



ARBORICULTURAL DEVELOPMENT IMPACT ASSESSMENT REPORT

100 Botany Road, Alexandria NSW

REVISION D

17th September 2024

**Prepared for
Kurraba**

Prepared by

Birds Tree Consultancy

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Executive Summary

This Arboricultural Development Impact Assessment Report has been commissioned by Kurraba to report on trees adjacent to the site of 100 Botany Road, Alexandria NSW. The subject trees are located within the public domain, adjacent to the boundaries of this site. This site is currently existing commercial properties with existing commercial buildings present. The site is proposed for redevelopment including redevelopment of 100 Botany Road for a new health research facility, associated public domain and landscape works. This report has been commissioned to outline the health, condition and stability of these trees as well as their viability for retention within the scope of the proposed development. The scope of this report includes all trees within areas that may be impacted by the proposed development.

The subject Trees are preserved under Section 3.5.3 of City of Sydney Development Control Plan 2012. Trees 1, 3, 5, 6, 7, 8 and 11 are species that are representative of preferred species in City of Sydney Street Tree Master Plan 2023.

Tree 3 is in poor and declining condition and consequently has reduced retention value.

Tree 2 is encroached by the proposed construction and required earthworks by a major encroachment as defined by *AS4970-2009 Protection of Trees on Development Sites*. This tree will not be viable to be retained and will be required to be removed due to the proposed development.

Trees 3 and 4 are totally encroached by the proposed public domain pavement. These trees will not be viable to be retained and will be required to be removed due to the proposed development.

The TPZ of Trees 9 and 10 is encroached by the proposed crossing construction and required earthworks by a major encroachment as defined by *AS4970-2009 Protection of Trees on Development Sites*. Additionally the Structural Root Zones (SRZ) of these trees will be impacted which will impact the stability of these trees. The crown of these two trees will impact proposed vehicular traffic through this proposed crossing. These trees will not be viable to be retained and will be required to be removed due to the proposed development.

The crown of Tree 11 extends to the property boundary. The crown will not be impacted by the proposed building however this crown will be impacted by the required scaffolding and hoarding. Crown reduction pruning will be required to clear this crown from scaffold and hoarding. Total crown reduction pruning is to not exceed 10% of the existing crown. All pruning is to be in accordance with the site specific pruning specification that is required to be prepared by the Project Arborist.

All other trees are viable to be retained and are to be protected as defined below.

Recommendations for tree retention or removal are summarised as follows:

Tree no.	Species	Recommendations	Comments
1.	<i>Lophostemon confertus</i>	Retain	Viable to be retained and protected in accordance with 8.0.

2.	<i>Celtis occidentalis</i>	Remove	Not viable to be retained due to the proposed development.
3.	<i>Lophostemon confertus</i>	Remove	Not viable to be retained due to the proposed development.
4.	<i>Robinia pseudoacacia</i>	Remove	Not viable to be retained due to the proposed development.
5.	<i>Lophostemon confertus</i>	Retain	Viable to be retained and protected in accordance with 8.0.
6.	<i>Lophostemon confertus</i>	Retain	Viable to be retained and protected in accordance with 8.0.
7.	<i>Lophostemon confertus</i>	Retain	Viable to be retained and protected in accordance with 8.0.
8.	<i>Jacaranda mimosifolia</i>	Retain	Viable to be retained and protected in accordance with 8.0.
9.	<i>Lophostemon confertus</i>	Remove	Not viable to be retained due to the proposed development.
10.	<i>Lophostemon confertus</i>	Remove	Not viable to be retained due to the proposed development.
11.	<i>Jacaranda mimosifolia</i>	Retain	Viable to be retained and protected in accordance with 8.0.
12.	<i>Tristaniopsis laurina</i>	Retain	Viable to be retained and protected in accordance with 8.0.

Summary of Mitigation Measures

ID	Mitigation measure
Arboricultural Management	
AM1	Trees 1, 5, 6, 7, 8, 9, 10, 11, and 12 to be retained and protected in accordance with sections 8, 9 and 10 of this report.
AM2	Where required to provide clearance from hoarding and scaffolding, crown reduction pruning is to be conducted in accordance with AS4970-2007 Pruning of Amenity Trees on Development Sites, by Arborists with minimum qualifications AQF3 under the direction and supervision of the Project Arborist. Crown Reduction pruning is not to exceed 10% of the volume of the crown.

