



January 22, 2025

Blake Turin

N8 Excavation

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Cell (503) 867-4456

Site address: Southeast Bornstedt Road & Maple St. Sandy, OR

Project: Bornstedt Views Housing Development - Sandy, OR

RE: The following report and tree evaluations are to determine the safety of the remaining trees on this site.

The information gathered in the site visits and discussed in the enclosed document will provide information regarding the tree risk issues with recommendations. If you have any questions or concerns regarding this report, contact arborist Mark Bourgeois or ArborPro Tree Experts at (503) 710-0815

Sincerely,

Mark W. Bourgeois, President
ISA Certified Arborist PN1562A
Certified Tree Risk Assessor
Member ISA – International Society of Arboriculture
Mailing Address: 3501 Willamette Falls Dr. West Linn OR 97068



Discussion:

On Jan. 14, 2025 I was contacted by Blake Turin with N8 Excavation regarding safety concerns with the remaining stands of trees on the Bornstedt Views site. Recently two mature hemlock trees uprooted and fell into the neighboring residential property. The concern that Blake and others associated with the project have is that the previous removal of a large stand of trees adjacent to the remaining ones has increased wind throw failure potential.

On January 15th and 17th arborists Ryan Queen and I evaluated trees on the site. Our primary focus was with the tree stand at the east side of the northern property line. In this section we inventoried and evaluated the condition of all trees here. In this section there are 14 trees that are in poor/hazardous condition that should be removed based on their obvious physical defects and failure potential. (See tree table for description of specific defects.) 11 of these are Douglas-fir (*Pseudotsuga menziesii*) and western hemlock (*Tsuga heterophylla*), and three of these are bigleaf maple (*Acer macrophyllum*). Trees with damaged or missing tags will be referred to by their physical location as it relates to the nearest landmark or legible tag. Poor condition conifers to be removed are numbers: 380, 376, 8' N of 1010, 374, tree that failed with 374, 432, 433, 15' W of 372, 367, and the 2 nurse stumps at SW corner of NW stand. Deciduous trees to be removed include: 373, 430, and 346.

Most of the trees in this NE section are easily within falling distance to the existing homes to the north and the homes proposed to be constructed to the south. The Majority of the large conifers in this narrow row of trees have very small live crown ratios (LCR). The LCR's of most of these large Fir and Cedar trees is about 20% remaining live limbs in the tops of these trees. This is normal for trees that grow together in a stand as lower limbs die back from shading as these trees grow. Structural supportive root systems are not well developed with trees in this situation. They don't need to be as their canopies protect each other from uprooting wind failure. Unfortunately, when large sections of a stand are removed trees on a windthrow edge, narrow rows of trees or standalone trees become vulnerable to failure. Considering the trees with significant defects, and those that have increased failure potential





from wind exposure, I would recommend the removal of this stand as uproot failure of these large trees have severe consequences to residents and their property. . Any trees that are in fair to good condition that do not have risk of hitting homes if they fail can be retained. New plantings with a mix of native species will help to revegetate this area by adding to the existing trees that will be retained. The tree inventory list does not include the smaller diameter trees, most of which are in good condition. These are mostly bigleaf maples, with some Douglas-fir, hemlock, and western redcedar (*Thuja plicata*).

A visual evaluation was conducted on the other stands along the north property line. Judging by the original tree map and the full canopies of these trees, these stands will have a lower risk of wind failure as their root structures are likely stronger and better adapted for the situation. One tree (143) in the middle stand along the north property line has fungal conks present on the lower stem from roughly 5 to 12 feet. The presence of these types of fungal conks commonly indicate a root disease in Douglas-fir trees. Root disease can spread to neighboring healthy trees while not presenting any suspicious signs. Core testing is recommended on neighboring trees (142 and 144) to ascertain presence or extent of root crown and lower trunk decay.

The westernmost stand along the north border has four western redcedars in various stages of severe decline with high failure potentials which we recommend removal (41, 43, 47, 49).

