



ARBORICULTURAL DEVELOPMENT IMPACT ASSESSMENT REPORT

54 Terry Road, Rouse Hill NSW

REVISION A
10 February 2020

Prepared for
Caverstock

Prepared by

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Executive Summary

This Arboricultural Development Impact Assessment Report has been commissioned by Caverstock to report on trees within the site of 54 Terry Road, Rouse Hill NSW. It has been commissioned to outline the health, condition and stability of these trees as well as their viability for retention. The scope of this report includes all trees within areas that may be impacted by the proposed development.

The subject Trees are preserved by Blacktown Council DCP Tree Preservation Measures.

Trees 36 and 41 are in poor and declining condition and are recommended for removal.

Tree 49 has decay and cavity within the trunk which places this tree at increased risk of failure. In consideration of the future development and the increased number of targets and therefore increased hazard posed, this tree is recommended for removal.

Tree 51 has evidence of significant decay at the base of the tree. WE recommend a full risk assessment of this tree including a Resistograph Test in order to define the extent of decay and the corresponding risk.

Tree 31 has poor form and significant epicormic growth within the live canopy due to a previous failure of the leader. This tree is recommended for removal.

The location of trees 50, 53, 54, 55, 56 and 57 are not included on the survey and have been located by means of aerial photographs. These trees are to be accurately located on site. The positioning of the proposed temporary bio-retention basin is to be located outside of the Tree Protection Zones (TPZ) of these trees.

Trees 50, 51, 52, 53, 54, 55, 56 and 57 are outside of the proposed development and will not be impacted by the proposed development.

The Tree Protection Zones (TPZ) of the balance of the subject trees are encroached by the proposed construction and required earthworks by a major encroachment as defined by *AS4970-2009 Protection of Trees on Development Sites*. These trees will not be viable to be retained and will be required to be removed due to the proposed development.

The scope of this report is to include all trees identified on survey. There a large number of small self-seeded saplings on the site which have not been included in detail in this report however these saplings will not be viable to be retained within this proposed development.

Recommendations for tree retention or removal are summarised as follows:

Tree no.	Species	Recommendations	Comments
1.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.

2.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
3.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
4.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
5.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
6.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
7.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
8.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
9.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
10.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
11.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
12.	<i>Melaleuca linarifolia</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
13.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
14.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
15.	<i>Melaleuca linarifolia</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
16.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.

17.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
18.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
19.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
20.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
21.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
22.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
23.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
24.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
25.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
26.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
27.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
28.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
29.	<i>Cupressus spp</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
30.	<i>Melaleuca linarifolia</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
31.	<i>Casuarina spp</i>	Remove	Failed leader.

32.	<i>Casuarina spp</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
34.	<i>Melaleuca armillaris</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
35.	<i>Melaleuca armillaris</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
36.	<i>Cinnamomum camphora</i>	Remove	Poor and declining condition.
37.	<i>Melaleuca linarifolia</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
38.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
39.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
40.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
41.	<i>Eucalyptus tereticornis</i>	Remove	Poor and declining condition. Entire live canopy epicormic.
42.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
43.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
44.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
45.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
46.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
47.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
48.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.

49.	<i>Eucalyptus tereticornis</i>	Remove	Extensive decay at base of trunk.
50.	<i>Populus alba</i>	Retain	
51.	<i>Eucalyptus tereticornis</i>	Retain	
52.	<i>Eucalyptus tereticornis</i>	Retain	
53.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.
54.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.
55.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.
56.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.
57.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.

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1.0 Scope of Works

This Arboricultural Development Impact Assessment Report has been commissioned by Caverstock to report on trees within the site of 54 Terry Road, Rouse Hill NSW. It has been commissioned to outline the health, condition and stability of these trees as well as their viability for retention. The scope of this report includes all trees within areas that may be impacted by the proposed development. The scope of this report is to include all trees identified on survey. There a large number of small self-seeded saplings on the site which have not been included in detail in this report.

On the 22nd of June 2018, Glenn Bird of Birds Tree Consultancy attended site and inspected the subject trees from the ground. Trees 51, 52, 53, 54, 55, 56 and 57 were inspected 04 February 2020. There was no aerial inspection carried out. A Visual Tree Assessment was undertaken in accordance with Visual Tree Assessment (VTA) guidelines (Mattheck and Breloer, 1994). Tree heights were measured using a Nikon Forestry 550 Heightmeter.

2.0 Site Analysis

2.1 Site

The subject site is 54 Terry Road, Rouse Hill NSW. The subject trees are located within or adjacent to the boundaries of this site.

2.2 Topography

The site is relatively flat. The area in the vicinity of all trees is flat. Refer to survey drawings for greater detail of levels.

2.3 Identification

Trees are as identified in the attached inspection forms in Appendix A and shown in Tree location Plan A01 in Appendix B.

2.4 Soils

Soil material and horizons were not tested for this report.

3.0 Existing Trees

The following trees were inspected from the ground and the following items identified. Please refer also to the attached inspection data in Appendix A.