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1.0 Scope of Works

1.1 Introduction

This Arboricultural Impact Assessment Report has been prepared on behalf of the Kurraba Group (the Proponent) by Birds Tree Consultancy. It is submitted to the Department of Planning, Housing and Infrastructure (DPHI) in support of a State Significant Development Application (SSDA) SSD-63067458 for the construction of a new health research facility located at 74-108 Botany Road and 86-100 Wyndham Street, Alexandria (herein referred to as 100 Botany Road or the site).

1.2 Scope of Works

This Arboricultural Development Impact Assessment Report has been commissioned by Kurraba to report on trees within the public domain, adjacent to the site of 100 Botany Road, Alexandria NSW. It has been commissioned to outline the health, condition and stability of these trees as well as their viability for retention within the scope of the proposed development. The scope of this report includes all trees within areas that may be impacted by the proposed development.

On the 21st of May 2024, Glenn Bird of Birds Tree Consultancy attended site and inspected the subject trees from the ground. 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 site is located at 74-108 Botany Road and 86-100 Wyndham Street, Alexandria (commonly referred to as 100 Botany Road). The site is made up of six (6) different allotments has a total approximate area of 5,350.6m². The following lots make up the site:

- Lot 2 DP 136012
- Lot 11 DP 219505
- Lot 11 DP 135914
- Lot 2 DP 659166
- Lot 1 DP 510091
- Lot 3 DP 1146614

The site has a frontage to Botany Road to the east and Wyndham Street to the west. Part of Wyndham Lane runs through the middle of the site.

The site forms part of the recently rezoned Botany Road Precinct, which will be transformed into a vibrant mixed-use precinct that will accommodate employment growth in the Redfern-Waterloo area. The site is opposite the Waterloo Metro Station and its future over station development which is currently under construction.

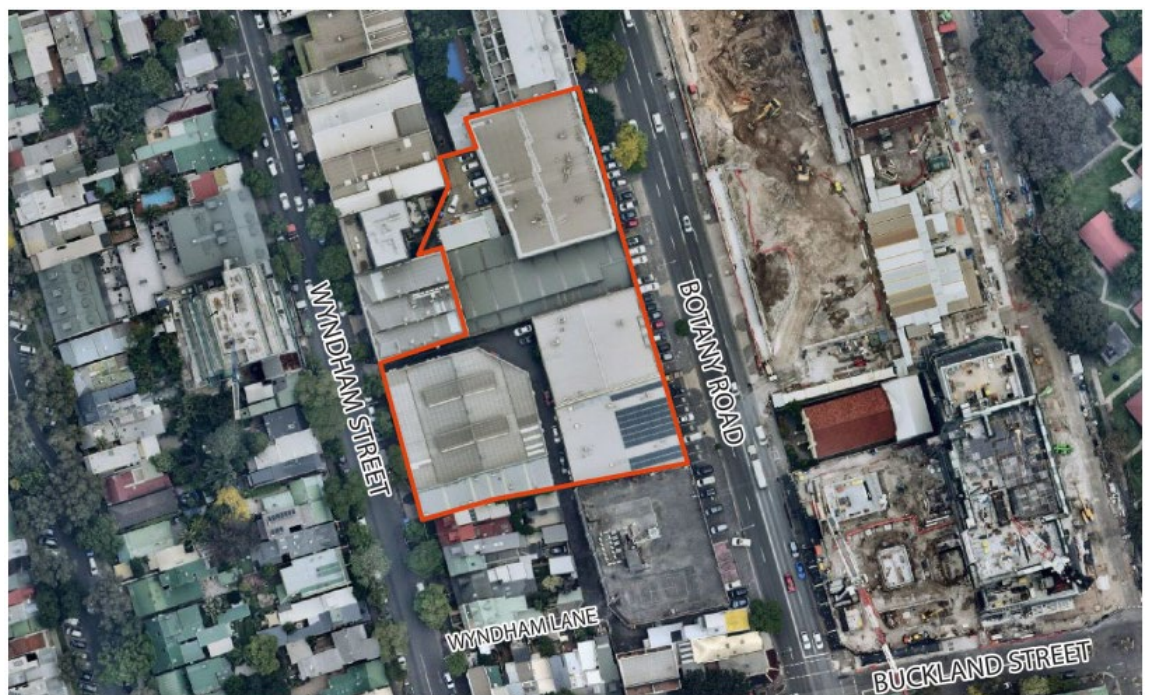
The proposed development will seek consent for the redevelopment of 100 Botany Road for a new health research facility. Specifically, the SSDA seek approval for:

- Demolition of all existing buildings, site preparation and remediation works.

