**3907 AURORA AVE N, SEATTLE WA 98103**
**December 5, 2025**

David Yusen
Mercer Island project

Dear David,

Thank you for contracting with us to assess the trees and provide the following report. During our field investigation of the trees located at 3246 72nd Pl SE, Mercer Island WA, we identified all onsite, offsite and right-of-way (ROW) trees regulated by the City of Mercer Island. This report outlines our observations and recommendations in relation to the proposed redevelopment. You may submit it to the permitting office as part of your permit application.

Please contact me if you have any questions or need further information.

Respectfully submitted,

Douglas Smith

Douglas Smith
ISA Board Certified Master Arborist PN 6116-B
Tree Risk Assessment Qualified (TRAQ)
(206)457-5706
doug@seattletreeconsulting.com

# Pre-construction Arborist Report

Prepared by:

John Wells with Douglas Smith
ISA Board Certified Master Arborist PN 6116-B
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# Table of contents

# Report narrative

***Site information***
Address: 3246 72nd Pl SE, Mercer Island, WA
Zoning: R8.4
KC parcel: 130030-0840
Parcel size: 16,586
Site visit date: 7/2/25
Time of site visit: 9am

***Introduction and assignment***
The customer would like to redevelop this property, and this arborist report is for planning and permitting.

All onsite and right of way (ROW) trees have been tagged with numbered metal tree tags that correspond to the numbers in this report and the site map. Offsite trees, if any, are not tagged and are located on the site map using letters instead of numbers to distinguish them. A **site plan** has been provided showing tree locations and proposed TPZ fencing marked with red lines.

***Observation and discussion***

Site Observations:
The subject property is a **single-family residential parcel** located on **Mercer Island**. The lot is relatively flat, and there are **no known Environmentally Critical Areas (ECAs)**.

Tree Inventory and Preliminary Assessments:
**Tree summary:**
Non-regulated 6-10” DSH = 6
Regulated Large 10-24” = 7
Exceptional 24”+ = 6
ROW = 1
Adjacent =3 (not tagged)
Dead = 1 (not tagged)

In the tree inventory, I have provided a class designation for each tree in the tree table for reference. The city of Mercer Island does not regulate removals trees under 10” unless they are on the exceptional tree list, but we typically provide that tree data for our customers.

Small trees (6-10” DSH):

- Tree #5072 – Cherry: In good condition, though canopy is one-sided due to suppression from an adjacent Sequoia on a neighboring property.
- Tree #5073 – Plum Tree: Has a leaning trunk with a full canopy. No signs of structural instability at this time.
- Tree #5075 – Hamilton’s Spindle: An unusual species that some consider a shrub, but can grow up to 30’ which makes it a tree in most municipalities. It has a low primary junction at ~2 feet that may pose structural concerns in the future, but it is currently heathy. Inspect in 5 years if retained.
- Tree #5076 – Pear Tree: Appears healthy and is fruiting well.
- Tree #5079 — Western red cedar in NW corner. Suppressed by nearby larger trees.

Regulated trees:

- Tree #5066 — Black Hawthorn (right side of driveway): In good condition. This native species should be retained if possible. While this tree is 6-10”
- **Tree #5067** – Western Red Cedar (landmark): This tree is located behind and in contact with the garage. It was previously topped and has large, sweeping branches resembling a pitchfork form. If removal is preferred, it can be considered a hazard tree due to proximity to the existing garage. A tree risk assessment will be required and we can provide that for you.
- **Tree #5068** – Western Red Cedar: Nearby cedar with a sweeping lower stem that becomes vertical at about 7 feet. Its canopy is mostly one-sided due to suppression by Tree 5067.
- Tree #5069 – Bitter Cherry: Multi-stemmed at ~4 feet with three stems forming a steep-angled junction. This structure can become unstable over time, but there is no current sign of weakness. One or more secondary stems could be removed or cabled in the future.
- **Tree #5070** – Cherry: Completely dead, with no visible foliage. Reduction to wildlife snag or removal is recommended.
- **Tree #5071** – Apple Tree: Very mature with a hollow trunk, but otherwise appears healthy and structurally stable at this time. Monitor every 2-3 years for decline.
- Tree #5074 – Walnut: In good health with generally sound structure. However, at ~20 feet there is a co-dominant stem junction with stems diverging in two directions. Cabling may be needed in the future; arborist inspection recommended in 5 years if retained.
- Tree #5077 – Western Red Cedar: In good condition and located near the fence line, close to two Douglas fir trees.

- Tree #5078 – Douglas Fir (landmark): In good condition and adjacent to an off-site Douglas fir. No visible health or structural concerns.
- Tree #5083 – ROW. Crabapple: In fair condition and would benefit from structural pruning.
- Tree #5084 – Black Hawthorn: In good condition and should be considered for retention.
- Tree #5085 – Western Dogwood: Exhibits signs of chlorosis, wilt, and water sprouting, yet the canopy remains full. Leaf and soil assessment are recommended to diagnose disease or nutrient deficiency.
- Tree #5086 (previously tree C) — Willow was initially thought to be offsite but determined to be an onsite tree during the survey. This tree was not tagged.

Northwest Corner trees (adjacent to the street): This area contains **four trees 5079-5082**, three of which are western red cedars with poor structure, and one is a big leaf maple with fair structure.

- Tree #5081 – Big leaf Maple: Appears healthy with a single trunk but unusual lower branching that should be monitored.
- **Trees #5079, 80, 82** – Western Red Cedar (multi-stemmed): Forms a pitchfork structure at ~4-7 feet and appear to have been topped multiple times. The trees have **poor structure** and are impacted by **overhead utility lines** at ~15 feet. **All trees in this corner have been topped**, except the maple.

Note: Existing building footprints may be excluded from tree protection zones.

ROW tree observations: There is one known right of way trees ROW-5083 crabapple.
Adjacent tree observations: There are 3 adjacent trees to the property which will at minimum need tree protection fencing at the ITPZ.

**There are three components to the root and soil protection if excavation will occur within the TPZ for 5066, 5074, 5077 and 5078:**

1) **Provide Tree Protection Fencing** (TPF) at not less than the Inner Tree Protection Zone radius (ITPZ) of each tree, as provided in the tree table. No more than 35% of the outer tree protection ring (between the TPZ radius and ITPZ radius) may be disturbed. Zero soil disturbance is allowed inside the ITPZ radius.
2) **Provide 6” of arborist chips throughout the TPZ** less any areas of disturbance. Chips are both protective, preventative and restorative:
   - **Arborist chips distribute point loading** and protect soil structure which is critical for tree survival.
   - **Arborist chips enhance the microbial activity** in the soil which improve the availability of water and nutrients to the roots of the tree.
   - **Arborist chips retain moisture in the soil**. Trees need retained moisture to help with nutrient uptake.

- All of these benefits will help the tree survive the nearby disturbance by growing new roots to make up for root volume and soil quality lost to construction-related activities.

3) Instructions for **excavation team:**

- Arborist must be present before excavation work can begin inside the TPZ radius.
- Use a smooth-edged shovel for excavator root discovery.
- Dig gently at the outer edge of excavation, pulling away from the tree trunk along the roots rather than sideways across the roots. When a root is discovered, stop excavation and dig an area around the root by hand and shovel.
- Sever roots over 1" diameter with a sharp saw, avoiding tearing and splitting roots.
- Cover each root over 2" diameter with a wet rag using a zip tie to keep in in place until just before wet soil can be returned.
- Keep rags wet twice daily to prevent root cracking until covered with wet soil.
- Continue with root discovery (per steps above) until outside the TPZ.
- Remove rags and zip ties before backfilling with moist soil.

Benefits of arborist chips:

- **Arborist chips at the right thickness (6" minimum) distribute point loading** and help protect soil structure which is critical for tree survival and new root establishment.
- **Arborist chips enhance the microbial activity** in the soil which supports the availability of water and nutrients to the tree.
- **Arborist chips retain moisture in the soil**. Trees need retained moisture to help with nutrient uptake.
- **Arborist chips are insulating,** keeping the ground temperature cooler in the summer and warmer in the winter.
- **Retain arborist chips after construction** and allow the soil benefits to accrue. New shrubs and ground cover can be planted directly into chip beds. All of these benefits will help the trees and shrubs survive the construction disturbance by aiding new root growth, and will improve soil conditions for new planting areas.

***Code considerations***

A permit is required to remove any tree with a diameter of greater than ten inches. 30 percent of the regulated trees must be retained over a rolling 5 year period.

| Diameter of removed tree | Number of replacement trees required |
|---|---|
| Less than 10 inches | 1 |
| 10 inches up to 24 inches | 2 |
| 24 inches up to 36 inches | 3 |
| More than 36 inches and any exceptional tree(s) | 6 |

Any trees removed must be replaced according to MIMC 19.10.070. A planting plan must be provided including Species, quantity, location, and planting specification.

19.10.060: Exceptional trees and exceptional groves must be retained unless removal is justified.

In addition to any requirement of this chapter, persons must comply with all applicable federal and state laws, rules and regulations including without limitation the Endangered Species Act, the Bald Eagle Protection Act and the Migratory Bird Treaty Act, as now existing or hereinafter adopted or amended.

***Conclusions***

8 removed trees and their replacements will be as follows:

2 Exceptional = 5067, 5085 = 12 planted trees required.
3 Regulated = 5068, 5069, 5071 = 6 planted trees required.
3 Non-regulated = 5070, 5075, 5076 = 0 planted trees required.

A total of 18 replacement trees are required, and 18 trees will be planted per plan.
Tree protection is required for all retained and adjacent trees. The recommended tree protection plan is shown below, but may be modified within the code requirements.
Arborist chip distribution is required in TPZ areas that are adjacent to construction, access and staging zones, and optional but recommend in other TPZs.
An arborist must monitor and direct all excavation inside TPZ of onsite retained and offsite-adjacent trees.

