees that are proposed to be retained, removed, or may be impacted, should be shown on a Tree Preservation Plan.

The trees on the adjacent properties are in fair to good health and structure. These trees are unlikely to be compromised during site development, if careful construction practices are implemented that do not over-excavate or encroach into the critical root zone of these trees.

The RZC states that a minimum of 35 percent of all significant trees shall be retained on any new development site, along with all Landmark trees, unless an exception has been applied for and granted. Table 1 provides a description of the number and percentages of each tree scheduled to be removed, impacted, or retained, based on tree classification and possible preliminary site development schematics.

Tree Inventory - Proposed Action and Brief Definition				
Type of Tree (DSH)	Removal	Impacted	Retained	Total
Landmark (>30")	5 = 2.6%	3 = 1.5%	2 = 1.0%	10 = 5.2%
Significant (6"-30")	101 = 55.2%	8 = 4.4%	74 = 40.4%	183 = 94.8%
Totals	106 = 54.9%	11 = 5.7%	76 = 39.4%	193 = 100%
Replacement Trees	116			116

Table 1. Numbers are generated based on site conditions, proposed development, and City requirements. Significant trees are to be replaced at a 1:1 ratio; landmark trees at a 3:1 ratio.

### Replacement Trees

The RZC states the following:

- Replacement trees are to be a minimum of:
  - Two-and-one-half-inch caliper at breast height for deciduous trees
  - Six feet in height for evergreen trees
- The Administrator may consider smaller-sized replacement trees if the applicant can demonstrate that smaller trees are more suited to the species, the site conditions, and the purposes of this section, and that such trees will be planted in sufficient quantities to meet the intent of this section.
- Replacement trees shall be primarily native species in order to restore and enhance the site as nearly as practicable to its pre-development character.
- The condition of replacement trees shall meet or exceed current American Nursery and Landscape Association or equivalent organization's standards for nursery stock.
- Installation of required replacement trees shall be in accordance with best management practices for landscaping which ensure the tree's long-term health and survival.
- All required tree replacement and other required mitigation shall be bonded or completed prior to issuance of a building permit.

### **Recommendations**

- Provide the City with an exception request for the removal or impact of any Landmark tree.
- Obtain the necessary tree removal permission from the City before developing the site development.
- Include protection measures on the site plan for trees that will be preserved.
- Removed the tall dead Douglas-fir tree near tree 851 before working in that area.

## Glossary

- cabaling:** installation of hardware in a tree to help support weak branches or crotches (Lilly 2001)
- codominant stems:** stems or branches of nearly equal diameter, often weakly attached (Matheny *et al.* 1998)
- cracks:** defects in trees that, if severe, may pose a risk of tree or branch failure (Lilly 2001)
- crown:** the aboveground portions of a tree (Lilly 2001)
- crown cleaning:** selective pruning to remove one or more of the following parts: dead, diseased, and/or broken branches (ANSI A300)
- DBH or DSH:** diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Matheny *et al.* 1998)
- deciduous:** tree or other plant that loses its leaves sometime during the year and stays leafless generally during the cold season (Lilly 2001)
- evergreen:** tree or plant that keeps its needles or leaves year round; this means for more than one growing season (Lilly 2001)
- ISA:** International Society of Arboriculture
- included bark:** bark that becomes embedded in a crotch between branch and trunk or between codominant stems and causes a weak structure (Lilly 2001)
- Landmark tree:** A healthy tree with a DSH greater than 30 inches. (RZC)
- lateral:** secondary or subordinate branch (Lilly 2001)
- monitoring:** keeping a close watch; performing regular checks or inspections (Lilly 2001)
- PNWISA:** Pacific Northwest Chapter of ISA
- significant size:** a tree measuring 6" DSH or greater (RZC)
- snag:** a tree left partially standing for the primary purpose of providing habitat for wildlife
- structural defects:** flaws, decay, or other faults in the trunk, branches, or root collar of a tree, which may lead to failure (Lilly 2001)
- target:** person, object, or structure that could be injured or damaged in the event of tree or branch failure (Lilly 2001)

## References

ANSI A300 (Part 1) – 2008 American National Standards Institute. American National Standard for Tree Care Operations: Tree, Shrub, and Other Woody Plant Maintenance: Standard Practices (Pruning). New York: Tree Care Industry Association, 2008.

Lilly, Sharon. Arborists' Certification Study Guide. Champaign, IL: The International Society of Arboriculture, 2001.

Matheny, Nelda and James R. Clark. Trees and Development: A Technical Guide to Preservation of Trees During Land Development. Champaign, IL: International Society of Arboriculture, 1998.

Mattheck, Claus and Helge Breloer, The Body Language of Trees.: A Handbook for Failure Analysis. London: HMSO, 1994.

