APPENDIX E

Arborist Reports

SPADE TREE PRESERVATION CCB: 233735

June 2023

ARBORIST REPORT

Prepared by: Cory Shields of Spade Tree Preservation

Arborist Report

[redacted] St.

Eugene, OR

Prepared for:

Groundwater Solutions, Inc.

dba GSI Water Solutions, Inc.

650 NE Holladay St., Suite 900

Portland, OR 97232

for

JH Baxter Removal Action

Project Number: 02060.005.004

Prepared by:

Cory Shields

Certified Arborist PN-8292A

Tree Risk Assessment Qualified

International Society of Arboriculture

29110 Sheep Head Road

Brownsville, OR 97327

Overview

This report covers the mitigation recommendations for the trees at [redacted] Baxter Street hereto referenced as DU-09. There are three total individual trees under the purview of this report, in addition to several smaller trees and shrubs not covered under the tree assessment forms. Figure 1 details the locations of the trees within DU-09. As detailed in Figure 2, soil removal on the entirety of DU-09 will be at an 18-inch depth.

Figure 1

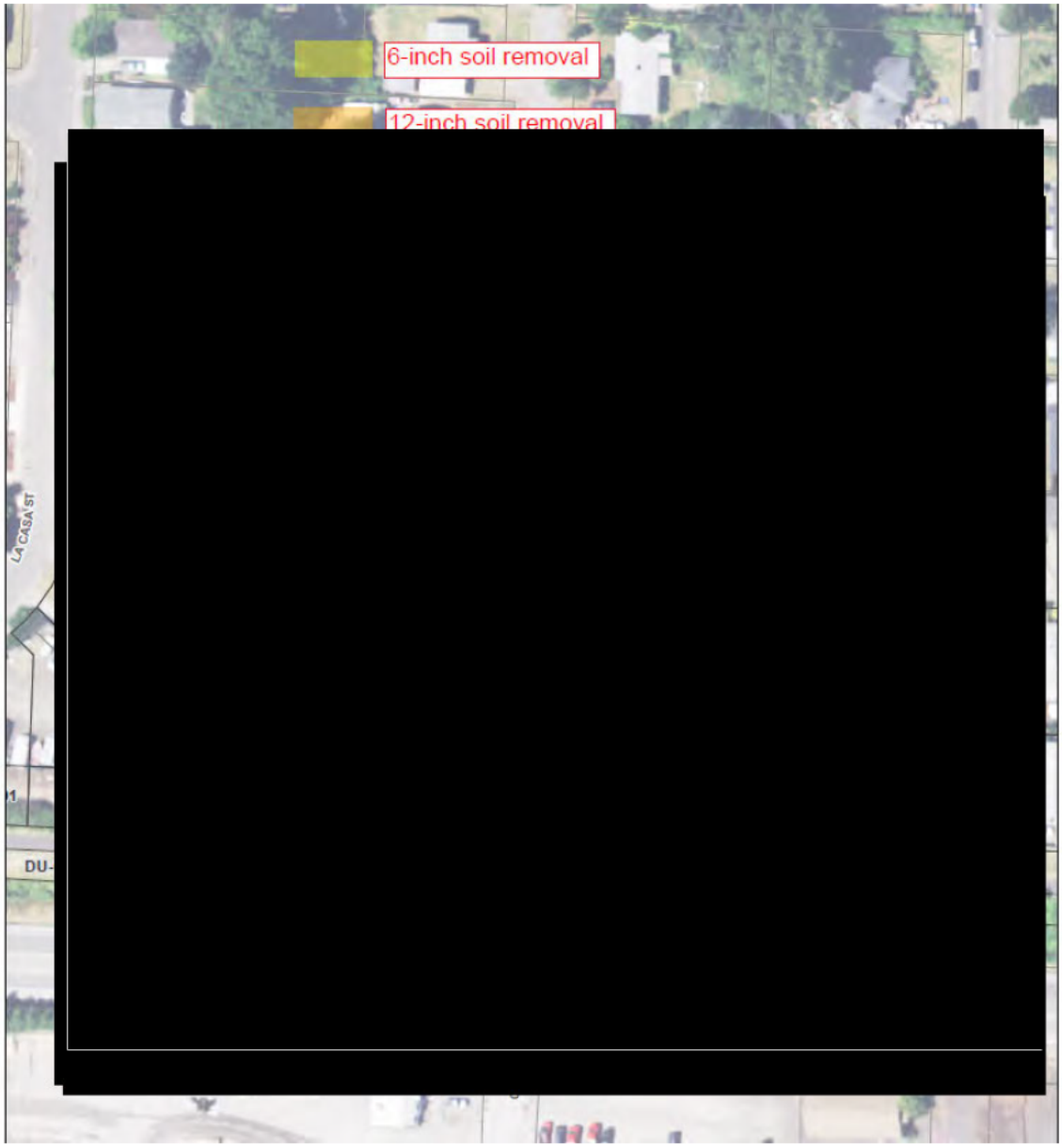


Figure 2

DU-09-01

Located on the southern portion of the property in the front yard (Figure 1, 01), tree 01 is a *Prunus* species with a diameter of 3', height of 7', and a crown spread of 8'. Due to the size and location of this tree and the depth of the soil removal, removal of the tree is recommended. This specimen can be transplanted if the tree is to be maintained. In the event of a transplant,

as much of the root mass as possible should be maintained with the excess soil to be washed off onsite.

DU-09-02

Located in the northern portion of the property in the backyard (Figure 1, 02), Tree 02 is a *Puesdotsuga menziesii* with a diameter of 16”, a height of 50’, and a crown spread of 20’. It has several defects: there is a wound at the base of the tree to the north (Figure 3), it has been previously topped, it is being suppressed by the larger *Sequoia* to the west, and it has an unbalanced canopy to the east (Figures 4 and 5). Due to the species, the size, and the required soil removal depth, this tree would experience significant root loss and structural instability. It is recommended this tree be removed, and the removal would best be done before the soil removal, to minimize the chances of an instability failure.

DU-09-03

Located in the northern portion of the property in the backyard (Figure 1, 03), Tree 03 is a *Sequoia sempervirens* with a diameter of 51”, a height of 75’, and a crown spread of 40’. It has been previously topped, and out of this topping cut several codominant stems have emerged (Figure 6 and 7). This species is known to fail at codominant stems and is a shallow rooted species. Due to the species, the size, and the required soil removal depth, this tree would experience significant root loss and structural instability. This tree removal would best be done before the soil removal, to minimize the chances that the instability would cause a failure.

Juglans nigra

There are several *Juglans nigras* that have sprouted across the property. These are poorly placed and were potentially planted through natural means i.e. squirrels or birds. There is a cluster to the western side (Figure 8 and 9) of the house and another has sprouted next to the power pole in the northeastern corner of the property (Figure 10). These trees should be removed prior to the soil removal and would pose a liability if they were maintained in the landscape.

Corylus avellana

Located along the northern fence line originating on the property to the north [redacted].) is a *Corylus avellana* that would be impacted by the soil removal activity (Figure 11 and 12). To minimize the impacts to the root system, the soil should be vactor excavated, hand dug, or other minimal impact excavation technique at a diameter of 5 feet from the center of the

multi-stem section invading DU-09. It is recommended that an arborist is onsite while the soil removal is conducted in this critical root zone to monitor potential root damage.

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

Figure 12

Basic Tree Risk Assessment Form

Client GSI | Date 4/4/23 | Time 1700

Address/Tree location DU-09 | Tree no. DU-09-1 | Sheet 1 of 1

Tree species Prunus Spp. | dbh 3" | Height 7' | Crown spread dia. 8'

Assessor(s) Cory Shields | Time frame 3 | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Parked cars in driveway to south	✓	✓	✓	3	Y	Y
2							
3							
4							

Site Factors

History of failures N/A | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Snow/ice on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Codominant failures/inclusions

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ House to north | **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 70 %

Dead twigs/branches ■ 5 % overall Max. dia. <1"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐ _____

Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ■ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around wound

Main concern(s) wound at trunk

Load on defect N/A ☐ Minor ■ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth 3" Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

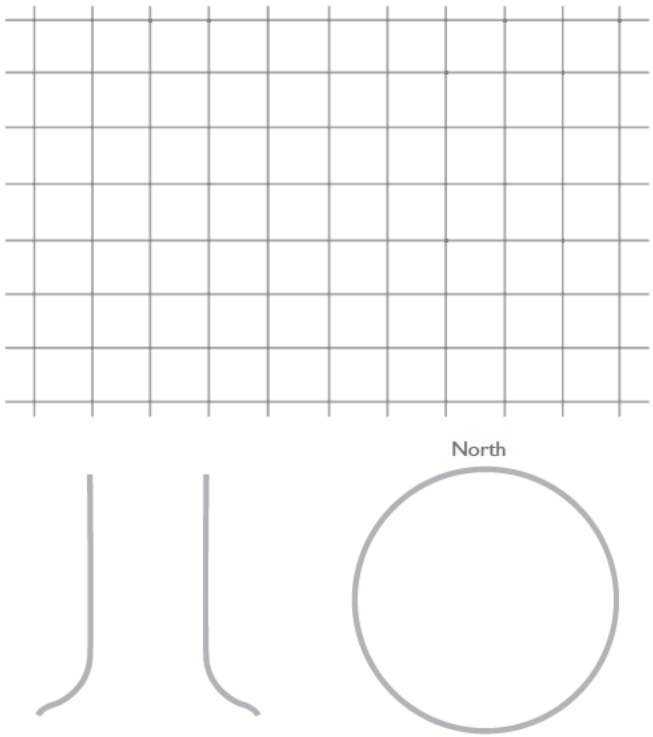
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Trunk	wound on trunk	2"	3'	1	N/A	●					●			●				●				Low
2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions Due to this species moderate tolerance of root pruning, its immature size, and the DBH, a 5" radius tree protection zone is recommended. This is assuming that the tree has not been transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ■ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/4/23 | Time 1730

Address/Tree location DU-09 | Tree no. DU-09-2 | Sheet 1 of 1

Tree species Psuedotsuga mensiezii | dbh 16" | Height 50' | Crown spread dia. 20'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet, binoculars

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to south		✓	✓	4	N	N
2	Shed to east	✓	✓	✓	4	N	N
3	Overhead communication lines to north	✓	✓	✓	4	N	N
4							

Site Factors

History of failures Small branches < 2" diameter | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Snow/ice on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 90 % Chlorotic _____% Necrotic 10 %

Pests Redwood to west is nearby and suppressing this tree | **Abiotic** Nails in trunk

Species failure profile Branches ■ Trunk ☐ Roots ■ Describe Overextended branch failures, root plate failures

Load Factors

Wind exposure Protected ■ Partial ☐ Full ☐ Wind funneling ☐ Redwood to west | **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ■ Normal ☐ Dense ☐ | **Interior branches** Few ■ Normal ☐ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 55 %

Dead twigs/branches ■ 10 % overall Max. dia. 3"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ Topped Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ■ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around codominant stems originating from topping

Main concern(s) Unbalanced crown, codominant

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ Both

Likelihood of failure Improbable ■ Possible ■ Probable ☐ Imminent ☐ unbalanced crown-improbable, codominant-possible

— Trunk —

Dead/Missing bark ■ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ■

Lean 10 ° Corrected? Yes

Response growth Yes, around wounds

Main concern(s) wound at base to north

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth 3" Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) collar buried

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

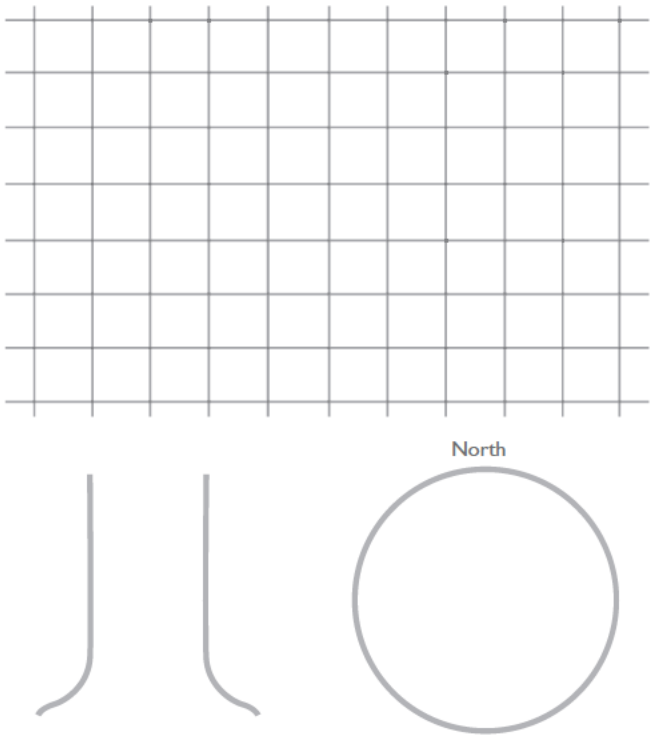
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Canopy	Codominant	4"	30'	1	N/A		●				●			●						●		Low
			4"	30'	2	N/A		●						●		●					●		Mod
			4"	30'	3	Shed		●				●			●					●			Low
2	Canopy	Unbalanced crown	10"	25'	1	N/A	●					●			●						●		Low
			10"	25'	2	N/A	●							●		●					●		Low
			10"	25'	3	Shed	●					●			●					●			Low
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions Due to this species' poor tolerance of root pruning, its immature size, and the DBH, a 16' radius tree protection zone is recommended. The poor condition of this tree may warrent removal if the tree protection zone cannot be maintained

Mitigation options Removal — **Residual risk** None

Residual risk _____

Residual risk _____

Residual risk _____

Overall tree risk rating Low ☐ Moderate ■ High ☐ Extreme ☐ — **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ — **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ■ Root collar buried Describe 3" deep

Basic Tree Risk Assessment Form

Client GSI | Date 4/4/23 | Time 1755

Address/Tree location DU-09 | Tree no. DU-09-3 | Sheet 1 of 1

Tree species Sequoia sempervirens | dbh 51" | Height 75' | Crown spread dia. 40'

Assessor(s) Cory Shields | Time frame 3 | Tools used Probe, mallet, binoculars

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to south	✓	✓	✓	4	N	N
2	House to southwest	✓	✓	✓	4	N	N
3	Overhead communication lines to north	✓	✓	✓	4	N	N
4							

Site Factors

History of failures Small branches < 2" diameter | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Snow/ice on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Codominant failures/inclusions

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ☐ Dense ■ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 65 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ Old topping cut Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around codominant stems originating from topping

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ _____

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

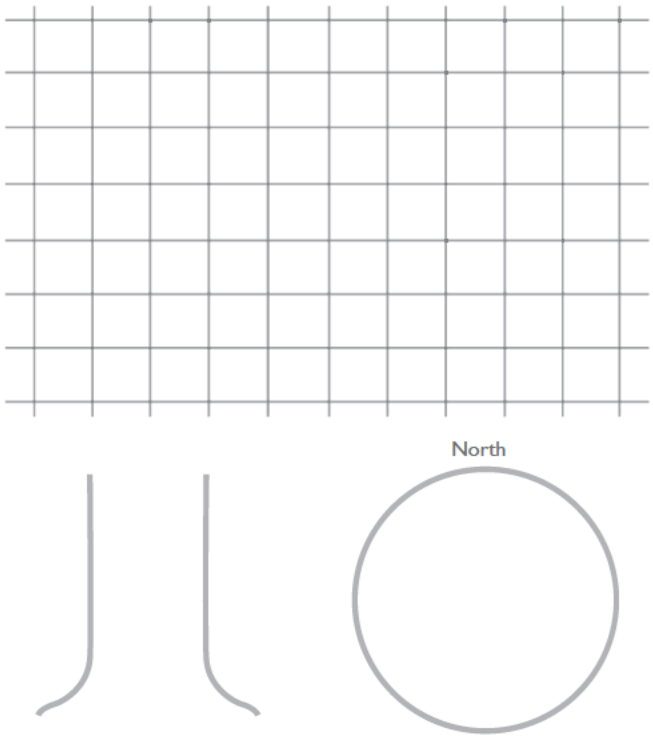
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Canopy	Codominant	18"	40'	1	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
			18"	40'	2	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
			18"	40'	3	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	●	○	○	Low
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions Due to this species' good tolerance of root pruning, its immature size, and the DBH, a 26' radius tree protection zone is recommended.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

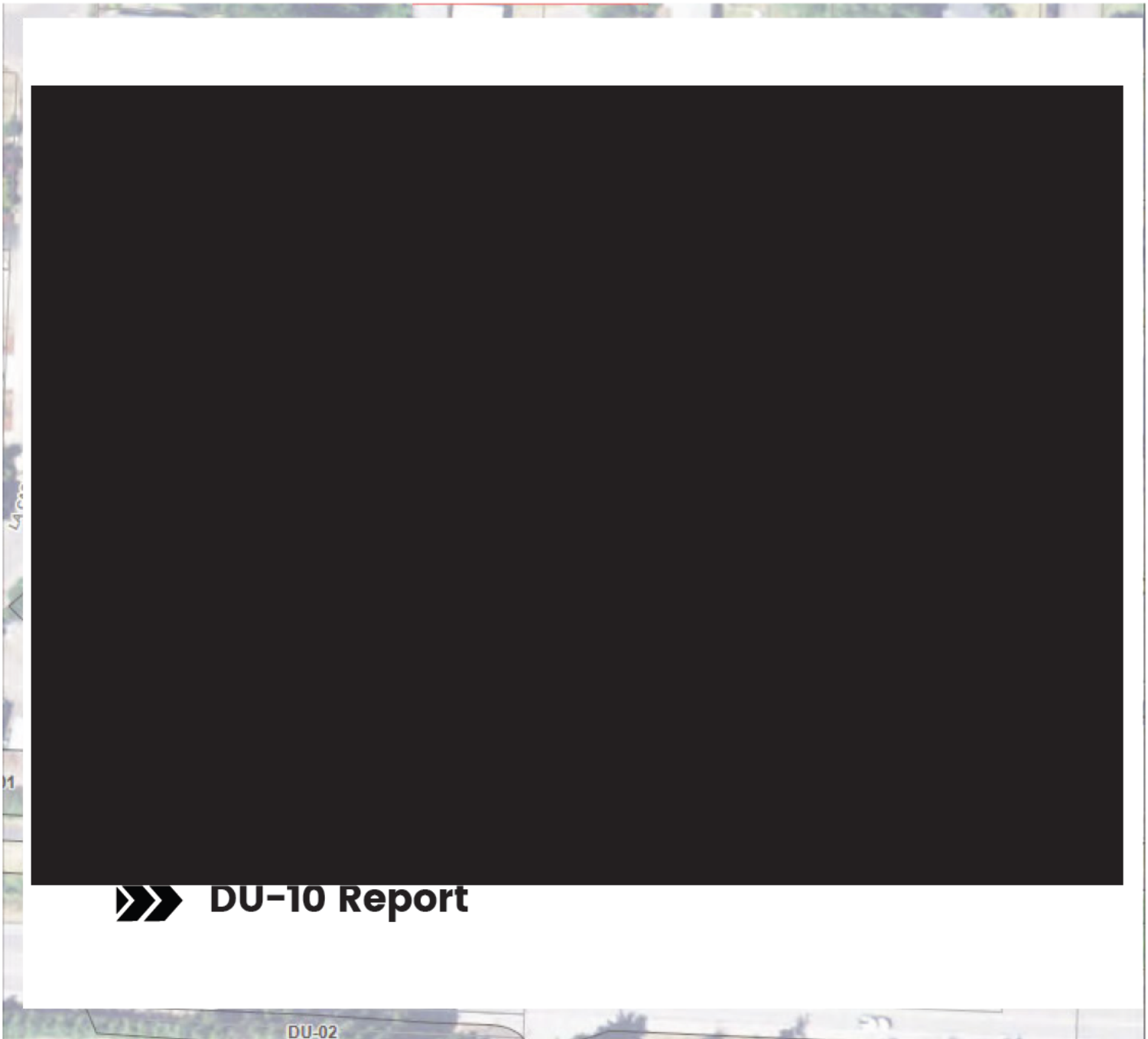
Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

SPADE TREE PRESERVATION CCB: 233735

June 2023

ARBORIST REPORT

Prepared by: Cory Shields of Spade Tree Preservation



DU-10 Report

Arborist Report

[redacted]

Eugene, OR

Prepared for:

Groundwater Solutions, Inc.

dba GSI Water Solutions, Inc.

650 NE Holladay St., Suite 900

Portland, OR 97232

for

JH Baxter Removal Action

Project Number: 02060.005.004

Prepared by:

Cory Shields

Certified Arborist PN-8292A

Tree Risk Assessment Qualified

International Society of Arboriculture

29110 Sheep Head Road

Brownsville, OR 97327

Overview

This report covers the mitigation recommendations for the trees at [redacted] Street hereto referenced as DU-10. There are two total individual trees under the purview of this report, in addition to several smaller trees and shrubs not covered under the tree assessment forms. Figure 1 details the locations of the trees within DU-10. As detailed in Figure 2, soil removal on the eastern side of DU-10 will be at an 18-inch depth, which is where any potential tree impacts would be.

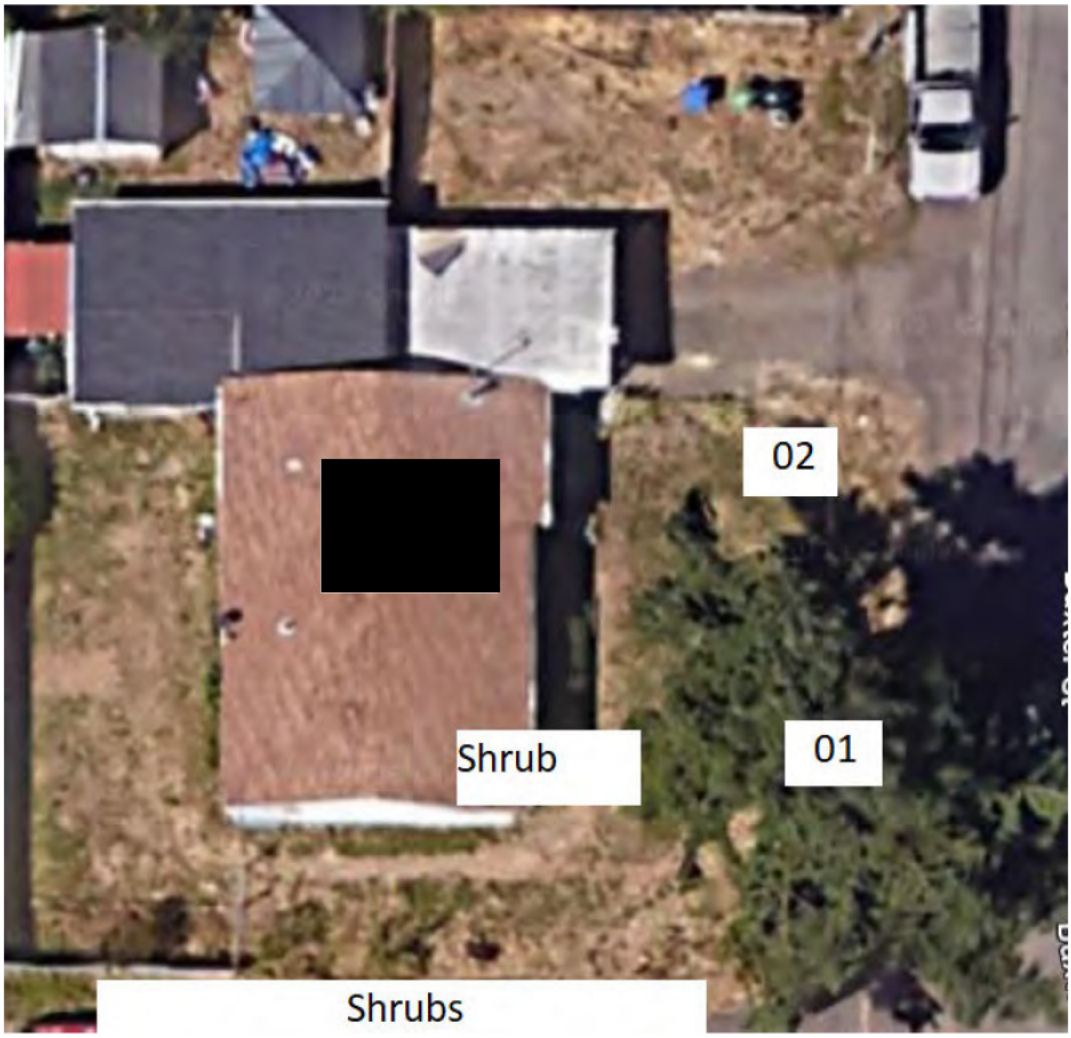


Figure 1

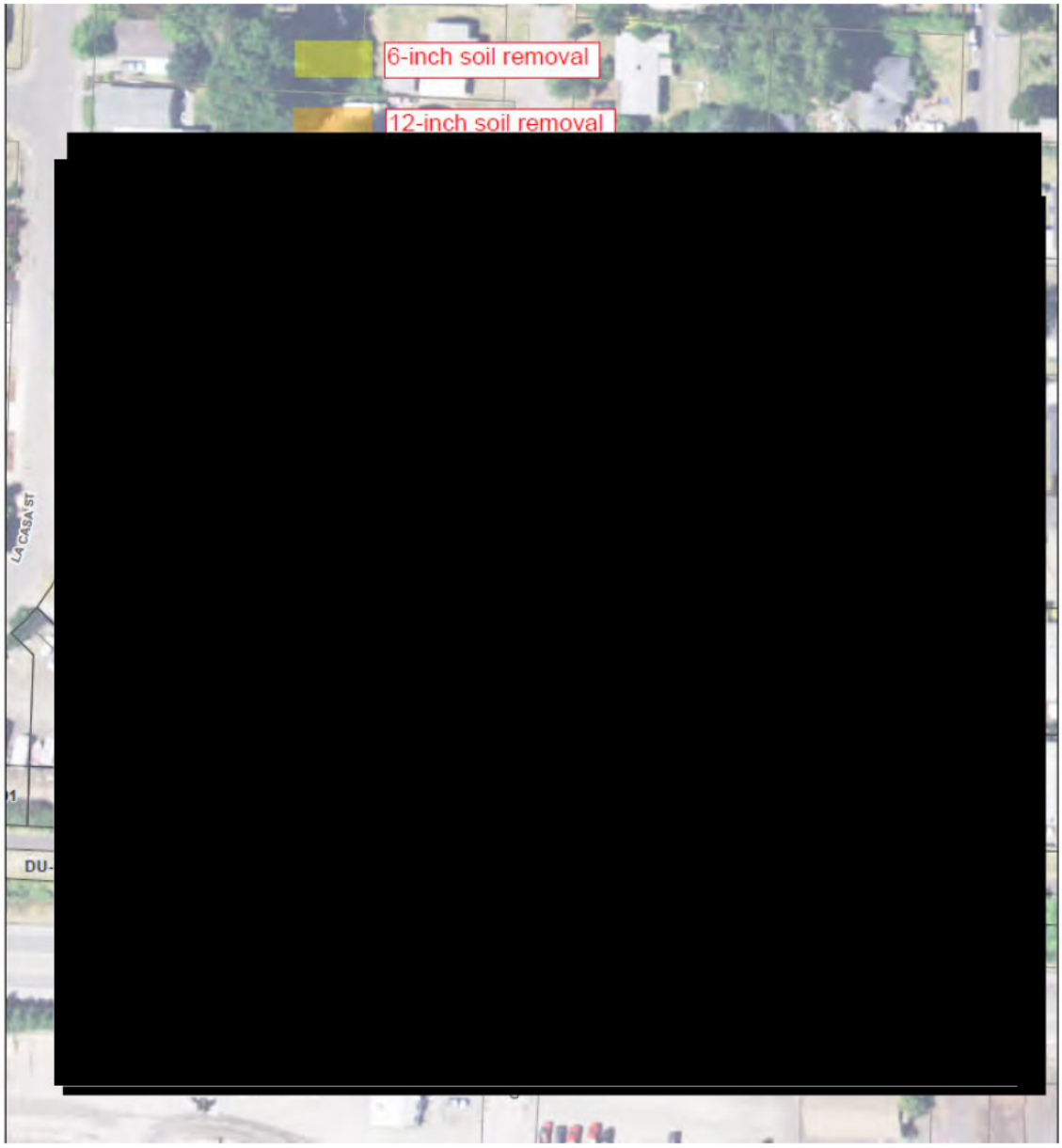


Figure 2

DU-10-01

Located on the eastern portion of the property in the front yard (Figure 1, 01), tree 01 is a *Psuedotsuga menziesii* with a diameter of 47", height of 85', and a crown spread of 40'. This tree originates in the City of Eugene right-of-way and to make any recommendations would be a conflict of interest. The best course of action would be to determine the extent of the soil removal in and near the tree and contact the City for options and their recommendations.