3.1 Tree 1. *Eucalyptus fibrosa*

This mature tree is approximately 24m tall with a canopy spread of 15m. It has twin co-dominant trunks from the base with an aggregate diameter at breast height (DBH) of 1155mm. This tree is in good health and condition with minimal deadwood and epicormic growth. There is evidence of previous failure at bark inclusion. We recommend the removal of the northern co-dominant trunk.

- 3.2 Tree 2. *Eucalyptus fibrosa***
This mature tree is approximately 28m tall with a canopy spread of 15m. It has a single trunk with a DBH of 770mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.3 Tree 3. *Eucalyptus moluccana***
This mature tree is approximately 22.5m tall with a canopy spread of 9m. It has a single trunk with a DBH of 440mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.4 Tree 4. *Eucalyptus moluccana***
This mature tree is approximately 20m tall with a canopy spread of 9m. It has a single trunk with a DBH of 425mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.5 Tree 5. *Eucalyptus moluccana***
This mature tree is approximately 16.5m tall with a canopy spread of 11m. It has a single trunk with a DBH of 420mm. This tree is in good health and condition with minimal deadwood and epicormic growth. There is a wound at base which appears to be well compartmentalised.
- 3.6 Tree 6. *Eucalyptus moluccana***
This mature tree is approximately 24m tall with a canopy spread of 12m. It has a single trunk with a DBH of 585mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.7 Tree 7. *Eucalyptus moluccana***
This mature tree is approximately 21.5m tall with a canopy spread of 12m. It has a single trunk with a DBH of 510mm. This tree is in poor health and condition with a sparse canopy, significant deadwood and epicormic growth.
- 3.8 Tree 8. *Eucalyptus moluccana***
This mature tree is approximately 19m tall with a canopy spread of 8m. It has a single trunk with a DBH of 510mm. This tree is in poor health and condition with a thinning canopy, moderate deadwood, significant epicormic growth and apical dieback.
- 3.9 Tree 9. *Eucalyptus tereticornis***
This mature tree is approximately 19m tall with a canopy spread of 9m. It has a single trunk with a DBH of 505mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.10 Tree 10. *Eucalyptus tereticornis***
This mature tree is approximately 16m tall with a canopy spread of 11m. It has a single trunk with a DBH of 355mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

- 3.11 Tree 11. *Eucalyptus tereticornis***
This mature tree is approximately 10m tall with a canopy spread of 4m. It has a single trunk with a DBH of 185mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.12 Tree 12. *Melaleuca linarifolia***
This mature tree is approximately 11m tall with a canopy spread of 8m. It has a single trunk with a DBH of 505mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.13 Tree 13. *Eucalyptus tereticornis***
This mature tree is approximately 11m tall with a canopy spread of 8m. It has twin co-dominant trunks from the base with an aggregate DBH of 390mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.14 Tree 14. *Eucalyptus tereticornis***
This mature tree is approximately 15m tall with a canopy spread of 8m. It has a single trunk with a DBH of 340mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.15 Tree 15. *Melaleuca linarifolia***
This mature tree is approximately 11.5m tall with a canopy spread of 9m. It has multiple (3) co-dominant trunks from the base with an aggregate DBH of 625mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.16 Tree 16. *Eucalyptus crebra***
This mature tree is approximately 11m tall with a canopy spread of 5m. It has a single trunk with a DBH of 205mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.17 Tree 17. *Eucalyptus fibrosa***
This mature tree is approximately 9.5m tall with a canopy spread of 5m. It has twin co-dominant trunks from the base with an aggregate DBH of 215mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.18 Tree 18. *Eucalyptus crebra***
This mature tree is approximately 10m tall with a canopy spread of 4m. It has a single trunk with a DBH of 160mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.19 Tree 19. *Eucalyptus fibrosa***
This mature tree is approximately 13m tall with a canopy spread of 5m. It has a single trunk with a DBH of 230mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

- 3.20 Tree 20. *Eucalyptus tereticornis***
This mature tree is approximately 18m tall with a canopy spread of 11m. It has multiple co-dominant trunks from the base with an aggregate DBH of 600mm. This tree is in fair health and condition with a thinning canopy, moderate deadwood, minimal epicormic growth and significant apical dieback.
- 3.21 Tree 21. *Eucalyptus crebra***
This mature tree is approximately 10m tall with a canopy spread of 4m. It has a single trunk with a DBH of 170mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.22 Tree 22. *Eucalyptus crebra***
This mature tree is approximately 9.5m tall with a canopy spread of 4m. It has a single trunk with a DBH of 195mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.23 Tree 23. *Eucalyptus crebra***
This mature tree is approximately 25m tall with a canopy spread of 16m. It has twin co-dominant trunks from the base with an aggregate DBH of 710mm. This tree is in good health and condition with minimal deadwood, epicormic growth and some apical dieback.
- 3.24 Tree 24. *Eucalyptus fibrosa***
This mature tree is approximately 23m tall with a canopy spread of 12m. It has a single trunk with a DBH of 535mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.25 Tree 25. *Eucalyptus crebra***
This mature tree is approximately 23.5m tall with a canopy spread of 12m. It has a single trunk with a DBH of 540mm. This tree is in fair health and condition with a thinning canopy, minimal deadwood and moderate epicormic growth.
- 3.26 Tree 26. *Eucalyptus moluccana***
This mature tree is approximately 15.5m tall with a canopy spread of 13m. It has a single trunk with a DBH of 495mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.27 Tree 27. *Eucalyptus moluccana***
This mature tree is approximately 35m tall with a canopy spread of 18m. It has a single trunk with a DBH of 840mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.28 Tree 28. *Eucalyptus tereticornis***
This mature tree is approximately 14.5m tall with a canopy spread of 9m. It has a single trunk with a DBH of 320mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