- Bulk excavation to create two (2) levels of basement with access from Wyndham Street, including allowance for a below ground Proton Therapy Cancer Treatment Centre, car parking, loading and services.
- Construction and use of two (2) new health research buildings. One (1) building is proposed along Botany Road which has a stepped built form between seven (7) storeys to the south and eleven (11) storeys to the north. One (1) building is proposed along Wyndham Street which is five (5) storeys. The two (2) buildings will include the following:
 - Ground floor lobby and retail uses fronting Botany Road and Wyndham Street.
 - Proton Therapy patient lobby from Wyndham Street.
 - Various laboratories, write up areas and office spaces.
 - A series of outdoor landscaped terraces within the Botany Road building.
 - One (1) rooftop plant level on each building.
- Landscaping and public domain works including:
 - Construction and extension of Wyndham Lane as a shared laneway.
 - Construction of a pedestrian network including two (2) pathways from Botany Road and an east-west through-site link.
- Extension and augmentation of services and utilities to the development, as required.

Refer to the Environmental Impact Statement for a detailed description of the proposed development.

Refer to the Environmental Impact Statement for a detailed description of the proposed development.



 Site Boundaries



Figure 1 - The Site

2.2 Secretary's Environmental Assessment Requirements

In accordance with section 4.39 of the Environmental Planning & Assessment Act 1979 (EP&A Act), Secretary's Environmental Assessment Requirements (SEARs) for SSD-63067458 were issued on 16 January 2024. This report has been prepared to respond to the relevant issued SEARs, as set out in the table below.

SEAR	Response / Location in report
8. Trees and Landscaping - Assess the number, location, condition and significance of trees to be removed and retained and note any existing canopy coverage to be retained on-site. - Provide a detailed site-wide landscape plan, that: - details the proposed site planting, including location, number and species of plantings, heights of trees at maturity and proposed canopy coverage (as a percentage of the site area). - provides evidence that opportunities to retain significant trees have been explored and/or informs the plan. - demonstrates how the proposed development would: - contribute to long term landscape setting in respect of the site and streetscape. - mitigate the urban heat island effect and ensure appropriate comfort levels on-site. - contribute to the objective of increased urban tree canopy cover. - maximise opportunities for green infrastructure, consistent with Greener Places and having regard to any bush fire risk.	Sections 3, 4, 5, 6, 7. Refer to Landscape Design Section 6. Refer to Landscape Design

2.2 Documentation

This Development Impact Assessment Report has been compiled based on the following documentation provided:

1. Gensler Site Diagram – GEN-BO-XX-D-A-0104 Revision 2 dated 13/09/2024.
2. Gensler Proposed Site Plan – GEN-BO-XX-D-A-0200 Revision 2 dated 13/09/2024.
3. Gensler General Arrangement Plan – GEN-BO-XX-D-A-1210 Revision 2 dated 13/09/2024.
4. Aspect Studios General Arrangement and Levels Plan – Ground Level LA101 Rev B Dated 05/07/2024.

2.3 Topography

The site is relatively flat. Refer to detailed survey for detailed levels.

2.4 Identification

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

2.5 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 C.

3.1. Tree 1. *Lophostemon confertus*

This mature tree is approximately 10m tall with a canopy spread of 9m. It has a single trunk with a diameter at breast height (DBH) of 370mm. This tree is in good health and condition with minimal deadwood and epicormic growth.



Figure 2 - Tree 1

3.2. Tree 2. *Celtis occidentalis*

This mature tree is approximately 13m tall with a canopy spread of 13m. It has multiple co-dominant trunks from the base with an aggregate DBH of 527mm. This tree is in good

health and condition, with minimal deadwood and epicormic growth. This tree is located immediately adjacent to the existing building.



Figure 3 - Tree 2 immediately adjacent building

3.3. Tree 3. *Lophostemon confertus*

This semi-mature tree is approximately 5m tall with a canopy spread of 2m. It has a single trunk with a DBH of 90mm. This tree is in poor health and condition, with minimal deadwood. It is entirely defoliated.



Figure 4 - Tree 3 poor condition

3.4. Tree 4. *Robinia pseudoacacia*

This mature tree is approximately 13m tall with a canopy spread of 9m. It has a single trunk with a DBH of 330mm. This tree is in good health and condition, with minimal deadwood and epicormic growth.

3.5. Tree 5. *Lophostemon confertus*

This mature tree is approximately 9m tall with a canopy spread of 5m. It has a single trunk with a DBH of 180mm. This tree is in good health and condition, with minimal deadwood and epicormic growth.