DU-09-02

Located to the north of tree 01 in the front yard near the driveway (Figure 1, 02), Tree 02 is an *Acer palmatum* with a diameter of 2", a height of 3', and a crown spread of 3' (Figures 3 and 4). Due to the species, the size, and the required soil removal depth, this tree would be best served by transplantation. This tree should be dug up to minimize root loss and once the tree is out of the ground, the soil can be washed off onsite. Care should be taken to place it in an appropriately sized container along with new planting soil. Once in the container with soil, it should be watered in to collapse air pockets and ensure the soil is covering cavities around the roots.

Shrubs

Located on the southern end of the property in a zone that may be on the property of DU-09 ([redacted] are a line of shrubs (Figures 5 through 9). These shrubs should be transplanted, and the roots washed of all soil onsite.

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Basic Tree Risk Assessment Form

Client GSI | Date 4-4-23 | Time 1630

Address/Tree location DU-10 | Tree no. DU-10-1 | Sheet 1 of 1

Tree species Pseudotsuga menziesii | dbh 47" | Height 85' | Crown spread dia. 40'

Assessor(s) Cory Shields | Time frame 3 years | Tools used Probe, mallet, binoculars

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Traffic on road to east	✓	✓	✓	1	N	N
2	Telecom wires to east	✓	✓	✓	4	N	N
3	House to west		✓	✓	4	N	N
4							

Site Factors

History of failures Small broken branches | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ■ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ■ ~30 % Describe Paved road 7' to east

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ | **Abiotic** screws in trunk

Species failure profile Branches ■ Trunk ☐ Roots ■ Describe Overextended branch failures, root plate failures

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ | **Relative crown size** Small ☐ Medium ☐ Large ■

Crown density Sparse ☐ Normal ☐ Dense ■ | **Interior branches** Few ☐ Normal ☐ Dense ■ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 80 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ■

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around codominant union

Main concern(s) Topped codominant stem at ~60'

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ _____

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean 5 ° Corrected? _____

Response growth Around codominant

Main concern(s) Codominant

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure

Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

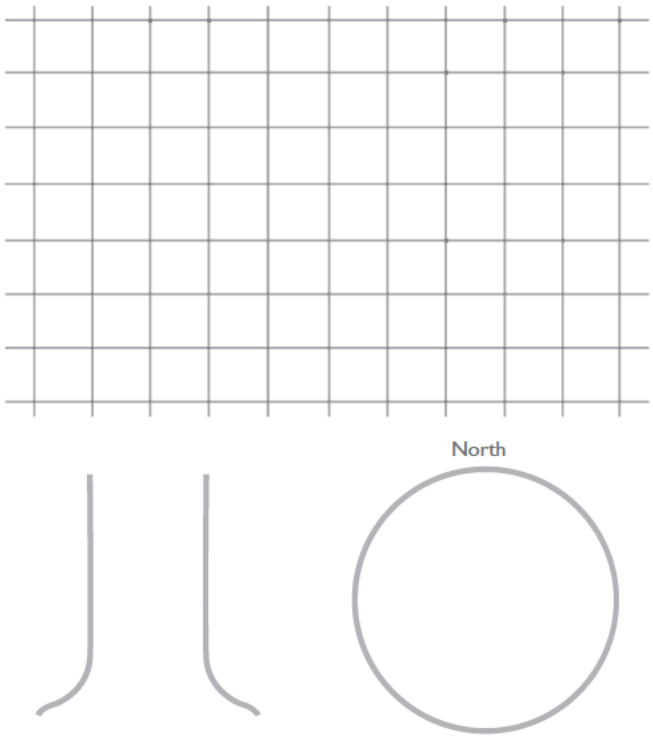
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown	Codominant stems	14"	60'	1	Wires	○	●	○	○	●	○	○	○	●	○	○	○	○	○	○	●	Low
			14"	50'	2	N/A	○	●	○	○	○	○	○	●	○	●	○	○	○	●	○	○	Low
			14"	55'	3	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
2	Trunk	Codominant stems	30"	30'	1	Wires	○	●	○	○	●	○	○	○	●	○	○	○	○	○	○	●	Low
			30"	30'	2	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	●	○	○	Low
			30"	30'	3	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	○	○	●	Low
3							○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target: Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions City of Eugene owned tree. This species has Low tolerance of root disturbances and is a mature specimen. Based on these factors and the DBH, a 59' radius from the trunk tree protection zone is recommended. This specimen is in COE ROW and root impacts should have COE approval.

Mitigation options Remove codominant in upper crown — **Residual risk** Low

Cable main codominant — **Residual risk** Low

Residual risk _____

Residual risk _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4-5-23 | Time 1020

Address/Tree location DU-10 | Tree no. DU-10-2 | Sheet 1 of 1

Tree species Acer palmatum | dbh 2" | Height 3' | Crown spread dia. 3'

Assessor(s) Cory Shields | Time frame 3 years | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Fence	✓	✓	✓	1	Y	N
2							
3							
4							

Site Factors

History of failures N/A | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 80 % Chlorotic _____% Necrotic 20 %

Pests _____ **Abiotic** _____

Species failure profile Branches ☐ Trunk ☐ Roots ■ Describe Intolerant of root impacts

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ House 30' to west **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 70 %

Dead twigs/branches ■ 5 % overall Max. dia. 0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ■ Thinned ☐ Raised ▣

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ■ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean 5 ° Corrected? _____

Response growth Around wound at base

Main concern(s) Wound at base

Load on defect N/A ☐ Minor ■ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ■ Possible ■ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ■ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth Around wound at base

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

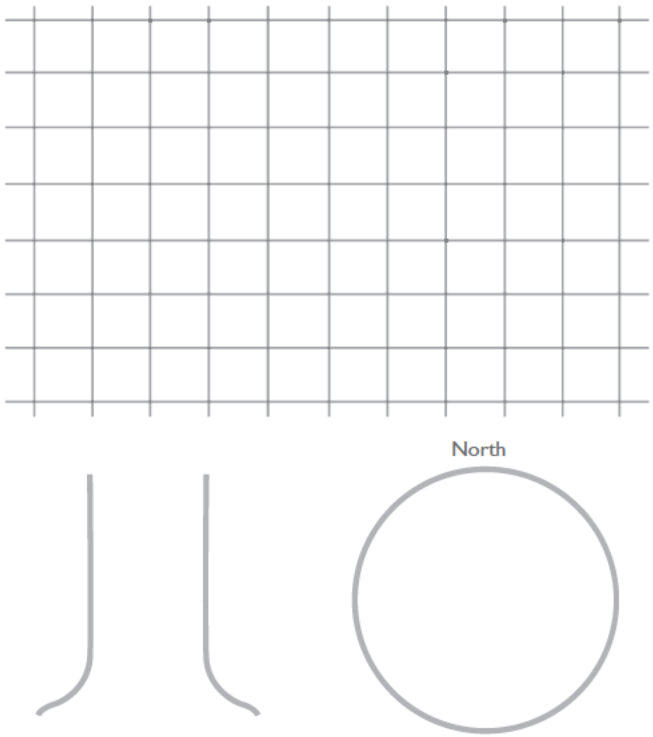
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Trunk	Wound at base	3"	2'	1	N/A	●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
2							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
3							●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions
This species has Low tolerance of root disturbances and is a young specimen. Based on these factors and the DBH, a 5' radius from the trunk tree protection zone is recommended.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

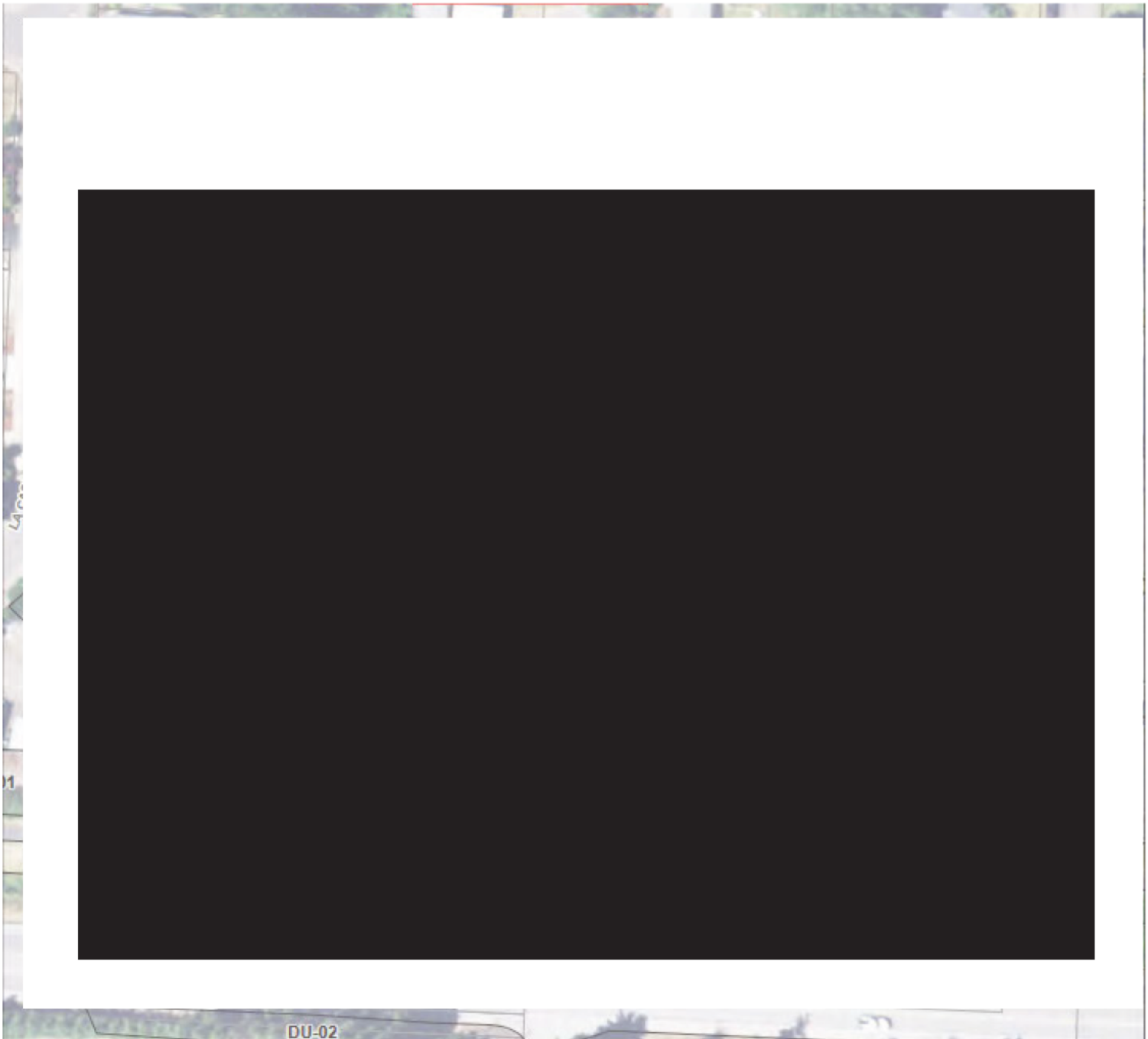
Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

SPADE TREE PRESERVATION CCB: 233735

June 2023

ARBORIST REPORT

Prepared by: Cory Shields of Spade Tree Preservation



Arborist Report

[redacted]

Eugene, OR

Prepared for:

Groundwater Solutions, Inc.

dba GSI Water Solutions, Inc.

650 NE Holladay St., Suite 900

Portland, OR 97232

for

JH Baxter Removal Action

Project Number: 02060.005.004

Prepared by:

Cory Shields

Certified Arborist PN-8292A

Tree Risk Assessment Qualified

International Society of Arboriculture

29110 Sheep Head Road

Brownsville, OR 97327

Overview

This report covers the mitigation recommendations for the trees at [redacted] Baxter Street hereto referenced as DU-11. There are five total individual trees under the purview of this report, in addition to several smaller trees and shrubs not covered under the tree assessment forms. There is also a tree from [redacted] (DU-15) to the North that would be impacted by the soil removal efforts. Figure 1 details the locations of the trees within DU-11 and the hand dig area for the tree to the north. As detailed in Figure 2, soil removal on the southern side of DU-11 will be at an 18-inch plus depth, the northern side will be excavated to 12-inch depth.

Figure 1

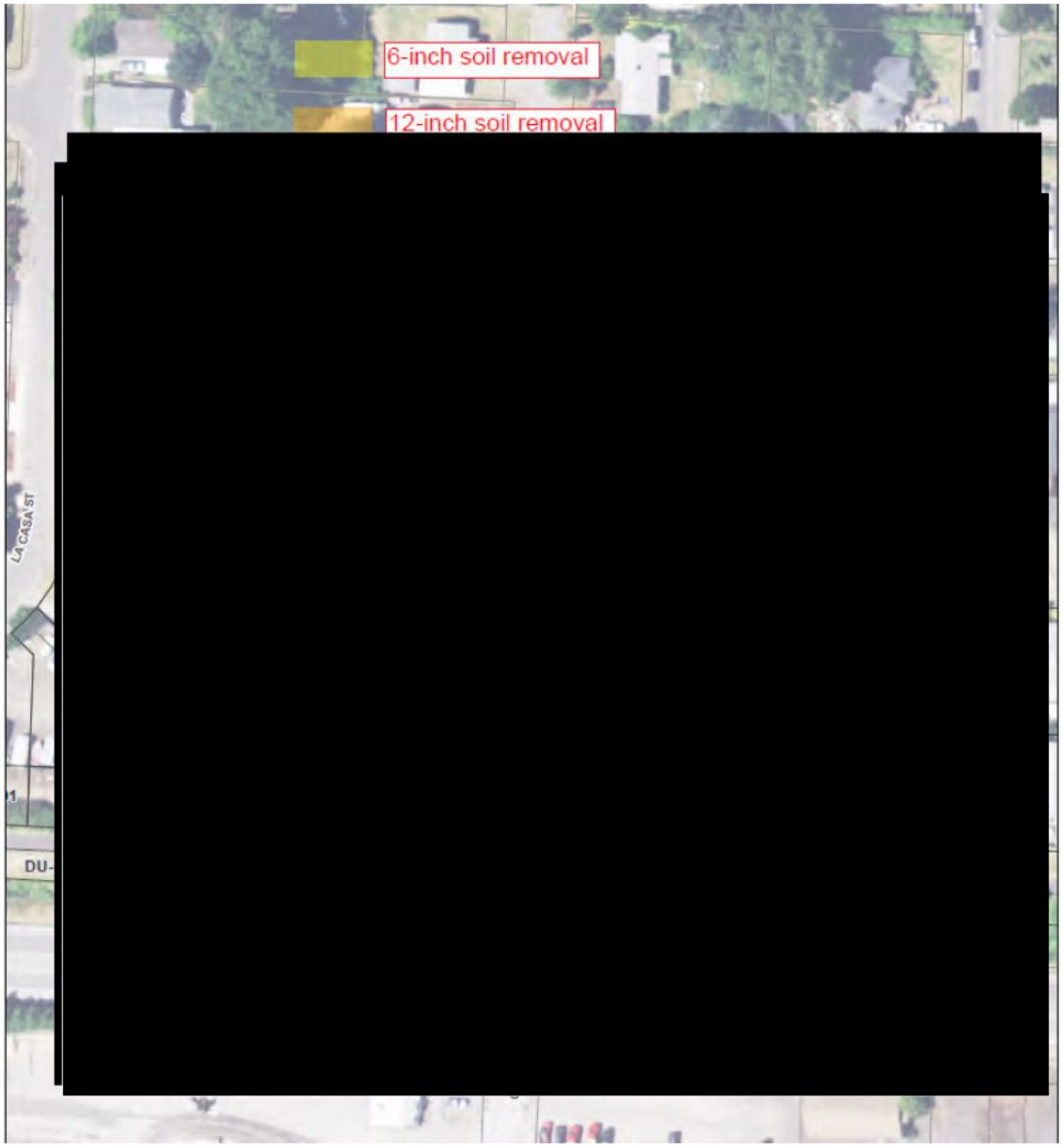


Figure 2

DU-11-01

Located on the western portion of the property in the front yard (Figure 1, 01), tree 01 is a *Picea pungens* with a diameter of 17", height of 40', and a crown spread of 30'. This individual has several issues and defects: it is located within 10' of the house and driveway (Figure 3), there are several wounds to the trunk, some with metal hardware, and there are codominant stems at 20' up the trunk (Figures 4 and 5). Due to the amount of soil removal, the defects in the tree,

and the proximity to targets, it is recommended that this tree is removed. The loss of soil volume would cause significant instability and/or considerable dieback in the specimen resulting in an unacceptable risk level. To reduce the risk of root failure, the tree should be removed prior to the soil removal.

DU-11-02

Located to the southern side of the property, to the southeast of the house (Figure 1, 02), Tree 02 is an *Psuedotsuga menziesii* with a diameter of 24", a height of 70', and a crown spread of 75' (Figure 6). The tree has several defects including a codominant stem at 40' up the main trunk and an unbalanced canopy to the south (Figures 7 and 8). This species has a poor tolerance of root disturbances, and, due to the depth of soil removal and the preexisting defects, it is recommended that this tree be removed. Due to the amount of soil removal, the defects in the tree, and the proximity to targets, it is recommended that this tree is removed. The loss of soil volume would cause significant instability and/or considerable dieback in the specimen resulting in an unacceptable risk level. To reduce the risk of root failure, the tree should be removed prior to the soil removal.

DU-11-03

Located to the southern side of the property, to the southeast of the house (Figure 1, 03), Tree 03 is a *Juglans nigra* with a diameter of 6", a height of 25', and a crown spread of 15'. The tree has a girdling branch wrapping around the main stem (Figure 9), is poorly sited next to the fence line, and is in close proximity to the road. This species has a poor tolerance of root disturbances, and, due to the depth of soil removal and the preexisting defects, it is recommended that this tree be removed. The loss of soil volume would cause significant instability and/or considerable dieback in the specimen resulting in an unacceptable risk level over the long term. The size of the tree would allow it to be removed at the same time as the soil removal action.

DU-11-04

Located to the eastern side of the property, to the east of the house in the backyard (Figure 1, 04), Tree 04 is an *Acer macrophyllum* with a mult-istem diameter of 26", a height of 50', and a crown spread of 40' (Figure 10). The tree has several defects including a codominant stem at the base of the tree and an unbalanced canopy to the south (Figures 11 and 12). This species has a poor tolerance of root disturbances. Due to the amount of soil removal, the defects in the tree, and the proximity to targets, it is recommended that this tree is removed. The loss of soil volume would cause significant instability and/or considerable dieback in the specimen resulting in an unacceptable risk level. To reduce the risk of root failure, the tree should be removed prior to the soil removal.

DU-11-05

Located to the north of tree 04 in the backyard (Figure 1, 05) tree 05 is a *Crataegus laevigata* with a multi-stem diameter of 11", a height of 35', and a crown spread diameter of 50' (Figure 13). The central stem has been removed, leaving two overextended scaffold branches to the east and west (Figures 14 and 15). The eastern branch has a large decay pocket in the trunk on the southern side at 5' (Figure 16). Due to the significant defects in this tree, removal is the recommended course of action. Maintaining the tree in the landscape after the soil removal would create an unacceptable level of risk. Due to the tree's size, the tree should be removed prior to the soil removal activities.

DU-15-06

Located on the property at [redacted] designated DU-15, along the southeastern fence line is a *Juglans nigra* (DU-15-06) with a diameter of 33" a height of 55' and a crown spread diameter of 45'. This tree's root system is incorporated by the property lines of DU-11. This tree is a high value, well established tree. While this species is typically intolerant of root disturbances, the soil removal level of 12" is within levels that should not significantly disrupt the tree specimen. The northeastern corner of DU-11 encompasses a portion of the critical root zone of DU-15-06, this zone is an approximate area of 30' to the west by 25' to the south beginning at the northeast corner. This section should be excavated by hand, an air or water assisted pressurized system, or a vactor excavator. This area can be marked by the consulting arborist and the excavation should be done with the consulting arborist onsite. After the excavation, the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay). Weekly watering should be performed for the following two summers. The tree should be monitored for a minimum of three years after the removal activity to ensure the tree's continued survival and stability.

Shrubs

Located on the northern side of the house, on the west side of the backyard fence are a line of shrubs and plants (Figure 17). These plants should be transplanted, with the native soil washed and removed.

Figure 3

Figure 4

Figure 5

Figure 6

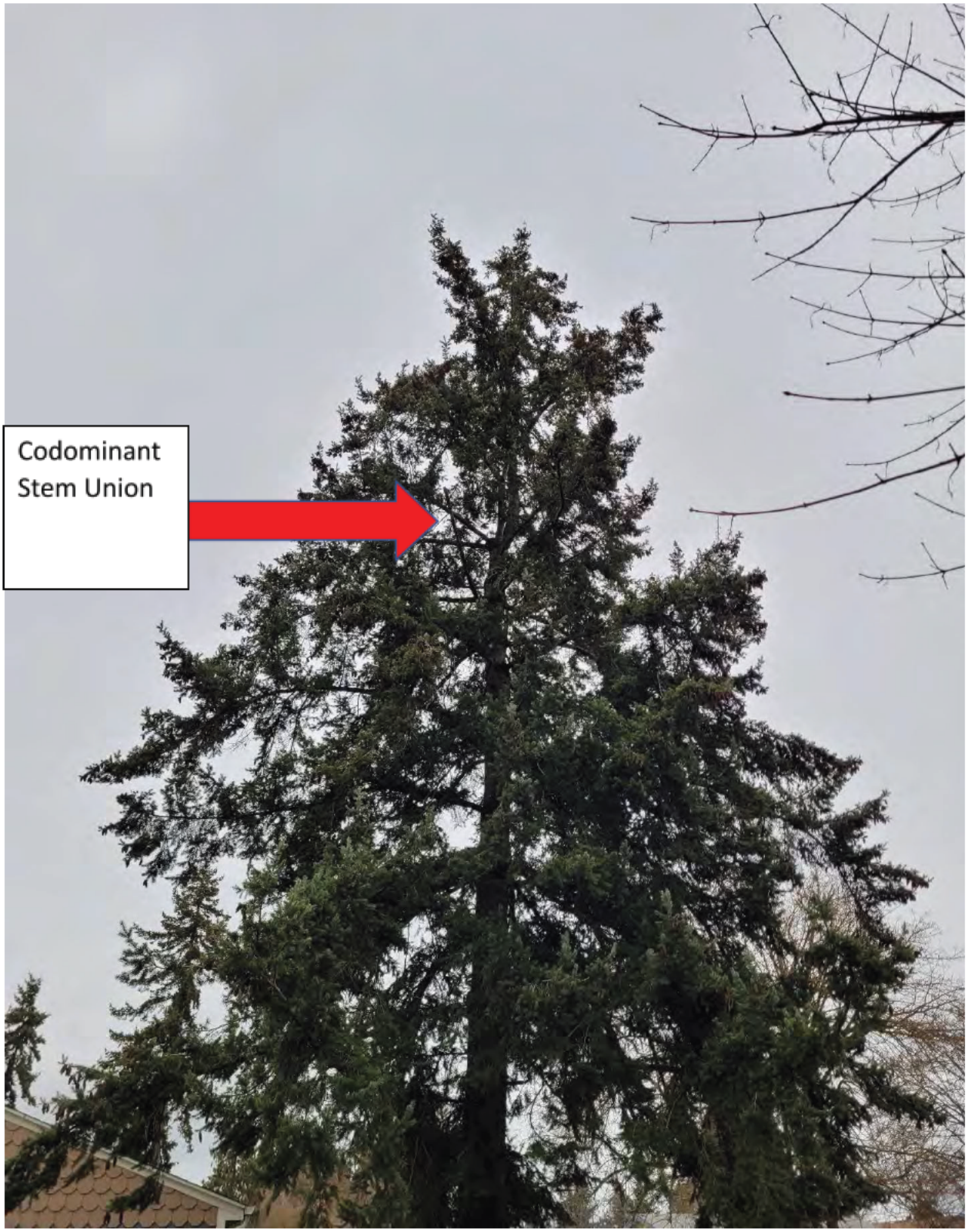


Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

Figure 12

Figure 13

Figure 14

Figure 15

Figure 16

Figure 17

Basic Tree Risk Assessment Form

Client GSI | Date 4-5-23 | Time 1500

Address/Tree location DU-11 | Tree no. DU-11-1 | Sheet 1 of 1

Tree species Picea pungens | dbh 17" | Height 40' | Crown spread dia. 30'

Assessor(s) Cory Shields | Time frame 3 years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to east		✓	✓	4	N	N
2	Traffic on road to west		✓	✓	1	N	N
3							
4							

Site Factors

History of failures None aparent | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ■ 25 % Describe Concrete 5' to S, 8" to E

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ☐ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 90 % Chlorotic _____% Necrotic 10 %

Pests _____ | **Abiotic** Nails in trunk

Species failure profile Branches ☐ Trunk ■ Roots ☐ Describe Codominant failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ House to east | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 60 %

Dead twigs/branches ■ 10 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other Stub cuts, tear out

Cracks ☐ _____ Lightning damage ☐

Codominant ■ Stem 20' up Included bark ■

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around codominant

Main concern(s) Codominant

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around old wounds

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

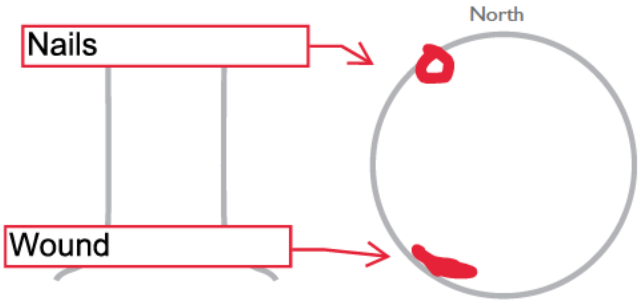
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Codominant	7"	25'	1	N/A	●	○	○	○	○	●	○	○	●	○	○	○	○	○	●	○	Low
			7"	38"	2	N/A	●	○	○	○	●	○	○	○	●	○	○	○	○	○	○	●	Low
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This species has moderate tolerance of root disturbances and is a young specimen. Based on these factors and the DBH, a 12' radius from the trunk tree protection zone is recommended.

