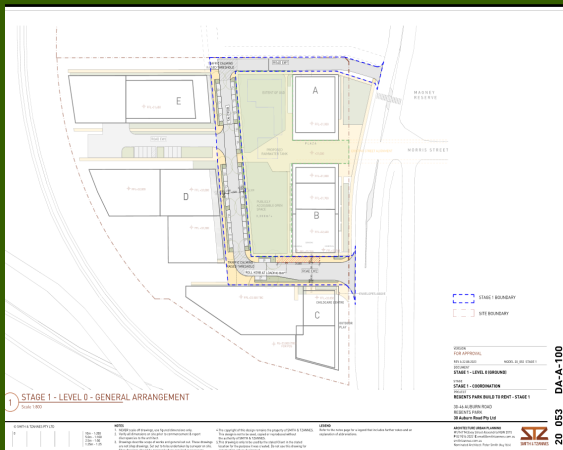


ARBORICULTURAL IMPACT ASSESSMENT



**PROPOSED RESIDENTIAL UNITS,
5 RETAIL SUITES AND CHILDCARE
DEVELOPMENT APPLICATION**

**30 AND 46 AUBURN ROAD
REGENTS PARK, NSW**

Report prepared for:

30 Auburn Road Pty Ltd
2a Gregory Place
Harris Park, NSW 2150

Report prepared by:

Scott Freeman - Principal
Horticultural Management Services
Diploma of Arboriculture (AQF L5)
ISA Tree Risk Assessment (TRAQ) Certified
Diploma of Horticulture
Diploma of Conservation and Land Management

27th October 2023 – Version 5

DISCLAIMER

This report has been prepared in accordance with the scope of services described in agreement between Horticultural Management Services and the client.

This report relies upon data, surveys and site inspections results taken at or under the particular time and or conditions specified herein.

Any representation, statement, opinion or advice, expressed or implied in this publication is made in good faith but on the basis that Horticultural Management Services, its agents and employees are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement, or advice referred to above.

Every effort has been made in this report to include, assess, and address all defects, structural weaknesses, and instabilities 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 assessment.

Information contained in this report covers only the subject tree that was assessed and reflects the condition of the subject tree at the time of inspection. Any finding, conclusion or recommendations only apply to the aforementioned and no greater reliance should be assumed or drawn by the Client.

There is no warranty or guarantee, expressed or implied that problems or deficiencies regarding the subject trees or the subject site may not arise in the future.

Furthermore, this report has been prepared solely for the use by the Client. The Client acknowledges that this assessment, and any opinions, advice or recommendations expressed or given in it, are based on the information supplied by the Client, and based on the data observations, measurements and analysis carried out or obtained by Horticultural Management Services and referred to in the assessment.

Horticultural Management Services accepts no responsibility for its use by other parties.

TABLE OF CONTENTS

1.0 INTRODUCTION4

2.0 AIMS4

3.0 SITE DESCRIPTION AND OBSERVATIONS.....5

3.1 HERITAGE SIGNIFICANCE5

3.2 TREES ON ADJOINING LAND5

3.3 SITE LOCATION6

3.4 AERIAL SITE LOCATION6

4.0 METHODOLOGY7

5.0 IMPACT ASSESSMENT.....8

6.0 TREE ASSESSMENT SUMMARY9

7.0 TREE IDENTIFICATION BASED ON DEVELOPMENT LOCATION17

8.0 TREES PROPOSED TO BE REMOVED BASED ON DEVELOPMENT LOCATION18

9.0 SITE PHOTOGRAPHS19

10.0 CONCLUSION27

11.0 RECOMMENDATIONS28

APPENDICIES

APPENDIX A: PROPOSED DEVELOPMENT LAYOUT29

APPENDIX B: SUPPORTING INFORMATION FOR TREE ASSESSMENT TABLE31

APPENDIX C: TREE PROTECTION ZONES36

APPENDIX D: TERMINOLOGY38

APPENDIX E: REFERENCES40

APPENDIX F: CERTIFICATION41

1.0 INTRODUCTION

Horticultural Management Services were engaged to conduct an Arboricultural Impact Assessment at 30 to 46 Auburn Road, Regents Park NSW (the Site).

