Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
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Technical Memorandum

To: **Ryan Kilby, Wiliams Investments** **File Number: 1778.0003**

From: **Jon Pickett, Soundview Consultants LLC** **Date: September 6, 2023**
Shauna Willett, Soundview Consultants LLC

Re: **Arborist Report and Tree Retention Plan**
51st Ave NE - 16430 51st Avenue Northeast, Arlington, Washington 98223

Dear Mr. Kilby,

Soundview Consultants LLC (SVC) is assisting Williams Investments (Applicant) with an Arborist Report and Tree Retention Plan for the proposed industrial development of a 19.37-acre site located at 16430 51st Avenue Northeast, in the City of Arlington, Washington. The subject property consists of one parcel situated in the Northeast ¼ of Section 28, Township 31 North, Range 05, W.M (Snohomish County Tax Parcel Numbers 31052800100700). SVC investigated the site to identify and assess trees within critical areas according to the standards of Arlington Municipal Code (AMC) 20.76 (Screening and Trees).

Purpose

The purpose of this Arborist Report and Tree Retention Plan is to evaluate the proposed project according to the tree retention standards of AMC 20.76. A tree assessment was conducted to survey a forested strip along the property boundary of the 19.37-acre site. An analysis of trees within this strip or windrow was made to identify trees to be retained and removed bordering the proposed development and associated infrastructure. It should be noted that the trees surveyed for this report exist on both Arlington and Marysville jurisdictions, however, for the purposes of this report, only the Arlington Municipal Code will be applied as it is the more restrictive of the two and provides more encompassing and detailed code requirements. Therefore, if the Arlington code requirements are met, then Marysville code requirements are also met.

Proposed Project

The Applicant proposes industrial development of the subject property and neighboring parcels (Snohomish County Tax Parcel Numbers 31052800400100 and 31052800400400) to include four warehouses, car and truck parking, new public access roads and internal site access, and associated infrastructure including stormwater management and utilities. The proposed project has been carefully designed to avoid and minimize impacts to the identified critical areas to the greatest extent feasible by utilizing all upland areas onsite and avoiding direct impacts to Hayho Creek and Wetland F, the highest functioning critical areas onsite. Minimization measures include locating stormwater infrastructure belowground to maximize developable uplands onsite and reorienting the warehouse adjacent to Wetland F and Hayho Creek in an east-west alignment which positions the high activity areas associated with truck courts and loading docks away from the critical areas. However, complete

avoidance of aquatic features is not possible due to the scattered distribution of wetlands and ditches throughout the subject property, the large spatial footprints required for industrial buildings and associated utilities, the required alignment for the new public roadways, and the presence of a natural gas line through the site which inhibits building construction. In order to accommodate the purpose and need for the industrial site development, the project requires the necessary and unavoidable fill of five low-functioning Category III and Category IV wetlands (Wetlands A- E) on the subject property.

Compensatory mitigation for direct impacts to Wetlands A through E onsite will be provided by onsite, in-kind wetland creation, rehabilitation, and enhancement utilizing the combination compensation ratios as outlined under MMC 22E.010.120(3) and in accordance with the interagency mitigation guidance (WSDOE et. al, 2021). Additional wetland and stream buffer restoration actions will occur to create new functioning buffer areas between the mitigation areas and proposed development. The proposed onsite, in-kind mitigation actions have been designed utilizing interagency guidance to ensure no net loss of ecological functions onsite of within the greater Snohomish watershed (WRIA 7) in accordance with MMC 22E.010.120(2). Please see the *Conceptual Mitigation Plan* prepared by SVC dated March 30, 2022, for a full description of the proposed project impacts and mitigation to the onsite critical areas.

Methods

The investigation consisted of a walk-through survey of the subject property to 1) determine location, size (diameter at breast height "DBH"), tree species and health (good, fair, poor, dead/dying) for significant trees, and 2) determine proximity, critical root zone (CRZ) and fall distance of trees to be retained in relation to the proposed development and its associated infrastructure. The tree assessment area was determined by the extent of the proposed development such that all trees that are proposed to be impacted or adjacent to the proposed clearing and grading were included in the assessment.