## **Appendix A - Assumptions & Limiting Conditions**

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

## Appendix B - Tree Risk Assessor Method

The Pacific Northwest International Society of Arboriculture (PNWISA) Tree Risk Assessment method is adapted from the United States Forest Service risk assessment approach and is considered the present Standard of Care. This method provides assessors a structured process, based on good science and arboriculture, to assign recommended thresholds for action for the purpose of informing risk managers. The PNWISA Tree Risk Assessment method requires assessor certification.

The method uses a 12 point system, divided into three categories, to rate the potential risk from a tree and its parts.

**P** **Probability of Failure** is rated at 1-5 points based on the judgment of the assessor.

1 point = Low risk – The defect is not likely to lead to imminent failure and no further action is required. In many cases these defects might not even be recorded.

2 points = Moderate risk – One or more defects that are well established but would typically not lead to failure for several years. Corrective action might be useful to prevent future problems but only if time and money are available. Not the highest priority for action, these are the “retain and monitor” situations that can be used to inform budget and work schedules for subsequent years.

3 points = Moderately High risk – One or more defects areas well established but not yet deemed to be a high priority issue. Additional testing may be required or, the assessor may feel the problems are not serious enough to warrant immediate action, but do warrant placing the tree on a list of trees to be inspected more regularly. These are Retain and Monitor trees.

4 points = High risk – The defect is serious and imminent failure is likely and corrective action is required immediately. These cases require treatment within the next few days or weeks.

5 points = Extreme - The tree or component part is already failing. An emergency situation where treatment is required today.

**S** **Size of the Defective Part(s)** is rated 1-3 with 1 point for branches or stems up to 10cm (4 inches) in diameter, 2 points for branches or stems between 10-50cm (4-20 inches) in diameter and, 3 points for branches or stems over 50cm (20 inches) in diameter.

**T** **Target Area** is rated 1-4 based on the following target descriptions.

1= Low – Sites rated at one point are very rarely used for any long period of time, and people passing through the area (regardless of how they travel) do not spend a lot of time within the striking range of the tree within any one day. There are no valuable buildings or other facilities within striking range.

2= Moderate – Valuable buildings are at the edge of striking distance, so they would not be seriously damaged even if the tree did fall down. The site has people within striking range occasionally, meaning less than 50% of the time span in any one day, week, or month, and do not stay within striking range for very long.

3= Moderately High – The site has valuable buildings within striking range. People are within striking range more than 50% of the time span in any one day, week, or month, and their exposure time can be more than just passing by.

4= High – The highest rated targets have a building within striking range frequently used by people, often for longer periods of time, or high volumes of people coming and going within striking range

## The Overall Risk Rating and Action Thresholds

Risk Rating	Risk Category	Interpretation & Implications
3	Low 1	<i>Insignificant- no concern at all.</i>
4	Low 2	<i>Insignificant – very minor issues</i>
5	Low 3	<i>Insignificant – minor issues not of concern for many years yet</i>
6	Moderate 1	<i>Some issues but nothing that is likely to cause any problems for another 10 years or more</i>
7	Moderate 2	<i>Well defined issues – retain and monitor. Not expected to be a problem for at least another 5 – 10 years</i>
8	Moderate 3	<i>Well-defined issues – retain and monitor. Not expected to be a problem for at least another 1 – 5 years.</i>
9	High 1	<i>The assessed issues have now become very clear. The tree can still reasonable be retained as it is not likely to fall apart right away, but it must now be monitored annually.</i>
10	High 2	<i>The assessed issues have now become very clear. The probability of failure is now getting serious, or the target rating and/or site context have changed such that mitigation measures should now be on a schedule with a clearly defined timeline for action.</i>
11	High 3	<i>The tree, or a part of it has reached a stage where it could fail at any time. Action to mitigate the risk is required within weeks rather than months.</i>
12	Extreme	<i>This tree, or part of it, is in the process of failing. Immediate action is required. All other less significant tree work should be suspended, and roads or work areas should be closed off until the risk issues have been mitigated.</i>

### Options for Mitigation of Risk Trees include:

Remove the risk altogether if possible by cutting off one or more branches, removing dead wood, or possibly removing the entire tree. Extreme risk situations should be closed off until the risk is abated.

Modify the risk of failure probability. In some cases it may be possible to reduce the probability of failure by adding mechanical support in the form of cables braces or props.

