ARBORICULTURAL IMPACT REPORT

56-60 BURNS BAY ROAD
LANE COVE NSW

REVISED REPORT
9 MAY 2019

PREPARED FOR A PLUS DESIGN GROUP

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1. BACKGROUND

Landscape Matrix Pty Ltd has been engaged by A Plus Design Group to prepare an Arboricultural Impact Report in respect to 32 trees at 56-60 Burns Bay Road Lane Cove. The trees are potentially impacted by a proposed new vehicular access to the existing carparking at the rear of site.

This report has been prepared by Guy Paroissien a Director of Landscape Matrix Pty Ltd. The site was inspected on 1st May 2018.

The assessment of the trees was based upon a visual inspection of the trees from ground level using the Visual Tree Assessment (VTA) approach developed by Mattheck & Breloer (1994). The visual inspection included examination of the trees' dimensions, foliage density and foliage health, form, structure, structural condition, overall health and vigour and landscape significance.

The inspection was limited to visual inspection of the trees without dissection, probing or coring. No aerial inspection of the trees was carried out and the assessment did not include any woody tissue testing or root investigation.

The tree heights and canopy spreads were estimated and expressed in metres and the tree diameters at breast height (DBH) were measured with a standard metal tape at approximately 1.4 metres above ground level and expressed in millimetres.

This report has been revised and updated in May 2019 in response to an amended development proposal.

2. TREES ON SITE

32 trees on the site have been assessed in preparing this report. A summary of these trees, their dimensions, condition, Useful Life Expectancy (ULE) and landscape significance is attached in Appendix B.

The tree numbers in Appendix B correspond with the tree numbers marked on the attached Survey Plan prepared by GeoSurv dated 08/06/2016 and identified as Plan Reference Number 160265_C8 (DT), Sheets 2 of 4 and 3 of 4.

The trees that have been assessed at the rear of the site and adjoining properties are summarised in table 1 as follows:

Table 1: Summary of species present, number and height range.

SPECIES	COMMON NAME	NUMBER PRESENT	HEIGHT RANGE (metres)
Acmena smithii	Lilly Pilly	2	7
Angophora costata	Smooth Barked Apple, Sydney Red Gum	1	11
Araucaria heterophylla	Norfolk Island Pine	1	16
Banksia integrifolia	Coast Banksia	1	8
Casuarina glauca	Swamp Oak	1	18
Eucalyptus punctata	Grey Gum	1	16
Eucalyptus resinifera	Red Mahogany	1	23
Eucalyptus saligna	Sydney Blue Gum	15	6 to 32
*Eucalyptus scoparia**	Wallangarra White Gum, Willow Gum	1	12
Glochidion ferdinandi	Cheese Tree	6	4 to 9
Melaleuca linariifolia	Flax Leaved Paperbark, Budjur	1	7
Pittosporum undulatum	Native Daphne, Sweet Pittosporum	1	8
Total number of trees		**32**	**4 to 32 metres**

Eucalyptus scoparia (Wallangarra White Gum, Willow Gum) is listed on the Schedules of the NSW *Biodiversity Conservation Act 2016*. This species is listed as an endangered species in Part 1 Schedule 1 of that Act. *Eucalyptus scoparia* is also listed as a nationally vulnerable species under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

However, the specimen of Willow Gum is considered to be a planted specimen rather than remnant vegetation as this species not recorded as occurring naturally at this locality. Taking this into account it is considered that there will not be a significant impact on threatened species arising from the proposal when applying the relevant test under Section 5A of the Environment Planning and Assessment Act 1979.

It is noted that *Angophora costata* (Sydney Red Gum, Smooth Barked Apple) and *Eucalyptus saligna* (Sydney Blue Gum) are component species of the vegetation community identified as Blue Gum High Forest in the Sydney Basin Bioregion. This vegetation community is listed as a critically endangered ecological community under both the NSW *Biodiversity Conservation Act 2016* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. However, the specimens of Sydney Blue Gum and Sydney Red Gum assessed for this report are concluded to be planted specimens rather than remnant vegetation given the past use and disturbance of the areas in which they are located.

3. TREES IDENTIFIED AS A PRIORITY FOR RETENTION/PROTECTION.

The identification of trees as priorities for retention is based upon a number of factors including; species, dimensions, health, maturity, Useful Life Expectancy (ULE) and landscape significance.

Following assessment of the trees it is considered the following 7 trees are considered to be of high landscape significance and medium to long life expectancy and should be considered as priorities for retention/protection, if possible:

Table 2: Trees identified as priorities for retention/protection.

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS
1	*Eucalyptus saligna* (Sydney Blue Gum)	6.7 metres	2.7 metres	A mature, single trunked specimen approximately 24 metres in height with a canopy spread of 12 x 14 metres and a diameter at breast height (DBH) of 560mm. In good health and of high landscape significance. Canopy bias to the west. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback. Tagged as T42.
3	*Eucalyptus saligna* (Sydney Blue Gum)	6.5 metres	2.6 metres	A mature, single trunked specimen approximately 30 metres in height with a canopy spread of 14 x 18 metres and a DBH of 540mm. In good health and of high landscape significance. Tagged as T40.
5	*Eucalyptus saligna* (Sydney Blue Gum)	8.6 metres	3.1 metres	A mature, single trunked specimen approximately 26 metres in height with a canopy spread of 15 metres and a DBH of 720mm. In good health and of high landscape significance. Low levels of termite mudding in lower trunk bark and exit holes indicative of past Longicorn Beetle larvae activity. Reaction wood in lower/basal trunk - further investigation recommended. Medium to large epicormic shoots on lower trunk. Tagged as T38.
8	*Eucalyptus saligna* (Sydney Blue Gum)	8.4 metres	3.1 metres	A mature, single trunked specimen approximately 28 metres in height with a canopy spread of 14 x 20 metres and a DBH of 700mm. In good health and of high landscape significance. Slight canopy bias to E x W axis. The tree displays fair to poor branch attachment with 2 recent branch failures at 4 and 8 metres on the NE side (it appears the failure at 8 metres

				may have caused the failure at 4 metres). There is evidence of other failures. Bird nest in upper crown. Tagged as T8
10	*Eucalyptus saligna* (Sydney Blue Gum)	10.4 metres	3.1 metres	A mature, single trunked specimen approximately 30 metres in height with a canopy spread of 18 metres and a DBH of 870mm. In good health and of high landscape significance. Slight canopy bias t the south Tagged as T10.
18	*Eucalyptus saligna* (Sydney Blue Gum)	7.9 metres	3 metres	A mature, single trunked specimen approximately 28 metres in height with a canopy spread of 16 metres and a DBH of 660mm. In good health and of high landscape significance. At the time of inspection the tree was of fair vigour and exhibited low levels of dieback and epicormic growth. Tagged as T19..
28	*Eucalyptus saligna* (Sydney Blue Gum)	8.2 metres	3.1 metres	A mature, single trunked specimen approximately 32 metres in height with a canopy spread of 20 metres and a DBH of 680mm. In good health and of high landscape significance. Slight canopy bias to the south. The tree displays fair to poor branch attachment with multiple leaders from 4 metres with evidence of poor attachment at the junction - the junction is a weak point in the tree's structure with increased risk of failure - while not considered at risk of failure in the short term an aerial inspection/further investigation of the junction to check structural integrity is recommended. Small to medium sized deadwood over carpark requires management. Tagged as T27.

