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CONSULTING SERVICES

Tumwater Townhomes
Arborist Report
Tumwater, WA

Prepared For: Brandon Johnson, JSA Civil
Owner's Representative

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ISA Certified Arborist PN-9606A
ISA Tree Risk Assessment Qualified

Date: December 6, 2024

Project Address: 715 Dennis St SE, Tumwater, Washington 98501

Parcel #: 79300001100 & 79300001200

Introduction

The following tree report has been developed as part of the permit package for the proposed Tumwater Townhomes multi-family residential project located at 715 Dennis St SE in Tumwater, Washington.

This Report will fulfill the requirements outlined in the Tumwater Municipal Code section 16.08 *Protection of Trees and Vegetation*, an online version of which can be found here: https://www.codepublishing.com/WA/Tumwater/html/Tumwater16/Tumwater1608.html

Project Narrative

The proposed project site consists of two parcels with a combined size of 10.5 acres. Parcel #79300001100 (henceforth referred to as the "west parcel" or "developed parcel") will be developed while parcel #79300001200 (henceforth referred to as the "east parcel" or "undeveloped") will be left in its natural state. The development of the west parcel will include the addition of 24 multi-family townhomes, as well as associated driveways, sidewalks, and shared open spaces. Additional landscaping will be provided around the townhomes, open spaces, perimeter, and along street frontage improvements to meet city code requirements (*TMC 18.47 Landscaping*). The southeast corner of this parcel is occupied by an existing wastewater lift station and gravel access drive. A wetland occupies part of the northeast corner of the site. The east parcel will be designated tree tract / open space (along with the north portion of the west parcel) and will not be developed.

Scope of Work

This site evaluation was conducted to achieve the following goals:

1.) Complete a full tree inventory of existing trees 6" in diameter or larger on parcel #79300001100 and a plot sample tree inventory on parcel #79300001200 of existing trees 6" in diameter or larger;
2.) Make recommendations for tree retention and/or replacement per the City of Tumwater tree code;
3.) Prepare a tree protection plan;
4.) Provide information on and procedures for tree protection of on-site and off-site trees (where CRZ extends on-site) that meet, at minimum, the standards set forth by the City of Tumwater tree code; and
5.) Provide any other recommendations necessary to meet the minimum standards set forth by the City of Tumwater tree code.

Methodology

On **November 25, 2024**, SCJ conducted a site visit for the purpose of inventorying existing trees on site. All significant trees down to a caliper size of 6" were surveyed on the west parcel. On the east parcel, plot sampling was used to estimate the quantity of trees down to a caliper size of 6". Red Alders were not surveyed and are not included in this report, as they are not considered significant trees and do not count toward tree retention standards (*TMC 16.08.070*). Off-site trees that have the potential to be impacted by construction were also surveyed and are included in the inventory of this report

Trees were evaluated for health and general condition only, based on a limited visual inspection (no core sampling, root excavation, or aerial inspection). A tree risk assessment was not included as part of this report. This tree evaluation used methodology developed by Matheny and Clark (1998)[1] and the International Society of Arboriculture.

Existing Conditions

The proposed project site consists of two parcels with a combined size of 10.5 acres. The west parcel (#79300001100) is 5.86 acres and is currently vacant; it consists of a large grass field consisting largely of Scotch broom (*Cytisus scoparius*). The field appeared to have been mechanically cleared up to the property lines, likely within the last few months based on the limited plant regrowth. A grove of young (3-8" DBH) Douglas fir trees is located to the south of the parcel, adjacent to Tumwater Blvd. Smaller groves follow the property line shared with the adjacent commercial property to the west. Individual groups of one to six trees can be found scattered throughout the parcel. Total tree canopy coverage is approximately 15% of the total vegetative cover for this parcel. A wetland occupies part of the northeast corner of the site, with evidence of beaver activity on the property. The border with the wetland consists of dense thickets of Himalayan blackberry (*Rubus armeniacus*), which is covering the remnants of a dilapidated chain link fence. There are currently no structures or concrete

