

September 7, 2017

Vinh Vuong
TP Home
5936 NE 3rd Ct,
Renton WA 98059
Tel. 206-390-5272

Via email: vinhvuong206@yahoo.com

Re: Monroe Townhomes: Arborist Report

The Watershed Company Reference Number: 170802

RECEIVED
06/27/2018
CITY OF MONROE

Dear Vinh:

We are pleased to present to you the findings of our tree inventory and assessment report for three parcels located at 16000 163rd St SE (parcels #00517300200400, and 27060200408100) in Monroe, Washington. Watershed Company ISA-Certified Arborist and Qualified Tree Risk Assessor (TRAQ) Kyle Braun visited the subject parcels on August 15th, 2017, to inventory and assess trees in the study area.

The tree information contained within this report is intended to serve as the basis for permitting documentation for your proposed site development project. Tree description including size, species and quality are also included. This information may help the design team avoid desirable trees or groups of trees that add character and landscape value. The following documents are enclosed:

- Tree Inventory Table
- Tree Inventory Sketch

Study Area

The subject area includes the two parcels referenced above. Parcel -0400 is Lot 1 and -8100 is Lot 2. These two parcels have been zoned as mixed use commercial (MUC) according to the Monroe Department of Planning and Permitting. Both parcels within the subject area contain large trees and vegetation that will be affected during site improvement. According to the Snohomish County Assessor's office, Lot 1 is 0.74 acres and Lot 2 is 1.13 acres.