Mitigation options N/A **Residual risk**

Residual risk

Residual risk

Residual risk

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval**

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client GSI | Date 4-5-23 | Time 1520

Address/Tree location DU-11 | Tree no. DU-11-2 | Sheet 1 of 1

Tree species Psuedotsua Menziesii | dbh 24" | Height 70' | Crown spread dia. 45'

Assessor(s) Cory Shields | Time frame 3 years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to northwest	✓	✓	✓	4	N	N
2	Traffic on road to S	✓	✓	✓	1	N	N
3							
4							

Site Factors

History of failures None aparent | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ■ 25 % Describe Concrete 5' to S, 8" to E

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ☐ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ | **Abiotic** Graffiti on trunk

Species failure profile Branches ■ Trunk ☐ Roots ■ Describe Overextend branch failures, root plate failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ House to northwest | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 90 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other Stubbed off branches

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ■

Weak attachments ■ At codominant Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around codominant

Main concern(s) Codominant stem, unbalanced crown

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ For both

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐ For both

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ■ Distance from trunk 4'

Root plate lifting ☐ Soil weakness ☐

Response growth Around damaged root

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

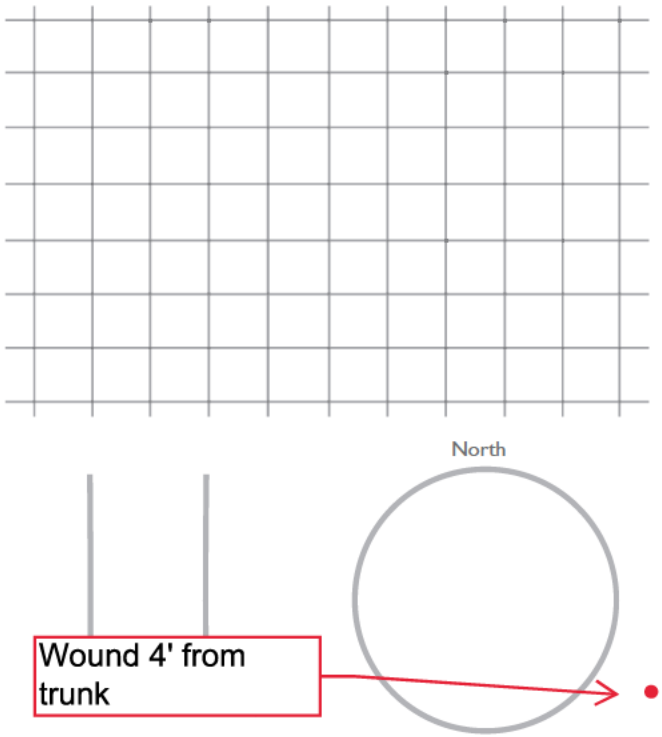
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Codominant unbalanced crown	12"	30'	1	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
			12"	30'	2	Fence	○	●	○	○	●	○	○	○	●	○	○	○	○	○	○	●	Low
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This species has low tolerance of root disturbances and is a young specimen. Based on these factors and the DBH, a 24' radius from the trunk tree protection zone is recommended. This specimen has some significant defects that could create hazards in the future.

Mitigation options N/A **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4-5-23 | Time 1600

Address/Tree location DU-11 | Tree no. DU-11-3 | Sheet 1 of 1

Tree species Juglans nigra | dbh 6" | Height 25' | Crown spread dia. 15'

Assessor(s) Cory Shields | Time frame 3 years | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Traffic on road to south	✓	✓	✓	1	N	N
2							
3							
4							

Site Factors

History of failures None aparent | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ■ 25 % Describe Concrete 5' to S, 8" to E

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ☐ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 98 % Chlorotic _____% Necrotic 2 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ■ Describe Overextend branch failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to south and east | **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 98 %

Dead twigs/branches ■ 2 % overall Max. dia. 0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other Girdling branch

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ■ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) Girdling branch

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around girdling branch

Main concern(s) Girdling branch

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth 0.5" Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth Around damaged root

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

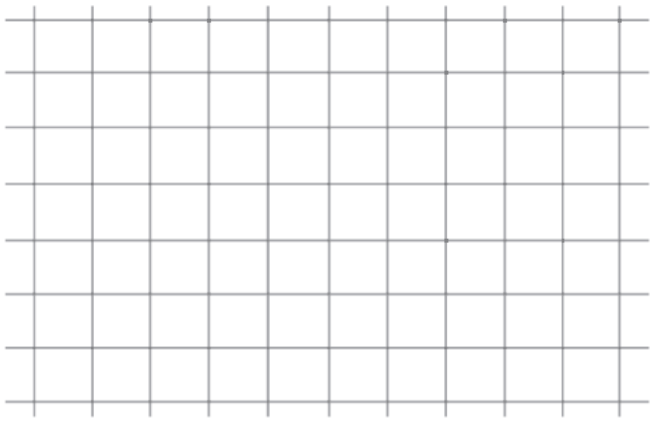
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Girdling branch	3"	15'	1	Fence	●				●				●					●			Low
							●				●				●							●	
2																							
3																							
4																							

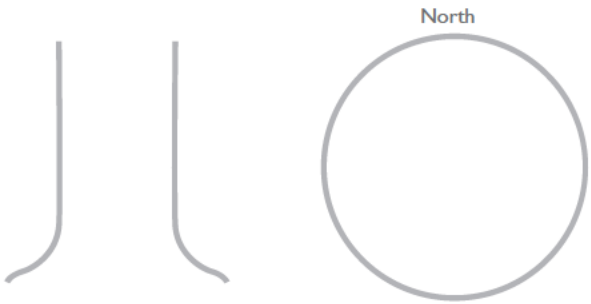
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low





Notes, explanations, descriptions

This species has low tolerance of root disturbances and is a young specimen. Based on these factors and the DBH, a 6' radius from the trunk tree protection zone is recommended. This specimen has some significant defects that could create hazards in the future.

Mitigation options N/A **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ■ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4-5-23 | Time 1615

Address/Tree location DU-11 | Tree no. DU-11-4 | Sheet 1 of 1

Tree species Acer macrophyllum | dbh 26" Multistem | Height 50' | Crown spread dia. 40'

Assessor(s) Cory Shields | Time frame 3 years | Tools used Probe, binoculars, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Shed to northwest		✓	✓	4	N	N
2							
3							
4							

Site Factors

History of failures Broken branches **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W **Common weather** Strong winds ■ Ice ☐ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** Chain included in trunk

Species failure profile Branches ■ Trunk ■ Roots ☐ Describe Codominant stem failures, inclusions

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Trees to north **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 60 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ■ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) Deadwood

Load on defect N/A ☐ Minor ■ Moderate ☐ Significant ☐ _____

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around girdling chain

Main concern(s) Codominant

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ■ Distance from trunk 4'

Root plate lifting ☐ Soil weakness ☐

Response growth Around chain

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

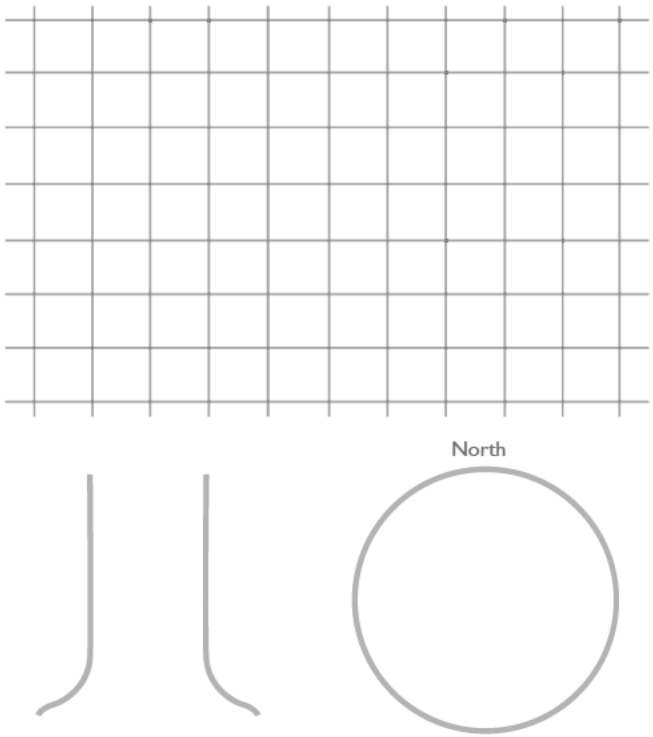
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Trunk	Codominant stems	10"	30'	1	Fence	●	○	○	○	●	○	○	○	●	○	○	○	○	○	●	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions
This species has low tolerance of root disturbances and is a mature specimen. Based on these factors and the DBH, a 33' radius from the trunk tree protection zone is recommended.

Mitigation options N/A **Residual risk** _____

Residual risk _____

Residual risk _____

Residual risk _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4-5-23 | Time 1630

Address/Tree location DU-11 | Tree no. DU-11-5 | Sheet 1 of 1

Tree species Crataegus laevigata | dbh 11" Multistem | Height 35' | Crown spread dia. 50'

Assessor(s) Cory Shields | Time frame 3 years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Fence to north and east	✓	✓	✓	4	N	N
2							
3							
4							

Site Factors

History of failures Central stem appears to have failed **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W **Common weather** Strong winds ■ Ice ☐ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ■ Roots ☐ Describe Codominant stem failures, weak attachement

Load Factors

Wind exposure Protected ■ Partial ☐ Full ☐ Wind funneling ☐ Trees to northeast & south **Relative crown size** Small ☐ Medium ☐ Large ■

Crown density Sparse ■ Normal ☐ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 55 %

Dead twigs/branches ■ 5 % overall Max. dia. 1"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other Stub cuts

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ■ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around decay pockets

Main concern(s) overextended branches

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole 15 % circ. Depth 4" Poor taper ☐

Lean 45 ° Corrected? No

Response growth Around codominant and wounds

Main concern(s) Codominant

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure

Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

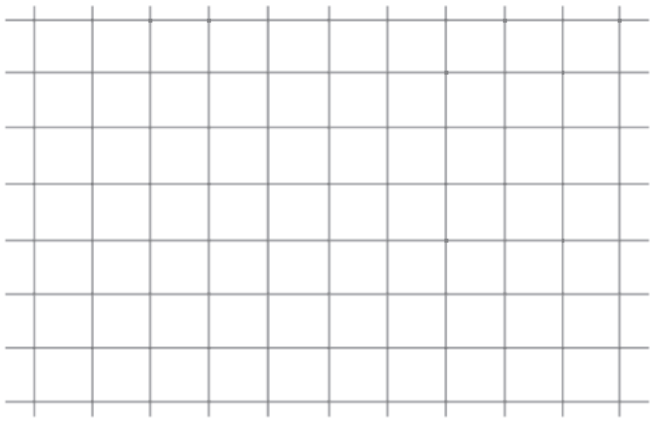
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Trunk	Codominant stems	5"	20'	1	N/A	○	●	○	○	○	○	○	●	○	●	○	○	○	●	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

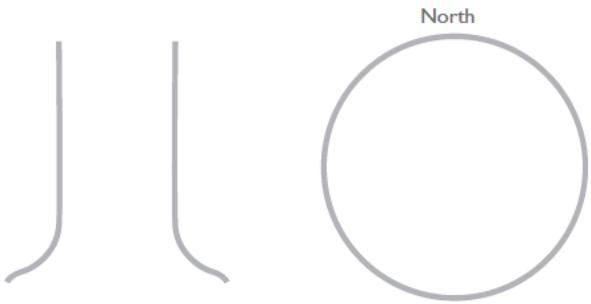
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low





Notes, explanations, descriptions This species has moderate tolerance of root disturbances and is a mature specimen. Based on these factors and the DBH, a 11' radius from the trunk tree protection zone is recommended. This specimen has significant defects and is not worth retaining

Mitigation options Removal — **Residual risk** None

Residual risk _____

Residual risk _____

Residual risk _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

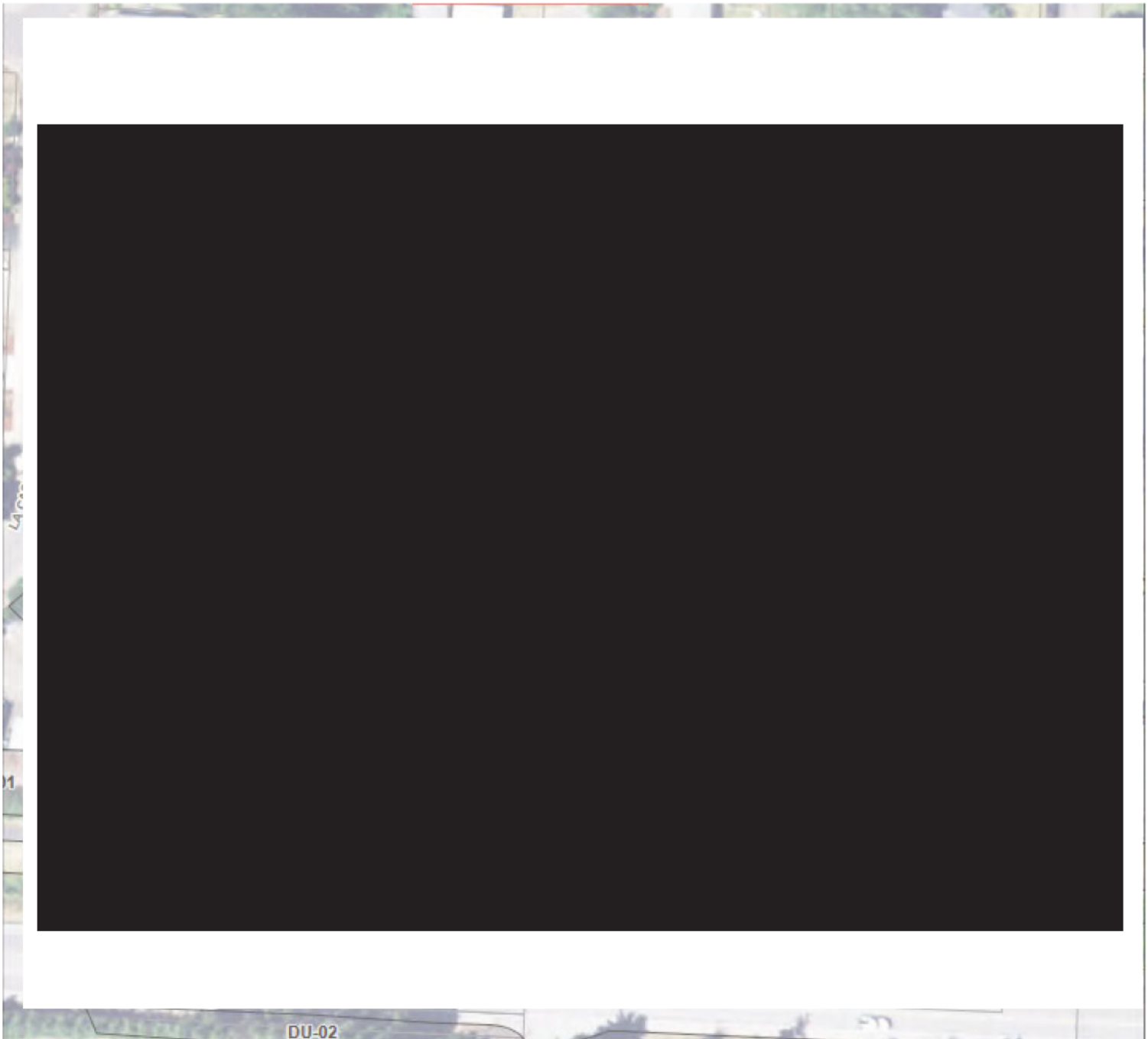
Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

SPADE TREE PRESERVATION CCB: 233735

June 2023

ARBORIST REPORT

Prepared by: Cory Shields of Spade Tree Preservation



Arborist Report

[redacted]

Eugene, OR

Prepared for:

Groundwater Solutions, Inc.

dba GSI Water Solutions, Inc.

650 NE Holladay St., Suite 900

Portland, OR 97232

for

JH Baxter Removal Action

Project Number: 02060.005.004

Prepared by:

Cory Shields

Certified Arborist PN-8292A

Tree Risk Assessment Qualified

International Society of Arboriculture

29110 Sheep Head Road

Brownsville, OR 97327

Overview

This report covers the mitigation recommendations for the trees at [redacted] Street hereto referenced as DU-15. There are five total individual trees under the purview of this report, in addition to several smaller trees and shrubs not covered under the tree assessment forms. Figure 1 details the locations of the trees. Table 1 lists the characteristics of tree number 03 through 05 as well as trees 07 through 15. As detailed in Figure 2, soil removal on the entirety of DU-15 will be excavated to a 12-inch depth.

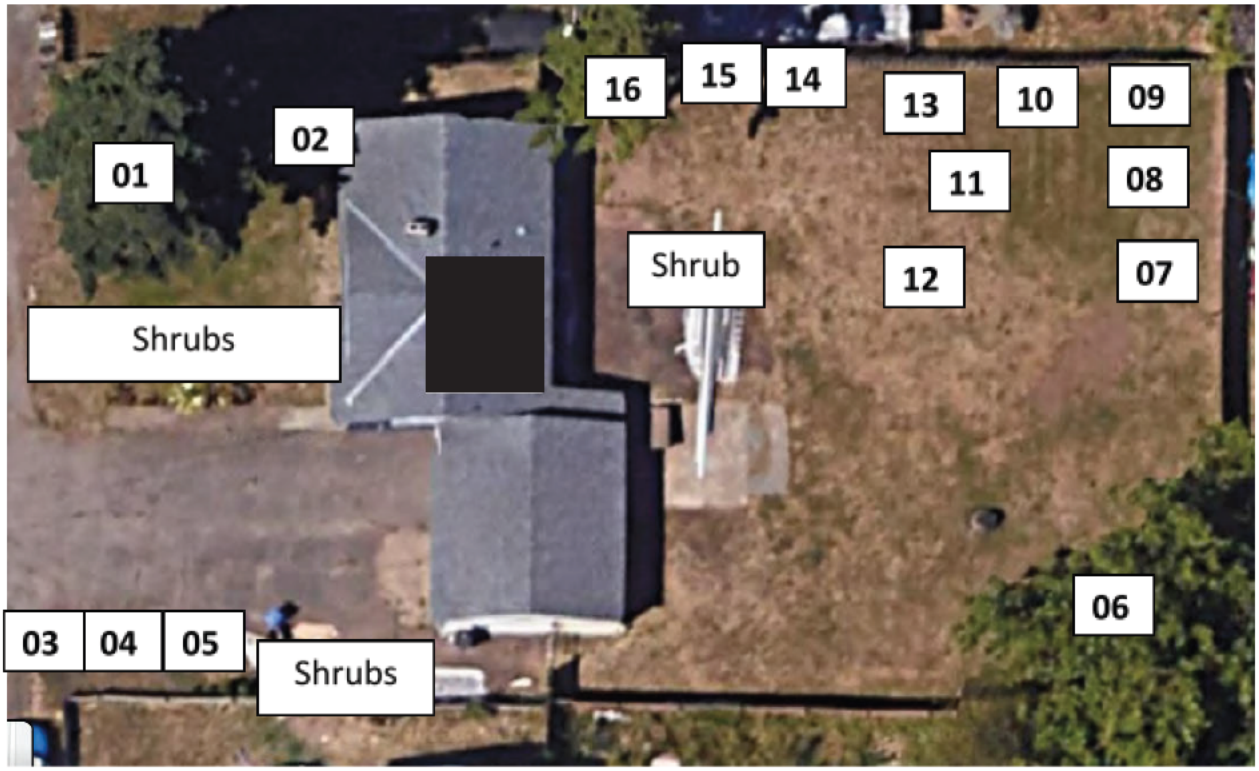


Figure 1

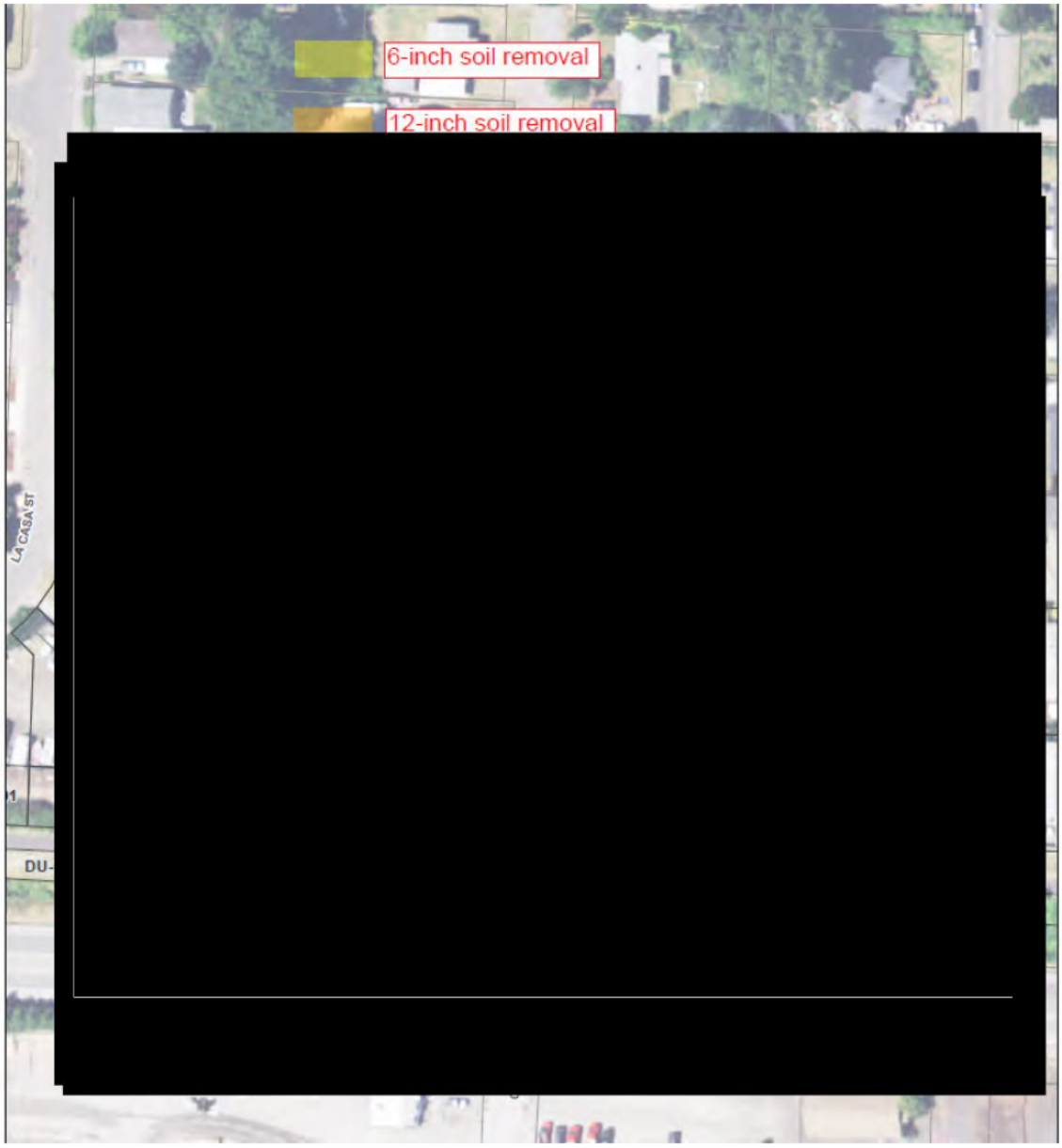


Figure 2

Table 1 Recommendations

Table 1 lists the characteristics of trees 03-05 and 07-15 since all of these individuals are close in size and mitigation activities. For each tree, transplant is the best option for long-term success. These trees should be dug up to minimize root loss and once they are out of the ground, the soil can be washed off onsite. Care should be taken to place them in an appropriately sized container along with new planting soil. Once in the container with soil, they should be watered

in to collapse air pockets and ensure the soil is covering cavities around the roots. The trees can be replanted once the fall/winter rains set in. If transplanting is not an option for any of the individual trees, a radius of 2' from the trunk should be excavated by hand, an air or water assisted pressurized system, or a vactor excavator. After the excavation, the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, and the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay). Weekly watering should be performed for the following two summers. The trees should be monitored for a minimum of three years after the removal activity to ensure the trees' continued survival and stability.

