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April 14, 2015

Matt Perkins
Quadrant Homes
14725 SE 35th St., Suite 200
Bellevue, WA
98006

RE: Tree Inventory Report for Parkwood Terrace property development, City of Woodinville.

Matt:

This Revised tree inventory report is provided as required by the City of Woodinville for Type III Tree Plans, and as specified in Chapter 21.15.060 addressing the following elements:

- A numbering system of existing significant trees (with corresponding tags on trees)
- Measured driplines
- Trunk size (dbh)
- Species and tree status (removed or retained)
- An indication for each tree of whether it is proposed to be retained or removed
- Limits of disturbance around viable trees
- Special instructions for work within their critical root zone (specified for retained trees)
- Location and type of protection measures for these (retained) trees
- Species rating
- Complete description of each tree's health and viability (see attached Tree Evaluation Data)
- The impact of necessary tree removal to remaining trees
- Discussion of timing and installation of tree protection measures
- The suggested location and species of supplemental trees to be used when required and planting and maintenance specifications pursuant to WMC 21.15.090 and 21.15.100.

1. Tree Inventory Information

Each tree has been evaluated with the survey in hand showing the numbers that were assigned to the trees during the survey to insure complete inventory. In total, 78 survey points pertaining to trees were evaluated on site. Of the 78 points, one has been assigned to a dead, downed log which is removed from the total for a revised number of 77. Of these, 7 are found to be non-viable and 12 are located within the NGPA for a total of 58 within the developable portion of the

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project site. Also during my site investigation, I gathered dripline information for trees just off-site with driplines that extend onto the developable portion of the project site. There are some adjacent to the stream, however, and since their driplines extend into an NGPA that is to be protected, I didn't see the need to gather information on these off-site trees. These trees (off-site, adjacent to the developable portion of the site) are addressed in section 6.0 of this report,

The accompanying tree evaluation data form provides information specific to each tree including the following:

- The number of each pertaining to the numbering system on the tree survey and to the tag on each tree.
- Tree species;
- Diameter at 4.5' above grade;
- Maximum dripline spread rounded up to nearest increment of 5 feet;
- Condition code (1-4);
- Condition notes specific to each tree (for viable trees in good condition and health and without defect, condition information is less specific, however, pertinent to each tree);
- Species Rating percentage as listed in Species Ratings for Landscape and Tree Appraisal, 2nd Edition, 2007, and
- Proposed fate of each tree (Retention or Removal) based upon condition and risk associated with retaining tree or development impacts.

2. General Site Conditions and Conditions of Note

The forest composition on the project site includes both native and non-native ornamental trees clearly planted by the property owners.

- Big-leaf maple (Acer macrophyllum)
- Norway maple (Acer platanoides)
- Red alder (Alnus rubra)
- Silver birch (Betula pendula)
- Lawson's cypress (Chamaecyparis lawsoniana)
- Apple (Malus domestica)
- Austrian black pine (Pinus nigra)
- London plane (Platanus acerfolia)
- Bittercherry (Prunus emarginata)
- Douglas fir (Pseudotsuga menziesii)
- Red oak (Quercus rubra)
- Western red cedar (Thuja plicata)
- American elm (Ulmus americana)

The trees within the NGPA will all be retained and protected through the protection of the NGPA itself.

3. Viability Discussion

In general, the forest is in fair condition with a few exceptions. There are only 7 non-viable trees in the developable portion of the property, most of which are red alders that are declining or dead. These trees are noted in the Tree Evaluation Data form.

4. Tree Credits Required and Provided

Per the WMC, the minimum tree density required for the lots and tracts on this project site is 30 credits per acre, and for the NGPE it is 60. The lots and tracts measure 2.06 acres requiring 61.74 credits. The NGPE measures 0.32 acres requiring 19.01 credits for a combined total of 80.75 credits. There are 339 tree credits on the project site. Of those, 7 trees with 13 credits are non-viable trees for a remaining total of 326 viable tree credits on site.