TPZ = Tree Protection Zone under AS4970-2009, SRZ = Structural Root Zone under AS4970-2009

A number of methods to determine the likely extent of root zones and appropriate setbacks for tree root protection zones for trees on development sites have been developed in the past. The key criteria used in determining setbacks is the tree's trunk diameter at breast height (DBH) in conjunction with other factors including the sensitivity of the species in question to environmental disturbance/change, the age of the tree and the tree's health and vigour at the time.

Harris et al (2004) provide formulae for calculating tree protection zones based on the above criteria and modified from the 1991 British Standard for protection of trees on construction sites (BS 5837:1991). The 2005 version of the British Standard (BS 5837:2005) recommends a radius of 12 times the tree's DBH. For multi trunked trees BS 5837:2005 recommends a setback of 10 times the basal trunk diameter.

The Australian Standard AS 4970-2009 Protection of Trees on Construction Sites also identifies a 'Tree Protection Zone' (TPZ) of 12 times the tree's DBH. AS 4790-2009 also provides a formula for calculating the "Structural Root Zone' of trees on development sites. This is the area required for stability. In regard to palms, other monocots, cycads and tree ferns the Standard identifies the Tree Protection Zone should not be less than 1 metre outside the crown projection. (Australian Standards Association 2009)

The tree protection zones identified above have been calculated using the Australian Standard 'AS 4970 Protection of trees on construction sites' and are the optimum setback from the trees where disturbance (e.g. soil level changes, compaction, excavation etc) should be minimised to reduce potential impacts on the long-term health of the trees. Preferably, no more than 10% of the tree protection zone should be disturbed with compensation made by extension of other areas of the TPZ to compensate for the area(s) disturbed.

Where greater than 10% of the tree protection zone is potentially disturbed the tree's viability needs to be investigated and demonstrated by the project arborist. The structural root zone is the area required for stability and where disturbance of any sort should be avoided.

4. TREES THAT SHOULD BE CONSIDERED FOR RETENTION/PROTECTION

The identification of trees for consideration (but not as a priority) for retention is based upon the same factors as those for priority for retention (species, dimensions, health, maturity, Useful Life Expectancy (ULE) and landscape significance).

Following assessment of the trees it is considered the following 16 trees of moderate or moderate to high landscape significance and medium to long life expectancy should be considered for retention/protection, if possible:

Table 3: Trees identified for consideration for retention/protection.

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS
2	*Eucalyptus saligna* (Sydney Blue Gum)	6.8 metres	2.7 metres	A mature, single trunked specimen approximately 24 metres in height with a canopy spread of 10 metres and a DBH of 570mm. In good health and of moderate to high landscape significance. Tagged as T41.

4	*Araucaria heterophylla* (Norfolk Island Pine)	4.2 metres	2.3 metres	A semi mature, single trunked specimen approximately 16 metres in height with a canopy spread of 7 metres and a DBH of ca. 3500mm. In good health and of moderate landscape significance.
7	*Casuarina glauca* (Swamp Oak)	5.4 metres	2.5 metres	A mature, single trunked specimen approximately 18 metres in height with a canopy spread of 8 metres and a DBH of 450mm. In good health and of moderate to high landscape significance. The tree displays fair branch attachment with multiple leaders from 10 metres - not considered at risk of failure in the short term.
9	*Eucalyptus saligna* (Sydney Blue Gum)	3.4 metres	2 metres	A semi mature, single trunked specimen approximately 10 metres in height with a canopy spread of 8 x 12 metres and a DBH of 300mm. In good health and of moderate landscape significance. Slight canopy bias to E x W axis. The tree displays fair branch attachment with evidence of past failures. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate levels of dieback. Tagged as T9
11	*Eucalyptus saligna* (Sydney Blue Gum)	5.3 metres	2.4 metres	A mature, single trunked specimen approximately 22 metres in height with a canopy spread of 9 x 12 metres and a DBH of 440mm. In good health and of moderate landscape significance. The tree's past canopy development has been suppressed. Drainage pit in tree's SRZ. Kink in trunk at 6 metres - appears sound. At the time of inspection the tree was of fair vigour and exhibited reduced foliage density. Tagged as T13.
12	*Acmena smithii* (Lilly Pilly)	2.9 metres	1.8 metres	A semi mature, multi trunked specimen approximately 7 metres in height with a canopy spread of 4 metres and DBH of up to 120mm (240mm above the root flare). In good health and of moderate landscape significance. The tree displays fair branch attachment with multiple leaders from ground level - not considered to risk of failure in the short term. Tagged as T11
13	*Pittosporum undulatum* (Native Daphne, Sweet Pittosporum)	2.3 metres	1.8 metres	A mature, single trunked specimen approximately 8 metres in height with a canopy spread of 6 metres and a DBH of 190mm. In moderate health and of moderate to high landscape significance. At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage density and moderate levels of dieback. Tagged as T12.
16	*Glochidion ferdinandi* (Cheese Tree)	4 metres	2.1 metres	A mature, twin trunked specimen approximately 8 metres in height with a canopy spread of 5 metres and DBH of 170 and 270mm. In good health and of moderate landscape significance. Continued next page...

