Arborist Report
November 17th, 2023

Prepared for:
Rosen Trellis Project
David Taber

Site Address:
3009 60th Ave SE
Mercer Island, Wa

Prepared by:
Douglas Smith
ISA Board Certified Master Arborist PN 6116-B
Tree Risk Assessment Qualified (TRAQ)
3907 Aurora Ave N.
Seattle, Wa. 98103
(206)457-5706
doug@seattletreeconsulting.com

Arborist notes for the Rosen Trellis Replacement project at 3009 60th Ave. SE., Mercer Island Washington. Time of site visit: Wednesday, November 8, 2023. 2 PM.

Thank you for having me out to assess the condition of the trees on the site. It is my understanding that the trellis that surrounds this single-family residence is in need of repairs and there are some proposed improvements at the southwest corner of the existing patio. The clients would like to extend the existing patio to the south and the project would require the removal of a fir tree and would also be somewhat close to the critical root zone of a Garry Oak that is growing on the south property line. During the site visit, one of the project designers was working on locating these trees precisely with respect to the edges of the existing infrastructure. Once those trees are accurately located on the site plan, we can quantify the exact amount of root zone disturbance there will be for the Garry Oak.

The tree that is in the way of the project is a Noble Fir (*Abies procera*) with a diameter a standard height of 14 inches. The tree is approximately 40 foot tall and in fine condition. The proposed eastern edge of the new retaining feature will be east of this tree and the area that the tree currently inhabits will have to be backfilled with new soil. There is no way to execute this project while simultaneously retaining the specimen. This tree should be removed and replaced according to the ratios published by The City of Mercer Island.

There is a Garry Oak (*Quercus garryana*) on the south property line with a diameter at standard height reading of 29 inches. During the site visit, I used a laser rangefinder to estimate the distance from the corner of the proposed improvements to the edge of this tree's trunk. I got a reading of approximately 18 feet but the exact geometry will need to be confirmed once the tree has been located on the site plan. This Garry Oak has natural structure and appears to be in excellent condition. The tree has better access to light to the northwest and its drip line extends approximately 30 to 35 foot in that direction. The southern and eastern drip lines are both closer to 20 foot. For the purposes of determining the size of the critical root zone of this tree, I am going to extrapolate 1 foot of critical root zone radius for every inch of diameter at standard height. This tree earns a critical root zone radius of 29 feet and how that critical root zone radius is interpreted and what the limits of disturbance are will be are included further down in this report. This tree should have tree protection fencing installed as close to the drip line as possible or at the limit of disturbance for the excavation.

This is a heavily planted site with a lot of exotic trees and shrubs and access for excavating equipment is poor. The only vertical soil cut that is required is at the edge of the proposed improvements to install the retaining feature. Because it is impractical to gain ingress or egress to the site for large equipment, I am suggesting that the excavation be undertaken with hand tools which will be easy to bring into the site and because the process will be far gentler on the surrounding trees and shrubs. The crew can dig a trench where they need to install the new retaining wall and any roots that are encountered that are over 1 inch in diameter should be excavated around and clean cut with a sharp tool outside of the excavation zone so that the roots

can bifurcate and continue to grow. Minimizing the surface area of the root cuts is the best way to ensure that the trees will continue to thrive.

It is my professional opinion that there will be no adverse effects on the health or stability of the oak as long as the project is undertaken carefully.

At the time of the site visit, there was not a survey map available with all of the existing trees at the site located. This is a heavily planted site and most of the trees appear to be very well-established and very well cared for. All of the trees that I looked at during the site visit have natural structure and are well positioned on the site. I am going to give a general description of the existing trees, but I am not including a specific inventory of each system.

At the west end of the sits, close to the water line, there are approximately six Paper Birches with diameter at standard height readings of between 8 and 16 inches. All of these trees have excurrent structure and are in excellent condition.

There is another specimen of Garry Oak located approximately 15 foot to the west of the oak that was featured earlier in this report. This tree also has natural structure and is far enough away from the proposed improvements at its root zone will not be affected. This tree has an approximate diameter and standard height reading of 20 inches.

The area just to the west of the home has a large installation of low growing trees and shrubs. The Viburnum and the Mugo Pines and the rhododendrons are mixed together with some very impressive specimens of weeping Japanese Maples.

There is a very well established Japanese Maple that is growing adjacent to the north edge of the client's lawn in the backyard.

Several exotic varieties of pine, such as Japanese Black Pine and Ponderosa Pine, are growing on the north property line and all of these trees are thriving.

