



MOORE TREES

Consulting Arborist

28th June 2016

Health Infrastructure
c/o Johnstaff
Level 12, 70 Pitt St,
Sydney NSW 2000
FAO: Matt Inch, Senior Project Manager



Re: Arborist site inspection for 22 Hospital Road, Bulli NSW 2516

Amended: 28th June 2016

Introduction: This report has been commissioned by Matt Inch, Senior Project Manager of Johnstaff (“the client”) on behalf of Health Infrastructure to assess the subject trees located at 22 Hospital Road, Bulli NSW 2516 as shown and marked in the aerial map supplied in the email dated 17 November 2015.

A site inspection was undertaken on 25th November 2015 to assess the subject trees potentially affected by the proposed works. A further site inspection occurred on the 27th June 2016 following the issue of the site survey. The study area can be seen in Diagram 1. Tree locations can be seen in Appendix 2. The following data was collected for each tree:

- 1) All trees were assessed for Safe Useful Life Expectancy (SULE), health and amenity value.
- 2) Genus and species identification of each tree.
- 3) General health and condition assessment of each tree.
- 4) The Tree Protection Zone (TPZ) calculated for each tree.

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Observations: The site is located on the northern side of Hospital Road, adjacent to the existing Bulli Hospital. The site contains a car park that is currently in use for Hospital staff and clients. The trees located on site are a mix of native and exotic tree species.

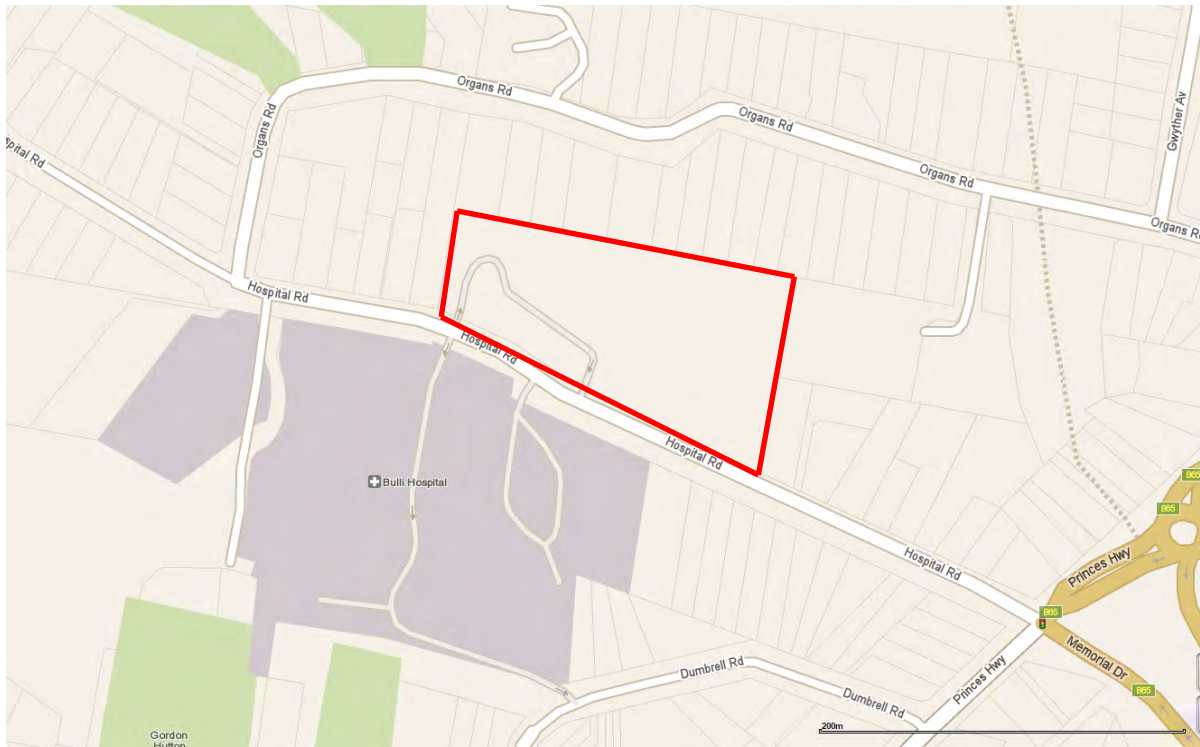


Diagram 1: Location of the study area (whereis.com.au, 2016)

Site trees: Trees 1-11 are located on the southern section of the site. Trees 12-27 are located along the northern boundary of the site. Trees 28-41 are located around the Ambulance Garage area. Trees 42, 43, 44 and 45 are located on adjoining properties to the north of the site. Generally, all of the subject trees are in fair to good health.