Table 1

Tree Number From Figure 1	Species	Diameter (Inches)	Height (Feet)	Crown Spread Diameter (Feet)
03	*Sequoia sempervirens*	1	5	4
04	*Calocedrus decurrens*	1	3	3
05	*Calocedrus decurrens*	1	3	3
07	*Malus domestica* 'Fuji'	1	5	2
08	*Pyrus communis* 'Bartlett'	1	4	3
09	*Pyrus pyrifolia*	1	5	2
10	*Prunus maritima*	1	3	2
11	*Prunus avium* 'Lapins'	1	4	2
12	*Ficus carica*	1	2	2
13	*Prunus persica*	1	5	2
14	*Sequoia sempervirens*	1	6	5
15	*Sequoia sempervirens*	1	4	3

DU-15-01

Located on the northwestern portion of the property in the front yard (Figure 1, 01), tree 01 is a *Psuedotsuga menziesii* with a diameter of 31", height of 75', and a crown spread of 35' (Figure 3). This tree is a high value, well established tree. While this species is typically intolerant of root

disturbances, the soil removal level of 12” is within levels that should not significantly disrupt the health or stability of the specimen. While there are some defects with the individual tree (overextended branches, hanger, root crown buried), these defects can be corrected to reduce the overall risk of the tree, and, in the case of the root crown, the soil excavation will mitigate the issue. The area within a 17’ radius or a 35’ diameter with the trunk as the center point should be excavated by hand, an air or water assisted pressurized system, or a vactor excavator. This area is the critical root zone, and no heavy equipment should be operated or staged within it. The excavation should be done with the consulting arborist onsite. After the excavation, the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, and the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay). Weekly watering should be performed for the following two summers. The tree should be monitored for a minimum of three years after the removal activity to ensure the tree’s continued survival and stability.

DU-15-02

Located to the southern side of the property, to the southeast of the house (Figure 1, 02), Tree 02 is an *Ilex aquifolium* with a multi-stem diameter of 6”, a height of 10’, and a crown spread of 8’ (Figure 4). The tree has several defects including codominant stems at the base, and *Ilex aquifolium* are an invasive species in Oregon, especially in, or near, riparian areas. This species has a good tolerance of root disturbances, but, due to the preexisting defects and invasive issue, it is recommended that this tree be removed. This tree is small enough that it can be removed at the same time as the soil removal activity.

DU-15-06

Located at the southeastern corner of DU-15, is a *Juglans nigra* (Figure 1, 06) with a diameter of 33” a height of 55’ and a crown spread diameter of 45’ (Figure 5). This tree’s root system is incorporated by the property lines of DU-11. This tree is a high value, well established tree. While this species is typically intolerant of root disturbances, the soil removal level of 12” is within levels that should not significantly disrupt the tree specimen. The disturbances will also only encapsulate approximately 50% of the rooting area of the tree between properties DU-11 and DU-15. The southeastern corner of DU-15 encompasses a portion of the critical root zone, this zone is an approximate area of 30’ to the west by 30’ to the north beginning at the southeast corner. This area is the critical root zone, and no heavy equipment should be operated or staged within it. This section should be excavated by hand, an air or water assisted pressurized system, or a vactor excavator. This area can be marked by the consulting arborist and the excavation should be done with the consulting arborist onsite. After the excavation, the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay), and weekly watering should be performed for the

following two summers. The tree should be monitored for a minimum of three years after the removal activity to ensure the tree's continued survival and stability.

DU-11-16

Located on the northeastern corner of the house in the backyard (Figure 1, 16), tree 16 is a *Psuedotsuga menziesii* with a diameter of 27", a height of 75', and a crown spread diameter of 35' (Figure 6). There was a codominant stem that was removed to the eastern side of the tree, leaving the western stem unbalanced (Figures 7 and 8). The cut is too large for the tree to reasonably compartmentalize, and the unbalanced nature of the remaining stem creates a risk to the houses to the northwest and southwest. Due to the amount of soil removal, the defects in the tree, and the proximity to targets, it is recommended that this tree is removed. The loss of soil volume would cause significant instability and/or considerable dieback in the specimen resulting in an unacceptable risk level. To reduce the risk of root failure, the tree should be removed prior to the soil removal.

Shrubs

Located on the western side of the house, the southern side of the driveway, and in the backyard are a series of shrubs (Figures 9-14). These plants should be transplanted, with the native soil washed and removed.

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

Figure 12

Figure 13

Figure 14

Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 1545

Address/Tree location DU-15 | Tree no. DU-15-1 | Sheet 1 of 1

Tree species Pseudotsuga menziesii | dbh 31" | Height 75' | Crown spread dia. 35'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet, binoculars

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to east		✓	✓	4	N	N
2	Traffic on road to west	✓	✓	✓	1	N	N
3	House to northeast		✓	✓	4	N	N
4	Power-lines to west		✓	✓	4	N	N

Site Factors

History of failures Branch failures ~3-5" | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ■ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe Planter 2' from trunk

Prevailing wind direction west | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ■ Describe Overextended branch failures, root plate failure

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 70 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number 1 Max. dia. 4"

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other Stub cuts

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ■ stubs remain Similar branches present ■

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) Overextended branches, hanger

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ _____

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ■ overextended: possible, hanger: imminent

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) Sap ooze

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth ~8" Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ■ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth Around exposed, damaged roots

Main concern(s) planter girdles root growth, damaged roots

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

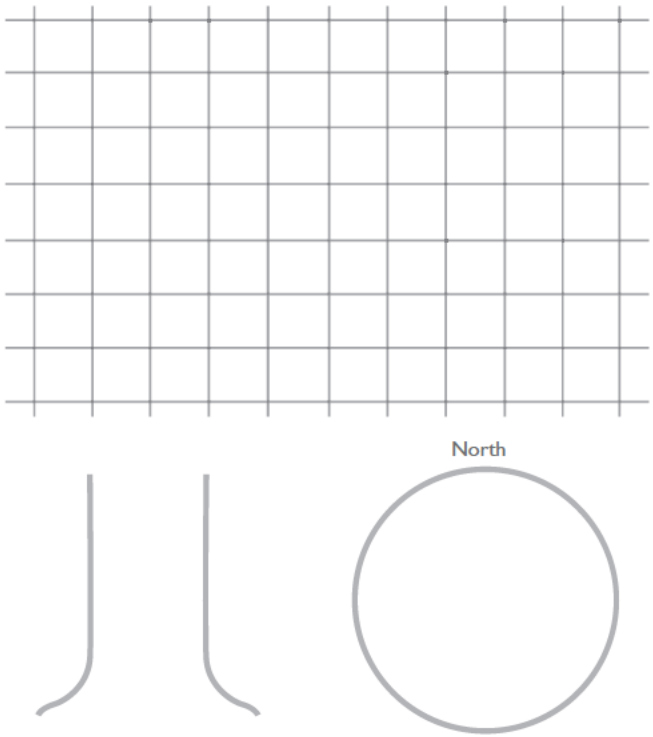
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Overextended branches	4"	20'	2	N/A		●			●				●							●	Low
			4"	20'	3	N/A		●					●		●					●			Low
2	Crown and Branches	Hanger	4"	50'	2	N/A				●		●				●						●	Mod
			4'	50'	3	N/A				●			●				●			●			Mod
											●												
3	Roots and root collorq	Planter	25"	30'	2		●				●				●							●	Low
			25"	30'	3		●					●			●							●	Low
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions
This species has low tolerance of root disturbances and is a mature specimen. Based on these factors and the DBH, a 39' radius from the trunk tree protection zone is recommended.

Mitigation options
1. Prune overextended branches — **Residual risk** Low
2. remove hanger — **Residual risk** low
Residual risk
Residual risk

Overall tree risk rating Low ☐ Moderate ■ High ☐ Extreme ☐
Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐
Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐
Recommended inspection interval Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1620

Address/Tree location DU-15 Tree no. DU-15-2 Sheet 1 of 1

Tree species Ilex aquifolium dbh 6" multistem Height 10 Crown spread dia. 8

Assessor(s) Cory Shields Time frame 3 Years Tools used Probe, mallet, binoculars

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	House to east		✓	✓	4	N	N
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 98 % Chlorotic _____% Necrotic 2 %

Pests _____ **Abiotic** _____

Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe Branch Inclusion

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ House to east **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 100 %

Dead twigs/branches ■ 2 % overall Max. dia. <0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around old cuts

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐ _____

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

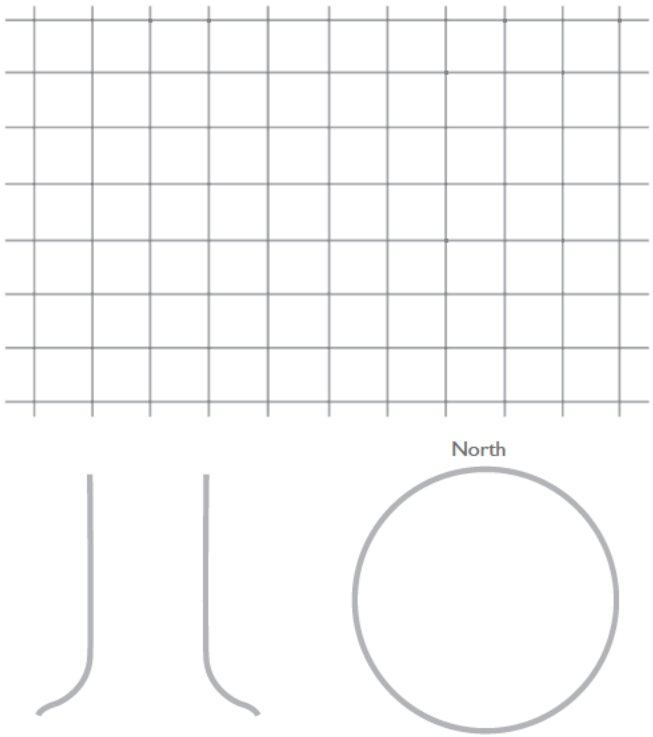
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has good tolerance of root disturbances and is an immature specimen. based on these factors and the DBH a 5" radius around the trunk is the recommended tree protection zone. However, this species is invasive near riparian areas, so removal is the best optior

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1630

Address/Tree location DU-15 Tree no. DU-15-3 Sheet 1 of 1

Tree species Sequoia sempervirens dbh 1" Height 5' Crown spread dia. 4

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 98 % Chlorotic _____% Necrotic 2 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion, codominant branch failures

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 100 %

Dead twigs/branches ■ 2 % overall Max. dia. <0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around old cuts

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐ _____

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) Bag/plastic around base

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

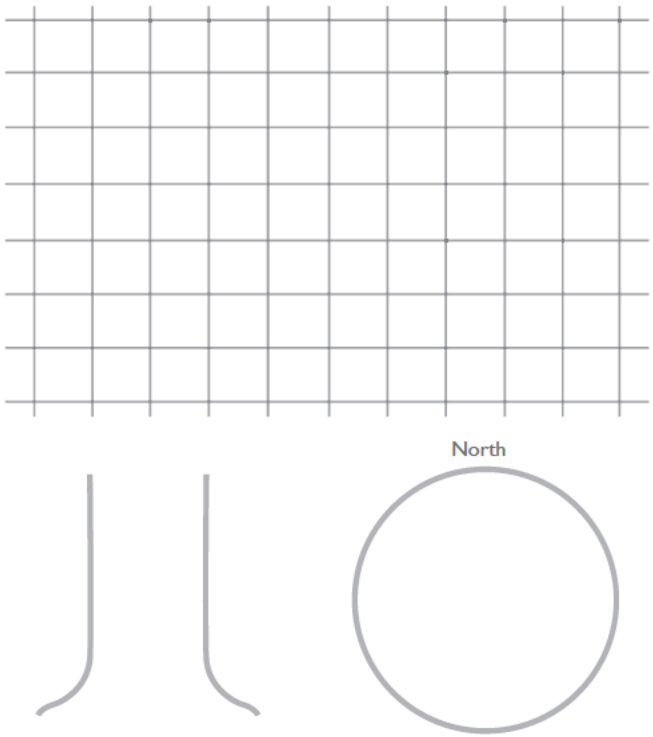
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has good tolerance of root disturbances and is an immature specimen. based on these factors and the DBH a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1630

Address/Tree location DU-15 Tree no. DU-15-4 Sheet 1 of 1

Tree species Calocedrus decurrens dbh 1" Height 3' Crown spread dia. 3'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests grass growing into foliage **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion, codominant branch failures

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 60 %

Dead twigs/branches ■ 5 % overall Max. dia. <0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) Bag/plastic around base

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

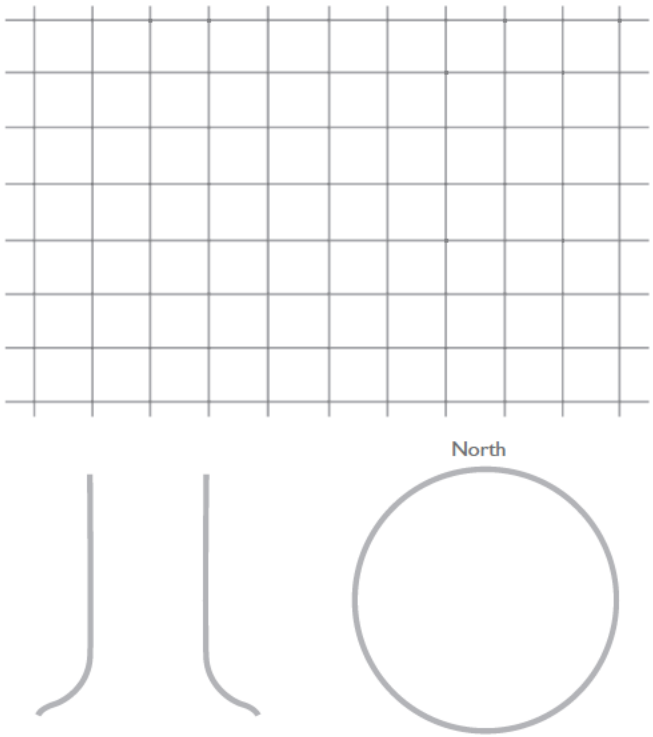
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has moderate tolerance of root disturbances and is an immature specimen. based on these factors and the DBH a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 1630

Address/Tree location DU-15 | Tree no. DU-15-5 | Sheet 1 of 1

Tree species Calocedrus decurrens | dbh 1" | Height 3' | Crown spread dia. 3'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests grass growing into foliage | **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion, codominant branch failures

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 60 %

Dead twigs/branches ■ 5 % overall Max. dia. <0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) Bag/plastic around base

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

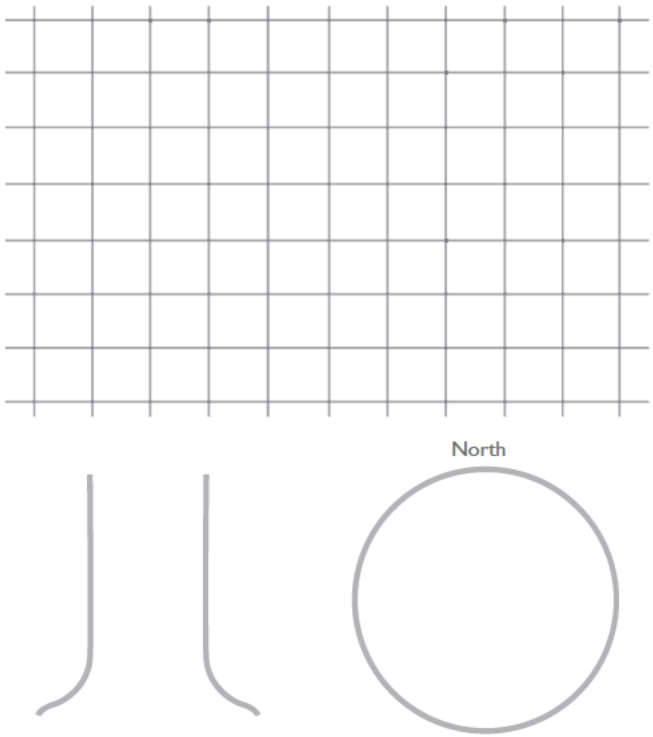
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has moderate tolerance of root disturbances and is an immature specimen. based on these factors and the DBH a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

ISA Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 1730

Address/Tree location DU-15 | Tree no. DU-15-6 | Sheet 1 of 1

Tree species Juglans nigra | dbh 33" | Height 55' | Crown spread dia. 45'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet, binoculars

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Shed to northeast	✓	✓	✓	4	N	N
2	Fence to south and east	✓	✓	✓	4	N	N
3	Chicken coop to northwest	✓	✓	✓	4	Y	N
4							

Site Factors

History of failures Branch failures ~3-5" | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ■ Pavement over roots ☐ _____% Describe gravel piled along south trunk

Prevailing wind direction west | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 90 % Chlorotic _____% Necrotic 10 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ■ Describe Overextended branch failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Trees to southwest | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 90 %

Dead twigs/branches ■ 10 % overall Max. dia. 3"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ 8' up Included bark ☐

Weak attachments ■ sprouts at old cuts Cavity/Nest hole ____% circ.

Previous branch failures ■ overextended Similar branches present ■

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around old wounds/cuts

Main concern(s) Overextended branches, dead branches

Load on defect N/A ☐ Minor ■ Moderate ■ Significant ☐ Overextended: moderate, dead branches: minor

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) codominant stem

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth 2-3" Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

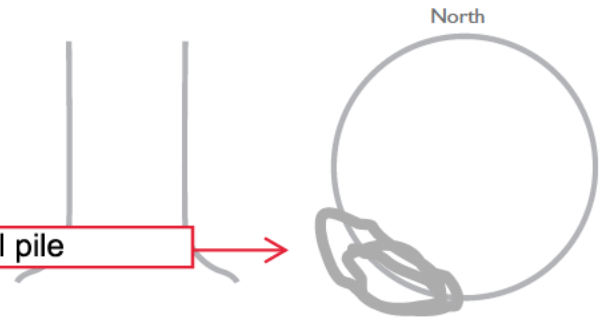
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Overextended branches	6"	20'	1	Fence	○	●	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
			6"	25'	2	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	●	○	○	Low
			6"	25'	3	N/A	○	●	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
2			3"	20'	1	Fence	○	●	○	○	○	●	○	○	●	○	○	○	●	○	○	○	Low
			3"	25'	2	N/A	○	●	○	○	○	○	●	○	●	○	○	○	●	○	○	○	Low
			3"	25'	3	N/A	○	●	○	○	○	●	○	○	●	○	○	○	●	○	○	○	Low
3							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions
This species has low tolerance of root disturbances and is a mature specimen. Based on these factors and the DBH, a 42' radius from the trunk tree protection zone is recommended.

Mitigation options
1. Prune overextended branches — **Residual risk** Low
2. remove deadwood — **Residual risk** Low
— **Residual risk**
— **Residual risk**

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐
Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐
Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐
Recommended inspection interval Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ■ Root collar buried Describe Gravel to south side piled against trunk

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1810

Address/Tree location DU-15 Tree no. DU-15-7 Sheet 1 of 1

Tree species Malus domestica 'Fuji' dbh 1" Height 5' Crown spread dia. 2'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to east **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 60 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

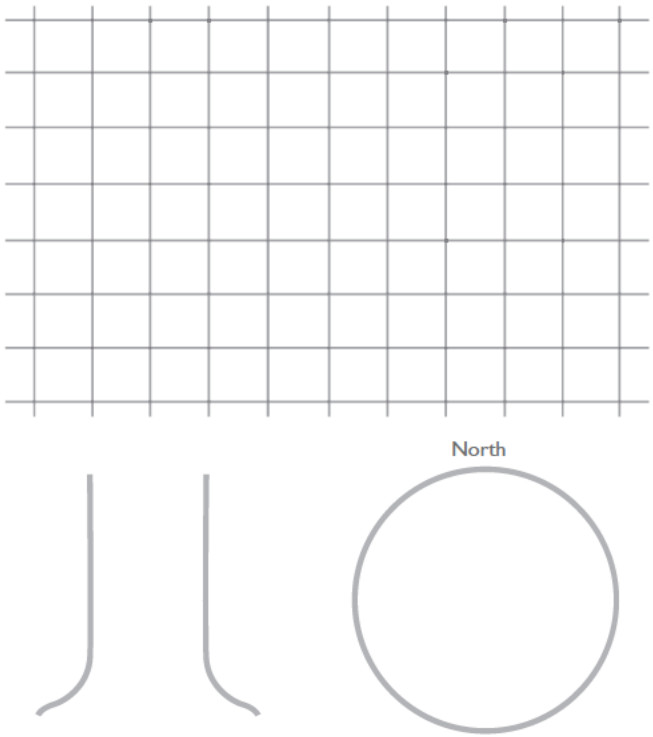
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has moderate tolerance of root disturbances and is an immature specimen. based on these factors and the DBH a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1815

Address/Tree location DU-15 Tree no. DU-15-8 Sheet 1 of 1

Tree species Pyrus communis 'Bartlett' dbh 1" Height 4' Crown spread dia. 3'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to east **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 40 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) Surface root

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

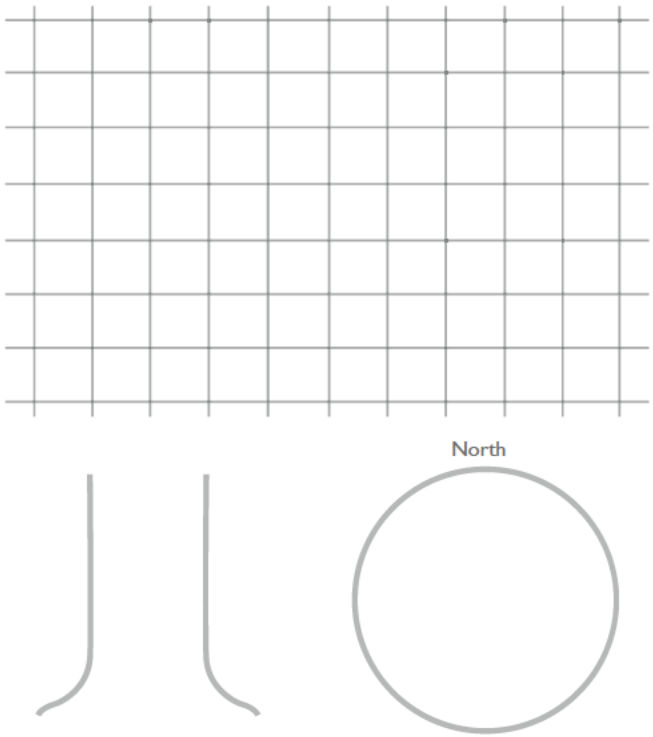
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has moderate tolerance of root disturbances and is an immature specimen. based on these factors and the DBH a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1820

Address/Tree location DU-15 Tree no. DU-15-9 Sheet 1 of 1

Tree species Pyrus pyrifolia dbh 1" Height 5' Crown spread dia. 2'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to east and north **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 60 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

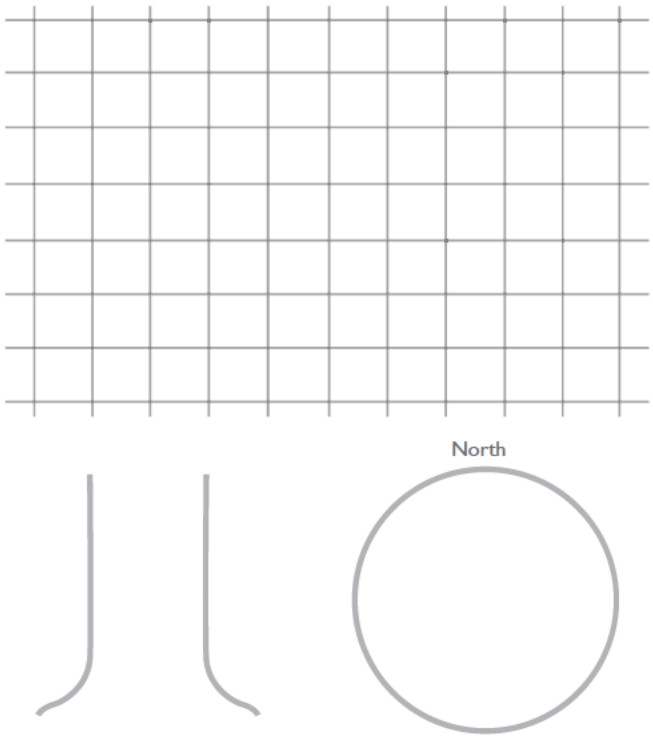
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has moderate tolerance of root disturbances and is an immature specimen. based on these factors and the DBH, a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1825

Address/Tree location DU-15 Tree no. DU-15-10 Sheet 1 of 1

Tree species Prunus maritima dbh 1" Height 3' Crown spread dia. 2'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to north **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 10 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

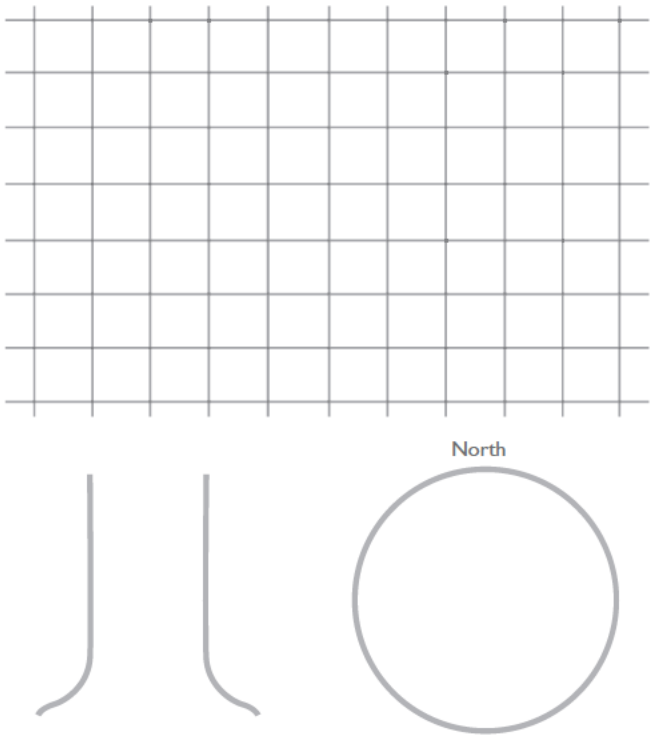
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has moderate tolerance of root disturbances and is an immature specimen. based on these factors and the DBH, a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1830

Address/Tree location DU-15 Tree no. DU-15-11 Sheet 1 of 1

Tree species Prunus avium 'Lapins' dbh 1" Height 4' Crown spread dia. 2'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 75 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

