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VICTORIAN CIVIL & ADMINISTRATIVE TRIBUNAL
PLANNING and ENVIRONMENT LIST
VCAT Ref. 1053/2011

STATEMENT OF EVIDENCE
ON ARBORICULTURAL ISSUES

COMMISSIONED BY

ANDREW SWANSON

in relation to

18 BRAHE PLACE & 6 – 8 & 10 – 12 GARDEN PLACE, EAST MELBOURNE

ROB GALBRAITH – GALBRAITH & ASSOCIATES

12/July/11

GALBRAITH & Associates

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12 July 2011

Senior Registrar
Victorian Civil and Appeals Tribunal
Planning and Environment List
Level 7, 55 King Street
MELBOURNE 3000

Dear Sir,

re: 18 Brahe Place & 6-8 & 10-12 Garden Place, East Melbourne

Introduction
A four storey building with eight residential apartments is proposed for the above property. The following is a report on arboricultural issues relating to the trees in the vicinity of the proposal, namely the Pepper trees in the adjoining railway reserve to the south. Details include a species description for each, data on sizes, condition, tree preservation zones and the likely impact of the proposal.

Each tree is numbered on the accompanying copy of the existing site conditions survey and described below. The design drawings upon which I base my assumptions are numbers 1289-TP1 Rev VC – 1289-TP6 Rev VC inclusive by Mattingley Courtney Architects Pty. Ltd..

The Trees – General
The only trees in the vicinity of the subject site and with any potential to be adversely impacted by the proposed works are the six trees in the adjoining railway reserve to the south. These are Pepper trees (Schinus areira), a species native to the drier areas of Peru and northern Chile. The species thrives in Victoria, to the extent of being regarded as a weed species in many parts. The trees adjacent to the subject site are healthy, mature and have long safe useful life expectancies.

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

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.

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, encroachment to as close as approximately 8 times the DBH (2/3 the listed TPZ radius) is permissible according to the Standard.*

Where the tree has more than one trunk, the TPZ is deduced by taking the square root of the sum of the squares of each of the DBHs, and multiplying this figure by 12

The AS 4970-2009 should be construed as a rough guide. It is 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, tree height, 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 SURVEY

Tree No.	DBH (cm)	HxS (m)	Comments, TPZ (m)
1	83	13x18	Good condition. TPZ 10
2	57	11x8	Good condition. TPZ 6.8
3	65, 56	12x9	Good condition. TPZ 10.3
4	65	8x6	Good condition. TPZ 7.8
5	44	8x6	Good condition. TPZ 5.3
6	75	11x12	Good condition. TPZ 9

Impact of the Proposal

Drive Way Currently the subject site is vacant and used as driveway and a car park. The surface consists of gravel. To the south of the proposed building, the land is proposed to remain as a drive, except for the 6m length adjacent to the railway reserve in the south-east portion of the site. The levels of the drive will have to be reduced slightly opposite the sliding security gates facing the railway reserve to match that of the proposed car park level in the building. According to the south elevation drawing, the reduction in levels is minor, at most approximately 15cm. At the eastern pedestrian entry into the building, the gravel layer will have to be built up slightly to match that of the floor level. Along the boundary with the railway reserve, a gutter is proposed. Given that tree roots tend to travel horizontally close to the surface, there is thus the potential for root loss by the proposed minor level change opposite the south facing security gates and from the proposed gutter construction.

Exploratory Trenching for the Driveway and Kerb Gutter In order to determine what if any impact such works will have on the trees, non root destructive exploratory excavation was undertaken close to the boundary with the railway reserve. The trench was approximately 12m long, starting from close to the south-east corner of the subject site and running parallel to the reserve and approximately 300mm from it. The trench was dug to a depth of approximately 400mm as illustrated on pages 6 and 7.

Only two roots of significance were intercepted, one of 85mm thickness and the other of 50mm. Both are close together and are located 10m west of the laundry brick wall at a depth of 300mm. At this point the roots can readily be accommodated because there is no necessity to lower the levels at this point, except for the construction of the gutter where less than a 250mm deep excavation will be required. The roots are shown in the second image on page 7.

Conclusion and Recommendations for the Drive Way

The driveway as per the plans can proceed without impacting the health and SULEs of any of the Pepper trees. I recommend that the same gravel surface be continued to be used as is currently in use. The gutter depth must not exceed 250mm.