3.6. Tree 6. *Lophostemon confertus*

This mature tree is approximately 8m tall with a canopy spread of 5m. It has a single trunk with a DBH of 240mm. This tree is in good health and condition, with minimal deadwood and epicormic growth.

3.7. Tree 7. *Lophostemon confertus*

This semi-mature tree is approximately 6m tall with a canopy spread of 2m. It has a single trunk with a DBH of 100mm. This

tree is in good health and condition, with minimal deadwood and epicormic growth.



3.8. Tree 8.

Jacaranda mimosifolia

This mature tree is approximately 10m tall with a canopy spread of 6m. It has a single trunk with a DBH of 210mm. This tree is in good health and condition, with minimal deadwood and epicormic growth.

3.9. Tree 9.

Lophostemon confertus

This mature tree is approximately 10m tall with a canopy spread of 8m. It has a single trunk with a DBH of 400mm. This tree is in good health and condition, with minimal deadwood and epicormic growth.

3.10. Tree 10.

Lophostemon confertus

This mature tree is approximately 9m tall with a canopy spread of 7m. It has a single trunk with a DBH of 230mm. This tree is in good health and condition, with minimal deadwood and epicormic growth.

3.11. Tree 11.

Jacaranda mimosifolia

This mature tree is approximately 10m tall with a canopy spread of 7m. It has a single trunk with a DBH of 220mm. This

tree is in good health and condition, with minimal deadwood and epicormic growth.

3.12. Tree 12. *Tristaniopsis laurina*

This mature tree is approximately 9m tall with a canopy spread of 6m. It has a single trunk with a DBH of 190mm. This tree is in good health and condition, with minimal deadwood and epicormic growth.

4.0 Landscape Significance of Trees

4.1 Landscape Significance

The significance of a tree within the landscape is a factor of the health and condition of the tree, vitality, the form of the tree, environmental, cultural, amenity and heritage value.

4.2 Methodology of Determining Landscape Significance

For the purpose of this report, the Significance of a Tree, Assessment Rating System (STARS) as developed by the Institute of Australian Consulting Arborists (IACA) has been implemented. Please refer to Appendix A for greater detail of this assessment system. This system defines Landscape Significance for individual trees as High, Medium or Low Significance.

4.3 Landscape Significance of Subject Trees

Based on our assessment of the subject trees and implementation of the IACA Significance of a Tree, Assessment Rating System, the Landscape Significance of the Subject Trees was determined as shown in Table 1.

Tree no.	Species	Landscape Significance
1.	<i>Lophostemon confertus</i>	Medium
2.	<i>Celtis occidentalis</i>	Low
3.	<i>Lophostemon confertus</i>	Medium
4.	<i>Robinia pseudoacacia</i>	Medium
5.	<i>Lophostemon confertus</i>	Medium
6.	<i>Lophostemon confertus</i>	Medium
7.	<i>Lophostemon confertus</i>	Medium
8.	<i>Jacaranda mimosifolia</i>	Medium
9.	<i>Lophostemon confertus</i>	Medium
10.	<i>Lophostemon confertus</i>	Medium
11.	<i>Jacaranda mimosifolia</i>	Medium
12.	<i>Tristaniopsis laurina</i>	Medium

Table 1 - Landscape Significance

5.0 Subject Tree Retention Value

5.1 Tree Retention Value Methodology

For the purpose of this report, the Tree Retention Values have been assessed by incorporating Landscape Significance Values as determined in 4.0 with the Useful Life Expectancy of the subject trees and assessing the retention values based on the Tree Retention Value Priority Matrix as developed by the Institute of Australian Consulting Arborists (IACA). Please refer to Appendix B for greater detail on this Tree Retention Value Priority Matrix. This matrix defines Landscape Significance for individual trees as High, Medium or Low Retention Value as well as Priority for Removal.

5.2 Retention Value of Subject Trees

Based on our assessment of the subject trees and implementation of the IACA Tree Retention Value Priority Matrix, the Retention Values of the Subject Trees were determined as shown in Table 2.