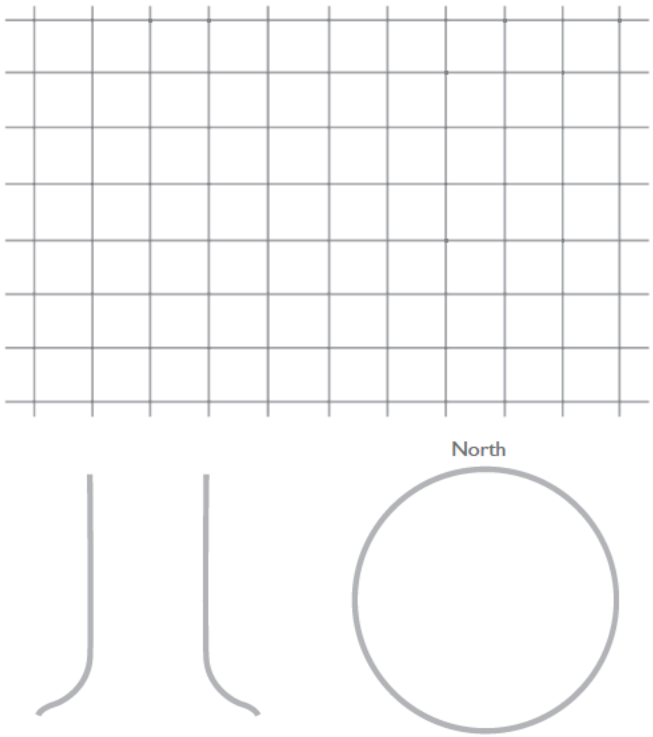
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has low tolerance of root disturbances and is an immature specimen. based on these factors and the DBH, a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1835

Address/Tree location DU-15 Tree no. DU-15-12 Sheet 1 of 1

Tree species Ficus carica dbh 1" Height 2' Crown spread dia. 2'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 50 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

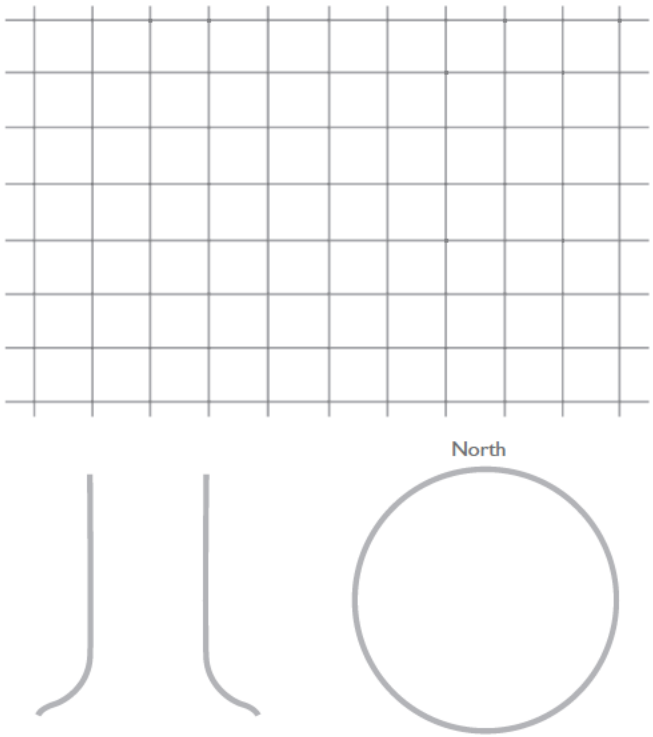
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has moderate tolerance of root disturbances and is an immature specimen. based on these factors and the DBH, a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1840

Address/Tree location DU-15 Tree no. DU-15-13 Sheet 1 of 1

Tree species Prunus persica dbh 1" Height 5' Crown spread dia. 2'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to north **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 60 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ■ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) wound at base of tree

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

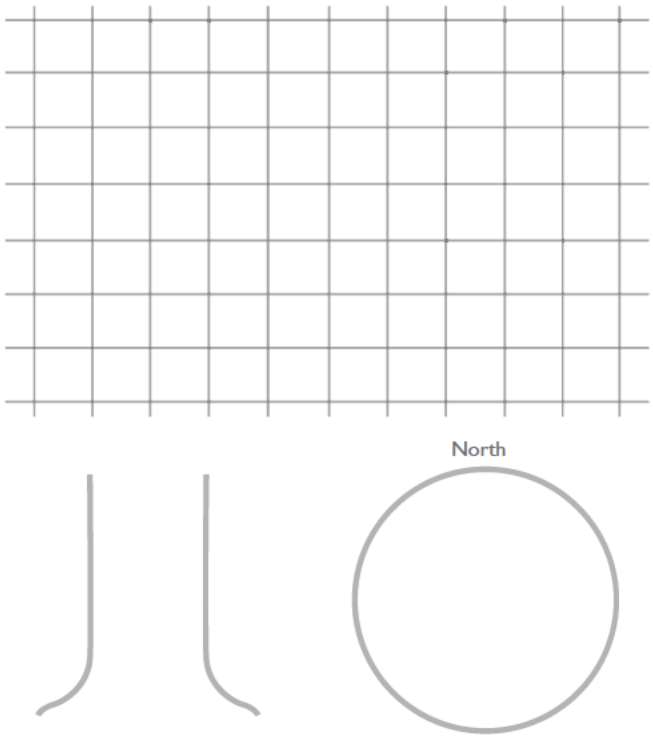
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has moderate tolerance of root disturbances and is an immature specimen. based on these factors and the DBH, a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1650

Address/Tree location DU-15 Tree no. DU-15-14 Sheet 1 of 1

Tree species Sequoia sempervirens dbh 1" Height 6' Crown spread dia. 5'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion, codominant branch failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to north **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 100 %

Dead twigs/branches ■ 5 % overall Max. dia. <0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around old cuts

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) Bag/plastic around base

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

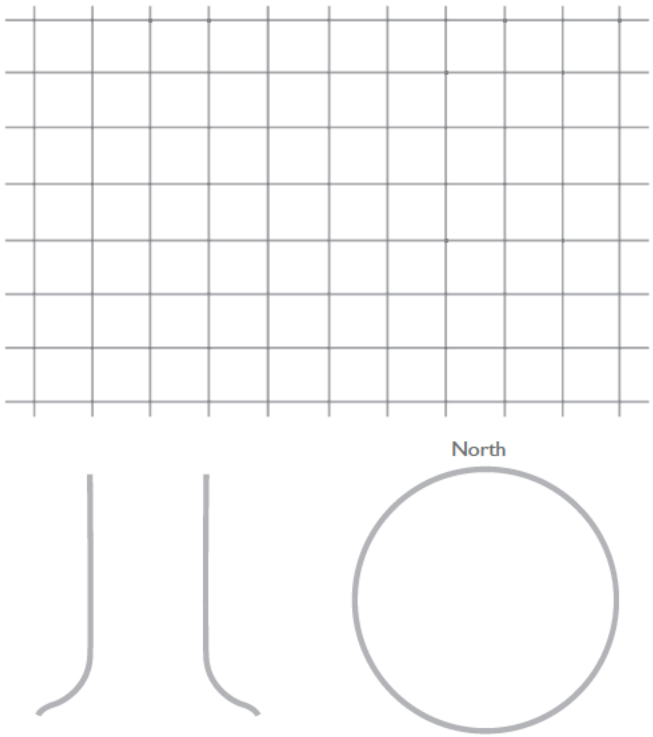
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has good tolerance of root disturbances and is an immature specimen. based on these factors and the DBH a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/6/23 Time 1645

Address/Tree location DU-15 Tree no. DU-15-15 Sheet 1 of 1

Tree species Sequoia sempervirens dbh 1" Height 4' Crown spread dia. 3'

Assessor(s) Cory Shields Time frame 3 Years Tools used

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	N/A						
2							
3							
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction west **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Branch Inclusion, codominant branch failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to north **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 95 %

Dead twigs/branches ■ 5 % overall Max. dia. <0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around old cuts

Main concern(s) N/A

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐ _____

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ■ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) Bag/plastic around base

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

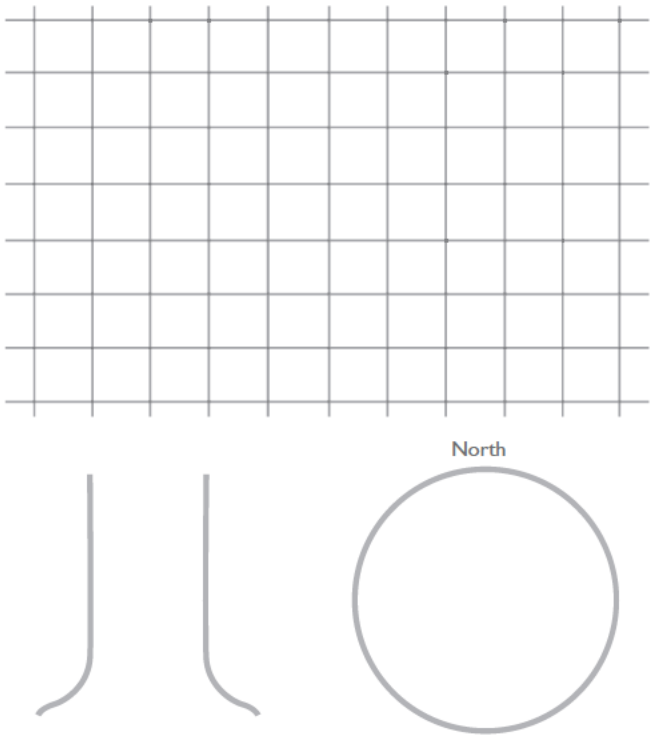
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	N/A	N/A					◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○	
3							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							◉	○	○	○	◉	○	○	○	◉	○	○	○	◉	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has good tolerance of root disturbances and is an immature specimen. based on these factors and the DBH a 5" radius around the trunk is the recommended tree protection zone. This is assuming that this tree was not transplanted

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

ISA Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 1745

Address/Tree location DU-15 | Tree no. DU-15-16 | Sheet 1 of 1

Tree species Pseudotsuga menziesii | dbh 27" | Height 75' | Crown spread dia. 35'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet, binoculars

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to southwest	✓	✓	✓	4	N	N
2	House to southwest	✓	✓	✓	4	N	N
3	Fence to north and west	✓	✓	✓	4	N	N
4							

Site Factors

History of failures Small broken branches | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ■ Pavement over roots ☐ _____% Describe gravel piled along south trunk

Prevailing wind direction west | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 90 % Chlorotic _____% Necrotic 10 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ■ Describe Overextended branch failures, root plate failures

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 90 %

Dead twigs/branches ■ 10 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other Large codom removal 6'

Cracks ☐ _____ Lightning damage ☐

Codominant ■ 6' up, east side, cut back to trunk Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ■ broken stubs Similar branches present ■

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around codominant cut.

Main concern(s) Overextended branches, unbalanced crown.

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ■ Overextended: moderate, unbalanced: significant

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐ for both overextended and unbalanced crown

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around codom stem

Main concern(s) codominant stem cut

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ■ Distance from trunk 3'

Root plate lifting ☐ Soil weakness ☐

Response growth Around exposed root damage

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

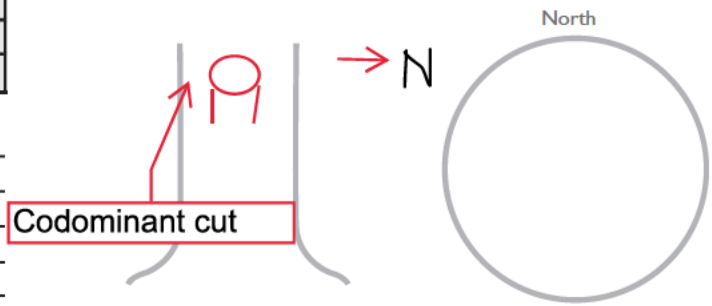
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Overextended branches	6"	40'	1	N/A	○	●	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
			6"	40'	2	Fence	○	●	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
			6"	45'	3	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	●	○	○	Low
2	Crown and branches	unbalanced crown	18"	40'	1	N/A	○	●	○	○	○	●	○	○	●	○	○	○	○	○	○	●	Low
			18"	40'	2	Fence	○	●	○	○	○	●	○	○	●	○	○	○	○	○	○	●	Low
			18"	45'	3	N/A	○	●	○	○	○	○	●	○	●	○	○	○	●	○	○	○	Low
3							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions

This species has low tolerance of root disturbances and is an immature specimen. Based on these factors and the DBH, a 27' radius from the trunk tree protection zone is recommended. However, due to its condition, removal is a better long term solution if any root impacts.

Mitigation options

1. Prune overextended branches — **Residual risk** Low
2. removal — **Residual risk** None
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐

Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐

Recommended inspection interval Annual after work

Data ☐ Final ■ Preliminary **Advanced assessment needed** ■ No ☐ Yes-Type/Reason

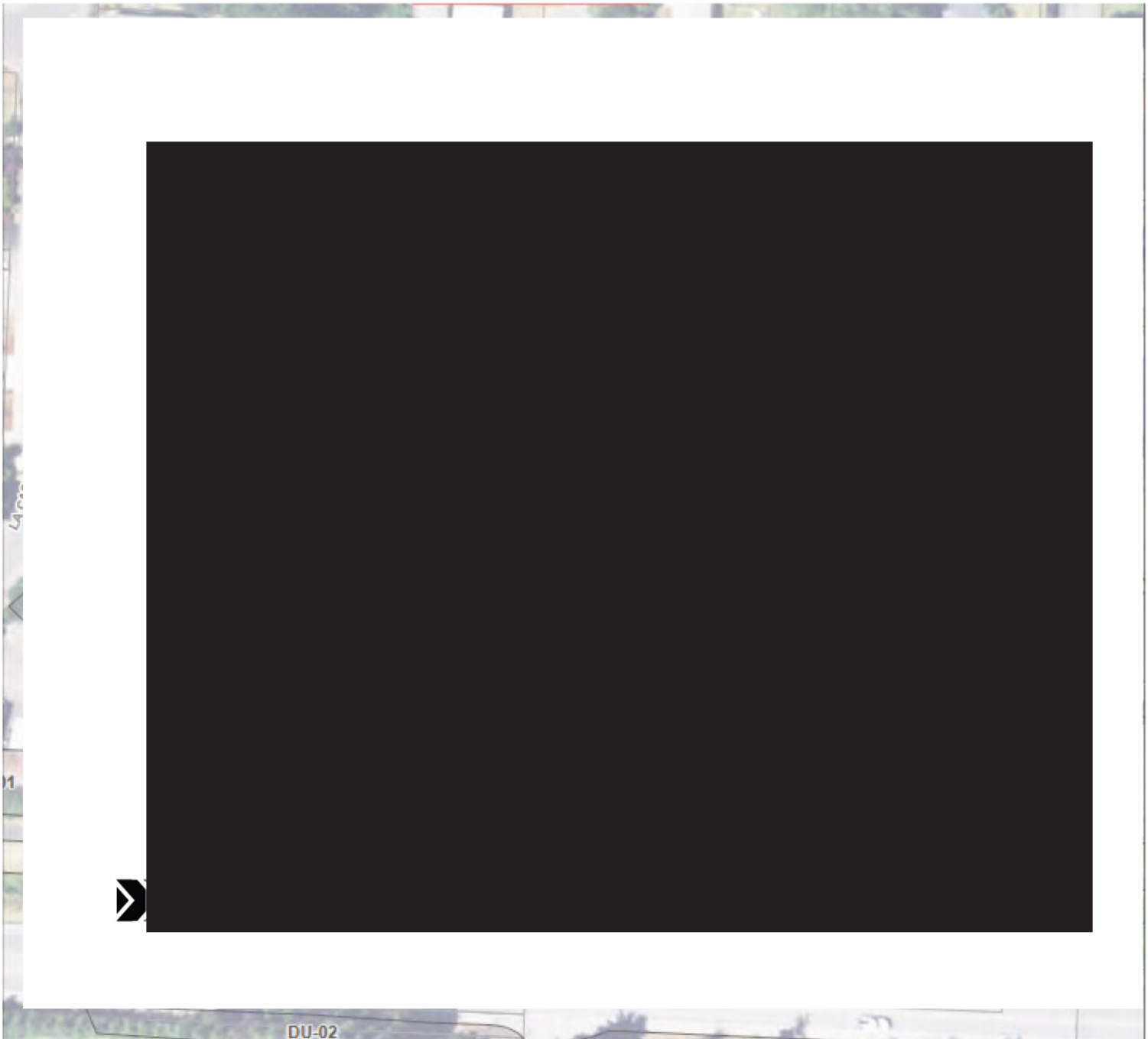
Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

SPADE TREE PRESERVATION CCB: 233735

June 2023

ARBORIST REPORT

Prepared by: Cory Shields of Spade Tree Preservation



Arborist Report

[redacted]

Eugene, OR

Prepared for:

Groundwater Solutions, Inc.

dba GSI Water Solutions, Inc.

650 NE Holladay St., Suite 900

Portland, OR 97232

for

JH Baxter Removal Action

Project Number: 02060.005.004

Prepared by:

Cory Shields

Certified Arborist PN-8292A

Tree Risk Assessment Qualified

International Society of Arboriculture

29110 Sheep Head Road

Brownsville, OR 97327

Overview

This report covers the mitigation recommendations for the trees at [redacted] Street hereto referenced as SO-06. There are eight total individual trees under the purview of this report, in addition to several smaller trees and shrubs not covered under the tree assessment forms. There are four trees to the north on the property from [redacted] that would be impacted by the soil removal efforts. Figure 1 details the locations of the trees within SO-06. As detailed in Figure 2, soil removal at SO-06 will be at six inches for the entire property.

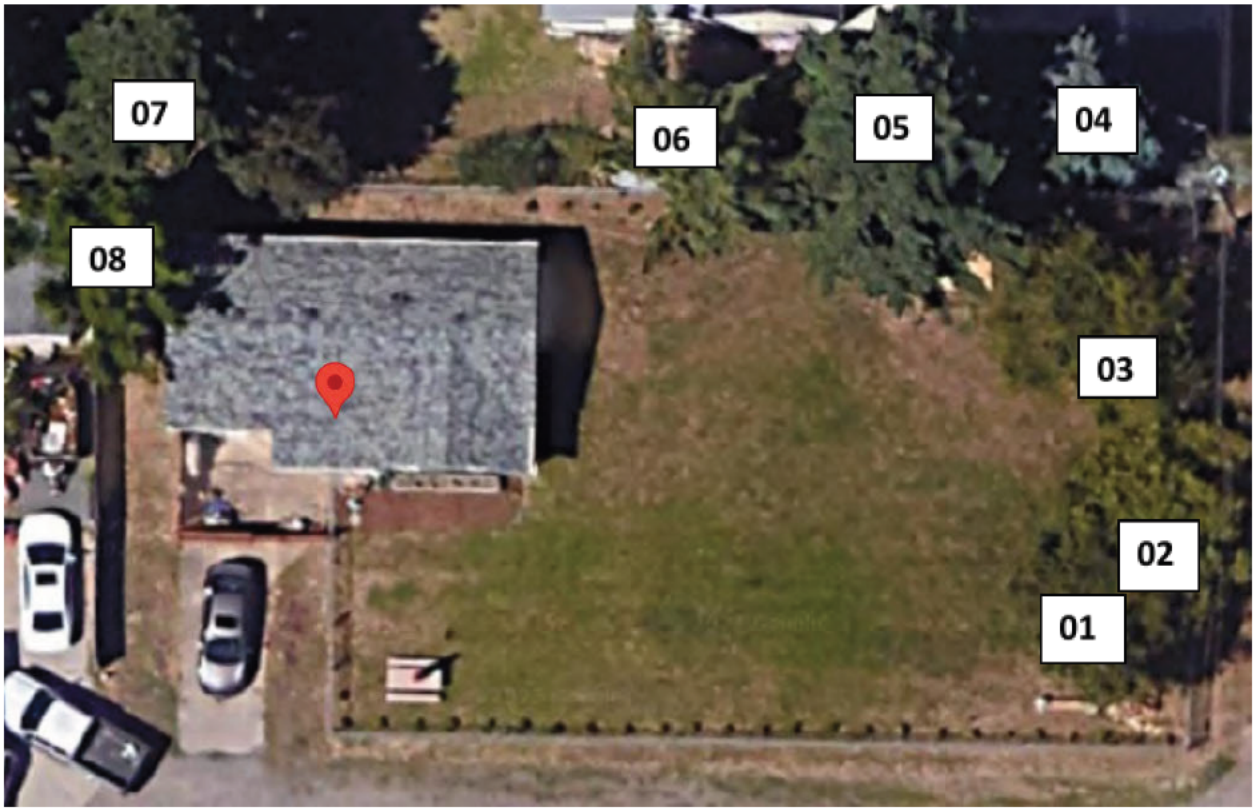


Figure 1

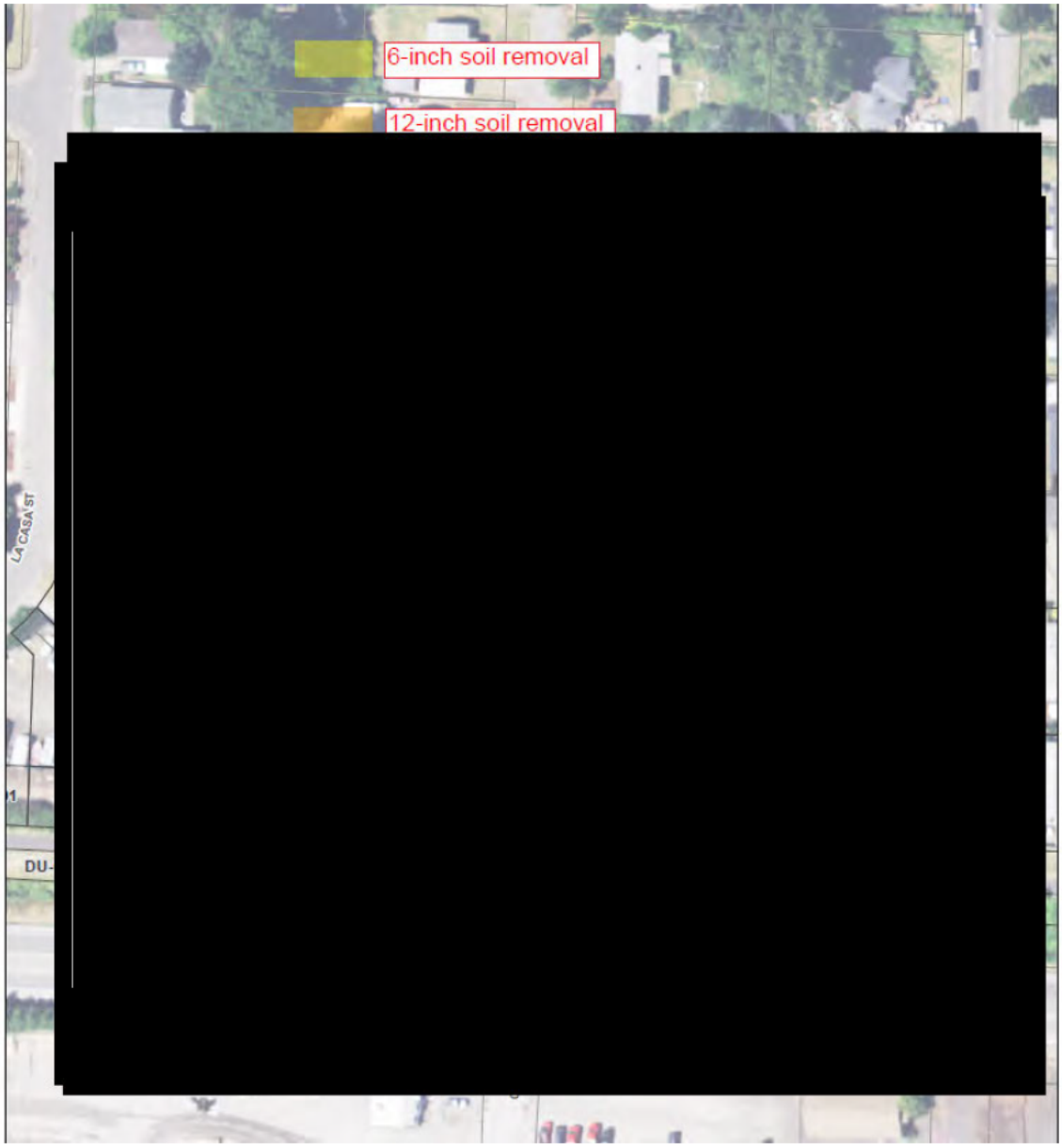


Figure 2

SO-06-01

Located on the eastern portion of the property in the front yard (Figure 1, 01), tree 01 is a *Crataegus laevigata* with a diameter of 17", height of 25', and a crown spread of 25'. This individual has several issues and defects: rot in trunk (Figure 3), overextended branches with previous failures apparent (Figure 4) and is intertwined with the overhead communication wires to the east. Due to the condition of the tree and its proximity to targets, retention is not

warranted. This specimen should be removed as the soil removal activities would create a greater potential risk. To reduce the risk of root failure, the tree should be removed prior to the soil removal.

SO-06-02

Located to the eastern side of the property, to the east of the house (Figure 1, 02), Tree 02 is an *Corylus avellana* with a multi-stem diameter of 16", a height of 25', and a crown spread of 25' (Figure 5). This tree has a good tolerance of root pruning and is without any significant defects. Due to the amount of soil removal and the lack of defects in the specimen, tree 02 could be maintained if soil was removed by hand in a one foot radius around the trunk. The mechanical removal of soil in the rest of the root system should be done with the consulting arborist onsite to assess damage, and if the root damage is too significant, the tree could be removed. After the excavation and if the tree is to be maintained, the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay), and weekly watering should be performed for the following two summers. The tree should be monitored for a minimum of three years after the removal activity to ensure the tree's continued survival and stability.

SO-06-03

Located on the eastern portion of the property in the front yard (Figure 1, 03), tree 03 is a *Crataegus laevigata* with a diameter of 16", height of 30', and a crown spread of 30'. This individual has several issues apparent including: rot in trunk , old flush cut/failure (Figures 6 and 7), overextended branches with previous failures apparent, and is intertwined with the overhead communication wires to the east. Due to the condition of the tree and its proximity to targets, retention is not warranted. This individual should be removed as the soil removal activities would create a greater potential risk. To reduce the risk of root failure, the tree should be removed prior to the soil removal.

SO-06-04

Located to the northeastern side of the property, to the northeast of the house on the neighboring [redacted] (Figure 1, 04), Tree 04 is a *Picea pungens* with a diameter of 15", a height of 40', and a crown spread of 15'. This tree should not be impacted by the soil removal activity, but it would still be advisable to have the consulting arborist onsite while excavation occurs near this specimen.