All but three trees within the lots (7015, 7169 and 7172) are proposed to be removed. The project proposes to retain 64.9 credits leaving 16 credits to be replaced. Following are the methods to satisfy the required density credits for the project from chapter 21.15.070(2)(e) of the WMC:

> (e) Supplemental Trees Planted to Meet Minimum Density Requirement. For sites and activities requiring a minimum tree density and where the existing trees to be retained do not meet the minimum tree density requirement, supplemental trees shall be planted to achieve the required minimum tree density.
>
> > (i) Tree Location. In designing a development and in meeting the required minimum tree density, the trees shall be planted in the following order of priority:
> >
> > > (A) On-Site. The preferred locations for new trees are:
> > >
> > > 1. In preserved groves, critical areas or their buffers.
> > >
> > > 2. Adjacent to storm water facilities as approved by the Public Works Director under Chapter 14.09 WMC.
> > >
> > > 3. Entrance landscaping, traffic islands and other common areas in residential subdivisions that have enough area to support a mature tree of that species, as listed in the City of Woodinville Plant Species List.
> > >
> > > 4. Site perimeter.

5. On individual residential building lots.

(B) Off-Site. When room is unavailable for planting the required trees on-site, or planting on-site would create nuisance or hazard trees, then they may be planted at another City Tree Official approved location in the City. The site chosen shall be in the same neighborhood, as designated in the Comprehensive Plan, as the subject site whenever possible.

(C) City Tree Fund. When the City Tree Official determines on-site and off-site locations are unavailable, then the applicant shall pay an amount of money approximating the current market value of the supplemental trees plus an additional 50 percent for maintenance, into the City tree fund.

(D) Alternative Compliance. If alternative compliance is proposed, the requirements of WMC 21.15.040 shall apply. The remaining tree credits required shall follow the steps outlined above in subsections (2)(e)(i)(A), (B), and (C) of this section.

(ii) Minimum Size and Tree Density Value for Supplemental Trees. The tree density shall be based on Table 21.15.070 with the multipliers described. The required minimum size of the supplemental tree shall be two-inch diameter-at-breast-height trees for deciduous and evergreen trees. The installation and maintenance shall be pursuant to WMC 21.15.090 and 21.15.100 respectively.

(iii) Tree Species for Supplemental Trees. The tree species chosen for supplemental trees shall either be trees of the same mix of species as the canopy that has been removed, or native species as listed in the Woodinville Plant Species List. Replacement trees shall be a mix of species.

Replacement can be provided through replacement trees or contributing to the City of Woodinville's City Tree Fund or a combination of the two methods.

5. Planting and Maintenance Specifications

The following tree planting and maintenance specifications, as required per WMC 21.15.090 and 21.15.100, are to be followed for supplemental trees to be used when required for development of the project site.

(1) All required trees shall be installed according to sound horticultural practices in a manner designed to encourage quick establishment and healthy plant growth. All required trees shall be installed in the ground and not in above-ground

containers. When an applicant proposes to locate a subterranean structure under required trees that appears to be at grade, the applicant will: (a) provide site-specific documentation prepared by a qualified expert to establish that the design will adequately support the long-term viability of the required trees; and (b) enter into an agreement with the City, in a form acceptable to the City Attorney, indemnifying the City from any damage resulting from development activity on the subject property which is related to the physical condition of the property. The applicant shall record this agreement with the County Recorder's Office.

(2) Compliance. It is the applicant's responsibility to show that the proposed tree plan complies with the regulations of this chapter.

(3) Timing. All trees shall be installed prior to the issuance of a certificate of occupancy or plat recording, except that the installation of any required tree may be deferred during the summer months to the next planting season, but never for more than six months. Deferred installation shall be secured with a performance security pursuant to Chapter 15.42 or 20.06 WMC prior to the issuance of a certificate of occupancy or plat recording.

(4) Grading. Berms shall not exceed a slope of two horizontal feet to one vertical foot (2:1).

(5) Soil Specifications. Soils in planting areas shall have adequate porosity to allow root growth. Soils which have been compacted to a density greater than one and three-tenths grams per cubic centimeters shall be loosened to increase aeration to a minimum depth of 24 inches or to the depth of the largest plant root ball, whichever is greater. Imported topsoils shall be tilled into existing soils to prevent a distinct soil interface from forming. After soil preparation is completed, motorized vehicles shall be kept off to prevent excessive compaction and underground pipe damage. The organic content of soils in any planting area shall be as necessary to provide adequate nutrient and moisture-retention levels for the establishment of plantings.

(6) Tree Selection.

(a) Tree selection shall be consistent with the City of Woodinville Plant Species List or the Critical Area Plant List if within a critical area or buffer, which is produced by the City's Development Services Department and available at City Hall.

(b) Trees shall be selected and sited to produce a hardy and drought-resistant landscape area. Selection shall consider soil type and depth, the amount of maintenance required, spacing, exposure to sun and wind, the slope and contours of the site, and compatibility with existing native vegetation preserved on the site. Preservation of existing vegetation is strongly encouraged.

