PUGET SOUND ENERGY

CITY OF REDMOND ARBORIST ASSESSMENT

Subject: PSE Sammamish – Juanita Tree Inventory and Health Assessment

Prepared By: Brett Conrad, ISA Certified Arborist #PN-2002A

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Project Description

In order to construct the new Sammamish – Juanita 115 kV transmission line, Puget Sound Energy (PSE) will remove trees that do not meet federal clearance safety standards. Within the wire zone of the transmission line (directly underneath the conductor), the PSE Vegetation Management standards for 115-kV construction require that all trees with a mature height of 25 feet or greater be removed. Within the border zone (areas of the transmission line corridor not directly under the conductor), select removal of incompatible and structurally unsound trees are removed. In areas outside the corridor, select trees ("danger trees") that have the potential to fall and come in contact with the conductor are removed. If a conflict with the transmission line can be removed through trimming branches, trimming is performed, except in cases where trees have been previously trimmed or trimming will make the tree potentially unsound or the conflict cannot be alleviated long-term. After construction is complete, Vegetation Management is performed in 3-year cycles along 115 kV transmission corridors.

The corridor for the Sammamish-Juanita transmission line within the City of Redmond will exit the Sammamish Substation from the north through an office complex parking lot, cross Willows Road NE and then head north along the east side of the former rail corridor to the City limits north of Sammamish Valley Park. Due to the former use of the corridor for rail purposes, the presence of existing development to the east and Willows Road NE to the west, mature trees along the proposed corridor are primarily located along the eastern edge of the former rail corridor parcel. Trees that are present include many tall growing deciduous and evergreen species that are incompatible with transmission lines. PSE has identified significant trees along the project route that will be trimmed or removed, as shown in Table 1. Of the 101 total trees assessed, 40 trees will be removed. West of Willows Road NE, just before the transmission line will cross the street, there is an existing group of 8 trees that will need to be removed and 3 small trees that will be trimmed in order to construct the transmission line. These trees include deciduous species and 3 Lodgepole pine.

Along the north-south corridor adjacent to the former rail ballast, 90 trees within the corridor were assessed and designated for trimming or removal. Of these 90 trees, 29 will be removed to meet clearance standards, 17 of which are located within a stream buffer. Three additional trees will need to

be removed due to grading associated with widening of the rail ballast for construction of a gravel access road and associated culvert replacement. East of Willows Road NE and south of NE 116th Street, 11 trees are proposed to be removed. North of NE 116th Street, a group of mostly black cottonwood trees (15 trees) within the corridor need to be removed adjacent to the City's undeveloped park property (Sammamish Valley Park) within the buffer of York Creek. Two additional trees on the west side of the parcel within the York Creek buffer need to be removed to facilitate the replacement of the existing culvert that conveys York Creek under the rail ballast with a fish passable culvert when the ballast is widened for the construction access road.

North of the City of Redmond City limits, the project corridor extends into unincorporated King County and then west into the City of Kirkland. After entering the City of Kirkland, the transmission line will cross under the existing transmission lines in the north-south Beverly-Renton transmission line corridor. In order for the new Sammamish – Juanita line to cross under the existing lines, the existing lines will need to be raised. This involves replacing the existing H-frames on the south side of NE 124th Street. The two H-frames on the south side of NE 124th Street will be replaced within the existing transmission line corridor which is within the City of Redmond city limits. Four trees within the corridor will be removed to accommodate this pole replacement. Significant trees to be removed or trimmed within the corridor are summarized in Table 1 and the locations are mapped in the project Site Plan map book submitted with the project permit documents.

Tree Inventory Methods

In order to inventory the existing trees along the project route PSE contracted with a qualified consultant to tag and identify the species and size of each tree within the proposed corridor. Each tree was tagged and located through survey to be included on the project site plans. A PSE certified arborist assessed tree health through a Level 1 limited visual risk assessment per ANSI A300, Part 9, 2017. A numerical value was assigned to each tree to represent tree health based on the following scale:

a. Level 4 – Healthy, no obvious signs of major defect, generally sound trunk and branch structure
b. Level 3 – Healthy, but somewhat compromised trunk or branch structure due to defect (e.g. co-dominant stems) or previous pruning
c. Level 2 – Tree is still alive but either in decline or has significant structural defect
d. Level 1 – Tree is either dead or close to it

