

RTC2005A
Unit Descriptor
Unit Sector

Fell small trees

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No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Identify tree felling requirements	<p>1.1 Instructions for tree felling operations are received and clarified with supervisor prior to work being undertaken.</p> <p>1.2 Topography and site conditions are assessed and factors influencing the natural direction of fall are identified and confirmed with supervisor.</p> <p>1.3 Tree is visually assessed and factors influencing the tree felling operation are identified and confirmed with supervisor.</p> <p>1.4 Natural direction of fall, safe fall zone and exclusion zone are determined and confirmed with supervisor.</p> <p>1.5 The environmental implications of the tree felling operation are identified, and the likely outcomes assessed and reported to the supervisor.</p> <p>1.6 OHS hazards associated with felling operation are identified, risks assessed and reported to the supervisor.</p>
2. Prepare for tree felling	<p>2.1 Feeling equipment and component options that are appropriate to the task being undertaken are selected and prepared.</p> <p>2.2 Appropriate support tools are prepared, transported and placed to minimise felling delays.</p> <p>2.3 Suitable safety equipment and personal protective equipment (PPE) are selected, checked, used, maintained and stored.</p> <p>2.4 Fall zone is cleared of obstacles and articles which may be damaged by felled tree according to enterprise policy.</p> <p>2.5 Clear escape route is established appropriate to the site and according to recognised guidelines.</p>
3. Fell tree	<p>3.1 Location of other personnel is noted and monitored.</p> <p>3.2 Standard tree felling techniques are determined by ground conditions and state of canopy, and according to enterprise policy.</p> <p>3.3 Corrective action is taken in response to changing conditions or problems encountered.</p> <p>3.4 Planned escape route is used when tree starts to fall.</p> <p>3.5 Fall of tree and movement on ground are monitored until tree is stable</p> <p>3.6 Safe working practices are employed according to OHS requirements.</p>

- 4. Complete tree felling operation
 - 4.1 Appropriate method of **clearing the site** of felled tree is determined.
 - 4.2 Machinery required for removal of felled tree is selected and used according to manufacturers specifications and OHS requirements.
 - 4.3 Fall site is cleared of tree and all tree debris according to enterprise standards.
 - 4.4 Load to be removed is secured according to given instructions, using appropriate equipment.
 - 4.5 Tools and equipment are cleaned, maintained and stored consistent with manufacturers specifications and enterprise guidelines.

KEY COMPETENCIES

What processes should be applied to this competency standard? There are a number of processes that are learnt throughout work and life, which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the key competencies, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information about specific tasks associated with the job, such as limitations in conditions and trees and hazards encountered may be communicated to work colleagues and the supervisor.	1
Collecting analysing and organising information	Information such as site and tree inspection results, safety issues and work schedules should be discussed with the supervisor and work team members before tree felling commences.	1
Planning and organising activities	Tree and site assessment, pre-operational checks and organisation of tools, equipment and tasks should be organised before tree felling begins.	1
Working with others and in teams	Felling small trees may involve working with other members of a team to complete operations in a safe and timely manner.	1
Using mathematical ideas and techniques	Mathematical techniques may be applied when measuring tree length and distances, the area of exclusion and fall zones, fuel volumes, and capacity of trailers for tree removal.	1
Solving problems	Problems relating to processes, unexpected characteristics, movement and condition of the tree, loss of control of tree in falling, faulty equipment, workplace safety, other team members, environmental issues, and interruption of works may require problem solving.	1
Using technology	Technology may be applied in the preparation, use and maintenance of chainsaws and arboricultural tools and equipment, and communication systems such mobile phones and 2-way radios.	1

RANGE STATEMENT

What type of tree is covered by this standard?

Trees may include small and medium sized (maximum height 6m and maximum diameter at breast height, DBH, 300mm).

What instructions may be relevant when undertaking tree felling operations?

Instructions may include Standard Operating Procedures (SOPs) or verbal directions from manager, supervisor, or senior operator; work notes, routine maintenance schedules, manufacturers service specifications and operators manuals, waste disposal, recycling and re-use guidelines, and OHS procedures.