(c) Prohibited Materials. Plants listed as prohibited in the Woodinville Plant

Species List are prohibited for required tree plantings. Additionally, there are other plants that may not be used if identified in the Woodinville Plant Species List as potentially damaging to sidewalks, roads, underground utilities, drainage improvements, foundations, or when not provided with enough growing space.

(d) All trees shall conform to American Association of Nurserymen (AAN) grades and standards as published in the American Standard for Nursery Stock Manual.

(e) Trees shall meet the minimum size standards established in other sections of the WMC.

(f) Multiple-stemmed trees may be permitted as an option to single-stemmed trees; provided, that such multiple-stemmed trees are at least 10 feet in height and that they are approved by the City Tree Official prior to installation.

(7) Fertilization. Fertilization of trees planted shall be by special approval of the City Tree Official only.

(8) Irrigation. Irrigation shall be required for any tree planting completed pursuant to this section. The intent of this standard is to ensure that plants will survive the critical establishment period when they are most vulnerable due to lack of watering. All required plantings must provide an irrigation system, using either Option 1, 2, or 3 or a combination of those options. For each option irrigation shall be designed to conserve water by using the best management techniques available. These techniques may include, but not be limited to: drip irrigation to minimize evaporation loss, moisture sensors to prevent irrigation during rainy periods, automatic controllers to ensure proper duration of watering, sprinkler head selection and spacing designed to minimize overspray, and separate zones for turf and shrubs and for full sun exposure and shady areas to meet watering needs of different sections of the trees. Exceptions, as approved by the City Tree Official, to the irrigation requirement may be approved xeriscape (i.e., low water usage plantings), plantings approved for low impact development techniques, established indigenous plant material, or where natural appearance is acceptable or desirable to the City. However, those exceptions will require temporary irrigation (Option 2 and/or 3) until established.

(a) Option 1. A permanent built-in irrigation system with an automatic controller designed and certified by a licensed landscape architect as part of the tree plan.

(b) Option 2. An irrigation system designed and certified by a licensed landscape architect as part of the tree plan, which provides sufficient water to ensure that the plants will become established. The system does not have to be permanent if the plants chosen can survive adequately on their own, once established.

(c) Option 3. Irrigation by hand. If the applicant chooses this option, an inspection will be completed by City staff one year after plat recording or certificate of occupancy to ensure that the trees have become established. Corrective actions pursuant to WMC 21.15.100 may be required at the time of the one-year inspection.

(9) Drainage. All planted areas shall have adequate drainage, either through natural percolation or through an installed drainage system. A percolation rate of one-half inch of water per hour is acceptable.

(10) Mulch.

(a) Required plantings shall be covered with two inches or more of organic mulch to minimize evaporation and runoff. Mulch shall consist of materials such as yard waste, sawdust, and/or manure that are fully composted.

(b) All mulches used in planter beds shall be kept at least six inches away from the trunks of shrubs and trees.

(11) Protection. All required trees must be protected from potential damage by adjacent uses and development, including parking and storage areas. Protective devices such as bollards, wheel stops, trunk guards, root guards, etc., shall be required as needed to protect required trees. (Ord. 481 § 11 (Att. F), 2009; Ord. 478 § 1 (Att. 1), 2009)

Tree maintenance requirements.

(1) The following maintenance requirements apply to all trees the City requires to be planted or preserved for projects subject to Tree Plan III and Tree Plan II:

(a) Responsibility for Regular Maintenance. Required trees shall be considered as elements of the project in the same manner as parking, building materials, landscaping, fences, walls, and other site details. The applicant, landowner, or successors in interest shall be responsible for the regular maintenance of required trees. Trees that die and are removed shall be replaced in kind by the property owner. The timing of the replacement planting shall be determined by the City Tree Official and a qualified tree professional.

(b) Maintenance Duration. Maintenance shall be ensured in the following manner except as set forth in subsections (1)(c) and (d) of this section:

(i) All required trees shall be maintained throughout the life of the development. Prior to issuance of a certificate of occupancy or plat recording, the proponent shall provide a final as-built tree plan and an agreement to maintain and replace all trees that are required by the City.

(ii) Any existing tree, tree designated for preservation, or planted tree

shall be maintained for a period of five years following issuance of the certificate of occupancy or plat recording for the individual lot or development. A maintenance guarantee pursuant to Chapter 15.42 or 20.06 WMC shall be secured to ensure the maintenance.