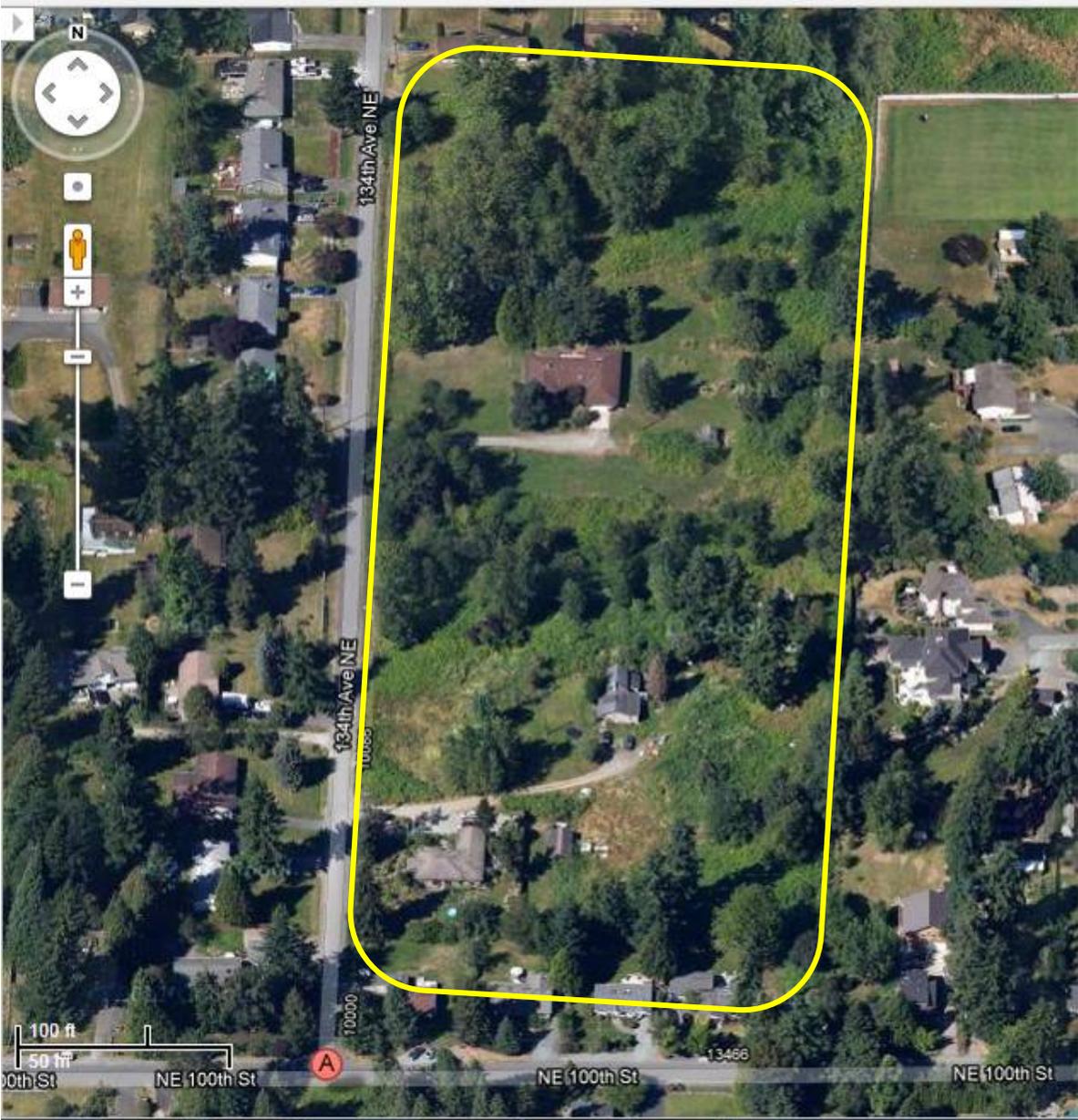
Modify the risk rating by moving the target. Risk ratings can sometimes be lowered by moving the target so that there is a much lower probability of the defective part striking anything. Moving the target should generally be seen as an interim measure.

Retain and monitor. This approach is used where some defects have been noted but they are not yet serious and the present risk level is only moderate.

### Reference:

*Dunster & Associates Environmental Consultants Ltd. Assessing Trees in Urban Areas and the Urban-Rural Interface, US Release 1.0. Silverton: Pacific Northwest Chapter ISA, 2006*

**Appendix C – Google Maps Satellite Image**



**Google Maps satellite image showing approximate outline of property (yellow).**

- Attachments:**
- Table of Trees**
  - Site Survey**

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
701	<i>Thuja plicata</i>	Western Red cedar	12	8	Fair	1	2	3	6	Retain	
702	<i>Thuja plicata</i>	Western Red cedar	8	6	Fair	1	2	3	6	Retain	
703	<i>Thuja plicata</i>	Western Red cedar	20	8	Fair	1	2	3	6	Retain	
704	<i>Thuja plicata</i>	Western Red cedar	6	6	Fair	1	2	3	6	Retain	
705	<i>Pinus nigra</i>	Austrian pine	22	10	Good	2	2	3	7	Impacted	
706	<i>Thuja plicata</i>	Western Red cedar	18	8	Good	1	2	3	6	Impacted	
707	<i>Thuja plicata</i>	Western Red cedar	10	7	Good	1	2	3	6	Retain	
801	<i>Populus trichocarpa</i>	Black cottonwood	11.7	9	Good	1	2	2	5	Remove	utility wire target, water ponding in CRZ
802	<i>Populus trichocarpa</i>	Black cottonwood	8.1	7	Good	1	2	2	5	Remove	Driveway target
803	<i>Populus trichocarpa</i>	Black cottonwood	6.4	4	Good	1	2	2	5	Remove	Driveway target
804	<i>Populus trichocarpa</i>	Black cottonwood	6.5	4	Good	1	2	2	5	Remove	Driveway target
805	<i>Populus trichocarpa</i>	Black cottonwood	7.8	5	Good	1	2	2	5	Remove	Driveway target
806	<i>Populus trichocarpa</i>	Black cottonwood	10.1	6	Good	1	2	2	5	Remove	utility wire target, water ponding in CRZ
807	<i>Populus trichocarpa</i>	Black cottonwood	7.9	5	Good	1	2	2	5	Remove	utility wire target