Tree no.	Species	Retention Value
1.	<i>Lophostemon confertus</i>	Medium
2.	<i>Celtis occidentalis</i>	Low
3.	<i>Lophostemon confertus</i>	Medium
4.	<i>Robinia pseudoacacia</i>	Medium
5.	<i>Lophostemon confertus</i>	Medium
6.	<i>Lophostemon confertus</i>	Medium
7.	<i>Lophostemon confertus</i>	Medium
8.	<i>Jacaranda mimosifolia</i>	Medium
9.	<i>Lophostemon confertus</i>	Medium
10.	<i>Lophostemon confertus</i>	Medium
11.	<i>Jacaranda mimosifolia</i>	Medium
12.	<i>Tristaniaopsis laurina</i>	Medium

Table 2 – Tree Retention Value

6.0 Impact of Development

6.1 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.

6.2 Structural Root Zone

Structural Root Zone (SRZ) is defined by AS4970-2009 as the area of root development required for the structural stability of the tree. The SRZ is required to be assessed only when an encroachment greater than 10% is considered.

Tree no.	Species	TPZ Radius (m)	Encroachment (%)	SRZ Radius (m)
1.	<i>Lophostemon confertus</i>	4.44	0	2.37
2.	<i>Celtis occidentalis</i>	6.33	100	2.67
3.	<i>Lophostemon confertus</i>	2	100	1.31
4.	<i>Robinia pseudoacacia</i>	3.96	100	2.3
5.	<i>Lophostemon confertus</i>	2.16	0	2
6.	<i>Lophostemon confertus</i>	2.88	0	2
7.	<i>Lophostemon confertus</i>	2	0	1.79
8.	<i>Jacaranda mimosifolia</i>	2.52	0	2
9.	<i>Lophostemon confertus</i>	4.8	25	2.47
10.	<i>Lophostemon confertus</i>	2.76	30	2
11.	<i>Jacaranda mimosifolia</i>	2.64	0	2.13
12.	<i>Tristanopsis laurina</i>	2.28	0	1.94

7.0 Recommendations

7.1 Recommendations

The subject Trees are preserved under Section 3.5.3 of City of Sydney Development Control Plan 2012. Trees 1, 3, 5, 6, 7, 8 and 11 are species that are representative of preferred species in City of Sydney Street Tree Master Plan 2023.

Tree 3 is in poor and declining condition and consequently has reduced retention value.

The Tree Protection Zones (TPZ) of Tree 2 is encroached by the proposed construction and required earthworks by a major encroachment as defined by AS4970-2009 *Protection of Trees on Development Sites*. This tree will not be viable to be retained and will be required to be removed due to the proposed development.

The TPZ of Trees 3 and 4 are totally encroached by the proposed public domain pavement. These trees will not be viable to be retained and will be required to be removed due to the proposed development.

The TPZ of Trees 9 and 10 is encroached by the proposed crossing construction and required earthworks by a major encroachment as defined by *AS4970-2009 Protection of Trees on Development Sites*. Additionally the Structural Root Zones (SRZ) of these trees will be impacted which will impact the stability of these trees. The crown of these two trees will impact proposed vehicular traffic through this proposed crossing. These trees will not be viable to be retained and will be required to be removed due to the proposed development.

The crown of Tree 11 extends to the property boundary. The crown will not be impacted by the proposed building however this crown will be impacted by the required scaffolding and hoarding. Crown reduction pruning will be required to clear this crown from scaffold and hoarding. Total crown reduction pruning is to not exceed 10% of the existing crown. All pruning is to be in accordance with the site specific pruning specification that is required to be prepared by the Project Arborist.

All other trees are viable to be retained and are to be protected as defined below.

Recommendations for tree retention or removal are summarised as follows:

Tree no.	Species	Recommendations	Comments
1.	<i>Lophostemon confertus</i>	Retain	Viable to be retained and protected in accordance with 8.0.
2.	<i>Celtis occidentalis</i>	Remove	Not viable to be retained due to the proposed development.
3.	<i>Lophostemon confertus</i>	Remove	Not viable to be retained due to the proposed development.
4.	<i>Robinia pseudoacacia</i>	Remove	Not viable to be retained due to the proposed development.
5.	<i>Lophostemon confertus</i>	Retain	Viable to be retained and protected in accordance with 8.0.
6.	<i>Lophostemon confertus</i>	Retain	Viable to be retained and protected in accordance with 8.0.
7.	<i>Lophostemon confertus</i>	Retain	Viable to be retained and protected in accordance with 8.0.
8.	<i>Jacaranda mimosifolia</i>	Retain	Viable to be retained and protected in accordance with 8.0.
9.	<i>Lophostemon confertus</i>	Remove	Not viable to be retained due to the proposed development.
10.	<i>Lophostemon confertus</i>	Remove	Not viable to be retained due to the proposed development.