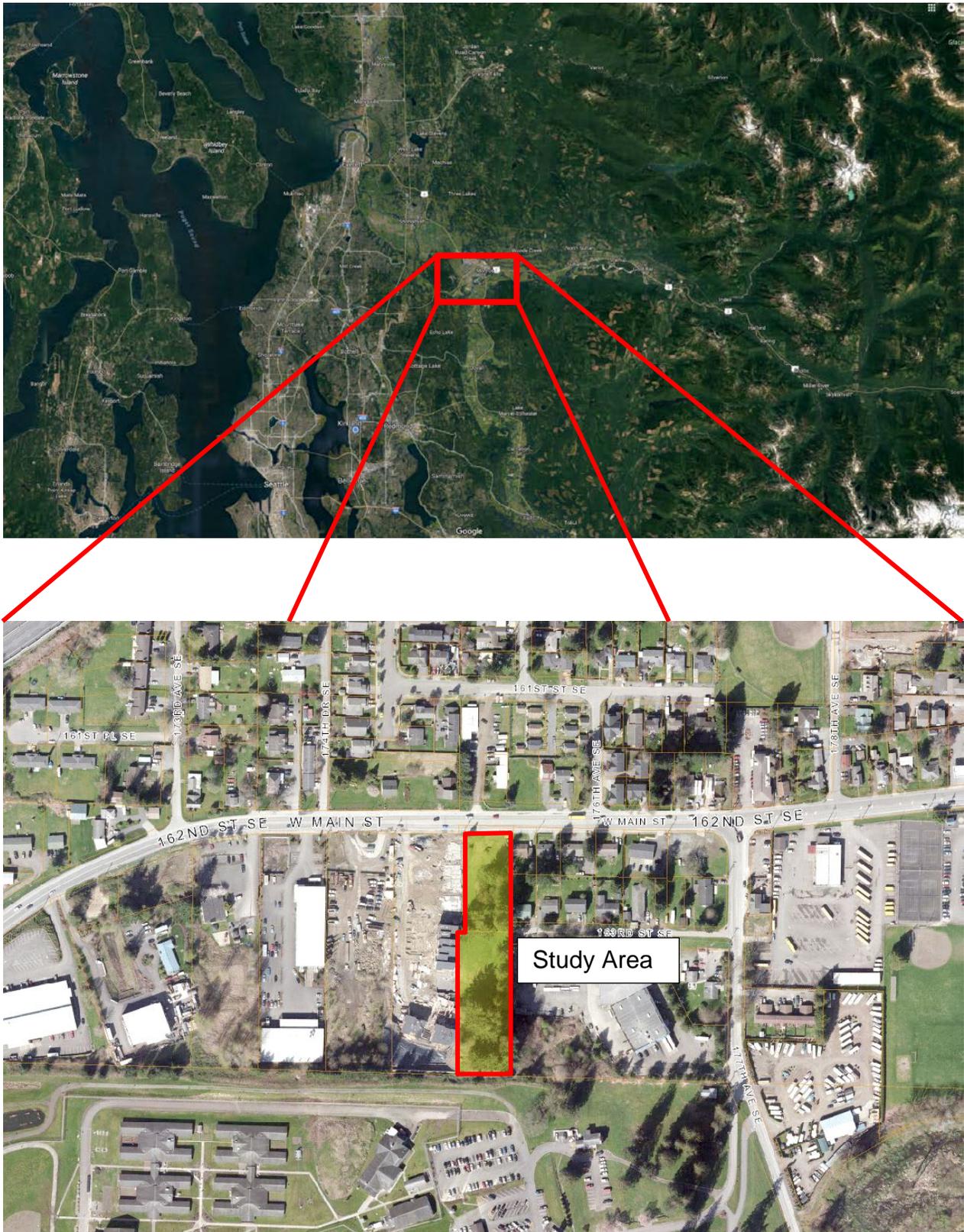


Figure 1 - Vicinity and overview map showing the location of the study area.

Methods

Subject trees within the study area were determined to be significant using the definition in the City of Monroe Municipal Code (MMC) section 18.02.200. The MMC defines a significant tree as “where the main stem or one stem of a multi-stemmed tree has a DBH (diameter at breast height) measurement of six inches or greater four and one-half feet above the ground.”

In general, tree diameter was measured at 4.5 feet above the ground surface (diameter at breast height, or “DBH”) using a graduated metal logger’s DBH tape. Trees with multiple trunks arising from the ground were measured using methodology from *The Guide for Plant Appraisal, 9th Edition* (Council of Tree & Landscape Appraisers, 2000). Briefly, the cross sectional areas of stems contributing to the canopy were summed and used to generate a singular combined DBH for the tree. The singular DBH number allows for comparison to other single-stemmed trees and for more accurate permitting and tree retention calculations.

Each assessed tree was tagged with a 1.25-inch aluminum tag that was affixed to the side of the tree at approximately eye level with a nail. Canopy radius is the average branch length from the trunk as measured with a tape measure; tree height is a visual estimate. A basic Level 1 visual assessment was used to evaluate the health and condition of trees at the site in accordance with the International Society of Arboriculture (ISA) standards. Trees were given a health rating in a range from 1-5 (Excellent-Severe).

Current Site Conditions

The subject parcels are located within the City of Monroe, at 16000 163rd St SE. The north side of 163rd St SE is composed of a mix of rural pasture and predominately coniferous forest. In general, the subject parcels contain 4th and some 3rd growth coniferous forest primarily dominated by Douglas-fir (*Pseudotsuga menziesii*). The site also contained some bigleaf maple (*Acer macrophyllum*), apple (*Malus domestica*), English walnut (*Juglans regia*), and bitter cherry (*Prunus emarginata*) trees. The forest in the north side of the site lacked a shrub understory, whereas the forested area at the southern end of the property had an understory comprised of red elderberry (*Sambucus racemosa*), English holly (*Ilex aquifolium*), salmonberry (*Rubus spectabilis*), sword fern (*Polystichum munitum*), trailing blackberry (*Rubus ursinus*), and bracken fern (*Pteridium aquilinum*). The open fields included non-native noxious weeds and pasture grasses common in disturbed sites.

Tree Inventory Results

A total of 74 trees were inventoried within the study area (see Enclosure) of those 74 trees, a total of eight species were noted. Douglas-fir is the most abundant significant tree with 60 total trees rooted throughout the study area. There are also three bigleaf maple, English walnut, and apple trees. These trees have a range from 25 to 85 feet tall with trunks between 6 and 50 inches DBH and form a canopy throughout the southern third of the study area.