***Recommendations***

4) Do not remove or relocate any trees over 6” diameter without a permit.
5) Retain and protect existing onsite and offsite trees to maximize ecosystem services and home value. As a general rule, we recommend retaining all trees with condition 4 or better unless development plans preclude retention. Trees with condition 2 and lower should be removed and replaced with more vigorous species/specimen. Trees with condition 3 may require removal based on other factors, or should have mulch (4-6” of arborist chips) and deep irrigation monthly during the dry season, which has been shown to improve such trees to condition 4 or better.
6) Update the site plan to show all current trees and their TPZ’s per our inventory. Place an X over all trees that will be removed. Confirm and ensure that there will be no disturbance to inner TPZ of retained trees.
7) Designate staging and access paths on your site plan that avoid TPZs of existing and future trees. Use existing paved areas for staging materials in order to minimize impact to the critical root zones (CRZs).

8) Include tree protection requirements on all site-related construction documents. Root damage or soil compaction within the TPZ may cause irreparable harm to trees whose root zones are in the path of construction, staging and access areas.
9) Create a planting plan to show future planting including quantity, location, caliper, genus and species of new trees.
10) Any clearance pruning must be provided by a registered tree service provider (TSP) to ANSI A300 tree pruning standards.
11) Notify landscape planner and installer not to disturb soils within the TPZ of any tree using a rototiller or with other mechanical soil turning tool. This can destroy a large volume of feeder roots and harm the tree. When placing new plants, do not remove roots larger that 1" and adjust planting locations around larger roots. Adding soils above the tree roots can smother the roots, however adding mulch (especially arborist chips) up to 6" can augment soil quality, aeration, and water retention, benefitting the tree's roots.
12) Remove all invasive vegetation and roots thereof including English holly, English laurel, English ivy and Himalayan blackberry.

Thank you and please reach out if you have any questions.
Douglas Smith

***Resources***

Mercer Island tree code: https://library.municode.com/wa/mercer_island/codes/city_code?nodeId=CICOOR_TIT19UNLADECO_CH19.10TR_19.10.005PU
Tree protection guidebook: https://www.dnr.wa.gov/Publications/rp_urban_treeprtctnguidbk.pdf
Tree risk assessment: https://wwv.isa-arbor.com/education/resources/educ_Portal_Risk_AN.pdf
Why use arborist chips / wood chip mulch: https://s3.wp.wsu.edu/uploads/sites/403/2015/03/wood-chips.pdf
Chip drop for free wood chips: https://getchipdrop.com
ISA planting recommendations full content: https://wwv.isa-arbor.com/education/onlineresources/cadplanningspecifications#Irrigation
Planting on level ground: https://wwv.isa-arbor.com/education/onlineresources/cad/drawings/Planting/L_tree%20planting_24inch%20to%2036inch%20box_single%20berm_modified_D.pdf
Planting on a slope: https://wwv.isa-arbor.com/education/onlineresources/cad/drawings/Planting/L_tree%20planting_24inch%20to%2036inch%20box_slope_unmodified_D.pdf

## Tree Inventory Table

Tree Inventory Table for Yusen 3246 72nd Pl SE, Mercer Island, WA 7/2/25

| Tree # | Common name | *Species* | DSH | DLR | Class | Cond | TPZ | ITPZ | Retain | Rplcmnt trees | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Onsite trees** | | | | | | | | | | | |
| **5072** | Cherry | *Prunus sp.* | 7 | 9 | small-NR | 4 | 8.0 | 4.0 | Yes | | Asymmetrical canopy |
| **5073** | Green leaf plum | *Prunus sp.* | 8 | 8 | small-NR | 4 | 8.0 | 4.0 | Yes | | Asymmetrical canopy |
| **5075** | Hamilton's spindle | *Euonymus hamiltonianus* | 7.5 | 6.5 | small-NR | 5 | 7.0 | 3.5 | No | 0 | |
| **5076** | Pear | *Pyrus sp.* | 8.8 | 11 | small-NR | 4 | 9.9 | 5.0 | No | 0 | Healthy canopy,weak primary junction. Multistem 6,6.5 |
| **5079** | Western red cedar | *Thuja plicata* | 8 | 8 | small-NR | 3 | 8.0 | 4.0 | Yes | | Suppressed |
| **5086** | Curly willow | *Salix babylonia* | 8 | 17 | Small NR | 4 | 12.5 | 6.3 | Yes | | Adjacent to fence line. 25% canopy dieback. Formerly Tree C |
| **5068** | Western red cedar | *Thuja plicata* | 11 | 13 | regulated | 4 | 12.0 | 6.0 | No | 2 | Baselines north 30° then corrects at 7 feet |
| **5069** | Bitter cherry | *Prunus emarginata* | 16 | 18 | regulated | 4 | 17.0 | 8.5 | No | 2 | |
| **5071** | Apple | *Malus domestica* | 18 | 18 | regulated | 4 | 18.0 | 9.0 | No | 2 | Hollow trunk, full canopy |
| **5074** | Walnut | *Juglans nigra* | 16 | 29 | regulated | 5 | 22.5 | 11.3 | Yes | | |
| **5077** | Western red cedar | *Thuja plicata* | 22.6 | 18 | regulated | 5 | 20.3 | 10.2 | Yes | | |
| **5080** | Western red cedar | *Thuja plicata* | 24 | 14 | regulated | 3 | 19.0 | 9.5 | Yes | | Topped, poor structure |
| **5081** | Big leaf maple | *Acer macrophyllum* | 18.7 | 23 | regulated | 3 | 20.9 | 10.4 | Yes | | Poor structure |
| **ROW-5083** | Crabapple | *Malus sp.* | 13 | 13 | ROW regulated | 4 | 13.0 | 6.5 | Yes | | DSH taken at smallest point below junction |
| **5066** | **Black hawthorn** | ***Crataegus douglasii*** | **8.8** | **11** | **Excep.** | **5** | **9.9** | **5.0** | **Yes** | | **Multistem 6,5,4** |

| Tree # | Common name | *Species* | DSH | DLR | Class | Cond | TPZ | ITPZ | Retain | Rplcmnt trees | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5067** | **Western red cedar** | ***Thuja plicata*** | **48** | **24** | **Excep.** | **4** | **36.0** | **18.0** | **No** | **6** | **Full canopy, pitchfork structure** |
| **5078** | **Douglas fir** | ***Pseudotsuga menziesii*** | **38** | **24** | **Excep.** | **5** | **31.0** | **15.5** | **Yes** | | |
| **5082** | **Western red cedar** | ***Thuja plicata*** | **36** | **20** | **Excep.** | **3** | **28.0** | **14.0** | **Yes** | | **DSH taken at smallest point below junction, poor structure** |
| **5084** | **Black hawthorn** | ***Crataegus douglasii*** | **6.7** | **8** | **Excep.** | **5** | **7.4** | **3.7** | **Yes** | | |
| **5085** | **Western dogwood** | ***Cornus nuttallii*** | **16.7** | **19** | **Excep.** | **3** | **17.9** | **8.9** | **No** | **6** | **Chlorosis, wilt, water sprouts** |
| 5070 | Cherry | *Prunus sp.* | | | Dead | 1 | NA | NA | No | 0 | Not viable |
| | | | | | | | | | | 18 | Replacement trees needed |
| **Adjacent trees** | | | Est | Est | | | | | | | |
| **A** | Douglas fir | *Pseudotsuga menziesii* | 22 | 19 | regulated | 5 | 20.5 | 10.3 | NA | | Adjacent to fence line |
| **B** | **Coast redwood** | ***Sequoia sempervirons*** | **36** | **22** | **Excep.** | **5** | **29.0** | **14.5** | **NA** | | |
| **D** | **Douglas fir** | ***Pseudotsuga menziesii*** | **34** | **24** | **Excep.** | **6** | **29.0** | **14.5** | **NA** | | **Adjacent to fence line** |

Refer to **Site Map** below to see tree locations.

Tree Inventory Key and Definitions
DSH = Diameter at Standard Height of 4.5', measured in inches.
Multi-stem DSH = DSH of multi-stemmed trees is calculated using the square root of the sum of the squares of the individual stems.
DLR = Drip Line Radius is assessed on site by measuring from the center of the tree to the outermost tips of the branches measured in feet.
TPZ = Tree Protection Zone radius is calculated as an average of DSH and DLR values and converted to feet, with some noted exceptions.
ITPZ = Inner Tree Protection Zone. The radius for the ITPZ is calculated as 50% of the outer TPZ radius, and shall not be disturbed.
Condition Ratings: 6 = Excellent condition, 5 = Good, 4 = Fair, 3 = Poor, 2 = Very Poor, 1 = Dying/Dead

## Tree Protection Requirements

1. For the trees being retained, tree protection fencing should be installed at the outer edge of the drip line or as close to it as is practically possible.
2. Fencing should be installed prior to construction activities and remain in place for the duration of the project. Fencing should only be moved temporarily if minor disturbances must occur within the drip line and the fencing should be replaced immediately once that portion of the work is completed.
3. The tree protection area is designated to be an area of no impact, no storing of materials, no encroachment and no staging of debris.
4. The tree protection fencing should have signs every 8' facing access that indicate the area is a tree protection zone.
5. Trenching through the TPZ for utilities is not permitted (tunneling is the preferred method).
6. Grade changes in the TPZ are not permitted.
7. Vehicle maintenance and washing of equipment (especially concrete), is not permitted.
8. No attaching anything to the tree with cinching knots or hardware.
9. Root flare should be protected with chips so that lawn maintenance equipment does not have to work close to the system.
10. Proper clearances should be maintained.
11. The TPZ or critical root zone needs to be protected. The Inner TPZ is 50% of the radius of the TPZ and there should be zero disturbance in this zone. The Outer TPZ surrounds the ITPZ. A disturbance of up to 33% of the Outer TPZ is sometimes permissible provided that any heavy digging equipment works toward the tree, and that any roots encountered that are over 1" in diameter are excavated around with hand tools and cut clean with a sharp saw behind the excavation zone so that the root can bifurcate and continue to grow. In some cases, if excessive pruning has been done, the TPZ can be larger than the Drip Line Radius.
12. Add a 4-6" layer of arborist wood chips to the TPZ of all trees in or adjacent to the path of construction for root and soil protection and health.