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
808	<i>Populus trichocarpa</i>	Black cottonwood	8	4	Good	1	2	2	5	Remove	utility wire target
809	<i>Populus trichocarpa</i>	Black cottonwood	14.5	10	Good	1	2	2	5	Remove	Driveway target
811	<i>Malus sylvestris</i>	Common apple	12.4	8	Fair	1	2	2	5	Remove	Trunk wound 40% circumference
812	<i>Alnus rubra</i>	Red alder	8.2	9	Fair	1	2	1	4	Impacted	sparse canopy
813	<i>Alnus rubra</i>	Red alder	11.8	9	Fair	1	2	1	4	Retain	sparse canopy
814	<i>Alnus rubra</i>	Red alder	10	9	Fair	1	2	1	4	Impacted	sparse canopy
815	<i>Alnus rubra</i>	Red alder	9.5	7	Fair	1	2	1	4	Retain	Intermediate canopy, sparse canopy
816	<i>Alnus rubra</i>	Red alder	10	10	Good	1	2	1	4	Retain	
817	<i>Alnus rubra</i>	Red alder	11.7	10	Good	1	2	1	4	Retain	
819	<i>Prunus emarginata</i>	Bitter cherry	6.8	6	Fair	2	2	1	5	Remove	
821	<i>Prunus emarginata</i>	Bitter cherry	7.3	8	Good	1	2	2	5	Retain	On the property line
822	<i>Prunus emarginata</i>	Bitter cherry	6.3	7	Good	1	2	2	5	Retain	On the property line
823	<i>Alnus rubra</i>	Red alder	10.4	10	Fair	1	2	1	4	Remove	Trunk failure
824	<i>Alnus rubra</i>	Red alder	6.5	8	Good	1	2	1	4	Remove	
825	<i>Alnus rubra</i>	Red alder	12	12	Good	1	2	1	4	Remove	

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
826	<i>Acer macrophyllum</i>	Bigleaf maple	6.6	12	Fair	1	2	1	4	Remove	
827	<i>Acer macrophyllum</i>	Bigleaf maple	7.6	6	Fair	1	2	1	4	Remove	
830	<i>Populus trichocarpa</i>	Black cottonwood	10.2	8	Good	1	2	1	4	Remove	
832	<i>Populus trichocarpa</i>	Black cottonwood	8	8	Fair	1	2	1	4	Remove	
833	<i>Pseudotsuga menziesii</i>	Douglas-fir	10.2	6	Fair	1	1	1	3	Retain	intermediate
834	<i>Pseudotsuga menziesii</i>	Douglas-fir	12.1	6	Fair	1	1	1	3	Retain	intermediate canopy, tolerant to root loss
835	<i>Pseudotsuga menziesii</i>	Douglas-fir	28.5	11	Good	2	2	2	6	Retain	rear property; crown clean, test base for internal decay
836	<i>Pseudotsuga menziesii</i>	Douglas-fir	9	5	Fair	1	1	1	3	Impacted	intermediate, trunk failure
837	<i>Thuja plicata</i>	Western Red cedar	8	6	Good	1	1	1	3	Retain	
839	<i>Prunus emarginata</i>	Bitter cherry	8.5	6	Fair	1	1	1	3	Retain	
840	<i>Prunus emarginata</i>	Bitter cherry	6.5	7	Good	1	1	1	3	Retain	
842	<i>Acer macrophyllum</i>	Bigleaf maple	12.5	8	Fair	1	1	1	3	Retain	
848	<i>Prunus domestica</i>	Plum	9	6	Fair	2	2	2	6	Remove	
849	<i>Alnus rubra</i>	Red alder	8.4	7	Good	1	1	1	3	Remove	
850	<i>Pseudotsuga menziesii</i>	Douglas-fir	26.8	10	Fair	2	2	1	5	Remove	girdling webbing on trunk-remove