Future considerations

The data contained in this report and in the survey of the tree locations will provide the basis for a tree removal and replacement plan, if needed, as part of the overall landscape plan. For considering which trees will be impacted during site design development, it is important to consider the critical root zone of existing trees. This is the zone where feeder and structural roots are abundant near the surface of the soil and can easily be damaged by grading, soil compaction and other construction activity. Although the critical root zone of a tree typically extends beyond its above-ground branch structure, canopy radius is a common proxy for the area. The canopy radius values for the subject trees are provided in the enclosed table. Tree impact analysis will be based both on proposed direct impacts (where grading requires the removal of the tree trunk) and impacts to the critical root zone (where grading only occurs within a portion of the critical root zone of the tree). Following site development, annual monitoring by an arborist should occur to document the response of retained trees to new site conditions.

Limitation of This Study

The findings of this report are based on the best available science and are limited to the scope, budget and site conditions at the time of the assessment. Although the information in this report is based on sound methodology, internal physical flaws (such as cracking or root rot) or other conditions that are not visible cannot be detected with this limited basic visual screening. Trees are inherently unpredictable. Even vigorous and healthy trees can fail due to high winds, heavy snow, ice storms, or rain.

This report is based on the current observable conditions and may not represent future conditions of the trees. Changes in site conditions, including clearing and grading, will alter the condition of remaining trees in a way that is not predictable.

The conclusions contained within this report have been made for permitting purposes only and are not intended for tree risk assessment purposes.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,



Kyle Braun, ISA, TRAQ, ASLA
ISA Certified Arborist PN-7866A, TRAQ



Figure 2– View of Douglas-fir row located along the western study area boundary.



Figure 3 – View looking north towards northern study area.

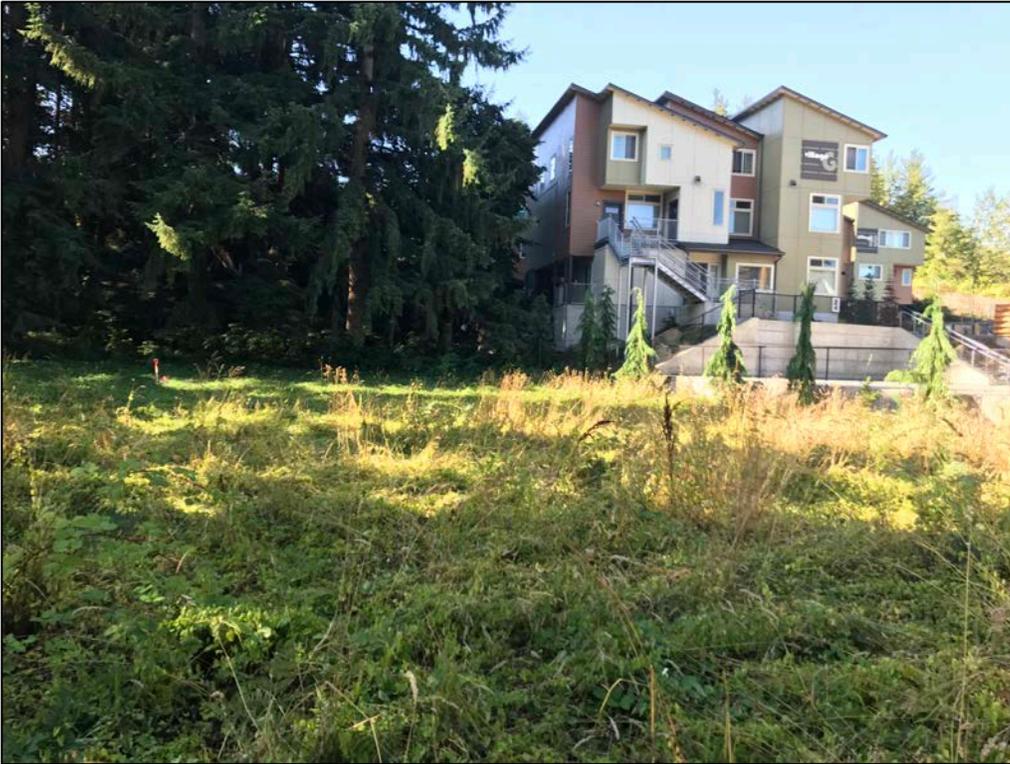


Figure 4 – View looking west towards newly constructed townhomes on the adjacent parcel.