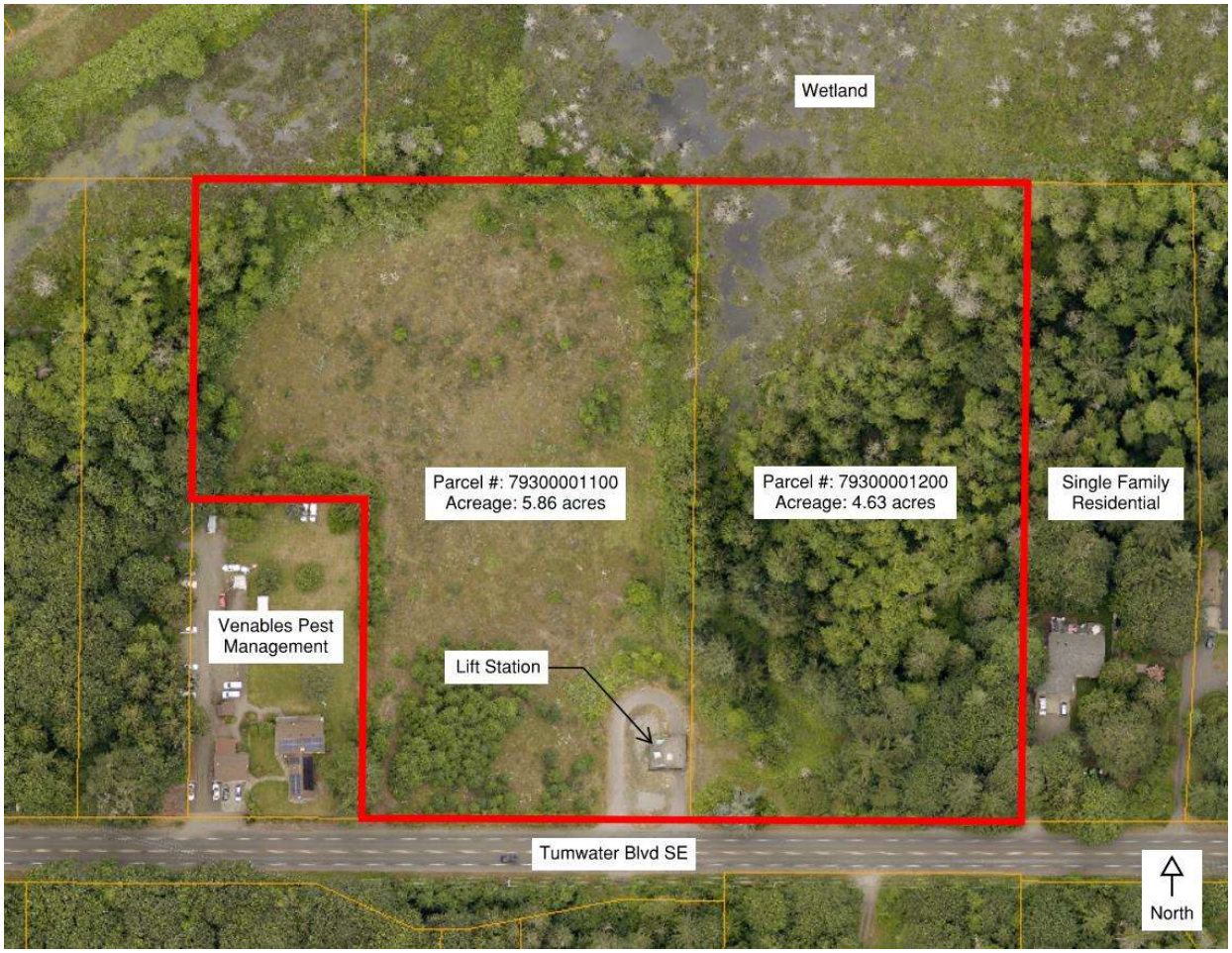
[1] Matheny, Nelda and Clark, James R. Trees and Development: A Technical Guide to Preservation of Trees During Land Development, International Society of Arboriculture, Champaign, Il, 1998.

pads located on the parcel. The locations of inventoried trees for this parcel can be found on the attached site plan *(Appendix A: Locations of Existing Trees In and Adjacent to West Parcel).*

The east parcel (#79300001200) is 4.63 acres and is heavily wooded, consisting primarily of native tree species such as Douglas fir (*Pseudotsuga menziesii*), Western hemlock (*Tsuga heterophylla*), Western redcedar (*Thuja plicata*), and big leaf maple (*Acer macrophyllum*). Understory vegetation is moderately dense. Total tree canopy coverage is approximately 70% of the total vegetative cover for this parcel. This parcel also contains approximately 25% wetland in its northernmost portion. This parcel will be designated as a tree tract / open space and will not be developed. The quantity of trees 6" or larger this parcel was determined by plot sampling. An inventory of trees for this parcel can be found in *Table B: Inventory of Trees In East Parcel*.

The entire project site is bordered to the north by a large wetland. To the west it is bordered by a commercial property occupied by a pest management company and, to the east, a single family residential property. To the south, the property fronts Tumwater Boulevard. (See *Figure A: Aerial View of Project Site* below)

Figure A: Aerial View of Project Site



(Image source: Thurston County GeoData Center)

Soils

According to the Thurston County Soil Survey, there may be two soil types present on site: Indianola loamy sand (55-60% of site) and Norma silt loam (40-45% of site).

Indianola series soils consist of very deep, somewhat excessively drained soils formed in sandy glacial drift. The slope range for this soil type is estimated to be between 0% and 15% at this project site.

Norma series soils consist of deep, poorly drained soils formed in old alluvium in depressions on glacial till plains and drainageway. The slope range for this soil type is estimated to be between 0% and 3% at this project site. These soils are associated with a high water table, as high as 1 foot above to 1 foot below the surface of the soil. Runoff is slow and prone to ponding.

Windthrow Potential

Prevailing winds at this location generally approach from the southwest. Given the western orientation of the existing forest edge which is not expected to be impacted by development, future windthrow hazard is estimated to be negligible under normal weather conditions.

Vegetation

There are five distinct types of vegetated landscapes on the site (see *Figure B* below):

Type 1 is located primarily at the center of the developed west parcel and consists of a vacant grass field, interspersed with patches of Scotch broom and weedy perennials. Small clusters of 2-4" Douglas fir trees are located throughout this area. Trees in this area were inventoried individually.

Type 2 is located primarily at the southwest corner of the developed parcel and consists of young (3" to 8") Douglas fir (*Pseudotsuga menziesii*) trees with negligible understory or vegetative groundcover present. Trees in this area were inventoried individually.

Type 3 is located on approximately 75% of the undeveloped east parcel and along the western edge of the developed west parcel. It consists of the native tree, understory and groundcover species typical of this part of Western Washington. Dominant tree species include Douglas fir, Western hemlock, Western redcedar, and big leaf maple. The understory is heavily shaded, with fern species such as Western sword fern (*Polystichum munitum*) and deer fern (*Struthiopteris spicant*) dominating. Trees in and adjacent to the west parcel were inventoried individually, while trees in the east parcel were inventoried via plot sampling.

Type 4 is located on around the perimeter of the developed west parcel and consists primarily of invasive Himalayan blackberry.

Type 5 is a wetland. Assessment of wetlands and the inventory of plants therein is not included in the scope of this report.

No ornamental landscaping is present on the site.