Individual tree details are as follows:

Tree 1 has a large vertical cavity and fruiting body growing within in it. This tree is structurally dangerous and as a result has a short SULE. Tree 2 is in good health and condition. Tree 4 is a large mature Grey iron bark (*Eucalyptus paniculata*) in good health and condition (Plate 1). It consists of three (3) main stems. It is quite a large prominent tree that can be seen from the streetscape. It provides visual amenity to the streetscape. If possible, this tree should be retained. Trees 6-9 are all small Melaleuca (*Melaleuca linariifolia*) in fair health and condition (Plate 2), however they could readily be replaced.

Trees 11-19 are all semi mature, but large, Hill's weeping fig (*Ficus microcarpa* var. *Hillii*). These trees are all in good health and condition (Plate 4). They have broad domed canopies with low arching branches, which is normal for their growing type. No structural faults were observed in these trees. Tree 11 is an individual specimen growing near the car park exit (Plate 3). Trees 12-19 have been planted as a screening hedge in one row near the northern site boundary.

Trees 20-27 are all native trees. These trees are in fair health and condition. No cracks, splits or fruiting bodies were noted on these trees however they have been planted close together and, as a result, some of these specimens are suppressed as they are competing for light and root space with the larger more significant specimens. Tree 20 was noted as in good health and condition however it does have a failed branch at approximately nine (9) metres. Should this tree be retained, this branch shall be removed.

Exempt trees: Wollongong City Council lists several species of trees as being exempt from the provisions of the TMCP under Section 3 of the TMCP. Trees 24 and 26 are Silky Oak (*Grevillea robusta*) and Trees 28, 29, 37 and 41 are Camphor laurel (*Cinnamomum camphora*). These trees are listed on the exempt species list and do not require Council consent for removal.

Trees outside the site: The only trees outside the site that may be affected by the proposed development are located within residential lots along the northern boundary. These trees are numbered as 25, 42, 43 (Plate 8), 44 and 45 along with some smaller shrubs not numbered for the purpose of this report. These appear to be mostly native species. There is a Kaffir Plum (*Harpephyllum caffrum*) present, Spotted Gum (*Corymbia maculata*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), small Firewheel Tree (*Stenocarpus sinuatus*), Cocos Palm (*Syagrus romanzoffianum*), Camphor laurel (*Cinnamomum camphora*), Small leafed pepper mint (*Eucalyptus nicholii*), Bangalay (*Eucalyptus botryoides*) and other small shrubs. These trees are all growing within two (2) metres of the northern boundary fence line and, pending the final designs, may be impacted by the proposed works. If there is a boundary set back of two (2) metres, these trees will not be affected by any works however, should excavations for a basement be required this will require further assessment by Moore Trees

Summary: The most prominent tree on site would be Tree 4 that would require a setback of approximately 6-9 metres. This is due to the large canopy that forms the tree. Visually prominent from the streetscape, this tree could only be retained if the current surface levels could be retained for the majority of the TPZ.

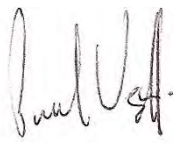
Trees 11-19, Hill's weeping fig (*Ficus microcarpa* var. *Hillii*), Council may approve their removal however they do provide a large screen area along the northern fence. These trees will potentially double in size, in both height and width.

Tree 28 Camphor laurel (*Cinnamomum camphora*) is a mature specimen located on Hospital Road (Plate 5). This tree is multi stemmed and is most likely regrowth from a previously removed tree. Trees 29-41 are growing at the rear of the Ambulance Station (Plate 6). These trees have competed for light and as such have become suppressed. Trees 29-35 have high amounts of dead wood within the canopies. Trees 36-41 are in fair to good health and condition (Plate 7). Tree 36 and 41 are Camphor laurel, exempt species from the WCC TPO.