It is understood that this report is to form part of a Development Application for a proposed residential units, 5 retail suites and childcare centre application, which includes the demolition of the existing building structures/infrastructure, removal of approved trees, basement and site excavations/regrading, construction of new residential units, driveways, and associated landscaping as per APPENDIX A Proposed Development Layout.

The purpose of this report is to identify the trees within and or adjoining the site, provide information on their individual current health and condition, determine their remaining life expectancy and significance in the landscape, and assess their suitability for retention/preservation or removal. The scope of this report includes the allocation of SULE ratings (Safe Useful Life Expectancy), and identification of arboricultural work required.

The potential impact of the proposed development has also been assessed, together with recommendations for amendments to the design or construction to ensure the retention of trees considered worthy of preservation.

A site investigation was undertaken on Monday 18th September 2023 and subsequent inspections to assess the trees onsite and those adjoining which may be affected by the proposed design.

Information contained in this report covers only the subject trees that were assessed and reflects the condition of the subject trees on site at the time of inspection.

Assessment has been conducted with consideration of the Biodiversity Conservation Act 2016, Biosecurity Act 2015, and Canterbury Bankstown City Council Development Control Plan (DCP) 2023, controls the tree management and Bankstown Local Environmental Plan (LEP) 2023 and applies to all land in the City of Bankstown.

2.0 AIMS

To detail the condition of the trees and consider the location and condition of such in relation to their surrounds.

To complete the following:

- Inspect the subject trees within and adjacent to the site/s and site conditions,
- Assess the condition of the subject tree(s),
- Observe and describe the trees and other vegetation on the subject site,
- Discuss the trees within their current landscape,
- Determine the subject trees' Landscape Significance including cultural, environmental, and aesthetic values,
- Consider the benefits of retention or removal of the trees for the medium to long-term benefit of the trees and on-going public safety,
- Provide recommendations for Tree Management, if or as required, within the context of a development application, and
- Prepare site specific tree protection specifications for trees recommended for retention.

3.0 SITE DESCRIPTION AND OBSERVATIONS

The site is identified as 30 to 46 Auburn Road, Regents Park NSW.

Relevant site plans and/or documents reviewed prior to undertaking the Arborist Assessment include:

- *Smith & Tzannes Architecture, Project Number 20_053, Stage 1, Revision A, date 22.8.2023,*
- *Smith & Tzannes Architecture, Project Number 20_053, Demolition Plan, Revision D, date 9.11.2023,*
- *Canterbury Bankstown City Council Development Control Plan 2023,*
- *Canterbury Bankstown City Council Development Control Plan 2023,*
- *Bankstown City Council Local Environmental Plan 2023,*

Included within this report is a site plan showing the locations of the site trees based on the proposed development layout.

Site observations noted a mixture of herbaceous grass and self-seeded weed species within the site.

Site trees and shrubs observed were planted within garden and planter beds.

3.1 HERITAGE SIGNIFICANCE

There are no trees within the site that have been identified as Heritage Items under Council Planning Instrument or identified within a Significant Tree Register.

3.2 TREES ON ADJOINING LAND

In accordance with Council's requirements, trees adjoining the development have been assessed as part of this report.

There are no trees on adjoining properties that will be affected by this development.