There is an impressive row of Quaking Aspen on the north neighbor’s lot and while those trees are growing close to the property line with drip lines that extend over my client’s site, none of the Aspen that are visible in the photographs are at my client’s address.

There is a Japanese Stewartia with an 8 inch diameter at standard height that is growing just to the south of the staircase that accesses the backyard and this tree appears to be a 10 foot away from the existing wall that is scheduled to be extended to the east. This tree’s critical root zone will not be affected by the proposed improvements, but this tree is close enough that it should be accurately located on the site plan and it should have its drip line protected with tree protection fencing prior to construction activities commencing. The tree protection fencing ensures that the construction crew will not use the critical roof zones of the trees that are being preserved to stage equipment, rinse tools, etc.

Close to the northwest corner of the single-family residence at this address is an apricot with two stems measuring 12 and 17 inches of diameter at standard heights. Just to the west of that tree is another apricot with a diameter and standard height reading of 17 inch.

There are some fairly small diameter high Hinkoi Cypress on the north property line west of the apricots that I just mentioned. All of these trees are in excellent condition and far away from the proposed improvements. No tree protection fencing is necessary for the systems.

The trellis that is scheduled to be replaced is hosting a very well-established Wisteria vine that has its trunk located to the west of the existing patio behind the house. The vine is also anchored in some other locations around the structure and is being well managed and is in good condition.

East of the proposed improvements are two Crabapple trees with approximate diameter and standard height readings of 8 to 10 inches. These trees are in good condition and will not be affected by the proposed improvements.

The South property line at this address has a row of well-established Western Red Cedars. The westernmost cedar has the best access the light and a large trunk. I measured the diameter at standard height for this tree at 39 inches, that seems skewed because there are several iterations that are fused in this region. The tree has a drip line radius of 20 foot which does not overlap the proposed improvements. This tree will not be affected by the proposed improvements. Because the crew will likely be shuttling material along the south property line, tree protection fencing should be run in an east-west direction to protect the trunks of the entire row of Western Red Cedar trees in this region. There are six Western Red Cedar that are growing to the west of the fence that separates the backyard from the driveway. These trees have diameter and standard height readings between 12 and 39 inches and are all in natural condition. The largest tree, which I've already commented on, is in contact with the existing trellis. As this cedar continues to grow it will put on girth and it will put more pressure on the existing infrastructure. Something should be done to resolve this contact so that the tree has ample room to grow out into. While being a fairly large tree already, it is a native that will likely continue to grow for quite some time. The tree should have at least 2 foot of space for the trunk to be able to occupy in the future.

The row of Western Red Cedars continues east of the fence that separates the backyard from the front yard. There are seven more Western Red Cedar in this row with approximate diameter and standard height readings of between 12 and 26 inches.

Just to the south of the walkway that accesses the backyard is what appears to be a Box Elder tree, although it was completely defoliated it at the time of the site visit and the ground beneath the tree was fairly well cleaned up. This tree has a very cool pedestal region and I do suggest having tree protection fencing installed to protect the trunks of these trees from unintentional mechanical damage as materials are being shuttled in and out of the backyard.

There is an excurrent Ponderosa Pine growing just to the east of the driveway with the diameter at standard height reading of 29 inches. This tree is in excellent condition.

Slightly northeast of the aforementioned Ponderosa Pine is a Katsura Tree with a diameter at standard height of 8 inches. This tree is also adjacent to the path that will likely be used to shuttle materials into the backyard and should have its drip line protected with tree protection fencing.

Just to the east of the entrance to the existing single-family residence are two fairly small Stewartia flanking a Weeping White Pine with an approximate diameter and standard height of 12 inches. To the north of the front door access is another Stewartia, a significant installation of Hinoki Cypress, most of which are still fairly small diameter at standard height, and a Japanese Snowdrop tree.

There is a driveway that connects this property to the adjacent property to the north. To the east of that access there are three very well established Blue Atlas Cedar, more Hinoki Cypress, and a variety of rhododendron, and Camellia in the understory. There is also another multi-stemmed Japanese Maple growing at the northeast corner of the front yard, along with a Flowering Cherry and a Deodar Cedar with two stems measuring 7 inches and 6 inches. None of these trees in the northern portion of the property will be affected by the proposed improvements and they are far enough away the tree protection fencing is not necessary in this region.

At the eastern portion of the property, adjacent to the road, there is an Austrian Black Pine that has been pruned in the Japanese cloud style. This tree is in the middle of a large lawn and not close to the ingress or egress. This tree will not be adversely affected by the proposed improvements.

