

SOCIAL HOUSING RENEWAL  
STANDING ADVISORY COMMITTEE

*STATEMENT OF EVIDENCE*  
ON ARBORICULTURAL ISSUES

COMMISSIONED BY

Department of Health  
and Human Services

*in relation to*

Walker Street Estate  
Northcote

ROB GALBRAITH – GALBRAITH & ASSOCIATES



**Tree Consultants & Contractors**  
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25/Sep/17

**re: Walker Street Estate, Northcote**

**Introduction**

The aged buildings at the Walker Street, Northcote Estate, located on the corner of High and Walker Streets Northcote, are proposed to be re-built. The purposes for the re-construction are to increase the number of social housing dwellings within the estate, replacing the aging high maintenance dwellings and infrastructure and to provide more accessible, fit for purpose homes for people with mobility issues. The site will also be re-developed with new private dwellings. Many trees exist on the property which are important to the amenity of the people living within the estate as well to those who live and travel near it. A number of trees are proposed to be removed in order to achieve the increased building density and housing yield. The bulk of the trees` roots spread laterally near the surface of the soil so adequate and relatively undisturbed space has to be provided around both the trunks and canopies for trees to be successfully retained. Some tree replacement planting is also proposed.

The Department of Health and Human Services (DHHS) is seeking to introduce Amendment C158 to the Darebin Planning Scheme to amend the planning controls which apply to the estate to facilitate the re-development and improvement of social and private housing, and the sale of parts of the land within the sites.

Galbraith and Associates was engaged by the DHHS to prepare an ARBORIST Report dated 31/Jan/17 that was exhibited with the Amendment as a background document.

Galbraith and Associates has now been retained by the DHHS to:

- Review the Planning Report, Draft Controls and the Flora and Fauna Assessment Report by Biosis dated the 24/Jan/16
- Reconsider the Arborist Report prepared by my office dated 31/Jan/17;
- Consider the location of the proposed new built form and the existing towers to provide advice on how trees that have been identified for retention can be protected and remain viable during development and on an ongoing basis
- Provide high level advice on what suitable landscape response would be for replacement planting, having regard to the Landscape Response in the Design Framework and the requirements under the DPO (noting the detailed landscape response will not be required until the development stage;
- Prepare an expert witness report and appear at the Advisory Committee hearing to give evidence.

**ESO1** The site is subject to Schedule 1 of the Environmental Significance Overlay, which recognizes the Merri Creek as an environmental, heritage and recreational corridor and which among other things aims to restore and re-vitalise the creeks and adjoining open space to a more natural and ecologically diverse environment and to ensure the health and vitality of the natural systems of the creek and its associated open space.

A permit is required to: remove, destroy or lop any vegetation but does not apply to:

- A tree on residential zoned land with a single trunk circumference of < 0.35metre at 1m above ground and which is < 6m tall and has a branch spread of < 4m.
- A non-indigenous tree that has the capacity to adversely affect stream flow
- The control or removal of non-indigenous plants in preparation for re-vegetation works
- Pruning of plants to maintain access or maintain a plant`s horticultural health

Each tree is numbered and located on the accompanying copies of the existing site conditions survey and Google images and described in the accompanying excel data sheets.

The design drawings upon which I base my assumptions are set out in pages 18-26 of the Design Framework dated July 2017 by Hayball.

### **The Trees- General**

There are approximately 35 trees on the site, none of which is native to Victoria or the local area (except the Spotted Gum whose distribution includes an isolated occurrence near Orbost Victoria). The trees are of various ages. The oldest is probably tree 2 on the Walker Street frontage, an English Elm which is likely to have been planted of the order of 70 years ago. A couple of the Pepper Trees near the south-east of the site are probably a little younger although they self-sow readily in this type of location along creek banks. Exotic trees like the Planes (trees 25-29) on the High Street frontage and the internal avenue of Desert Ash (trees 5-7), the Italian Cypress (tree 4) the Red Oak (tree 52) and Photinias are likely to have been established when the buildings were constructed approximately 55 years ago. The eucalypts such as trees 1, 10, 18 and 20 were likely planted in the mid 1970s. The remaining trees within the site are of variable younger ages