What factors may influence the natural direction of fall?

Factors influencing the natural direction of fall may include ground growth, ground slope, ground hazards, wind speed and direction.

What factors influencing the tree felling operation need to be considered when making an assessment of the tree?

Factors influencing the tree felling operation, which may be determined by assessing the tree, include height of tree, weight bias, canopy distribution, lean of tree, condition of trunk, decay or dead branches, species.

How is the safe fall zone determined?

The safe fall zone is determined by calculation of height of tree using published mathematical principles. The safety margin for fall zone is determined by identifying wind direction and speed at the time of felling.

How is the exclusion zone determined?

The exclusion zone may be determined by calculating a minimum of twice the height of the tree, for a full circle around the tree so that no people are put at risk from the tree falling or branches flinging off.

What environmental implications may impact on tree felling operations?

Environmental implications may include both the positive and negative affects of altering the microenvironment created by trees, levels of noise, dust, and high activity vehicle traffic.

What hazards associated with felling operation may need to be taken into consideration?

OHS hazards may include working near power lines, tree integrity, manual handling, moving equipment and vehicles, sharp hand tools, falling trees, branches and equipment, uneven surfaces, UV radiation, heat and cold, fatigue, working alone, noise, insects and animals.

What felling equipment is relevant to this standard?

Felling equipment may include small chainsaw (up to 350mm bar with engine capacity not exceeding 50cc), axes and saws.

What support tools may be required to undertake tree felling operations?

Support tools may include axe, sledge hammer, alloy and plastic wedges, ropes, hand winches, hand saw, tape measure, height meter, mobile phone.

What safety equipment may be required?

Safety equipment may include safety signs, barricades, and first aid kit.

What PPE may be required to undertake arboriculture support operations?

PPE may include steel cap boots, hard hat, ear protection, protective eyewear, hearing protection, cut resistant trousers or chaps, reflective vest, gloves, helmets with face masks, and sun protection (e.g., sun hat, sunscreen).

What corrective action may be required during tree felling operations?

Unexpected characteristics of the tree may require modifications to the felling plan, cuts made which lead to potential loss of control of tree in falling may require request for assistance, cutting technique may need adjustment in response to movement and condition of tree.

What OHS requirements are relevant to this standard?

OHS regulations include Codes of Practice & AS 2727 - 1997, *Chainsaws - Guide to safe working practices*. Requirements include carrying of correct first aid kit, wearing of required PPE, manual handling, maintenance of safe Amenity Tree Industry practices, recognition of hazards and required actions in tree felling, and use of approved containers for fuel and oil.

What methods may be utilised to clear the site?

The site may be cleared by logging, chipping or burning the branches that are cut off the trunk, and removed from site in trucks or trailers. Felled trees may be cut into manageable lengths, loaded, secured and removed from the site. The site may then be raked and all rubbish removed. Alternately, it may not be necessary to remove trees from or to clear certain sites (e.g., bushland, natural areas).

EVIDENCE GUIDE

What specific knowledge is needed to achieve the performance criteria?

Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:

- Basic operational and maintenance requirements of tree felling equipment.
- Safe working practices for chainsaw operation.
- Safety procedures and potential hazards for working safely in the amenity tree industry.
- Emergency and First Aid procedures.
- The effect of tree removal on the environment.
- Local government regulations that apply to tree removal where appropriate.
- Identification of services and other hazards that affect the performance of the unit.
- Principles and methods of inspecting trees to identify structural defects.

What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to:

- Interpret work procedures including hazard and risk analysis and maintenance schedules.
- Demonstrate safe working practices.
- Communicate orally and using hand signals with other operators to maintain effective and safe felling.
- Participate in teams and contribute to team objectives.
- Calculate or estimate distances such as safe fall zones and exclusion zones.
- Measure distances.
- Monitor and maintain tree felling tools and equipment.
- Recognise structural defects, common diseases, pests, and nutrition deficiencies.
- Operate a chainsaw.

Are there other competency standards that could be assessed with this one?

This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is **critical information about assessing this competency standard for consistent performance and where and how it may be assessed**, in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.