Redmond Zoning Code Compliance

Since PSE removes trees to alleviate conflicts with conductor clearances, only transmission compatible vegetation can be planted under the transmission lines (vegetation with a mature height of 25 feet or less). RZC 21.72 provides *Tree Protection* regulations within the City of Redmond. The removal of trees within easements and rights-of-way for the purpose of constructing utilities is listed under Exemptions (RZC 21.72.030) to permitting requirements. Additionally, significant trees removed are to be mitigated on or off-site per RZC 21.72.080 at a 1:1 ratio. Landmark trees (trees greater than 30" dbh) are to be mitigated at a 3:1 ratio. Since tree replacement cannot be achieved within the transmission line corridor, PSE will pay a fee in lieu for replacement of trees outside of critical areas or critical area buffers. Using RZC 21.72.080(2) will allow PSE to pay for the replacement trees and the City the ability to use that money

to plant trees in a preferred location outside the transmission line easement at a later date since they are the underlying property owner for a majority of the transmission line corridor.

Tree removal within critical areas and buffers falls under the provisions of RZC 21.64 *Critical Areas,* requiring *Exception* approval to remove trees within critical areas and buffers. Seventeen (17) trees within the York Creek stream buffer will be mitigated for as part of the functional lift provided for project impacts on the Willows Creek Relocation Project site (see *Sammamish-Juanita Transmission Line Critical Areas Impact Assessment*, AECOM, January 2020). An *Exception* request is included with the City of Redmond application materials for this project.

Table 1: City of Redmond Sammamish-Juanita Tree Assessment

Tree ID	Scientific Name	Common Name	DBH	Remove or Trim	Tree Health Level	Mitigation
Map 3						
575	Salix sitchensis	Sitka Willow	6”	remove	4	fee in lieu
576	Populous balsamifera	Black cottonwood	7”	remove	4	fee in lieu
577	Acer species	Silver maple	11”	remove	4	fee in lieu
578	Salix sitchensis	Sitka willow	6”	remove	4	fee in lieu
579	Pinus contorta	Lodgepole pine	9”	remove	4	fee in lieu
580	Pinus contorta	Lodgepole pine	10”	remove	4	fee in lieu
581	Cercis species	redbud	6”	trim	4	n/a
582	Cercis species	redbud	6”	trim	4	n/a
583	Cercis species	redbud	6”	trim	4	n/a
584	Cercis species	redbud	6”	remove	4	fee in lieu
585	Pinus contorta	Lodgepole pine	10”	remove	4	fee in lieu
Map 4						
1180	Pseudotsuga menziesii	Douglas fir	8”	remove	4	fee in lieu
959	Pseudotsuga menziesii	Douglas fir	16”	remove	4	fee in lieu
1-583	Salix hookeriana	Hooker’s willow	41”	trim	2	n/a
1-582	Pseudotsuga menziesii	Douglas fir	19”	trim	3	n/a
956	Pinus species	pine	18”	trim	4	n/a
955	Pinus species	pine	12”	trim	4	n/a
954	Pinus species	pine	13”	trim	4	n/a
953	Acer species	maple	11”	trim	4	n/a
952	Acer species	maple	11”	trim	4	n/a
951	Pinus species	pine	11”	trim	4	n/a
950	Pinus species	pine	16”	trim	4	n/a
1-581	Pinus contorta	Lodgepole pine	9”	trim	4	n/a
948	Acer species	maple	14”	trim	4	n/a

947	Acer species	maple	14”	trim	4	n/a
Map 5						
1-580	Pinus contorta	Lodgepole pine	18”	trim	3	n/a
1-579	Pinus contorta	Lodgepole pine	16”	trim	4	n/a
1-578	Pinus contorta	Lodgepole pine	15”	trim	4	n/a
1-577	Acer species	maple	11”	trim	4	n/a
1-576	Acer species	maple	11”	trim	4	n/a
1-575	Pinus contorta	Lodgepole pine	16”	trim	3	n/a
574	Pinus contorta	Lodgepole pine	17”	trim	3	n/a
573	Pinus contorta	Lodgepole pine	17”	trim	3	n/a
572	Pinus contorta	Lodgepole pine	15”	trim	3	n/a
571	Pinus contorta	Lodgepole pine	10”	trim	4	n/a
570	Pinus contorta	Lodgepole pine	16”	trim	4	n/a
569	Acer species	maple	11”	trim	4	n/a
568	Acer species	maple	13”	trim	4	n/a
932	Acer species	maple	6”	remove	4	fee in lieu
928	Acer species	maple	6”	trim	4	n/a
927	Acer species	maple	7”	trim	4	n/a
566	Acer species	maple	6”	trim	4	n/a
926	Pinus species	pine	9”	trim	4	n/a
925	Pinus species	pine	9”	trim	3	n/a
924	Acer species	maple	6”	trim	4	n/a
923	Acer species	maple	6”	trim	4	n/a
922	Pinus species	pine	11”	trim	4	n/a
921	Pinus species	pine	11”	trim	4	n/a
920	Pinus species	pine	13”	trim	4	n/a
919	Acer species	maple	11”	trim	4	n/a
918	Acer species	maple	11”	trim	4	n/a
Map 6						
492	Pinus species	pine	11”	remove	3	fee in lieu
493	Pinus species	pine	13”	trim	3	n/a
559	Pinus contorta	Lodgepole pine	14”	trim	4	n/a
558	Pinus contorta	Lodgepole pine	14”	trim	3	n/a

