

Tree Assessment Report

Gasworks Arts Park



A tree audit was undertaken as part of the site analysis in February 2013. The audit identified a total of 460 trees (including shrubs of all sizes) within the park.

Council's document *Greening Port Phillip, An Urban Forest Approach, 2010* defines significant trees as trees with a trunk circumference greater than 1.5m (approx. 50cm diameter) measured at a height of 1.0m above ground level.

Tree health and structure is reviewed

- every four years in parks and two years in streetscapes
- during the project design process concerning existing trees
- before works occur near a tree
- at the request of a resident

A criterion was applied for each assessment of significant trees and a retention value noted to assist with determining significant trees, tree retention values are:

Low Retention Value: Trees with poor health and structure and should be considered for removal and replacement to allow for future landscape works.

Medium Retention Value: Trees with fair health and structure that could be retained if desired but could be removed to allow for future remediation and landscape works. They are trees that are considered to be appropriate to their planting situation but not outstanding trees for their age or landscape value.

High Retention Value: Trees with good health and structure and those assessed to be outstanding specimens with higher landscape values. These trees should be preserved if possible and may justify some alterations of design.

24 trees of the 460 within the park were identified as significant; 19 of those were in good condition, therefore with a high retention value.

Gasworks Park upgrade and proposed soil remediation works will have an impact on the long term health and root system of any retained trees.

To protect those retained trees during the park upgrade, Tree Protection Zones (TPZs) must be established in accordance with Australian Standards (AS 4970-2009 – Protection of Trees on Development Sites). The TPZ is calculated as 12 times the Diameter at Breast Height (DBH) – i.e. the trunk diameter at 1.4m above ground level – and is measured as a radius from the centre of the trunk.

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Tree Protection Zones provide some protection against works near and around trees, as most structural or anchorage roots are found within the TPZ. However, a small percentage of feeder and absorption roots will be found beyond the TPZ and thus may be compromised by works just outside this area, adversely impacting tree health.

Trenching for services and site cuts can directly damage tree roots by removing absorption roots and severing feeder and structural roots, compromising both the health and structural integrity of the tree.

Root growth can also be inhibited by activities such as soil compaction, sealing of the surface and adding fill over the root zone. These actions prevent the exchange of air and moisture – vital to root growth and function – and lead to increased stress and likely death for many trees.

Excavation or soil disturbance must not be allowed to occur within the TPZ. The TPZ is a minimum distance required for tree protection Refer to the TPZ map on the following page.

The proposed soil remediation works for this site – capping of 500mm of clean soil throughout – would need to be excluded from the TPZ of any retained tree; capping up to the trunk would prevent air and moisture exchanged as described above and would lead to almost certain tree death.

Excluding soil remediation works from the TPZ does not, however, guarantee the long term health of trees. Potential changes to the soil profile, as well as the contaminated soil that remains around the retained trees, may have an adverse impact on the trees into the future; these impacts may not become evident in the trees crown for several years.

The protection measures above offer short term protection for the retained trees and will not guarantee the trees' survival in the long term.

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Figure 1. Tree Protection Zone (TPZ) map.