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
851	<i>Pseudotsuga menziesii</i>	Douglas-fir	14.3	7	Good	2	1	1	4	Retain	
852	<i>Acer macrophyllum</i>	Bigleaf maple	17	13	Good	2	2	1	5	Retain	(branch risk) cool tree
856	<i>Acer macrophyllum</i>	Bigleaf maple	26.2	12	Good	2	2	2	6	Retain	canopy over site to east
857	<i>Populus trichocarpa</i>	Black cottonwood	8.7	8	Good	1	1	1	3	Remove	
859	<i>Acer macrophyllum</i>	Bigleaf maple	12	10	Fair	2	2	1	5	Remove	slow to leaf out, wounded trunks
860	<i>Acer macrophyllum</i>	Bigleaf maple	11	8	Fair	2	2	1	5	Remove	slow to leaf out, wounded trunks; trunk failed at top
861	<i>Acer macrophyllum</i>	Bigleaf maple	9.3	7	Fair	1	1	2	4	Retain	trunk wounds
862	<i>Acer macrophyllum</i>	Bigleaf maple	11	6	Fair	2	2	1	5	Remove	top dieback, healthy lower sprouts
864	<i>Populus trichocarpa</i>	Black cottonwood	10.3	8	Good	1	1	2	4	Remove	
865	<i>Populus trichocarpa</i>	Black cottonwood	12.8	10	Good	1	2	2	5	Remove	
866	<i>Populus trichocarpa</i>	Black cottonwood	17.5	10	Good	1	2	2	5	Remove	
867	<i>Populus trichocarpa</i>	Black cottonwood	19.9	14	Good	1	2	2	5	Remove	
869	<i>Populus trichocarpa</i>	Black cottonwood	21.5	9	Good	1	2	2	5	Remove	
870	<i>Populus trichocarpa</i>	Black cottonwood	19.2	12	Good	1	2	2	5	Remove	

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
871	<i>Populus trichocarpa</i>	Black cottonwood	8.1	4	Good	1	1	1	3	Remove	
872	<i>Populus trichocarpa</i>	Black cottonwood	10.6	11	Good	1	2	2	5	Remove	3 trunks
873	<i>Populus trichocarpa</i>	Black cottonwood	9.9	6	Good	1	2	1	4	Remove	
874	<i>Populus trichocarpa</i>	Black cottonwood	12.8	6	Good	1	2	1	4	Remove	
875	<i>Populus trichocarpa</i>	Black cottonwood	19.7	9	Good	1	2	1	4	Remove	
876	<i>Populus trichocarpa</i>	Black cottonwood	21	10	Fair	1	2	1	4	Remove	sparse, small leaf, water ponding in the CRZ
877	<i>Populus trichocarpa</i>	Black cottonwood	27.8	10	Fair	1	2	1	4	Remove	sparse, small leaf, water ponding in the CRZ
878	<i>Populus trichocarpa</i>	Black cottonwood	10.8	6	Good	1	2	1	4	Remove	
879	<i>Populus trichocarpa</i>	Black cottonwood	10.6	6	Good	1	2	1	4	Remove	
880	<i>Populus trichocarpa</i>	Black cottonwood	12.4	6	Good	1	2	1	4	Remove	
881	<i>Populus trichocarpa</i>	Black cottonwood	13.6	7	Good	1	2	1	4	Remove	
882	<i>Populus trichocarpa</i>	Black cottonwood	22.3	9	Good	1	2	1	4	Remove	
883	<i>Populus trichocarpa</i>	Black cottonwood	17.9	10	Good	1	2	1	4	Remove	
884	<i>Populus trichocarpa</i>	Black cottonwood	13.9	9	Fair	1	2	2	5	Remove	risk to rear property, sparse, small leaves
885	<i>Populus trichocarpa</i>	Black cottonwood	6.5	6	Fair	1	2	2	5	Remove	risk to rear property, sparse, small leaves

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
886	<i>Populus trichocarpa</i>	Black cottonwood	17.5	8	Fair	1	2	2	5	Remove	risk to rear property, sparse, small leaves
887	<i>Populus trichocarpa</i>	Black cottonwood	7.7	7	Fair	1	2	2	5	Remove	risk to rear property, sparse, small leaves
888	<i>Populus trichocarpa</i>	Black cottonwood	8.4	7	Fair	1	2	2	5	Remove	risk to rear property, sparse, small leaves
889	<i>Acer macrophyllum</i>	Bigleaf maple	22	10	Fair	2	2	2	6	Remove	codominant, short shoots
891	<i>Acer macrophyllum</i>	Bigleaf maple	18.4	12	Fair	1	2	1	4	Remove	slow growth
892	<i>Alnus rubra</i>	Red alder	8.5	10	Good	1	1	1	3	Impacted	
894	<i>Acer macrophyllum</i>	Bigleaf maple	13.5	6	Fair	2	2	1	5	Retain	trunk failure, canopy asymmetrical
895	<i>Acer macrophyllum</i>	Bigleaf maple	9.6	7	Fair	2	2	1	5	Retain	not leafed out
896	<i>Acer macrophyllum</i>	Bigleaf maple	10.6	8	Fair	2	2	1	5	Retain	
897	<i>Acer macrophyllum</i>	Bigleaf maple	8.5	10	Fair	2	2	1	5	Retain	multi, slow growth, verticle trunk wounds
900	<i>Alnus rubra</i>	Red alder	7.7	6	Fair	2	2	1	5	Remove	trunk failure, low live crown ratio
901	<i>Populus trichocarpa</i>	Black cottonwood	12.7	8	Good	2	2	1	5	Remove	
902	<i>Populus trichocarpa</i>	Black cottonwood	8.2	8	Good	2	2	1	5	Remove	
903	<i>Populus trichocarpa</i>	Black cottonwood	16.2	8	Good	2	2	1	5	Remove	
904	<i>Populus trichocarpa</i>	Black cottonwood	11.6	8	Good	2	2	1	5	Remove	