481	Pinus species	pine	12”	trim	3	n/a
483	Pinus species	pine	10”	trim	3	n/a
484	Pinus species	pine	12”	trim	3	n/a
486	Pinus species	pine	13”	trim	3	n/a
1181	Pinus contorta	Lodgepole pine	13”	trim	4	n/a
488	Pinus species	pine	9”	trim	4	n/a
489	Pinus species	pine	10”	trim	4	n/a
560	Pinus contorta	Lodgepole pine	11”	trim	3	n/a
561	Pinus contorta	Lodgepole pine	11”	trim	3	n/a
562	Pinus contorta	Lodgepole pine	15”	trim	3	n/a
563	Pinus contorta	Lodgepole pine	14”	trim	3	n/a
479	Pinus species	pine	14”	remove	3	fee in lieu
477	Pinus species	pine	13”	remove	3	fee in lieu
476	Pinus species	pine	11”	remove	3	fee in lieu
475	Pinus species	pine	13”	trim	3	n/a
474	Pinus species	pine	14”	trim	3	n/a
472	Populous balsamifera	Black cottonwood	16”	remove	4	fee in lieu
565	Pinus contorta	Lodgepole pine	13”	trim	3	n/a
468	Pinus species	pine	13”	remove	3	fee in lieu
467	Pinus species	pine	14”	remove	3	fee in lieu
465	Pinus species	pine	14”	remove	3	fee in lieu
1182	Pinus contorta	Lodgepole pine	9”	trim	4	n/a
1183	Crataegus monogyna	English hawthorn	12”	trim	4	n/a
1184	Populous trichocarpa	Black cottonwood	72”	trim	4	n/a
Map 8						
444	Populous balsamifera	Black cottonwood	24”	remove	4	buffer mitigation
445	Populous balsamifera	Black cottonwood	10”	remove	4	buffer mitigation
446	Populous balsamifera	Black cottonwood	18”	remove	4	buffer mitigation
447	Populous balsamifera	Black cottonwood	12”	remove	4	buffer mitigation
448	Populous balsamifera	Black cottonwood	13”	remove	4	buffer mitigation
449	Populous balsamifera	Black cottonwood	12”	remove	4	buffer mitigation
450	Populous balsamifera	Black cottonwood	13”	remove	4	buffer mitigation
451	Populous balsamifera	Black cottonwood	7”	remove	4	buffer mitigation

452	Populous balsamifera	Black cottonwood	12”	remove	4	buffer mitigation
453	Populous balsamifera	Black cottonwood	6”	remove	4	buffer mitigation
454	Populous balsamifera	Black cottonwood	11”	remove	4	buffer mitigation
455	Betula papyrifera	Paper birch	7”	remove	4	buffer mitigation
456	Populous balsamifera	Black cottonwood	9”	remove	4	buffer mitigation
457	Populous balsamifera	Black cottonwood	12”	remove	4	buffer mitigation
458	Populous balsamifera	Black cottonwood	6”	remove	3	buffer mitigation
Map 9						
537	Alnus rubra	Red Alder	12”	remove	4	buffer mitigation
538	Populus balsamifera	Black cottonwood	32”	remove	4	buffer mitigation
443	Crataegus monogyna	English hawthorn	6”	trim	4	n/a
Map 12						
1188	Larix sp.	larch	23”	remove	3	fee in lieu
1189	Larix sp.	larch	17”	remove	3	fee in lieu
1190	Prunus sp.	cherry	17”	remove	3	fee in lieu
1191	Platanus sp.	sycamore	29”	remove	3	fee in lieu