Basic Tree Risk Assessment Form

Client City of Columbia Date 7/1/16 Time 11:15 AM

Address/Tree location A. Perry Philips Park / 5050 Bristol Lake Parkway, Columbia, MO Tree no. _____ Sheet _____ of _____

Tree species White Oak dbh 35.5 inches Height 65 ft Crown spread dia. 66 ft

Assessor(s) Eric Schmittel MW 4775-A Time frame _____ Tools used D-tape, tape measure

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	Restroom		✔		4	n	n
2	Trail users		✔		2	n	y
3	Cars/People in parking lot		✔		2	n	y
4	Park users seeking shade	✔			1	n	y

Site Factors

History of failures Several trees have declined severely and died **Topography** Flat☐ Slope■ 5 % **Aspect** W

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

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted■ Pavement over roots■ 10 % Describe Lake development/parking lot

Prevailing wind direction W **Common weather** Strong winds■ Ice☐ Snow■ Heavy rain■ Describe These are common in this area

Tree Health and Species Profile

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

Pests Ants, Termites **Abiotic** Construction equipment

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 removal of surrounding trees

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☐ LCR 5 %

Dead twigs/branches■ 95 % overall Max. dia. 20in

Broken/Hangers Number 3 Max. dia. 4in

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 50 % circ.

Previous branch failures■ _____ Similar branches present■

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

Conks■ Heartwood decay■ _____

Response growth None

Main concern(s) The majority of the canopy is dead and is extremely brittle from hypoxylon canker.

Load on defect N/A☐ Minor☐ Moderate☐ Significant■ Large dead and rotten branches

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent■ wood is very brittle

— 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 None

Main concern(s) Hypoxylon canker on main 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■ 10 % circ.

Cracks☐ Cut/Damaged roots☐ Distance from trunk _____

Root plate lifting☐ Soil weakness☐

Response growth None

Main concern(s) Decay on root flare. Possible compaction of root zone from construction.

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

Likelihood of failure

Improbable☐ Possible■ Probable☐ Imminent☐

Risk Categorization

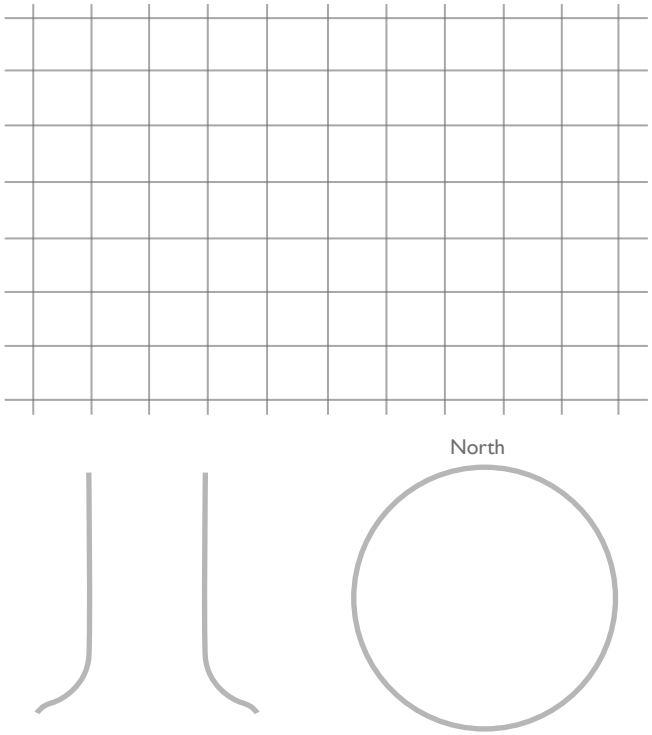
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	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	Many large, dead, and brittle branches	20in	30ft	1	None				●			●				●					●		High
			20in	30ft	4	None				●		●				●							●	Mod
2	Roots	Rot at base of the root flare	35in	30ft	2	None		●				●			●							●		Low
			35in	30ft	3	None		●				●			●						●			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 95% of the overall canopy is dead and covered in hypoxylon canker. The tree has dropped several limbs and has the possibility of loosing many more. The base of the trunk and root flare also shows signs of decay which could cause whole tree failure.

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 _____

Existing Conditions – White Oak Tree

A. Perry Philips Park – Adjacent to Trailhead

Significant Canopy Loss

Fungus and Decay at Root Flare

Fungus in Tree Canopy

Multiple Hangers and Potential Falling Limbs