3.3 SITE LOCATION

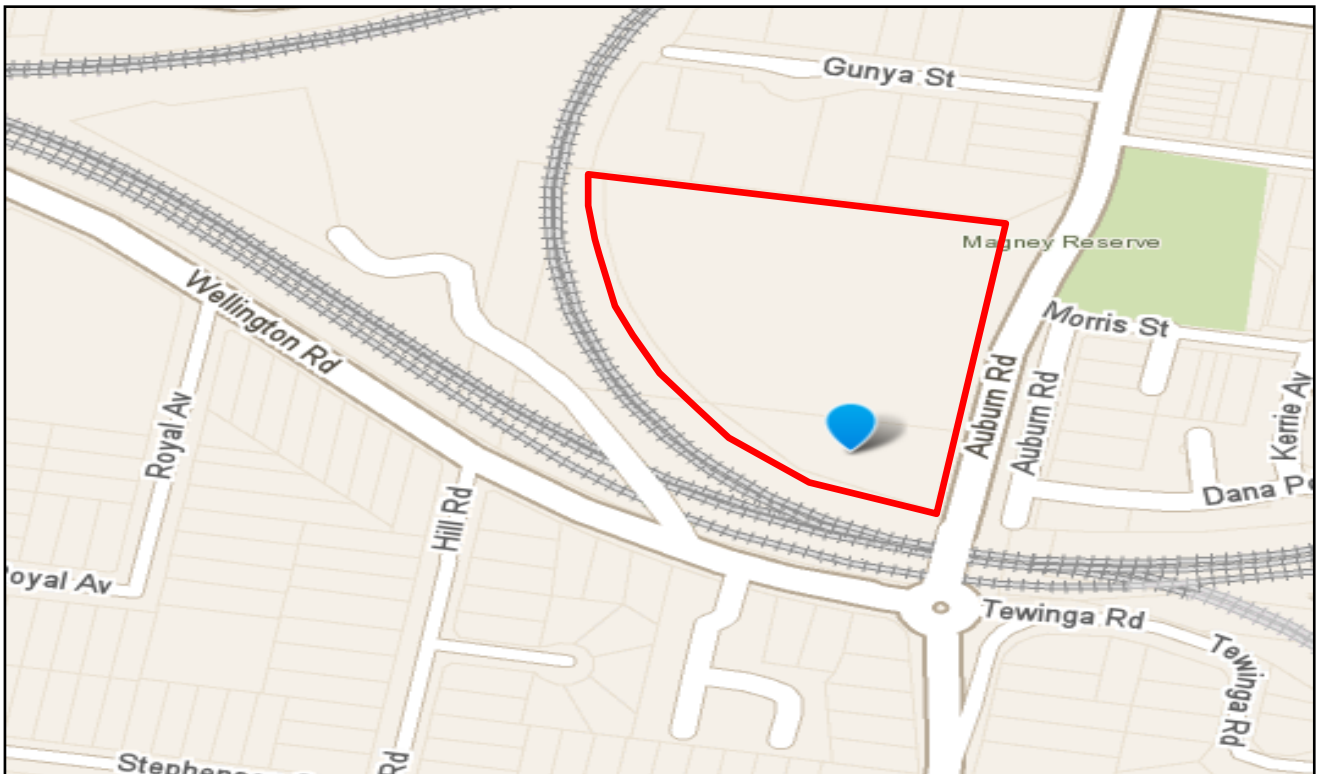


Figure 1 Shows the location of the site. Source whereis.com.au

3.4 AERIAL SITE LOCATION



Figure 2 Shows an aerial location of the site. Source Nearmaps.com.au

4.0 METHODOLOGY

This report is the result of a comprehensive site inspection undertaken on Monday 18th September 2023 and subsequent inspections by Horticultural Management Services (HMS).

The following tree assessment was undertaken using criteria based on the Tree Risk Assessment Guidelines by the International Society of Arboriculture. A Level 2 Visual Tree Assessment (VTA) was used as described in 'The Body language of trees – A handbook for Failure Analysis'. This involves inspection from ground height and includes only the external features of the trees. Trees on adjoining sites were assessed from within the site boundaries only and only within 5m of the site boundaries.

For reference throughout the report, each tree has been allocated an identification number listed in the Tree Assessment Summary table and identified on the tree location site plan.

Assessment of individual trees includes the following:

- Species identification (botanical and common),
- Height and form,
- Observations made including an evaluation of the tree's health and vigour using Crown spread and cover, foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback and epicormic growth as indicators,
- Condition, using visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators,
- Suitability of the tree to the site and its existing location; in consideration of damage or potential damage to services or structures, available space for future development and nuisance issues,
- Likely future amenity based on a visual assessment,
- The trees tolerance to development impacts based on surface observations,
- Significance -specific heritage, cultural or intrinsic importance,
- Amenity value -as shade, windbreak etc or subjective, aesthetic values,
- Habitat value -both as an individual tree and as part of an ecological community,
- Observations of soil conditions and likely root spread,
- Overall condition assessment and suitability,
- Hazard/failure potential of tree to damage property or result in death,
- Safe Useful Life Expectancy (SULE) after Barrell (1995),

Retention Value was based on the subject tree's Remaining Life Expectancy Range and Landscape Significance. The Retention Value was modified where necessary to take in consideration the subject tree's health, structure, and site suitability.