(c) Maintenance of Preserved Grove. Any applicant who has a grove of trees identified for preservation on an approved tree plan pursuant to WMC 21.15.060 shall provide prior to occupancy or plat recording the legal instrument acceptable to the City to ensure preservation of the grove and associated vegetation in perpetuity, except that the agreement may be extinguished if the City Tree Official determines that preservation is no longer appropriate.

(d) Non-native Invasive and Noxious Plants. It is the responsibility of the property owner to remove non-native invasive plants and noxious plants from the vicinity of any tree or other vegetation that the City has required to be planted or retained. Removal must be performed in a manner that will not harm the tree or other vegetation that the City has required to be planted or protected.

(e) Pesticides, Herbicides, and Fertilizer. The use of pesticides, herbicides or fertilizer shall be by special approval of the City Tree Official only.

(2) Tree Plans and Utility Plans. Tree plans and utility plans shall be coordinated. In general, the placement of trees should adjust to the location of required utility routes both above and below ground. Location of trees shall be based on the plant's mature size both above and below ground. See the Woodinville Plant Species List for additional standards.

(3) Tree Pruning. Topping or pruning to the extent that would constitute tree removal as defined in Chapter 21.06 WMC is not allowed. If a required tree smaller than six inches in diameter-at-breast-height is topped, it must be replaced pursuant to the standards in WMC 21.15.120. If a tree six inches or larger in diameter-at-breast-height is topped, the property owner may be subject to enforcement actions pursuant to WMC 21.15.120. Trees may be windowed or limbed up using best management practices. This method of tree pruning shall maintain the health of the tree.

(4) Table 21.15.100 – Pruning Techniques. The following techniques for healthy pruning shall be used. No permit is required for pruning; however, all pruning should be done under the direction of a qualified tree professional.

Healthy Pruning Techniques	Improper Pruning Techniques
Crown Cleaning – removing dead, dying, diseased, crowded, weakly attached, or low-vigor branches, in a manner that should not reduce the canopy.	**Topping –** the cutting of a trunk or main branch to the point where there is no branch large enough and vigorous enough to become the new leader.
Crown Thinning – selective removal of branches throughout the crown of the tree to improve interior light and air. Remaining branches should be well-distributed and balanced.	**Stripping –** removing the branches from the inner section of the trunk or branch. Can cause structural imbalances and potential failure.
Crown Raising – removal of the lower branches of the tree to provide height clearance, typically 8 feet for pedestrians and 16 feet for vehicles.	**Imbalance –** removing portions of the tree and creating an imbalance in the structure of the tree. Can cause cracking damage from the wind through twisting; or weak new growth.
Windowing – removing several branches symmetrically within an area of the tree's crown to enhance views.	**Excessive Pruning –** removing portions of the tree to a point where it can kill the tree. Can invite decay and disease.

6. Additional Information

The following additional information as required by City of Woodinville:

a. Analysis that removal of all the on-site trees is required.
b. Show the tree typing recommendation required in WMC 21.15.060(6).
c. Provide analysis on the viability of the trees left on neighboring properties after the site trees are removed.
d. Provide additional analysis regarding maximum number of trees each lot could support without creating a nuisance.
e. The arborist report essentially identifies all trees outside the NGPE as Type 3 trees. Revise the plans and report to protect trees that are outside of anticipated development activity of provide additional information that justifies removal of these trees.

<u>Tree Removal Requirement Analysis</u>

The development plan proposes removal of all the trees on the project site. The following development constraints prevent retention of any trees:

1. Features such as houses, driveways, patios, the internal roadway, required frontage improvements to the north and east and the detention facility all displace trees and require their removal;
2. Trees adjacent to significant excavation through their critical root zone, such as that for underground utilities and foundations, will be made non-viable as a result of the impacts and therefore are required to be removed;
3. Seven trees were found to be non-viable by virtue of their poor condition and/or health, diseased or dead and significant defects which would warrant them a high probability of risk if retained. Therefore all the trees in this category are required to be removed;

4. Grade adjustments including significant fills and cuts across the entire site will require the removal of any trees not-displaced by features, impacted by excavation or those found to be in poor condition and/or health, are diseased or dead.

Tree Typing Recommendation

The tree typing recommendation has been added to the Tree Evaluation Data form in a column titled Tree Type. All of the trees outside the NGPA fall into the type 3 category which includes trees that are either (a) not viable, or (b) in an area where removal is unavoidable due to the anticipated development activity and all of the trees within the NGPA are classified as Type 1 as they are to be set aside with retained vegetation in the NGPA tract.