Figure 5 – Photo of tree tag on Tree# 3117.



Figure 6 – Off-site maple that could be impacted by grading within study area.



Figure 7 – Southern slope that makes up the majority of the Douglas-fir canopy.



Monroe Townhomes - TP Home
17516 W Main St Monroe, WA 98272
 Parcel # 00517300200400, 27060200408100

Table Issued: 9/7/2017
 Site Visit: 8/15/2017

TAG #	TREE NAME	EV / DEC	# STEMS	COMB DBH (IN, ROUNDED)	HEIGHT (FT)	DRIPLINE BOUNDARY	CONDITION	NOTES
3101	Pseudotsuga menziesii (Douglas-fir)	E	1	19	70	15	Poor	
4769	Pseudotsuga menziesii (Douglas-fir)	E	1	26	70	18	Fair	Co-dominant at 81'
3137	Pseudotsuga menziesii (Douglas-fir)	E	1	34	75	25	Fair	
4693	Pseudotsuga menziesii (Douglas-fir)	E	1	24	75	20	Fair	
4772	Pseudotsuga menziesii (Douglas-fir)	E	1	18	65	14	Poor	
4777	Pseudotsuga menziesii (Douglas-fir)	E	1	16	65	16	Poor	
4694	Pseudotsuga menziesii (Douglas-fir)	E	1	27	75	25	Fair	
4690	Pseudotsuga menziesii (Douglas-fir)	E	1	21	75	20	Fair	
3080	Corylus cornuta (Beaked hazelnut)	D	10	11	35	25	Good	
4794	Pseudotsuga menziesii (Douglas-fir)	E	1	15	65	12	Poor	
290	Pseudotsuga menziesii (Douglas-fir)	E	1	25	75	20	Fair	
292	Pseudotsuga menziesii (Douglas-fir)	E	1	17	60	18	Poor	
294	Pseudotsuga menziesii (Douglas-fir)	E	1	31	80	25	Fair	
639	Pseudotsuga menziesii (Douglas-fir)	E	1	19	80	20	Fair	
3117	Pseudotsuga menziesii (Douglas-fir)	E	1	26	85	25	Fair	
3076	Pseudotsuga menziesii (Douglas-fir)	E	1	13	55	8	Severe	
3130	Pseudotsuga menziesii (Douglas-fir)	E	1	30	75	25	Fair	
3129	Pseudotsuga menziesii (Douglas-fir)	E	1	15	65	18	Poor	
295	Pseudotsuga menziesii (Douglas-fir)	E	1	35	85	25	Good	
646	Pseudotsuga menziesii (Douglas-fir)	E	1	31	70	25	Fair	Co-dominant at 20'
4896	Pseudotsuga menziesii (Douglas-fir)	E	1	34	65	25	Fair	Co-dominant at 20', included bark at attachment
293	Pseudotsuga menziesii (Douglas-fir)	E	1	34	70	25	Good	
296	Pseudotsuga menziesii (Douglas-fir)	E	1	27	80	25	Fair	
4788	Pseudotsuga menziesii (Douglas-fir)	E	1	26	85	25	Fair	
3114	Pseudotsuga menziesii (Douglas-fir)	E	1	33	80	28	Good	
700	Malus domestica (Apple)	D	1	13	25	18	Fair	
3075	Pseudotsuga menziesii (Douglas-fir)	E	1	36	55	25	Good	
644	Pseudotsuga menziesii (Douglas-fir)	E	1	30	55	25	Good	
4790	Pseudotsuga menziesii (Douglas-fir)	E	1	34	55	25	Fair	
3134	Pseudotsuga menziesii (Douglas-fir)	E	1	23	50	15	Good	Interior branch die-back
3132	Pseudotsuga menziesii (Douglas-fir)	E	1	35	50	20	Fair	Co-dominant at 20'
3127	Malus domestica (Apple)	D	3	13	55	15	Poor	
3131	Malus domestica (Apple)	D	2	13	55	15	Poor	
3100	Pseudotsuga menziesii (Douglas-fir)	E	1	32	55	20	Fair	
3097	Pseudotsuga menziesii (Douglas-fir)	E	1	22	55	20	Poor	
4791	Pseudotsuga menziesii (Douglas-fir)	E	1	21	55	20	Poor	
3106	Prunus Emarginata (Bitter cherry)	D	1	41	55	25	Fair	Co-dominant at 12'
3126	Pseudotsuga menziesii (Douglas-fir)	E	1	22	60	20	Poor	
3078	Pseudotsuga menziesii (Douglas-fir)	E	1	19	55	18	Poor	
3135	Pseudotsuga menziesii (Douglas-fir)	E	1	23	60	18	Poor	