Building

The building is proposed to be constructed 3.1m from the railway reserve. At such a distance, the impact on the Pepper trees is likely to be negligible for the following reasons:

- Pepper trees tend to have large trunk diameters relative to the actual tree size, particularly when mature as with these trees. The tree protection zones as derived by the Australian Standard approach are greatly exaggerated as they are deduced purely from the trunk diameter.
- The building is to be set back at or beyond the drip lines of the trees, with the exception of tree 1
- Less than a quadrant of the root zone of tree 1 is being encroached upon and because of the existence of the laundry building of the adjacent property, less than 10% of the TPZ area is being encroached upon by the building
- The existing land use is that of a compacted car park, not highly conducive to root development.

Exploratory Trenching along the Building Line However to be more certain of the likely impact, an exploratory trench was undertaken opposite each of trees 2 and 3 and a third opposite the smaller 4 and 5. Each trench of 4m length was dug at 3m from and parallel to the boundary with the railway reserve and to a depth of 600mm. One can be very confident that no large roots will exist at a greater depth because of the severe compaction and lack of aeration. Photos on pages 8 and 9 illustrate the trenches.

The trenching showed an almost total lack of root development at 3m from the boundary. Although I had expected little for reasons as already provided, I thought there would be more than what was found. I would suggest a further reason is that the soil consisted of fill. Roots tend not to colonise fill readily. The only trench where some root development was encountered was that opposite tree 2. Four roots, each of less than 20mm thickness were encountered. The loss of these will have no impact on any of the trees.

Impact on the Canopies The impact on the canopies will be negligible. One branch of approximately 250mm thickness will have to removed from tree 1 in order to construct the building. The rest of the pruning required will be very little.

Conclusion and Recommendations

The Pepper trees in the railway reserve are highly unlikely to be affected at all by the proposed works on the subject site, so long as there is no trenching for any reason, except for a 200mm deep gutter, within a 3m wide strip opposite the trees, unless non root destructive exploratory trenching under arboricultural supervision reveals it will not adversely impact on the SULEs to do so. The driveway should remain as gravel. Any pruning for appropriate building clearance purposes should be undertaken according to the Australian Pruning Standard – AS 4373:1996.