Viability Analysis of Trees On Neighboring Properties

Following is my analysis of the viability of trees on adjacent properties that are included on the survey. Please note that I didn't conduct condition evaluations of the trees on neighboring properties and since viability of these trees must consider the existing conditions of the trees, the viability analyses conducted here are based only upon the proposed impacts on the project site adjacent to these trees.

There are seven trees just off-site of the eastern property boundary but all but one are far enough away that with the required setback from the lot lines, the excavation impacts will be well out of the range of impacting their critical roots. Even light grading to a depth of no more than 18" up to the property line will be acceptable as it won't result in considerable root damage and loss at a distance of at least 9 feet.

There is one tree that is within a foot of the boundary along the east side of lot 14. This tree is a young big-leaf maple, but with a low broad spread that would need to be pruned back in order to provide clearance on the lot for construction of the house. This is possible without affecting the health of this young vigorous tree. Because this tree is so close to the property boundary, protection fencing is to be installed along the property line to protect the trunk during construction.

Analysis of Maximum Number of Trees Each Lot Could Support

The building footprints haven't been specified, however, its assumed that they will maximize the buildable portion of each lot to the setbacks. The required setbacks are 10 feet from the frontage, where the driveways will be, 5 feet from the sides, 10 feet to the rear of lots on the northern and eastern sides of the plat and 5 feet to the rear of lots along the southern side of the plat. The 5 foot setbacks are too narrow to provide adequate clearance for crown growth of even small trees, therefore trees could only be planted in areas where the setbacks are 10 feet. In my opinion, the maximum number of small trees each lot could support will be between 2 and 3.

Type 3 Tree Removal Justifications

I was informed by The Blueline Group that trees outside the NGPA to be removed are expected to be affected by the anticipated development activity, which includes grading. Therefore, the affected trees are Type 3 as they are in an area where removal is unavoidable due to the anticipated development activity

7. Use of This Report and Limitations

This report is provided to Quadrant Homes as a means of reporting on the conditions of the evaluated trees on the Church property development project site in the City of Woodinville, WA. This report doesn't address any trees other than those evaluated in the field and presented in the Tree Evaluation Data Forms nor does in guarantee against damage caused by the failure of any tree, that retained trees or those not recommended for removal will live long into the future or that no damage will result from removal of these trees. Trees are dynamic and their conditions can change rapidly given changes in environmental factors and site development, therefore these assessments pertain only for those noted on the day of their evaluation. Natural decline and failure of trees is not predictable, therefore, Shoffner Consulting and Tony Shoffner cannot be held liable for retained trees that die or fail prior to or following development of the property. The removal of surrounding forest cover, particularly in the direction of prevailing winds, in this case the south and southwest, exposes trees to environmental factors to which many are not adapted. These trees along newly exposed edges to the prevailing winds are at increased risk of unpredictable failure. Removal of the trees is allowed for development of this site, therefore Shoffner Consulting and Tony Shoffner cannot be held liable for the failure of trees during or following development of the Slocum project site.