All other trees on site should be possible to remove and replace with new landscape specimens however it should be understood that this report is only a preliminary assessment for the site trees.

If you have any questions or require any further information please do not hesitate to contact me on 02 4268 0425 or 0411 712 887.

Yours sincerely



Paul Vezgoff

Consulting Arborist

Dip Arb (Dist), Arb III, Hort cert, AA, ISA



Plate 1: Image showing Tree 4. P.Vezgoff



Plate 2: Image showing Trees 5-10. P.Vezgoff



Plate 3: Image of Tree 11 near the exit gate. P.Vezgoff



Plate 4: Image showing. P.Vezgoff



Plate 5: Image showing Tree 28 on the Hospital Road frontage. P.Vezgoff



Plate 6: Image showing Trees 29-35 at the rear of the Ambulance Station. P.Vezgoff



Plate 7: Image showing Trees 36-41. P.Vezgoff



Plate 8: Image showing Tree 43 on the adjoining property to the north. P.Vezgoff

Appendix 1

Tree	Exotic Species	Height (m)	Spread (m)	DBH (mm)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (mm)
1	Sydney blue gum (Eucalyptus saligna)	19	6	600	90	Fruiting body (large)	4c Dangerous tree due to structural defect.	Fair	Mature	Wound cavity and fruiting body at 3m	7200
2	Sydney blue gum (Eucalyptus saligna)	18	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature		7200
3	Grey iron bark (Eucalyptus paniculata)	17	6	500	80	Dead wood >50mm	3a May only live for 5-15 years.	Fair	Mature	Large wound at base from old pruning point.	6000
4	Grey iron bark (Eucalyptus paniculata)	19	8	500	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Group of three stems	6000
5	River peppermint (Eucalyptus elata)	7	3	250	70	No visual defects	4a Dead, dying or declining.	Poor	Mature		3000
6	Melaleuca (Melaleuca linariifolia)	5	2.5	200	90	No visual defects	2a May only live for 15-40 years	Good	Mature		2400
7	Melaleuca (Melaleuca linariifolia)	5	2.5	200	90	No visual defects	2a May only live for 15-40 years	Good	Mature		2400
8	Melaleuca (Melaleuca linariifolia)	5	2.5	200	90	No visual defects	2a May only live for 15-40 years	Good	Mature		2400
9	Melaleuca (Melaleuca linariifolia)	5	2.5	200	90	No visual defects	2a May only live for 15-40 years	Good	Mature		2400
10	Sydney blue gum (Eucalyptus saligna)	18	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature		7200
11	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	9	1000	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit	12000
12	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit. Part of a row of 8.	7200
13	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit. Part of a row of 8.	7200

Tree	Exotic Species	Height (m)	Spread (m)	DBH (mm)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (mm)
14	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit. Part of a row of 8.	7200
15	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit. Part of a row of 8.	7200
16	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit. Part of a row of 8.	7200
17	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit. Part of a row of 8.	7200
18	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit. Part of a row of 8.	7200
19	Hill's weeping fig (Ficus microcarpa var. Hillii)	17	7	600	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Low arching habit. Part of a row of 8.	7200
20	Lemon-scented gum tree (Corymbia citriodora)	20	8	650	95	Stem wounds on upper branches	2a May only live for 15-40 years	Good	Mature	Defective branch from old failure point 7m north side.	7800
21	Sydney red gum (Angophora costata)	19	8	600	95	No visual defects	1a >40 years	Good	Mature		7200
22	Sydney red gum (Angophora costata)	7	3	200	90	No visual defects	2a May only live for 15-40 years	Fair	Mature	Suppressed by larger tree	2400
23	Yellow Bloodwood (Corymbia eximia)	13	5	500	350	No visual defects	2a May only live for 15-40 years	Good	Mature		5700
24	Silky oak (Grevillea robusta)	18	4	480	80	No visual defects	3c Removed for a better specimen.	Fair	Mature		5760
25	River she oak (Casuarina cunninghamiana)	15	4	300	95	No visual defects	2a May only live for 15-40 years	Fair	Mature		3600
26	Silky oak (Grevillea robusta)	10	3	200	80	No visual defects	3c Removed for a better specimen.	Fair	Mature		2400
27	Tallowwood (Eucalyptus microcorys)	21	4.5	450	95	No visual defects	2a May only live for 15-40 years	Good	Mature	On boundary edge.	5400
28	Camphor laurel (Cinnamomum)	13	7	1500	95	No visual defects	2c removed for more suitable planting	Good	Mature	Multistemmed specimen. Coppice	18000