Landscape Significance was determined by assessing the combination of the cultural, environmental, and aesthetic values of the subject trees. A subjective rating of high, moderate, low, or nil has been allocated to the trees. This provides a relative value of the trees' Landscape Significance which may aid in determining their Retention Value. A more detailed explanation is outlined Appendix B.7.

Tree height and canopy spread, were estimated only. Diameter at Breast Height (DBH) was determined by measuring the main stem at 1.4m above ground. Photos were taken of the subject trees and subject site for the inclusion in this tabled report.

The components of **tree risk assessment** include the trees failure potential or in the case of the proposed, an environment conducive to tree failure.

5.0 IMPACT ASSESSMENT

A summary of each tree identified within the site is outlined in section 6.0 TREE ASSESSMENT SUMMARY.

The assessment in each case has considered the following:

- Structural Root Zones (SRZ),
- Building works or footprint within TPZ or SRZ,
- Optimum Tree Protection Zones (TPZ) and Structural Root Zones (SRZ),
- SULE Rating for value of the tree assessed,
- Assessment of the likely impact of the proposed works,
- Recommendations for retention, management, or removal.

The components of tree risk assessment include the trees failure potential or in the case of land clearing/management, an environment conducive to tree failure.

Other factors are also considered related to the site, such as potential development or land use, soil condition and prevailing winds must be considered in conjunction when assessing the potential of failure for any tree.

6.0 TREE ASSESSMENT SUMMARY

Risk Matrix	Catastrophic Urgent- Tree requires immediate removal due to WH&S concerns.	Major Tree requires removal as part of development application.	Moderate TPO Exempt due to species, height requirements and or approved to be removed by Council.	Low Tree to be retained, protected, and monitored
--------------------	--	---	---	---

Tree Number	Tree Species	Height (m)	DBH @ 1.4m	DAB (mm)	SRZ Required (m)	TPZ Required (m)	Tree Age	Tree Health	Tree Structure	SULE Rating	Ecological Significance	Landscape Visual Significance	Retention Value	To Be Retained
	Common Name Botanical name						* Young * Semi Mature * Mature * Over Mature	* Good * Fair * Poor * Dead	* Good * Fair * Poor		* High * Medium * Low * Nil	* High * Moderate * Low * Nil	* H 40yrs + * M 15 - 40yrs * L 5 to 15ys * Nil Less 5ys * Dead	
1	Bangalay <i>Eucalyptus botryoides</i>	8	520	600	N/A	N/A	Mature	Fair	Fair TO Poor	4	Low	Low	Nil	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the site inspection, this tree is in poor declining health and condition with noted major deadwood, thinned, or failed canopy foliage and large open with noted fruiting bracket fungi within the open wound. This tree is required to be removed due to its location within the proposed development, site excavations, service line infrastructure and building scope of works support this trees removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.													
2	Silver Cotoneaster <i>Cotoneaster pannosus</i>	2.5	M/T	250	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	Comments: Based on Councils DCP 2023, this species of self-seeded shrub is Listed as being TPO Exempt, Section 2.4 Exemptions, part (c) due to it being an introduced nuisance environmental weed species listed to be removed in the NSW Department of Primary Industries WeedWise list, and it may be removed if or as required without further consideration.													
3	Weeping Bottlebrush <i>Callistemon viminalis</i>	7	M/T	300	N/A	N/A	Mature	Good	Good	3	Low	Nil to Low	Low	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the plans tabled, this minor planted tree is required to be removed due to its location within the proposed building development excavation works, driveway access area and building scope of works that supports its removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.													