SO-06-05

Located to the west of tree 04 on the neighboring [redacted]. property (Figure 1, 05), tree 05 is a *Psuedotsuga menziesii* with a diameter of 20", a height of 60', and a crown spread diameter of 25'. This species has a low tolerance for root pruning, however, the depth of soil removal would be minimally impactful. A radius of 15' from the trunk of the tree (approximate dripline) should be excavated by hand under the oversight of the consulting arborist. After the excavation the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay), and weekly watering should be performed for the following two summers. The tree should be monitored for a minimum of three years after the removal activity to ensure the tree's continued survival and stability.

SO-06-06

Located to the west of tree 05 on the neighboring [redacted] property (Figure 1, 06), tree 06 is a *Picea stichensis* with a diameter of 19", a height of 35', and a crown spread diameter of 25'. This species has a moderate tolerance for root pruning, however, the depth of soil removal would be minimally impactful. Despite the minimal impacts the soil removal may have, the tree has significant epicormic growth at the trunk (Figure 8). It is also shorter than tree 05 even though it has a similar growth rate and is a similar age (Figure 9). While the top was not visible from the ground, there are several signs that point to a previously topped tree. The potential topping, when combined with the overextended lower branches, indicates several defects which raise concerns about the tree's long-term risk. There are several targets within striking distance of this tree, and the risk of failure is high enough to warrant removal of this tree prior to soil removal activities. Maintaining the tree in the landscape after the soil removal activities would create an unacceptable risk level, and the stress may lead to catastrophic failures in the canopy and/or root system.

SO-06-07

Located to the west of tree 06 on the neighboring [redacted] St. property (Figure 1, 07), tree 07 is a *Psuedotsuga menziesii* with a diameter of 21", a height of 60', and a crown spread diameter of 25'. This species has a low tolerance for root pruning, however, the depth of soil removal would be minimally impactful. A radius of 15' from the trunk of the tree (approximate dripline) should be excavated by hand under the oversight of the consulting arborist. After the excavation the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay), and weekly watering should be performed for the following two summers. The tree should be monitored for a minimum of three years after the removal activity to ensure the tree's continued survival and stability.

SO-06-06

Located to the west of tree 05 on the neighboring [redacted] St. property (Figure 1, 06), tree 06 is a *Juglans nigra* with a diameter of 11", a height of 35', and a crown spread diameter of 25' (Figure 13). This species has a low tolerance for root pruning, however, the depth of soil removal would be minimally impactful. Despite the minimal impacts the soil removal may have, the tree has a couple overextended branches and an unbalanced canopy, with most of the weight extending to the west (Figures 10 and 11). There are several targets within striking distance of this tree, and the risk of failure is high enough to warrant removal of this tree prior to soil removal activities. Maintaining the tree in the landscape after the soil removal activities would create an unacceptable risk level, as the unbalanced canopy could lead to a failure to the west potentially damaging the neighboring shed or house. This tree should be removed before soil removal to minimize failures due to root instability.

Shrubs

Located along the northern and southern fence line of the property is a hedge line of laurels (Figures 12, 13, 14, and 15) (*Prunus spp.)*. On the southeastern corner of the property is also a small fruit tree (Figure 14). These plants can either be transplanted or, if damage can be avoided in the soil removal activity, maintained in the landscape. If they are to be transplanted, the native soil should be washed out of the roots and removed before they are placed in a new soil medium.

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

Figure 12

Figure 13

Figure 14

Figure 15

Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1055

Address/Tree location SO-06 | Tree no. SO-06-1 | Sheet 1 of 1

Tree species Crataegus laevigata | dbh 17" | Height 25' | Crown spread dia. 25'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Communication wires to east	✓	✓	✓	4	N	N
2	Fence to east	✓	✓	✓	4	N	N
3	Container to west	✓	✓	✓	4	N	N
4							

Site Factors

History of failures Broken branches on ground, tear-outs | **Topography** Flat ■ Slope ☐ ____% | **Aspect** ____

Site changes None ☐ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe ____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ ____% Describe ____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 85 % Chlorotic ____% Necrotic 15 %

Pests ____ | **Abiotic** ____

Species failure profile Branches ■ Trunk ■ Roots ☐ Describe Codominant stem failure, overextended branches, rot in trunks

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Contained to W, tree to N | **Relative crown size** Small ☐ Medium ☐ Large ▣

Crown density Sparse ☐ Normal ☐ Dense ■ | **Interior branches** Few ☐ Normal ☐ Dense ■ | **Vines/Mistletoe/Moss** ☐ ____

Recent or planned change in load factors ____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 65 %

Dead twigs/branches ■ 15 % overall Max. dia. 3'

Broken/Hangers Number 4 Max. dia. 1'

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ■ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other stub cuts

Cracks ☐ ____ Lightning damage ☐

Codominant ■ Multiple Included bark ☐

Weak attachments ■ Multiple Cavity/Nest hole 10 % circ.

Previous branch failures ■ ____ Similar branches present ■

Dead/Missing bark ☐ Cankers/Galls/Burls ■ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ ____

Response growth Around deadwood/old wounds

Main concern(s) weak attachments, overextended branches

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ For both conditions

Likelihood of failure Improbable ☐ Possible ☐ Probable ■ Imminent ☐ For both conditions

— Trunk —

Dead/Missing bark ■ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ■ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole 10 % circ. Depth 4" Poor taper ☐

Lean 10 ° Corrected? yes

Response growth Around decay

Main concern(s) Cavities

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure

Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ ____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk ____

Root plate lifting ☐ Soil weakness ☐

Response growth To west at base of tree

Main concern(s) ____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

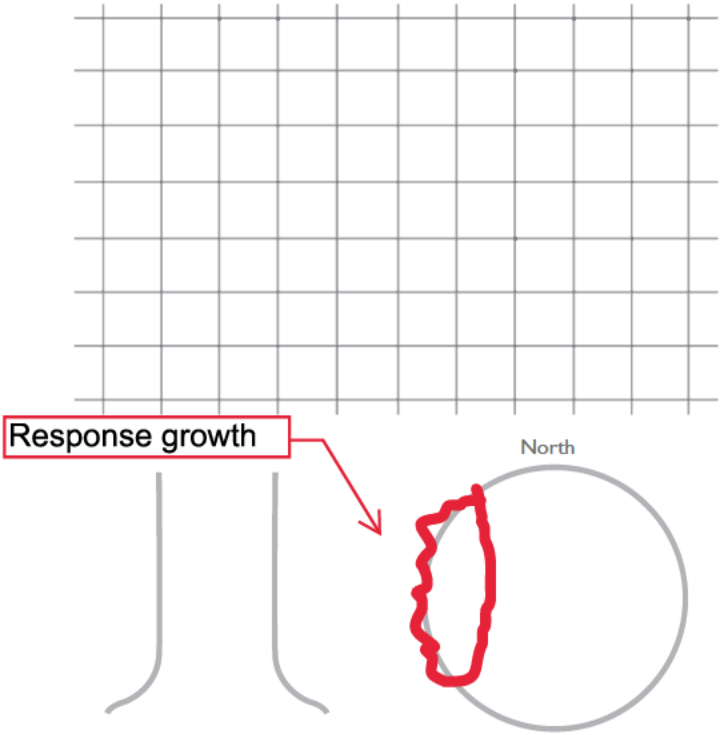
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown branches	Overextended branches, weak attachements	4"	15'	1	Other tree	○	○	●	○	○	●	○	○	●	○	○	○	○	○	○	○	Low
			4"	15'	2	Other tree	○	○	●	○	○	●	○	○	●	○	○	○	○	○	○	○	Low
			4"	15'	3		○	○	●	○	○	○	●	○	○	●	○	○	●	○	○	○	Low
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is a mature and the species has a moderate tolerance for root disturbances. Given these factors and the DBH, a 17' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1130

Address/Tree location SO-06 | Tree no. SO-06-2 | Sheet 1 of 1

Tree species Corylus avellana | dbh 16" Multistem | Height 25' | Crown spread dia. 25'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Communication wires to east	✓	✓	✓	4	N	N
2	Container to west	✓	✓	✓	4	N	N
3							
4							

Site Factors

History of failures N/A | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ■ Trunk ■ Roots ☐ Describe Codominant stem failures, overextended branches

Load Factors

Wind exposure Protected ■ Partial ☐ Full ☐ Wind funneling ☐ Container to W, tree to SW | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 80 %

Dead twigs/branches ■ 5 % overall Max. dia. 0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other stub cuts

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ■ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth Around wounds

Main concern(s) overextended branch over container to the west

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ For both conditions

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐ For both conditions

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ■ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ■ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around small wounds

Main concern(s) Wound to northeast

Load on defect N/A ☐ Minor ■ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

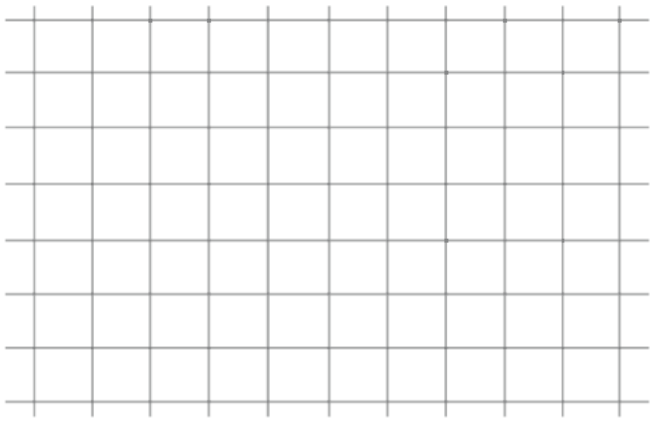
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown branches	Overextended branches	2"	10'	1		●	○	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
			2"	10'	2		●	○	○	○	○	●	○	○	●	○	○	○	●	○	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
2	Trunk	Codominants	2"	10'	1		●	○	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
			2"	10'	2		●	○	○	○	○	●	○	○	●	○	○	○	●	○	○	○	Low
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

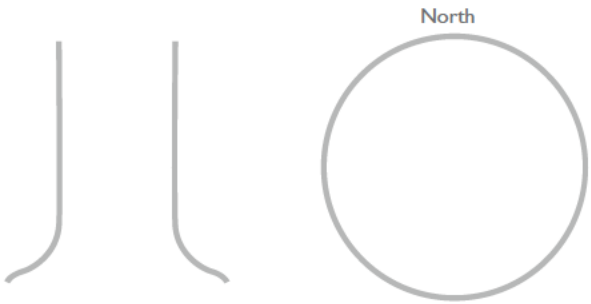
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low





Notes, explanations, descriptions This specimen is a mature and the species has a good tolerance for root disturbances. Given these factors and the DBH, a 11' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

ISA Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1215

Address/Tree location SO-06 | Tree no. SO-06-3 | Sheet 1 of 1

Tree species Crataegus laevigata | dbh 16" | Height 30' | Crown spread dia. 30'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Communication wires to east	✓	✓	✓	4	N	N
2	Fence to east	✓	✓	✓	4	N	N
3	Container to west	✓	✓	✓	4	N	N
4							

Site Factors

History of failures Broken branches on ground, tear-outs | **Topography** Flat ■ Slope ☐ ____% | **Aspect** ____

Site changes None ☐ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe ____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ ____% Describe ____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 90 % Chlorotic ____% Necrotic 10 %

Pests ____ | **Abiotic** ____

Species failure profile Branches ■ Trunk ■ Roots ☐ Describe Codominant stem failure, overextended branches, rot in trunks

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Container to W | **Relative crown size** Small ☐ Medium ☐ Large ■

Crown density Sparse ☐ Normal ☐ Dense ■ | **Interior branches** Few ☐ Normal ☐ Dense ■ | **Vines/Mistletoe/Moss** ☐ ____

Recent or planned change in load factors ____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 65 %

Dead twigs/branches ■ 10 % overall Max. dia. 1"

Broken/Hangers Number ____ Max. dia. ____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other stub cuts

Cracks ☐ ____ Lightning damage ☐

Codominant ■ Multiple Included bark ☐

Weak attachments ■ Multiple Cavity/Nest hole 10 % circ.

Previous branch failures ■ Overextended Similar branches present ■

Dead/Missing bark ☐ Cankers/Galls/Burls ■ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ ____

Response growth Around wounds

Main concern(s) weak attachments, overextended branches

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ For both conditions

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐ For both conditions

— Trunk —

Dead/Missing bark ■ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ■ Sap ooze ☐

Lightning damage ☐ Heartwood decay ■ Conks/Mushrooms ☐

Cavity/Nest hole 30 % circ. Depth 5" Poor taper ☐

Lean 10 ° Corrected? yes

Response growth Around wounds

Main concern(s) Wound to northeast

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure

Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth ____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ ____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk ____

Root plate lifting ☐ Soil weakness ☐

Response growth To west at base of tree

Main concern(s) ____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

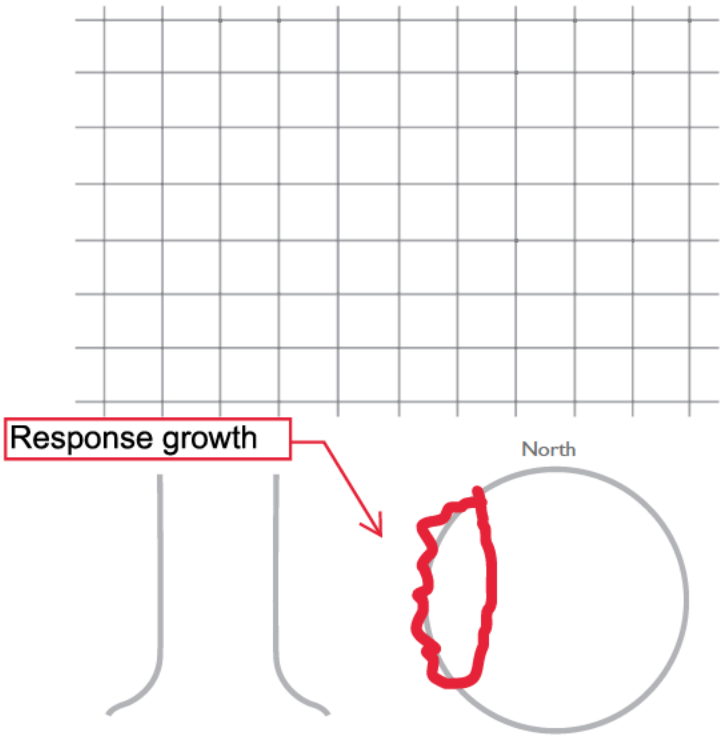
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown branches	Overextended branches, weak attachements	3"	10'	1		○	●	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
			3"	10'	2		○	●	○	○	○	●	○	○	●	○	○	○	●	○	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
2	Trunk	Cavity and wound	6"	10'	1		○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	Low
			6"	10'	2		○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○	Low
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is a mature and the species has a moderate tolerance for root disturbances. Given these factors and the DBH, a 16' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1245

Address/Tree location SO-06 | Tree no. SO-06-4 | Sheet 1 of 1

Tree species Picea pungens | dbh 15" | Height 40' | Crown spread dia. 15'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Cars in driveway to north		✓	✓	3	N	N
2	House to northwest		✓	✓	4	N	N
3	Power-lines to east		✓	✓	4	N	N
4							

Site Factors

History of failures N/A | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ■ Roots ☐ Describe codominant stem failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Trees to westsouthwest **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ■ Normal ☐ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 70 %

Dead twigs/branches ■ 5 % overall Max. dia. 0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other stub cuts

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around old branch cuts

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

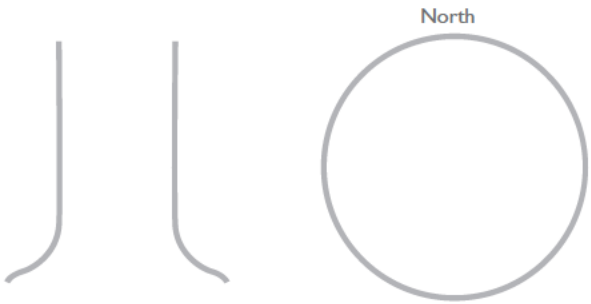
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1		No conditions of concern					●				●				●				●				Low
							●				●				●				●				Low
							●				●				●				●				Low
2							●				●				●				●				Low
							●				●				●				●				Low
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is young and the species has a moderate tolerance for root disturbances. Given these factors and the DBH, a 10' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1300

Address/Tree location SO-06 | Tree no. SO-06-5 | Sheet 1 of 1

Tree species Psuedotsuga menziesii | dbh 20" | Height 60' | Crown spread dia. 25'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to north	✓	✓	✓	4	N	N
2	House to southwest		✓	✓	4	N	N
3	Power-lines to south	✓	✓	✓	4	N	N
4	Shed to south	✓	✓	✓	4	N	N

Site Factors

History of failures None apparent | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ■ Trunk ■ Roots ■ Describe Overextended branch failures, codominant failures, root plate failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Trees to east and west | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ■ Normal ☐ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 75 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number 3 Max. dia. 0.5"

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) Deadwood

Load on defect N/A ☐ Minor ■ Moderate ☐ Significant ☐

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

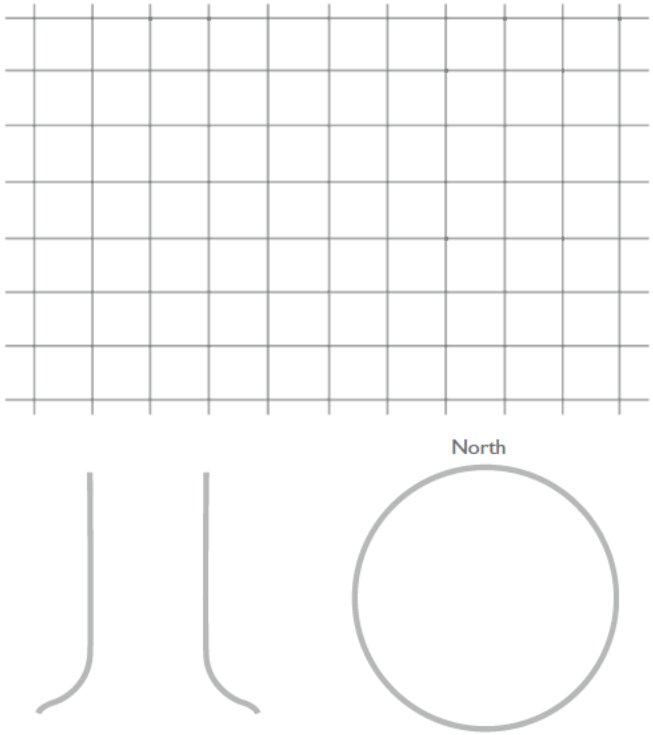
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Deadwood	2"	30'	1		○	●	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
			2"	30'	2		○	●	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
			2"	25'	3		○	●	○	○	●	○	○	○	●	○	○	○	○	●	○	○	Low
2	"	"	2"	30'	4	Power-lines	○	●	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is young and the species has a low tolerance for root disturbances. Given these factors and the DBH, a 20' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options Remove deadwood and hangers **Residual risk** Low

Residual risk _____

Residual risk _____

Residual risk _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1320

Address/Tree location SO-06 | Tree no. SO-06-6 | Sheet 1 of 1

Tree species Picea stichensis | dbh 19" | Height 35' | Crown spread dia. 25'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to north	✓	✓	✓	4	N	N
2	House to southwest	✓	✓	✓	4	N	N
3	Power-lines to south	✓	✓	✓	4	N	N
4							

Site Factors

History of failures Broken branch tips | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ | **Abiotic** Lawn mower damage to south

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Overextended branch failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Trees to east | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ☐ Dense ■ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 65 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number 1 Max. dia. 3"

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other stub cuts

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) Overextended branches, potentially topped.

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Epicormic growth

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth Around wounds

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

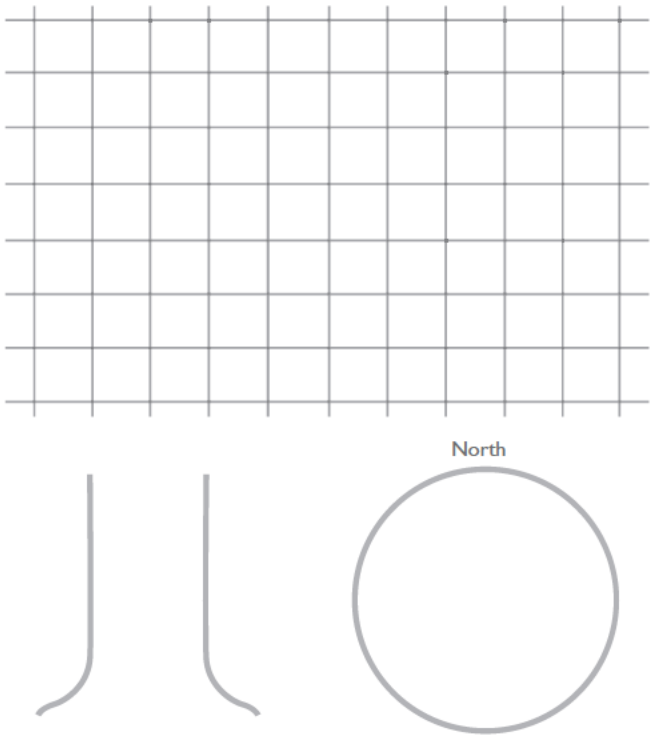
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and branches	overextended branches	3"	25'	1		○	●	○	○	○	●	○	○	●	○	○	○	●	○	○	○	Low
			3"	25'	2		○	●	○	○	○	●	○	○	●	○	○	○	●	○	○	○	Low
			3"	10'	3		○	●	○	○	○	○	●	○	●	○	○	○	○	●	○	○	Low
2							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is young and the species has a moderate tolerance for root disturbances. Given these factors and the DBH, a 13' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options Reduce overextended branches — **Residual risk** Low

Residual risk _____

Residual risk _____

Residual risk _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ■ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe Cannot see potential topping cut

Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1340

Address/Tree location SO-06 | Tree no. SO-06-7 | Sheet 1 of 1

Tree species Psuedotsuga menziesii | dbh 21" | Height 60' | Crown spread dia. 25'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	House to southeast	✓	✓	✓	4	N	N
2	House to southwest		✓	✓	4	N	N
3	Power-lines to south	✓	✓	✓	4	N	N
4							

Site Factors

History of failures None apparent | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ | **Abiotic** Lawn mower damage to south

Species failure profile Branches ■ Trunk ■ Roots ■ Describe Overextended branch failures, codominant failures, root plate failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Trees to west | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 75 %

Dead twigs/branches ■ 5 % overall Max. dia. 0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

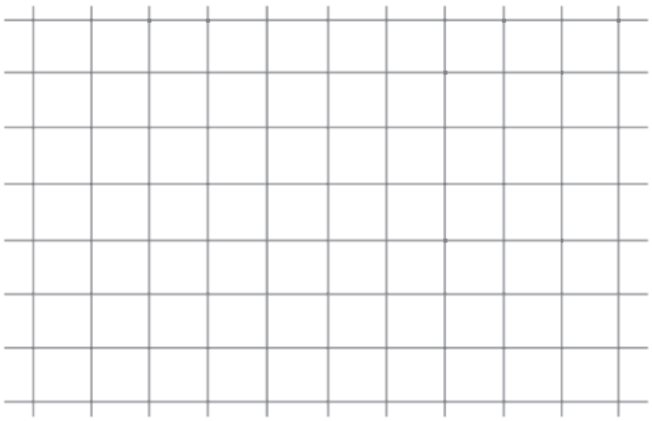
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1		No conditions of concern			1		●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
					2		●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
					3		●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
2							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

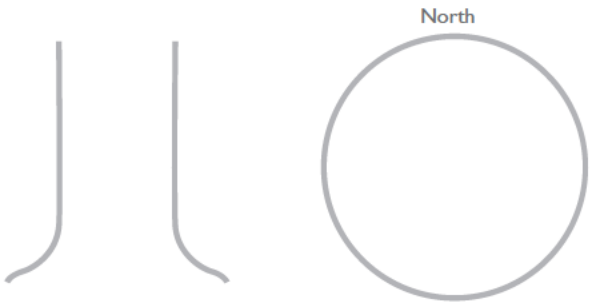
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low





Notes, explanations, descriptions This specimen is young and the species has a low tolerance for root disturbances. Given these factors and the DBH, a 21' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1300

Address/Tree location SO-06 | Tree no. SO-06-8 | Sheet 1 of 1

Tree species Juglans nigra | dbh 11" | Height 35" | Crown spread dia. 25'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	House to east	✓	✓	✓	4	N	N
2	Power-lines to north	✓	✓	✓	4	N	N
3	Shed to west	✓	✓	✓	4	N	N
4	House to west		✓	✓	4	N	N

Site Factors

History of failures None apparent | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 98 % Chlorotic _____% Necrotic 2 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Overextended branch failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ■ Houses to west and east | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 80 %

Dead twigs/branches ■ 2 % overall Max. dia. <0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ☐ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) Unbalanced crown

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ _____

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

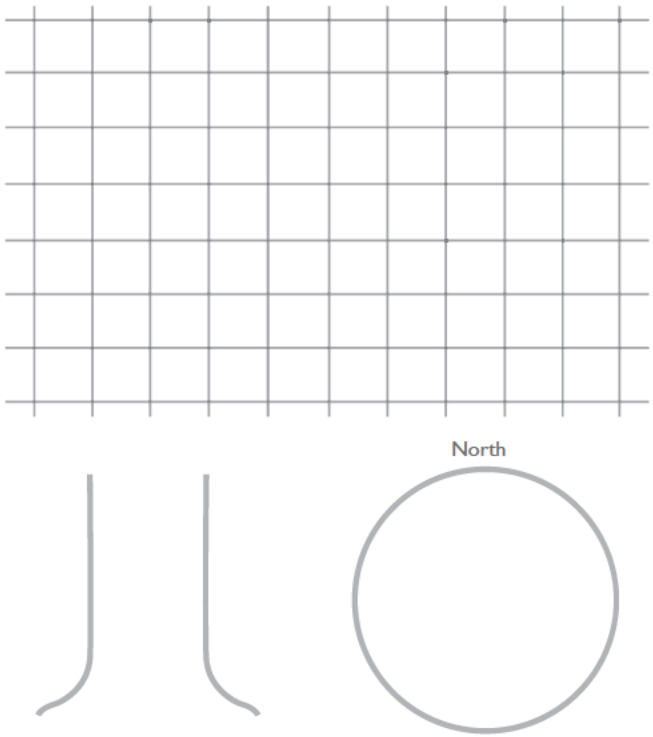
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Unbalanced crown	8"	15'	1		●	○	○	○	○	●	○	○	●	○	○	○	○	○	●	○	Low
			8"	15'	2		●	○	○	○	○	○	●	○	●	○	○	○	○	●	○	○	Low
			8"	15'	3	Fence	●	○	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
2	"	"	8"	15'	4	Shed	●	○	○	○	○	○	●	○	●	○	○	○	●	○	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is young and the species has a low tolerance for root disturbances. Given these factors and the DBH, an 11' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options Reduce overextended branches — **Residual risk** Low