Significant trees were assessed based on the standards of AMC 20.76.120. Deciduous trees with a DBH of at least eight inches and evergreen trees with a DBH of at least twelve inches are deemed significant and shall be retained, unless the retention of such trees would unreasonably burden the development or cause a significant safety problem.

Trees were located using a high-accuracy Arrow 100 GNSS receiver unit and assigned a unique identification number. SVC's ISA Certified Arborist assessed each tree and recorded species identification, tree DBH, and observations of health and structural condition. Tree health and risk assessments were made using current methodology in accordance with the standards and practices of the International Society of Arboriculture ANSI 300.

To calculate a single DBH for multi-stemmed trees, vector magnitude was applied, whereby the square root of the sum of the squares of the diameters of the stems is used. For example, a multi-stemmed tree with diameter measurements of 12-, 15-, and 28-inches results in the square root of 1,153 which is 34 inches in diameter. The critical root zone is calculated as one foot radius per one inch of trunk diameter.

Tree condition ratings are based on the following criteria. Further details and definitions are provided in Attachment A.

> Good = Tree has no significant defects and is expected to survive without disturbance to its normal life expectancy.

Fair = Tree has either a minor or more substantial defect, either fungal decay or mechanical, that render it not likely to survive to normal life expectancy, depending on the species.

Poor = Tree has significant defects or mechanical issues that render it not likely to survive five years, depending on the species.

Dying = Tree is dying and lacks vigor.

Trees were categorized based on whether the trees will be retained along the property line or be removed if the trees or CRZ are located within the development footprint of the project site or if an impervious surface (pavement, building, etc.) will be located within twelve and one-half feet of any tree eighteen inches in diameter or more per AMC 20.76.120 (b). The number of trees onsite to be retained were based on location and observed metrics of direction of lean, structure and health.

Results

The results of this report include the identification and discussion of 44 trees ranging from 13 to 55 inches DBH located along the narrow treed northeast boundary. A total of 11 trees assessed are recommended for retention outside of the grading limits.

Out of the 44 surveyed significant trees on site, 31 were black cottonwood (*Populus balsamifera*), with the remaining 13 trees being comprised of quaking aspen (*Populus tremuloides*), Hooker's willow (*Salix hookeriana*), bitter cherry (*Prunus emarginata*), river birch (*Betula nigra*), white bark birch (*Betula papyrifera*), and red alder (*Alnus rubra*). Trees along the western portion of the inventoried area had been previously headed but were resprouting. Additional cottonwoods appear to have been headed at approximately 15 feet within the past decade but were not assessed as they were not considered of sufficient quality, size or species to be considered habitat snags. Along the northeastern portion of the inventoried area, a small stand of aspen trees are growing and expanding north, but only one out of approximately 200 was considered significant.

Tree Retention and Replanting Narrative

Per AMC 20.76.120, site development shall be sensitive to the preservation of significant trees, including the CRZ, and retain all significant trees unless the retention would unreasonably burden the development or cause a safety problem. For trees to be retained, no excavation or other subsurface disturbance may be undertaken within the CRZ where feasible, and no impervious surface may be located within twelve and one-half feet of any tree eighteen inches in diameter or more unless compliance would unreasonably burden the development. In addition, critical root zones shall be fenced prior to construction with orange plastic mesh fencing or approved equivalent. Any significant tree removed due to their unreasonable burden on the development shall be replaced with five-gallon-sized native species at a ratio of 3:1. If it is physically impossible to replant all replacement trees onsite, the loss of trees may be mitigated by either planting trees on public property within the city as approved by the community development director, and/or paying a mitigation fee into the city's tree mitigation in-lieu fund.

Four trees (Tree Numbers 3, 4, 12 and 27) are in poor condition and are recommended for removal as they may pose a risk to the proposed development to the north if they were to fail. An additional 15 trees contain codominant stems, multiple stems or have two stems that are basally joined (joined at the ground level) yet would be considered to be windfirm nonetheless as they have been exposed to strong winds without the protection of a surrounding forest for at least 30 years. However, the majority of the trees are black cottonwood trees which develop shallow root plates. As such, their

structural stability is at a considerable disadvantage if a significant portion of the root plate is disturbed or removed. Parking areas south of Buildings B, C and D to the southern parcel extents are proposed and include an additional seven feet of grading to the clearing limit. The impacts from the impervious surfaces and the angled grading limits encompass much of the area where the majority of the tree's roots are located. Although these trees act as a noise barrier, windbreak and provide habitat and sanctuary for birds and other animals, many will become structurally unstable with extensive impacts into their critical rooting zone. As such, 33 trees should either be removed (if cottonwoods) or turned into wildlife snags (all other species) where their rooting areas are extensively compromised (more than half of the CRZ).

