

APPENDIX 1 – ISA Tree Hazard Evaluation Method



A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas **TREE HAZARD EVALUATION FORM** 2nd Edition

Site/Address: _____
 Map/Location: _____
 Owner: public _____ private _____ unknown _____ other _____
 Date: _____ Inspector: _____
 Date of last inspection: _____

HAZARD RATING:						
_____	+	_____	+	_____	=	_____
Failure Potential		Size of part		Target Rating		Hazard Rating
_____ Immediate action needed						
_____ Needs further inspection						
_____ Dead tree						

TREE CHARACTERISTICS

Tree #: _____ Species: _____
 DBH: _____ # of trunks: _____ Height: _____ Spread: _____
 Form: generally symmetric minor asymmetry major asymmetry stump sprout stag-headed
 Crown class: dominant co-dominant intermediate suppressed
 Live crown ratio: _____ % Age class: young semi-mature mature over-mature/senescent
 Pruning history: crown cleaned excessively thinned topped crown raised pollarded crown reduced flush cuts cabled/braced
 none multiple pruning events Approx. dates: _____
 Special Value: specimen heritage/historic wildlife unusual street tree screen shade indigenous protected by gov. agency

TREE HEALTH

Foliage color: normal chlorotic necrotic Epicormics? Y N Growth obstructions:
 Foliage density: normal sparse Leaf size: normal small stakes wire/ties signs cables
 Annual shoot growth: excellent average poor Twig Dieback? Y N curb/pavement guards
 Woundwood development: excellent average poor none other _____
 Vigor class: excellent average fair poor
 Major pests/diseases: _____

SITE CONDITIONS

Site Character: residence commercial industrial park open space natural woodland/forest
 Landscape type: parkway raised bed container mound lawn shrub border wind break
 Irrigation: none adequate inadequate excessive trunk wetted
 Recent site disturbance? Y N construction soil disturbance grade change line clearing site clearing
 % dripline paved: 0% 10-25% 25-50% 50-75% 75-100% Pavement lifted? Y N
 % dripline w/ fill soil: 0% 10-25% 25-50% 50-75% 75-100%
 % dripline grade lowered: 0% 10-25% 25-50% 50-75% 75-100%
 Soil problems: drainage shallow compacted droughty saline alkaline acidic small volume disease center history of fail
 clay expansive slope _____° aspect: _____
 Obstructions: lights signage line-of-sight view overhead lines underground utilities traffic adjacent veg. _____
 Exposure to wind: single tree below canopy above canopy recently exposed windward, canopy edge area prone to windthrow
 Prevailing wind direction: _____ Occurrence of snow/ice storms never seldom regularly

TARGET

Use Under Tree: building parking traffic pedestrian recreation landscape hardscape small features utility lines
 Can target be moved? Y N Can use be restricted? Y N
 Occupancy: occasional use intermittent use frequent use constant use

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TREE DEFECTS

ROOT DEFECTS:

Suspect root rot: Y N Mushroom/conk/bracket present: Y N ID: _____

Exposed roots: severe moderate low Undermined: severe moderate low

Root pruned: _____ distance from trunk Root area affected: _____% Buttress wounded: Y N When: _____

Restricted root area: severe moderate low Potential for root failure: severe moderate low

LEAN: _____ deg. from vertical natural unnatural self-corrected Soil heaving: Y N

Decay in plane of lean: Y N Roots broken Y N Soil cracking: Y N

Compounding factors: _____ Lean severity: severe moderate low

CROWN DEFECTS: Indicate presence of individual defects and rate their severity (s = severe, m = moderate, l = low)

DEFECT	ROOT CROWN	TRUNK	SCAFFOLDS	BRANCHES
Poor taper				
Bow, sweep				
Codominants/forks				
Multiple attachments				
Included bark				
Excessive end weight				
Cracks/splits				
Hangers				
Girdling				
Wounds/seam				
Decay				
Cavity				
Conks/mushrooms/bracket				
Bleeding/sap flow				
Loose/cracked bark				
Nesting hole/bee hive				
Deadwood/stubs				
Borers/termites/ants				
Cankers/galls/burrs				
Previous failure				

HAZARD RATING

Tree part most likely to fail: _____

Inspection period: _____ annual _____ biannual _____ other _____

Failure Potential + Size of Part + Target Rating = Hazard Rating

_____ + _____ + _____ = _____

Failure potential: 1 - low; 2 - medium; 3 - high; 4 - severe

Size of part: 1 - <6" (15 cm); 2 - 6-18" (15-45 cm);

3 - 18-30" (45-75 cm); 4 - >30" (75 cm)

Target rating: 1 - occasional use; 2 intermittent use;

3 - frequent use; 4 - constant use

HAZARD ABATEMENT

Prune: remove defective part reduce end weight crown clean thin raise canopy crown reduce restructure shape

Cable/Brace: _____ Inspect further: root crown decay aerial monitor

Remove tree: Y N Replace? Y N Move target: Y N Other: _____

Effect on adjacent trees: none evaluate

Notification: owner manager governing agency Date: _____

COMMENTS