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623	Pseudotsuga menziesii (Douglas-fir)	E	1	22	50	25	Fair	
643	Pseudotsuga menziesii (Douglas-fir)	E	1	12	40	15	Poor	
698	Pseudotsuga menziesii (Douglas-fir)	E	1	23	60	18	Poor	
3128	Pseudotsuga menziesii (Douglas-fir)	E	1	17	55	12	Poor	
4799	Pseudotsuga menziesii (Douglas-fir)	E	1	28	65	20	Poor	
1000	Pseudotsuga menziesii (Douglas-fir)	E	1	27	60	18	Poor	
4771	Pseudotsuga menziesii (Douglas-fir)	E	1	24	60	20	Poor	
4798	Pseudotsuga menziesii (Douglas-fir)	E	1	17	60	12	Poor	
665	Pseudotsuga menziesii (Douglas-fir)	E	1	18	70	18	Poor	
3079	Pseudotsuga menziesii (Douglas-fir)	E	1	16	65	15	Poor	
3136	Pseudotsuga menziesii (Douglas-fir)	E	1	28	80	25	Fair	
4785	Pseudotsuga menziesii (Douglas-fir)	E	1	31	85	25	Poor	
4774	Pseudotsuga menziesii (Douglas-fir)	E	1	37	85	25	Fair	
641	Pseudotsuga menziesii (Douglas-fir)	E	1	25	75	25	Poor	
4796	Pseudotsuga menziesii (Douglas-fir)	E	1	24	80	20	Poor	
699	Juglans regia (English walnut)	D	2	30	45	25	Good	
3120	Pseudotsuga menziesii (Douglas-fir)	E	1	27	75	18	Fair	
642	Pseudotsuga menziesii (Douglas-fir)	E	1	35	75	25	Fair	
621	Acer macrophyllum (Bigleaf maple)	D	1	25	65	25	Good	Co-dominant at 9', epicormics shoots
291	Pseudotsuga menziesii (Douglas-fir)	E	1	27	75	20	Poor	Co-dominant at 20'
297	Pseudotsuga menziesii (Douglas-fir)	E	1	26	85	18	Good	
3118	Pseudotsuga menziesii (Douglas-fir)	E	1	27	85	20	Fair	
3119	Pseudotsuga menziesii (Douglas-fir)	E	1	23	85	25	Fair	
3139	Pseudotsuga menziesii (Douglas-fir)	E	1	25	85	25	Fair	
3115	Pseudotsuga menziesii (Douglas-fir)	E	1	8	50	10	Fair	Poor trunk flare
OP-101	Acer macrophyllum (Bigleaf maple)	D	6	28	65	30	Good	Off property
OP-102	Robinia pseudoacacia (Black locust)	D	1	15	55	19	Fair	Split at 6'
OP-103	Acer macrophyllum (Bigleaf maple)	D	4	50	30	15	Fair	Previously pollarded, epicormics shoots
4768	Pseudotsuga menziesii (Douglas-fir)	E	1	34	60	25	Good	
299	Juglans regia (English walnut)	D	1	27	45	28	Good	Unknown deciduous, leaders split at 12"
3104	Juglans regia (English walnut)	D	1	27	55	25	Good	Unknown deciduous, leaders split at 12"
4671	Pseudotsuga menziesii (Douglas-fir)	E	1	6	25	10	Excellent	
298	Picea pungens (Colorado spruce)	E	1	13	35	12	Fair	Pruned from powerlines
3105	Prunus Emarginata (Bitter cherry)	D	1	14	35	18	Good	