The locations of individually inventoried trees can be found on the attached site plan *(Appendix A: Locations of Existing Trees In and Adjacent to West Parcel).*

Figure B: Locations of Vegetation Types

(Image source: Thurston County GeoData Center)

Tree Inventory

On November 25, 2024, SCJ conducted an inventory of 100% of the trees (6" DBH or larger) within the west parcel (#79300001100) of the project site. Select off-site trees that may be impacted by development were also inventoried. Trees on the east parcel (#79300001200) were estimated via plot sampling, as this parcel is not anticipated to be impacted by development of the site.

Our survey recorded species, diameter at breast height (DBH), location, and general condition only. A risk assessment of surveyed trees was not included.

Those trees are listed in the table below, with their approximate locations noted on the attached *Appendix A: Locations of Existing Trees In and Adjacent to West Parcel*. Those trees slated for removal due to construction impact are noted on the attached *Appendix B: Locations of Existing Trees to be Removed*.

Table A: Inventory of Trees In and Adjacent to West Parcel

Tree ID	Tree Species	DBH (Inches)	Tree Condition	Retain/ Remove	Tree Credit Value	Remarks
33	Red Oak	20.5	Good	Remove	1	
34	White Fir	26	Good	Remove	2	
35	White Fir	31	Good	Remove	2	
36	Yew	8	Good	Retain	0	Multi-stem; moderate likelihood of impact to CRZ from construction
37	Yew	10	Good	Retain	0	Multi-stem; low likelihood of impact to CRZ from construction
38*	Unknown Deciduous	30	Poor	Remove	0	Completely obscured by English Ivy
39	Douglas Fir	6.5	Good	Retain	1	
40	Douglas Fir	6.7	Good	Remove	1	
42	Douglas Fir	6	Good	Remove	1	
43	Douglas Fir	7.5	Good	Retain	1	
44	Douglas Fir	7.5	Good	Retain	1	
45	Douglas Fir	7.5	Good	Retain	1	
46	Douglas Fir	7	Good	Retain	1	
47	Douglas Fir	7	Good	Retain	1	
48	Douglas Fir	8	Good	Retain	1	
49	Western Hemlock	13	Good	Retain	1	Located adjacent to wetland
50	Douglas Fir	8.5	Good	Retain	1	
51	Douglas Fir	8.5	Good	Retain	1	
52	Douglas Fir	6	Good	Remove	1	
53	Douglas Fir	7.5	Good	Retain	1	
54	Douglas Fir	6.5	Good	Retain	1	
55	Douglas Fir	6.5	Good	Retain	1	
56	Western Hemlock	11.5	Good	Retain	1	
57	Douglas Fir	10	Good	Retain	1	
58	Western Redcedar	21	Good	Retain	1	

59	Western Hemlock	22	Good	Retain	1	On fence
60	Western Redcedar	37	Good	Retain	2	
62*	Western Hemlock	16	Good	Retain	0	Located off-site; low likelihood of impact to CRZ from construction
63	Big Leaf Maple	22.5	Good	Retain	1	
64*	Western Hemlock	16.5	Good	Retain	0	Located off-site; low likelihood of impact to CRZ from construction
66	Big Leaf Maple	12	Good	Retain	1	
67	Douglas Fir	8	Good	Retain	1	
68	Douglas Fir	6	Good	Retain	1	
69	Douglas Fir	6	Good	Retain	1	
70	Douglas Fir	7	Good	Retain	1	
71	Douglas Fir	7.5	Good	Retain	1	
72	Douglas Fir	7.5	Good	Retain	1	
73	Douglas Fir	6	Good	Retain	1	
74	Douglas Fir	6	Good	Retain	1	
75*	Douglas Fir	30	Good	Retain	0	Off property; High likelihood of impact to CRZ from construction
76	Douglas Fir	6	Good	Retain	1	
77	Douglas Fir	6	Good	Retain	1	
78	Douglas Fir	6.5	Good	Retain	1	
79	Douglas Fir	6.5	Good	Retain	1	
80	Douglas Fir	6	Good	Remove	1	
81	Douglas Fir	6	Good	Remove	1	
82	Douglas Fir	6.5	Good	Remove	1	
83	Douglas Fir	7	Good	Remove	1	
84	Douglas Fir	7.5	Good	Retain	1	
85	Douglas Fir	6	Good	Retain	1	
86	Douglas Fir	6.5	Good	Retain	1	
87	Douglas Fir	6	Good	Remove	1	
88	Douglas Fir	6.5	Good	Remove	1	
89*	Douglas Fir	30	Good	Retain	0	Off property; High likelihood of impact to CRZ from construction
90*	Douglas Fir	24	Good	Retain	0	Off property; High likelihood of impact to CRZ from construction
91*	Douglas Fir	30	Good	Retain	0	Off property; High likelihood of impact to CRZ from construction
92*	Lodgepole Pine	14	Good	Retain	0	Off property; High likelihood of impact to CRZ from construction
93	Douglas Fir	6	Good	Retain	1	On fence
94	Douglas Fir	7.5	Good	Remove	1	

95	Douglas Fir	6	Good	Remove	1	
96	Douglas Fir	6	Good	Remove	1	
97	Douglas Fir	7	Good	Remove	1	
98	Douglas Fir	7	Good	Remove	1	
99	Douglas Fir	7	Good	Remove	1	
100	Douglas Fir	6.5	Good	Remove	1	
101	Douglas Fir	6.5	Good	Remove	1	
102	Douglas Fir	6	Good	Remove	1	
103	Douglas Fir	6	Good	Remove	1	
104	Douglas Fir	7	Good	Remove	1	
105	Douglas Fir	6	Good	Remove	1	
106	Douglas Fir	6.5	Good	Remove	1	
107	Douglas Fir	6	Good	Remove	1	
108	Douglas Fir	7	Good	Remove	1	
109	Douglas Fir	7	Good	Remove	1	
110	Douglas Fir	6.5	Good	Remove	1	
111	Douglas Fir	7	Good	Remove	1	
112	Douglas Fir	6	Good	Remove	1	
113	Douglas Fir	8	Good	Remove	1	
114	Douglas Fir	8.5	Good	Remove	1	
115	Douglas Fir	7	Good	Remove	1	
116	Douglas Fir	7.5	Good	Remove	1	
117	Douglas Fir	7.5	Good	Remove	1	
118	Douglas Fir	7	Good	Remove	1	
119	Douglas Fir	6.5	Good	Remove	1	

*Does not count toward tree calculations due to either size, condition, or location (off property).