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
905	<i>Populus trichocarpa</i>	Black cottonwood	13.2	8	Good	1	1	1	3	Remove	
907	<i>Populus trichocarpa</i>	Black cottonwood	12.5	8	Good	2	2	1	5	Remove	
908	<i>Populus trichocarpa</i>	Black cottonwood	10.8	8	Good	2	2	1	5	Remove	
909	<i>Populus trichocarpa</i>	Black cottonwood	13.4	8	Good	2	2	1	5	Remove	
910	<i>Populus trichocarpa</i>	Black cottonwood	8.3	8	Good	2	2	1	5	Remove	
911	<i>Alnus rubra</i>	Red alder	8.1	6	Good	1	1	1	3	Remove	
912	<i>Alnus rubra</i>	Red alder	8	6	Good	1	1	1	3	Remove	
913	<i>Alnus rubra</i>	Red alder	6.7	4	Good	1	1	1	3	Remove	
914	<i>Alnus rubra</i>	Red alder	14.8	9	Good	1	1	1	3	Remove	
915	<i>Alnus rubra</i>	Red alder	7.1	7	Fair	1	1	1	3	Remove	
916	<i>Acer macrophyllum</i>	Bigleaf maple	7.5	5	Fair	1	1	1	3	Retain	canopy asymmetrical
917	<i>Acer macrophyllum</i>	Bigleaf maple	9.5	6	Fair	1	1	1	3	Retain	crown clean, trunk failure, forked trunk
918	<i>Acer macrophyllum</i>	Bigleaf maple	14.8	6	Fair	1	1	1	3	Retain	
919	<i>Acer macrophyllum</i>	Bigleaf maple	13.4	9	Fair	1	1	1	3	Retain	
920	<i>Acer macrophyllum</i>	Bigleaf maple	9.8	5	Fair	1	1	1	3	Retain	intermediate

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
921	<i>Acer macrophyllum</i>	Bigleaf maple	7	6	Fair	2	1	1	4	Retain	intermediate
922	<i>Acer macrophyllum</i>	Bigleaf maple	22	12	Good	2	2	1	5	Retain	canopy asymmetrical
923	<i>Acer macrophyllum</i>	Bigleaf maple	22.6	12	Fair	4	2	2	8	Remove	if retained, crown clean, bolt & cable, split seam
924	<i>Acer macrophyllum</i>	Bigleaf maple	8.6	10	Fair	3	2	1	6	Retain	crown clean, dead stems
925	<i>Acer macrophyllum</i>	Bigleaf maple	16.8	12	Fair	2	2	2	6	Retain	road is target, crown clean
926	<i>Acer macrophyllum</i>	Bigleaf maple	9.7	9	Fair	2	2	2	6	Retain	trunk failure, moderate dead wood
927	<i>Acer macrophyllum</i>	Bigleaf maple	9	6	Fair	1	1	1	3	Retain	
928	<i>Acer macrophyllum</i>	Bigleaf maple	8.7	8	Fair	2	2	1	5	Retain	crown clean, narrow crotch, small trunk is dead
929	<i>Acer macrophyllum</i>	Bigleaf maple	8.2	5	Fair	2	2	1	5	Retain	narrow crotch, mod deadwood, crown clean
930	<i>Acer macrophyllum</i>	Bigleaf maple	9	7	Fair	2	2	1	5	Retain	moderate deadwood, crown clean
931	<i>Acer macrophyllum</i>	Bigleaf maple	8.3	7	Fair	2	2	1	5	Retain	moderate deadwood, crown clean
932	<i>Alnus rubra</i>	Red alder	14.2	12	Good	2	2	1	5	Remove	
933	<i>Acer macrophyllum</i>	Bigleaf maple	14	10	Good	2	2	1	5	Remove	moderate deadwood, crown clean
935	<i>Acer macrophyllum</i>	Bigleaf maple	9.5	6	Fair	3	2	1	6	Retain	
936	<i>Acer macrophyllum</i>	Bigleaf maple	7.5	5	Fair	2	2	1	5	Retain	trunk failure