11.	<i>Jacaranda mimosifolia</i>	Retain	Viable to be retained and protected in accordance with 8.0.
12.	<i>Tristaniopsis laurina</i>	Retain	Viable to be retained and protected in accordance with 8.0.

7.2 Summary of Mitigation Measures

ID	Mitigation measure
Arboricultural Management	
AM1	Trees 1, 5, 6, 7, 8, 9, 10, 11, and 12 to be retained and protected in accordance with sections 8, 9 and 10 of this report.
AM2	Where required to provide clearance from hoarding and scaffolding, crown reduction pruning is to be conducted in accordance with AS4970-2007 Pruning of Amenity Trees on Development Sites, by Arborists with minimum qualifications AQF3 under the direction and supervision of the Project Arborist. Crown Reduction pruning is not to exceed 10% of the volume of the crown.

8.0 Pre-Construction Tree Protection Measures

8.1 General

All tree protection works shall be carried out before excavation, grading and site works commence. Tree protection works shall be inspected and approved by a Consulting Arborist meeting AQF Level 5 prior to construction works commencing. Prior to works commencing, a Site Specific Tree Protection Plan is to be developed by the Project Arborist.

Storage of materials, mixing of materials, vehicle parking, disposal of liquids, machinery repairs and refueling, site office and sheds, and the lighting of fires, stockpiling of soil, rubble or any debris shall not be carried out within the TPZ of existing trees. No backfilling shall occur within the TPZ of existing trees. Trees shall not be removed or lopped unless specific instruction is given in writing by the Superintendent.

8.2 Identification

All trees to be protected shall be clearly identified and all TPZs surveyed.

8.3 Project Arborist

Prior to all site works commencing, a Project Arborist is to be appointed with the responsibility of implementing all Tree Protection Measures in this report as well as compliance with AS4970-2009 Protection of Trees on Development Sites. The Site Arborist is to hold qualifications equivalent of AQF Level 5.

8.4 Protective Fence

Fencing is to be erected around existing trees to be retained. In addition to this protective fencing within the site, Protective Fencing is to be installed to the full extent of the TPZs within the site. This fencing is to be erected prior to any materials being brought on site or before any site, civil works or construction works commence. The fence shall enclose a sufficient area so as to prevent damage to the TPZ as defined on Appendix D Tree Protection Plan and as defined in 5.1 above. Fence to comprise 1800mm high chain wire mesh fixed to 50mm diameter Galvanised steel posts. Panels should be securely fixed top and bottom to avoid separation. No storage of building

materials, tools, paint, fuel or contaminants and the like shall occur within the fenced area.

8.5 Mulching

Install mulch to the extent of all tree protection fencing. Use a leaf mulch conforming to AS 4454 which is free of deleterious and extraneous matter such as soil, weeds, sticks and stones and consisting of a minimum of 90% recycled content compliant with AS 4454 (1999) and AS 4419 (1998). All trees marked as to be removed on the proposed development are to be chipped and reused for this purpose. Place mulch evenly and to a depth of 100mm.

8.6 Signage

Prior to works commencing, tree protection signage is to be attached to each tree protection zone, displayed in a prominent position and the sign repeated at 10 metres intervals or closer where the fence changes direction. Each sign shall contain in a clearly legible form, the following information:

Tree protection zone.

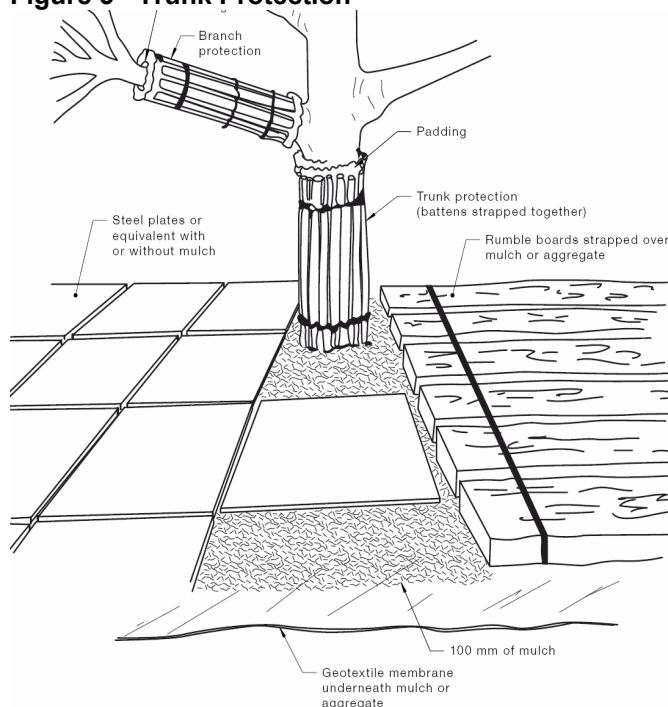
- This fence has been installed to prevent damage to the trees and their growing environment both above and below ground and access is restricted.
- No Access within Tree Protection Zone
- The name, address, and telephone number of the developer.