Notes:

1.) A “Significant tree” means a tree at least six inches at DBH, excluding trees of the following genera: *Populus sp., Alnus spp.,* and *Salix spp. (TMC 16.08.070)*

2.) For multi-stem trees, an average DBH was calculated by adding the total caliper inches of all stems at breast height and dividing that number by the total number of stems. *Ex: (5”+6”+8”)/3 stems = 6” DBH*

3.) For the purpose of calculating tree retention standards, trees twenty-four inches or greater in diameter measured four and one-half feet above ground level shall count as two trees. *(TMC 16.08.070)*

Table B: Inventory of Trees In East Parcel

Tree Species	DBH (Inches)	Estimated % of Trees	Estimated # of Trees	Tree Credit Value
Douglas Fir	1”-6”	5%	18	0
	6”-12”	15%	53	53
	12”-24”	15%	53	53
	24”-36”	10%	36	71*
	36”-42”	0%	0	0*
Western Hemlock	1”-6”	5%	18	0
	6”-12”	5%	18	18
	12”-24”	10%	36	36
	24”-36”	5%	18	36*
	36”-42”	0%	0	0*
Western Redcedar	1”-6”	5%	18	0*
	6”-12”	8%	28	28
	12”-24”	5%	18	18
	24”-36”	5%	18	36*
	36”-42”	0%	0	0*
Big Leaf Maple	1”-6"	0%	0	0
	6”-12”	5%	18	18
	12”-24”	2%	7	7
	24”-36”	0%	0	0*
	36”-42”	0%	0	0*

Notes:

1. Estimated tree quantities are based on a 50’ x 50’ sample plot size.
2. Trees with a DBH of less than 6” are not considered significant and do not count toward the tree credit total.
3. Totals with an asterisk (*) indicate trees twenty-four inches or greater in diameter which count as two trees per *TMC 16.08.070*.

Landmark Trees

There are no trees on the project site that I would consider to be specimen or “Landmark” trees.

Tree Density Calculations

Due to direct conflicts with the proposed site improvements, some on-site trees will be removed. These trees are indicated with red X’s on the attached site plan *(Appendix B: Locations of Existing Trees to be Removed).*

Total Acreage of Project Site:	10.5 Acres
Existing Significant Trees in West Parcel:	73 Trees
Existing Significant Trees in East Parcel:	374 Trees*
Required 20% Tree Retention:	90 Trees
-or-	
Required 12 Trees/Acre Retention:	126 Trees
Existing Significant Trees to be Removed for Construction:	40 Trees
Total On-site Trees to be Retained:	407 Trees
Replacement Trees Required:	**0 Trees**

*Estimate based on plot sample

Notes:

1.) For the purpose of calculating tree retention standards, trees twenty-four inches or greater in diameter measured four and one-half feet above ground level shall count as two trees. *(TMC 16.08.070)*

2.) When land clearing is performed in conjunction with a specific development proposal, not less than twenty percent of the trees, or not less than twelve trees per acre (whichever is greater), shall be retained. (*TMC 16.08.07*)

Following the necessary removal of 34 significant trees due to construction, the total number of remaining trees on-site will remain greater than the minimum retention required by code. Therefore, no replacement trees will be required.

Off-Site Trees / Tree Protection

There are several trees throughout the property and along the property boundary that have the potential of being impacted by the project and/or the removal of adjacent trees. It is recommended that tree protection fencing be installed according to the attached detail (*Appendix D: Tree Protection Fencing Detail*) in the locations indicated on the attached map (*Appendix C: Locations of Tree Protection Fencing*). The farther the tree protection fencing can be placed away from the potentially affected off-site trees, the greater the area of critical root zone that will be protected and, thus, the greater the likelihood that these trees will recover from the impact of construction.

Respectfully submitted,

Colin W. Owen, SCJ Alliance
ISA Certified Arborist (PN-9606-A)
ISA Tree Risk Assessment Qualified

Appendices

Appendix A – Locations of Existing Trees
Appendix B – Locations of Existing Trees to be Removed
Appendix C – Locations of Tree Protection Fencing
Appendix D – Tree Protection Fencing Detail
Appendix E – Definitions
Appendix F – Assumptions and Limiting Conditions