Northwest Section:

142	Douglas-fir	<i>Pseudotsuga menziesii</i>	30"	Good	Preserve	Test for root disease
143	Douglas-fir	<i>Pseudotsuga menziesii</i>	34"	Fair	Remove	Porodaedalea pini conks at lower trunk/Disease





144	Douglas-fir	<i>Pseudotsuga menziesii</i>	47"	Good	Preserve	Previous fill from adjacent development, Test for root Disease
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Middle section at North:

41	Western Red Cedar	<i>Thuja Plicata</i>	14, 10"	Very Poor	Remove	Dead
43	Western Red Cedar	<i>Thuja Plicata</i>	37"	Fair	Remove	Overtopped by adjacent trees, significant lean, codominant at ground level, decay at lower stems
47	Western Red Cedar	<i>Thuja Plicata</i>	14"	Fair	Remove	Significant bark damage at lower trunk





Tree Inventory

Tree#	Common name	Species	DB H (inches)	Condition	Preserve/Remove	Comments
171	Grand Fir	<i>Abies Grandis</i>	26"	Fair	Remove	Moderately thin crown
180	Douglas Fir	<i>Pseudotsuga menziesii</i>	22"	Fair	Remove	35 % LCR Marginal trunk taper
181	Big Leaf Maple	<i>Acer Macrophyllum</i>	11"	Fair	Remove	One sided overtopped by adjacent trees
182	Big Leaf Maple	<i>Acer Macrophyllum</i>	21"	Fair	Remove	Codominant at 4' with included bark, one sided, overtopped by adjacent trees
187	Douglas Fir	<i>Pseudotsuga menziesii</i>	37"	Fair	Remove	Moderately one sided
342	Douglas Fir	<i>Pseudotsuga menziesii</i>	41"	Fair	Remove	Moderately one sided
343	Scoulers Willow	<i>Salix Scouleriana</i>	14", 10", 9"	Fair	Remove	Codominant Excessive die back
344	Western Hemlock	<i>Tsuga Heterophylla</i>	14"	Fair	Remove	Growing on old stump
345	Douglas-Fir	<i>Pseudotsuga</i>	10"	Good	Preserve	





		<i>menziesii</i>				
346	Bigleaf maple	<i>Acer Macrophyllum</i>	24"	Poor	Remove	Decay cavity in lower trunk. Codominant upper trunks, both with major tear out wounds. Deadwood to 4". Shared root crown with 347
347	Bigleaf maple	<i>Acer Macrophyllum</i>	23"	Fair	Remove	Codominant upper stems. Deadwood to 3". 10° lean to the north. Shares root crown with 346. If 346 is removed, leave a high 20' to 30' stump to maintain living cambium. Low stump would eventually introduce decay into neighboring maple.
348	Western Hemlock	<i>Tsuga Heterophylla</i>	7"	Fair	Remove	Overtopped by adjacent trees, growing on old stump
349	Western Hemlock	<i>Tsuga Heterophylla</i>	20"	Good	Remove	
350	Douglas-fir	<i>Pseudotsugamenziesii</i>	17"	Fair	Remove	Previous co-dom stem torn out at 4'. Healed over well. LCR ~20%.
351	Douglas-fir	<i>Pseudotsugamenziesii</i>	44"	Good	Remove	One sided canopy (North). Deadwood up to 4"
352	Douglas-Fir	<i>Pseudotsugamenziesii</i>	28"	Good	Remove	Deadwood up to 3". LCR ~30%.
353	Douglas-Fir	<i>Pseudotsugamenziesii</i>	40"	Good	Remove	LCR ~40%. Deadwood up to 3".
354	Douglas-Fir	<i>Pseudotsuga</i>	45"	Good	Remove	Moderately one sided





		<i>menziesii</i>				
355	Douglas-Fir	<i>Pseudotsuga menziesii</i>	38"	Good	Remove	Moderately one sided
356	Bigleaf Maple	<i>Acer Macrophyllum</i>	8"	Good	Preserve	
357	Douglas-Fir	<i>Pseudotsuga menziesii</i>	29"	Good	Remove	One sided
358	Douglas-Fir	<i>Pseudotsuga menziesii</i>	33"	Good	Remove	One sided
359	Douglas-Fir	<i>Pseudotsuga menziesii</i>	34"	Good	Remove	One sided
By 360, 361	Douglas-Fir	<i>Pseudotsuga menziesii</i>	47"	Good	Remove	Deadwood to 3". LCR ~65%
360	Douglas-fir	<i>Pseudotsuga menziesii</i>	39" x 16" codom	Fair	Remove	Deadwood up to 4". ~30% LCR. Smaller codom stem has weak attachment, should be removed if tree is retained.
361	Hemlock	<i>Tsuga Heterophylla</i>	11"	Fair	Remove	Single sided canopy (North). LCR ~25%
362	Hemlock	<i>Tsuga Heterophylla</i>	8"	Fair	Remove	Canopy on S side only. Sparse, declining foliage. LCR ~20%
363	Douglas-Fir	<i>Pseudotsuga</i>	34"	Fair	Remove	Sparse foliage, tip dieback. Deadwood to 4". LCR ~25%