The name and telephone number of the Site Arborist.

8.7 Trunk and Branch Protection

Where a tree is to be retained and a Tree Protection Zone cannot be adequately established due to restricted access, the trunk and branches in the lower crown will be protected by wrapping 2 layers of hessian or carpet underfelt around the trunk and branches for a minimum of 2 m or as lower branches permit, then metal strapping secures 38x50 x2000 mm timber battens together around the trunk (do not nail or screw to the trunk or branches). The number of battens to be used is as required to

Figure 5 - Trunk Protection



encircle the trunk and the battens are to extend to the base of the tree (AS4970 2009 Protection of trees on development sites, Figure 3 Examples of Trunk, Branch and ground protection).

9.0 Site Management Issues

9.1 Soil Compaction

Plant and pedestrian traffic during the construction period will cause significant soil compaction. This will be exacerbated by increased water expected on these soils as result of adjacent construction and weather. Compaction of the soil within the TPZ will reduce the voids between soil peds or particles therefore will reduce the gaseous exchange capacity of the root system which will slow critical metabolic processes. No pedestrian or plant access is permissible to the TPZ.

9.2 Site Access

Sufficient access is required to enable efficient construction. It is essential to delineate access zones or corridors which will provide suitable access without damaging the existing trees to be retained or causing compaction to the root zone.

9.3 Excavation within Tree Protection Area

No excavation is to be carried out within the TPZs of retained trees without the permission and supervision of the Site Arborist (AQF5)

9.4 Possible Contamination / Storage of Materials

The construction site will require the use of many chemicals and materials that are possible contaminants which if not managed will pose a risk to the existing trees. These possible contaminants include fuels, herbicides, solvents and the like. A site-specific Environmental Management Plan shall be provided, and this specific risk identified and addressed.

10.0 Tree Protection Measures During Construction

10.1 Maintenance of Pre-Construction Tree Protection Measures

The Pre-Construction Tree Protection Measures identified in 5.0 above are to be maintained in good and serviceable condition throughout the construction period.

10.2 Possible Contaminants

Do not store or otherwise place bulk materials and harmful materials under or near trees. Do not place spoil from excavations within the TPZs. Prevent wind-blown materials such as cement from harming trees. All possible contaminants are to be stored in a designated and appropriate area with secure chemical spill measures such as a bund in place.

10.3 Physical Damage

Prevent damage to tree. Do not attach stays, guys and the like to trees. No personnel, plant, machinery or materials are to be allowed within the tree protection fencing.

10.4 Compaction

No filling or compaction shall occur over tree roots zones within tree protection fenced areas. Where construction occurs close to or the TPZ of trees to be retained it shall be necessary to install protection to avoid compaction of the ground surface. This protection is to be planks supported clear of the ground fixed to scaffolding.

10.5 Trenching

No Trenching should be necessary within the TPZs or within tree protection fencing. No further trenching is to be carried out without the approval of the Site Arborist. Should any further trenching be required within the TPZs identified, this work is to be carried out by hand and under the supervision of a qualified Arborist.

10.6 Irrigation/Watering

Contractor is to ensure that soil moisture levels are adequately maintained. Apply water at an appropriate rate suitable for the species during periods of little or no rainfall.

10.7 Site Sheds / Amenities/ Storage

Site sheds, site amenities, ablutions and site storage shall be in the area clear of all TPZ. Chemicals and potential contaminants are to be stored appropriately and this storage area is to be enclosed by a chemical spill bund to prevent the potential run off of contaminants in the event of a spillage or accident.

11.0 Environmental / Heritage/ Legislative Considerations

None of the subject trees are identified as threatened species or elements of endangered ecological communities within the NSW Biodiversity Conservation Act 2016.

12.0 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

13.0 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.

IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the *Tree Significance - Assessment Criteria* and *Tree Retention Value - Priority Matrix*, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of *High*, *Medium* and *Low* significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined.

