

EXHIBIT E
TREE MITIGATION PLAN

DRAFT

DOWNTOWN REDMOND LINK EXTENSION

R200

VOLUME 3-01, 01.05.12

City of Redmond Tree Mitigation Plan

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1. Introduction

A. Plan Purpose

Sound Transit's Downtown Redmond Link Extension (DRLE) project will remove an estimated 533-750 significant trees and 13-24 landmark trees within the City of Redmond permitting jurisdiction (not including shoreline and critical areas) to construct and safely operate light rail between the Redmond Technology and Downtown Redmond stations. The purpose of this Conceptual Tree Mitigation Plan is to identify acceptable tree mitigation and reforestation strategies for trees removed by the project that are not located in shoreline or critical areas. Critical area and shoreline planting mitigation will be included as part of the required mitigation plans or shoreline permits.

B. Code Basis for Mitigation and Reforestation Requirements

The purpose and intent statements of RZC 21.72, Tree Protection, apply to this project. The City Council has, through the Development Agreement for this project, authorized deviations from certain development standards related to tree protection, removal and replacement. Those are described in the Development Agreement. In summary:

- For all trees on parcels in Marymoor Village, the provisions of RZC 21.72.080.H, Supplemental Standards for the Marymoor Design District, apply.
- For all other trees within City of Redmond permitting jurisdiction (except shoreline and critical areas), the 35 percent retention requirement does not apply, and the project will be treated like a public street for permitting purposes under RZC 21.72.030, Exemptions.

C. Plan Summary

Sound Transit shall provide a conceptual tree mitigation proposal to the City to show compliance with tree protection and tree replacement requirements. The concept proposal shall be submitted with the 30% Construction Document package and shall show estimates of the numbers of trees removed, number of trees planted within the project area, and number of trees planted in off-site areas. This concept proposal shall form the basis for establishing the mitigation project wide to demonstrate overall compliance with the tree preservation requirements such that subsequent permit packages can proceed to approval independently.

The project will be permitted through a series of permit packages. Each clearing and grading permit, or other permit allowing tree removal, will be required to show and account for tree removals. The accumulation of these permits will establish the total tree removal count. Each Site Plan Entitlement, Civil Site Construction Permit, or other permit showing planting, will establish the mitigation that will occur within the permit area. The accumulation of these permits will establish total on-site tree mitigation.

Required mitigation that cannot be accommodated on site will be completed at off-site mitigation areas. The City has provided a list of preferred locations that may be available for tree replanting in Section 4.B. Plans for these areas will be developed that show the planting quantities needed to meet the total project planting requirements, based on the final tree removal count. If required mitigation cannot be accommodated at proposed or other off-site locations, the City may consider a fee-in-lieu replacement fee consistent with RZC 21.72.080.E. On- or off-site

mitigation is strongly preferred to use of the fee-in-lieu program.

The exact number of impacted trees is not known because project design is not complete, but is expected to be within the range documented in this plan. If the number of impacted trees exceeds the maximum considered in this plan, Sound Transit will be required to propose additional mitigation strategies and/or locations for review and approval by the City.

2. Tree Removal Impact

A. Description of Impact

Based upon the Preliminary Engineering plans, the project has identified an estimated range of significant and landmark trees removed. See Appendix A for estimated tree removal and replacement calculations in the City of Redmond permitting jurisdiction. The Contractor will determine the actual number of trees planned to be removed during final design and is required to track actual field removals of significant and landmark trees and update replacement quantities as construction progresses.

As tree planting requirements in the Marymoor Design District are based upon a lot area determination that depends on final design plans (see Section 3.B), an estimate of the trees required is provided in this plan.

B. Minimizing Impacts during Construction

Tree protection within the City of Redmond jurisdiction shall be in accordance with RZC 21.72.070 Tree Protection Measures, and Sound Transit Specification 015639, Temporary Tree and Plant Protection. The more stringent of the two requirements will apply. Proposed reductions in tree retention after construction permits are issued require amendments to the construction permit in the form of a written approval from the City, together with mitigation for the additional impacts in accordance with this plan.

Trees to be removed and trees to remain shall be identified on clearing and grading or other site clearing permit applications. A tree protection plan meeting the requirements of RZC 21.72.070 and Sound Transit specification 015639 shall be included as required by the project permit checklists as included in the DRLE Project Permitting Framework.