		<i>menziesii</i>				
364	Douglas-Fir	<i>Pseudotsuga menziesii</i>	52"	Fair	Remove	Codominant at 1' with included bark
8' W of 365	Douglas-Fir	<i>Pseudotsuga menziesii</i>	27" x 32" codom	Fair	Remove	Bark inclusion at co-dom. Split around root crown. LCR ~25%. Deadwood to 3"
366	Douglas-Fir	<i>Pseudotsuga menziesii</i>	40"	Fair	Remove	One sided
367	Hemlock	<i>Tsuga heterophylla</i>	18"	Poor	Remove	Undermined and exposed root crown. ~80% LCR.
8' E of 368	Bigleaf Maple	<i>Acer macrophyllum</i>	12.5"	Fair	Remove	Bowed lower stem. Previous top blowout. Significant deadwood.
368	Hemlock	<i>Tsuga heterophylla</i>	41"	Fair	Remove	~40% LCR. Large open cavity 30' up. Cavity dimensions ~12" wide and 36" long. Significant deadwood to 4" in lower half.
369	Bigleaf Maple	<i>Acer macrophyllum</i>	12"	Fair	Remove	Overtopped by adjacent trees, moderately suppressed
370	Western Hemlock	<i>Tsuga heterophylla</i>	30"	Dead	Remove	
371	Douglas-Fir	<i>Pseudotsuga menziesii</i>	29"	Good	Remove	40% LCR
15' W of 372	Hemlock	<i>Tsuga heterophylla</i>	29"	Poor	Remove	Dead





372	Bigleaf Maple	<i>Acer Macrophyllum</i>	20" x 10" MS	Fair	Remove	Some root crown separation. Poor structure. Included bark seams, one sided canopy (North)
373	Bigleaf Maple	<i>Acer Macrophyllum</i>	11" x 17" MS	Poor	Remove	Cavity and significant decay in root crown. 2 of 4 stems are dead. Poor structure. One sided canopy.
374	Hemlock	<i>Tsuga Heterophylla</i>	15"	Poor	Remove	Recently failed with 24" hemlock, number unknown.
375						
376	Hemlock	<i>Tsuga Heterophylla</i>	24"	Poor	Remove	~15' long vertical seam. At top of the seam tree is sloped at ~10°. Bark inclusion, likely rot. Sparse foliage.
377	Hemlock	<i>Tsuga Heterophylla</i>	31"	Good	Remove	Moderately one sided
378	Hemlock	<i>Tsuga Heterophylla</i>	17"	Very Poor	Remove	Dead
379	Douglas-Fir	<i>Pseudotsugamenziesii</i>	24"	Fair	Remove	Minor tip dieback, ~20% LCR, upper canopy only, mostly north side
380	Hemlock	<i>Tsuga Heterophylla</i>	13"	Poor	Remove	Severe Decline, dead limbs throughout canopy ~20% LCR
381	Douglas-Fir	<i>Pseudotsugamenziesii</i>	16"	Good	Remove	Moderately one sided, marginal trunk taper
382	Douglas-Fir	<i>Pseudotsugamenziesii</i>	13"	Good	Remove	Marginal trunk taper, overtopped by adjacent trees
383	Douglas-Fir	<i>Pseudotsuga</i>	30"	Good	Remove	50% LCR