A burgeoning aspen forest is establishing in and among this stand of trees. Although smaller in stature than the black cottonwood trees, they should be retained where feasible and permitted to continue growing throughout the area where the cottonwood trees will be removed. As approximately 200 aspen trees are growing in a cluster along the northeast parcel boundary of the windrow, a large number could be excavated with a backhoe, and transplanted in groups of 4 or more throughout this strip or elsewhere on site. Eleven trees are leaning to the south toward the vacant parcel, have sufficiently small trunk diameters whereby their rooting zones will be minimally impacted by the clearing limits or have sufficient canopy and rooting space and therefore should not pose a risk toward the proposed development even if they were to fail.

Where trees cannot be retained or transplanted, replacement will be required, either within this parcel boundary, within the reduced 100-foot buffer for Wetland F or the 150-foot buffer of Hayho Creek. Under AMC 20.76.120 (d) significant trees or significant stands of trees shall be replaced at a ratio of three to one. Therefore, 99 trees are required to be replanted or transplanted. Aspen trees or other tree species to be transplanted must be transplanted between October and March; roots must be immediately covered or situated within native soil, sufficiently watered in and/or temporary irrigation must be installed to avoid desiccation.

Closure

The purpose of this Arborist Report is to evaluate the proposed project according to the tree retention and replanting requirements of AMC 20.76.120. Construction impacts to trees should be avoided where feasible and assessed by a certified arborist to determine tree protection areas when grading near a tree's critical root zone.

All observations regarding trees in this report were made by a certified arborist based on education and professional experience. All determinations of health condition, structural condition, or hazard potential of a tree or trees at issue are based on current methodology and best available science. All health and hazard determinations are limited by the visual nature of the assessment. Defects may be obscured by soil, brush, vines, aerial foliage, branches, multiple trunks, or other trees. Even structurally sound, healthy trees are wind thrown during severe storms or fail due to other weather conditions. As such a determination is not a guarantee of sound health, or lack of risk.

The findings and conclusions documented in this assessment report have been prepared for specific application to the 51st Ave NE site. These findings and conclusions have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. The conclusions and recommendations presented in this report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule

of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this assessment may need to be revised wholly or in part in the future.

Any trees to be retained shall be in good health and free from damage and defects. During and following site clearing and construction activities, trees designated for retention that are determined to be unhealthy or damaged and pose a hazard shall be removed. Due to the inherent risk of failure from severe weather, undetectable and hidden disease, defect, and damage of the trees to be retained, Soundview Consultants LLC assumes no liability of bodily injury, death, or property damage resulting from failure of the trees to be retained. This plan is preliminary and based on preliminary site layout and design. The final tree retention plan is subject to change based on approved construction plans.

Sincerely,

CERTIFIED ARBORIST ISA ®
International Society of Arborculture

Shauna Willett
Certified Arborist #
WE-7452A

Jon Pickett
Principal

References

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Pojar and MacKinnon. 1994. *Revised Plants of the Pacific Northwest Coast: Washington Oregon, British Columbia & Alaska*. Lone Pine. Vancouver, British Columbia, Canada.