- 3.29 Tree 29. *Cupressus spp***
This mature tree is approximately 11.5m tall with a canopy spread of 4m. It has a single trunk with a DBH of 405mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.30 Tree 30. *Melaleuca linarifolia***
This mature tree is approximately 10.5m tall with a canopy spread of 8m. It has twin co-dominant trunks from the base with an aggregate DBH of 515mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.31 Tree 31. *Casuarina spp***
This mature tree is approximately 8.5m tall with a canopy spread of 6m. It has a single trunk with a DBH of 140mm. This tree is in good health and condition with minimal deadwood and epicormic growth. There is evidence of a failed leader. This tree is recommended for removal.
- 3.32 Tree 32. *Casuarina spp***
This mature tree is approximately 13m tall with a canopy spread of 6m. It has a single trunk with a DBH of 315mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.33 Tree 34. *Melaleuca armillaris***
This mature tree is approximately 10m tall with a canopy spread of 8m. It has multiple co-dominant trunks from the base with an aggregate DBH of 410mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.34 Tree 35. *Melaleuca armillaris***
This mature tree is approximately 8.5m tall with a canopy spread of 5m. It has a single trunk with a DBH of 285mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.35 Tree 36. *Cinnamomum camphora***
This mature tree is approximately 15m tall with a canopy spread of 12m. It has a single trunk with a DBH of 530mm. This tree is in poor health and declining condition with a sparse canopy, significant deadwood and epicormic growth. This tree is recommended for removal.
- 3.36 Tree 37. *Melaleuca linarifolia***
This mature tree is approximately 8.5m tall with a canopy spread of 4m. It has a single trunk with a DBH of 290mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.37 Tree 38. *Eucalyptus tereticornis***
This mature tree is approximately 15.5m tall with a canopy spread of 12m. It has a single trunk with a DBH of 300mm. This tree is in fair health and condition with minimal deadwood and epicormic growth.

- 3.38 Tree 39. *Eucalyptus tereticornis***
This mature tree is approximately 16.5m tall with a canopy spread of 8m. It has a single trunk with a DBH of 320mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.39 Tree 40. *Eucalyptus tereticornis***
This mature tree is approximately 29.5m tall with a canopy spread of 14m. It has multiple (3) co-dominant trunks from the base with an aggregate DBH of 1090mm. This tree is in fair health and condition with a thinning canopy, minimal deadwood, epicormic growth and moderate apical dieback.
- 3.40 Tree 41. *Eucalyptus tereticornis***
This mature tree is approximately 14m tall with a canopy spread of 7m. It has a single trunk with a DBH of 385mm. This tree is in poor health and declining condition with a sparse epicormic canopy and significant deadwood. This tree is recommended for removal.
- 3.41 Tree 42. *Eucalyptus tereticornis***
This mature tree is approximately 22.5m tall with a canopy spread of 12m. It has a single trunk with a DBH of 430mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.42 Tree 43. *Eucalyptus tereticornis***
This mature tree is approximately 30m tall with a canopy spread of 14m. It has a single trunk with a DBH of 600mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.43 Tree 44. *Eucalyptus tereticornis***
This mature tree is approximately 27m tall with a canopy spread of 16m. It has a single trunk with a DBH of 695mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.44 Tree 45. *Eucalyptus tereticornis***
This mature tree is approximately 10m tall with a canopy spread of 5m. It has multiple co-dominant trunks from the base with an aggregate DBH of 260mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.45 Tree 46. *Eucalyptus tereticornis***
This mature tree is approximately 19m tall with a canopy spread of 12m. It has twin co-dominant trunks from the base with an aggregate DBH of 520mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.46 Tree 47. *Eucalyptus tereticornis***
This mature tree is approximately 15.5m tall with a canopy spread of 9m. It has a single trunk with a DBH of 440mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

