

Tree Protection Fact Sheet

Tree Protection In The City Of Belmont

Information for Planners, Developers, Utility Providers and Contractors

A significant proportion of trees in urban areas are being lost due to infill development, significantly impacting on the environment and communities.

Green infrastructure and canopy cover offer many benefits. The protection of City trees and the provision of adequate space for future planting contribute to a sustainable and highly liveable urban environment.

Trees grow in a delicate balance with their environment and any changes to that balance must be minimised if the tree is to remain healthy and fulfil its arboricultural potential. Trees are an essential part of our environment and their successful incorporation in new developments is for the benefit of the wider community.

When trees are not considered at the design stage their presence can lead to nuisance, damage to infrastructure, or they may become non-viable in the landscape. Trees are easily damaged and are highly vulnerable to development pressures.

Much of the damage that occurs to public trees is during the demolition and construction phases of development and can take years to become evident. As a result the damaged tree may die slowly over several years. It is vitally important to protect trees prior to the commencement of any demolition or construction works. Tree protection must be considered at the beginning of the design stage to allow for enough space for trees to flourish, and minimise any potential future conflict with infrastructure.

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This document provides information to all those involved in the development process of the City's requirements for working around City trees, to ensure their long-term protection and vitality.

All construction and development work near City trees must abide by the protection and retention requirements outlined in this document and in compliance with the City's Urban Forest Policy.

Tree Retention and Protection Requirements

The most important consideration for the successful retention of trees is to allow appropriate above and below ground space for the trees to grow.

To ensure trees are protected, the City applies the tree management process by the Australian Standard (AS4970–2009) – *Protection of trees on development sites*.

It requires from a suitably qualified arborist:

- 1) A Preliminary Arboricultural Report
 - provides the indicative Tree Protection Zone/s for the design layout.

Followed by:

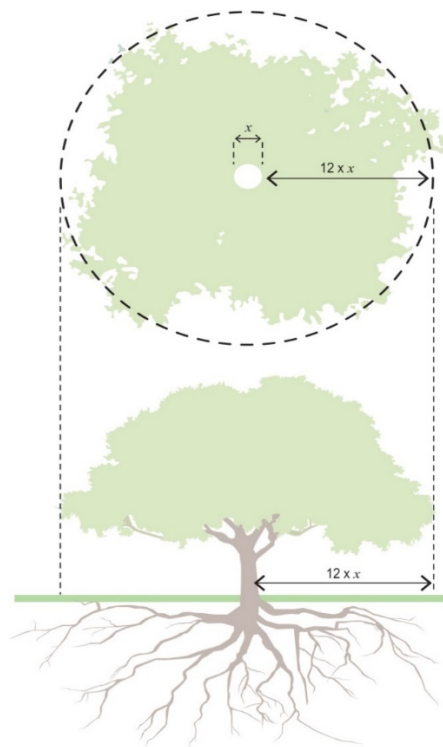
- 2) The Arboricultural Impact Assessment Report
 - provides the Tree Protection Plan (drawing) with an Arboricultural Method Statement (AMS, which describes the method of all operations proposed within the Tree Protection Zone/s.
- 3) Monitoring and certification at pre-construction, during construction and post-construction that comprise four written statements of compliance with the AMS.



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Guidance: Tree Protection Zones

- Before the commencement of any works, the Tree Protection Zone (TPZ), including a protective fence, must be established near a retained tree according to the approved specifications described in the AMS.
- The construction personnel must maintain the integrity of the protective fence and root protection area for the project's duration. For any City tree, construction must take all the appropriate care not to damage the trunks, roots, canopy or branches during the entire Main Construction and Landscape Phase.
- The TPZ for individual trees is calculated based on trunk (stem) diameter measured at the height of 1.4 metres.
- The *radius* of the TPZ is from the centre of the stem to the line of tree protection. It is calculated by multiplying the tree's stem diameter by 12.
- For example, a tree with a 40cm diameter requires a TPZ radius of 4.8 metres (40 x 12).
- The TPZ should be a minimum of 2 metres and no greater than 15 metres.
- The method provides a TPZ that addresses both tree stability and growth requirements.



Design and Construction

Construction proposed inside the TPZs must document tree-friendly methods approved by the City's Arborist.

Activities restricted within the TPZ:

- Machine excavation, including trenching
- Soil level changes / Placement of fill
- Installation of service pits or hatches
- Stockpiling of building materials, debris or soil
- Preparation of chemicals, including preparation of cement products
- Parking of vehicles and plant except on existing paved surfaces
- Wash down and cleaning of vehicles
- Refuelling.

Boring for underground services inside the TPZ

- Installation of underground services is to be bored or vacuum-trenched.
- The entry and retrieval pits must be outside the designated TPZ of each tree.
- Provided that roots can be retained and protected, excavation using handheld tools might be acceptable for shallow service runs.

Table 1: Example Tree Protection Zone

Trunk Diameter (DBH)	Tree Protection Zone (TPZ)
10cm	2m
20cm	2.4m
40cm	4.8m
75cm	9m
100cm	12m

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Pruning, Removal and Replacement

- No City tree may be removed, pruned or have its branches removed by anyone other than those authorised by the City.
- Tree pruning will be in accordance with AS 4373-2007, Pruning of Amenity Trees as per Urban Forest Policy.
- When the City approves the removal of a tree for development, the applicant shall pay for all the removal and replacement costs.
- The replacement tree planting is at a ratio of 1:3 (removed: replaced). It occurs at the site of removal or the closest suitable location.
- The City undertakes all works.

Hoarding and Gantry

- Where a gantry or hoarding is to be constructed over a footpath the placement of the footings and gantry structure must not adversely impact trees. Structures must be placed more than 0.5m away from tree trunks, branches or roots.
- If a tree is enclosed within the hoarding or gantry space, the owner and/or builder are responsible for implementing a maintenance program for affected trees as approved by the City.

Preliminary Arboricultural Report - Tree Protection Plan

The following is required to be indicated on the Tree Protection Plan (superimposed on a layout plan), accompanied by descriptive text as required.

- The TPZ for each tree should initially be plotted as a circle centred on the base of the tree. Where pre-existing site conditions indicate rooting has occurred asymmetrically, a polygon of the equivalent area should be produced. Modifications to the shape of the TPZ should reflect a soundly based arboricultural assessment of likely root distribution.
- All hard surfacing and other existing structures within the TPZ.
- The precise location of protective barriers to be erected that form the exclusion zone around retained trees

- The extent and type of ground protection to safeguard vulnerable sections within the TPZ
- Locations where construction activity cannot be fully or permanently excluded

The Tree Protection Plan must be approved by the City's Arborist and available onsite prior to commencement and for the duration of works.

Arboricultural Method Statement (AMS)

An Arboricultural Method Statement describes the method (measures and specifications) of all operations proposed within the TPZ, in order to demonstrate that these can be undertaken with minimal risk of adverse impact on trees to be retained. The AMS is required to be prepared by a certified Arborist in accordance with the Australian Standard AS 4970-2009 Protection of trees on development sites, or any more recent standard. It is required to assess impacts to public trees, provide recommendations to reduce impacts on public trees and identify construction guidelines to be followed through all phases of construction.

The Arboricultural Method Statement must be approved by the City's Arborist and available onsite prior to commencement and for the duration of works.

Monitoring and Certification

Is comprised of four written statements from a certified Arborist, confirming compliance with the AMS at critical phases during construction:

1. Pre – Construction
2. Construction
3. Post Construction
4. Final Certification.

For further information, contact the City's Arborist on (08) 9477 7102 or email parks@belmont.wa.gov.au