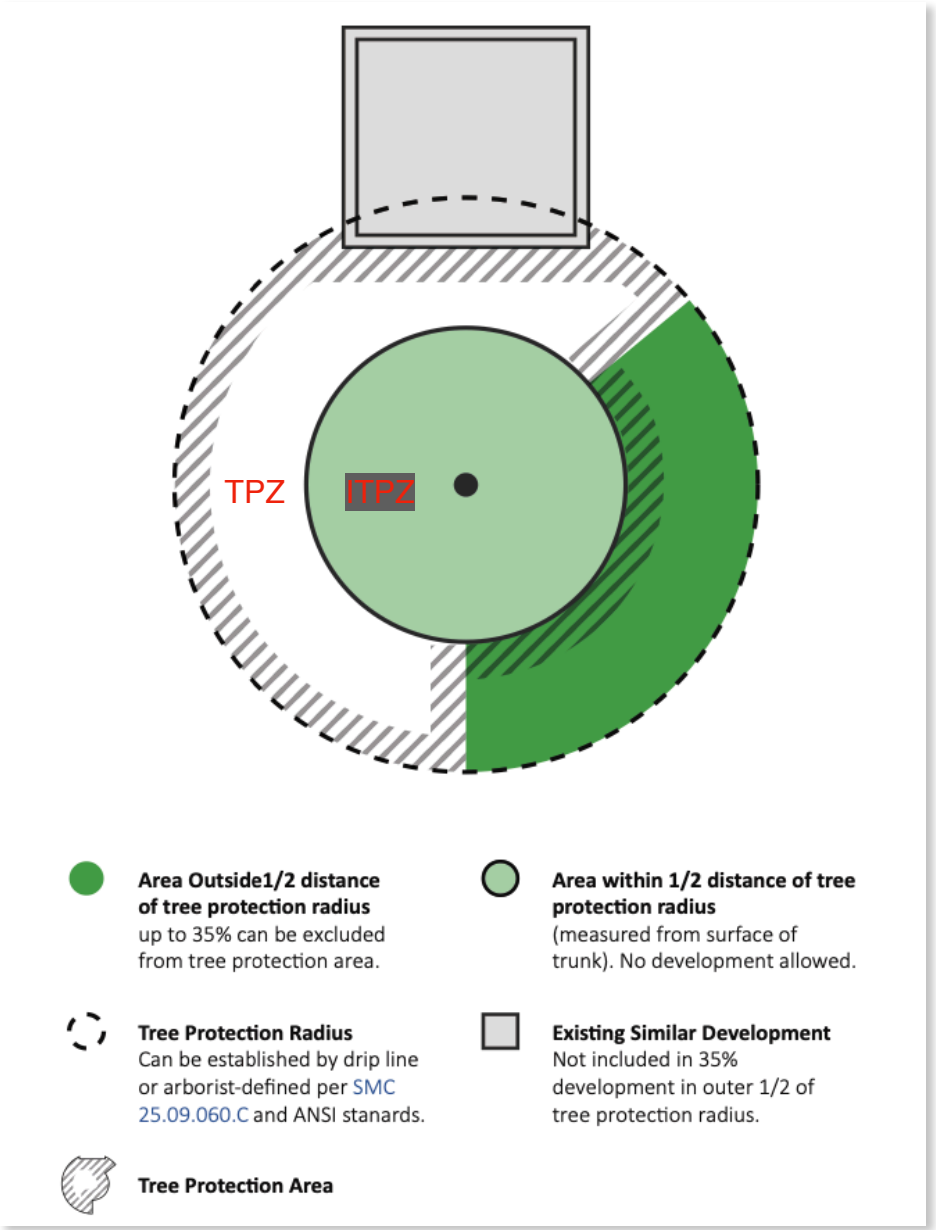
## Tree protection zone (TPZ) and inner tree protection zone (ITPZ)

This illustration is taken from Seattle Tip 242A, and is helpful for understanding generally accepted protection zones for the critical root areas of an urban tree.

The TPZ for each tree is listed in the **Tree Inventory Table** (above) and represents only a portion (30-50%) of a typical tree's root area. However, a tree can sustain disturbance of up to 35% of the outer TPZ, shown in dark green, and still sustain itself good health.

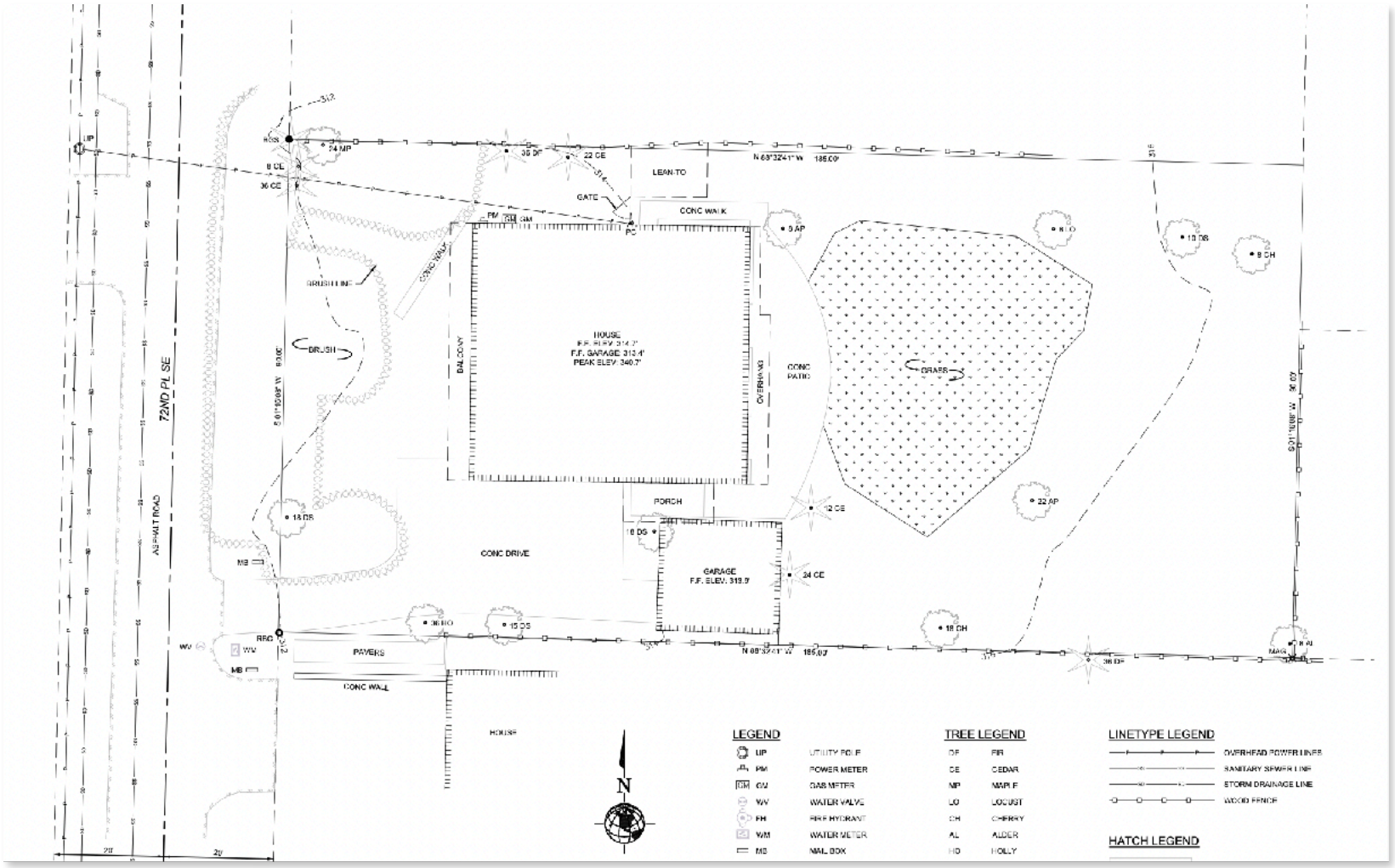
The ITPZ represents the structural root zone of the tree, and is equal to an area with a radius of 50% of the TPZ radius. No grade change or disturbance in this area is allowed or the tree will need to be removed for safety reasons.

In this example, the gray hashed area represents the tree protection area for this tree during construction.



