



## Todd Prager & Associates<sub>LLC</sub>

### MEMORANDUM

**DATE:** July 14, 2022

**TO:** Thomas Fisher (City of Sandy)

**FROM:** Todd Prager, RCA #597, ISA Board Certified Master Arborist

**RE:** Tree Impact Assessment at Bell Street – SE 362<sup>nd</sup> Avenue

---

The City of Sandy requested my assessment and treatment recommendations for seven trees adjacent to construction of road improvements for the Bell Street – SE 362nd Avenue road construction project.

The seven trees that were the subject of my review are numbered on the site map provided to me by the city in Attachment 1. The assessment data including tree species (common and scientific names), trunk diameter (DBH), health condition, structural condition, pertinent comments, and treatment recommendations are provided for each tree in Attachment 2.

Based on the proposed impacts, I am recommending removal of six of the seven trees. One of the trees (tree 5) may be retained if fill soil will be limited to less than 50 percent of its estimated critical root zone.<sup>1</sup> The typical recommendation of my firm is to limit fill (and other root impacts) to 25 percent or less of a tree's estimated critical root zone. However, there is published research that indicates in some circumstances anywhere from 33 to 50 percent of the roots of healthy trees can be removed without serious effects.<sup>2,3,4</sup> In my opinion tree 5 is more likely than not to survive the impacts of the proposed fill so the city may decide to retain it. Note that this recommendation is not a guarantee the tree will survive, so retaining the tree is a calculated risk weighted against the benefits the tree provides.

---

<sup>1</sup> Estimated critical root zone is a radius around a tree of 1 foot per inch of DBH.

<sup>2</sup> Zimmerman, M.H., and C.L. Brown. 1971. *Trees, Structure and Function*. New York: Springer-Verlag.

<sup>3</sup> Perry, T.O. 1982. The Ecology of Tree Roots and the Practical Significance Thereof. *J. Arboriculture* 8:197-211.

<sup>4</sup> Helliwell, D.R. 1985. *Trees on Development Sites*. Romsey, England: Arboriculture Assn.

---

Please contact me if you have questions, concerns, or need any additional information.