				The tree's past canopy development has been significantly suppressed. Th tree displays fair branch attachment with codominant leaders from ground level - not considered at risk of failure in the short term. At the time of inspection the tree exhibited moderate levels of epicormic growth. Tagged as T15.
17	*Eucalyptus saligna* (Sydney Blue Gum)	5.4 metres	2.7 metres	A mature, single trunked specimen approximately 22 metres in height with a canopy spread of 9 metres and a DBH of 450mm. In good health and of moderate to high landscape significance. Moderate to high tissue loss in lower NW trunk due to past Longicorn Beetle activity and dysfunctional tissue in lower trunk to 1.5 metres indicative of possible fungal canker. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback. Small to medium sized dead wood requires management. Tagged as T17.
22	*Eucalyptus punctata* (Grey Gum)	3.2 metres	2 metres	A semi mature, single trunked specimen approximately 16 metres in height with a canopy spread of 6 metres and a DBH of 270mm. In good health and of moderate landscape significance. The tree's past canopy development has been suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate to high levels of dieback and epicormic growth. Tagged as T20.
23	*Eucalyptus saligna* (Sydney Blue Gum)	3.6 metres	2.1 metres	A semi mature, single trunked specimen approximately 22 metres in height with a canopy spread of 6 x 12 metres and a DBH of 300mm. In good health and of moderate landscape significance. The tree's past canopy development has been significantly suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate levels of dieback and epicormic growth. Tagged as T22.
25	*Eucalyptus saligna* (Sydney Blue Gum)	4.4 metres	2.2 metres	A semi mature, single trunked specimen approximately 18 metres in height with a canopy spread of 8 metres and a DBH of 370mm. In good health and of moderate to high landscape significance. The tree's past canopy development has been suppressed. There is evidence of past wounding in the lower trunk at 1.2 to 1.4 metres. At the time of inspection the tree was of fair vigour and exhibited low levels of dieback. Tagged as T24.
26	*Glochidion ferdinandi* (Cheese Tree)	2.7 metres	1.9 metres	A mature, twin trunked specimen approximately 8 metres in height with a canopy spread of 7 metres and DBH of 140 and 160mm. In good health and of moderate landscape significance. Continued next page...

				At the time of inspection the tree was of fair vigour and exhibited moderate to high levels of epicormic growth. Tagged as T25
30	*Glochidion ferdinandi* (Cheese Tree)	5.9 metres	2.5 metres	A mature, multi trunked specimen approximately 9 metres in height with a canopy spread of 9 x 12 metres and DBH of up to 230mm (460 x 520mm above the root flare). In good health and of moderate landscape significance. Slight canopy bias to E x W axis. The tree displays fair to poor branch attachment with multiple leaders from 0.6 metres with evidence of poor attachment at the junction - the junction is a weak point in the tree's structure with increased risk of failure but is not considered at risk of failure in the short term. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback and epicormic growth. Tagged as T29?
31	*Eucalyptus scoparia* (Wallangarra White Gum, Willow Gum)	6.1 metres	2.7 metres	A mature, single trunked specimen approximately 12 metres in height with a canopy spread of 12 metres and a DBH of 520mm. In good health and of moderate to high landscape significance. The tree displays fair branch attachment with codominant leaders from 2.2 metres - not considered at risk of failure in the short term. At the time of inspection the tree exhibited low levels of epicormic growth.
32	*Angophora costata* (Smooth Barked Apple, Sydney Red Gum)	4.6 metres	2.4 metres	A young mature, single trunked specimen approximately 11 metres in height with a canopy spread of 10 metres and a DBH of 380mm. In good health and of moderate to high landscape significance.

The tree protection zones identified above have been calculated using the Australian Standard 'AS 4970 Protection of trees on construction sites' and are the optimum setback from the trees where disturbance (e.g. soil level changes, compaction, excavation etc.) should be minimised to reduce potential impacts on the long-term health of the trees.

Preferably, no more than 10% of the tree protection zone should be disturbed with compensation made by extension of other areas of the TPZ to compensate for the area(s) disturbed. Where greater than 10% of the tree protection zone is potentially disturbed the tree's viability needs to be investigated and demonstrated by the project arborist.

The structural root zone is the area required for stability and where disturbance of any sort should be avoided.

5. TREES THAT SHOULD BE CONSIDERED FOR REMOVAL

Following assessment of the trees on the site it is considered that none of the trees assessed for this report should be considered for immediate removal due to poor/declining health or structural condition and/or inappropriate species:

6. TREES NOT IDENTIFIED FOR REMOVAL OR RETENTION

The following 9 trees have not been identified as being of high or moderate landscape value and worthy of enforced retention/protection, or as priorities for removal due to low landscape value, declining structural condition or suitability to the site (i.e. weed species):

- Tree numbers: 6, 14, 15, 19, 20, 21, 24, 27 and 29.

Many of these trees are currently in fair to reasonable condition and do perform some landscape function of either low or moderate significance. However, these trees individually are not considered significant enough to warrant specific design consideration.

7. POTENTIAL IMPACTS ON TREES

The potential impacts of the proposal have been assessed using the Site Analysis /Site Plan prepared by A Plus Design Group dated 8th May 2019 and identified as Drawing Number A2 03, Issue 2.

Trees requiring removal or proposed to be removed to facilitate the proposed development
It is not proposed to remove any trees to facilitate the redevelopment works.

Trees potentially impacted by the proposed development
The majority of trees will no longer be potentially impacted by the works in the revised proposed. As a result of the amendments tree numbers 1 to 30 inclusive will not be affected by works.

Two trees (tree numbers 31 and 32 are still potentially impacted as before. Using the plans referred to in the preceding section of the report an analysis has been undertaken of the potential impacts to these two trees.

The extent of impacts to the trees in table 3 has been rated using the following guideline:
0% of root zone impacted – no impact of significance
0 to 10% of TPZ impacted – low level of impact
10 to 15% of TPZ impacted – low to moderate level of impact
15 to 20% of TPZ impacted – moderate level of impact
20 to 25% of TPZ impacted – moderate to high level of impact
25 to 35% of TPZ impacted – high level of impact
>35% of TPZ impacted – significant level of impact

The root zone calculations referred to in this report were made using scale drawings of the trees' identified tree protection zones (TPZ) in a CAD program (TurboCAD®) with potentially affected areas added to the drawing. The area of potential impact was converted to a percentage of TPZ using a spreadsheet (Microsoft Excel®). The potential impacts to these 3 trees are identified in table 4 as follows:

Table 4: Trees potentially affected by the proposed development.