## Site Map

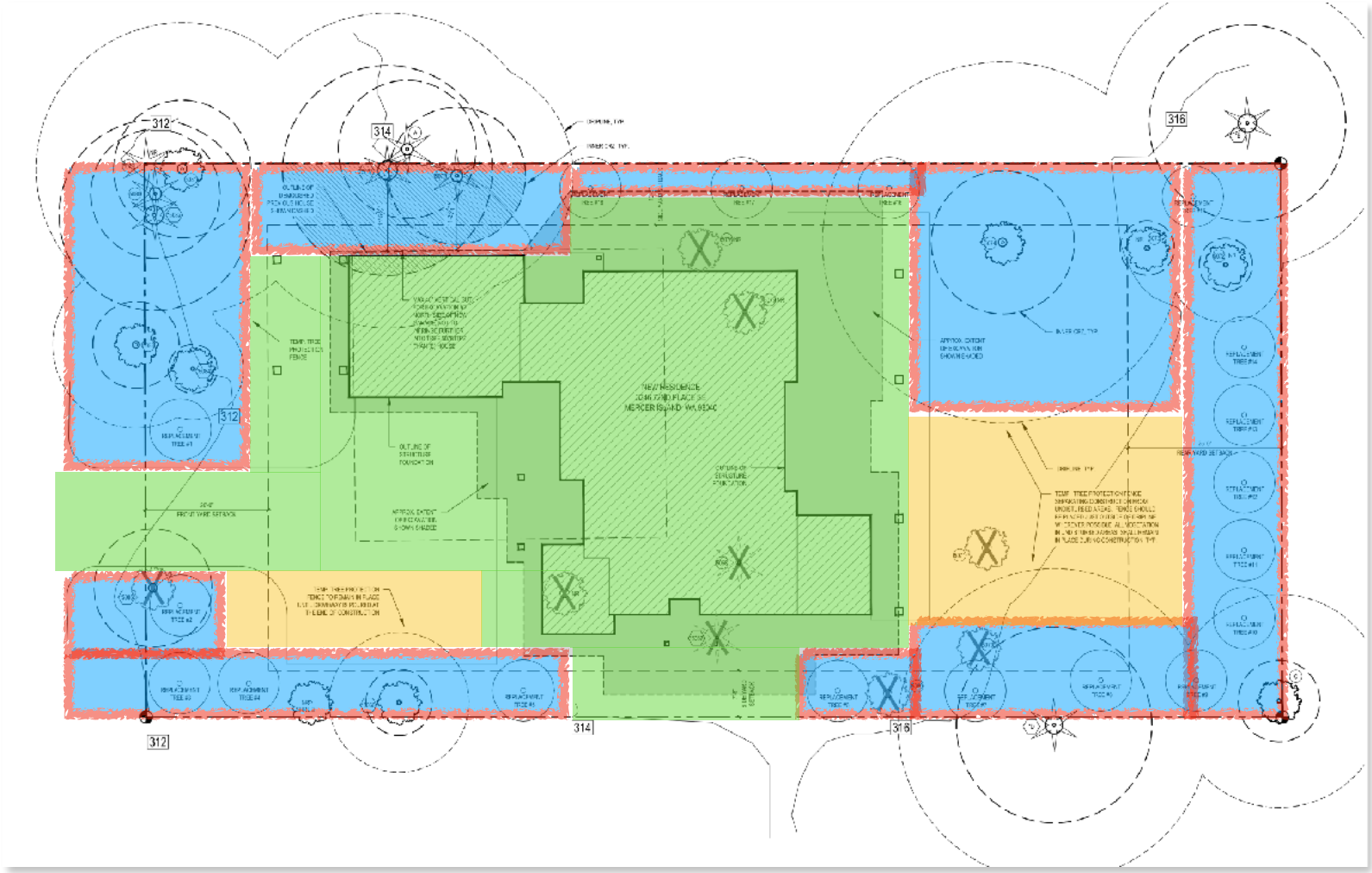
Following is a site map and a satellite image with tree numbers. Use the site map for precise tree locations and the satellite image for tree numbers of regulated trees. Once a plan is developed we can revise the maps to show TPZ fencing recommendations.



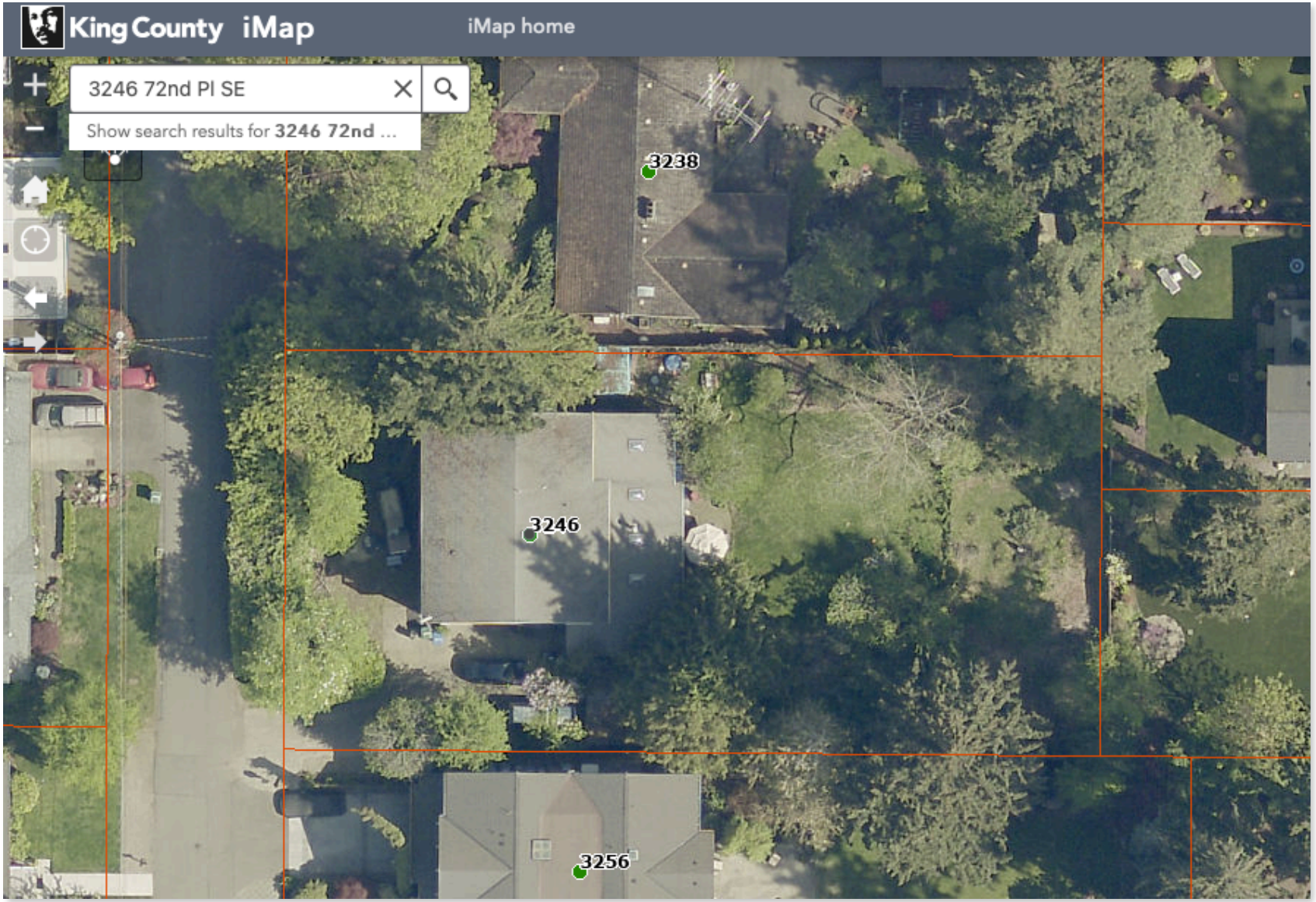
**Red Numbers** = Exceptional onsite trees. **Black numbers** = Significant onsite trees. **Green numbers** = 6-10” DSH trees. **Letters** = Offsite trees. **NR** = Not regulated.

## Tree Protection Plan

Wherever possible, protect both existing trees and future tree locations. Soil compaction is the primary reason for new tree plantings to fail. **Red chalk lines** = tree protection zone fencing plan for retained and future planted trees. **Blue shaded area** = 6" deep arborist chip distribution area. **Green shaded area** = limited construction, staging and access zone. **Orange shaded area** = soils and concrete staging area away from critical root zones, ideally located on existing or future pavement.



## King County Parcel Data and Aerial View from 2023



## PARCEL

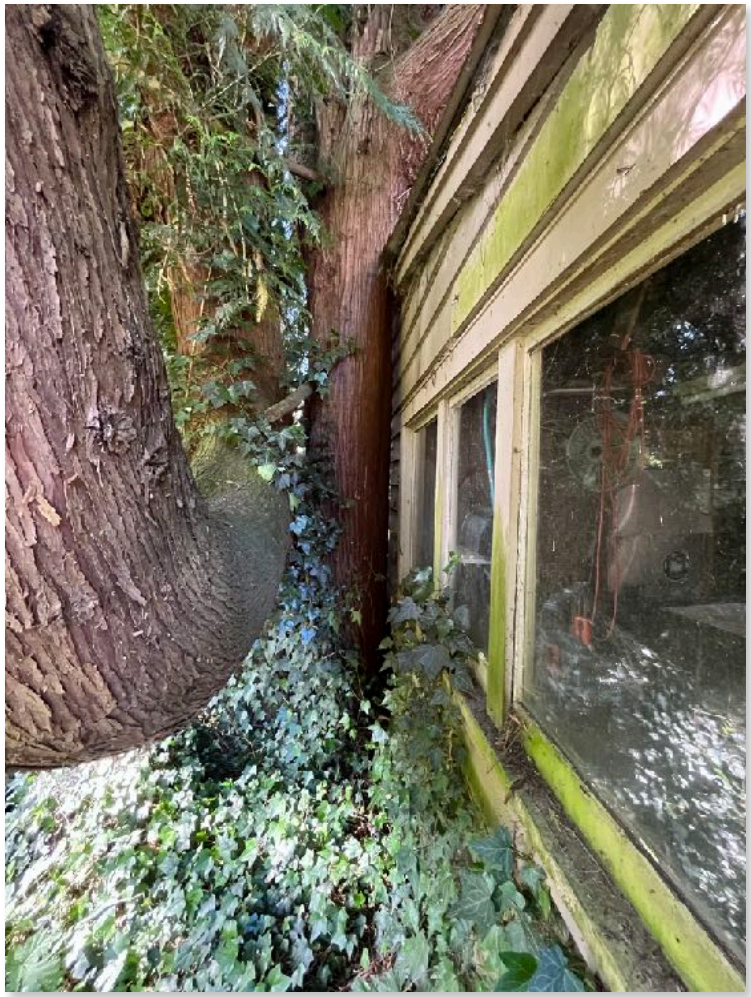
| | |
|---|---|
| **Parcel Number** | 130030-0840 |
| **Name** | MACLEOD SARAH |
| **Site Address** | 3246 72ND PL SE 98040 |
| **Legal** | CALKINS C C 1ST TO EAST SEATTLE 23-24-25 LESS E 65 FT & N 90.27 FT OF S 150.27 FT OF MAGNOLIA SQUARE & VAC ST INCL |