Tree Protection

-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.
-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.
-The tree protection area is designated to be an area of no impact, no storing of materials, no encroachment and no staging of debris.
-The tree protection fencing should have signs every 8' facing access that indicate the area is a tree protection zone.
-Trenching through the TPZ for utilities is not permitted (tunneling is the preferred method).
-Grade changes in the TPZ are not permitted.
-Vehicle maintenance and washing of equipment (especially concrete), is not permitted.
-No attaching anything to the tree with cinching knots or hardware.
-Root flare should be protected with chips so that lawn maintenance equipment does not have to work close to the system.
-Proper clearances should be maintained.
-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.

Photos of the Site

Garry Oaks

Paper Birches

The Pines and the neighbor’s Aspens

One of the large Japanese Maples in the backyard

Looking east toward the existing trellis. The Noble Fir to be removed is behind the Stewartia in the right side of the frame.

One of the places where the Wisteria Vine originates

Some of the cedar trunks and the trunk of the Box Elder

This is the access around the north side and some of the cedar trunks near it.

Front yard Ponderosa Pine

Main entrance. These trees are not near the project.

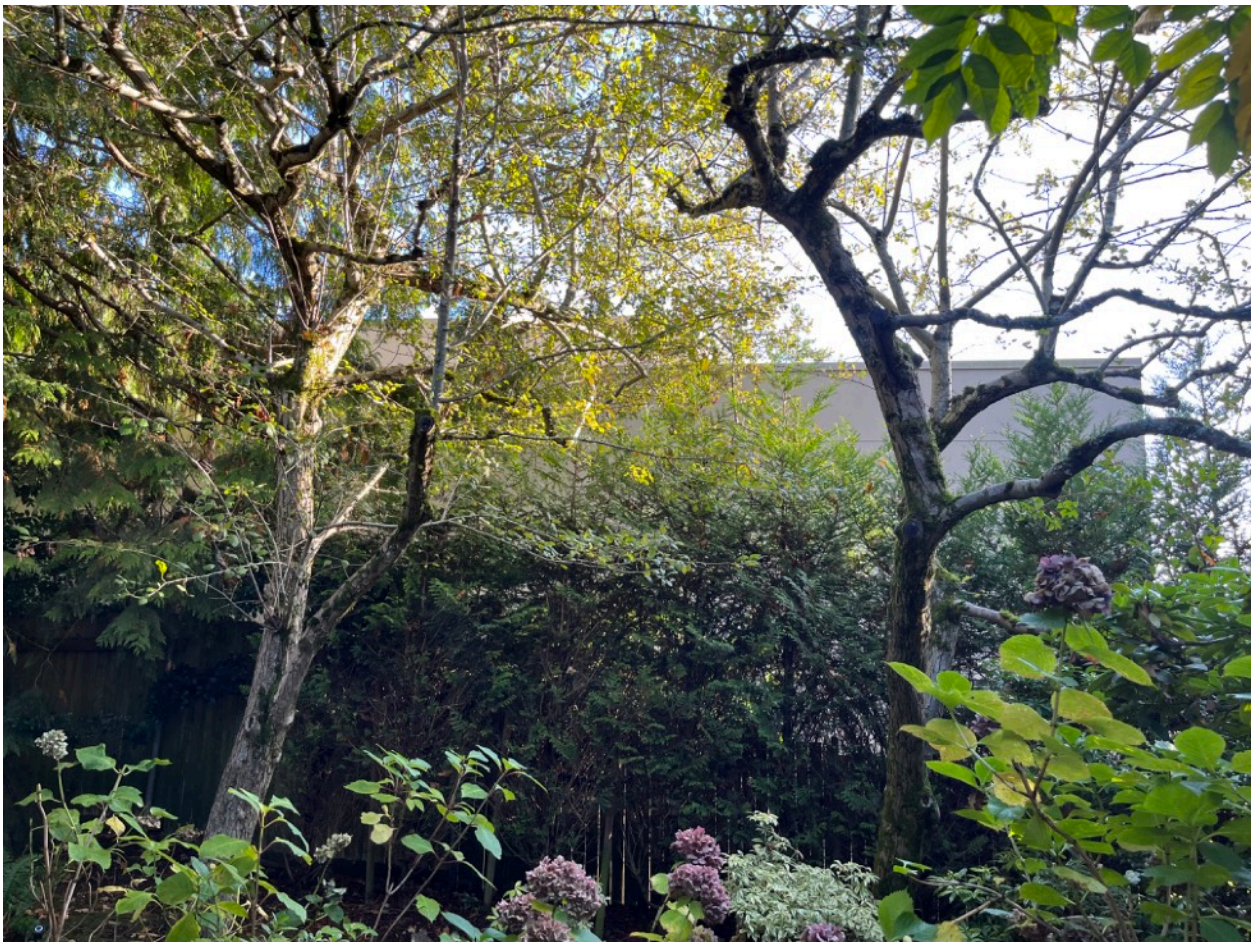
Blue Atlas Cedars in the NE corner of the lot.