Numerically the tree stock is dominated by exotic species, that is species which are native to countries other than Australia. They include a sizeable English Elm (*Ulmus procera*, tree 2) which is in reasonably good condition despite having been lopped at 8 – 10m height some 30 or so years ago. In the comparatively low maintenance environment of the nearby slope adjacent to Merri Creek, the same species has become a serious weed because, presumably, sucker growth from a small number of plantings has continued to develop unabated. The same type of phenomenon applies here to Pepper trees (*Schinus areira*), although to a lesser extent. A sound healthy specimen (tree 23) is situated within the site but various self-sown trees have become established on the slope. The London Plane (*Platanus x acerifolia*, tree 29) near the

north-east corner is in good condition. The other Planes in the row to the south are markedly lopsided due to their close proximity to the high wall of a residential block, although most still have long safe useful life expectancies (SULEs). European Nettle Tree (*Celtis australis*) have been planted in some paved areas; the trees are still smallish. Other exotic species include a mature Italian Cypress (*Cupressus sempervirens*, tree 4), a Scarlet Oak (*Quercus rubra*, tree 19) and some Desert Ash (*Fraxinus angustifolia* subsp. *angustifolia*). The last is a weedy species. Among the Australian trees, a Smooth-barked Apple (*Angophora costata*, tree 18) and a Spotted Gum (tree 20) are continuing to grow vigorously and have long (SULEs). A Lemon-scented Gum (tree 10) is somewhat more spreading and likely to develop a limb shed propensity in the not too distant future, as well as cause serious damage to the existing infra structure. Other trees include one each of Prickly Paperbark (*Melaleuca styphelioides*) and Willow Bottlebrush (*Callistemon salignus*).

### **Impact of the Proposal**

According to the Landscape Response plan Design Framework plan, titled 'Tree Retention and New Trees' in the Design Framework prepared by Hayball dated July 2017, the following trees are proposed to be retained: 2, 9, 10, 22, 23, 25, 26, 27, 28 and 29.

In reality, if no changes are made to the indicative built form response in the Design Framework, then none of them can be retained under this proposal. Along Walker and High Streets, the proposed building setbacks would necessitate the removal of most of the trunks and of those few which could be retained, the loss of roots so close to the trunks would necessitate removal. The latter also applies to the internal trees 9, 10, 22 and 23.

If one is serious about retaining tree 2, and/or tree 1 next to it, on the Walker Street frontage, then I recommend the following.

Currently the front of the building along Walker Street is cantilevered over the existing ground. It can be assumed that significant root development is likely at least 1.5m beneath the existing building. Therefore any new building would have to leave the ground intact free of excavation south of the existing building frontage. However the new building could be cantilevered approximately 1m closer to the elm (tree 2) than the existing four storey building. If tree 1 was to be retained, then the new building could be set back 2m closer to Walker Street than the existing, provided again that the ground was left intact southwards to at least 1.5m beneath the existing building. The recommended setbacks would apply to at least 6m east of tree 1 to 8m west of tree 2.

Similarly along High Street, if the Planes, trees 25-29, were to be satisfactorily retained, the strip of ground between the trees and the existing four storey building needs to be maintained free of excavation. The new building itself could however be pushed closer to the street if it was cantilevered up to 2m past the existing building line. However after four storeys, the built form of the remaining upper four storeys of

the new building would have to be set back some 2m west of the existing old building to avoid doing too much damage to the canopies.

The internal trees 9, 10, 22 and 23 are not of high worth for retention in my opinion.

### **Re-Planting**

In keeping with the aims of the ESO1, re-vegetating with the indigenous species needs to be considered: examples are *Eucalyptus camaldulensis*, *Eucalyptus melliodora*, *Eucalyptus leucoxylon*, *Banksia marginata*, *Allocasuarina verticillata*, *Acacia mearnsii*, *Acacia melanoxylon* and *Bursaria spinosa*, all of local provenance. However this needs to be tempered with the fact that some of these need plenty of space which may not be available. Furthermore some like the *Acacia melanoxylon* can be short lived and the *Allocasuarina verticillata* can have structural problems. Therefore other trees to consider are smaller hardy exotics and natives such as the compact cultivar of Chinese Elm (*Ulmus parvifolia* 'Todd'), European Nettle (*Celtis australis*), upright ornamental Pears and some dwarf eucalypt cultivars.

### **General Tree Protection Recommendations**

During demolition, care must be taken to avoid any excavation, level changes or severe soil compaction, within the TPZs of the trees to be retained. The removal of old drains and services within the TPZs must be avoided, unless it can be effectively shown by the project arborist that this will not cause significant root loss.

Before construction commences, sturdy high visibility tree protection fences at least 1.8m tall must be constructed around the trees to be retained. The fences must be constructed to as large an area as possible, yet which still allow construction to proceed in a safe and efficient manner whilst protecting the trees. The fences must not be moved during the construction period unless after discussion with the project arborist.

Any necessary pruning ought be undertaken some time before construction commences. The pruning must be undertaken according to the relevant Australian Pruning Standard by experienced qualified arborists under the supervision of the project arborist.