- 3.47 Tree 48. *Eucalyptus tereticornis***
This mature tree is approximately 21m tall with a canopy spread of 14m. It has twin co-dominant trunks from the base with an aggregate DBH of 675mm. This tree is in good health and condition with minimal deadwood and epicormic growth. There is evidence of a wound at base which appears to be well compartmentalised.
- 3.48 Tree 49. *Eucalyptus tereticornis***
This mature tree is approximately 24m tall with a canopy spread of 12m. It has a single trunk with a DBH of 685mm. This tree is in good health and condition with minimal deadwood and epicormic growth. There is evidence of extensive decay at base of trunk. This tree is recommended for removal.
- 3.49 Tree 50. *Populus alba* Grove**
These mature trees are approximately 10.5m tall with an average DBH of 200mm. These trees are in good health and condition with minimal deadwood and epicormic growth.
- 3.50 Tree 51. *Eucalyptus tereticornis***
This mature tree is approximately 19m tall with a canopy spread of 14m. It has a single trunk with a DBH of 890mm. This tree is in good health and condition with minimal deadwood and epicormic growth. There is evidence of extensive decay at base of trunk. Recommend a full risk assessment and Resistograph testing.
- 3.51 Tree 52. *Eucalyptus tereticornis***
This mature tree is approximately 21m tall with a canopy spread of 11m. It has a single trunk with a DBH of 420mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.52 Tree 53. *Eucalyptus tereticornis***
This mature tree is approximately 22m tall with a canopy spread of 12m. It has a single trunk with a DBH of 750mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.53 Tree 54. *Eucalyptus tereticornis***
This mature tree is approximately 20m tall with a canopy spread of 12m. It has a single trunk with a DBH of 480mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.54 Tree 55. *Eucalyptus tereticornis***
This mature tree is approximately 21m tall with a canopy spread of 12m. It has a single trunk with a DBH of 680mm. This tree is in good health and condition with minimal deadwood and epicormic growth.
- 3.55 Tree 56. *Eucalyptus tereticornis***

This mature tree is approximately 22m tall with a canopy spread of 12m. It has a single trunk with a DBH of 470mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.56 Tree 57. *Angophora floribunda* Grove

Tree 57 is a grove of approximately 30 individual trees with a height of approximately 10m and an approximate individual canopy spread of 3m. The representative individual DBH is 120mm. These trees are in good health and condition with minimal deadwood and epicormic growth.

4.0 Impact of Development

4.1 Tree Protection Zone

Tree Protection Zones (TPZs) have been defined for the subject trees in order to define the encroachment of the proposed development in accordance with AS4970-2009. The TPZs required have been taken as a circular area with a radius 12 x the diameter at breast height of the tree. This requirement is in line with Australian Standard AS 4970-2009 Protection of Trees on Development Sites. This standard defines a maximum of 10% encroachment to be minimal encroachment. Any encroachment over 10% requires the site arborist to give consideration as to the viability of the tree due to the proposed development.

Tree no.	Species	TPZ Radius (m)	Encroachment (%)
1.	<i>Eucalyptus fibrosa</i>	13.86	100
2.	<i>Eucalyptus fibrosa</i>	9.24	100
3.	<i>Eucalyptus moluccana</i>	5.28	100
4.	<i>Eucalyptus moluccana</i>	5.1	100
5.	<i>Eucalyptus moluccana</i>	5.04	100
6.	<i>Eucalyptus moluccana</i>	7.02	100
7.	<i>Eucalyptus moluccana</i>	6.12	100
8.	<i>Eucalyptus moluccana</i>	6.12	100
9.	<i>Eucalyptus tereticornis</i>	6.06	100
10.	<i>Eucalyptus tereticornis</i>	4.26	100
11.	<i>Eucalyptus tereticornis</i>	2.22	100
12.	<i>Melaleuca linarifolia</i>	6.06	100
13.	<i>Eucalyptus tereticornis</i>	4.68	100
14.	<i>Eucalyptus tereticornis</i>	4.08	100
15.	<i>Melaleuca linarifolia</i>	7.5	100
16.	<i>Eucalyptus crebra</i>	2.46	100
17.	<i>Eucalyptus fibrosa</i>	2.58	100
18.	<i>Eucalyptus crebra</i>	1.92	100
19.	<i>Eucalyptus fibrosa</i>	2.76	100
20.	<i>Eucalyptus tereticornis</i>	7.2	100
21.	<i>Eucalyptus crebra</i>	2.04	100