Sincerely,



**Todd Prager**

*ASCA Registered Consulting Arborist*

*ISA Board Certified Master Arborist, WE-6723B*

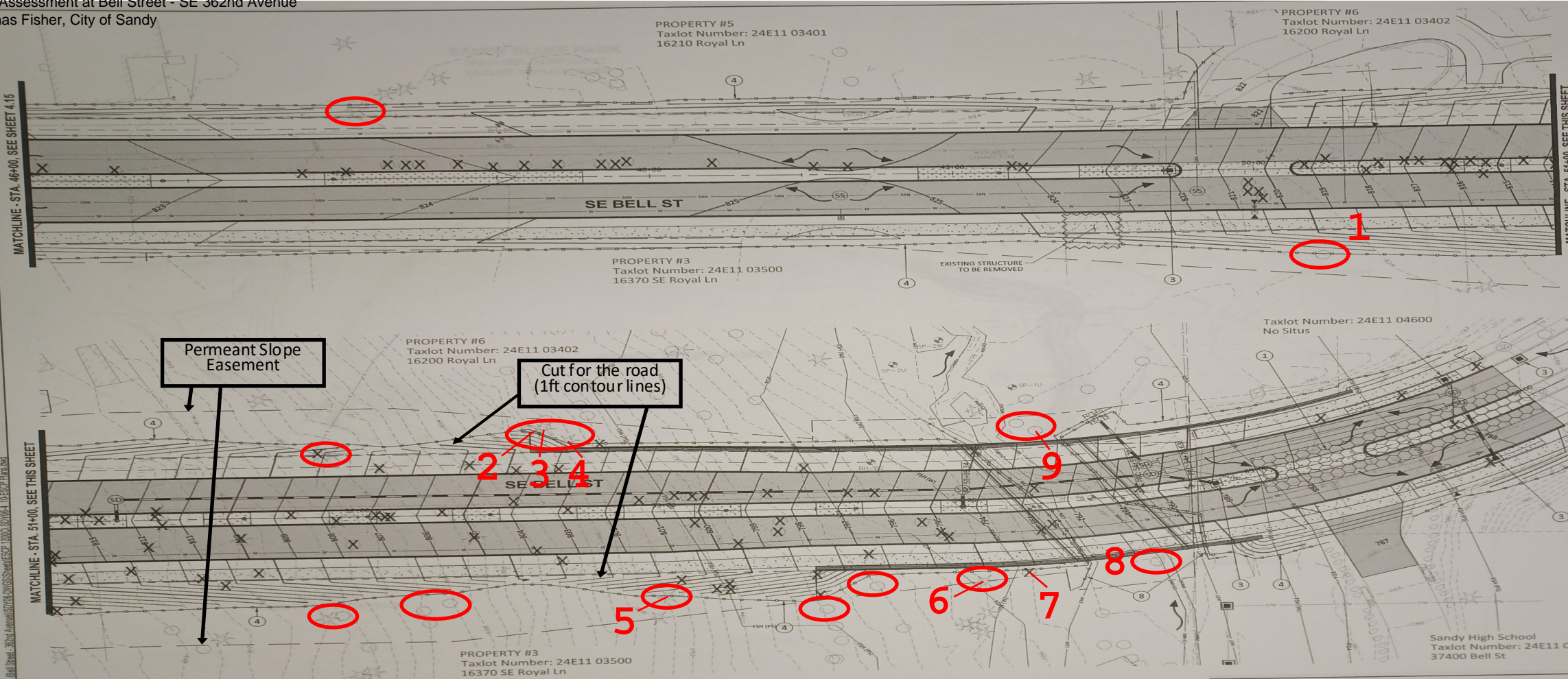
*ISA Qualified Tree Risk Assessor*

*AICP, American Planning Association*

Attachment 1 – Site Plan with Tree Locations

Attachment 2 – Tree Assessment Data

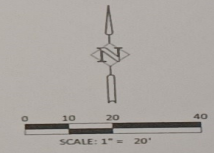
Attachment 3 – Assumptions and Limiting Conditions



- CONSTRUCTION NOTES**
- 1 INSTALL CONSTRUCTION ENTRANCE PER DETAIL ON SHEET 4.18.
  - 3 INSTALL INLET PROTECTION PER DETAIL ON SHEET 4.18.
  - 4 INSTALL SEDIMENT CONTROL FENCE PER DETAIL ON SHEET 4.19.
  - 8 INSTALL ORANGE CONSTRUCTION FENCE TO INDICATE LIMITS OF CONSTRUCTION AND/OR FOR TREE PROTECTION.

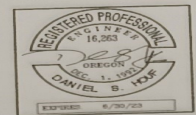
- LEGEND FOR WETLAND FEATURES**
- WET WETLAND BOUNDARY
  - OHWM ORDINARY HIGH WATER MARK
  - FSH (PS) Flood and Slope Hazard Boundary for Perennial Stream (100' Setback from Ordinary High Water Mark)
  - RDA Restricted Development Area Boundary (50' Setback from Ordinary High Water Mark)
  - FSH (W) Flood and Slope Hazard Boundary for Wetland (25' Setback from Wetland Boundary)

- EROSION CONTROL**
- RIP RAP
  - CONCRETE TRUCK WASH OUT
  - TIRE WASH FACILITY
  - CONSTRUCTION ENTRANCE
  - ORANGE CONSTRUCTION FENCE
  - SEDIMENT FENCE
  - COMPOST FILTER SOCK
  - BUILDING REMOVAL LIMITS
  - TREE REMOVAL
  - FLOW DIRECTION
  - BIO-BAGS
  - INLET PROTECTION
  - EXISTING CONTOUR
  - 100 PROPOSED MINOR CONTOUR
  - 101 PROPOSED MAJOR CONTOUR



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED: DSH / JSE  
 DRAWN: JSE  
 CHECKED: DSH  
 DATE: MARCH 4, 2022



**HHPR** Harper Houf Peterson Righellis Inc.  
 ENGINEERS • PLANNERS  
 LANDSCAPE ARCHITECTS • SURVEYORS  
 265 SE Spokane Street, Suite 200, Portland, OR 97202  
 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

ESCP PLAN  
**BELL STREET - SE 362ND AVENUE**  
 SANDY, OREGON

SHEET NO.  
**4.16**  
 JOB NO. SDY-06



Todd Prager & Associates  
LLC

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	Condition <sup>2</sup>	Structure	Comments	Treatment Recommendation
1	bigleaf maple	<i>Acer macrophyllum</i>	32	good	fair	multiple leaders at 7' with included bark, proposed fill to base of trunk behind lean over barn	remove
2	western redcedar	<i>Thuja plicata</i>	14	good	good	sensitive species, proposed cut at base of trunk	remove
3	bigleaf maple	<i>Acer macrophyllum</i>	11	fair	fair	moderately suppressed, proposed cut at base of trunk	remove
4	western redcedar	<i>Thuja plicata</i>	11	good	good	sensitive species, proposed cut at base of trunk	remove
5	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	good	fair	one sided, branch damage from removal of adjacent trees, marginal trunk taper, proposed fill will occur to less than 50 percent of root zone	retain
6	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	good	good	proposed cut at 3 feet from trunk for retaining wall	remove
7	Douglas-fir	<i>Pseudotsuga menziesii</i>	31	good	fair	codominant at 20', one sided, already labeled for removal, proposed cut at base of trunk where there are large structural roots for retaining wall	remove
8	red alder	<i>Alnus rubra</i>	12	good	good	sensitive species, proposed cut near base of trunk	remove
9	red alder	<i>Alnus rubra</i>	14	very poor	very poor	sensitive species, proposed cut near base of trunk	remove
<sup>1</sup> DBH is the trunk diameter in inches measured per International Society of Arboriculture standards.							
<sup>2</sup> Condition and Structure ratings range from very poor, poor, fair, to good.							

### **Attachment 3**

#### **Assumptions and Limiting Conditions**

1. Any legal description provided to the consultant is assumed to be correct. The site plans and construction information provided by the City of Sandy and their consultants was the basis of the information provided in this report.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. The consultant is not responsible for information gathered from others involved in various activities pertaining to this project. Care has been taken to obtain information from reliable sources.
4. Loss or alteration of any part of this delivered report invalidates the entire report.
5. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
6. The consultant's role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
7. The purpose of this report is to provide my assessment and treatment recommendations for seven trees adjacent to construction of road improvements for the Bell Street – SE 362nd Avenue road construction project.