During construction, no fill nor rubbish can enter the fences, nor excavation for any purpose within them (unless under arboricultural supervision and signed off by the project arborist as not being harmful to the SULE of the tree or trees). Examples are avoiding any excavation for drains and services within more than 10% of the TPZ area, unless by non-root destructive means such as horizontal boring at greater than 800mm depth or by pneumatic or hydraulic means under arboricultural supervision.

The trees must be regularly irrigated over the late spring, summer and early autumn periods of construction.

A tree management plan needs to be a condition on any permit issued to provide for ongoing protection and management of the retained trees.

**Conclusion**

The indicative re-development would necessitate the removal of all the trees on the site. With some reductions to the setbacks of the new buildings along parts of the Walker Street and High Street frontages as recommended in this report, the bulk of the high worth trees could be retained. There is ample scope for new tree planting. I recommend that the finalization of the plans before presentation for approval are undertaken in consultation with an experienced qualified arborist to ensure that any trees proposed to be retained, can indeed be successfully retained. Furthermore the preparation of a tree management plan, detailing the methodology for protecting the trees earmarked for retention, should be integral with any permit condition

**Declaration:**

I hereby declare that I have made all the enquiries that I believe are desirable and appropriate, and no matters of significance which I regard as relevant have to my knowledge been withheld from the respected Tribunal.

GALBRAITH & ASSOCIATES

A handwritten signature in black ink, appearing to read 'Rob Galbraith', written in a cursive style.

Rob Galbraith

**1. Name and Professional Address of Expert**

Robert Cameron Galbraith  
 Arboriculturist  
 40 Glyndon Road  
 Camberwell Vic 3124  
 Tel: 9888 5214 Fax: 9888 5063

**2. Qualifications and Experience**

1977 Attained Degree in Forest Science from Melbourne University

1978-81 Forest inventory work and road locating in Gippsland, Tasmania and Northern Territory

1982 Foreman of a contract re-vegetation crew at various MMBW parks

1982-83 Attained the National Certificate of Horticulture in Arboriculture at Merrist Wood College, England, with Distinctions

1983-85 Foreman of a large Melbourne tree surgery company

1986-88 Tree surgery sub-contractor

1988-90 Manager of the Arboricultural Services Division of Rivett Enterprises.  
 Arboricultural Consultant for Rivett Enterprises.

1991- Principal, Galbraith & Associates - Arboricultural Consultants and Contractors.

Consultants to Royal Botanic Gardens Sydney, Major Projects Victoria, St Kilda Botanic Gardens, Melbourne Parks & Waterways, Vic Urban, Office of Housing Department of Human Services, legal firms, insurance companies, developers, town planning consultants, architects, landscape architects, local government (Cities of Albury, Bayside, Boroondara, Manningham, Moreland, Stonnington, Whitehorse). Contracting in arboricultural services for private, government and commercial clients.

**VOLUNTARY ARBORICULTURAL INDUSTRY WORKS**

Arboricultural Association of Australia (President, 1994, 95, 96)  
 Major contributor to the Australian Standard AS4373-1996 Pruning of Amenity Trees.

**3. Area of Expertise**

My area of expertise is in amenity tree management.

**4. Expertise to Prepare this Report**

My expertise is based on substantial experience in forestry and arboriculture, with many years directly working with thousands of different trees in differing situations. The tasks of climbing, dismantling, pruning and excavating near trees, particularly in Melbourne, is or has been, virtually a daily routine over many years. I keep well abreast of important and relevant research in arboriculture, reading widely and conferring regularly with colleagues in the arboricultural field.

**5. Instructions Received in Relation to this Matter**

I have received instructions from Norton Rose Fulbright Lawyers Pty. Ltd. The instructions have been to review the Application for Review and in particular:

- Review the Planning Report, Draft Controls, the existing Arborist Report by Galbraith and Associates dated 31/Jan/17 and the Flora and Fauna Assessment Report by Biosis dated the 24/Jan/16
- Examine the Design Framework Plans by Hayball dated July 2017.
- Consider the location of the proposed new built form and the existing towers to provide advice on how trees that have been identified for retention can be protected and remain viable during development and on an ongoing basis
- Provide high level advice on what suitable landscape response would be for replacement planting, having regard to the Landscape Response in the Design Framework and the requirements under the DPO (noting the detailed landscape response will not be required until the development stage;
- Prepare an expert witness report and appear at the Advisory Committee hearing to give evidence.