## BUILDING

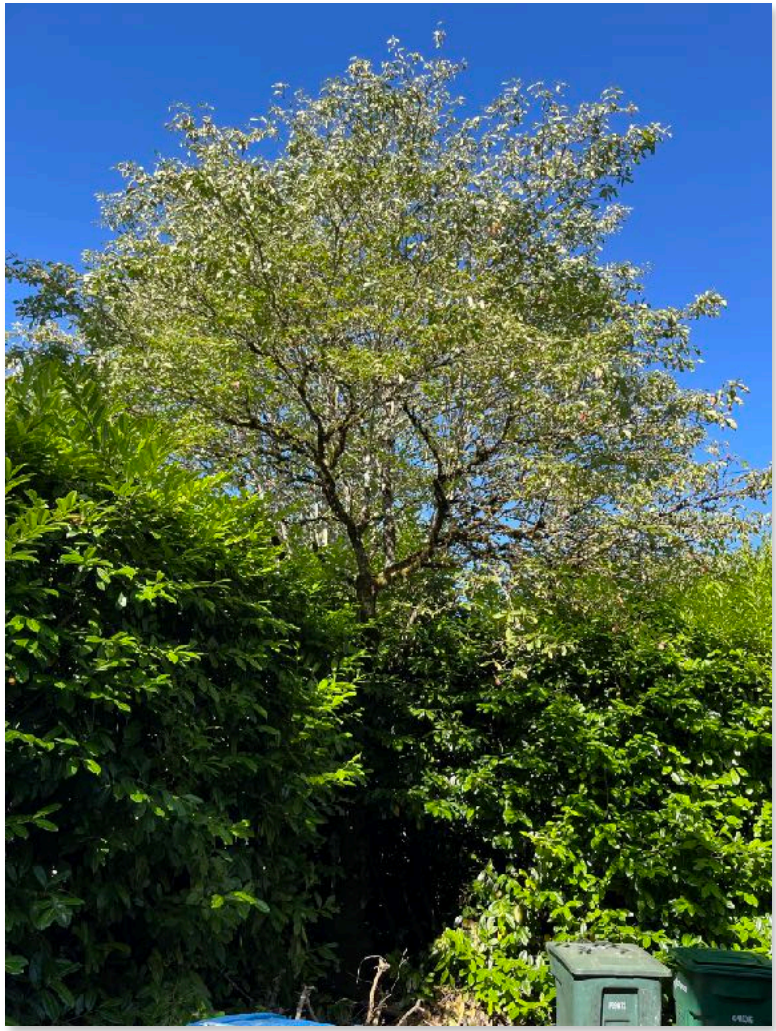
| | |
|---|---|
| **Year Built** | 1946 |
| **Total Square Footage** | 2540 |
| **Number Of Bedrooms** | 3 |
| **Number Of Baths** | 2.50 |
| **Grade** | 8 Good |
| **Condition** | Average |
| **Lot Size** | 16586 |
| **Views** | No |
| **Waterfront** | |

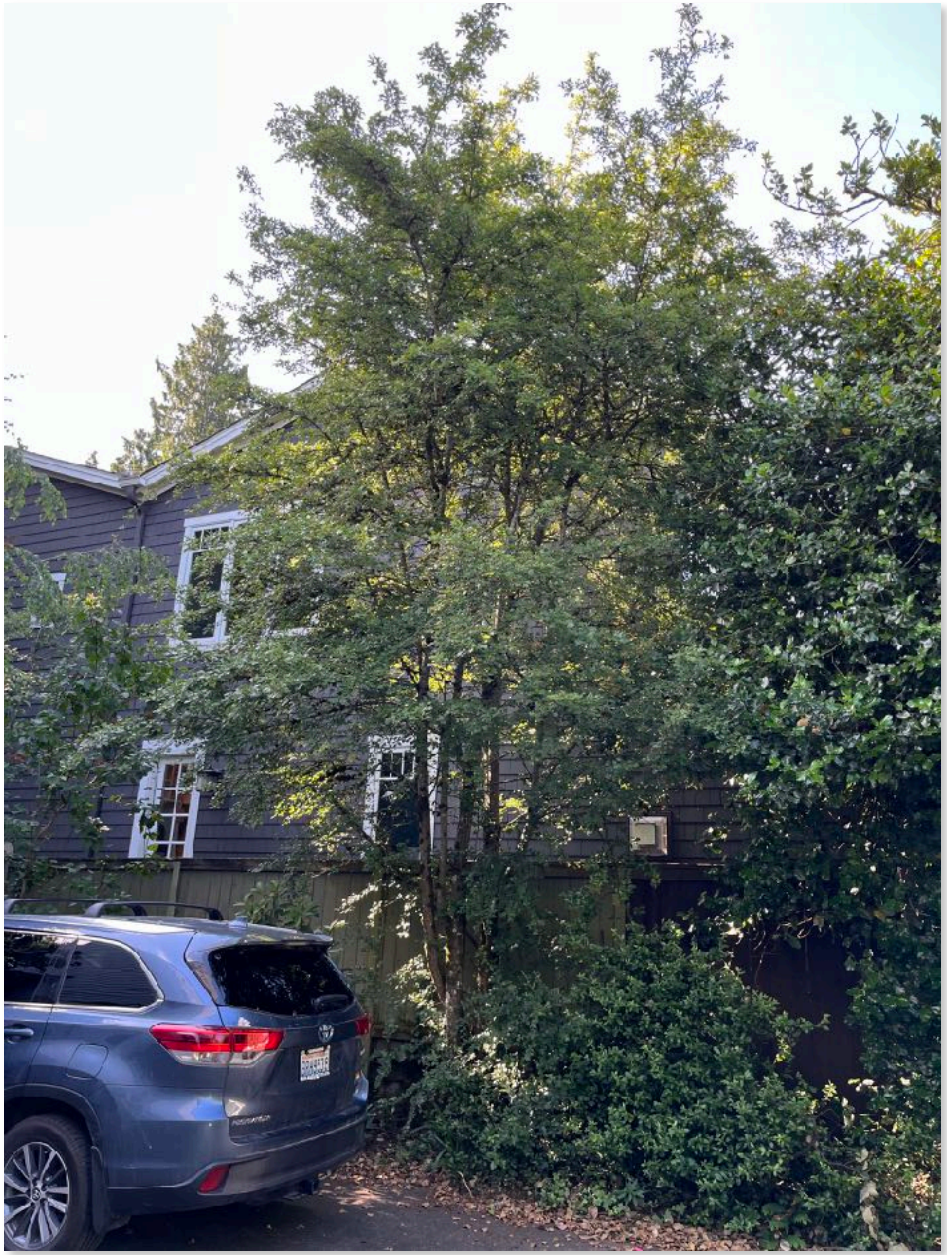
## Site Photos from 06/25/2025

Right: Lilac (in front of garage) is not regulated and can be removed. Below: Cedar 5067 seen behind the garage could be designated a hazard tree due to the fact that it touches the structure of the garage. Remove.

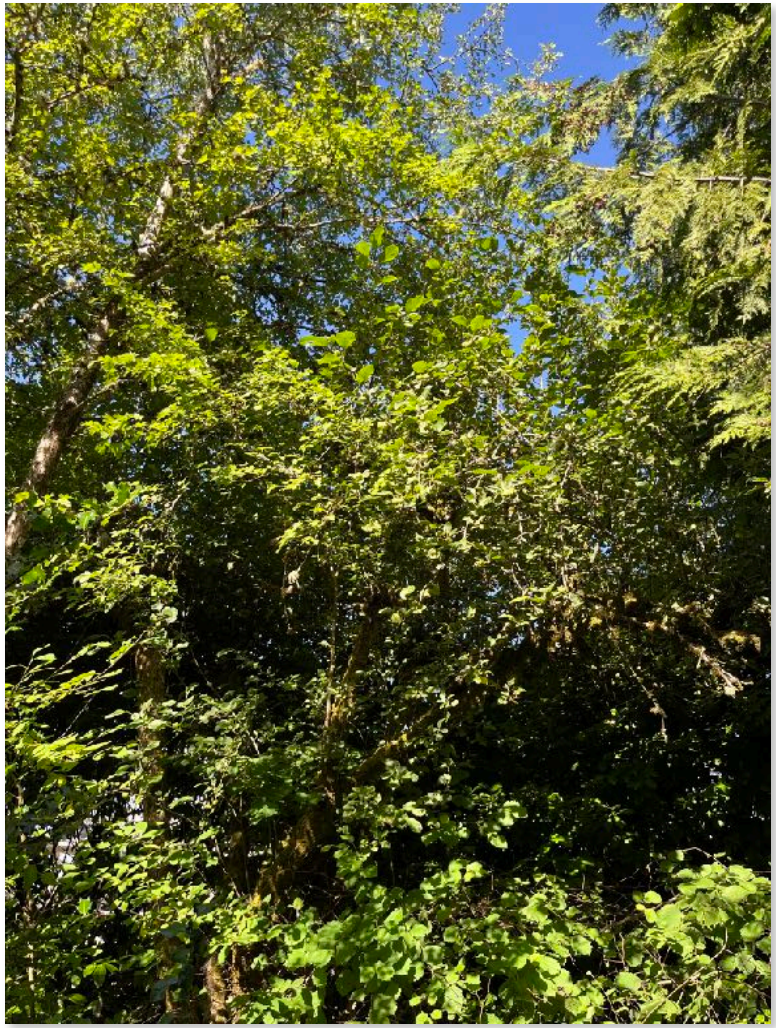


Right: Hawthorn 5066. Retain.
Below: Dogwood 5085 surrounded by laurel hedge. Remove.