Cordially,

Tony Shoffner
ISA Certified Arborist #PN-0909A
CTRA #1759

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Tree #	Species	Dbh	DL	Cond	Dens	Mult	Total	Condition Notes and Removal Justifications	Sp.	Tree Type	Action
7003	ALRU	22	42	2	3.25	1	3.25	Somewhat sparse crown - Impacted by roadway construction and utility installation	45	Type 3	Rem - I
7004	ALRU	16	36	2	2.5	1	2.50	Somewhat sparse crown - Impacted by roadway construction and utility installation	45	Type 3	Rem - I
7005	ALRU	12	30	1	1.75	1	1.75	Somewhat sparse crown - Impacted by roadway construction and utility installation	45	Type 3	Rem - I
7006	ALRU	12	25	1	1.75	1	1.75	Somewhat sparse crown - Impacted by roadway construction and utility installation	45	Type 3	Rem - I
7007	ALRU	14	28	1	1.75	1	1.75	Somewhat sparse crown - Impacted by roadway construction and utility installation	45	Type 3	Rem - I
7008	ACPL	22	48	1	3.25	1.2	3.90	Good condition, health and vigor - Impacted/displaced by house construction	75	Type 3	Rem - I
7014	PSME	18	36	1	2.5	1	2.50	Good condition, health and vigor - Impacted/displaced by house construction	75	Type 3	Rem - I
7015	PSME	14	28	1	1.75	1	1.75	Good condition, health and vigor	75	Type 1	Retain
7028	THPL	52	44	2	16	1.2	19.20	In NGPA	90	Type 1	Retain
7030	ALRU	18	36	2	2.5	1	2.50	In NGPA	45	Type 1	Retain
7033	THPL	48	44	2	14	1.2	16.80	In NGPA	90	Type 1	Retain
7034	ULAM	20	62	2	3.25	1	3.25	In NGPA	45	Type 1	Retain
7058	ACPL	22	58	2	3.25	1.2	3.90	In NGPA - Significant dripline encroachment with surface impacts and installation of improvement features	75	Type 3	Rem - I
7059	ACPL	14	56	1	1.75	1.2	2.10	In NGPA - Impacted/displaced by house construction	75	Type 3	Rem - I
7060	BEPE	14	38	3	1.75	0.75	1.31	In NGPA - Impacted/displaced by house construction	50	Type 3	Rem - I
7061	PSME	42	42	2	10	1	10.00	In NGPA - Impacted/displaced by house construction	75	Type 3	Rem - I
7062	PSME	44	42	2	12	1	12.00	Generally good condition, large and old - Impacted/displaced by house construction	75	Type 3	Rem - I
7064	PLAC	26	52	1	4	1.2	4.80	Good condition, health and vigor - Removed for grading and retaining wall impacts	70	Type 3	Rem - I
7069	PRCE	14	32	4	1.75	0.75	**1.31**	Crown dieback and trunk decay - Remove due to poor condition	60	Type 3	Rem - C
7074	ALRU	14	30	2	1.75	1	1.75	In NGPA	45	Type 1	Retain
7085	PSME	14	22	1	1.75	1	1.75	Good condition, health and vigor - Vault construction and installation impacts displace this tree	75	Type 3	Rem - I
7086	PSME	14	22	1	1.75	1	1.75	Good condition, health and vigor - Vault construction and installation impacts displace this tree	75	Type 3	Rem - I
7087	PSME	10	16	1	1.25	1	1.25	Good condition, health and vigor - Vault construction and installation impacts displace this tree	75	Type 3	Rem - I
7088	PSME	10	16	1	1.25	1	1.25	Good condition, health and vigor - Vault construction and installation impacts displace this tree	75	Type 3	Rem - I
7093	THPL	30	40	2	6	1.2	7.20	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7094	THPL	34	40	2	7	1.2	8.40	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7096	LOG	N/A		N/A			0.00	This tree is a downed dead log		N/A	N/A
7097	THPL	32	36	1	6	1.2	7.20	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7098	THPL	24	36	3	4	1.2	4.80	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7099	THPL	26	38	1	4	1.2	4.80	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7100	ACMA	mt24	62	2	4	1.2	4.80	Good condition, health and vigor - Impacted/displaced by house construction	60	Type 3	Rem - I
Tree #	**Species**	**Dbh**	**DL**	**Cond**	**Dens**	**Mult**	**Total**	**Condition Notes and Removal Justifications**	**Sp.**	**Tree Type**	**Action**

