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July 19, 2016

Planning Dept.
City of Lake Forest Park
17425 Ballinger Way NE
Lake Forest Park, WA 98155

Re: Arborist Review Tree Permit #2016-ARP-0012, Review and Recommendations
Site: Home Heroes 7, LLC property, 195XX 53rd Ave NE, Lake Forest Park, WA 98155.

The tree removal application was checked for compliance with the standards and requirements pursuant to Chapter 16.14 LFPMC. On July 15, 2016 I conducted a site inspection and tree inventory. The Site Plan drawings for the proposed project were used to assist with my task. This report outlines my findings, conclusions, and recommendations.

Proposed Activity

There are seven (7) trees either proposed or recommended for removal to allow construction of a single family residence on the property, refer to Site Plan provided by applicant.

Methods

I conducted my tree inspection and evaluation for the trees following the protocol of the International Society of Arboriculture (ISA) for Visual Tree Assessment (VTA) that employs a visual and non invasive inspection of the overall health and external condition of each tree and site conditions. I also conducted a basic level tree risk assessment, adhering to tree care industry standards, protocols and practices set by the American National Standards Institute (ANSI), and the International Society of Arboriculture (ISA), that employs a 360-degree, ground- based detailed visual and non-invasive inspection of a tree, including tree crown, trunk, trunk flare, above ground roots and site conditions around the tree in relation to targets. The time frame for tree risk assessments, the period in which estimating the likelihood of failure, is generally 1-5 years, unless otherwise noted. The time frame for risk categorization should not be considered a guarantee period for the risk assessment.

All significant trees, (a tree that is 6.0" in diameter at breast height (DBH), 4.5 feet above grade, were inspected and assessed for species, size, health and structural condition, critical root zone, and drip line, see *Attachment: Table of Trees*. Trees within the restricted sensitive buffer area were not inventoried.

All inspected trees were tagged with aluminum tree tags stapled at approximately six feet above grade. Trees are numbered #1 through #21, beginning with Tree #1 located at the east end of the lot on the north side of the driveway on the adjacent lot, and continuing west around the lot ending with Tree #21. Not all significant trees are identified or shown on the Site Plan. Approximate locations of all inventoried trees are shown on Appendix A: *2013 Aerial Site Photo*.

Findings

Site

This is an undeveloped single-family, wooded residential lot, 12,484 square feet in size. The tree canopy coverage goal for this size lot, pursuant to Chapters 16.14.080, is 39% (4,868 sq. ft.). The current canopy coverage is approximately 64% (7,984 sq. ft.), as determined either by collected tree data and/or interpretation of high resolution aerial photography, see Appendix A: *2013 Aerial Site Photo*.

Subject Trees

There are twenty one (21) individual significant trees on the lot including those on the common property lines, excluding trees located in the restricted sensitive buffer area. There are seven (7) trees proposed and recommended for removal to allow for the proposed construction activities. See *Attachment: Table of Trees*, for complete inventory and assessment.

The 7 trees proposed and recommended for removal are:

- Trees numbered 17, 18, 19 and 20, and 21 to allow for the construction of the new driveway and house as planned.
- Trees 6 and 7, located north of the existing driveway, along the common property line, are both in poor condition and pose a moderate level of risk to the residence at 19523. Both trees should be removed to avoid near term risk.

The shared canopy spread area for Trees 6 and 7 is approximately 600 SF and the shared canopy spread area for Trees 17 and 18 is approximately 600 SF. The canopy spread area for Tree 19 is 800 SF and for Tree 20 the area is 600 SF and for Tree 21 the area is 800 SF. The total canopy area for the 7 tree proposed for removal is approximately 3,400 SF.

There are 14 trees that have potential to be retained. They are generally in good overall health and condition and pose low risk. They are suitable to tolerate the proposed construction activities, provided the recommended tree protection measures are followed, see Appendix B: *Tree Protection Measures*. The trees proposed to retain are trees 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15 and 16.