Right: Hawthorn 5084. Retain.
Below: Crabapple 5083. Retain.

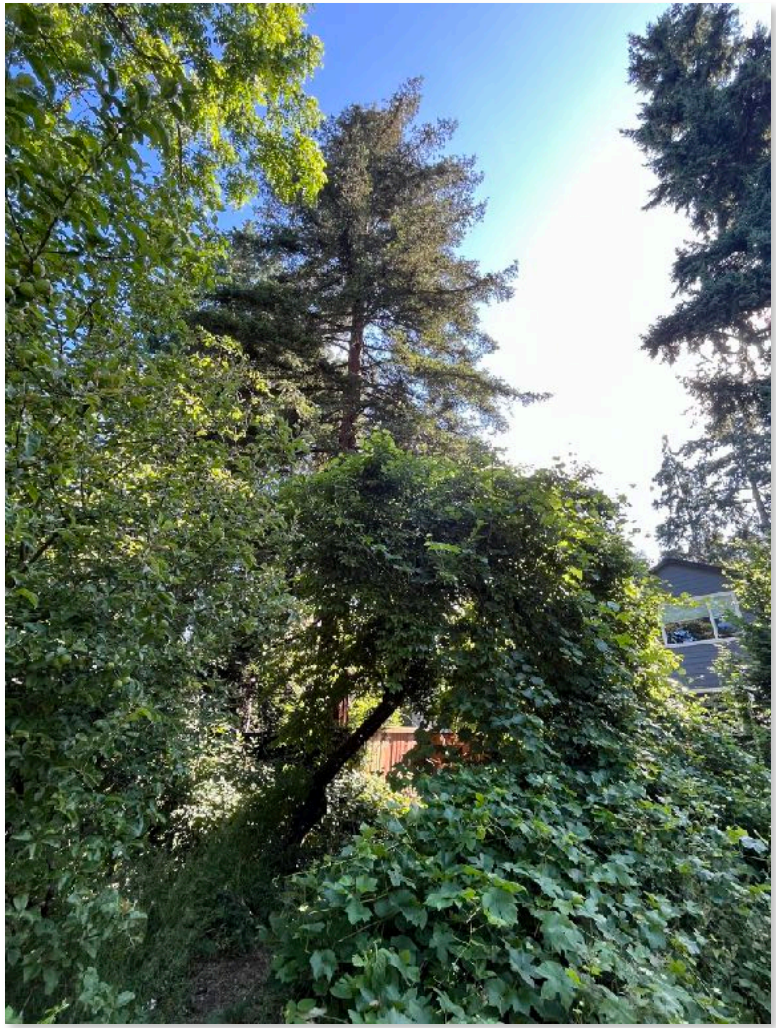


Right: Cedar 5082 has been topped. Retain
Below: Cedar and maple group in NW corner 5079-5082 Retain.

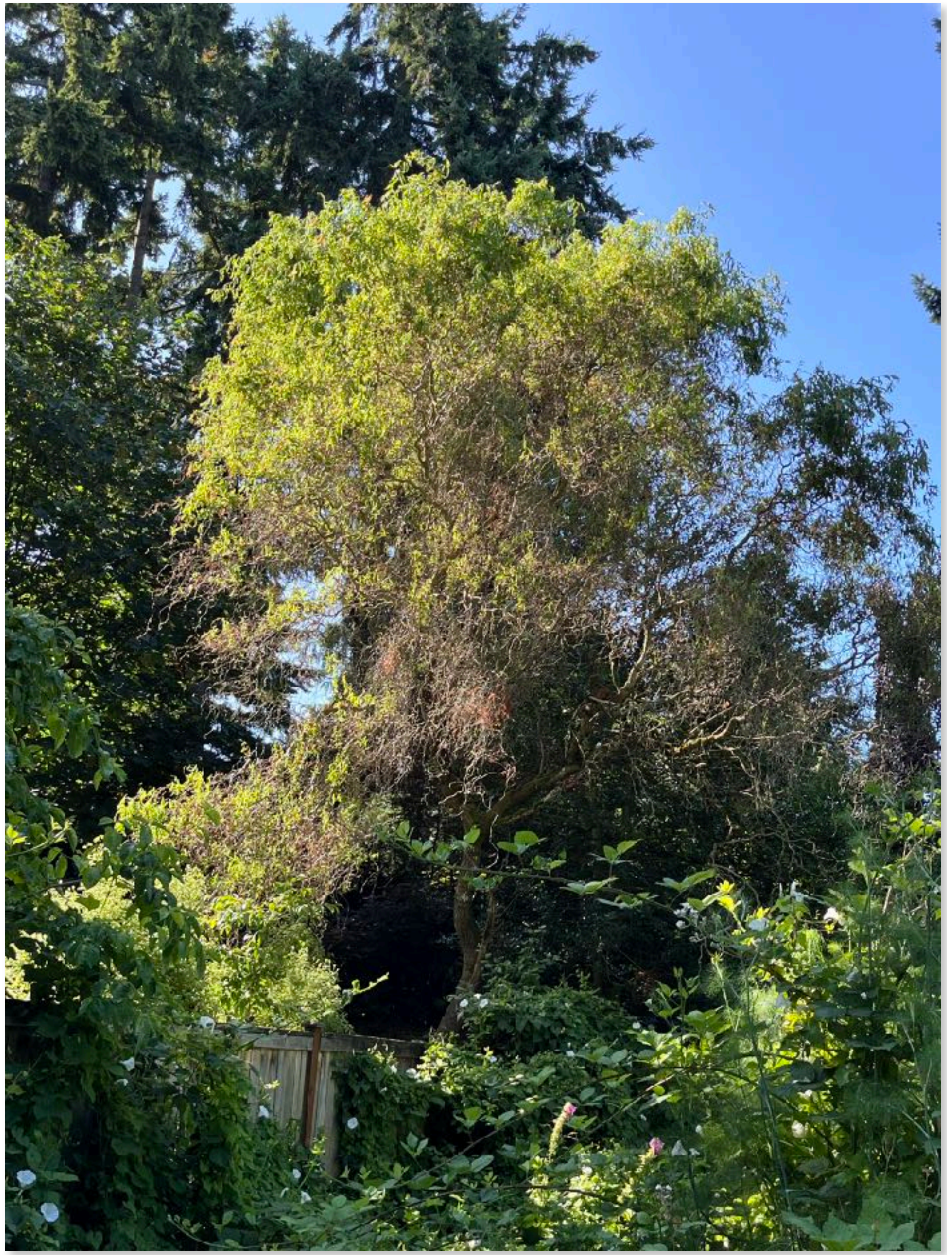
Right: Cedar 5077. Retain.
Below: Douglas fir 5078 and cedar 5077 trunks. Adjacent tree A is behind the fence. Retain.

Right: Pear tree 5076. Remove
Below: Euonymous 5075 has a tree form. Remove

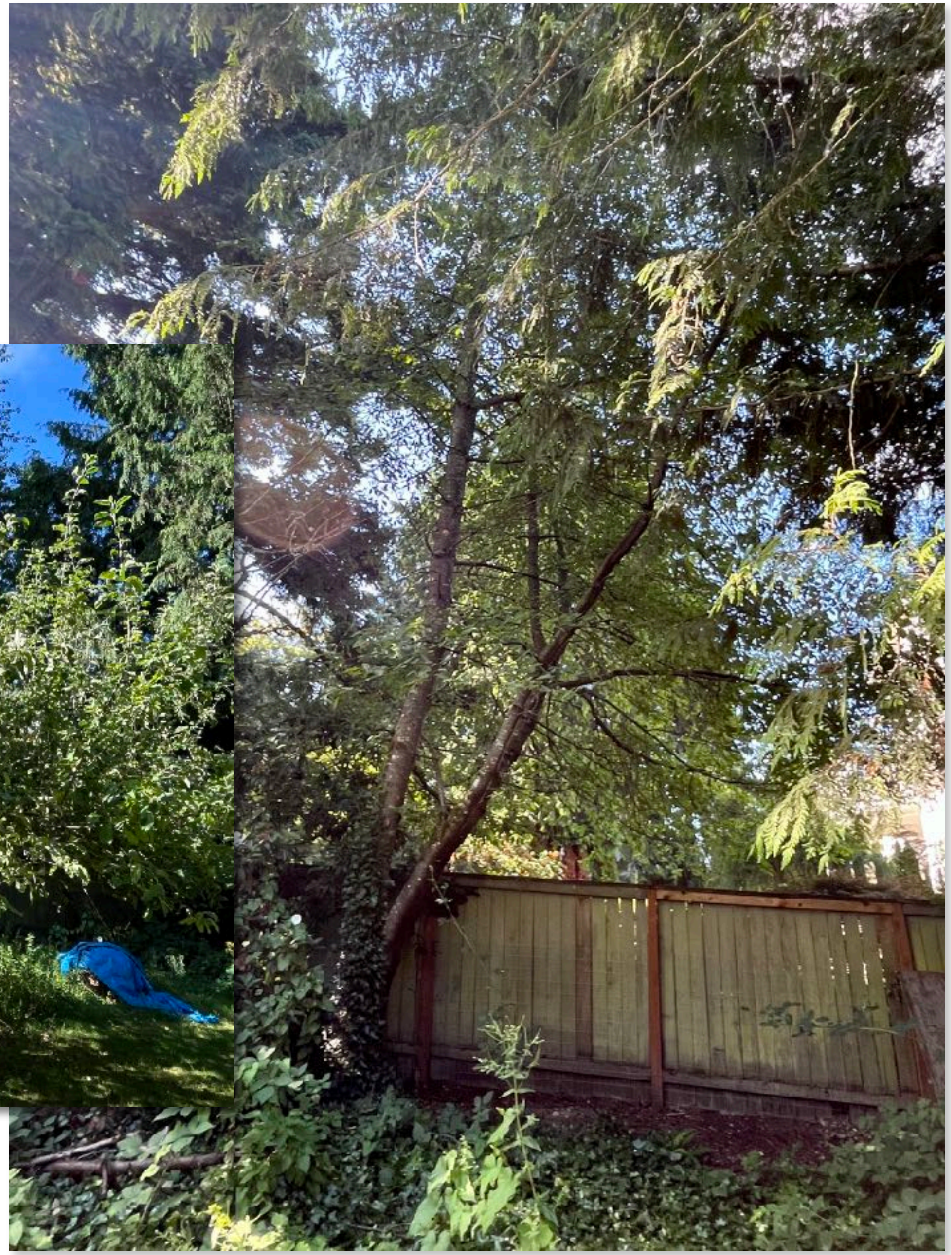
Right: Walnut 5074
Below: Plum 5073 and cherry 5072 (behind). Adjacent redwood tree B is seen above and behind the plum.