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS*
31	*Eucalyptus scoparia* (Wallangarra White Gum, Willow Gum)	6.1 metres	2.7 metres	The proposed works are located 4.2 metres from the tree at the closest point and are calculated to encroach within 17.10m^2 or 14.54% of the tree's identified TPZ – this is a low to moderate level of encroachment and within an acceptable threshold. Continued next page… In addition, the impacts will be minimised due to the existing building within the footprint of the proposed works which will have limited the potential for root growth in the impacted area of the minimal TPZ. Specific tree protection measures (e.g. trunk and branch protection) will need to be installed prior to commencement of any works at the site in addition to design measures to minimise the potential for canopy conflict with awnings.
32	*Angophora costata* (Smooth Barked Apple, Sydney Red Gum)	4.6 metres	2.4 metres	The proposed works are located 3.71 metres from the tree at the closest point and are calculated to encroach within 7.74m^2 or 11.85% of the tree's identified TPZ – this is a low to moderate level of encroachment and within an acceptable threshold. Continued next page… In addition, the impacts will be minimised due to the existing building within the footprint of the proposed works which will have limited the potential for root growth in the impacted area of the minimal TPZ. Specific tree protection measures (e.g. trunk and branch protection) will

				need to be installed prior to commencement of any works at the site in addition to design measures to minimise the potential for canopy conflict with awnings.

The potential TPZ encroachments can be summarised as follows:
0% of root zone impacted – no impact of significance = 0 trees
0 to 10% of TPZ impacted – low level of impact = 0 trees
10 to 15% of TPZ impacted – low to moderate level of impact = 2 trees (tree #s 31 and 32)
15 to 20% of root zone impacted – moderate level of impact = 0 trees
20 to 25% of TPZ impacted – moderate to high level of impact = 0 trees
25 to 35% of TPZ impacted – high level of impact = 0 trees
> 35% of TPZ impacted – significant level of impact = 0 trees

In Summary:

- The proposed works are outside the identified TPZs of tree numbers 1 to 30 inclusive and no impact of substance is predicted for these trees.
- The proposed works will encroach on 10 to 15 % of the TPZ of tree numbers 31 and 32 and is considered to be a low to moderate level of impact and within an acceptable threshold for these trees.

8. TREE PROTECTION MEASURES

The following generic tree protection measures are recommended to assist in minimising potential impacts that may arise during the works (including the implementation of landscape works on the site).

A. Measures to be implemented prior to the commencement of any works on the site.

1. Trees to be retained are to be clearly identified by signage as protected trees.

2. The tree protection zones (TPZ) of trees to be retained are to be protected by fencing during the entire construction period except for specific areas directly required to achieve construction works.

3. The tree protection fence shall be constructed of galvanised pipe at 2.4 metre spacing and connected by securely attached chain mesh fencing to a minimum height of 1.8 metres and shall be installed prior to work commencing.

4. The tree protection fencing shall be installed as closely as possible to the alignment of the identified TPZ and shall be approved and certified by the site arborist prior to commencement of any construction or demolition works on the site.

B. Measures to be implemented and maintained during the life of construction works on the site.

5. Any excavation within the identified TPZ of trees to be retained shall be carried out by hand to minimize disturbance to tree roots. Roots greater than 25mm are not to be damaged or severed without prior assessment by an arborist to determine likely level of impact and the restorative actions required to minimise the impacts of root damage.

6. Tree roots between 10mm and 25mm diameter, severed during excavation, shall be cleanly severed using sterilised hand tools (i.e. secateurs or a pruning saw)

7. The following activities/actions are prohibited from the tree protection zones:

- Soil cut or fill including excavation and trenching
- Soil cultivation, disturbance or compaction
- Stockpiling storage or mixing of materials
- The parking, storing, washing and repairing of tools, equipment and machinery
- The disposal of liquids and refueling
- The disposal of building materials
- The sitting of offices or sheds
- Any action leading to the impact on tree health or structure

8. Canopy pruning of trees identified for protection which is necessary to accommodate approved building works shall be undertaken in accordance with *Australian Standard 4373-2007 'Pruning of Amenity Trees'*.

9. USE OF TREES BY WILDLIFE

During the inspection on 19th March 2018 the trees on the site were checked for signs of use by wildlife during the inspection. A number of the trees showed signs of usage by wildlife such as scratch marks or the presence of scats consistent with usage by Common Brushtail Possum (*Trichosurus vulpecula*) or Common Ringtail Possum (*Pseudocheirus peregrinus*).

It is probable that a number of the trees would be used by native fauna at various times for food, shelter and roosting purposes and the retention and replacement of trees on and adjoining the site will retain this opportunity.

The following bird species were noted on site (or heard in the immediate vicinity of the site) during the inspection on 19th March 2018: Noisy Miner (*Manorina melanocephala*), Laughing Kookaburra (*Dacelo novaeguineae*), Sulphur Crested Cockatoo (*Cacatua galerita*) and Rainbow Lorikeet (*Trichoglossus haematodus*).

10. CONCLUSIONS/RECOMMENDATIONS

Of the 32 trees at 56-60 Burns Bay Road Lane Cove that have been assessed there are 7 trees that have been identified as having high landscape significance and as priorities for retention. A further 16 trees have been identified as worthy of specific consideration for retention/protection if possible.

None of the trees assessed for this report were identified as recommended for removal regardless of any development proposal. The remaining 9 trees are identified in section 8 of the report as not requiring specific design consideration.

It is not proposed to remove any trees to facilitate the redevelopment works and the majority of trees will no longer be potentially impacted by the works in the revised proposed. As a result of the amendments, tree numbers 1 to 30 inclusive will not be affected by works.

To facilitate construction of the proposed residential development the following 2 trees will be potentially affected:
Tree # 31 *Eucalyptus scoparia* (Wallangarra White Gum, Willow Gum)
Tree # 32 *Angophora costata* (Smooth Barked Apple, Sydney Red Gum)

<u>The potential TPZ encroachments can be summarised as follows</u>:
0% of root zone impacted – no impact of significance = 0 trees
0 to 10% of TPZ impacted – low level of impact = 0 trees
10 to 15% of TPZ impacted – low to moderate level of impact = 2 trees (tree #s 31 and 32)
15 to 20% of root zone impacted – moderate level of impact = 0 trees
20 to 25% of TPZ impacted – moderate to high level of impact = 0 trees

25 to 35% of TPZ impacted – high level of impact = 0 trees
> 35% of TPZ impacted – significant level of impact = 0 trees

In Summary:

- The proposed works are outside the identified TPZs of tree numbers 1 to 30 inclusive and no impact of substance is predicted for these trees.
- The proposed works will encroach on 10 to 15 % of the TPZ of tree numbers 31 and 32 and is considered to be a low to moderate level of impact and within an acceptable threshold for these trees.