Offsite tree A is located along the common property line on the east side of the lot. I recommend that a tree protection fence be placed in front of the tree, see Appendix B: *Tree Protection Measures*.

Tree Canopy Replacement

The current tree canopy coverage over the entire lot is approximately 7,984 sq. ft. (64%) The proposed tree removals will reduce tree canopy coverage that originates from trees on the lot by approximately 3,400 sq. ft. (27%). The total amount of retained tree canopy coverage, over the lot, will be approximately 4,584 sq. ft. (37%). Therefore, pursuant to Chapters 16.14.080 LFPMC, a Tree Replacement Plan is required to replace removed canopy coverage. Trees are required to be planted in sufficient numbers to replace 284 sq. ft. of tree canopy coverage to bring canopy coverage up to the 39% canopy coverage goal for the lot size, in 30 years.

Conclusion

The 7 trees proposed and recommended to be removed will allow the project to go forward safely, as planned. The 14 trees that will be retained, along with those located within the sensitive buffer area, provide economic and environmental benefits that are an asset to the owner and to the community as a whole and are worthy of the energy required preserving them.

Limitations

Tree risk assessment considers known targets and visible or detectable tree conditions. Unless expressed otherwise, information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. It must be realized that trees are living organisms and their health and vigor constantly change over time. They are not immune to changes in the site conditions or seasonal variations in the weather.

There is no warranty or guarantee expressed or implied that problems or deficiencies of the trees in question may not arise in the future. The report and conclusions expressed herein represent the opinion of Michael Woodbury d/b/a M. Woodbury Consulting Arborist.

Please contact me should you have questions regarding this report.

Respectfully submitted,

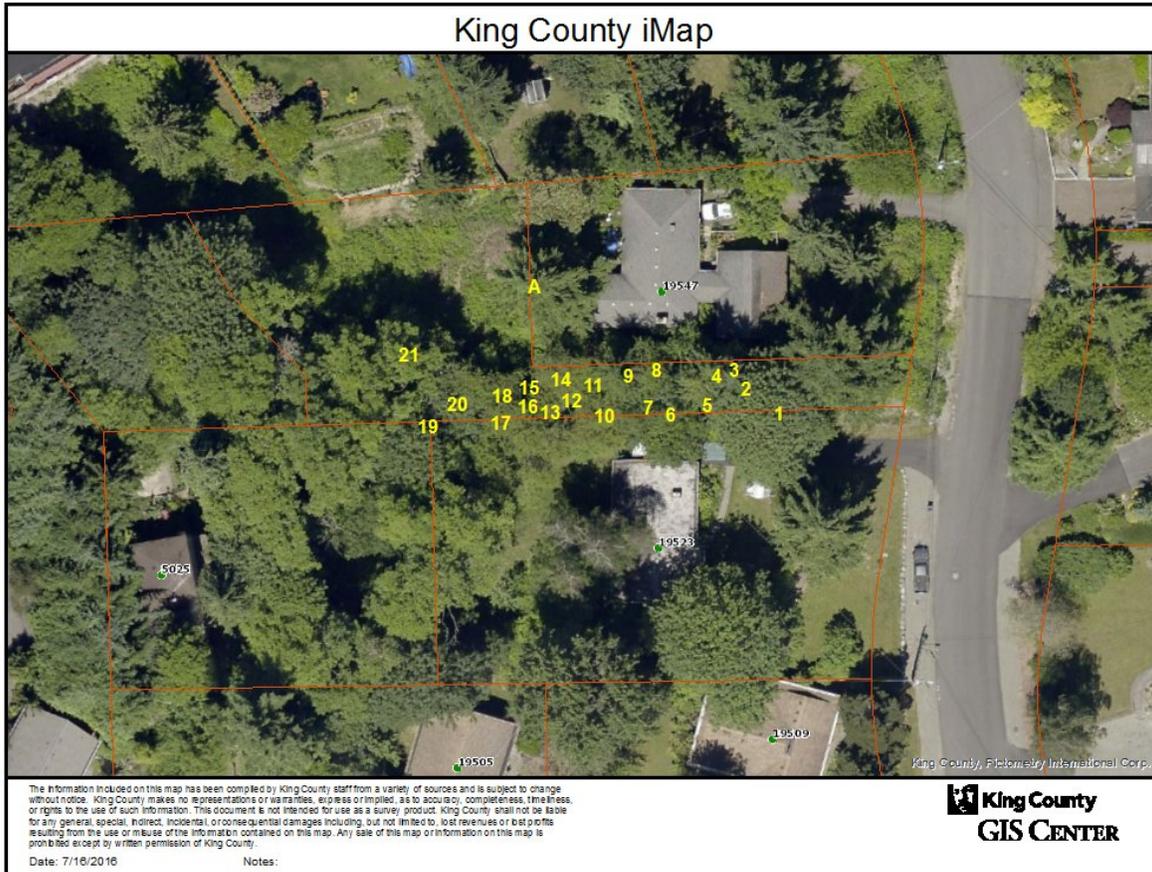
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**Appendix A: 2013 AERIAL SITE PHOTO
195XX 53rd Ave NE
Lake Forest Park, WA**