3. Mitigation Requirements

RZC 21.72.080 requires that replacement trees be primarily native species to restore and enhance the site as nearly as practicable to its predevelopment character. The condition of replacement trees shall meet or exceed current AmericanHort.org or equivalent organization's standards for nursery stock. Replacement tree species shall be chosen to meet the site's environmental conditions.

The Contractor may propose smaller trees and shrub understory in order to replace the habitat being removed, consistent with RZC 21.72.080.C.2. The use of smaller tree and shrub sizes shall incur a higher replacement ratio in order to more equitably replace the tree resource removed. Any replacement of removed trees with smaller-sized vegetation than is required by Code must be approved by the City as part of a site-appropriate mitigation strategy.

A. Tree Replacement Ratios (not including the Marymoor Design District)

Tree Removed	Project Area Planting Ratios			Off-site Planting Ratios	
	Replacement ratio when using a 2-1/2" cal. deciduous tree or 6' ht. evergreen tree. (RCC Tree Type A or B, and other site plan trees)	Replacement ratio using a short stature tree. (RCC Tree Type C)	Replacement ratio when using a 1 gal. shrub (allowed in RCC corridor only, Plant Mix 1 and 2)	Replacement ratio when using a 1-2 gal. tree	Replacement ratio when using a 1 gal. shrub
1 Significant Tree	1	2	28	3	28
1 Landmark Tree	3	n/a	n/a	6	56

Off-site restoration areas shall have trees planted no closer than 10' O.C. spacing and shrubs at a maximum of 4' O.C. spacing. Shrubs may be planted in-between trees, as appropriate. Spacing of plants in Final Designs shall be determined by mature size of species.

B. Marymoor Design District

Tree replacement in the Marymoor Design District is based upon the creation of tree canopy in that neighborhood, not a ratio based upon number of trees removed. As the intent of this Code requirement is to establish a long term tree resource, the site plans at the SE Redmond Station, parking garage and other site improvements that are developed in Final Design should provide locations to plant as many trees within the site as feasible.

Any lot canopy coverage percentage that cannot be accommodated within the Marymoor Design District shall be included in the overall project tree replacement mitigation plans, with a replacement ratio of 3:1.

4. Planting Installation

A. Timing of Replacement Planting

Installation of mitigation plantings shall be completed prior to issuance of final DRLE construction inspection sign-off or certificate of occupancy, whichever comes last.

Planting activity should be planned to occur during the wet season to enhance plant success.

B. Site Preparation and Planting Techniques at Offsite Mitigation Locations

Most sites will require some site preparation prior to planting. The following steps are required:

1. Obtain appropriate permits to conduct site preparation and mitigation/reforestation work. This may include critical areas and SEPA review.
2. Remove and dispose of non-native invasive vegetation. *Note: It is not necessary to remove all minor grasses and weed growth. It is the invasive plants that are the focus for removal.*
3. Soil amendment and wood mulch shall be provided for the planted areas to reduce weed growth and increase plant viability.

The City may, at its discretion, not require all the steps listed above, or may modify the requirements to require a lower level of input, if appropriate for the site.

C. Maintenance and Bonding of Mitigation Planting

RZC 21.76.090 requires performance and warranty assurances for tree protection, tree replacement, and landscaping. All on- and off-site planting areas within the City of Redmond jurisdiction are subject to a warranty and plant establishment period of two years from Final Acceptance in accordance with the Project Requirements.

D. Communications

Sound Transit will work with the City to develop a public communications strategy for tree impacts, mitigation, and reforestation.

Sound Transit will require the contractor to provide an annual report of tree removal and reforestation activity.

E. Proposed Mitigation Sites

The City has identified the following off-site, City-owned property that may be available for planting. These sites are visible to the community, accessible to vehicles, or have nearby access, and have limited site preparation needs. The mitigation sites proposed in this plan provide a level of certainty to the City and Redmond community as to the locations and public benefits of the tree mitigation plan.

Off-site planting shall occur in one to three locations, with no site less than 0.5 acres in size, in order to make a positive visual impact. Some sites may require the installation of irrigation systems.