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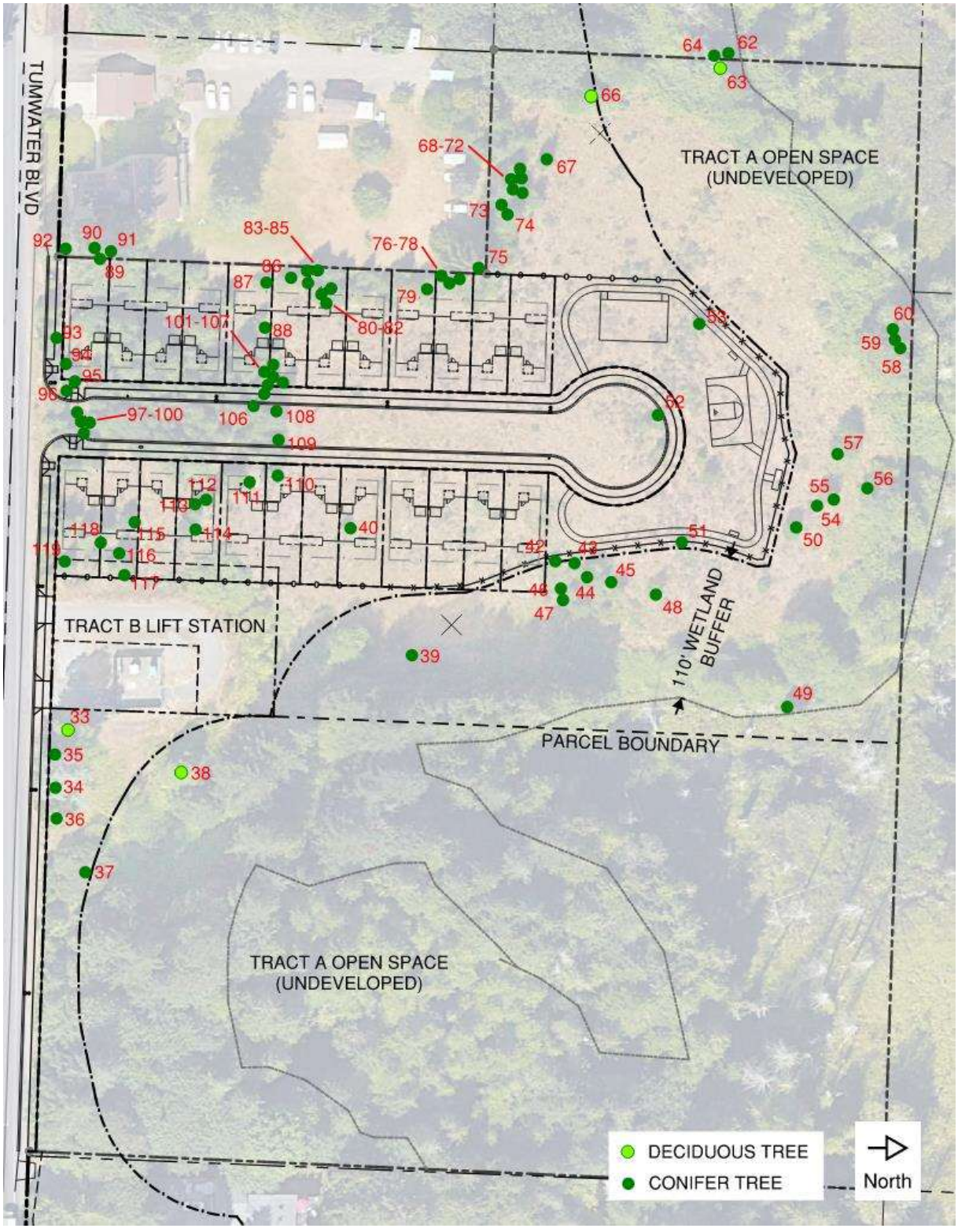
Appendix A: Locations of Existing Trees In and Adjacent to West Parcel



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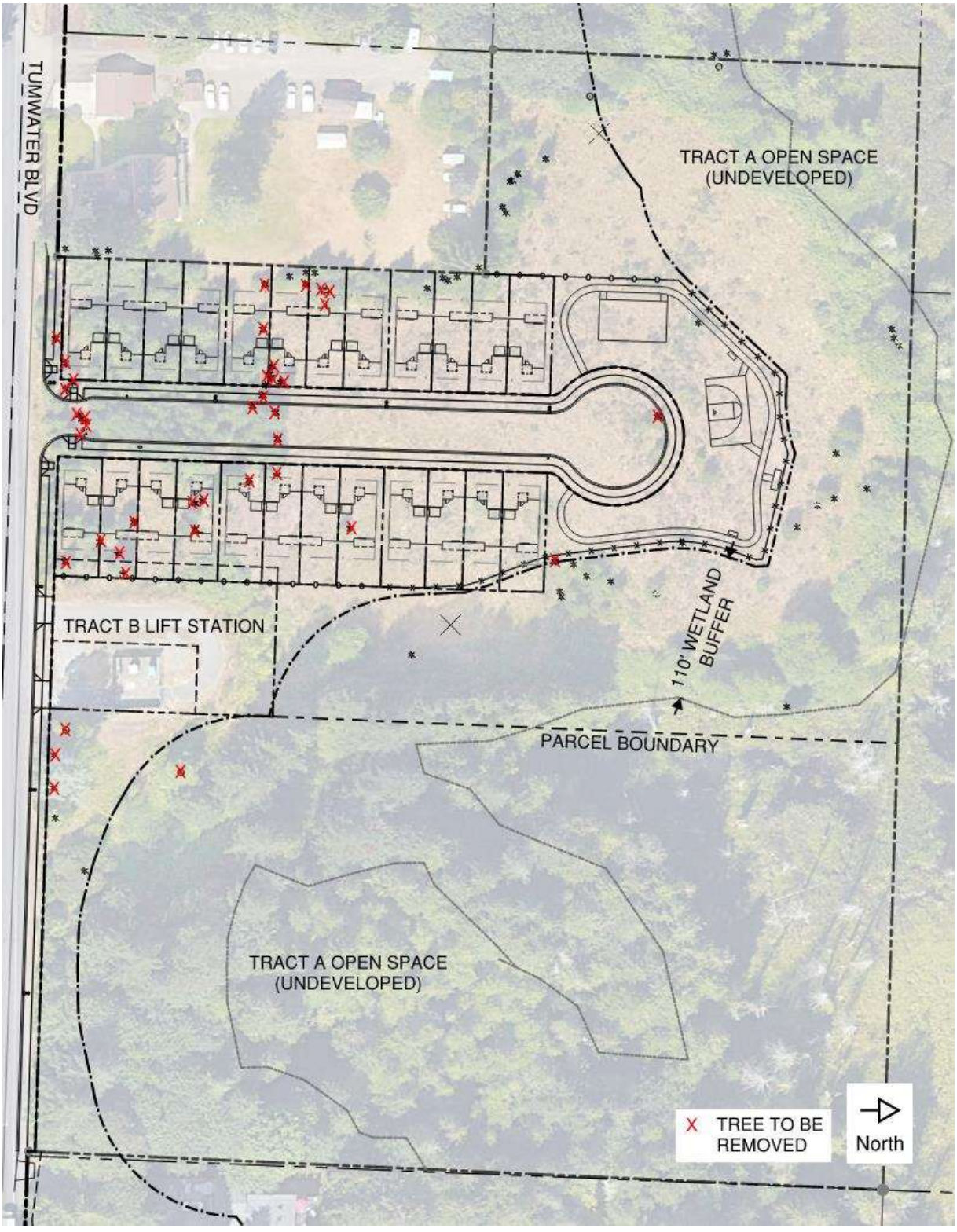
Appendix B: Locations of Existing Trees to be Removed