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
937	<i>Acer macrophyllum</i>	Bigleaf maple	9.7	5	Fair	2	2	1	5	Retain	trunk wound, asymmetric canopy
938	<i>Acer macrophyllum</i>	Bigleaf maple	13.7	7	Fair	2	2	1	5	Retain	moderate deadwood, crown clean
939	<i>Acer macrophyllum</i>	Bigleaf maple	7.8	5	Fair	2	2	1	5	Retain	
940	<i>Acer macrophyllum</i>	Bigleaf maple	9.7	5	Fair	2	2	1	5	Retain	
941	<i>Acer macrophyllum</i>	Bigleaf maple	9.8	5	Fair	2	2	1	5	Retain	
942	<i>Acer macrophyllum</i>	Bigleaf maple	8.6	7	Fair	1	1	1	3	Retain	
943	<i>Acer macrophyllum</i>	Bigleaf maple	28.2	15	Good	2	2	2	6	Retain	yard is target
944	<i>Acer macrophyllum</i>	Bigleaf maple	29.2	15	Good	2	2	4	8	Retain	powerline is target; crown clean, trunk wound, nice tree
945	<i>Acer macrophyllum</i>	Bigleaf maple	7.2	4	Fair	1	1	1	3	Retain	intermediate
946	<i>Acer macrophyllum</i>	Bigleaf maple	15.2	6	Fair	2	1	1	4	Retain	monitor included bark, seam
947	<i>Acer macrophyllum</i>	Bigleaf maple	11.8	5	Fair	1	1	4	6	Retain	powerline is target; crown clean
948	<i>Acer macrophyllum</i>	Bigleaf maple	10.5	5	Fair	1	1	4	6	Retain	
949	<i>Acer macrophyllum</i>	Bigleaf maple	10.3	5	Fair	1	1	4	6	Retain	
950	<i>Acer macrophyllum</i>	Bigleaf maple	12.5	6	Fair	1	1	4	6	Retain	
951	<i>Acer macrophyllum</i>	Bigleaf maple	10.8	4	Fair	2	1	1	4	Retain	trunk failure

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
952	<i>Acer macrophyllum</i>	Bigleaf maple	6.9	3	Fair	1	1	1	3	Retain	
954	<i>Thuja plicata</i>	Western Red cedar	26	12	Good	1	2	2	5	Retain	
955	<i>Alnus rubra</i>	Red alder	7.7	9	Good	1	1	1	3	Remove	
956	<i>Alnus rubra</i>	Red alder	7.7	9	Good	1	1	1	3	Remove	
957	<i>Picea pungens</i>	Colorado spruce	15.2	8	Fair	1	2	2	5	Remove	low level insect damage
958	<i>Abies grandis</i>	Grand fir	15	8	Fair	1	2	2	5	Remove	low level insect damage
959	<i>Alnus rubra</i>	Red alder	11.7	8	Fair	2	2	1	5	Remove	crown clean, moderate deadwood, trunk wounding, previous failure
960	<i>Alnus rubra</i>	Red alder	13.1	7	Good	1	1	1	3	Remove	
961	<i>Alnus rubra</i>	Red alder	10	8	Fair	1	1	1	3	Remove	
962	<i>Alnus rubra</i>	Red alder	7.8	8	Fair	2	2	1	5	Remove	dead sections, crown clean
963	<i>Alnus rubra</i>	Red alder	13	8	Fair	1	2	1	4	Remove	
964	<i>Alnus rubra</i>	Red alder	8	10	Fair	1	2	1	4	Remove	
965	<i>Alnus rubra</i>	Red alder	10.2	10	Fair	1	2	1	4	Remove	
966	<i>Alnus rubra</i>	Red alder	6.4	8	Fair	1	2	1	4	Remove	
967	<i>Populus trichocarpa</i>	Black cottonwood	13.2	14	Fair	1	2	1	4	Remove	

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
968	<i>Populus trichocarpa</i>	Black cottonwood	9	12	Fair	1	2	1	4	Remove	
969	<i>Alnus rubra</i>	Red alder	7.2	10	Fair	1	2	1	4	Remove	
970	<i>Alnus rubra</i>	Red alder	8.4	12	Fair	1	2	1	4	Remove	
971	<i>Alnus rubra</i>	Red alder	17.1	12	Fair	1	2	1	4	Remove	
972	<i>Populus trichocarpa</i>	Black cottonwood	14.8	12	Fair	1	2	1	4	Remove	
973	<i>Populus trichocarpa</i>	Black cottonwood	26	15	Fair	1	2	1	4	Retain	
974	<i>Alnus rubra</i>	Red alder	12.3	10	Fair	1	2	1	4	Retain	
975	<i>Alnus rubra</i>	Red alder	10.2	10	Fair	1	2	1	4	Remove	
976	<i>Alnus rubra</i>	Red alder	11.1	10	Fair	1	2	1	4	Retain	
977	<i>Alnus rubra</i>	Red alder	8.2	8	Fair	1	2	2	5	Remove	
978	<i>Alnus rubra</i>	Red alder	8.5	10	Fair	1	2	1	4	Remove	
979	<i>Alnus rubra</i>	Red alder	8.4	8	Fair	1	2	1	4	Retain	
981	<i>Alnus rubra</i>	Red alder	8	8	Fair	1	2	1	4	Retain	
982	<i>Alnus rubra</i>	Red alder	7.5	6	Fair	1	2	1	4	Retain	
983	<i>Alnus rubra</i>	Red alder	8.2	10	Fair	1	2	1	4	Retain	