Potential Off-Site Mitigation Options Owned by City of Redmond

Name	General Location	Size of Parcel (ac)
Costello Property	South of Perrigo Park	2-3
Arthur Johnson Park	South of Union Hill Road	>1
SE Redmond Park	Southeast Redmond neighborhood	0.5
SE Redmond Trail	Southeast Redmond neighborhood	0.5
Viewpoint Open Space	Idylwood neighborhood	>1
Conrad Olsen Park	Bear Creek neighborhood	<1

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Appendix A - City of Redmond Estimated Tree Removals and Replacement Mitigation

DRLE Preliminary Engineering - City of Redmond Estimated Tree Removals and Replacement Mitigation

Estimated Tree Removals within City of Redmond (COR) General Jurisdiction (a)	Estimated Significant Tree Removals (Excluding Non-Significant Trees, Dead/Dying, Hazardous Trees, & Invasive Species) (b)	Significant Tree Removals 6"-30" (c)	Tree Replacements for Significant Trees (d)	Landmark Tree Removals (e)	Tree Replacements for Landmark Trees (f)	Potential Significant Tree Removals 4"-6" (g)	COR General Jurisdiction Replacement Tree Totals (j)	
							Low Replacement Estimate (h)	High Replacement Estimate (i)

City of Redmond - General Jurisdiction*

Low Estimate (k)	641	507	484	484	13	39	85	523	608
High Estimate (l)	922	743	711	711	24	72	129	783	912

City of Redmond - Marymoor Subarea**

Low Estimate (k)	27	26	26	26	0	0	1	26	27
High Estimate (l)	40	39	39	39	0	0	1	39	40

City of Redmond - Critical Areas***

Low Estimate (k)	276	170	160	160	4	12	61	172	233
High Estimate (l)	291	181	169	169	6	18	64	187	251

Total (2)

Low Estimate (k)	944	703	670	670	17	51	147	721	868
High Estimate (l)	1253	963	919	919	30	90	194	1009	1203

Calculation Notes: (a) Tree removals are based on current Project Impact Area provided by Parametrix, tree inventory provided by Urban Forestry Services, August 22, 2018, and COR Shoreline Jurisdiction Tree Preservation Plans by Parametrix. Calculation includes trees owned by the COR and on private properties within the COR jurisdiction.

(b) Trees with a DBH of less than 6 inch are considered Non-Significant per COR RZC 21.78. Dead, dying, or hazardous trees are excluded from tree replacement calculation per COR RZC 21.72.080.B.

(c) Significant trees are defined by COR RZC 21.78 as trees with a DBH of 6 inches or greater.

(d) Significant trees require 1:1 replacement per COR RZC 21.72.080.B.

(e) Landmark trees are defined as trees with DBH of 30 inches or greater per COR RZC 21.72.080.B.

(f) Landmark trees require 3:1 replacement per COR RZC 21.78.080.B.

(g) Trees with 4-6 inch DBH require COR review to determine appropriate classification.

(h) Tree Replacements for Significant and Landmark Trees, assuming no replacement for trees of 4-6 inch DBH removed (d+f).

(i) Tree Replacements for Significant and Landmark Trees, assuming 1:1 replacement for all trees of 4-6 inch DBH removed (d+f+g).

(j) Replacement Trees to be 2-1/2 inch caliper minimum for deciduous trees, 6 foot height minimum for evergreen trees per COR RZC 21.72.080.C.

(k) Total tree removals within track alignment, 15' vegetative clear zone, and hazard trees.

(l) Total potential tree removals within track alignment, 15' vegetative clear zone, hazard trees, and all construction access and construction laydown easement areas.

General Notes: 1. All calculations for tree mitigation based on current City of Redmond Municipal Code. Mitigation requirements may change over time and any final tree mitigation plans will need to comply with current jurisdictional requirements.

2. Due to overlap in data categories quantities may not total evenly.

*City of Redmond General Jurisdiction includes all properties within the City of Redmond city limits, excluding trees within the Marymoor Subarea and those within critical areas. Trees removed in the COR General Jurisdiction based on report provided by Parametrix, October 25, 2018.

**Marymoor Subarea as defined by COR in the Comprehensive Plan. Trees removed in Marymoor Subarea based on report provided by Parametrix, October 25, 2018.

***Critical areas include: wetlands and associated buffers, streams and associated buffers, landslide areas, floodways, flood plains, open space easements, and native growth protection areas. Trees removed in critical areas based on report provided by Parametrix, October 25, 2018.