Locations of inventoried trees.

Trees to Remove: 6,7, 17,18,19,20,and 21.

Trees to Retain: 1,2,3,4,5,8,9,10,11,12,13,14,15, and 16.

Attachment: Tree Protection Measures

In order for trees to survive the stresses placed upon them in the construction process, tree protection must be planned in advance of equipment arrival on site. If tree protection is not planned integral with the design and layout of the project, the trees will suffer needlessly and will possibly die. With proper preparation, often costing little, or nothing extra to the project budget, trees can survive and thrive after construction. This is critical for tree survival because damage prevention is the single most effective treatment for trees on construction sites. Once trees are damaged, the treatment options available are limited.

The following minimum Tree Protection Measures are:

The 13 trees to be retained are all located north of the proposed access driveway and they can be protected with a single continuous Tree Protection Fence (TPF).

1. Starting at point east of Tree 1, located along the existing driveway on adjacent lot 19523, and continuing west to where the new access driveway turns north, install a continuous TPF, of polyethylene laminar safety fencing material, a minimum of 4 feet high and supported by metal fence posts, spaced approximately 4 feet apart, 10 feet from the trunk of the trees. Installation of the TPF facing the construction zone shall be as close to the edge of work as feasible, if less than the recommended 10 feet.
2. The area within the tree protection fencing is the Tree Protection Zone (TPZ) and nothing must be parked or stored within the TPZ; no equipment, vehicles, soil, debris, or construction supplies of any sorts.

Offsite Tree A, can be protected with a semi-circular Tree Protection Fences (TPF).

1. Install continuous semi-circular TPF, of polyethylene laminar safety fencing material, a minimum of 4 feet high and supported by metal fence posts, spaced approximately 4 feet apart, in a radial arc 15 feet from the trunk of the tree. Installation of the TPF facing the construction zone shall be as close to the edge of work as feasible, if less than the recommended 15 feet. Installation of the TPF facing the construction zone shall be as close to the edge of work as feasible, if less than the recommended 15 feet.
2. Place a layer of mulch, woodchips are recommended, at least 4" in depth covering the area within the TPF.
3. The area within the tree protection fencing is the Tree Protection Zone (TPZ) and nothing must be parked or stored within the TPZ; no equipment, vehicles, soil, debris, or construction supplies of any sorts.

The Tree Protection Fences need to be clearly marked with the following or similar text in four inch or larger letters:

**“TREE PROTECTION FENCE
DO NOT ENTER THIS AREA
DO NOT PARK OR STORE MATERIALS WITHIN THE PROTECTED AREA”
To report violations call the City of Lake Forest Park, 206-368-5440**

Refer to Figure 1: Tree Protection Fence diagram.