Tree Number	Tree Species Common Name Botanical name	Height (m)	DBH @ 1.4m	DAB (mm)	SRZ Required (m)	TPZ Required (m)	Tree Age * Young * Semi Mature * Mature * Over Mature	Tree Health * Good * Fair * Poor * Dead	Tree Structure * Good * Fair * Poor	SULE Rating	Ecological Significance * High * Medium * Low * Nil	Landscape Visual Significance * High * Moderate * Low * Nil	Retention Value * H 40yrs + * M 15 - 40yrs * L 5 to 15ys * Nil Less 5ys * Dead	To Be Retained
4	Silver Cotoneaster <i>Cotoneaster pannosus</i>	2.5	M/T	250	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	Comments: Based on Councils DCP 2023, this species of self-seeded shrub is Listed as being TPO Exempt, Section 2.4 Exemptions, part (c) due to it being an introduced nuisance environmental weed species listed to be removed in the NSW Department of Primary Industries WeedWise list, and it may be removed if or as required without further consideration.													
5	African Olive <i>Olea europaea subsp cuspidata</i>	8	M/T	500	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	Comments: Based on Councils DCP 2023, this species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being a introduced nuisance environmental weed species and it may be removed if or as required without further consideration.													
6	Canary Island Date Palm <i>Phoenix canariensis</i>	3	400	500	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	Comments: Based on Councils DCP 2023, this palm species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being less than 4m in height and it may be removed if or as required without further consideration.													
7	Weeping Myrtle <i>Agonis flexuosa</i>	7	M/T	380	N/A	N/A	Mature	Poor	Poor	4A	Nil	Nil	Dead	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. This tree is dead and is in poor structural condition and required to be removed due to WH&S concerns.													
8	Jacaranda <i>Jacaranda mimosifolia</i>	6	220	250	N/A	N/A	Mature	Poor	Poor	4A	Nil	Nil	Nil	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the site inspection, this tree is in poor declining health and condition with noted deadwood, thinned, and failed canopy foliage. This tree is required to be removed due to its location within the proposed development, site excavations, and building scope of works support this trees removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.													

Tree Number	Tree Species	Height (m)	DBH @ 1.4m	DAB (mm)	SRZ Required (m)	TPZ Required (m)	Tree Age	Tree Health	Tree Structure	SULE Rating	Ecological Significance	Landscape Visual Significance	Retention Value	To Be Retained
	Common Name Botanical name						* Young * Semi Mature * Mature * Over Mature	* Good * Fair * Poor * Dead	* Good * Fair * Poor		* High * Medium * Low * Nil	* High * Moderate * Low * Nil	* H 40yrs + * M 15 - 40yrs * L 5 to 15ys * Nil Less 5ys * Dead	
9	Jacaranda <i>Jacaranda mimosifolia</i>	5	220	250	N/A	N/A	Mature	Poor	Poor	4A	Nil	Nil	Nil	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the site inspection, this tree is in poor declining health and condition with noted deadwood, thinned, and failed canopy foliage. This tree is required to be removed due to its location within the proposed development, site excavations, and building scope of works support this trees removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.													
10	Jacaranda <i>Jacaranda mimosifolia</i>	6	220	250	N/A	N/A	Mature	Poor	Poor	4A	Nil	Nil	Nil	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the site inspection, this tree is in poor declining health and condition with noted deadwood, thinned, and failed canopy foliage. This tree is required to be removed due to its location within the proposed development, site excavations, and building scope of works support this trees removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.													
11	Jacaranda <i>Jacaranda mimosifolia</i>	5	200	220	N/A	N/A	Mature	Poor	Poor	4A	Nil	Nil	Nil	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the site inspection, this tree is in poor declining health and condition with noted deadwood, thinned, and failed canopy foliage. This tree is required to be removed due to its location within the proposed development, site excavations, and building scope of works support this trees removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.													
12	Oleander <i>Nerium oleander</i>	3	M/T	250	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	Comments: This shrub was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on Councils DCP 2023, this planted shrub is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being less than 5m in height and it may be removed if or as required without further consideration.													