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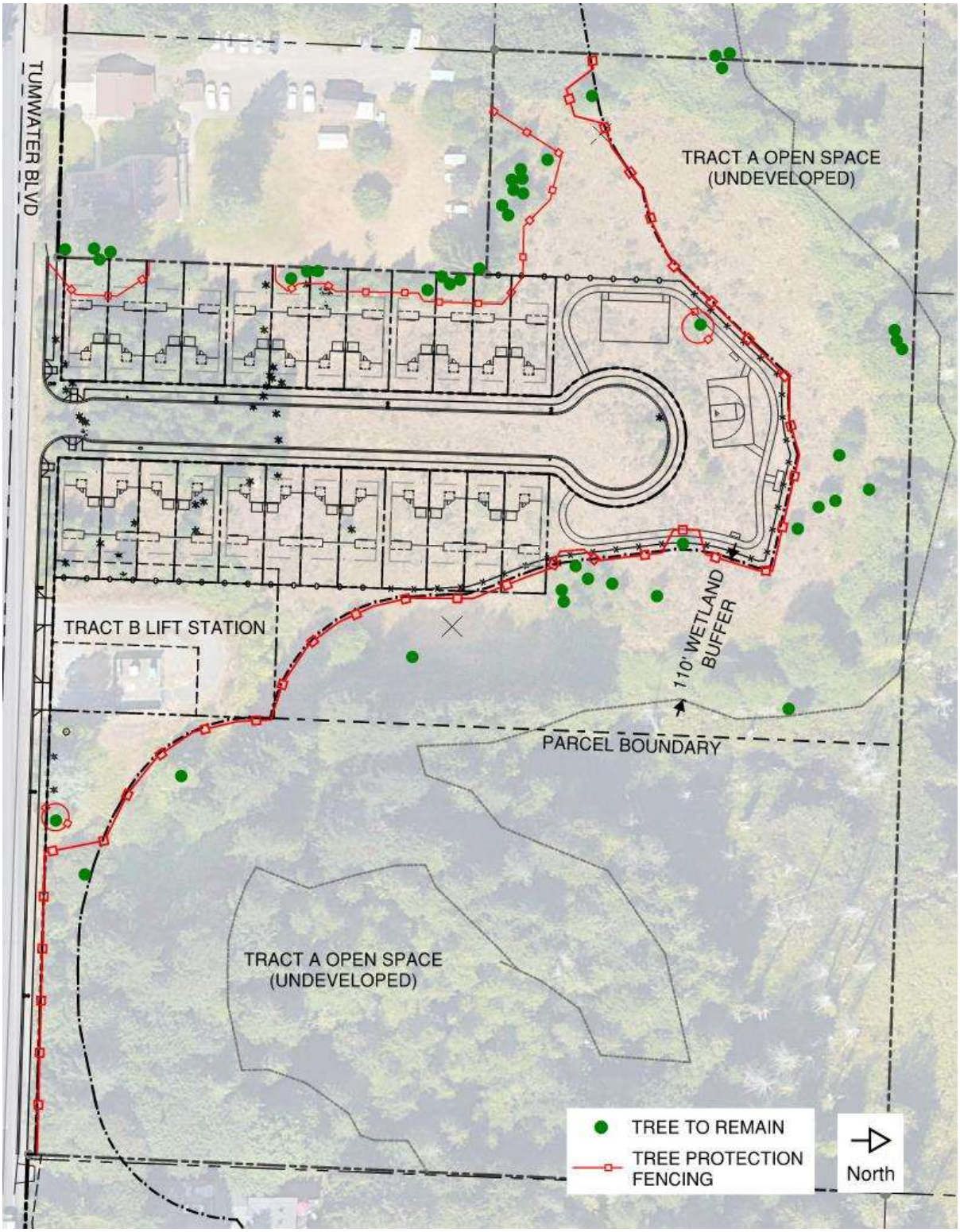
Appendix C: Locations of Tree Protection Fencing