22.	<i>Eucalyptus crebra</i>	2.34	100
23.	<i>Eucalyptus crebra</i>	8.52	100
24.	<i>Eucalyptus fibrosa</i>	6.42	100
25.	<i>Eucalyptus crebra</i>	6.48	100
26.	<i>Eucalyptus moluccana</i>	5.94	100
27.	<i>Eucalyptus moluccana</i>	10.08	100
28.	<i>Eucalyptus tereticornis</i>	3.84	100
29.	<i>Cupressus spp</i>	4.86	100
30.	<i>Melaleuca linarifolia</i>	6.18	100
31.	<i>Casuarina spp</i>	N/A	N/A
32.	<i>Casuarina spp</i>	3.78	100
34.	<i>Melaleuca armillaris</i>	4.92	100
35.	<i>Melaleuca armillaris</i>	3.42	100
36.	<i>Cinnamomum camphora</i>	N/A	N/A
37.	<i>Melaleuca linarifolia</i>	3.48	100
38.	<i>Eucalyptus tereticornis</i>	3.6	100
39.	<i>Eucalyptus tereticornis</i>	3.84	100
40.	<i>Eucalyptus tereticornis</i>	13.08	100
41.	<i>Eucalyptus tereticornis</i>	N/A	N/A
42.	<i>Eucalyptus tereticornis</i>	5.16	100
43.	<i>Eucalyptus tereticornis</i>	7.2	100
44.	<i>Eucalyptus tereticornis</i>	8.34	100
45.	<i>Eucalyptus tereticornis</i>	3.12	100
46.	<i>Eucalyptus tereticornis</i>	6.24	100
47.	<i>Eucalyptus tereticornis</i>	5.28	100
48.	<i>Eucalyptus tereticornis</i>	8.1	100
49.	<i>Eucalyptus tereticornis</i>	8.22	100
50.	<i>Populus alba grove</i>	2.46	100
51.	<i>Eucalyptus tereticornis</i>	10.68	0
52.	<i>Eucalyptus tereticornis</i>	5.04	0
53.	<i>Eucalyptus tereticornis</i>	9	0
54.	<i>Eucalyptus tereticornis</i>	5.76	0
55.	<i>Eucalyptus tereticornis</i>	8.16	0
56.	<i>Eucalyptus tereticornis</i>	5.64	0
57.	<i>Angophora costata</i>	2	0

4.2 Development Impact

4.2.1. Tree 1 *Eucalyptus fibrosa*

The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.

- 4.2.2. Tree 2 *Eucalyptus fibrosa***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.3. Tree 3 *Eucalyptus moluccana***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.4. Tree 4 *Eucalyptus moluccana***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.5. Tree 5 *Eucalyptus moluccana***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.6. Tree 6 *Eucalyptus moluccana***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.7. Tree 7 *Eucalyptus moluccana***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.8. Tree 8 *Eucalyptus moluccana***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.9. Tree 9 *Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.

- 4.2.10. Tree 10** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.11. Tree 11** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.12. Tree 12** ***Melaleuca linarifolia***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.13. Tree 13** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.14. Tree 14** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.15. Tree 15** ***Melaleuca linarifolia***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.16. Tree 16** ***Eucalyptus crebra***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.17. Tree 17** ***Eucalyptus fibrosa***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.

- 4.2.18. Tree 18 *Eucalyptus crebra***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.19. Tree 19 *Eucalyptus fibrosa***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.20. Tree 20 *Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.21. Tree 21 *Eucalyptus crebra***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.22. Tree 22 *Eucalyptus crebra***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.23. Tree 23 *Eucalyptus crebra***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.24. Tree 24 *Eucalyptus fibrosa***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.25. Tree 25 *Eucalyptus crebra***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.

- 4.2.26. Tree 26 *Eucalyptus moluccana***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.27. Tree 27 *Eucalyptus moluccana***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.28. Tree 28 *Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.29. Tree 29 *Cupressus spp***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.30. Tree 30 *Melaleuca linarifolia***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.31. Tree 31 *Casuarina spp***
This tree is recommended for removal.
- 4.2.32. Tree 32 *Casuarina spp***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.33. Tree 34 *Melaleuca armillaris***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.34. Tree 35 *Melaleuca armillaris***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.

- 4.2.35. Tree 36** *Cinnamomum camphora*
This tree is recommended for removal.
- 4.2.36. Tree 37** *Melaleuca linarifolia*
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.37. Tree 38** *Eucalyptus tereticornis*
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.38. Tree 39** *Eucalyptus tereticornis*
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.39. Tree 40** *Eucalyptus tereticornis*
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.40. Tree 41** *Eucalyptus tereticornis*
This tree is recommended for removal.
- 4.2.41. Tree 42** *Eucalyptus tereticornis*
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.42. Tree 43** *Eucalyptus tereticornis*
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.43. Tree 44** *Eucalyptus tereticornis*
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.

- 4.2.44. Tree 45** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.45. Tree 46** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.46. Tree 47** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.47. Tree 48** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.48. Tree 49** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of this tree in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will be totally encroached by the proposed development. This tree will not be viable to be retained under the proposed development.
- 4.2.49. Tree 50** ***Populus alba Grove***
The Tree Protection Zone (TPZ) of these trees in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will not be encroached by the proposed development. These trees will be viable to be retained under the proposed development.
- 4.2.50. Tree 51** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of these trees in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will not be encroached by the proposed development. This tree will be viable to be retained under the proposed development.
- 4.2.51. Tree 52** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of these trees in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will not be encroached by the proposed development. This tree will be viable to be retained under the proposed development.