Tree Number	Tree Species	Height (m)	DBH @ 1.4m	DAB (mm)	SRZ Required (m)	TPZ Required (m)	Tree Age	Tree Health	Tree Structure	SULE Rating	Ecological Significance	Landscape Visual Significance	Retention Value	To Be Retained	
	Common Name Botanical name						* Young * Semi Mature * Mature * Over Mature	* Good * Fair * Poor * Dead	* Good * Fair * Poor		* High * Medium * Low * Nil	* High * Moderate * Low * Nil	* H 40yrs + * M 15 - 40yrs * L 5 to 15yrs * Nil Less 5yrs * Dead		
13	Firethorn <i>Pyracantha crenulata</i>	3	M/T	200	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No	
	Comments: Based on Councils DCP 2023, this species of self-seeded shrub is Listed as being TPO Exempt, Section 2.4 Exemptions, part (c) due to it being an introduced nuisance environmental weed species listed to be removed in the NSW Department of Primary Industries WeedWise list, and it may be removed if or as required without further consideration.														
14	Camphor laurel <i>Cinnamomum camphora</i>	8	M/T	600	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No	
	Comments: Based on Councils DCP 2023, this palm species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being less than 10m in height and it may be removed if or as required without further consideration.														
15	Mugga Mugga <i>Eucalyptus sideroxylon</i>	14		520	580	N/A	N/A	Mature	Good	Good to Fair	3	Low	Low	Low	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the plans tabled, this tree is required to be removed due to its location within the proposed retail building development excavation works, parking, and driveway area. Furthermore, this tree is located with a site retaining wall with site demolition, excavations and building scope of works supports its removal. This tree is unable to be safely retained or protected due to major impacts to its TPZ. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.														
16	Large Leaf Privet <i>Ligustrum lucidum</i>	3.5	M/T	300	N/A	N/A	Mature	Good to Fair	Good	5	Nil	Nil	Nil	No	
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on Councils DCP 2023, this species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being an introduced nuisance environmental weed species and it may be removed if or as required without further consideration.														

Tree Number	Tree Species	Height (m)	DBH @ 1.4m	DAB (mm)	SRZ Required (m)	TPZ Required (m)	Tree Age	Tree Health	Tree Structure	SULE Rating	Ecological Significance	Landscape Visual Significance	Retention Value	To Be Retained
	Common Name Botanical name						* Young * Semi Mature * Mature * Over Mature	* Good * Fair * Poor * Dead	* Good * Fair * Poor		* High * Medium * Low * Nil	* High * Moderate * Low * Nil	* H 40yrs + * M 15 - 40yrs * L 5 to 15ys * Nil Less 5ys * Dead	
17	Large Leaf Privet <i>Ligustrum lucidum</i>	3.5	M/T	300	N/A	N/A	Mature	Good to Fair	Good	5	Nil	Nil	Nil	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on Councils DCP 2023, this species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being an introduced nuisance environmental weed species and it may be removed if or as required without further consideration.													
18	Mugga Mugga <i>Eucalyptus sideroxylon</i>	12	540	580	N/A	N/A	Mature	Good to Fair	Fair to Poor	4C	Low	Low	Nil	No
	Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the trees present form, the tree appeared to be in good to fair visual health and thinning/declining upper canopy. Observations of minor and major deadwood, previous pruned limbs and scaffold branches were noted with noted weeping resin from its branch trunk union indicating movement within the union, thus having considered poor structural integrity, hence its full removal is warranted due to these WH&S concerns as it has the potential to cause death or damage to persons or assets. In summary, this tree is unable to be safely retained and is required to be removed.													
19	Canary Island Date Palm <i>Phoenix canariensis</i>	4	500	500	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	Comments: Based on Councils DCP 2023, this palm species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being less than 4m in height and it may be removed if or as required without further consideration.													
20	Self-Seeded Group of Weeds													
	African Olive <i>Olea europaea subsp cuspidata</i>	3.5	M/T	250	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	Large Leaf Privet <i>Ligustrum lucidum</i>	3	M/T	250	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No

