

# Standard Operating Procedure for Tree Assessment

TTCC-SOP-01-V1

## Overview

Tree assessment is a fundamental part of consulting arboriculture and a core task. The Tree Consultancy Company makes hundreds of assessments per year. There are no recorded major incidents for this task.

**Created 13/1/21**  
**Review 13/4/21**

## Definition

This procedure describes the tasks associated with basic ground-based tree assessments and covers various types of assessment in all settings.

This task is mostly done during initial planning stages of a project, but at times will be in an existing construction site.

This is done at a site, often by a lone worker, and can be in private property, roads, parks, coastal, riparian or bush settings.

In most cases the assessor will drive to the site.

The type of assessment varies (e.g. Inventory count, photo only, basic measurement, risk assessment, health assessment, pest and disease assessment, thorough inspection).

**Exclusions** (Further risk assessment is needed for these tasks on a per tree/site basis).

Detailed or advanced inspections using decay detection equipment (resistance drill, radar etc.).

Drone use

Climbing inspections

Test excavations

**Description of task** (This is not exhaustive, nor are all elements required. The assessor will choose the tasks relevant to the tree and project scope).

Travel to the site.

Access the site appropriately, by vehicle or on foot.

Carry out a hazard analysis – this can refer to the basic template for this task – add items dynamically

Wear PPE appropriate to the task, site, and weather.

Check for animals before entering property.

Announce yourself – Always knock on doors, or phone to let people know you are there.

Sign into established work sites – ask for induction including traffic management.

View the tree from all sides from ground level – if you cannot this is a limited visual assessment

Document the tree (photos, video).

Measure the tree and relevant parts.  
Take a sample of a leaf for identification.  
Assess the tree using the appropriate methods needed to fulfil the scope.  
Return or onward travel.

### **Typical tools and equipment used**

Tape measure – to accurately measure tree parts and distances.  
Phone/tablet – as an electronic recording device, camera, compass, angle measure, Dictaphone  
Camera, with zoom - to get close up photos of features higher in the tree.  
Probe – usually a metal spike/screwdriver/wire to investigate openings or cavities and to determine depth and wood structure.  
Rubber or nylon mallet – for acoustic sounding of tree parts to identify possible decay/voids.  
Forestry laser – to accurately measure tree height and distances.  
Handheld laser measurer – to measure distances less than forestry laser minimum tolerances. To measure distances where access to the tree is limited (neighbouring properties).  
Height stick – to measure tree height, clearances, branch heights, ongoing subsidence  
Notebook and pen/pencil – to record findings and make sketches, write on samples, instead of electronic devices in the rain  
Spray marker – to mark out surveyed elements or  
Binoculars – to enable more detailed inspection of the canopy  
Brush/trowel – to carefully remove soil from roots and root collar  
Sample bags – for fungi, soil, tissue sample collection  
Plumb bob – to take ongoing measurements of trunk lean or branch subsidence  
Laser pointer – to identify parts during discussion  
GPS device – for accurate location of trees in remote/unmapped areas  
GNSS Trimble surveying device – for accurate location of trees in remote/unmapped areas

### **PPE**

For assessments within the road reserve a compliant hi-vis top is mandatory  
There is no other minimum PPE requirement for this task, rather it is dependant on the site conditions, site requirements, or individual tasks.