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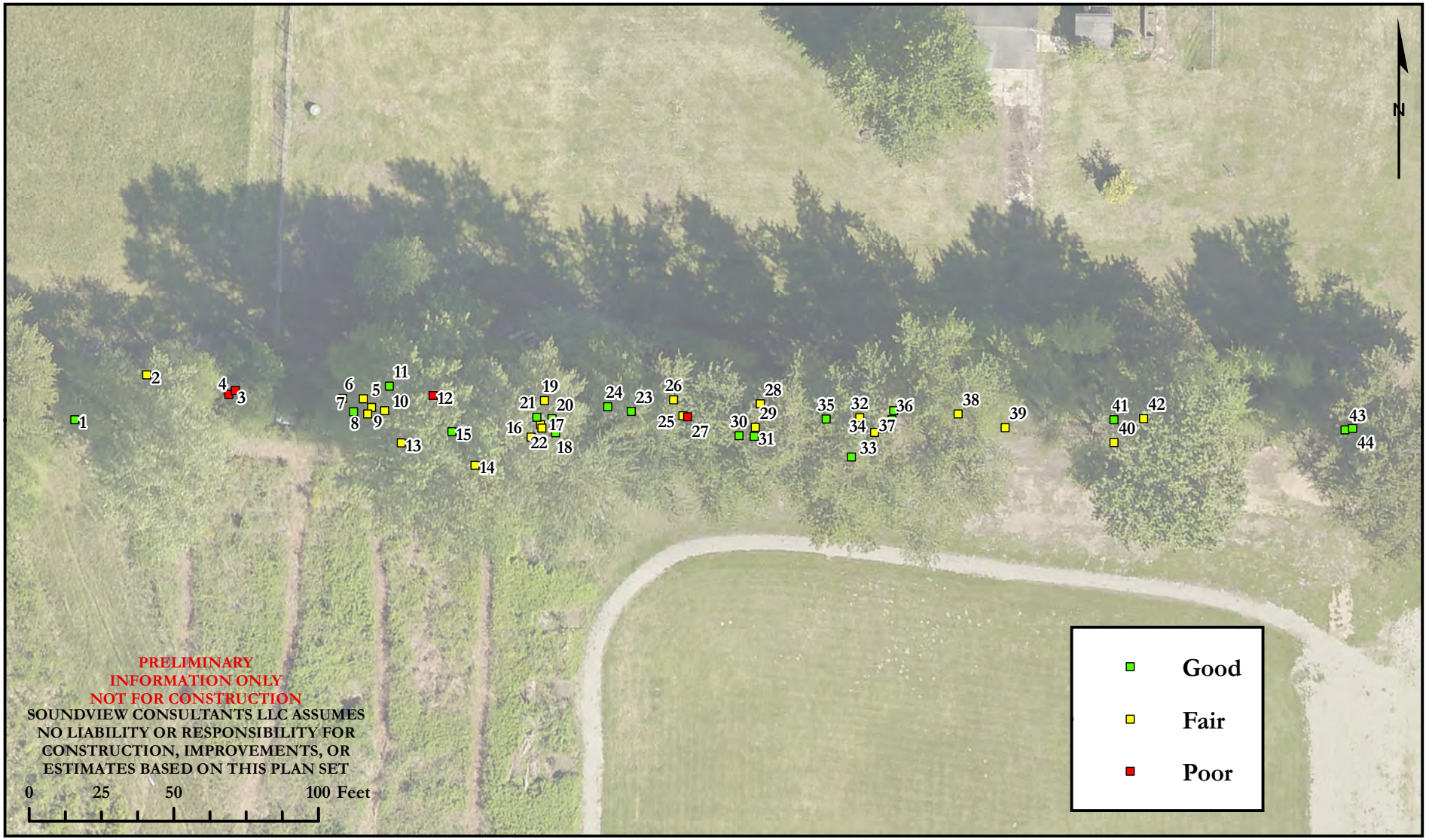
Attachment A – Tree Health and Condition Definitions

Condition	Symbol	Definition
Excellent	E	Nearly ideal specimen with excellent form and vigor
		Well-balanced and nearly symmetric crown
		Normal to excellent shoot elongation on new growth
		Little to no twig dieback or discoloration of leaves
		No apparent pest or disease problems
		Sound, solid trunk free of defects and mechanical damage
		Tree should live to full life expectancy for species
Good	G	Vigor is normal for the species
		Full or nearly full canopy
		Well-balanced or partially asymmetric crown
		No dieback to branches > 2" in diameter
		Twig dieback and leaf discoloration are minor
		Minor pest or disease problems are manageable
		Tree is reacting appropriately to damage
		Sound, solid trunk free of defects and mechanical damage
		Tree should live to full life expectancy for species
Fair	F	Reduced vigor, new growth may be stunted
		Thinning canopy, asymmetric or inconsistent form
		Suckering or secondary growth may be present
		Twig and branch dieback may comprise up to 50% of canopy
		Minor pest or disease problems are visible but not fatal
		Tree is reacting appropriately to damage
		Single or multiple defects (codominant stem, uncorrected lean, forked leader) are not practical to correct
		Life expectancy shortened to 10-40 years depending on species
Poor	P	Tree is declining and appears unhealthy
		Thinning canopy, asymmetric or inconsistent form
		Suckering or secondary growth may be present
		Twig and branch dieback may comprise more than 50% of crown
		Pest or disease problems are uncontrollable and likely fatal
		Extensive decay or cavities present in trunk and/or branches
		Single or multiple defects (codominant stem, forked leader, uncorrected lean) are not practical to correct
		Life expectancy shortened to 1-5 years depending on species
Dying	DY	Tree is dying and lacks vigor
		Little live foliage
		Suckering or secondary growth is dominant growth
		Twig and branch dieback may comprise more than 80% of crown
		Life expectancy shortened to 1-3 years depending on species
Dead	D	Tree is dead