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
984	<i>Alnus rubra</i>	Red alder	13	10	Fair	1	2	1	4	Retain	
985	<i>Alnus rubra</i>	Red alder	9	10	Fair	1	2	1	4	Retain	
987	<i>Alnus rubra</i>	Red alder	7.3	8	Fair	1	2	1	4	Retain	
988	<i>Alnus rubra</i>	Red alder	12.4	10	Fair	1	2	1	4	Remove	
989	<i>Alnus rubra</i>	Red alder	7	10	Fair	1	2	1	4	Remove	
990	<i>Acer macrophyllum</i>	Bigleaf maple	24.8	35	Good	1	2	1	4	Remove	nice specimen
991	<i>Alnus rubra</i>	Red alder	8.4	8	Fair	1	2	1	4	Remove	
992	<i>Alnus rubra</i>	Red alder	10.7	10	Fair	1	2	1	4	Remove	
993	<i>Alnus rubra</i>	Red alder	11.2	10	Fair	1	2	1	4	Remove	
994	<i>Alnus rubra</i>	Red alder	9.6	25	Fair	1	2	1	4	Remove	
995	<i>Alnus rubra</i>	Red alder	10.3	8	Good	2	2	1	5	Remove	topped for utilities
997	<i>Acer macrophyllum</i>	Bigleaf maple	25.6	20	Fair	1	2	1	4	Impacted	
998	<i>Alnus rubra</i>	Red alder	9.5	8	Fair	1	2	1	4	Retain	
999	<i>Alnus rubra</i>	Red alder	10	8	Fair	1	2	1	4	Retain	
1000	<i>Pseudotsuga menziesii</i>	Douglas-fir	26.3	25	Good	1	2	1	4	Impacted	

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
1001	<i>Alnus rubra</i>	Red alder	8	10	Good	1	2	1	4	Retain	
1002	<i>Alnus rubra</i>	Red alder	8	10	Good	1	2	1	4	Retain	
1003	<i>Thuja plicata</i>	Western Red cedar	12	8	Fair	1	1	1	3	Remove	
1004	<i>Alnus rubra</i>	Red alder	9	9	Fair	1	1	1	3	Remove	
1005	<i>Pseudotsuga menziesii</i>	Douglas-fir	16	12	Fair	2	1	1	4	Remove	
*700	<i>Thuja plicata</i>	Western Red cedar	30	8	Good	1	2	3	6	Impacted	
*708	<i>Acer macrophyllum</i>	Bigleaf maple	40	15	Good	2	2	3	7	Impacted	
*818	<i>Pseudotsuga menziesii</i>	Douglas-fir	36.9	14	Fair	2	2	1	5	Impacted	decline in lower canopy
*841	<i>Pseudotsuga menziesii</i>	Douglas-fir	43.3	14	Fair	2	2	1	5	Remove	short shoots, exaggerated flare, test base if retained, crown clean, reduce laterals
*844	<i>Pseudotsuga menziesii</i>	Douglas-fir	38	16	Good	2	2	1	5	Remove	test base, crown clean, reduce laterals if retained
*845	<i>Pseudotsuga menziesii</i>	Douglas-fir	32	12	Good	2	2	2	6	Remove	test base, crown clean, reduce laterals if retained
*853	<i>Acer macrophyllum</i>	Bigleaf maple	44.9	20	Fair	2	2	1	5	Retain	resprouting at failure, crown clean, reduce scaffold end weight to south
*854	<i>Acer macrophyllum</i>	Bigleaf maple	35.5	14	Good	2	2	1	5	Retain	trunk removed in past, multi sprout near base, DSH at junction, 2 trunks narrow angle of attachment, included bark
*890	<i>Acer macrophyllum</i>	Bigleaf maple	30	14	Fair	2	2	2	6	Remove	narrow angle union, included bark, monitor seam

Tree #	Scientific Name	Common Name	DSH (inches)	Drip Line	Health Condition	Prob.	Size	Target	Risk Potential	Management Options	Notes
899*	<i>Populus trichocarpa</i>	Black cottonwood	31.3	20	Good	2	2	1	5	Remove	long scaffolds
*	<i>Indicates landmark tree</i>										