<b>Activities/hazards</b>	<b>Risks</b>	<b>Likelihood</b>	<b>Typical Controls</b>	<b>Discussion</b>
Driving	<ul style="list-style-type: none"> <li>• Vehicle incidents</li> </ul>	<ul style="list-style-type: none"> <li>• Unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain and regularly inspect fleet</li> <li>• Follow the road rules</li> <li>• Vehicle is appropriate for the site access</li> <li>• Driver licensing</li> </ul>	<p>Driving is a normal everyday operation. There are no reported incidents however we acknowledge that the consequences can be high.</p> <p>Vehicle near misses &gt;65km/h are documented and reviewed monthly to identify patterns and guide improvement.</p>
Parking	<ul style="list-style-type: none"> <li>• Obstructing views from poor parking</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Park in a safe and legal way at the destination</li> <li>• If undertaking Mobile Inspections park appropriately to the TMP and CoPPTM</li> </ul>	<p>Follow site rules for parking – e.g. reverse only.</p>
Site access	<ul style="list-style-type: none"> <li>• Dog attack</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	
Measuring tree dimensions	<ul style="list-style-type: none"> <li>• Sun strike when using optical devices</li> </ul>	<ul style="list-style-type: none"> <li>• Unlikely</li> </ul>		
	<ul style="list-style-type: none"> <li>• Tape measure as a hazard to others</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>		
	<ul style="list-style-type: none"> <li>• Neck injury from looking up for long periods</li> </ul>	<ul style="list-style-type: none"> <li>• Possible</li> </ul>		
Recording data on mobile devices	<ul style="list-style-type: none"> <li>• Distraction</li> </ul>	<ul style="list-style-type: none"> <li>• Unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Stand still on stable ground and in a safe place to enter data and use devices</li> <li>• Do not use devices while in road carriageways</li> </ul>	
Weather	<ul style="list-style-type: none"> <li>• Struck by falling debris in strong winds</li> </ul>	<ul style="list-style-type: none"> <li>• Unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Wear a helmet to assess trees in windy conditions</li> </ul>	<p>In high winds do not stand beneath trees prone to shedding branches.</p>

	<ul style="list-style-type: none"> <li>• Sunburn</li> </ul>	<ul style="list-style-type: none"> <li>• Possible</li> </ul>	<ul style="list-style-type: none"> <li>• Wear full cover clothing</li> <li>• Use high factor sunscreen</li> </ul>	Sunscreen will be provided if you need it.
Animals	<ul style="list-style-type: none"> <li>• Livestock attack</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Do not do anything to startle livestock</li> <li>• Avoid the area and give a wide berth</li> <li>• Be wary of mothers with young being protective or unpredictable</li> </ul>	
	<ul style="list-style-type: none"> <li>• Anaphylaxis from Insect bites or stings</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• If you notice nests or swarms move away and reschedule the assessment</li> </ul>	
Walking on uneven ground	<ul style="list-style-type: none"> <li>• Slips trips and falls</li> </ul>	<ul style="list-style-type: none"> <li>• Likely</li> </ul>	<ul style="list-style-type: none"> <li>• Wear appropriate supporting footwear.</li> <li>• Make sure footwear has good grip.</li> <li>• Avoid walking across steep ground, loose material.</li> </ul>	This is a normal part of assessing trees in many settings. Dynamic assessment is needed by the worker at all times.
Public and contractor interactions	<ul style="list-style-type: none"> <li>• Verbal abuse</li> </ul>	<ul style="list-style-type: none"> <li>• Possible</li> </ul>	<ul style="list-style-type: none"> <li>• Do not respond</li> </ul>	Trees are an emotive subject. Everyone has an opinion and is entitled to it. Always be polite, offer professional comments, protect the privacy of our clients. If you are uncomfortable then walk away and contact the Director. Document all incidents in this category
	<ul style="list-style-type: none"> <li>• Actual or perceived threats</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Leave site if threatened</li> <li>• Take refuge in your vehicle</li> <li>• Call 111 if you are in danger</li> </ul>	
	<ul style="list-style-type: none"> <li>• Physical abuse</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Take refuge in your vehicle</li> <li>• Call 111 if you are in danger</li> </ul>	