Attachment B – Tree Retention Plan

TREE ASSESSMENT



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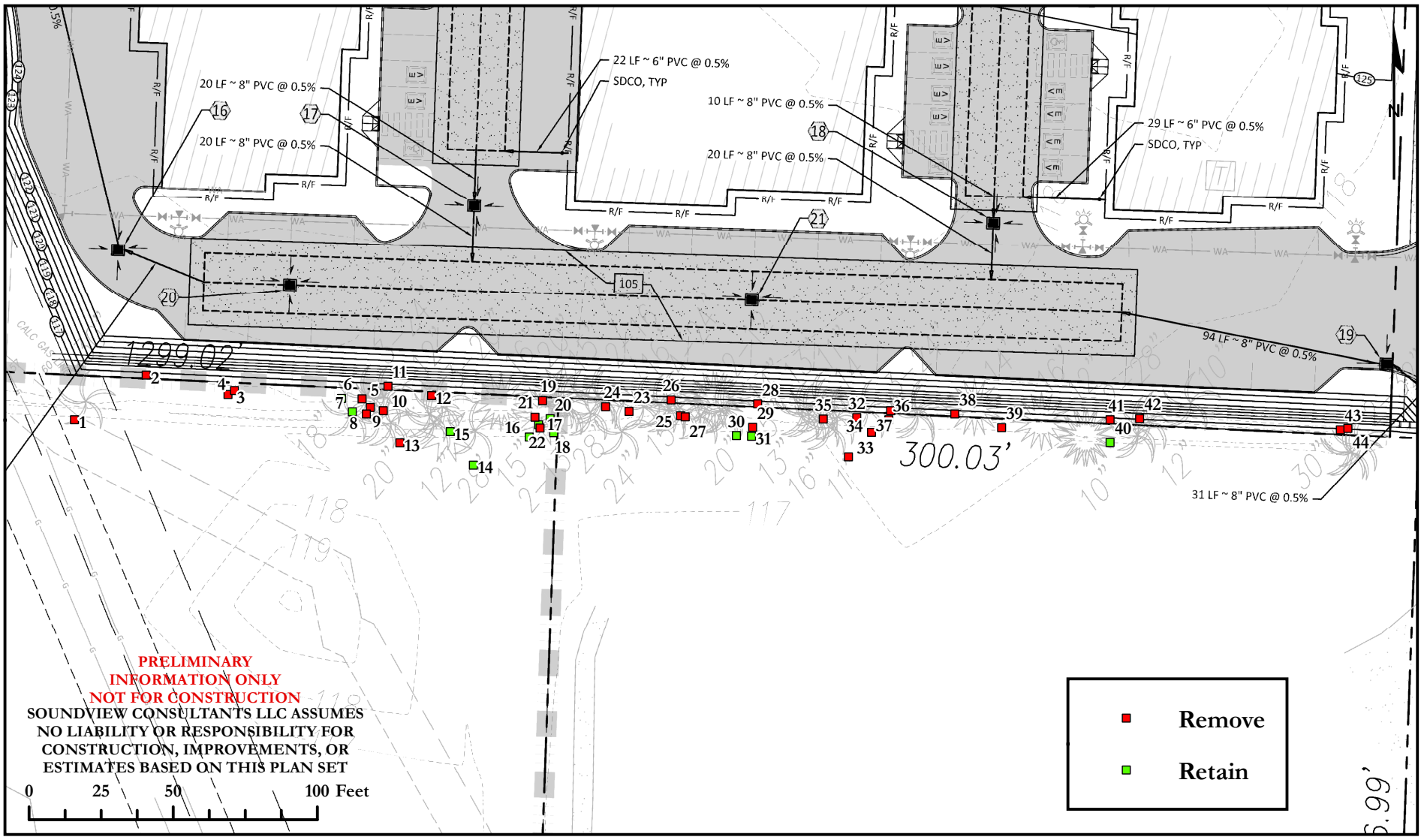
MARYSVILLE