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

Rob Galbraith

View of the Pepper Trees looking south-west from Brahe Place



View to south-west of the 400mm deep trench dug adjacent to the Railway Reserve,



View to north-east of the trench adjacent to the railway reserve



View of the two significant roots 10m east of the laundry wall at 300mm depth



View of the three exploratory trenches along the proposed building line



View of trench opposite trees 4 and 5 – no roots

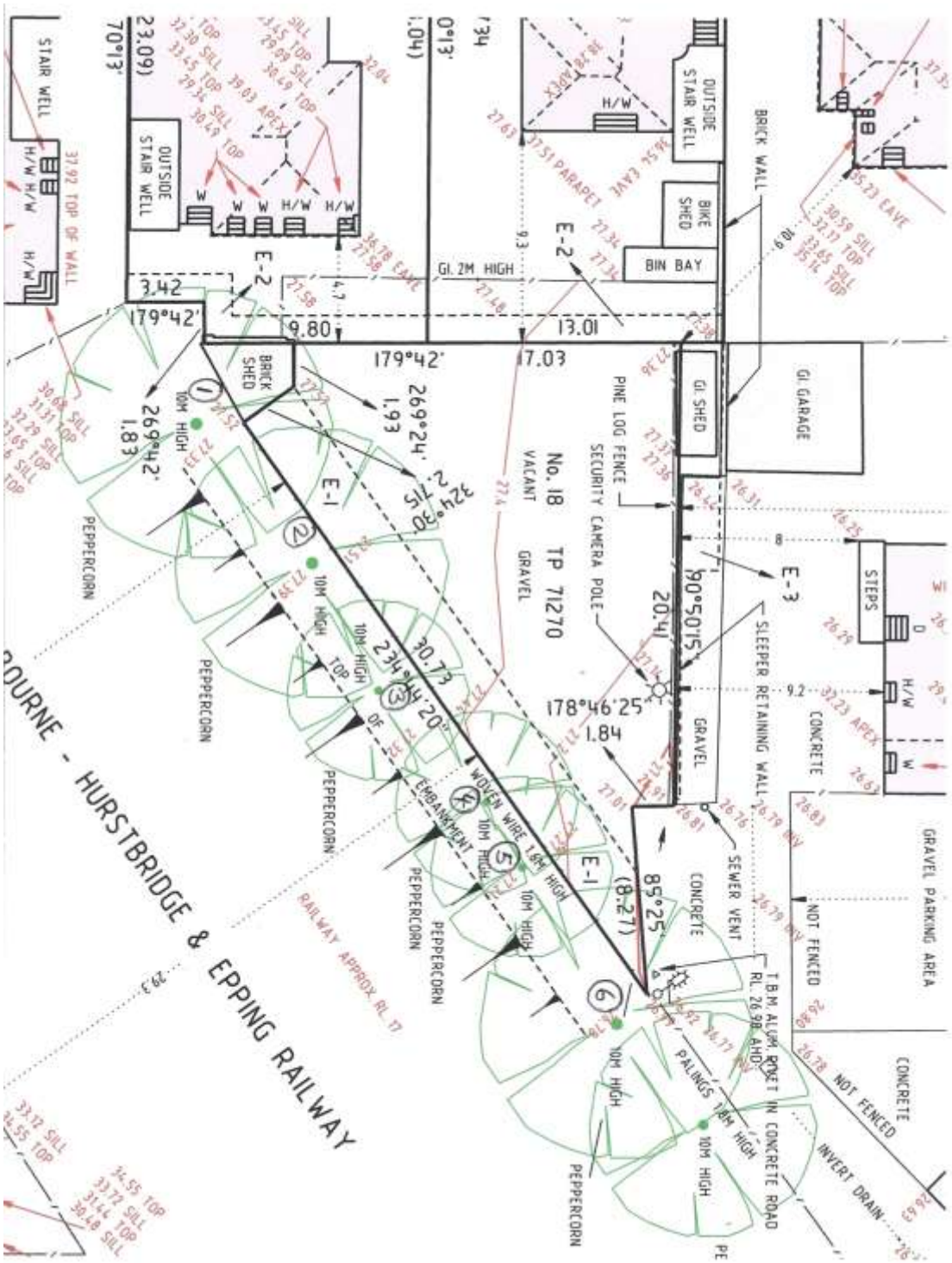


View of trench opposite tree 3 – no roots



View of trench opposite tree 2 – minor roots




BOURNE - HURSTBRIDGE & EPPING RAILWAY
No. 18 TP 71270
VACANT
GRAVEL
BRICK SHED
GI SHED
GI GARAGE
BIN BAY
BIKE SHED
OUTSIDE STAIR WELL
STAIR WELL
BRICK WALL
PINE LOG FENCE
SECURITY CAMERA POLE
SLEEPER RETAINING WALL
CONCRETE
GRAVEL
GRAVEL PARKING AREA
NOT FENCED
SEWER VENT
T.B.M. ALUM. ROVET IN CONCRETE ROAD
RL. 26.98 AHD
PALINGS 1.8M HIGH
INVERT DRAIN
SIEPS
WOVEN WIRE 1.8M HIGH
EMBANKMENT
RAILWAY APPROX. RL 17
PEPPERCORN
10M HIGH
E-1
E-2
E-3
179°42'
269°42'
1.83
269°24'
1.93
224°30'
2.715
234°44'20"
30.73
178°46'25"
1.84
85°25'
(8.27)
90°50'15"
20.41
13.01
17.03
9.80
3.42
70°13'
23.09
0°13'
(0.04)

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.

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, and 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 Kellock Town Planning Pty. Ltd.. They have been to report on the trees existing close to the proposed works, to discuss the likely impact of the proposal on them and to make recommendations where necessary.

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

The design drawings upon which I base my assumptions are numbers 1289-TP1 Rev VC – 1289-TP6 Rev VC inclusive by Mattingley Courtney Architects Pty. Ltd..

7. Other Persons Relied Upon

Nil

8. Summary

The only trees close to the subject site are Pepper trees in the adjoining railway reserve. One can be very confident there will be no adverse impact on the SULE s of these trees so long as the precautionary measures as discussed in this statement are adhered to during construction.