



A guide to **WORKING AROUND TREES**

Absolutely
POSITIVELY
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Damage to trees can be avoided

Trees are sensitive to ground and other works and construction near them can lead to significant damage or even destruction. But damage can be avoided without causing significant disruption to any proposed works.

This guide is for Council staff, contractors and others planning construction around trees on Wellington City Council sites.

If more information or advice is needed, please contact a Council arborist.

Keeping trees

At the design phase of any proposed construction work near trees a Council arborist should determine which trees on a site should be kept.

Once a tree has been assessed as worth keeping every effort should be made to ensure its survival.

It may be possible to prune the tree before any construction takes place to avoid damage to the branches. This is only to occur with consent from a Council arborist.

In some cases we may request mitigation for the loss of vegetation.

The root zone

Tree roots are often ignored and the effects of damage may not be seen until months or years after work is complete.

Tree roots require not only water and nutrients, but oxygen to breathe. They can be starved of these essential requirements by even minor work. So contractors need to take care to protect the root zone of trees before, during and after any work.

The tree-root zone can often extend beyond the canopy of the tree. In many cases the tree-root zone can cover an area two to three times that of the canopy.

It is possible to carry out construction work within this larger root zone, but there must be an area of root zone that is protected at all times. This area can be defined as any ground within the drip line of the tree or within half the height, whichever is greater.

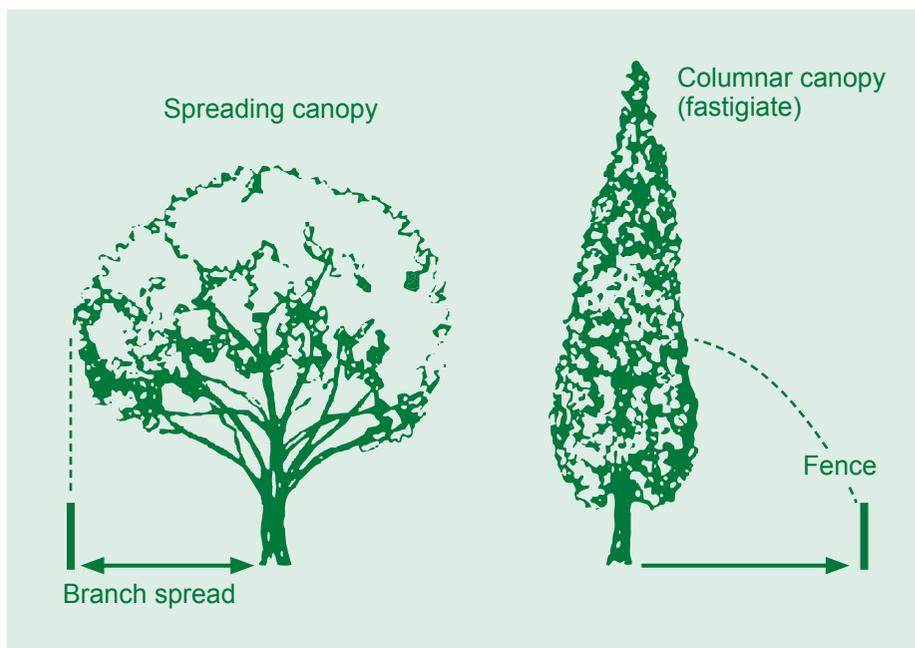
Tree-protection zone

A tree-protection zone must be established by an arborist before any work is carried out. This will protect a sufficient amount of the root system to ensure the survival of the tree during the construction phase.

It must take into account the following factors:

- the tolerance of the tree to root disturbance or damage, based on species, age and condition
- the availability of special construction techniques
- the nature of the construction activity
- the compressibility of the soil
- site topography and drainage
- the use of the site once the work is complete.

Protected drip line



Note: For fastigate species (erect, almost parallel braches) the tree-protection zone equals half the height of the tree. The actual tree root zone can spread well beyond the canopy drip-line.

Tree-protection fencing

A permanent fence should be erected at the edge of the root zone to mark out a tree-protection zone.

The protective fence should be installed before construction and remain there until the work is finished.

The fence should be clearly visible and strong enough to protect the tree trunk, branches and tree roots from any accidental damage and machinery impact. High-visibility post and plastic mesh fencing systems are not resistant to impact and are easily moved or breached. They are not usually adequate protection for trees.

Signs

The fence should also have all-weather signs to explain its purpose and to stop it being moved. The signs could say, for example:

- Tree-protection zone – no operations within exclusion zone
 - No storage, no heavy equipment, no machinery, no trenching, no digging, and no driving.
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Excavations

Contact a Council arborist if any excavations are being done close to the tree-protection zone. Hand excavation, an air-spade or a hydro jet may be required to locate roots without causing significant damage.

Any roots exposed during excavation must not be ripped, pulled or torn by machinery. They should be immediately covered with sacking or similar material and kept moist.

Other things to remember

- No work is to be carried out within the tree-protection zone.
 - Ground levels are not to be changed or manipulated within the tree-protection zone.
 - No vehicles may be parked within the tree-protection zone.
 - When operating plant or machinery near the tree-protection zone all care must be taken to avoid damage to the trunk and branches of the tree.
 - If you think you need to prune the tree to allow scaffolding installation, cranes, materials storage or vehicle movements, then contact a Council arborist first.
 - No construction materials, equipment or liquids may be stored within or near the tree-protection zone and care must be taken to stop run-off from construction debris, fuel or rinsing of equipment from entering the soil in or around the root zone.
 - In an attempt to maintain tree health and vigour, a 100mm layer of bark mulch should be applied and maintained within the tree-protection zone when appropriate.
 - Additional irrigation should be applied to compensate for root loss and changes to drainage when appropriate. Quantities are to be determined on site.
 - Do not attach notice boards, telephone cables, taps or other services to any part of a tree.
 - Concrete mixing should not be carried out within 10m of the tree-protection zone. Allowance should be made for sloping ground so that materials such as concrete washings, mortar or diesel oil cannot run towards trees.
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Heritage or notable trees

Wellington City Council looks after about 160 heritage trees – some of these are on private property.

There are restrictions on activities around these trees. Depending on the extent of the work, resource consent may be needed. Any enquiries about work around the trees should be directed to the Council.

We can provide you with a list of properties that have heritage trees on them or you can visit Wellington.govt.nz (search for services/parks and gardens).

Variations

In certain circumstances it may be necessary to work within the tree-protection zone. This work may be compensated for by increasing the tree-protection zone in other areas. This is only to occur with written consent from a Council arborist.

Fines for damage to trees

Where damage occurs to trees the following fines may apply to cover the cost of remedial work and replacement.

Damage	Cost
Scuffs, rips or scarring of bark or root tissue	\$350 per 300sq mm
Broken branches or roots up to 100mm diameter at trunk	\$500 each
Broken branches over 100mm diameter at trunk and major root damage	\$1000 each
Major disfiguring of the tree as determined by a Council arborist	\$2500–\$7500
Removal of a tree or major damage likely to result in its death or decay as determined by a Council arborist, including all costs involved with the tree's removal, stump clearance and tree replacement (a mature specimen of the same species)	\$25,000–\$100,000

Who pays?

All costs associated with installing the tree-protection zone fencing and protection of trees is to be paid for by those responsible for the works.

Any pruning is to be carried out by a Council-recommended contractor. We can provide you with a list of contractors.

Contact details

Wellington City Council contact centre: 499 4444

Arboriculture Manager: 021 227 8220

Customer Liaison Arborist: 021 227 8235