Another shot of the access around the north side.

Mugo Pine close to the ROW.

This is the fir that would need to be removed for the project to commence.

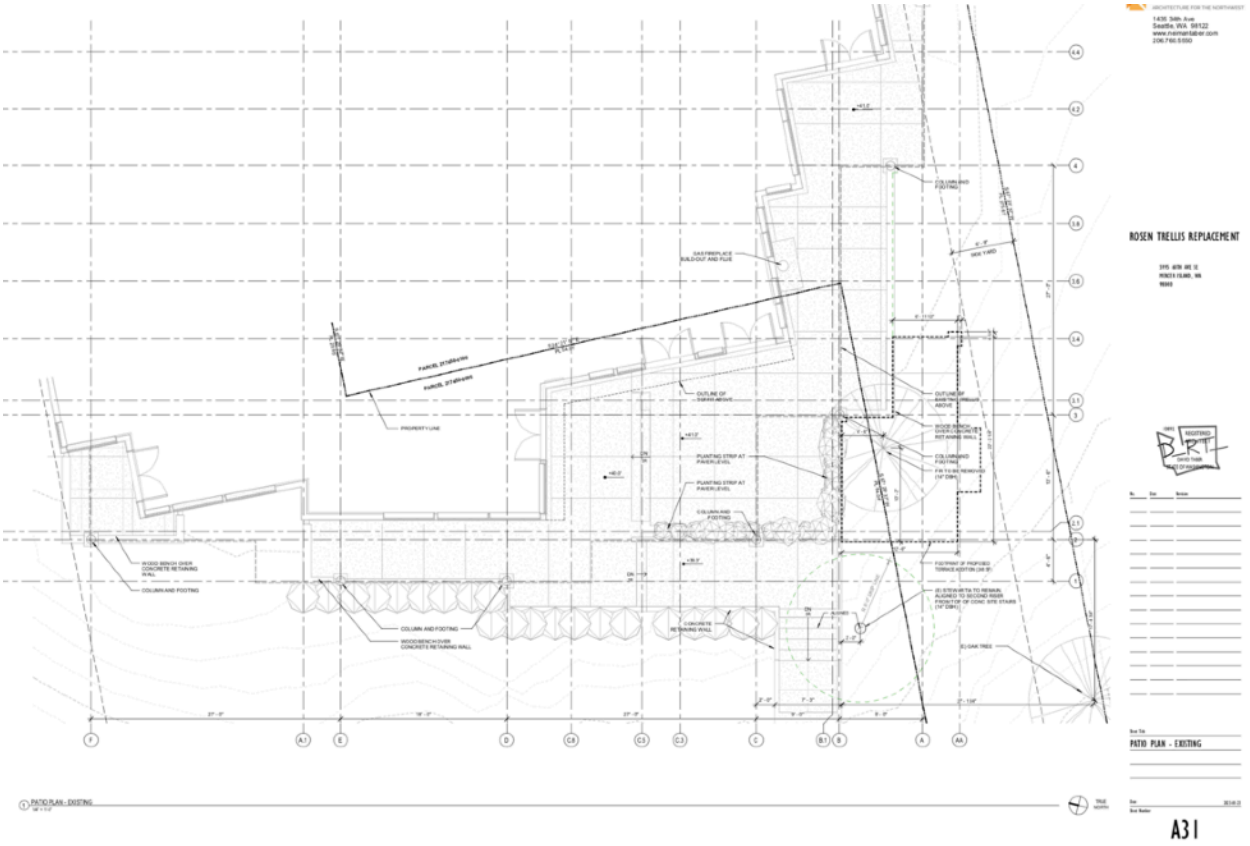
Stewartia that will need to be protected or moved.



Crabapples that are also close to the project and should be protected.

Addendum to the Original Report
December 4th, 2023

The project designers have shared with me a map that locates the three trees that are close to the project. The fir to be removed is on the map and the Stewartia and the Garry Oak can be preserved. Tree Protection Fencing should be installed at the drip line of both of theses specimens and indicated on the map. It is my professional opinion that the project will not have an adverse effect on the health or the stability of the retained trees.



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.