- 4.2.52. Tree 53** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of these trees in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will not be encroached by the proposed development. This tree will be viable to be retained under the proposed development.
- 4.2.53. Tree 54** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of these trees in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will not be encroached by the proposed development. This tree will be viable to be retained under the proposed development.
- 4.2.54. Tree 55** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of these trees in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will not be encroached by the proposed development. This tree will be viable to be retained under the proposed development.
- 4.2.55. Tree 56** ***Eucalyptus tereticornis***
The Tree Protection Zone (TPZ) of these trees in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will not be encroached by the proposed development. This tree will be viable to be retained under the proposed development.
- 4.2.56. Tree 57** ***Angophora floribunda***
The Tree Protection Zone (TPZ) of these trees in accordance with AS 4970-2009 *Protection of Trees on Development Sites* will not be encroached by the proposed development. These trees will be viable to be retained under the proposed development.

5.0 Recommendations

The subject Trees are preserved by Blacktown Council DCP Tree Preservation Measures.

Trees 36 and 41 are in poor and declining condition and are recommended for removal.

Tree 49 has decay and cavity within the trunk which places this tree at increased risk of failure. In consideration of the future development and the increased number of targets and therefore increased hazard posed, this tree is recommended for removal.

Tree 51 has evidence of significant decay at the base of the tree. WE recommend a full risk assessment of this tree including a Resistograph Test in order to define the extent of decay and the corresponding risk.

Tree 31 has poor form and significant epicormic growth within the live canopy due to a previous failure of the leader. This tree is recommended for removal.

The location of trees 50, 53, 54, 55, 56 and 57 are not included on the survey and have been located by means of aerial photographs. These trees are to be accurately located on site. The positioning of the proposed temporary bio-retention basin is to be located outside of the Tree Protection Zones (TPZ) of these trees.

Trees 50, 51, 52, 53, 54, 55, 56 and 57 are outside of the proposed development and will not be impacted by the proposed development.

The Tree Protection Zones (TPZ) of the balance of the subject trees are encroached by the proposed construction and required earthworks by a major encroachment as defined by *AS4970-2009 Protection of Trees on Development Sites*. These trees will not be viable to be retained and will be required to be removed due to the proposed development.

The scope of this report is to include all trees identified on survey. There a large number of small self-seeded saplings on the site which have not been included in detail in this report however these saplings will not be viable to be retained within this proposed development.

Recommendations for tree retention or removal are summarised as follows:

Tree no.	Species	Recommendations	Comments
1.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
2.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.

3.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
4.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
5.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
6.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
7.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
8.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
9.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
10.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
11.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
12.	<i>Melaleuca linarifolia</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
13.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
14.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
15.	<i>Melaleuca linarifolia</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
16.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
17.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.

18.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
19.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
20.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
21.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
22.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
23.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
24.	<i>Eucalyptus fibrosa</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
25.	<i>Eucalyptus crebra</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
26.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
27.	<i>Eucalyptus moluccana</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
28.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
29.	<i>Cupressus spp</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
30.	<i>Melaleuca linarifolia</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
31.	<i>Casuarina spp</i>	Remove	Failed leader.
32.	<i>Casuarina spp</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.

34.	<i>Melaleuca armillaris</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
35.	<i>Melaleuca armillaris</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
36.	<i>Cinnamomum camphora</i>	Remove	Poor and declining condition.
37.	<i>Melaleuca linarifolia</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
38.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
39.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
40.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
41.	<i>Eucalyptus tereticornis</i>	Remove	Poor and declining condition. Entire live canopy epicormic.
42.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
43.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
44.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
45.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
46.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
47.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
48.	<i>Eucalyptus tereticornis</i>	Remove	Not viable to be retained due to TPZ encroachment by proposed development.
49.	<i>Eucalyptus tereticornis</i>	Remove	Extensive decay at base of trunk.
50.	<i>Populus alba</i>	Retain	
51.	<i>Eucalyptus tereticornis</i>	Retain	

52.	<i>Eucalyptus tereticornis</i>	Retain	
53.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.
54.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.
55.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.
56.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.
57.	<i>Eucalyptus tereticornis</i>	Retain	Location of proposed bio-retention basin to be surveyed outside of TPZ of this tree.

6.0 References

Mattheck, C. Breloer, K. 1993, The Body Language of Trees: A Handbook for Failure Analysis, 12th Impression 2010 The Stationery Office.
AS4970-2009 Protection of Trees on Development Sites : Standards Australia

11.0 Disclaimer

This Appraisal has been prepared for the exclusive use of the Client and Birds Tree Consultancy.

Birds Tree Consultancy accepts no responsibility for its use by other persons. The Client acknowledges that this Appraisal, and any opinions, advice or recommendations expressed or given in it, are based on the information supplied by the Client and on the data inspections, measurements and analysis carried out or obtained Birds Tree Consultancy and referred to in the Appraisal. The Client should rely on the Appraisal, and on its contents, only to that extent.