Working next to roads	<ul style="list-style-type: none"> <li>• Struck by vehicle</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Do not stand in the road to make assessments.</li> <li>• Cross live lanes safely and make assessments from safe vantage points.</li> </ul>	Follow best practice guidelines for mobile operations set out in CoPTTM.
	<ul style="list-style-type: none"> <li>• Hearing damage from extended exposure</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Wear hearing protection as needed</li> </ul>	Using hearing protection when next to roads can increase risk if it reduces your ability to hear approaching vehicles when near live traffic lanes. Balance the risk appropriately.
Navigating dense vegetation	<ul style="list-style-type: none"> <li>• Eye puncture injury from small dense branches</li> </ul>	<ul style="list-style-type: none"> <li>• Unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Wear protective eyewear in dense vegetation</li> </ul>	No eye injuries have been recorded for this activity. Always balance eyewear use with maintaining good visibility. For example, if glasses are steaming up or wet other risks are increased.
	<ul style="list-style-type: none"> <li>• Head injury, from striking low branches</li> </ul>	<ul style="list-style-type: none"> <li>• Unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Wear a helmet if the vegetation make up deems it necessary</li> </ul>	Consider a soft hat as an alternative if heat stress is a factor, especially if travelling difficult terrain.
Privacy	<ul style="list-style-type: none"> <li>• Real or perceived invasions of privacy arising from public or property captured in photos</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Wait for the public to exit frame wherever possible</li> <li>• When assessing sites with children (play grounds, schools, kindergartens) schedule visits at times of low occupancy.</li> <li>• If approached and asked by an individual to delete photos do so if you</li> </ul>	Our primary purpose for photo and video is for the documentation of trees and surrounding environments. Inclusion of the public in photos or video is incidental and not the primary subject. The focus of these collection principles is on purpose, not consent. <a href="https://www.privacy.org.nz/tools/knowledge-base/view/322?t=251107_344018">https://www.privacy.org.nz/tools/knowledge-base/view/322?t=251107_344018</a>

			<ul style="list-style-type: none"> <li>are reasonably able to retake it</li> <li>Edit photos to remove faces if asked</li> </ul>	
Medical waste	<ul style="list-style-type: none"> <li>Puncture wounds from discarded syringes</li> </ul>	<ul style="list-style-type: none"> <li>Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>Do not touch. Identify, isolate. Contact landowner and report.</li> <li>Identify, isolate, adjust methodology to avoid</li> </ul>	Syringes are seldom seen during our work.
	<ul style="list-style-type: none"> <li>Infection from discarded condoms</li> </ul>	<ul style="list-style-type: none"> <li>Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>Do not touch.</li> <li>Identify, isolate, adjust methodology to avoid</li> </ul>	Discarded condoms are regularly noted in urban parks and reserves, primarily in more dense vegetation areas.
Fatigue	<ul style="list-style-type: none"> <li>Physical exhaustion</li> </ul>	<ul style="list-style-type: none"> <li>Possible</li> </ul>	<ul style="list-style-type: none"> <li>Increase break frequency when in difficult terrain or extreme weather</li> </ul>	
	<ul style="list-style-type: none"> <li>Mental fatigue</li> </ul>	<ul style="list-style-type: none"> <li>Possible</li> </ul>	<ul style="list-style-type: none"> <li>Increase break frequency</li> </ul>	Mental fatigue in this context does not fit within the consequences framework as it does not require treatment. Impairment leading to physical incidents or a loss of objectivity is the reason for its inclusion. For long repetitive surveys consider breaking the survey up into shorter time in the field between other works tasks.
Utilities	<ul style="list-style-type: none"> <li>Indirect electrocution</li> </ul>	<ul style="list-style-type: none"> <li>Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>Check proximity before touching the tree</li> <li>Do not use the height stick within MADS</li> </ul>	Trees often grow close to energised lines, including telecoms. Trees can become live if they are in contact with uninsulated conductors. We are not aware of any instances of this from ground based assessment, however consequences can be high.

Hygiene/environmental	<ul style="list-style-type: none"> <li>• Infection from animal faeces</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Wear gloves if needed</li> <li>• Wash footwear, clothes or equipment if soiled</li> <li>• Wash hands before eating or drinking</li> </ul>	
	<ul style="list-style-type: none"> <li>• Internal poisoning from plants</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Wash hands before eating or drinking</li> </ul>	
	<ul style="list-style-type: none"> <li>• Adverse reactions to toxic plants</li> </ul>	<ul style="list-style-type: none"> <li>• Highly unlikely</li> </ul>	<ul style="list-style-type: none"> <li>• Wash hands before eating or drinking</li> <li>• Wear full cover PPE in areas of identified risk</li> </ul>	Learn the common toxic plants that may be encountered.