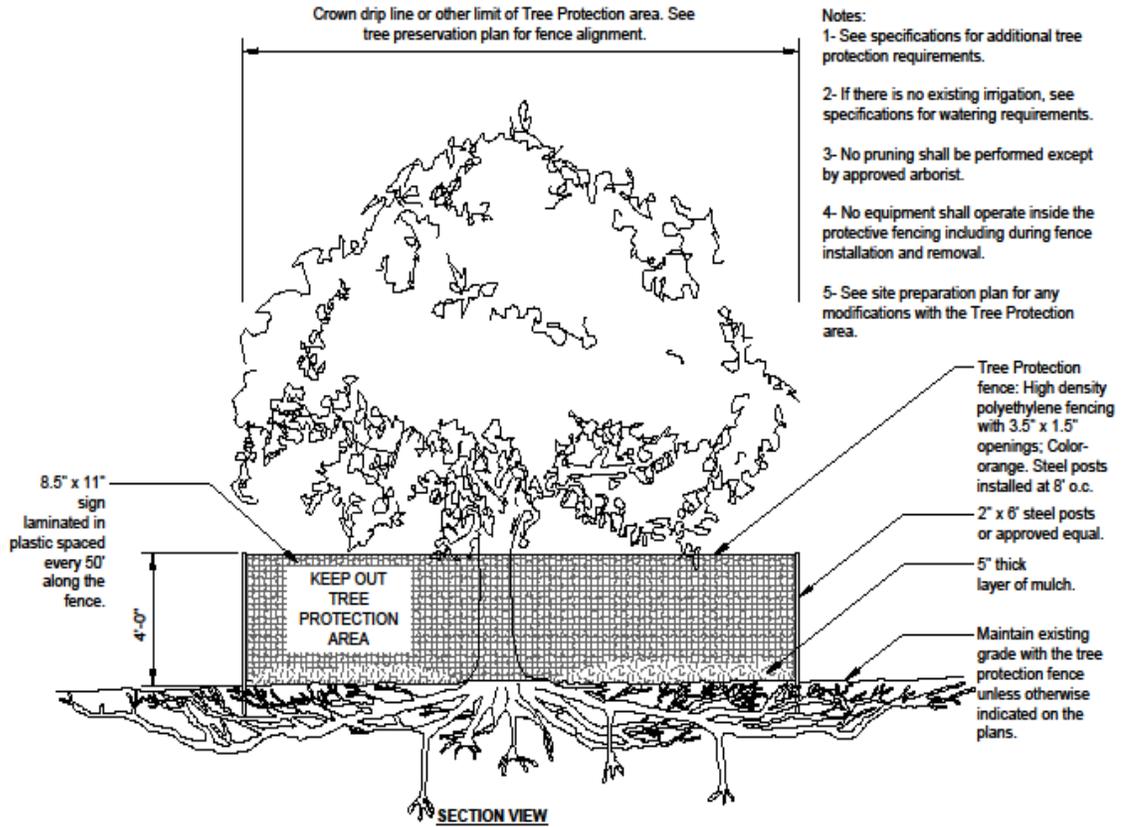
Additional Tree Protection Measures:

- During excavation roots over 1 inch in diameter can be cleanly cut back to the edge of disturbance using loppers. Roots over 2 inches in diameter shall be cleanly cut with a saws all saw.
- If pruning is needed for clearance, it should be done by a certified arborist or under his/her supervision. The construction crew should not perform the pruning task.
- Water the TPZ of the retained trees during the construction period.
- Other appropriate tree protection measures not withstanding to Chapter 16.14.090 LFPMC

Summary Timeline for Tree Protection Measures

1. Project crew to install tree protection fencing.
2. The City arborist to inspect tree protection fences and attend the pre-work meeting with the project and construction representatives.
3. The City arborist to make site visits during tree removal and demolition and during peak construction activities.
4. The City arborist to make a post - construction inspection and recommend post-construction tree maintenance treatments, as needed.

Figure 1: Tree Protection Fence.



S-X TREE PROTECTION

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