Every effort has been made in this report to include, assess and address all defects, structural weaknesses, instabilities and the like of the subject trees. All inspections were made from ground level using only visual means and no intrusive or destructive means of inspection were used. For many structural defects such as decay and inclusions, internal inspection is required by means of Resistograph or similar. No such investigation has been made in this case. Trees are living organisms and are subject to failure through a variety of causes not able to be identified by means of this inspection and report.

Appendix A - Tree Inspection Data

Birds Tree Consultancy

Consulting Arborist • Project Management • Horticultural Consultancy • Landscape Management

Inspection Data
Terry Road Rouse Hill

25-Jun-18

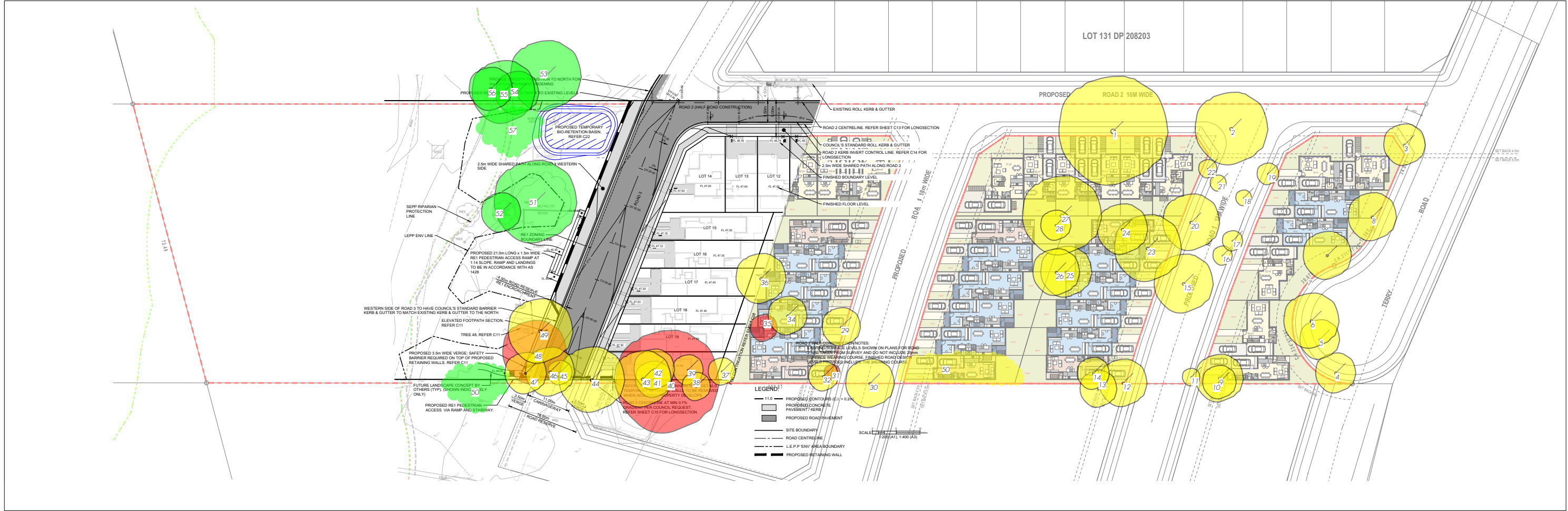
Tree no.	Species	Height (m)	Spread(m)	DBH (mm)	TPZ Radius (m)	Maturity	Trunk (single, twin, multiple @)	Trunk lean	Form/Crown shape	Branching Habit	Crown Distribution	Stability	Branching Structure	Pruning History	Defects	Damage	Overall Health & Vigour	Canopy Density	Foliage	Deadwood	Epicormic Growth	Pest Infestation	Disease	Life expectancy	Env. & Landscape significance	Retention Value	Notes/Comments
1	Eucalyptus fibrosa	24	15	1155	13.86	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Limb failure at bark inclusion, Wound	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	Previous failure at bark inclusion. Remove northern co dominant trunk
2	Eucalyptus fibrosa	28	15	770	9.24	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
3	Eucalyptus moluccana	22.5	9	440	5.28	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
4	Eucalyptus moluccana	20	9	425	5.1	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
5	Eucalyptus moluccana	16.5	11	420	5.04	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Wound	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	Wound at base appears well compartmentalised.
6	Eucalyptus moluccana	24	12	585	7.02	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
7	Eucalyptus moluccana	21.5	12	510	6.12	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Poor	Sparse	Normal	40%	40%	No evidence	No evidence	5-15y	Moderate	Low	
8	Eucalyptus moluccana	19	8	510	6.12	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Poor	Thinning	Normal	20%	50%	No evidence	No evidence	5-15y	High	High	Significant apical dieback
9	Eucalyptus tereticornis	19	9	505	6.06	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
10	Eucalyptus tereticornis	16	11	355	4.26	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
11	Eucalyptus tereticornis	10	4	185	2.22	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
12	Melaleuca linarifolia	11	8	505	6.06	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
13	Eucalyptus tereticornis	11	8	390	4.68	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
14	Eucalyptus tereticornis	15	8	340	4.08	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
15	Melaleuca linarifolia	11.5	9	625	7.5	Mature	Multiple (3) @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
16	Eucalyptus crebra	11	5	205	2.46	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
17	Eucalyptus fibrosa	9.5	5	215	2.58	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
18	Eucalyptus crebra	10	4	160	2	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
19	Eucalyptus fibrosa	13	5	230	2.76	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
20	Eucalyptus tereticornis	18	11	600	7.2	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Fair	Thinning	Normal	30%	<5%	No evidence	No evidence	5-15y	Moderate	Low	Significant apical dieback
21	Eucalyptus crebra	10	4	170	2.04	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
22	Eucalyptus crebra	9.5	4	195	2.34	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
23	Eucalyptus crebra	25	16	710	8.52	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	Some apical dieback
24	Eucalyptus fibrosa	23	12	535	6.42	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
25	Eucalyptus crebra	23.5	12	540	6.48	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Fair	Thinning	Normal	<5%	20%	No evidence	No evidence	15-40y	High	High	
26	Eucalyptus moluccana	15.5	13	495	5.94	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	