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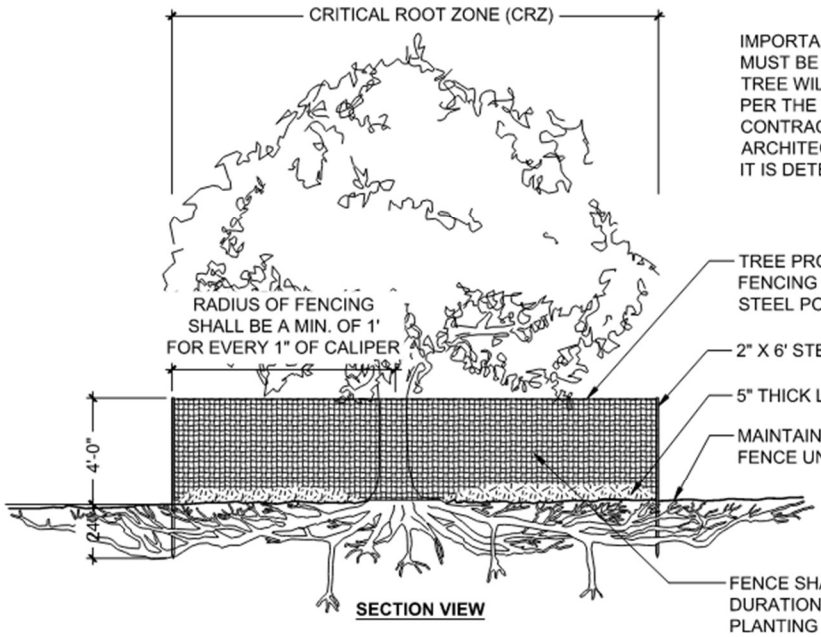
Appendix D: Tree Protection Fencing Detail



IMPORTANT: ALL TREES INDICATED AS "TO REMAIN" MUST BE RETAINED. FAILURE TO RETAIN ANY INDICATED TREE WILL RESULT IN CONTRACTOR REPLACING TREE PER THE CITY OR OTHER REQUIREMENTS. CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT, FORESTER AND/OR CITY (AS APPLICABLE) IF IT IS DETERMINED THAT A TREE CANNOT BE RETAINED.

TREE PROTECTION FENCE: HIGH DENSITY POLYETHYLENE FENCING WITH 3.5" X 1.5" OPENINGS; COLOR- ORANGE. STEEL POSTS INSTALLED AT 8' O.C.

2" X 6' STEEL POSTS OR APPROVED EQUAL

5" THICK LAYER OF MEDIUM BARK MULCH

MAINTAIN EXISTING GRADE WITH THE TREE PROTECTION FENCE UNLESS OTHERWISE INDICATED ON THE PLANS

FENCE SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. ALL CLEARING AND PLANTING WITHIN THE ROOT ZONE SHALL BE DONE BY HAND.

TREE PROTECTION NOTES

1. NO PRUNING SHALL BE PERFORMED EXCEPT BY CERTIFIED ARBORIST.
2. NO EQUIPMENT SHALL OPERATE INSIDE THE PROTECTIVE FENCING INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
3. PLACING MATERIALS NEAR TREES: NO PERSON MAY CONDUCT ACTIVITY WITHIN THE CRITICAL ROOT ZONE (CRZ) OF ANY EXISTING TREE TO BE RETAINED. THIS INCLUDES, BUT IS NOT LIMITED, TO: PARKING EQUIPMENT, PLACING SOLVENTS, STORING BUILDING MATERIAL AND SOIL DEPOSITS, DUMPING CONCRETE WASH OUT AND LOCATING BURN HOLES.
4. PROTECTIVE BARRIER. BEFORE DEVELOPMENT, LAND CLEARING, FILLING OR ANY LAND ALTERATION, THE CONTRACTOR:
   A. SHALL FIELD VERIFY LOCATION, SIZE AND SPECIES TO DETERMINE CRZ.
   B. SHALL ERECT TREE PROTECTION FENCING AROUND THE CRZ OF THE TREE, AS DESCRIBED IN THE TEMPORARY TREE PROTECTION FENCE DETAIL. THE FENCING SHALL BE RETAINED THROUGHOUT CONSTRUCTION.
   C. SHALL PROHIBIT GRADING, TRENCHING, CUTTING, IMPERVIOUS SURFACING, OTHER CONSTRUCTION, COMPACTION OF EARTH, OR OTHER POTENTIALLY DAMAGING ACTIVITIES WITHIN THE CRZ OF EXISTING TREES.
   D. SHALL ENSURE THAT ANY CLEARING OR LANDSCAPING DONE WITHIN THE DRIP LINE SHALL BE ACCOMPLISHED WITH HAND LABOR ONLY.
   E. SHALL ENSURE NO ROOTS GREATER THAN 2" SHALL BE CUT.
5. ATTACHMENTS TO TREES: DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY OBJECT TO ANY EXISTING TREE.
6. THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS AN AREA WITH A RADIUS OF ONE FOOT FOR EACH CALIPER INCH OF THE TREE TO BE RETAINED, OR THE AREA WITHIN THE DRIP LINE OF THE TREE, WHICHEVER IS GREATER. IF THE TREE IS AN OAK, THE CRZ EXTENDS TO ONE AND ONE-HALF TIMES THE RADIUS OF THE CANOPY.
7. RETURN ALL AREAS TO THEIR PRE-CONSTRUCTION STATE AFTER INSTALLATION IS COMPLETE.

1 TREE PROTECTION FENCING

1/4" = 1'-0"

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Appendix E: Definitions & Explanations

Explanation of Tree Conditions

Poor – A tree described with a poor condition would have a combination of the following features: low vigor, sparse crown density, and few interior branches. The crown could be unbalanced or contain many dead twigs/branches. It may also have been topped, tipped, or mal pruned. The trunk could have cracks, cavities, conks/mushrooms, and evidence of decay within the tree.

Fair – A fair description would describe a tree with normal vigor and crown density. The tree may possess one or possibly two of the above listed qualities but overall is in decent health. Improvements of site conditions could improve the trees health.