Tree	Exotic Species	Height (m)	Spread (m)	DBH (mm)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (mm)
	camphora)									regrowth from old stump	
29	Small leafed pepper mint (Eucalyptus nicholii)	14	5	400	70	No visual defects	3a May only live for 5-15 years.	Poor	Mature	Suppressed	4800
30	Small leafed pepper mint (Eucalyptus nicholii)	14	5	400	70	No visual defects	3a May only live for 5-15 years.	Poor	Mature	Suppressed	4800
31	Small leafed pepper mint (Eucalyptus nicholii)	14	5	400	70	No visual defects	3a May only live for 5-15 years.	Poor	Mature	Suppressed	4800
32	Camphor laurel (Cinnamomum camphora)	15	7	500	95	No visual defects	3c Removed for a better specimen.	Good	Mature	Exempt from TPO	6000
33	Small leafed pepper mint (Eucalyptus nicholii)	14	5	250	70	Canopy dieback	3a May only live for 5-15 years.	Poor	Mature		3000
34	Small leafed pepper mint (Eucalyptus nicholii)	14	5	400	70	Canopy dieback	3a May only live for 5-15 years.	Poor	Mature		4800
35	Small leafed pepper mint (Eucalyptus nicholii)	14	5	400	70	No visual defects	3a May only live for 5-15 years.	Poor	Mature		4800
36	Camphor laurel (Cinnamomum camphora)	9	5	480	80	No visual defects	3c Removed for a better specimen.	Poor	Mature	Exempt from TPO	5760
37	Camphor laurel (Cinnamomum camphora)	9	5	480	80	No visual defects	3c Removed for a better specimen.	Poor	Mature	Exempt from TPO	5760
38	Bangalay (Eucalyptus botryoides)	16	5	550	95	No visual defects	2a May only live for 15-40 years	Good	Mature		6600