Tree Significance - Assessment Criteria



1. High Significance in landscape

- The tree is in good condition and good vigour;
- The tree has a form typical for the species;
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register;
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa *in situ* - tree is appropriate to the site conditions.

2. Medium Significance in landscape

- The tree is in fair-good condition and good or low vigour;
- The tree has form typical or atypical of the species;
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
- The tree provides a fair contribution to the visual character and amenity of the local area,
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa *in situ*.

3. Low Significance in landscape

- The tree is in fair-poor condition and good or low vigour;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa *in situ* - tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.

Environmental Pest / Noxious Weed Species

- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.

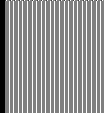
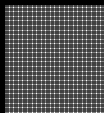
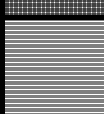
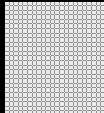
Hazardous/Irreversible Decline

- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g. hedge.

Appendix B Tree Retention Values

		Significance				
		1. High	2. Medium	3. Low		
		Significance in Landscape	Significance in Landscape	Significance in Landscape	Environmental Pest / Noxious Weed Species	Hazardous / Irreversible Decline
Estimated Life Expectancy	1. Long >40 years					
	2. Medium 15-40 Years					
	3. Short <1-15 Years					
	Dead					
<u>Legend for Matrix Assessment</u>  Priority for Retention (High) - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 <i>Protection of trees on development sites</i>. Tree sensitive construction measures must be implemented e.g. pier and beam etc. if works are to proceed within the Tree Protection Zone.  Consider for Retention (Medium) - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.  Consider for Removal (Low) - These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.  Priority for Removal - These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.						

REFERENCES

Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, www.icomos.org/australia

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, www.footprintgreen.com.au

Appendix C - Tree Inspection Data

Birds Tree Consultancy

Consulting Arborist • Project Management • Horticultural Consultancy • Landscape Management

Inspection Data
21-May-24
100 Botany Road Alexandria

Tree no.	Species	Common Name	Height	Spread(m)	Trunk (single, twin, multiple @)	DBH (mm)	TPZ Radius (m)	Diameter at Root Flare (DRF) (mm)	SRZ radius (m)	Trunk lean	Tree Age	Overall Health & Vigour	Crown Distribution	Structure	Pruning History	Defects	Pest Infestation	Canopy Density	Deadwood	Epicormic Growth	Life expectancy	Env. & Landscape significance	Retention Value	Notes
1	Lophostemon confertus	Brushbox	10	9	1	370	4.44	450	2.37	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
2	Celtis occidentalis	Sugarberry, Nettle Tree	13	13	Multiple Stems	527.4	6.33	600	2.67	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Low	Low	Immediately adjacent existing building
3	Lophostemon confertus	Brushbox	5	2	1	90	2	110	1.31	Nil	Semi Mature	Poor (50-59)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	1-5 years	Medium	Medium	Poor condition almost entirely defoliated
4	Robinia pseudoacacia		13	9	1	330	3.96	420	2.3	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
5	Lophostemon confertus	Brushbox	9	5	1	180	2.16	300	2	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
6	Lophostemon confertus	Brushbox	8	5	1	240	2.88	300	2	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
7	Lophostemon confertus	Brushbox	6	2	1	100	2	230	1.79	Nil	Semi Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
8	Jacaranda mimosifolia	Jacaranda	10	6	1	210	2.52	300	2	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
9	Lophostemon confertus	Brushbox	10	8	1	400	4.8	500	2.47	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
10	Lophostemon confertus	Brushbox	9	7	1	230	2.76	300	2	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
11	Jacaranda mimosifolia	Jacaranda	10	7	1	220	2.64	350	2.13	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	
12	Tristaniopsis laurina	Water Gum	9	6	1	190	2.28	280	1.94	Nil	Mature	Good (70-79)	Symmetrical	Good	No Evidence	No Evidence	No Evidence	Normal	<5%	<5%	21-40 years	Medium	Medium	

Appendix D - Tree Location Plan



Legend

- Tree to be Retained and Protected
- Tree Exempt from City of Sydney DCP
- Tree Not Viable to be Retained due to Proposed Development
- Tree Protection Zone (TPZ) in accordance with AS4970-2009
- Structural Root Zone (SRZ) in accordance with AS4970-2009

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Project: 100 Botany Road Alexandria

Client: Kurraba

DWG: A01 REVISION D

Plan: Tree Location Plan

Date: 17 Sept 2024 Scale : 1:500 @ A3