Generic tree protection measures are identified in section 8 of this report to minimise potential impacts to the trees to be retained.

In addition to this it is recommended specific tree protection measures for trees 31 and 32 (e.g. trunk and branch protection) be installed prior to commencement of any works at the site in addition to design measures to minimise the potential for canopy conflict with awnings.

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9th May 2019

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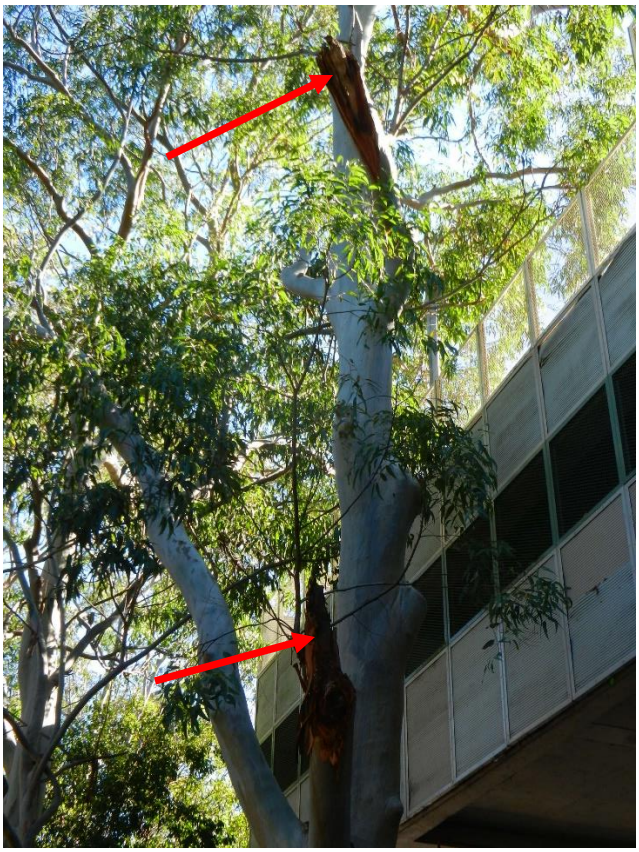
APPENDIX A

Photograph 1: Illustrating the location and context of trees 1 to 6.

Photograph 2: Illustrating the immediate context of trees 1 to 3.

Photograph 3: Illustrating the location and context of trees 8 to 30 inclusive.

Photograph 4: Illustrating the location and context of trees 8 to 30 inclusive.



Photograph 5: Tree # 8 - Illustrating 2 recent branch failures at 4 and 8 metres on the NE side.

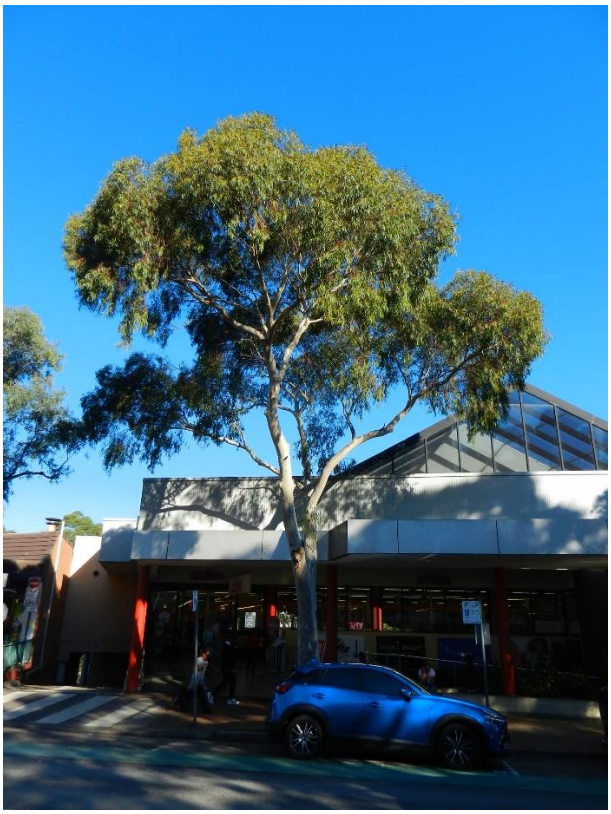
Photograph 6: Tree # 8 - Illustrating the bird nest in the upper crown.

Photograph 7: Tree # 17 – Illustrating the tissue dysfunction in the lower trunk.

Photograph 8: Tree # 24 - Illustrating the moderate to high levels of outer canopy dieback and epicormic growth.

Photograph 9: Illustrating the landscape area where trees 8 to 28 are located (tree 27 in foreground on RHS).

Photograph 10: Tree # 28 - Illustrating the multiple leaders from 4 metres with evidence of poor attachment at the junction (aerial inspection recommended).



Photograph 11: Tree # 31 - Illustrating the location and context.

Photograph 12: Tree # 32 - Illustrating the location and context.