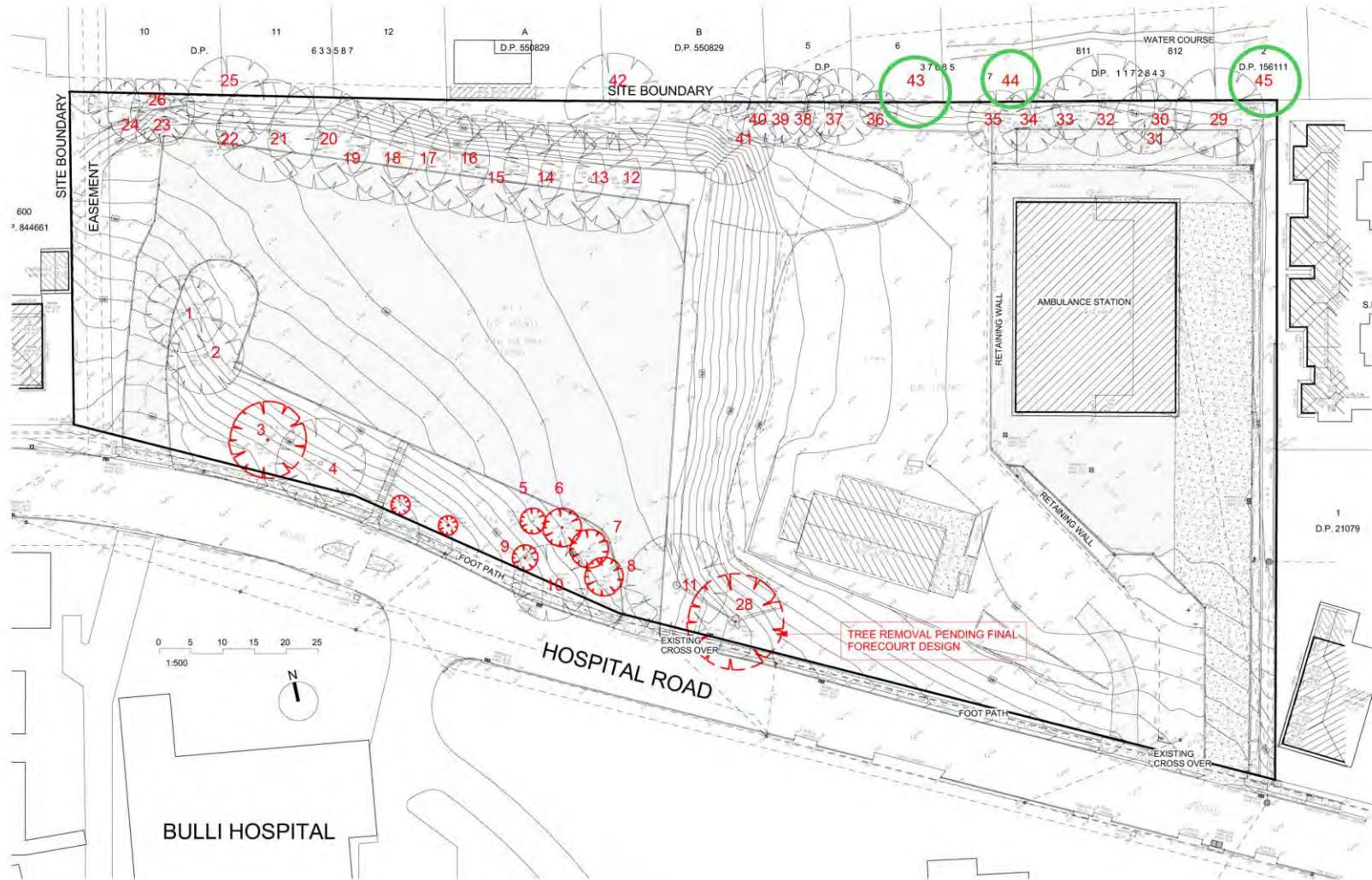
Tree	Exotic Species	Height (m)	Spread (m)	DBH (mm)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (mm)
39	Bangalay (Eucalyptus botryoides)	16	5	550	95	No visual defects	2a May only live for 15-40 years	Good	Mature		6600
40	Bangalay (Eucalyptus botryoides)	8	4	390	95	No visual defects	3a May only live for 5-15 years.	Fair	Mature		4680
41	Camphor laurel (Cinnamomum camphora)	9	5	480	80	No visual defects	3c Removed for a better specimen.	Good	Mature		5760
42	Broad leaved paperbark (Melaleuca quinquenervia)	11	5	350	95	No visual defects	2a May only live for 15-40 years	Good	Mature	On boundary fence. Canopy overhangs site.	4200
43	Camphor laurel (Cinnamomum camphora)	18	9	1000	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Located on northern adjoining property. On fence line	12000
44	Sydney blue gum (Eucalyptus saligna)	17	5	300	95	No visual defects	1a >40 years	Good	Mature	Located on northern adjoining property.	3600
45	Camphor laurel (Cinnamomum camphora)	18	9	1000	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Located on northern adjoining property. On fence line	12000

Appendix 2 – Tree Location Plan



Tree Location Plan

MOORE TREES



Notes: Trees on adjoining properties near boundary fence not included in survey.