**6. Facts/Matters/Assumptions/Reference Documents used to prepare this Report**

The design drawings upon which I base my assumptions are the

- The Design Framework by Hayball dated July 2017
- Arborist Report by Galbraith and Associates dated 31/Jan/17
- The Flora and Fauna Assessment Report by Biosis dated the 24/Jan/16
- The Australian Standard 4970:2009 'Protection of trees on development sites'

**7. Other Persons Relied Upon**

Nil

**8. Relationship with Permit Applicant**

I have no relationship with the permit applicant other than a financial agreement to prepare this evidence statement



### Notes on Terminology

In order to understand the column headings of the table of data, I have provided the following explanations:

**DBH** diameter of trunk over bark at breast height. In a number of cases where the tree has forked into multiple trunks below breast height (1.3-1.5m) the diameter is measured below the fork and an estimate is made for the single trunk equivalent at breast height, or else figures for each of the individual stems can be given.

**HxS** This is the estimated height (H) of the tree and its average crown spread (S).

**SULE** Safe useful life expectancy in years. Taken in the context that the area is to be developed for residential use, and that sensible distances are maintained between the buildings and the trees, this is the estimate of time that the tree will continue to provide useful amenity without imposing an onerous financial burden in order to maintain relative safety, and avoid excessive nuisance.

**Condition** This descriptor can be encapsulated by three terms, namely **Health (H), Structure (S) and Form (F)**.

Health is largely governed by the ease in which the metabolic functions are occurring throughout the tree. Symptoms of health include the amount, distribution, density, size and colour of the foliage.

Structure refers to the structural stability of the tree and its branches. A well structured tree is not likely to shed branches or stems, or snap in the trunk or blow over, whereas a poorly structured tree is more likely to.

Form basically refers to the symmetry of the tree. A tree with a straight trunk and symmetrical crown and evenly distributed branches is referred to as having good form, whilst a lopsided leaning tree may have fair – poor form.

### Worthiness of Retention (WOR):

The worth for retention of a tree is based on the assumption that the site is to be re-developed, and that there is the opportunity for new tree planting. It is based on a number of factors. These factors are:

1. structure, health, form and safe useful life expectancy,
2. size, prominence in the landscape,
3. species rarity,
4. whether indigenous,
5. whether an environmental weed.
6. importance for habitat of native wildlife
7. whether of historical or cultural interest

Any tree with a WOR rating of 3 or less should be seriously considered for removal before development begins because it is dead, nearly dead or dangerous, a weed, is causing or is likely to cause a severe nuisance in the near future, or just of very little significance and readily replaceable with new plantings. Trees rated 4-6 are of some significance. Some of these trees may respond to treatments such as formative pruning, removal of dead wood, weight reduction pruning etc. Trees rated 7 or higher are of high significance (the higher the ranking the more so), primarily because of their good health, structure, form, prominence in the landscape and SULE, although all they still may need substantial works done on them as already detailed, if they are to be retained.

**Tree Protection Zone (TPZ)** According to the Australian Standard AS 4970-2009 'Protection of Trees on Building Sites', the TPZ is the principal means of protecting trees on development sites. It is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.' The radius of the TPZ is calculated by multiplying the DBH by 12. The radius is measured from the centre of the stem at ground level. An

area of 10% of the TPZ is deemed acceptable to violate if 10% of the *area* of the TPZ is made up in other directions'. *Thus if encroachment is from one side only in a straight line, encroachment to as close as approximately 8 times the DBH (2/3 the listed TPZ radius) is approximately 10.7% of the TPZ area.*

The TPZs as calculated according to the AS 4970-2009 should only be construed as a rough guide. They are only used in this statement because various local authorities now demand it in their assessments of development applications. Many factors such as the type of encroachment on the TPZ, species tolerance, age, presence of spiral grain, soil type, soil depth, tree lean, the existence of onsite structures or root directional impediments, level of wind exposure, irrigation and ongoing tree care and maintenance are each highly influential on the size and success of the TPZ estimation, therefore the figures derived from the Standard and provided in this report must be treated as rough guides only.

### **Tree Origin Categories**

Each tree has been classified as to whether it is indigenous (**I**), native to Victoria (**V**), native to Australia (**A**), exotic (**E**) or an environmental weed (**W**).

An indigenous species (**I**) is one that is known to grow naturally in the local area, even if the individual tree has been planted and is from a seed source or provenance foreign to the area.

A species classified **V** is one which has a part or all, even if very small, of its natural range within Victoria, although it may occur outside the state as well. It does not however occur naturally in the local area.

A species classified **A** is native elsewhere in Australia than Victoria. It does not occur naturally in the local area.

A species classified **E** has its natural range occurring outside Australia.

A species classified **W** is a seriously invasive environmental weed.