APPENDIX B - TREE DATA SUMMARY - 56-60 BURNS BAY ROAD LANE COVE

Tree No.	*Genus, Species (Common Name)*	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	ULE	Landscape Significance	Retention Value*	Comments
1	*Eucalyptus saligna* (Sydney Blue Gum)	24	12 x 14	560	560	600	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the west	Lower limbs pruned in past to 4 metres, selected upper branches pruned over carpark to west	Appears stable	Fair branch attachment	Good health	Fair vigour	5 to 10%	No visual evidence of significant pest or disease	1 Long (> 40 years)	High landscape significance	1	Canopy bias to the west. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback. Tagged as T42.
2	*Eucalyptus saligna* (Sydney Blue Gum)	24	10	570	570	590	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 12 metres	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate to high landscape significance	2	Tagged as T41.
3	*Eucalyptus saligna* (Sydney Blue Gum)	30	14 x 18	540	540	580	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to Thee norThe	Lower limbs pruned in past to 4 metres, selected upper branches pruned over carpark to west	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	High landscape significance	1	Tagged as T40.
4	*Araucaria heterophylla* (Norfolk Island Pine)	16	7	ca. 350	350	400	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 3 metres	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate landscape significance	2	
5	*Eucalyptus saligna* (Sydney Blue Gum)	26	15	720	720	860	Good foliage condition	Mature	Single trunk	Slight trunk lean to the west	Balanced canopy area	Lower limbs pruned in past to 3 metres, selected upper branches pruned over carpark to west	Appears stable	Fair branch attachment	Good health	Good vigour	5%	Low levels of termite mudding in lower trunk bark and exit holes indicative of past Longicorn Beetle larvae activity	2 Medium (15 to 40 years)	High landscape significance	1	Low levels of termite mudding in lower trunk bark and exit holes indicative of past Longicorn Beetle larvae activity. Reaction wood in lower/basal trunk - further investigation recommended. Medium to large epicormic shoots on lower trunk. Tagged as T38.
6	*Acmena smithii* (Lilly Pilly)	7	6	200	200	220	Good foliage condition	Semi Mature	Single trunk	Slight trunk lean to the west		Appears tree cut down to ground level in past	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Low to moderate landscape significance	3	The tree's past canopy development has been suppressed. It appears the tree has previously been cut to ground level with multiple epicormic shoots adjacent to basal trunk. Tagged as T39.
7	*Casuarina glauca* (Swamp Oak)	18	8	450	450	510	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 6 metres	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate to high landscape significance	2	The tree displays fair branch attachment with multiple leaders from 10 metres - not considered at risk of failure in the short term.
8	*Eucalyptus saligna* (Sydney Blue Gum)	28	14 x 20	700	700	840	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy on an east x west axis	Lower limbs pruned in past to 6 metres, selected upper branches pruned over carpark to west	Appears stable	Fair to poor branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	High landscape significance	1	Slight canopy bias to E x W axis. The tree displays fair to poor branch attachment with 2 recent branch failures at 4 and 8 metres on the NE side (it appears the failure at 8 metres may have caused the failure at 4 metres). There is evidence of other failures. Bird nest in upper crown. Tagged as T8
9	*Eucalyptus saligna* (Sydney Blue Gum)	10	8 x 12	280	280	300	Fair foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy on an east x west axis	No evidence of significant past pruning	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	Slight canopy bias to E x W axis. The tree displays fair branch attachment with evidence of past failures. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate levels of dieback. Tagged as T9

Tree No.	Genus, Species (Common Name)	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	ULE	Landscape Significance	Retention Value*	Comments
10	*Eucalyptus saligna* (Sydney Blue Gum)	30	18	840 x 900	870	880	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the south	Lower limbs pruned in past to 5 metres, selected upper branches pruned over carpark to west	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	High landscape significance	1	Slight canopy bias t the south Tagged as T10.
11	*Eucalyptus saligna* (Sydney Blue Gum)	22	9 x 12	440	440	480	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the SE	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Fair vigour	5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate landscape significance	2	The tree's past canopy development has been suppressed. Drainage pit in tree's SRZ. Kink in trunk at 6 metres - appears sound. At the time of inspection the tree was of fair vigour and exhibited reduced foliage density. Tagged as T13.
12	*Acmena smithii* (Lilly Pilly)	7	4	Up to 120 (240 above root flare)	240	240	Good foliage condition	Semi Mature	Multi trunked	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 1.4 metres	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	The tree displays fair branch attachment with multiple leaders from ground level - not considered to risk of failure in the short term. Tagged as T11
13	*Pittosporum undulatum* (Native Daphne, Sweet Pittosporum)	8	6	190	190	220	Fair foliage condition	Mature	Single trunk	Slight trunk lean to the SW	Majority of canopy to the SW	Lower limbs pruned in past to 2 metres	Appears stable	Sound branch attachment	Moderate health	Fair vigour	10%	Leaf miner present	2 Medium (15 to 40 years)	Moderate landscape significance	2	At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage density and moderate levels of dieback. Tagged as T12.
14	*Banksia integrifolia* (Coast Banksia)	8	3	60, 180	180	240	Fair foliage condition	Mature	Twin trunked	Distinct trunk lean to the SW for 3 metres then upright	Majority of canopy to the SW	Lower limbs pruned in past to 2.2 metres	Appears stable	Sound branch attachment	Moderate health	Fair vigour	5 to 10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Low landscape significance	3	At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage density and moderate levels of dieback. Tagged as T14.
15	*Eucalyptus saligna* (Sydney Blue Gum)	6	4	180	180	240	Fair foliage condition	Semi Mature	Single trunk	Distinct trunk lean to the NW	All canopy to the NW	Lower limbs pruned in past to 3 metres	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	Low to moderate landscape significance	3	At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage density and moderate levels of dieback. Tagged as T15.
16	*Glochidion ferdinandi* (Cheese Tree)	8	5	170, 270	330	320	Good foliage condition	Mature	Twin trunked	Slight trunk lean to the NW	All canopy to the NW	Lower limbs pruned in past to 3 metres	Appears stable	Fair branch attachment	Good health	Good vigour	5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate landscape significance	2	The tree's past canopy development has been significantly suppressed. Th tree displays fair branch attachment with codominant leaders from ground level - not considered at risk of failure in the short term. At the time of inspection the tree exhibited moderate levels of epicormic growth. Tagged as T15.
17	*Eucalyptus saligna* (Sydney Blue Gum)	22	9	420 x 480	450	610	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the NW	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Fair vigour	5 to 10%	Moderate to high tissue loss in lower NW trunk due to past Longicorn Beetle activity and dysfunctional tissue indicative of possible fungal canker	2 Medium (15 to 40 years)	Moderate to high landscape significance	2	Moderate to high tissue loss in lower NW trunk due to past Longicorn Beetle activity and dysfunctional tissue in lower trunk to 1.5 metres indicative of possible fungal canker. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback. Small to medium sized dead wood requires management. Tagged as T17.
18	*Eucalyptus saligna* (Sydney Blue Gum)	28	16	680 x 640	660	780	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Fair vigour	5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	High landscape significance	1	At the time of inspection the tree was of fair vigour and exhibited low levels of dieback and epicormic growth. Tagged as T19..
19	*Glochidion ferdinandi* (Cheese Tree)	4	4	70, 90	120	110	Good foliage condition	Semi Mature	Twin trunked	Distinct trunk lean to the east	All canopy to the east	Lower limbs pruned in past to 1.2 metres	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Low landscape significance	3	The tree's past canopy development has been significantly suppressed. Tagged as T18.