Date:	28.6.16
Drawn:	P.Vezgoff
Site Address:	Hospital Road, Bulli NSW

SULE categories (after Barrell, 2001)¹

SULE Category	Description
<i>Long</i>	<i>Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.</i>
1a	Structurally sound trees located in positions that can accommodate for future growth
1b	Trees that could be made suitable for retention in the long term by remedial tree care.
1c	Trees of special significance that would warrant extraordinary efforts to secure their long term retention.
<i>Medium</i>	<i>Trees that appeared to be retainable at the time of assessment for 15-40 years with an acceptable level of risk.</i>
2a	Trees that may only live for 15-40 years
2b	Trees that could live for more than 40 years but may be removed for safety or nuisance reasons
2c	Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide for new planting.
2d	Trees that could be made suitable for retention in the medium term by remedial tree care.
<i>Short</i>	<i>Trees that appeared to be retainable at the time of assessment for 5-15 years with an acceptable level of risk.</i>
3a	Trees that may only live for another 5-15 years
3b	Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.
3c	Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide for a new planting.
3d	Trees that require substantial remedial tree care and are only suitable for retention in the short term.
<i>Remove</i>	<i>Trees that should be removed within the next five years.</i>
4a	Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.
4b	Dangerous trees because of instability or loss of adjacent trees
4c	Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.
4d	Damaged trees that are clearly not safe to retain.
4e	Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide for a new planting.
4f	Trees that are damaging or may cause damage to existing structures within 5 years.
4g	Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).
4h	Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.
<i>Small</i>	<i>Small or young trees that can be reliably moved or replaced.</i>
5a	Small trees less than 5m in height.
5b	Young trees less than 15 years old but over 5m in height.
5c	Formal hedges and trees intended for regular pruning to artificially control growth.

updated 01/04/01)

¹ (Barrell, J. (2001) "SULE: Its use and status into the new millennium" in *Management of mature trees*, Proceedings of the 4th NAAA Tree Management Seminar, NAAA, Sydney.

Curriculum Vitae

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EDUCATION and QUALIFICATIONS

- 2007 – Diploma of Arboriculture (AQF Cert V) Ryde TAFE. (Distinction)
- 1997 – Completed Certificate in Crane and Plant Electrical Safety
- 1996 – Attained Tree Surgeon Certificate (AQF Cert II) at Ryde TAFE
- 1990 – Completed two month intensive course on garden design at the Inchbald School of Design, London, United Kingdom
- 1990 – Completed patio, window box and balcony garden design course at Brighton College of Technology, United Kingdom
- 1989 – Awarded the Big Brother Movement Award for Horticulture (a grant by Lady Peggy Pagan to enable horticulture training in the United Kingdom)
- 1989 – Attained Certificate of Horticulture (AQF Cert IV) at Wollongong TAFE

INDUSTRY EXPERIENCE

Moore Trees Arboricultural Services January 2006 to date

Tree Consultancy and tree ultrasound. Tree hazard and risk assessment, Arborist development application reports
Tree management plans.

Woollahra Municipal Council Oct 1995 to February 2008

ARBORICULTURE TECHNICAL OFFICER

August 2005 – February 2008

Tree asset management, programmed inspection, inventory and condition surveys of council trees, hazard and risk appraisal,
Tree root damage investigation and reporting, assessment of impacts of capital works projects on council trees.

ACTING COORDINATOR OF TREES MAINTENANCE

June – July 2005, 2006

Responsible for all duties concerning park and street trees. Prioritising work duties, delegation of work and staff supervision.

TEAM LEADER

January 2003 – June 2005

TEAM LEADER

September 2000 – January 2003

HORTICULTURALIST

October 1995 – September 2000

Northern Landscape Services July to Oct 1995

Tradesman for Landscape Construction business

Paul Vezgoff Garden Maintenance (London, UK) Sept 1991 to April 1995

CONFERENCES AND WORKSHOPS ATTENDED

- TRAQ Conference, Auckland NZ (October 2013)
- International Society of Arboriculture Conference (Brisbane 2008)
- Tree related hazards: recognition and assessment by Dr David Lonsdale (Brisbane 2008)
- Tree risk management: requirements for a defensible system by Dr David Lonsdale (Brisbane 2008)
- Tree dynamics and wind forces by Ken James (Brisbane 2008)
- Wood decay and fungal strategies by Dr F.W.M.R. Schwarze (Brisbane 2008)
- Tree Disputes in the Land & Environment Court – The Law Society (Sydney 2007)
- Barrell Tree Care Workshop- Trees on construction sites (Sydney 2005).
- Tree Logic Seminar- Urban tree risk management (Sydney 2005)
- Tree Pathology and Wood Decay Seminar presented by Dr F.W.M.R. Schwarze (Sydney 2004)
- Inaugural National Arborist Association of Australia (NAAA) tree management workshop- Assessing hazardous trees and their Safe Useful Life Expectancy (SULE) (Sydney 1997).