Residual risk _____

Residual risk _____

Residual risk _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

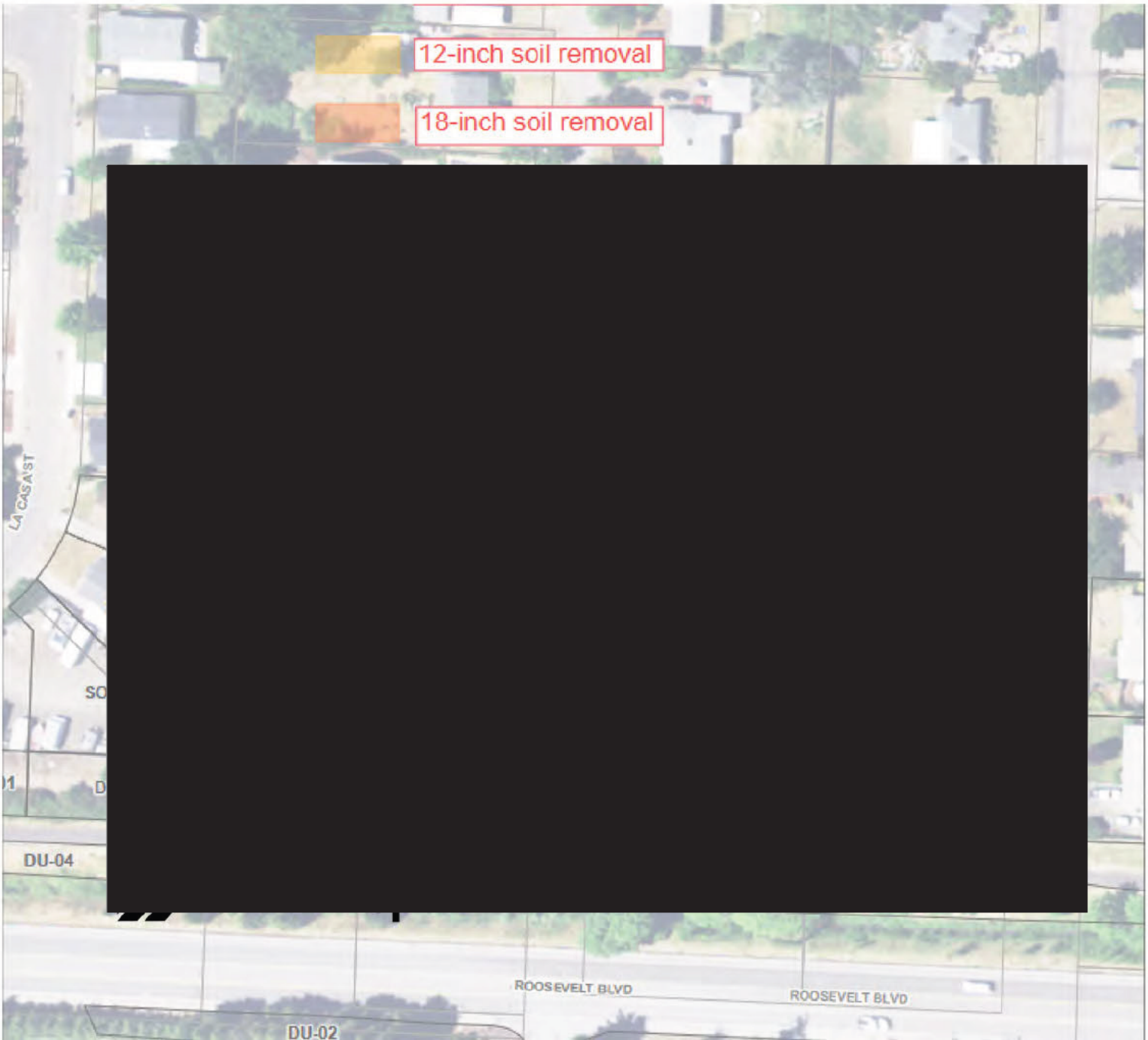
Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

SPADE TREE PRESERVATION CCB: 233735

June 2023

ARBORIST REPORT

Prepared by: Cory Shields of Spade Tree Preservation



Arborist Report

[redacted].

Eugene, OR

Prepared for:

Groundwater Solutions, Inc.

dba GSI Water Solutions, Inc.

650 NE Holladay St., Suite 900

Portland, OR 97232

for

JH Baxter Removal Action

Project Number: 02060.005.004

Prepared by:

Cory Shields

Certified Arborist PN-8292A

Tree Risk Assessment Qualified

International Society of Arboriculture

29110 Sheep Head Road

Brownsville, OR 97327

Overview

This report covers the mitigation recommendations for the trees at [redacted] Street hereto referenced as SO-07. There are 6 total individual trees under the purview of this report, in addition to several shrubs not covered under the tree assessment forms. Figure 1 details the locations of the trees withing SO-07. As detailed in Figure 2, soil removal on the entirety of SO-07 will be at a 12-inch depth.

Figure 1

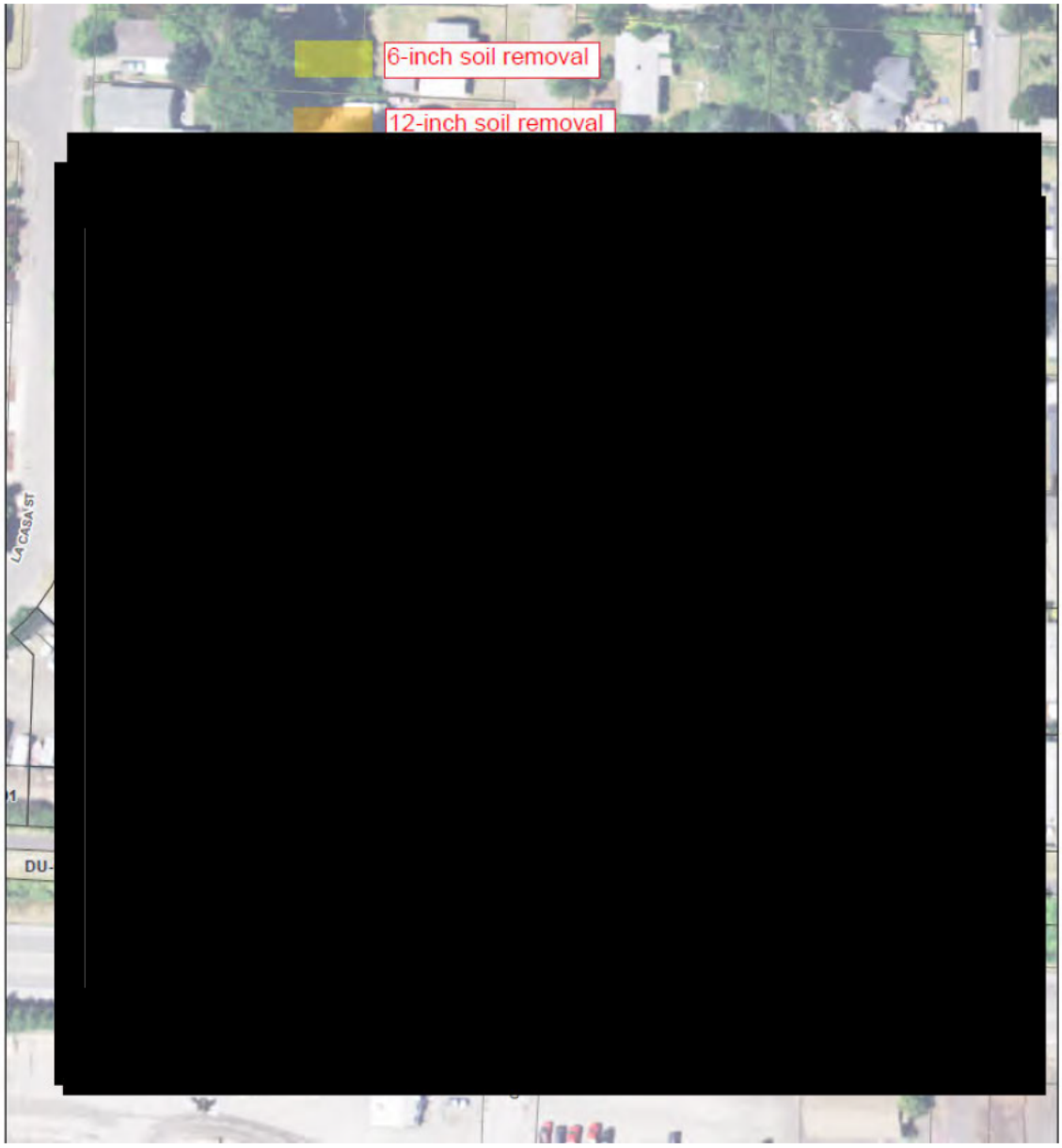


Figure 2

SO-07-01

Located on the western portion of the property in the front yard (Figure 1, 01), tree 01 is an *Acer saccharum* with a diameter of 14", height of 35', and a crown spread of 30' (Figure 3). This tree originates in the City of Eugene right-of-way and to make any recommendations would be a conflict of interest. The best course of action would be to determine the extent of the soil removal in and near the tree and contact the City for options and their recommendations.

SO-07-02

Located on the northwestern corner of the house in the front yard (Figure 1, 02), Tree 02 is a *Acer palmatum* with a diameter of 2", a height of 3', and a crown spread of 5' (Figure 4). Due to the species, the size, and the required soil removal depth, this tree would be best served by transplantation. This tree should be dug up to minimize root loss and once the tree is out of the ground, the soil can be washed off onsite. Care should be taken to place it in an appropriately sized container along with new planting soil. Once in the container with soil, it should be watered in to collapse air pockets and ensure the soil is covering cavities around the roots. It can be replanted once the fall/winter rains set in.

SO-07-03 and 04

Located along the the northern fence line in the backyard (Figure 1, 03 and 04), Tree 03 and 04 are *Malus pumila* both with diameters of 1", a height of 8', and a crown spread of 6' (Figure 5). These specimens can either be transplanted or, if damage can be avoided, vactor, hand, or other minimal impact excavation technique excavated within a 2' radius around the trunk. If transplanted, these trees should be dug up to minimize root loss and once the trees are out of the ground, the soil can be washed off onsite. Care should be taken to place them in an appropriately sized container along with new planting soil. Once in the container with soil, they should be watered in to collapse air pockets and ensure the soil is covering cavities around the roots. These trees can be replanted once the fall/winter rains set in.

SO-07-05

Located along the eastern fence line near the northeastern corner of the property (Figure 1, 05) is an *Acer ginnala* with multi-stem diameter of 6", a height of 20', and a crown spread of 20' (Figure 6). This tree species has a low tolerance to root impacts, is valuable enough to maintain in the landscape, and is too large to transplant. To minimize the impacts to the root system, the soil should be vactor excavated, hand dug, or other minimal impact excavation technique at a diameter of 8' from the center of the trunk. It is recommended that an arborist is onsite while the soil removal is conducted in this critical root zone to monitor potential root damage, and to ensure equipment does not damage the canopy. After the excavation, the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay). Weekly watering should be performed for the following two summers. The tree should be monitored for a minimum of three years after the removal activity to ensure the tree's continued survival and stability.

Shrubs

There are several shrub and plant specimens that would benefit from transplanting prior to soil excavation (Figures 7-10). The shrub pictured in Figure 8 (closest to the northeastern corner of the house) may prove too difficult to transplant, and it can be maintained in the landscape if at a radius of 2’ from the trunk the soil is vactor excavated, hand dug, or other minimal impact excavation technique. The other plants and shrubs can be transplanted. These plants should be dug up to minimize root loss and once they are out of the ground, the soil can be washed off onsite. Care should be taken to place them in an appropriately sized container along with new planting soil. Once in the container with soil, they should be watered in to collapse air pockets and ensure the soil is covering cavities around the roots. These plants can be replanted once the fall/winter rains set in.

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Basic Tree Risk Assessment Form

Client GSI | Date 4/5/23 | Time 1420

Address/Tree location SO-07 | Tree no. SO-07-1 | Sheet 1 of 1

Tree species Acer saccharum | dbh 14" | Height 35' | Crown spread dia. 30'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Traffic on road to west	✓	✓	✓	1	N	N
2	Power-lines to house to north	✓	✓	✓	4	N	N
3	House to east	✓	✓	✓	4	N	N
4							

Site Factors

History of failures Crack in branch to southeast | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 98 % Chlorotic _____% Necrotic 2 %

Pests _____ | **Abiotic** Vehicle damaged tear out

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Codominant and poor attachement points

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 85 %

Dead twigs/branches ■ 2 % overall Max. dia. 1"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ■ Branch to southeast side | Lightning damage ☐

Codominant ■ _____ | Included bark ☐

Weak attachments ☐ _____ | Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ | Similar branches present ☐

Dead/Missing bark ■ | Cankers/Galls/Burls ☐ | Sapwood damage/decay ☐

Conks ☐ | Heartwood decay ☐ _____

Response growth _____

Main concern(s) compartmentalized crack

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ | Abnormal bark texture/color ☐

Codominant stems ☐ | Included bark ☐ | Cracks ☐

Sapwood damage/decay ☐ | Cankers/Galls/Burls ☐ | Sap ooze ☐

Lightning damage ☐ | Heartwood decay ☐ | Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ | Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ | Stem girdling ☐

Dead ☐ | Decay ☐ | Conks/Mushrooms ☐

Ooze ☐ | Cavity ☐ _____% circ.

Cracks ☐ | Cut/Damaged roots ■ | Distance from trunk 0"

Root plate lifting ☐ | Soil weakness ☐

Response growth _____

Main concern(s) Cut girdling root

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

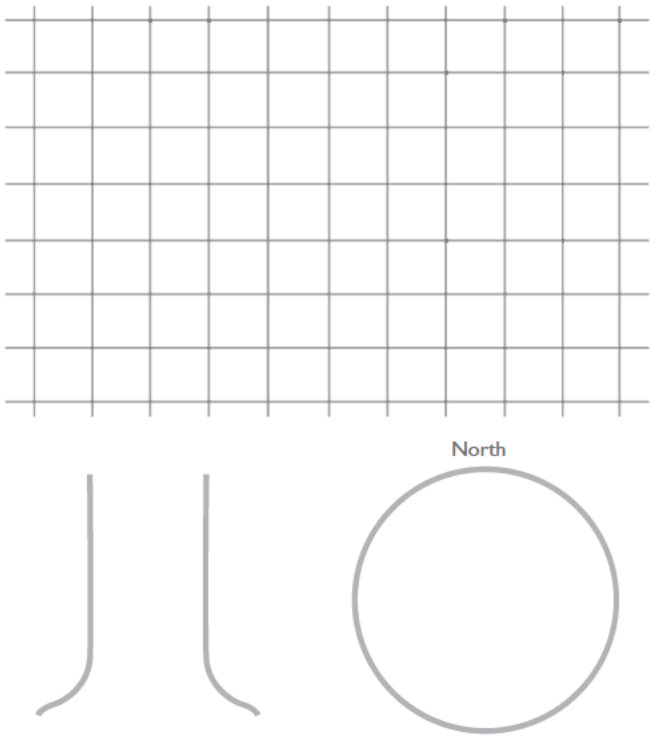
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Banches	Overextended branches	4"	15'	1	Fence	○	●	○	○	●	○	○	○	●	○	○	○	○	○	●	○	Low
			4"	15'	2	Fence	○	●	○	○	●	○	○	○	●	○	○	○	○	●	○	○	Low
			4"	15'	3	N/A	○	●	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is mature and the species has a low tolerance for root disturbances. Given these factors and the DBH, a 18' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options Remove cracked branch — **Residual risk** Low

Residual risk _____

Residual risk _____

Residual risk _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/7/23 Time 1720

Address/Tree location SO-07 Tree no. SO-07-2 Sheet 1 of 1

Tree species Acer palmatum dbh 2" Height 3' Crown spread dia. 5'

Assessor(s) Cory Shields Time frame 3 Years Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1						N	N
2						N	N
3						N	N
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ☐ Trunk ☐ Roots ■ Describe Intolerant of root disturbances

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ house to east **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 80 %

Dead twigs/branches ■ 5 % overall Max. dia. <0.5"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ■ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐ _____

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

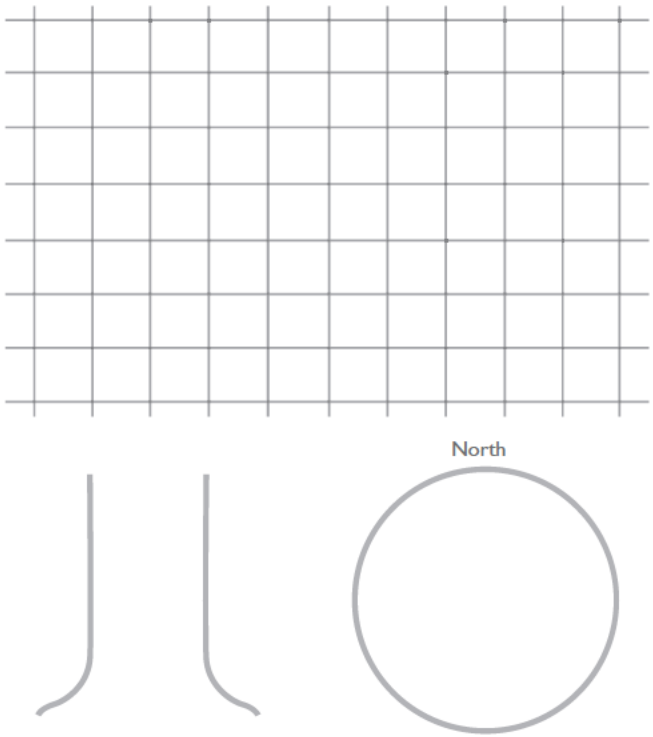
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is young and the species has a low tolerance for root disturbances. Given these factors and the DBH, a 5' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI Date 4/7/23 Time 1720

Address/Tree location SO-07 Tree no. SO-07-3 Sheet 1 of 1

Tree species Malus pumila dbh 1" Height 8' Crown spread dia. 6'

Assessor(s) Cory Shields Time frame 3 Years Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1						N	N
2						N	N
3						N	N
4							

Site Factors

History of failures N/A **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic 100 %

Pests _____ **Abiotic** _____

Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ☐ Wind funneling ☐ _____ **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 60 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

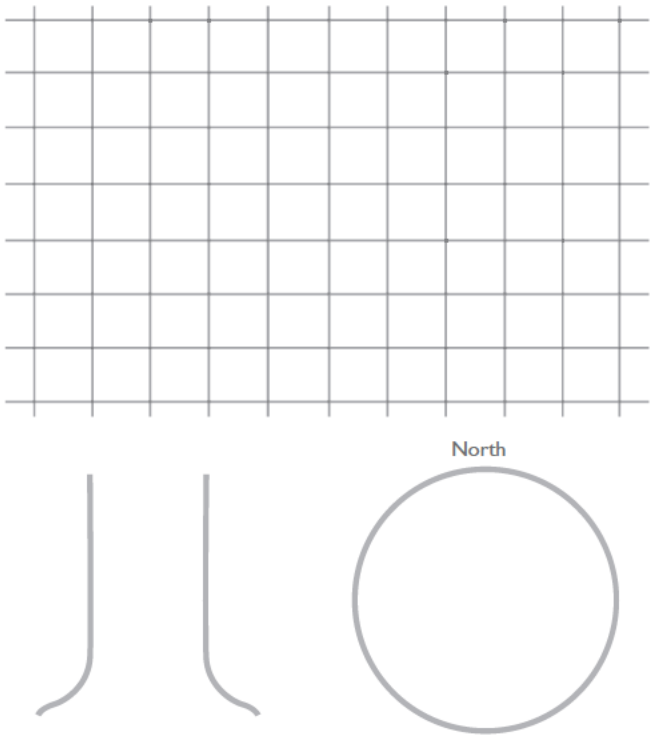
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is young and the species has a low tolerance for root disturbances. Given these factors and the DBH, a 5' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/7/23 | Time 1720

Address/Tree location SO-07 | Tree no. SO-07-4 | Sheet 1 of 1

Tree species Malus pumila | dbh 1" | Height 8' | Crown spread dia. 6'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1						N	N
2						N	N
3						N	N
4							

Site Factors

History of failures N/A | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 100 % Chlorotic _____% Necrotic 100 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ☐ Wind funneling ☐ _____ | **Relative crown size** Small ■ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 60 %

Dead twigs/branches ☐ ____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ■

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

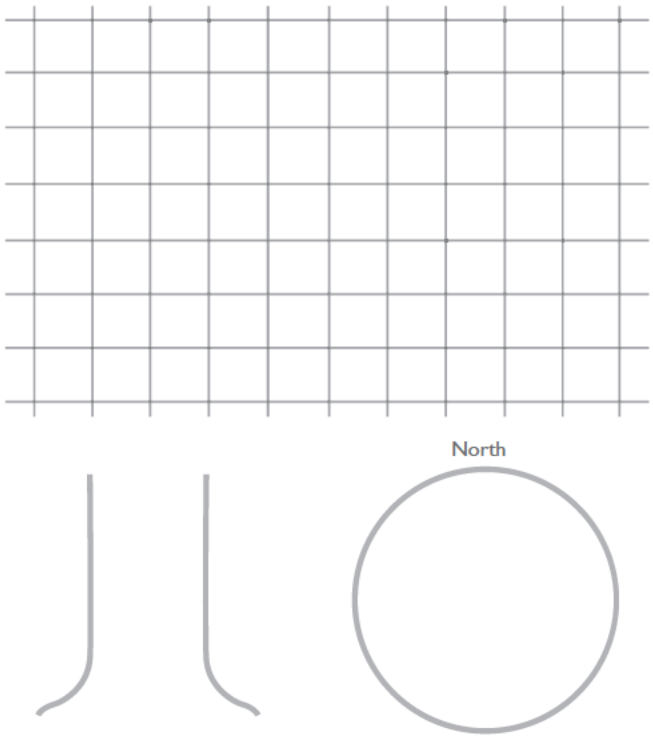
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is young and the species has a low tolerance for root disturbances. Given these factors and the DBH, a 5' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/7/23 | Time 1720

Address/Tree location SO-07 | Tree no. SO-07-5 | Sheet 1 of 1

Tree species Acer ginnala | dbh 6" Multistem | Height 20' | Crown spread dia. 20'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Fence to east	✓	✓	✓	4	N	N
2						N	N
3						N	N
4							

Site Factors

History of failures Broken branches **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ **Abiotic** _____

Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to east **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ **Interior branches** Few ☐ Normal ■ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 75 %

Dead twigs/branches ■ 5 % overall Max. dia. 1'

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ▣

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ■ Epicormic Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) Codominant stem

Load on defect N/A ☐ Minor ■ Moderate ☐ Significant ☐

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around old wounds

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ■ Cavity ☐ _____% circ.

Cracks ■ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

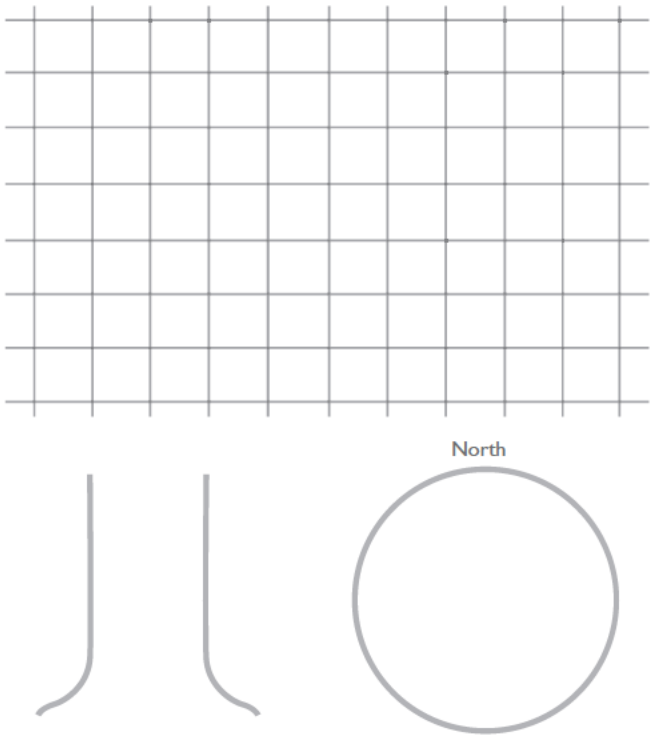
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Branches	Codominant stem	2"	7'	1	N/A	○	●	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
							●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is mature and the species has a low tolerance for root disturbances. Given these factors and the DBH, a 8' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

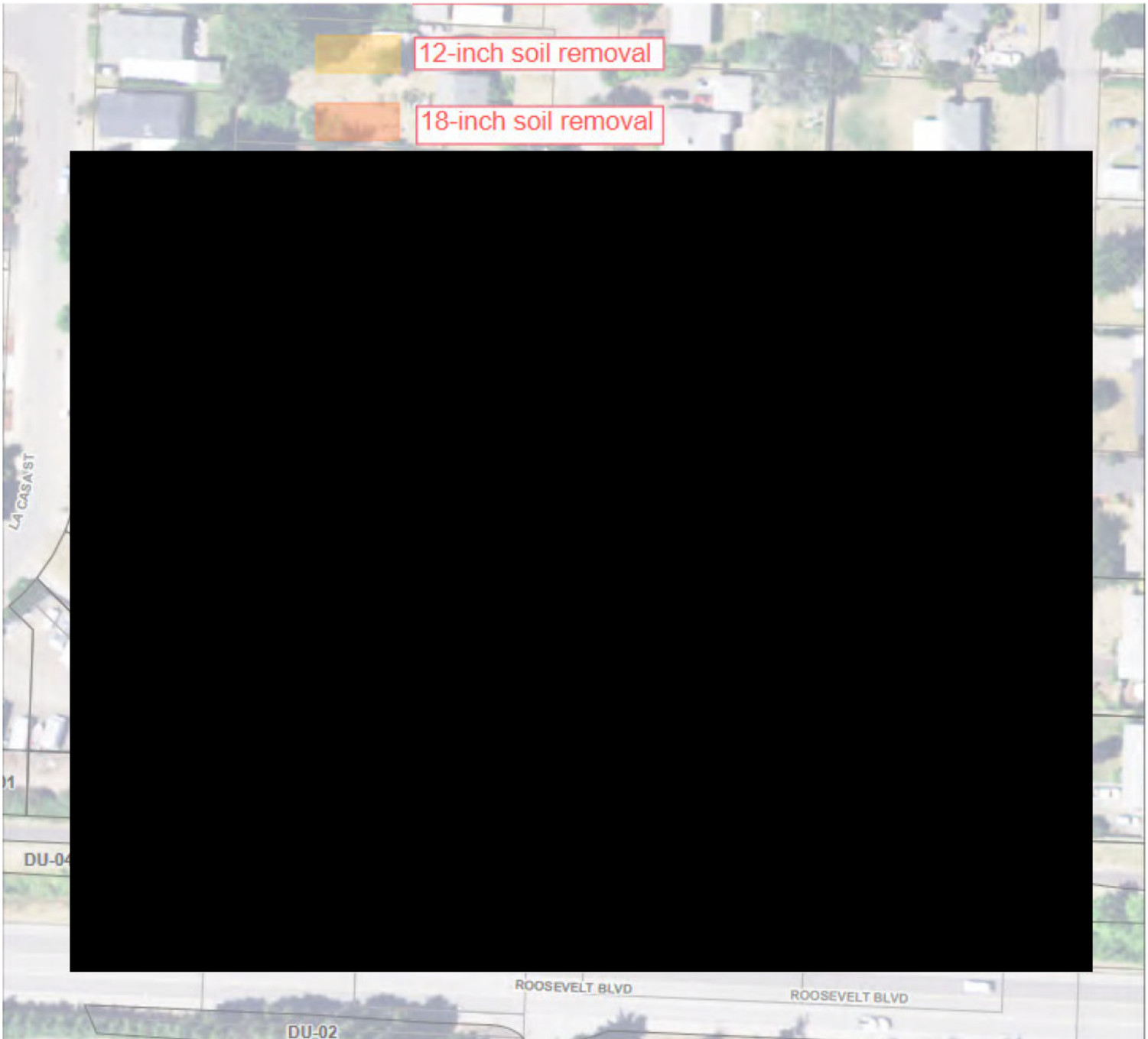
SPADE TREE PRESERVATION

CCB: 233735

June 2023

ARBORIST REPORT

Prepared by: Cory Shields of Spade Tree Preservation



Arborist Report

[redacted] Dr.