Tree No.	*Genus, Species (Common Name)*	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	ULE	Landscape Significance	Retention Value*	Comments
20	*Glochidion ferdinandi* (Cheese Tree)	6	6	120, 130, 180	325	320	Good foliage condition	Mature	Multi trunked	Slight trunk lean to the SE	All canopy to the SE	Lower limbs pruned in past to 2.5 metres	Appears stable	Fair branch attachment	Good health	Good vigour	5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Low to moderate landscape significance	3	The tree's past canopy development has been significantly suppressed. The tree displays fair branch attachment with codominant leaders from 0.3 metres and multiple leaders from 0.5 metres - not considered at risk of failure in the short term. At the time of inspection the tree exhibited low levels of dieback and evidence of recent mechanical damage to lower trunk tissue on the south side. Tagged as T16.
21	*Melaleuca linariifolia* (Flax Leaved Paperbark, Budjur)	7	3	160	160	180	Fair foliage condition	Semi Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 1.6 metres	Appears stable	Sound branch attachment	Moderate health	Fair vigour	5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Low to moderate landscape significance	3	Kink in trunk at 3.5 metres where conflict with T20 occurs. At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage size and density and low levels of dieback. Tagged as T21.
22	*Eucalyptus punctata* (Grey Gum)	16	6	270	270	310	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the west	No evidence of significant past pruning	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	The tree's past canopy development has been suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate to high levels of dieback and epicormic growth. Tagged as T20.
23	*Eucalyptus saligna* (Sydney Blue Gum)	22	6 x 12	300	300	340	Good foliage condition	Semi Mature	Single trunk	Slight trunk lean to the Se	All canopy to the Se	No evidence of significant past pruning	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	Th tree's past canopy development has been significantly suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate levels of dieback and epicormic growth. Tagged as T22.
24	*Eucalyptus saligna* (Sydney Blue Gum)	28	14	560 x 620	590	640	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 4 metres	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	High landscape significance	3	There is evidence of past wounding on the lower trunk to 1.8 metres on the north side - appears stable - monitoring recommended. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate to high levels of outer canopy dieback and epicormic growth. Tagged as T23.
25	*Eucalyptus saligna* (Sydney Blue Gum)	18	8	370	370	370	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the west	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Fair vigour	5 to 10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate to high landscape significance	2	The tree's past canopy development has been suppressed. There is evidence of past wounding in the lower trunk at 1.2 to 1.4 metres. At the time of inspection the tree was of fair vigour and exhibited low levels of dieback. Tagged as T24.
26	*Glochidion ferdinandi* (Cheese Tree)	8	7	140,160	225	280	Good foliage condition	Semi Mature	Twin trunked	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate landscape significance	2	At the time of inspection the tree was of fair vigour and exhibited moderate to high levels of epicormic growth. Tagged as T25
27	*Eucalyptus resinifera* (Red Mahogany)	23	10	420	420	470	Fair foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the south	Lower limb pruned at 5 metres	Appears stable	Fair branch attachment	Moderate health	Poor vigour	10 to 15%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	High landscape significance	3	At the time of inspection the tree was of moderate health and poor vigour and exhibited moderate to high levels of dieback and epicormic growth. Tagged as T26
28	*Eucalyptus saligna* (Sydney Blue Gum)	32	20	680	680	840	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the south	Lower limbs pruned in past to 2 metres	Appears stable	Fair to poor branch attachment	Good health	Good vigour	5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	High landscape significance	1	Slight canopy bias to the south. The tree displays fair to poor branch attachment with multiple leaders from 4 metres with evidence of poor attachment at the junction - the junction is a weak point in the tree's structure with increased risk of failure - while not considered at risk of failure in the short term an aerial inspection/further investigation of the junction to check structural integrity is recommended. Small to medium sized deadwood over carpark requires management. Tagged as T27.
29	*Glochidion ferdinandi* (Cheese Tree)	6	3 x 6	Up to 180 (340 above root flare)	340	340	Good foliage condition	Mature	Multi trunked	Distinct trunk lean to the NW	All canopy to the NW	Lower limbs pruned in past to 2 metres	Appears stable	Fair branch attachment	Good health	Fair vigour	5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Low to moderate landscape significance	3	The tree's past canopy development has been significantly suppressed. Tagged as T28.

Tree No.	*Genus, Species (Common Name)*	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	ULE	Landscape Significance	Retention Value*	Comments
30	*Glochidion ferdinandi* (Cheese Tree)	9	9 x 12	Up to 230 (460 x 520 above root flare)	490	490	Good foliage condition	Mature	Multi trunked	Upright trunk	Majority of canopy on an east x west axis	Lower limbs pruned in past to 3 metres	Appears stable	Fair to poor branch attachment	Good health	Fair vigour	5 to 10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	Slight canopy bias to E x W axis. The tree displays fair to poor branch attachment with multiple leaders from 0.6 metres with evidence of poor attachment at the junction - the junction is a weak point in the tree's structure with increased risk of failure but is not considered at risk of failure in the short term. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback and epicormic growth. Tagged as T29?
31	*Eucalyptus scoparia* (Wallangarra White Gum, Willow Gum)	12	12	510	510	620	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 6 metres	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate to high landscape significance	2	The tree displays fair branch attachment with codominant leaders from 2.2 metres - not considered at risk of failure in the short term. At the time of inspection the tree exhibited low levels of epicormic growth.
32	*Angophora costata* (Smooth Barked Apple, Sydney Red Gum)	11	10	380	380	460	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 4 metres	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate to high landscape significance	2	
ca = approximate diameter at breast height (DBH) estimated from nearest property boundary or fence where trees were located on adjoining properties																						
* Retention Values: 1 - High (Priority for retention); 2 - Moderate (Consider for retention); 3 - Low or short ULE (Not warranting specific design consideration) and 4 - Remove (very short ULE, structurally unsound, weed species etc.)																						

COUNCIL CARPARK

(R) BENEFITED BY EASEMENT FOR DRAINAGE - VIDE B994642
(W) AFFECTED BY RIGHT OF CARRIAGEWAY VARIABLE WIDTH D.P.'S 863564 AND 863565
(Y) AFFECTED BY COVENANT A700142

DP 1132641 29
DP 1132641 22
DP 529942 23
DP 529942 1
DP 529942 2
DP 529942 16
DP 1320112 1
DP 1320112 2
DP 99512 2

BITUMEN EDGE OF
EBLP
CAR SPACES
SIGN
DRIVEWAY CONCRETE (RAMP)
CARPARK ENTRY
180° 00' 2
74.290
WH 75.60
WS 75.62
TW 74.80
TW 74.32
TW 73.80
TW 73.79
FFL R.L.73.595
STEPS 73.56
72.64 PIT
BOL
90° 00' 00"
0.120
TROLLEY BAYS
CONCRETE VEHICLE RAMP
0° 00' 00"
18.200
FFL R.L.73.435
SPEED HUMP
DRAIN
PATH
HAND RAIL
CONCRETE
FENCE
TIMBER
PALING
COLOURBOND
CONCRETE DRIVEWAY
(W)
(Y)