Tree Number	Tree Species	Height (m)	DBH @ 1.4m	DAB (mm)	SRZ Required (m)	TPZ Required (m)	Tree Age	Tree Health	Tree Structure	SULE Rating	Ecological Significance	Landscape Visual Significance	Retention Value	To Be Retained
	Common Name Botanical name						* Young * Semi Mature * Mature * Over Mature	* Good * Fair * Poor * Dead	* Good * Fair * Poor		* High * Medium * Low * Nil	* High * Moderate * Low * Nil	* H 40yrs + * M 15 - 40yrs * L 5 to 15ys * Nil Less 5ys * Dead	
	Camphor laurel <i>Cinnamomum camphora</i>	6	M/T	300	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	Firethorn <i>Pyracantha crenulata</i>	3	M/T	250	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
<p>Comments: Based on Councils DCP 2023, this group of self-seeded nuisance weed species along the rear boundary are species Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being a introduced nuisance environmental weed species and it may be removed if or as required without further consideration.</p>														
21	Large Leaf Privet <i>Ligustrum lucidum</i>	5	M/T	300	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	<p>Comments: Based on Councils DCP 2023, this species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being an introduced nuisance environmental weed species and it may be removed if or as required without further consideration.</p>													
22	Camphor laurel <i>Cinnamomum camphora</i>	8	M/T	600	N/A	N/A	Mature	Good	Good	5	Nil	Nil	Nil	No
	<p>Comments: Based on Councils DCP 2023, this palm species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being less than 10m in height and it may be removed if or as required without further consideration.</p>													
23	Large Leaf Privet <i>Ligustrum lucidum</i>	3.5	M/T	300	N/A	N/A	Mature	Good to Fair	Good	5	Nil	Nil	Nil	No
	<p>Comments: Based on Councils DCP 2023, this species of tree is Listed as being TPO Exempt, Section 2.4 Exemptions, due to it being an introduced nuisance environmental weed species and it may be removed if or as required without further consideration.</p>													

Tree Number	Tree Species	Height (m)	DBH @ 1.4m	DAB (mm)	SRZ Required (m)	TPZ Required (m)	Tree Age	Tree Health	Tree Structure	SULE Rating	Ecological Significance	Landscape Visual Significance	Retention Value	To Be Retained
	Common Name Botanical name						* Young * Semi Mature * Mature * Over Mature	* Good * Fair * Poor * Dead	* Good * Fair * Poor		* High * Medium * Low * Nil	* High * Moderate * Low * Nil	* H 40yrs + * M 15 - 40yrs * L 5 to 15ys * Nil Less 5ys * Dead	
24	Swamp oak <i>Casuarina glauca</i>	7	240	280	N/A	N/A	Mature	Good	Good	3	Low	Low	Low	No
	<p>Comments: This tree was previously approved for removal under Canterbury Bankstown DA-56/2019. Based on the plans tabled, this self-seeded tree is growing within close proximity to an adjoining factory unit, and it is required to be removed due to its location within the proposed development roadway envelope and scope of works that supports its removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.</p>													
25	Swamp oak <i>Casuarina glauca</i>	7	240	280	N/A	N/A	Mature	Good	Good	3	Low	Low	Low	No
	<p>Comments: Based on the plans tabled, this self-seeded tree is growing within close proximity to an adjoining factory unit, and it is required to be removed due to its location within the proposed development roadway envelope and scope of works that supports its removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.</p>													
26	Swamp oak <i>Casuarina glauca</i>	8	250	280	N/A	N/A	Mature	Good	Good	3	Low	Low	Low	No
	<p>Comments: Based on the plans tabled, this self-seeded tree is growing within close proximity to an adjoining factory unit, and it is required to be removed due to its location within the proposed development roadway envelope and scope of works that supports its removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.</p>													
27	Swamp oak <i>Casuarina glauca</i>	8	240	280	N/A	N/A	Mature	Good	Good	3	Low	Low	Low	No
	<p>Comments: Based on the plans tabled, this self-seeded tree is growing within close proximity to an adjoining factory unit, and it is required to be removed due to its location within the proposed development roadway envelope and scope of works that supports its removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.</p>													

Tree Number	Tree Species		Height (m)	DBH @ 1.4m	DAB (mm)	SRZ Required (m)	TPZ Required (m)	Tree Age	Tree Health	Tree Structure	SULE Rating	Ecological Significance	Landscape Visual Significance	Retention Value	To Be Retained
	Common Name	Botanical name													
28	Swamp oak	<i>Casuarina glauca</i>	8	230	280	N/A	N/A	Mature	Good	Good	3	Low	Low	Low	No
	<p>Comments: Based on the plans tabled, this self-seeded tree is growing within close proximity to an adjoining factory unit, and it is required to be removed due to its location within the proposed development roadway envelope and scope of works that supports its removal. It is anticipated this tree will be replaced in the appropriate landscape master plan upon completion.</p>														

Key. Multi trunk (M/T)

Table 1: Shows a list of trees observed and assessed in relation to this development application by a Qualified Horticulturist and AQF Level 5 Arborist (Dip Arb).