Right: Adjacent tree C willow is right against the fence.
Below: Adjacent tree D is a large Douglas fir close to the fence.



Right: Bitter cherry 5069
Below: Apple 5071



Right: Cedar 5068 and 5067 (far right)
Below: Cedar 5067

# Assumptions and Limiting Conditions

Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownership to any property are assumed to be good and marketable. No responsibility is assumed for matters of legal character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other government regulations.

Care has been taken to obtain all information from reliable sources. All data has been verified so far as possible, however, the consultant/appraiser can neither guarantee nor be responsible for accuracy of information provided by others.

The consultant/appraiser shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payments of additional fees for such services as described in the fee schedule and contract engagement.

Loss or alteration of any of this report invalidates the entire report.

Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any person other than to whom it is addressed, without prior written consent of the consultant/appraiser.

Neither all nor any part of the content in this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written consent of the consultant/appraiser--particularly as to value conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant/appraiser as stated in his qualification.

## Addendum A: Trees and Home Value

Research has shown that retaining or planting large trees can increase property values anywhere from 3% to 15%. Additionally, properly selected and located trees can reduce heating and cooling costs by up to 25% annually. Trees take decades to reach optimal value for homeowners, making tree retention a high priority if the trees on a building site are healthy and thoughtfully located. On the left is a chart of additional benefits of mature trees.

| Aspect | Commercial Benefits | Residential Benefits |
|---|---|---|
| Aesthetic Appeal | Enhance the overall look and visual appeal of the property | Beautify the landscape and create a welcoming atmosphere |
| Curb Appeal | Increase attractiveness to potential customers and clients | Boost first impressions for potential buyers or renters |
| Outdoor Spaces | Provide shaded areas for outdoor seating and relaxation for people to gather. | Create private outdoor spaces for residents to enjoy |
| Cooling Effect | Shade and transpiration reduce energy costs for cooling systems | Lower cooling costs by providing natural shade to homes |
| Air Quality | Improve air quality by absorbing pollutants and releasing oxygen | Enhance indoor air quality and create healthier living environments |
| Noise Reduction | Act as natural sound barriers, reducing noise from traffic or nearby areas | Help reduce noise pollution and create a more peaceful environment |
| Community Benefits | Contribute to a greener urban environment, attracting businesses and customers. Also shown to increase worker efficiency. | Foster a sense of community and promote neighborhood appeal |
| Property Value | Increase property value and demand for commercial spaces | Enhance property values and demand for residential homes. Trees are shown to reduce crime by up to 12% |
| Rent and Lease Rates | Allow for higher rental rates due to improved surroundings | Enable landlords to charge premium rents for homes with scenic views |
| ROI for Landlords | Yield higher returns on investment for property owners | Attract higher-paying tenants and increase rental income |
| Long-Term Investment | Mature trees appreciate in value, enhancing the property's worth | Trees mature over time, boosting property value over the years |
| Increased Health Outcomes | Trees increase the physical and mental health outcomes for workers. | Trees increase the physical and mental healthy outcomes for families. |
| Reduced Erosion | Tree root systems help prevent soil erosion on properties by absorbing urban pollutants and particulate matter. | Protect against soil erosion and contribute to landscape stability |
| Enhanced Privacy | Create natural barriers that enhance privacy for businesses | Provide privacy screens for homeowners and shield properties from view |
| Biodiversity Benefits | Support local ecosystems and promote biodiversity | Attract birds and wildlife, creating a diverse and vibrant environment |
| Marketing Advantage | Use green features to market commercial spaces effectively | Highlight green features to attract eco-conscious buyers and renters |
| Stormwater Management | Trees combined with WSUD principles can help mitigate flooding to commercial assets. | Trees absorb excess water in high rain events reducing flooding |