		<i>menziesii</i>				
424	Bigleaf Maple	<i>Acer Macrophyllum</i>	13"	Fair	Remove	One sided, moderately thin crown
425	Western Hemlock	<i>Tsuga Heterophylla</i>	23"	Very Poor	Remove	Dead
426	Western Hemlock	<i>Tsuga Heterophylla</i>	10"	Very Poor	Remove	Dead
427	Western Hemlock	<i>Tsuga Heterophylla</i>	29"	Fair	Remove	One sided, moderately thin crown
428	Bigleaf Maple	<i>Acer Macrophyllum</i>	11"	Fair	Remove	Overtopped by adjacent trees, epicormic growth on lower trunk
429	Douglas-Fir	<i>Pseudotsuga menziesii</i>	39"	Good	Remove	50% LCR
430	Bigleaf Maple	<i>Acer Macrophyllum</i>	10"	Poor	Remove	25° lean. Dead top. Poor structure, only limb structure remaining is sucker growth
431	Bigleaf Maple	<i>Acer Macrophyllum</i>	9"	Fair	Remove	12" seam on lower stem. ~20% LCR. Poor structure. Very little taper. Significant bends throughout stem.
432	Hemlock	<i>Tsuga Heterophylla</i>	27"	Poor	Remove	Large root crown wounds. Surface rooting. One sided canopy (NW) sparse foliage. Significant tip dieback and decline.
433	Hemlock	<i>Tsuga Heterophylla</i>	23"	Poor	Remove	Mostly dead. Top broke out.
435	Hemlock	<i>Tsuga Heterophylla</i>	24"	Fair	Remove	One sided moderately thin crown





436	Douglas-Fir	<i>Pseudotsuga menziesii</i>	8"	Fair	Remove	Overtopped by adjacent trees, one sided suppressed
437	Douglas-Fir	<i>Pseudotsuga menziesii</i>	40"	Good	Remove	Moderately one sided
438	Bigleaf maple	<i>Acer Macrophyllum</i>	9"	Fair	Remove	Overtopped by adjacent trees, kinked lower trunk epicormic growth on lower trunk
439	Douglas-Fir	<i>Pseudotsuga menziesii</i>	26"	Good	Remove	40% LCR, moderately one sided, marginal trunk taper
448	Douglas-Fir	<i>Pseudotsuga menziesii</i>	31"	Good	Remove	Moderately one sided
449	Western Hemlock	<i>Tsuga heterophylla</i>	18"	Fair	Remove	Overtopped by adjacent trees, moderately one sided
453	Douglas-Fir	<i>Pseudotsuga menziesii</i>	34"	Fair	Remove	Moderately one sided
455	Douglas-Fir	<i>Pseudotsuga menziesii</i>	32"	Good	Remove	Crown extension, suppressed by adjacent trees
456	Bigleaf maple	<i>Acer Macrophyllum</i>	9"	Fair	Remove	Overtopped by adjacent trees Epicormic growth at lower trunk
1001	Douglas-Fir	<i>Pseudotsuga menziesii</i>	42"	Good	Remove	Deadwood up to 3". One sided canopy (North) ~50% LCR





15' W of 1001	Bigleaf maple	<i>Acer Macrop hyllum</i>	3", 5", 5", 6", 4", 4" MS	Fair	Preserve	Poor structure
Nurse stump at SW corner	Hemlock	<i>Tsuga Heterop hylla</i>	15"	Poor	Remove	Rooted on top of dead stump. Exposed root crown, declining canopy.
Nurse stump 2	Hemlock	<i>Tsuga Heterop hylla</i>	8"	Poor	Remove	Rooted on top of dead stump. Exposed root crown. Sparse foliage.
1008	Douglas-Fir	<i>Pseudotsuga menziesii</i>	12"	Poor	Remove	10' tall, failed stump
1010	Hemlock	<i>Tsuga Heterop hylla</i>	28"	Fair	Remove	Bark inclusion starting at base. Consider testing for root disease and decay. Black fungal growth at lower portion of seam. One sided canopy (North)
8' N of 1010	Hemlock	<i>Tsuga Heterop hylla</i>	25"	Poor	Remove	Mostly dead ~5% LCR

LCR = Live Crown Ratio



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1. Any legal description provided to the consultant is assumed to be correct. Titles and ownerships to property are assumed to be good and marketable. No responsibility is assumed for legal matters.
2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as feasible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
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