15808 & 16204 51ST AVENUE NE
MARYSVILLE, WA 98271-7506

SNOHOMISH COUNTY PARCEL NUMBERS:
31052800400100 & 31052800400400

DATE:	9/6/2023
JOB:	1778.0003
BY:	DLS
SCALE:	1 " = 50 '
FIGURE NO.	1

TREE RETENTION



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DATE:	9/6/2023
JOB:	1778.0003
BY:	DLS
SCALE:	1 " = 50 '
FIGURE NO.	2

Attachment C – Tree Assessment Spreadsheet

TREE NUMBER	SPECIES	DBH	CONDITION	RETAIN/REMOVE	NOTES
1	Black cottonwood	43	Good	Remove	
2	River birch	20	Fair	Remove	River birch, large limbs removed, heading cuts on limbs, but healthy
3	Black cottonwood	31	Poor	Remove	Headed at 18 feet, regrowing
4	Black cottonwood	13	Poor	Remove	Headed at 18 feet, regrowing
5	Black cottonwood	30	Fair	Remove	Codominant stem
6	River birch	16	Fair	Retain	10+12, codominant stem, River Birch
7	Black cottonwood	27	Good	Retain	
8	Black cottonwood	28	Fair	Remove	
9	Black cottonwood	20	Fair	Remove	
10	Black cottonwood	24	Fair	Remove	
11	Red alder	16	Good	Remove	Opposite (N) side chain link fence
12	Bitter cherry	13	Poor	Remove	Hollow, advanced decay
13	Black cottonwood	45	Fair	Remove	27+27 +25, codominant stem tree, basally joined with 25 inch stem
14	Hookers willow	21	Fair	Retain	10+19, Willow species, larger limb leans South
15	Black cottonwood	35	Good	Retain	
16	Bitter cherry	14	Fair	Retain	
17	Black cottonwood	13	Fair	Retain	Slight kink at 9 feet, slight lean to S.
18	Red alder	19	Good	Retain	
19	Black cottonwood	29	Fair	Remove	16+13+21, one codominant, one basally joined stem
20	White bark birch	16	Good	Retain	White bark birch, lean to N.
21	Black cottonwood	28	Good	Remove	
22	Black cottonwood	35	Fair	Remove	Codominant stem at 5 feet
23	Black cottonwood	28	Good	Remove	Slight lean to S
24	Black cottonwood	20	Good	Remove	
25	Black cottonwood	43	Fair	Remove	Triple stem, one stem dead, union at 5 feet
26	Black cottonwood	31	Fair	Remove	15+27, codominant stem
27	Hookers willow	25	Poor	Remove	Hookers Willow, oozing sap, internal decay
28	River birch	17	Fair	Remove	12+12, river birch, basally joined
29	Black cottonwood	25	Fair	Remove	18+ 18, codominant stem at 2 feet
30	Black cottonwood	19	Good	Retain	
31	Black cottonwood	17	Good	Retain	
32	Black cottonwood	23	Fair	Remove	14+18, codominant stem at 2 feet
33	Black cottonwood	24	Good	Remove	
34	Black cottonwood	15	Fair	Remove	
35	Black cottonwood	18	Good	Remove	
36	Black cottonwood	31	Good	Remove	
37	Black cottonwood	42	Good	Remove	30+30, codominant stem at 1 foot
38	Bitter cherry	17	Fair	Remove	16+5, basally joined subdominant stem
39	River birch	18	Fair	Remove	River birch
40	Aspen	18	Fair	Retain	Aspen, tight union, codominant stem at 4 feet
41	Black cottonwood	55	Good	Remove	Codominant stem with good basal union
42	Black cottonwood	18	Fair	Remove	
43	Black cottonwood	48	Good	Remove	Twin giant cottonwoods, but not basally joined
44	Black cottonwood	48	Good	Remove	

Attachment C – Qualifications

All field inspections, assessments, and supporting documentation, including this ***Arborist Report*** prepared for ***51st Ave NE***, were prepared by or under the direction of Jon Pickett of SVC. Site investigation was completed by Shauna Willett, and report preparation was completed by Cody Berthiaume.