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 T27 T28 T29 T30

NOTES:

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2. BEARINGS AND DISTANCES OF BOUNDARIES ARE BY TITLE AND/OR DEED ONLY.
3. CONSTRUCTION WORKS MUST BE RELATED TO THE BENCHMARK AND NOT LEVELS OF STRUCTURES SHOWN ON THE PLAN.
4. LIMITED BOUNDARY SURVEY MADE. IF CONSTRUCTION OR DESIGN OF ANY NEW STRUCTURE IS INTENDED WITHIN PROXIMITY OF THE BOUNDARIES OR LOCAL GOVERNMENT REQUIREMENTS, A FURTHER SURVEY SHOULD BE REQUESTED TO MARK BOUNDARIES AND/OR DIMENSION WALL TO BOUNDARY DISTANCES.
5. THE TREE TRUNKS SHOWN ARE DIAGRAMMATIC ONLY. THE TRUE TRUNK DIAMETERS ARE STATED IN THE PLAN. TREE SPREADS & TRUNK RADIUS SHOWN ARE DIAGRAMMATIC ONLY AND TREE HEIGHTS ARE ESTIMATED. IF ANY OF THESE ELEMENTS ARE CRITICAL TO DESIGN (IN PARTICULAR DRIP LINES) MORE SPECIFIC DETAILS SHOULD BE REQUESTED FOR ACCURATE LOCATION.
6. CONTOURS ARE APPROXIMATE ONLY, SPOT LEVELS SHOULD BE USED IN REFERENCE TO CONTOUR LEVELS. FEATURES AND LEVELS CRITICAL TO DESIGN SHOULD BE LOCATED BY A MORE ACCURATE SURVEY. ALL SET OUT WITH REGARD TO LEVELS SHOULD REFER TO THE BENCHMARK.
7. NO SERVICES SEARCH HAS BEEN CARRIED OUT FOR THIS SURVEY. SERVICES SHOWN ARE INDICATIVE ONLY. POSITIONS ARE BASED ON SURFACE INDICATORS LOCATED DURING SURVEY. APPROPRIATE DIAL BEFORE YOU DIG SEARCHES SHOULD BE CARRIED OUT PRIOR TO ANY CONSTRUCTION TAKING PLACE. SEE DIAL BEFORE YOU DIG CONTACT INFORMATION ON THIS PLAN.
8. THIS SURVEY IS FOR CONTOUR AND DETAIL PURPOSES ONLY AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE

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PREPARED BY:

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consulting surveyors, planners & engineers
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www.geosurv.com.au

PREPARED FOR: design group

PLAN SHOWING:

DETAIL SURVEY
No 56-60 BURNS BAY ROAD,
LANE COVE

TRUE NORTH MM

LEGEND:

BM	BENCHMARK	WH	WINDOW HEAD
TEL	TELSTRA PIT	WS	WINDOW SILL
WM	WATER METER	TOG	TOP OF GUTTER
GM	GAS METER	BK	BACK OF KERB
PP	POWER POLE	TK	TOP OF KERB
LP	LIGHT POLE	(.2, 5, 7)	TREE (TRUNK DIAM, SPREAD, HEIGHT)
			COLUMN
			WALL STRUCTURE
			BUILDING STRUCTURE

ORIGINAL SIZE: A0

SCALE:	1:100	CO-ORD:	-
LOCALITY:	LANE COVE	LGA:	LANE COVE
DATUM:	AHD	ORIGIN:	SSM 37225
DATE OF SURVEY:	7/06/2016	DATE OF PLAN:	8/06/2016
SURVEY BY:	CZ	DRAWN BY:	LJL
CHECKED BY:	CZ	DATE:	22/06/2016
APPROVED BY:	MJC	DATE:	22/06/2016
PLAN REF:	160265_C8-[DT]	SHEET:	2 OF 4 SHEETS

Cad File No: 160265_C8-[DT].dwg
Plot Date: 8 February 2018 - 1:52 PM

COUNCIL CARPARK

(R) BENEFITED BY EASEMENT FOR DRAINAGE - VIDE B994642
(W) AFFECTED BY RIGHT OF CARRIAGEWAY VARIABLE WIDTH D.P.'S 863564 AND 863565
(Y) AFFECTED BY COVENANT A700142

BURNS BAY ROAD

T32 (.4, 8, 10)

T31 (.7, 11, 12)

BM

DP 863565

DP 591036

DP 1132641

DP 599757

No. 62 MULTI LEVEL CONCRETE RETAIL METAL ROOF

No. 56-60 MULTI STOREY CONCRETE RETAIL METAL ROOF

No. 46 THREE STOREY BRICK UNITS TILE ROOF

5.300 278° 44' 00"

74.290 180° 00' 20"

19.000 285° 39' 20"

19.000 292° 33' 10"

2.105 296° 00' 30"

60.155 359° 59' 30"

45.610 90° 00' 00"

NOTES:

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PREPARED FOR: design group

PLAN SHOWING:

DETAIL SURVEY
No 56-60 BURNS BAY ROAD,
LANE COVE

TRUE NORTH

LEGEND:

BM	BENCHMARK	WH	WINDOW HEAD
TEL	TELSTRA PIT	WS	WINDOW SILL
WM	WATER METER	TOG	TOP OF GUTTER
GM	GAS METER	BK	BACK OF KERB
PP	POWER POLE	TK	TOP OF KERB
LP	LIGHT POLE	(.2, 5, 7)	TREE (TRUNK DIAM, SPREAD, HEIGHT)
			COLUMN
			WALL STRUCTURE
			BUILDING STRUCTURE

ORIGINAL SIZE: A0

SCALE:	1:100	CO-ORD:	-
LOCALITY:	LANE COVE	LGA:	LANE COVE
DATUM:	AHD	ORIGIN:	SSM 37225
DATE OF SURVEY:	7/06/2016	DATE OF PLAN:	31/01/2018
SURVEY BY:	MW	DRAWN BY:	SC
CHECKED BY:	GP	DATE:	31/01/2018
APPROVED BY:	GP	DATE:	31/01/2018
PLAN REF:	160265_C8-[DT]	SHEET:	3 OF 4 SHEETS

Cad File No: 160265_C8(DT).dwg
Plot Date: 8 February 2018 - 1:53 PM