## Addendum B: Exceptional trees

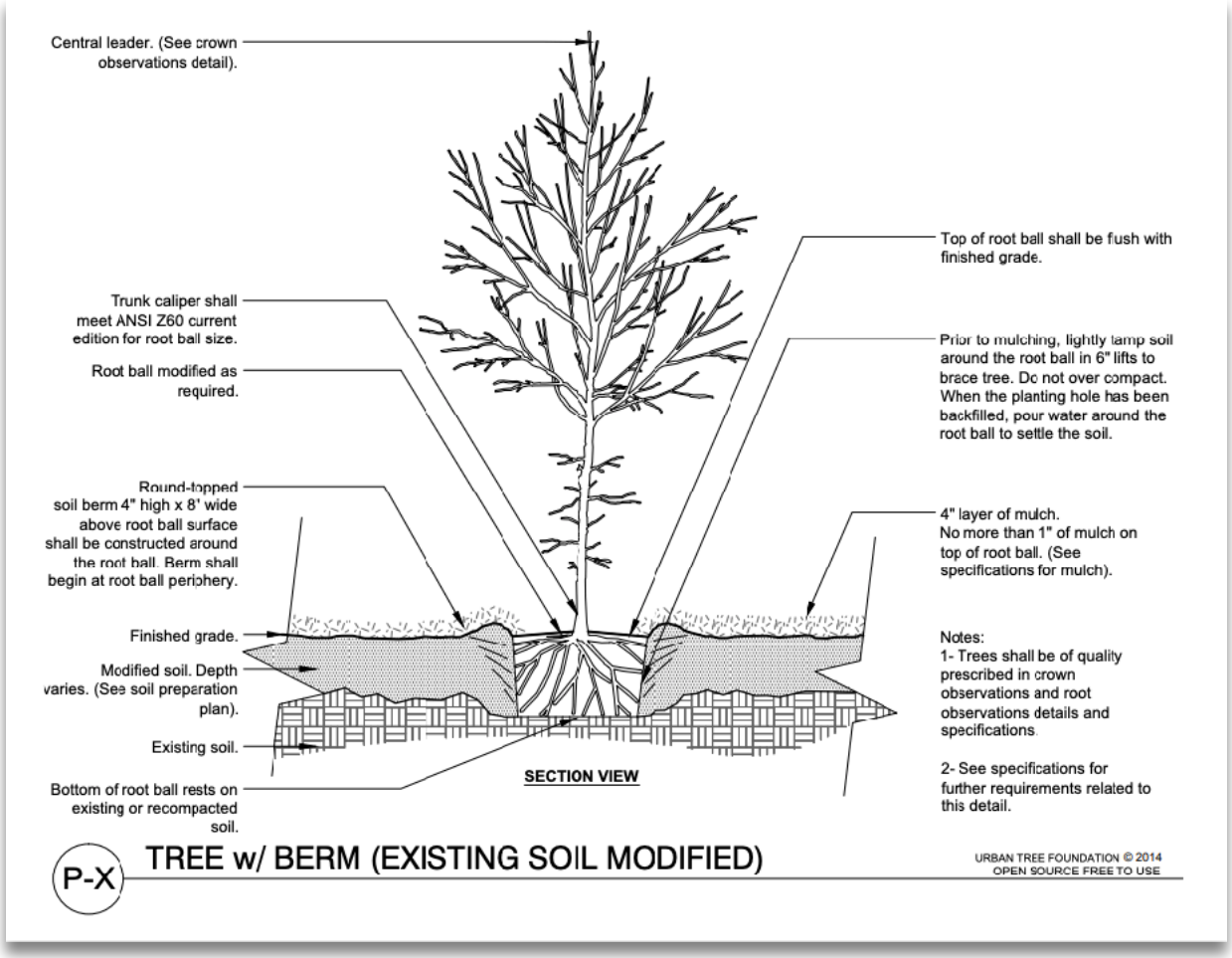
# EXCEPTIONAL TREE TABLE

9611 SE 36th Street | Mercer Island, WA 98040
www.mercerisland.gov | (206) 275-7605

| NATIVE SPECIES | | | |
|---|---|---|---|
| **Species** | **Threshold Diameter** | **Species** | **Threshold Diameter** |
| Big Leaf MAPLE (Acer macrophyllum) | 2 ft 6 in | Pacific YEW (Taxus brevifolia) | 6 in |
| Black HAWTHORN (Crataegus douglasii) | 6 in | Paper BIRCH (Betula papyrifera) | 1 ft 8 in |
| CASCARA (Rhamnus purshiana) | 8 in | Quaking ASPEN (Populus tremuloides) | 1 ft |
| Douglas FIR (Pseudotsuga menziesii) | 2 ft 6 in | Shore PINE (Pinus contorta 'contorta') | 1 ft |
| Dwarf or Rocky Mountain MAPLE (Acer glabrum var. Douglasii) | 6 in | Sitka SPRUCE (Picea sitchensis) | 6 in |
| Grand FIR (Abies grandis) | 2 ft | Vine MAPLE (Acer circinatum) | 8 in |
| Lodgepole PINE (Pinus contorta) | 6 in | Western HEMLOCK (Tsuga heterophylla) | 2 ft |
| MADRONA (Arbutus menziesii) | 6 in | Western Red CEDAR (Thuja plicata) | 2 ft 6 in |
| Oregon ASH (Fraxinus latifolia) | 2 ft | Western SERVICEBERRY (Amelanchier alnifolia) | 6 in |
| Oregon White or Garry OAK (Quercus garryana) | 6 in | Western White PINE (Pinus monticola) | 2 ft |
| Pacific CRABAPPLE (Malus fusca) | 1 ft | WILLOW (All native species) — Salix sp. (Geyeriana ver meleina, eriocephala ssp. mackenzieana, Hookeriana, Piperi, Scouleriana, sitchensis) | 8 in |
| Pacific DOGWOOD — Cornus nuttallii | 6 in | | |

| NON-NATIVE SPECIES | | | |
|---|---|---|---|
| **Species** | **Threshold Diameter** | **Species** | **Threshold Diameter** |
| American ELM (Ulmus americana) | 2 ft 6 in | Japanese SNOWBELL (Styrax japonica) | 1 ft |
| American SWEETGUM (Liquidambar styraciflua) | 2ft 3in | KATSURA (Cercidiphyllum japonicum) | 2 ft 6 in |
| Atlas CEDAR (Cedrus atlantica) | 2 ft 6 in | Kousa DOGWOOD (Cornus kousa) | 1 ft |
| Austrian Black PINE (Pinus nigra) | 2 ft | Lawson CYPRESS (Chamaecyparis lawsoniana) | 2 ft 6 in |
| Callery PEAR (Pyrus calleryana) | 1 ft 1 in | Littleleaf LINDEN (Tilia cordata) | 2 ft 6 in |
| Coastal REDWOOD (Sequoia sempervirens) | 2 ft 6 in | London PLANE (Platanus acerifolia) | 2 ft 6 in |
| Common HAWTHORN (Crataegus laevigata) | 1 ft 4 in | MONKEY PUZZLE TREE (Araucaria Araucana) | 1 ft 10 in |
| Deodor CEDAR (Cedrus deodara) | 2 ft 6 in | MOUNTAIN-ASH (Sorbus aucuparia) | 2 ft 5 in |
| Eastern DOGWOOD (Cornus florida) | 1 ft | Orchard (Common) APPLE (Malus sp.) | 1 ft 8 in |
| English ELM (Ulmus procera) | 2 ft 6 in | Paperbark MAPLE (Acer griseum) | 1 ft |
| European ASH (Fraxinus excelsior) | 1 ft 10 in | Pin OAK (Quercus palustris) | 2 ft 6 in |
| European BEECH (Fagus sylvatica) | 2 ft 6 in | Ponderosa PINE (Pinus ponderosa) | 2 ft 6 in |
| European HORNBEAM (Carpinus betulus) | 1 ft 4 in | Raywood ASH (Fraxinus oxycarpa) | 2 ft |
| European White BIRCH (Betula pendula) | 2 ft | Red MAPLE (Acer rubrum) | 2 ft 1 in |
| Flowering CHERRY (Prunus sp. (serrula, serrulata, sargentii, subhirtella, yedoensis) | 1 ft 11 in | Red OAK (Quercus rubra) | 2 ft 6 in |
| Flowering PLUM (Prunus cerasifera) | 1 ft 9 in | Scot's PINE (Pinus sylvestris) | 2 ft |
| Giant SEQUOIA (Sequoiadendron giganteum) | 2 ft 6 in | Southern MAGNOLIA (Magnolia grandiflora) | 1 ft 4 in |
| GINGKO (Ginkgo biloba) | 2 ft | Sugar MAPLE (Acer saccharum) | 2 ft 6 in |
| Green ASH (Fraxinus pennsylvanica) | 2 ft 6 in | Sycamore MAPLE (Acer pseudoplatanus) | 2 ft |
| Honey LOCUST (Gleditsia triancanthos) | 1 ft 8 in | TULIP TREE (Liriodendron tulipifera) | 2 ft 6 in |
| Incense CEDAR (Calocedrus decurrens) | 2 ft 6 in | Washington HAWTHORN (Crataegus phaenopyrum) | 9 in |
| Japanese MAPLE (Acer palmatum) | 1 ft | WILLOW (All nonnative species) | 2 ft |

## Addendum D: Planting recommendations:



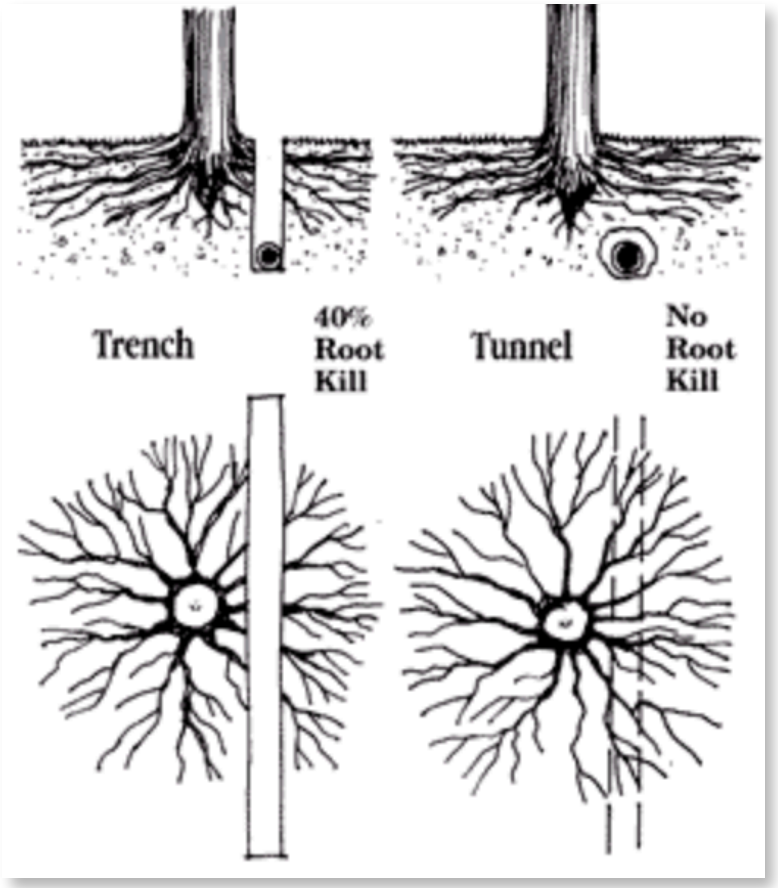

- Plant trees in the fall after the first rain if possible.
- Native plants are a great pick for local soils. If not using native trees, test the soil to ensure the pH and nutrient availability matches the requirements of the species. Augment soil regularly or choose a different species that meets the typical pH of the soil.
- Dig a hole that is at least 3x the diameter of the root ball and amend soil with 5-10% organic compost.
- Irrigate throughly during installation and after.
- Add 4-6” of arborist chips to the full extent of the dripline but not touching the bark of the trunk.
- Ensure that the top of the new tree’s root flare is at or slightly above grade. Many trees are planted too deeply, and may arrive to the site in a container that has too much soil on top, covering the root flare. This is not good for the tree.
- Stake the tree allowing some movement, and remove stakes after 1 year of root growth.
- Retain 4-6” arborist chips in the 2-3x dripline of the planted trees for soil nutrient enhancement and water retention after construction is completed. Do not put grass up to the base of newly planted trees. Early injury from mowers will risk infection and may cause failure to thrive.

**Replanting with native trees helps with tree survival rates, and reclaims habitat for native wildlife. We recommend the following for this property:**

- Small trees: **shore pine, mountain hemlock, pacific yew, Douglas maple, cascara, Pacific dogwood, and vine maple.**
- Large trees: **Douglas fir**, grand fir, silver fir, noble fir, **Western hemlock, sitka spruce, Alaska yellow cedar,** Western white pine, **Port Orford cedar**, big leaf maple and **Oregon oak**.

## Addendum E: Tunnel vs Trench

Trenching within the TPZ of an existing tree can sever critical roots, diminish the health of a tree, and potentially destabilize the tree. Tunneling below the majority of the roots is an alternative to trenching which typically preserves the critical tree roots. Never tunnel directly below the tree trunk in case there is a tap root. Tunneling 24” below grade is a safe depth for most trees, however it is best to confer with your arborist on a case by case basis.




## Additional services we provide:

- Tree risk assessments
- Construction-related tree inventories and arborist reports for commercial and residential properties
- Soil testing for pH, tree nutrient requirements, and pathogens
- Root testing for pathogens
- Tree selection and planting plan
- Tree installation
- Tree removal permitting
- Air spade root discovery for construction within the TPZ
- Tree appraisals/valuations
- Landscape consultation and development of long-term tree maintenance strategies
- Legal subject matter expertise in arboriculture

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