Tree no.	Species	Height (m)	Spread(m)	DBH (mm)	TPZ Radius (m)	Maturity	Trunk (single, twin, multiple @)	Trunk lean	Form/Crown shape	Branching Habit	Crown Distribution	Stability	Branching Structure	Pruning History	Defects	Damage	Overall Health & Vigour	Canopy Density	Foliage	Deadwood	Epicormic Growth	Pest Infestation	Disease	Life expectancy	Env. & Landscape significance	Retention Value	Notes/Comments
27	Eucalyptus moluccana	35	18	840	10.08	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
28	Eucalyptus tereticornis	14.5	9	320	3.84	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
29	Cupressus spp	11.5	4	405	4.86	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low	
30	Melaleuca linarifolia	10.5	8	515	6.18	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
31	Casuarina spp	8.5	6	140	2	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Failed leader	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low	Failed leader. Remove
32	Casuarina spp	13	6	315	3.78	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
34	Melaleuca armillaris	10	8	410	4.92	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
35	Melaleuca armillaris	8.5	5	285	3.42	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
36	Cinnamomum camphora	15	12	530	6.36	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Poor	Sparse	Normal	60%	60%	No evidence	No evidence	<5y	Low	Low	Poor and declining condition. Remove
37	Melaleuca linarifolia	8.5	4	290	3.48	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
38	Eucalyptus tereticornis	15.5	12	300	3.6	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Fair	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
39	Eucalyptus tereticornis	16.5	8	320	3.84	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
40	Eucalyptus tereticornis	29.5	14	1090	13.08	Mature	Multiple (3) @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Fair	Thinning	Normal	<5%	<5%	No evidence	No evidence	15-40y	Moderate	Moderate	Moderate apical dieback
41	Eucalyptus tereticornis	14	7	385	4.62	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Poor	Sparse	Normal	60%	100%	No evidence	No evidence	<5y	Low	Low	Poor and declining condition. Remove, Poor condition. Entire live canopy epicormic. Remove
42	Eucalyptus tereticornis	22.5	12	430	5.16	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
43	Eucalyptus tereticornis	30	14	600	7.2	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
44	Eucalyptus tereticornis	27	16	695	8.34	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
45	Eucalyptus tereticornis	10	5	260	3.12	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Moderate	Moderate	
46	Eucalyptus tereticornis	19	12	520	6.24	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
47	Eucalyptus tereticornis	15.5	9	440	5.28	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
48	Eucalyptus tereticornis	21	14	675	8.1	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Wound	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	Wound appears well compartmentalised
49	Eucalyptus tereticornis	24	12	685	8.22	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Evidence of decay	Wound	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	Low	Extensive decay at base of trunk. Remove
50	Populus alba	10.5	8	205	2.46	Mature	Single	NIL	Normal	Normal	Balanced	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	Retain	
51	Eucalyptus tereticornis	19	14	890	10.68	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Evidence of decay	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	Fungal fruiting body present , Extensive decay at base of trunk. Recommend resistograph or risk assessment
52	Eucalyptus tereticornis	21	11	420	5.04	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
53	Eucalyptus tereticornis	22	12	750	9	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
54	Eucalyptus tereticornis	20	12	480	5.76	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
55	Eucalyptus tereticornis	21	12	680	8.16	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	

56	Eucalyptus tereticornis	22	12	470	5.64	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	
57	Angophora floribunda	10	3	120	2	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High	

Appendix B Tree Location Plans

Tree Protection Plans



Legend

- Tree to be Retained and Protected
- Tree not viable to be retained due to proposed development
- Tree to be Removed
- Tree Protection Zone (TPZ) in accordance with AS4970-2009

Birds Tree Consultancy

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Project: 54 Terry Road Rouse Hill
 Client: Caverstock
 DWG: A01 REV A
 Plan: Tree Location Plan
 Date: 10 Feb 2020 Scale : 1:1000 @ A3