Eugene, OR

Prepared for:

Groundwater Solutions, Inc.

dba GSI Water Solutions, Inc.

650 NE Holladay St., Suite 900

Portland, OR 97232

for

JH Baxter Removal Action

Project Number: 02060.005.004

Prepared by:

Cory Shields

Certified Arborist PN-8292A

Tree Risk Assessment Qualified

International Society of Arboriculture

29110 Sheep Head Road

Brownsville, OR 97327

Overview

This report covers the mitigation recommendations for the trees at [redacted] Dr. hereto referenced as AP-01. There are 6 total individual trees under the purview of this report, in addition to several shrubs not covered under the tree assessment forms. Figure 1 details the locations of the trees withing SO-07. As detailed in Figure 2, soil removal on the entirety of SO-07 will be at a 12-inch depth.

Figure 1

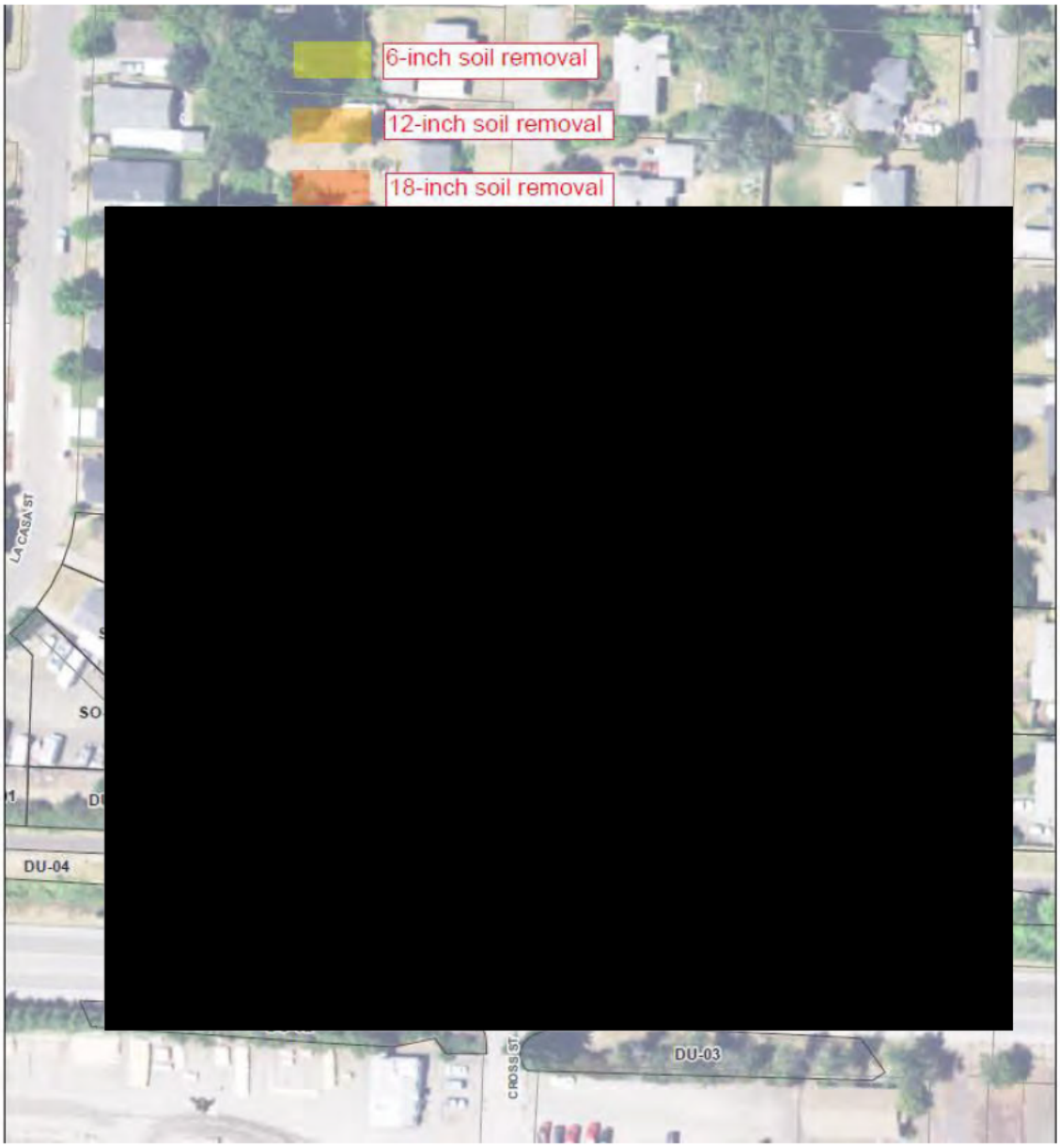


Figure 2

AP-01-01

Located on the eastern portion of the property in the front yard to the north of the driveway (Figure 1, 01), tree 01 is a *Chamaecyparis lawsoniana* with a diameter of 29", height of 80', and a crown spread of 40' (Figure 3). This tree originates in the City of Eugene right-of-way and to make any recommendations would be a conflict of interest. The best course of action would be to determine the extent of the soil removal in and near the tree and contact the City for options and their recommendations.

AP-01-02

Located in the backyard, due west of the house (Figure 1, 02), Tree 02 is a *Malus ioensis* with a multi-stem diameter of 12", a height of 15', and a crown spread of 20' (Figure 4). This tree species has a high tolerance to root impacts, is valuable enough to maintain in the landscape, and is too large to transplant. To minimize the impacts to the root system, the soil should be vactor excavated, hand dug, or other minimal impact excavation technique at a radius of 8' from the center of the trunks. It is recommended that an arborist is onsite while the soil removal is conducted in this critical root zone to monitor potential root damage, and to ensure equipment does not damage the canopy. After the excavation, the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, and the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay). Weekly watering should be performed for the following two summers. The tree should be monitored for a minimum of three years after the soil removal activity to ensure the tree's continued survival and stability.

AP-01-03

Located near the southwestern corner of the property in the backyard (Figure 1, 03), Tree 03 is a *Juglans nigra* with a diameter of 18", a height of 40', and a crown spread of 35' (Figure 5). This tree species has a low tolerance to root impacts, is valuable enough to maintain in the landscape, and is too large to transplant. To minimize the impacts to the root system, the soil should be vactor excavated, hand dug, or other minimal impact excavation technique at a radius of 18' from the center of the trunk. It is recommended that an arborist is onsite while the soil removal is conducted in this critical root zone to monitor potential root damage, and to ensure equipment does not damage the canopy. After the excavation, the exposed roots should be covered as soon as possible either with a tarp, mulch, or new soil. New soil should be added within a couple of days, and the new soil should match the native soil in terms of consistency and makeup (sand, silt, clay). Weekly watering should be performed for the following two summers. The tree should be monitored for a minimum of three years after the removal activity to ensure the tree's continued survival and stability.

AP-01-04

Located along the northern fence line near the northwestern corner of the property (Figure 1, 04), tree 04 is a *Ligustrum ovalifolium* with a multistem diameter of 3", height of 15', and a crown spread of 20' (Figure 6). This specimen is in such poor shape removal is the best and most cost-effective option. The tree can be removed at the same time as the soil excavation.

AP-01-05

Located in the northwestern corner of the property (Figure 1, 05), tree 05 is a *Corylus avellana* with a multi-stem diameter of 8", height of 15', and a crown spread of 25' (Figure 7). This specimen has an old decaying trunk in the center of multiple stems (Figure 8). The tree is in such poor shape removal is the best and most cost-effective option. To reduce the risk of root failure, the tree should be removed prior to the soil removal.

Laurel and *Juglans nigra*

There is a Laurel shrub (*Prunus spp.)* located in the northwestern corner of the property (Figure 9). This shrub can be maintained if a radius of 2' is vactor excavated, hand dug, or other minimal impact excavation technique around the main trunk. Along the southern fence line in the backyard is a cluster of small *Juglans nigra*, which are immature and poorly sited (Figure 10). The trees should be removed with the soil excavation activities.

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 1910

Address/Tree location AP-01 | Tree no. AP-01-1 | Sheet 1 of 1

Tree species Chamaecyparis lawsoniana | dbh 29" | Height 80' | Crown spread dia. 40'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet, binoculars

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Traffic on road to east	✓	✓	✓	1	N	N
2	House to west		✓	✓	4	N	N
3	Power-lines to north and east		✓	✓	4	N	N
4							

Site Factors

History of failures None apparent | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ■ 45 % Describe Road to west, driveway south

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ☐ Trunk ■ Roots ☐ Describe Codominant failures

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ■ Wind funneling ☐ _____ | **Relative crown size** Small ☐ Medium ☐ Large ■

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 80 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number 1 Max. dia. 1"

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ■

Weak attachments ■ at codominant Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) codominant stems

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ■

Likelihood of failure Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ■

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around old cuts

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

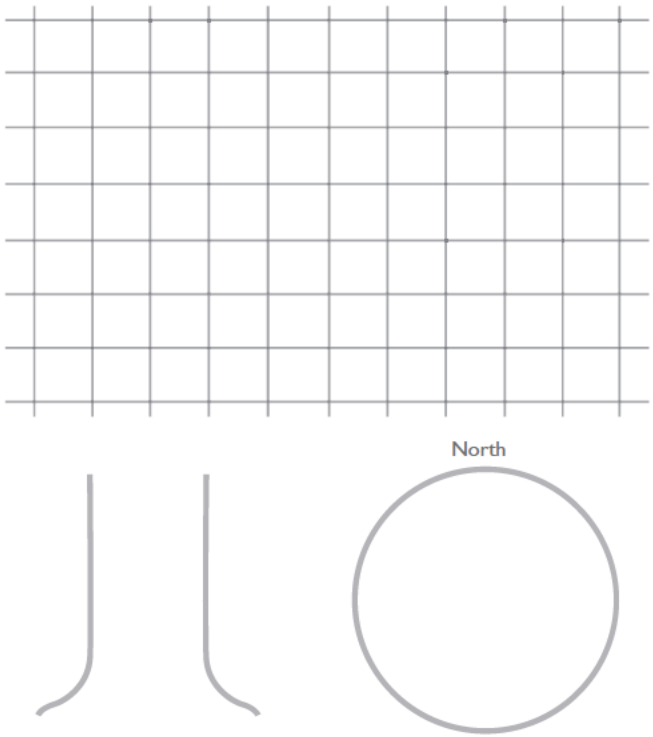
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Banches	Codominant stems	12"	40'	1	N/A	●	○	○	○	○	○	●	○	●	○	○	○	○	○	○	●	Low
			12"	30'	2	N/A	●	○	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
			12"	25'	3	N/A	●	○	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is mature and the species has a high tolerance for root disturbances. Given these factors and the DBH, a 19' radius from the trunk is the minimum recommended tree protection zone. This tree falls in the right-of-way for the city of Eugene and they should be consulted on root impacts.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ■ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 1950

Address/Tree location AP-01 | Tree no. AP-01-2 | Sheet 1 of 1

Tree species Malus ioensis | dbh 12" Multistem | Height 15' | Crown spread dia. 20'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	People in yard	✓	✓	✓	1	Y	Y
2							
3							
4							

Site Factors

History of failures Small branches | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 90 % Chlorotic _____% Necrotic 10 %

Pests _____ **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Codominant stem failures, wear attachment failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ House to northwest **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ☐ Dense ■ **Interior branches** Few ☐ Normal ☐ Dense ■ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 100 %

Dead twigs/branches ■ 10 % overall Max. dia. 2"

Broken/Hangers Number 1 Max. dia. 3"

Over-extended branches ☐

Pruning history

Crown cleaned ☐ Thinned ■ Raised ☐

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ■

Weak attachments ■ _____ Cavity/Nest hole ____% circ.

Previous branch failures ■ Overweighted Similar branches present ■

Dead/Missing bark ■ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐ _____

Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ■ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth Around stem in center of tree

Main concern(s) Center stem with dead on it

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure

Improbable ■ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

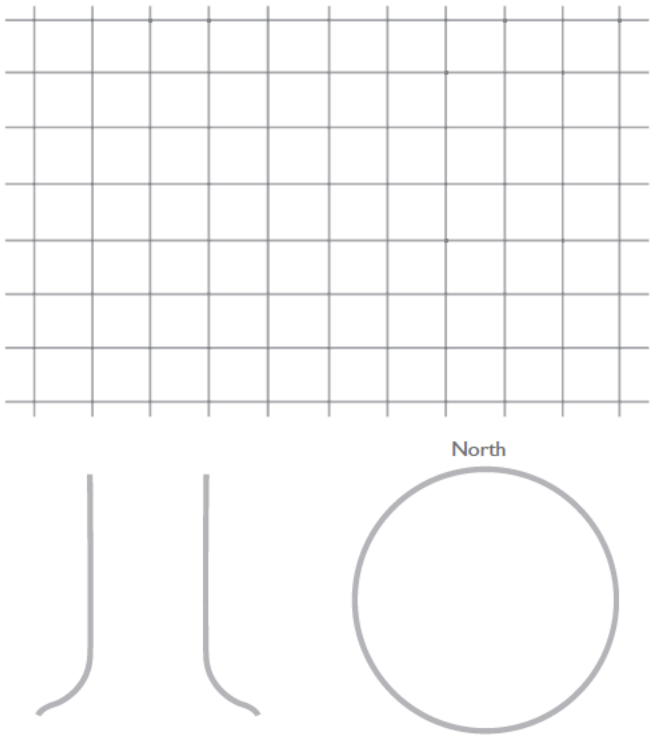
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Trunk	dead bark around center stem	4"	10'	1	other	●				●				●					●			Low
						branches																	
2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is mature and the species has a good tolerance for root disturbances. Given these factors and the DBH an 8' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ■ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe Losing Daylight

Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 1930

Address/Tree location AP-01 | Tree no. AP-01-3 | Sheet 1 of 1

Tree species Juglans nigra | dbh 18" | Height 40' | Crown spread dia. 35'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe, mallet

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Neighbor's shed to southwest	✓	✓	✓	4	N	N
2	Neighbor's shed to west	✓	✓	✓	4	N	N
3	Playhouse to east	✓	✓	✓	4	N	N
4							

Site Factors

History of failures None apparent | **Topography** Flat ■ Slope ☐ _____% | **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ | **Foliage** None (seasonal) ■ None (dead) ☐ Normal 95 % Chlorotic _____% Necrotic 5 %

Pests _____ | **Abiotic** _____

Species failure profile Branches ■ Trunk ☐ Roots ☐ Describe Overextended branch failures

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Playhouse to east | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ■ Dense ☐ | **Interior branches** Few ☐ Normal ■ Dense ☐ | **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR 90 %

Dead twigs/branches ■ 5 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ☐

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) overextended branches

Load on defect N/A ☐ Minor ☐ Moderate ■ Significant ☐

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

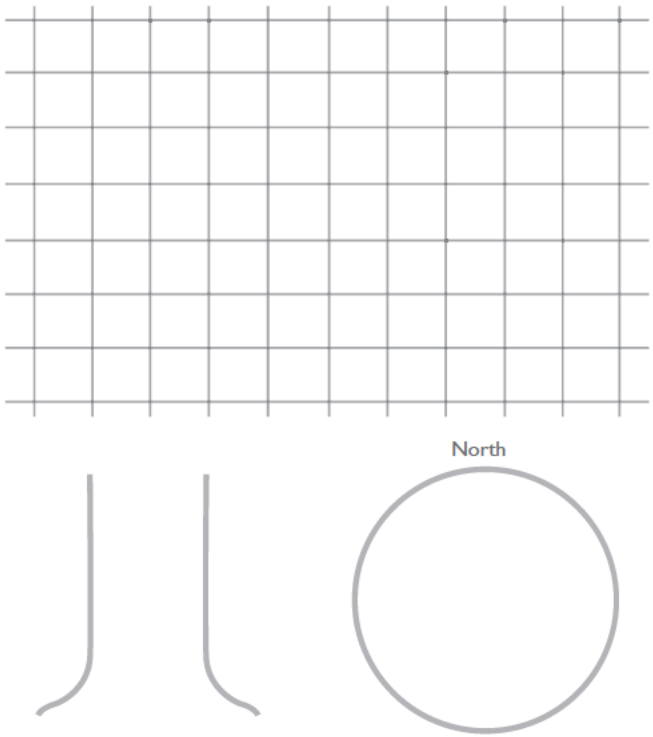
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Crown and Banches	Overextended branches	4"	25'	1	Fence	○	●	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
			4"	25'	2	Fence	○	●	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
			4"	25'	3	N/A	○	●	○	○	○	○	●	○	●	○	○	○	○	○	●	○	Low
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is young and the species has a low tolerance for root disturbances. Given these factors and the DBH, a 18' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options Reduce overextended branches — **Residual risk** Low

Residual risk _____

Residual risk _____

Residual risk _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ■ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ■ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe Losing sunlight

Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 1940

Address/Tree location AP-01 | Tree no. AP-01-4 | Sheet 1 of 1

Tree species Ligustrum ovalifolium | dbh 3" Multistem | Height 15' | Crown spread dia. 20'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Fence to north	✓	✓	✓	4	N	N
2							
3							
4							

Site Factors

History of failures N/A | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal 60 % Chlorotic _____% Necrotic 40 %

Pests _____ **Abiotic** _____

Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Fence to north | **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ☐ Dense ■ **Interior branches** Few ☐ Normal ☐ Dense ■ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 90 %

Dead twigs/branches ■ 40 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ■ Raised ☐

Reduced ■ Topped ☐ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ■ _____ Lightning damage ☐

Codominant ☐ _____ Included bark ■

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ■ Overweighted Similar branches present ■

Dead/Missing bark ■ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ☐ _____

Response growth _____

Main concern(s) Overextended branches

Load on defect N/A ☐ Minor ■ Moderate ☐ Significant ☐

Likelihood of failure Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

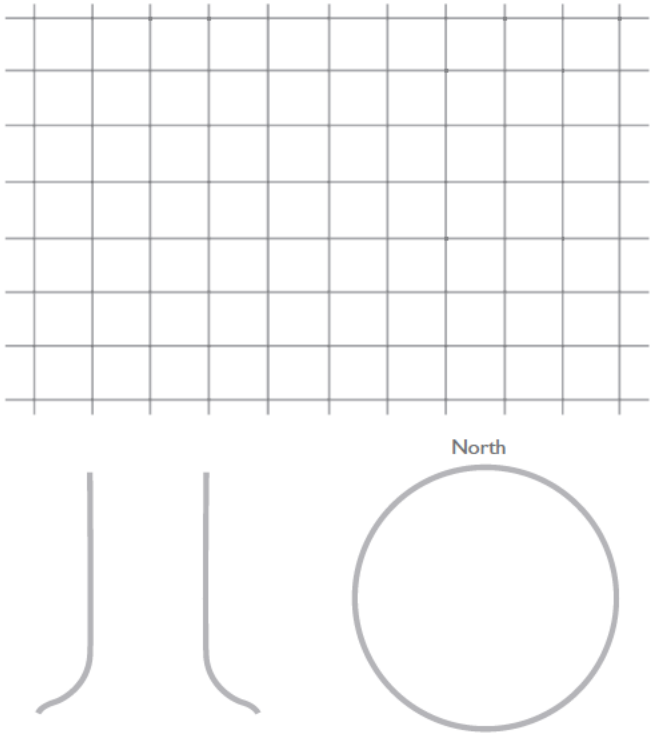
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Branches	Overextended branches	1"	4'	1	N/A	●				●				●				●				Low
2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions This specimen is mature and the species has a moderate tolerance for root disturbances. Given these factors and the DBH, an 5' radius from the trunk is the minimum recommended tree protection zone. This speciment is in poor condition and retention should not be a priority.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

Data ☐ Final ■ Preliminary **Advanced assessment needed** ☐ No ☐ Yes-Type/Reason _____

Inspection limitations ☐ None ■ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe Losing Daylight

Basic Tree Risk Assessment Form

Client GSI | Date 4/6/23 | Time 2005

Address/Tree location AP-01 | Tree no. AP-01-5 | Sheet 1 of 1

Tree species Corylus avellana | dbh 8" Multistem | Height 15' | Crown spread dia. 25'

Assessor(s) Cory Shields | Time frame 3 Years | Tools used Probe

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2–occasional, 3–frequent, 4–constant)	Practical to move target?	Restriction practical?
1	Fence to north and west	✓	✓	✓	4	N	N
2	People in yard	✓	✓	✓	1	Y	Y
3							
4							

Site Factors

History of failures N/A | **Topography** Flat ■ Slope ☐ _____% **Aspect** _____

Site changes None ■ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____% Describe _____

Prevailing wind direction W | **Common weather** Strong winds ■ Ice ■ Snow ■ Heavy rain ■ Describe Ice/snow on ~ 2 year interval

Tree Health and Species Profile

Vigor Low ☐ Normal ■ High ☐ **Foliage** None (seasonal) ■ None (dead) ☐ Normal 90 % Chlorotic _____% Necrotic 10 %

Pests _____ **Abiotic** _____

Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ■ Full ☐ Wind funneling ☐ Hedge and fence **Relative crown size** Small ☐ Medium ■ Large ☐

Crown density Sparse ☐ Normal ☐ Dense ■ **Interior branches** Few ☐ Normal ☐ Dense ■ **Vines/Mistletoe/Moss** ☐ _____

Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ■ LCR 95 %

Dead twigs/branches ■ 10 % overall Max. dia. 1"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches ■

Pruning history

Crown cleaned ☐ Thinned ☐ Raised ☐

Reduced ☐ Topped ■ Lion-tailed ☐

Flush cuts ☐ Other _____

Cracks ☐ _____ Lightning damage ☐

Codominant ■ _____ Included bark ■

Weak attachments ☐ _____ Cavity/Nest hole ____% circ.

Previous branch failures ☐ _____ Similar branches present ☐

Dead/Missing bark ■ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Conks ☐ Heartwood decay ■ Central dead stem

Response growth _____

Main concern(s) Topped, resprouts

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ■ Included bark ■ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper ☐

Lean _____° Corrected? _____

Response growth _____

Main concern(s) Central dead stem

Load on defect N/A ☐ Minor ■ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ■ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ _____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____

Root plate lifting ☐ Soil weakness ☐

Response growth _____

Main concern(s) _____

Load on defect N/A ■ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization

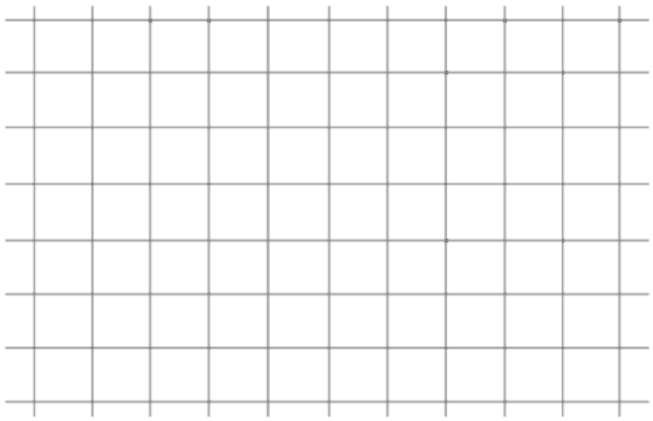
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact (from Matrix 1): Unlikely	Likelihood: Failure & Impact (from Matrix 1): Somewhat	Likelihood: Failure & Impact (from Matrix 1): Likely	Likelihood: Failure & Impact (from Matrix 1): Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1	Trunk	Central dead trunk	3"	8'	1	shrub	○	●	○	○	○	●	○	○	●	○	○	○	○	●	○	○	Low
			3"	8'	2	N/A	○	●	○	○	●	○	○	○	●	○	○	○	○	○	●	○	Low
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
4							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

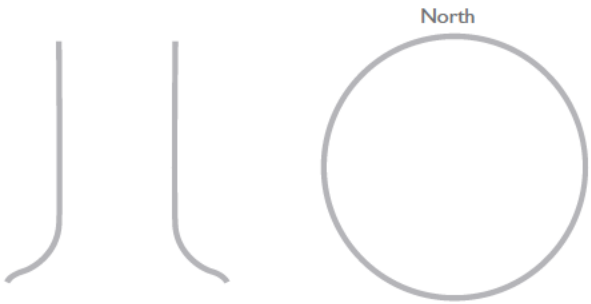
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low





Notes, explanations, descriptions This specimen is mature and the species has a good tolerance for root disturbances. Given these factors and the DBH, a 14' radius from the trunk is the minimum recommended tree protection zone.

Mitigation options _____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

_____ **Residual risk** _____

Overall tree risk rating Low ■ Moderate ☐ High ☐ Extreme ☐ **Work priority** 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** _____

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