Jon Pickett

Principal
Professional Experience: 15 years

Jon Pickett is a Principal and Senior Scientist with a diverse background in environmental and shoreline compliance and permitting, wetland and stream ecology, fish and wildlife biology, mitigation compliance and design, and environmental planning and land use due diligence. Jon oversees a wide range of large-scale industrial, commercial, and multi-family residential projects throughout Western Washington, providing environmental permitting and regulatory compliance assistance for land use entitlement projects from feasibility through mitigation compliance. Jon performs wetland, stream, and shoreline delineations and fish & wildlife habitat assessments; conducts code and regulation analysis and review; prepares reports and permit applications and documents; provides environmental compliance recommendation; and provides restoration and mitigation design.

Jon earned a Bachelor of Science degree in Natural Resource Sciences from Washington State University and Bachelor of Science and Minor in Forestry from Washington State University. Jon has received 40-hour wetland delineation training (Western Mountains, Valleys, & Coast and Arid West Regional Supplements) and regularly performs wetland, stream, and shoreline delineations. Jon is a Whatcom County Qualified Wetland Specialist and Wildlife Biologist and is a Pierce County Qualified Wetland Specialist. He has been formally trained by WSDOE in the use of the Washington State Wetland Rating System 2014, How to Determine the Ordinary High-Water Mark (Freshwater and Marine), Using Field Indicators for Hydric Soils, and the Using the Credit-Debit Method for Estimating Mitigation Needs.

Shauna Willett

Certified Arborist and Environmental Scientist
Professional Experience: 15 years

Shauna Willett is an Environmental Scientist and ISA Certified Arborist. She has performed individual tree assessments, tree inventories and environmental assessments of many habitats including oak woodlands, forests, riparian corridors, and wetlands of the Puget Sound region and throughout California. She has worked as a consulting arborist in the residential, commercial, and utility sectors of arboriculture where she conducted preventative maintenance inspections of distribution and high voltage transmission lines for Puget Sound Energy. This assessment work has involved field identification of tree and plant species, pest and disease diagnosis, and data collection and analysis in public and private sectors. Her research background is highly varied, spanning the fields of agriculture, nutrition - domestically and internationally, aquatic toxicology and urban forestry. Shauna received her master's degree in geography with a dual emphasis in urban forestry and landscape architecture at the University of California, Davis. Shauna is a Tree Risk Assessment Qualified (ISA) arborist. She has extensive knowledge on local plant taxonomy and ecological vegetative indicators.

Shauna currently performs tree assessments, wetland and stream delineations, fish and wildlife habitat assessments; conducts environmental code analysis; creates and modifies maps and tree surveys using AutoCAD, prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects. She has been formally trained by the Washington State Department of Ecology in the use of the Washington State Wetland Rating System. Shauna earned a Bachelor of Science degree in Landscape Architecture from the University of California, Davis, with a focus on the relationship between communities and their urban forest ecosystems.

Cody Berthiaume

Staff Scientist
Professional Experience: 5+ years

Cody Berthiaume is a Staff Scientist with a background in wildlife research, ecological monitoring, and natural resource management. Cody's experience comes from a variety of seasonal positions, spanning multiple disciplines and ecosystems. Currently, he assists with tree assessments, wetland delineations, and report writing. Previously, he has contributed to the creation and implementation of field protocols regarding arboreal surveys and captures of red tree voles in working timber stands. Cody has also led remote field crews collecting standardized vegetation and soil data (AIM/IIRH), in conjunction with the Bureau of Land Management. Additionally, as an AmeriCorps volunteer, Cody has worked closely with NPS personnel assisting with invasive species removal and priority wildlife and habitat monitoring. Cody graduated from the University at Buffalo with a Bachelor of Science in Environmental Studies with a concentration in Environmental Resources & Management.