Good – Trees listed in good condition will have high vigor with a thick crown density. It would have few, if any defects, and would be a good example of that specific tree.

Excellent – An excellent rating indicates a tree with high vigor and exceptional growth characteristics such as height or girth. It would have few, if any, defects and would be aesthetically pleasing as a stand-alone or specimen tree.

Definitions

DBH - Tree size is measured in Diameter at Breast Height (DBH) – standard forestry methodology for measuring tree size. This is typically four and one-half feet above the ground.

Critical Root Zone (CRZ) –the CRZ is an area on the ground having, at minimum, a radius of one foot for every one inch of tree diameter, measured from four and one-half feet above ground level. In no event shall the root protection zone be less than a six-foot radius. The CRZ may also be referred to as the Root Protection Zone (RPZ).

Calculating DBH of Multi-Stemmed Trees – The average DBH is calculated by adding the total caliper inches of all stems at breast height and dividing that number by the total number of stems. *Ex: (5”+6”+8”)/3 stems = 6”*

Drip line – An imaginary line on the ground created by the vertical projections of the foliage. Most trees in groves do not have symmetrical driplines. Therefore, drip line radius may be measured in the quadrant assumed to be most affected by future disturbance or where most significant.

Hazardous Tree - Any tree that, due to its health or structural defect, presents a risk to people or property.

Heritage Tree – A tree designated by the city and its owners as historical, specimen, rare, or a significant grove of trees.

Interior Tree – A tree within a stand of trees, protected from wind exposure

Likelihood – the chance of an event occurring. In the context of tree failures, the term may be used to specify : 1) the chance of a tree failure occurring; 2) the chance of impacting a specified target; and 3) the combination of the likelihood of a tree falling and the likelihood of impacting a specified target.

Limits of Disturbance – Limits of disturbance shall relate to either Critical Root Zone (CRZ) or Dripline Radius, due to exceedingly wide drip line radii on some trees being out of proportion to actual tree size. CRZ is measured at 1 foot of distance from center of trunk for every inch diameter at 4.5 feet above grade.

Live Crown Ratio (LCR) – the ratio of crown length to total tree height.

Open-grown – a tree that has grown with exposure to wind and other elements from all directions.

Parcel – a tract or plot of land of any size which may or may not be subdivided or improved.

Risk – The combination of the likelihood of an event and the severity of the potential consequences. In the context of trees, risk is the likelihood of a conflict or a tree failure occurring and affecting a target, and the severity of the associated consequences – personal injury, property damage, or disruption of activities.

Root Protection Zone (RPZ) – See Critical Root Zone (CRZ)

Topping - The removal of the upper crown of a tree with no consideration of proper cuts as per the current ANSI A300 Standard. Cuts created by topping create unsightly stubs that promote decay within the parent branch and can cause premature mortality of a tree. In certain municipalities, topping a tree is considered to be a removal, and may require a tree removal permit.

Significant Tree (Tumwater) - "Significant tree" means a tree at least six inches in diameter, excluding trees of the following genera: *Populus spp.*, *Alnus spp.*, and *Salix spp.*

Tree - Any healthy living woody plant characterized by one or more main stems or trunks and many branches, and having a diameter of six inches or more measured four and one-half feet above ground level. Healthy in the context of this definition shall mean a tree that is rated by a professional with expertise in the field of forestry or arbor culture as fair or better using recognized forestry or arbor cultural practices. If a tree exhibits multiple stems and the split(s) or separation(s) between stems is above grade, then that is considered a single tree. If a tree exhibits multiple stems emerging from grade and there is visible soil separating the stems, then each soil-separated stem is considered an individual tree. This is considered a rule of thumb only and may vary depending on the growth characteristics of individual species. Tree species under six inches may be considered significant with approval of the city tree protection professional.

Tree Tract Open Space – a separate dedicated area of land, specifically set aside for the protection and planting of trees.

Windthrow – uprooting and overthrowing of a tree caused by wind.

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Appendix F: Assumptions and Limiting Conditions

1.) A field examination of the site was made on **November 25, 2024**. The observations and conclusions presented in this report are as of that date.

2.) To enjoy the many benefits that trees provide, some degree of risk must be accepted. Even healthy trees without obvious defects can fail under normal or storm conditions. The only way to eliminate all risk is to remove all trees within reach of all targets. It is impossible to predict with certainty that a tree will stand or fail, or the timing of the failure. Annual monitoring by an ISA Certified Arborist or Certified Forester will reduce the potential of tree failures.

3.) When a tree fails, it is considered an 'Act of God.' While there are many different definitions of an Act of God, it's generally considered to be an unanticipated natural disaster or other natural phenomenon whose effects would not have been prevented or avoided by due care or foresight.

4.) Any legal description (whether graphic or narrative) provided to SCJ Alliance is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

5.) It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other governmental regulations, unless otherwise stated.

6.) Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, SCJ Alliance can neither guarantee nor be responsible for the accuracy of information.

7.) SCJ Alliance shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

8.) Loss or alteration of any part of this report will invalidate the entire report.

9.) If a tree risk assessment is included as part of this report, it shall be considered valid only for the stated period of time.

10.) Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any entity other than the person to whom it is addressed, without the prior expressed written or verbal consent of SCJ Alliance.

11.) Neither all nor any part of the contents of this report, or 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 or verbal consent of SCJ Alliance – particularly as to value conclusions, identity of SCJ Alliance, or any reference to any professional society or to any initialed designation conferred upon SCJ Alliance as stated in its qualifications.

12.) This report and any values expressed herein represent the opinion of SCJ Alliance, and the fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence neither of a subsequent event, nor upon any finding in to reported.

13.) Any sketches, diagrams, graphs, photographs, etc. referenced 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.

14.) Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the tree or other plant or property in question may not arise in the future.