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7101	THPL	34	42	2	7	1.2	8.40	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7102	THPL	36	38	2	8	1.2	9.60	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7103	THPL	26	36	1	4	1.2	4.80	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7104	THPL	26	34	1	4	1.2	4.80	Good condition, health and vigor - Impacted/displaced by house construction	90	Type 3	Rem - I
7105	PSME	28	44	1	5	1	5.00	Good condition, health and vigor - Impacted/displaced by house construction	75	Type 3	Rem - I
7106	THPL	30	38	1	6	1.2	7.20	Good condition, health and vigor - Removed for grading and retaining wall impacts	90	Type 3	Rem - I
7107	PSME	30	42	1	6	1	6.00	Good condition, health and vigor - Removed for grading and retaining wall impacts	75	Type 3	Rem - I
7108	ULAM	14	48	1	1.75	1.2	2.10	Good condition, health and vigor - Impacted/displaced by house construction	45	Type 3	Rem - I
7109	PREM	18	38	2	2.5	0.75	1.88	Good condition, health and vigor - Removed for grading and retaining wall impacts	60	Type 3	Rem - I
7110	ACPL	12	46	1	1.75	1.2	2.10	Good condition, health and vigor - Removed for grading and retaining wall impacts	75	Type 3	Rem - I
7113	ACPL	16	44	1	2.5	1.2	3.00	Good condition, health and vigor - Removed for utility impacts and installation.	75	Type 3	Rem - I
7115	ACPL	20	62	1	3.25	1.2	3.90	Good condition, health and vigor - Impacted by house construction and site grading	75	Type 3	Rem - I
7116	PRCE	28	45	3	5	0.75	3.75	Somewhat sparse crown and limb decay - Damaged and displaced by road installation impacts	75	Type 3	Rem - I
7119	THPL	40	44	2	10	1.2	12.00	Generally good condition, large and old Damaged and displaced by road installation impacts	90	Type 3	Rem - I
7120	ACPL	18	58	1	2.5	1.2	3.00	Good condition, health and vigor - Impacted/displaced by house construction	75	Type 3	Rem - I
7121	PLAC	20	55	1	3.25	1.2	3.90	Good condition, health and vigor - Impacted/displaced by house construction	70	Type 3	Rem - I
7122	QURU	30	74	1	6	1.2	7.20	Generally good condition, large and old Damaged and displaced by road installation impacts	90	Type 3	Rem - I
7123	CHLA	20	18	1	3.25	0.75	2.44	Good condition, health and vigor - Vault construction and installation impacts displace this tree	55	Type 3	Rem - I
7124	CHLA	8	22	1	3.25	0.75	2.44	Good condition, health and vigor - Vault construction and installation impacts displace this tree	55	Type 3	Rem - I
7125	CHLA	14	18	1	1.75	0.75	1.31	Good condition, health and vigor - Impacted by house construction	55	Type 3	Rem - I
7126	PINI	16	22	2	3.25	0.75	2.44	Good condition, health and vigor - Road installation displaces this tree	80	Type 3	Rem - I
7127	CHLA	26	24	1	4	0.75	3.00	Good condition, health and vigor - Impacted by house construction	55	Type 3	Rem - I
7136	PSME	20	42	1	3.25	1	3.25	Good condition, health and vigor - Impacted by house construction and site grading	75	Type 3	Rem - I
7137	PSME	20	38	1	3.25	1	3.25	Good condition, health and vigor - Impacted by house construction and site grading	75	Type 3	Rem - I
7147	THPL	40	42	1	10	1.2	12.00	Good condition, health and vigor - Road and utility installation impacts displace this tree.	90	Type 3	Rem - I
7148	THPL	38	42	1	9	1.2	10.80	Good condition, health and vigor - Road and utility installation impacts displace this tree.	90	Type 3	Rem - I
7149	THPL	50	44	1	14	1.2	16.80	Good condition, health and vigor - Road and utility installation impacts displace this tree.	90	Type 3	Rem - I
7150	PSME	12	18	1	1.75	1	1.75	Good condition, health and vigor - house installation and construction displace this tree	75	Type 3	Rem - I
7169	ALRU	12	34	1	1.75	1	1.75	Good condition, health and vigor	45	Type 1	Retain

7170	PSME	16	34	1	2.5	1	2.50	Good condition, health and vigor - house installation and construction displace this tree	75	Type 3	Rem - I
7171	PREM	12	34	1	1.75	0.75	1.31	Good condition, health and vigor - house installation and construction displace this tree	60	Type 3	Rem - I
Tree #	**Species**	**Dbh**	**DL**	**Cond**	**Dens**	**Mult**	**Total**	**Condition Notes**	**Sp.**	**Tree Type**	**Action**
7172	THPL	40	40	2	10	1.2	12.00	Generally good condition, large and old	90	Type 1	Retain
7173	THPL	18	34	2	2.5	1.2	3.00	Good condition, health and vigor - house installation and construction displace this tree	90	Type 3	Rem - I
7174	ALRU	14	N/A	4	1.75	1	**1.75**	Terminal dieback and overall decline - This tree is removed due to poor condition	45	Type 3	Rem - C
7183	ALRU	14	30	2	1.75	1	1.75	In NGPA	45	Type 1	Retain
7188	ALRU	12	32	2	1.75	1	1.75	In NGPA	45	Type 1	Retain
7189	ALRU	12	30	2	1.75	1	1.75	In NGPA	45	Type 1	Retain
7190	MADO	24	14	2	4	0.75	3.00	Generally good condition, large and old - Site grading impacts and damage to this tree require its removal.	N/A	Type 3	Rem - I
7191	MADO	14	16	2	1.75	0.75	1.31	Good condition, health and vigor - house installation and construction displace this tree	N/A	Type 3	Rem - I
7195	MADO	12	16	2	1.75	0.75	1.31	Generally good condition, large and old - Displaced by Tract Road	N/A	Type 3	Rem - I
7200	ALRU	14	30	3	1.75	1	1.75	Good condition, health and vigor - house installation and construction displace this tree	45	Type 3	Rem - I
7201	ALRU	16	35	3	2.5	1	2.50	Good condition, health and vigor - house installation and construction displace this tree	45	Type 3	Rem - I
7202	ALRU	14	N/A	4	1.75	1	**1.75**	Good condition, health and vigor - house installation and construction displace this tree	45	Type 3	Rem - C
7203	ALRU	16	N/A	4	2.5	1	**2.50**	Good condition, health and vigor - house installation and construction displace this tree	45	Type 3	Rem - C
7204	ALRU	14	N/A	4	1.75	1	**1.75**	Good condition, health and vigor - house installation and construction displace this tree	45	Type 3	Rem - C
7208	ALRU	12	N/A	4	1.75	1	**1.75**	Good condition, health and vigor - house installation and construction displace this tree	45	Type 3	Rem - C
7209	ALRU	14	N/A	4	1.75	1	**1.75**	Good condition, health and vigor - house installation and construction displace this tree	45	Type 3	Rem - C
7213	ALRU	14	32	3	1.75	1	1.75	Good condition, health and vigor - house installation and construction displace this tree	45	Type 3	Rem - I

Off-Site Trees to East

OS1	ACMA	12	36	N/A	N/A	N/A	N/A	<1' off-site. See report for impact assessment and protection.	N/A	N/A	N/A
OS2	PSME	14	22	N/A	N/A	N/A	N/A	17' off-site. No impacts.	N/A	N/A	N/A
OS3	ALRU	12	24	N/A	N/A	N/A	N/A	17' off-site. No impacts.	N/A	N/A	N/A
OS4	PSME	16	26	N/A	N/A	N/A	N/A	17' off-site. No impacts.	N/A	N/A	N/A
OS5	POTR	24	36	N/A	N/A	N/A	N/A	12' off-site. No impacts.	N/A	N/A	N/A
OS6	PSME	18	30	N/A	N/A	N/A	N/A	11' off-site. No significant impacts.	N/A	N/A	N/A
OS7	PREM	18	36	N/A	N/A	N/A	N/A	9' off-site. No significant impacts.	N/A	N/A	N/A

EXHIBIT 15
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Tree Codes:

ACMA=Acer macrophyllum (big-leaf maple)
ACPL=Acer platanoides (Norway maple)
ALRU=Alnus rubra (red alder)
BEPE=Betula pendula (silver birch)
CHLA=Chamaecyparis lawsoniana (Lawson's cypress)
MADO=Malus domestica (apple)
PINI=Pinus nigra (Austrian black pine)
PLAC = Platanus acerfolia (London Plane)
PREM=Prunus emarginata (bittercherry)
PRCE=Prunus cerasifera (Thundercloud plum)
PSME=Pseudotsuga menziesii (Douglas fir)
QURU=Quercus rubra (red oak)
THPL=Thuja plicata (western red cedar)
ULAM=Ulmus americana

Dbh = Diameter at 4.5' above grade; "mt" indicates multi-trunked and dbh listed is of largest leader
DL = Maximum dripline from tip to tip rounded up to the nearest five foot increment
Cond = Condition Codes:
1 = Excellent health condition and vigor
2 = Good condition, minor health and/or condition concerns
3 = Fair condition, moderate health and/or condition concerns associated with age and/or level of vigor or minor defects, adequate live
4 = Poor condition and/or health and major concerns with state of decline or presence of considerable decay in trunk(s), also includes dead
Dens = Density Credit - Density Credit Per City of Woodinville Municipal Code
Mult = Multiplier - Density Multiplier per City of Woodinville Municipal Code
Condition Notes = General notes on tree condition and defects
Sp. Rating = Species rating as listed in Species Ratings for Landscape and Tree Appraisal, 2nd Edition, 2007
Tree Type (Per WMC 21.15.060(6)
Action = Remove due to condition (RemC) or Remove due to impacts (RemI)
Credits Required: 129,754 s.f./43560 = 2.98 Acre x 30 credits per acre = 89.4 credits required
Total Tree Credits on Site 339
Total Viable Tree Credits 326
Tree Density Credits Provided = 64.9
Tree Density Credits Required to Replace = 24.5