7.0 TREE IDENTIFICATION BASED ON DEVELOPMENT LOCATION

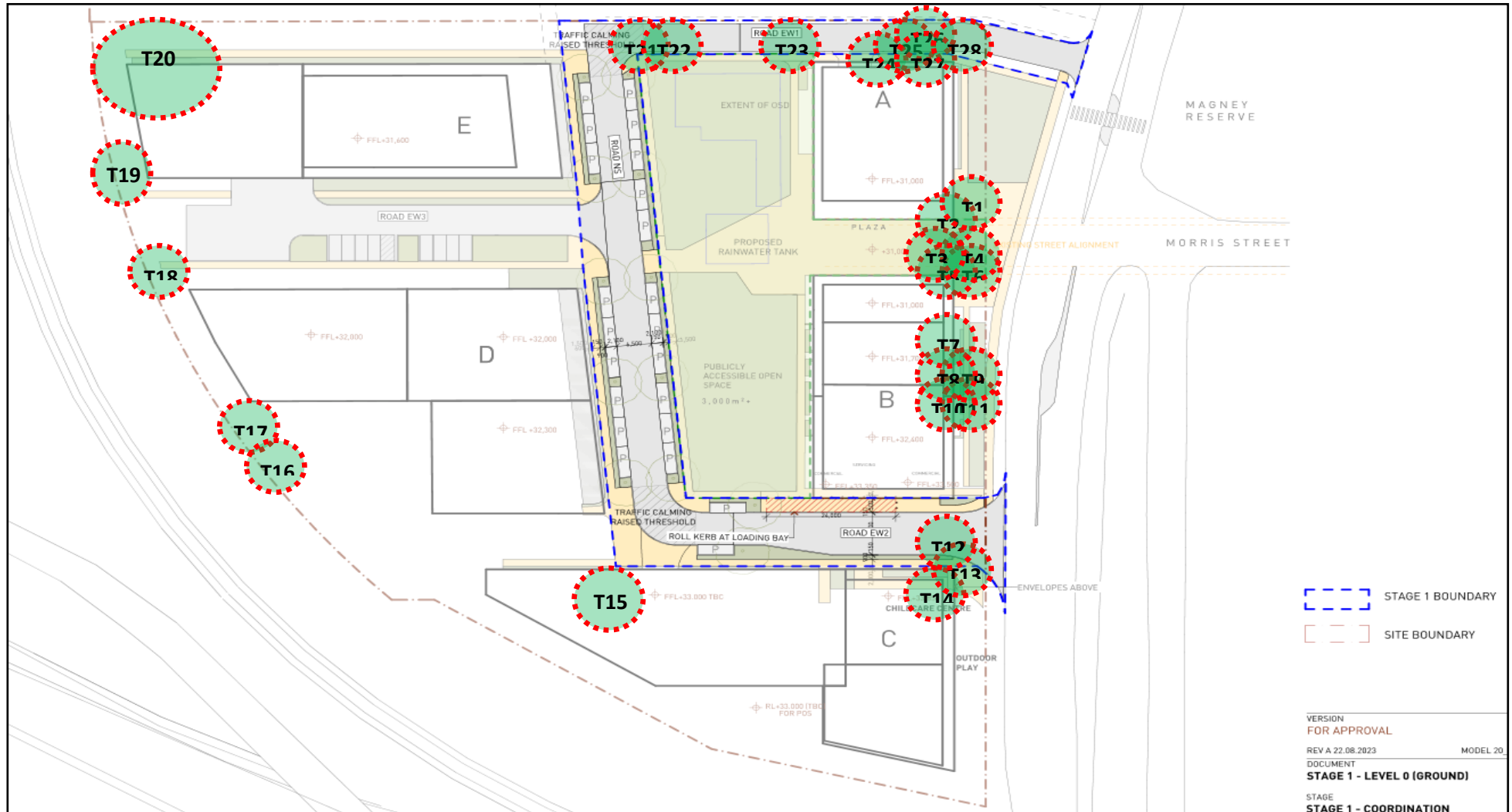


Figure 3 Shows the trees location assessed based on the development plans and survey provided.

8.0 TREES PROPOSED TO BE REMOVED BASED ON DEVELOPMENT LOCATION

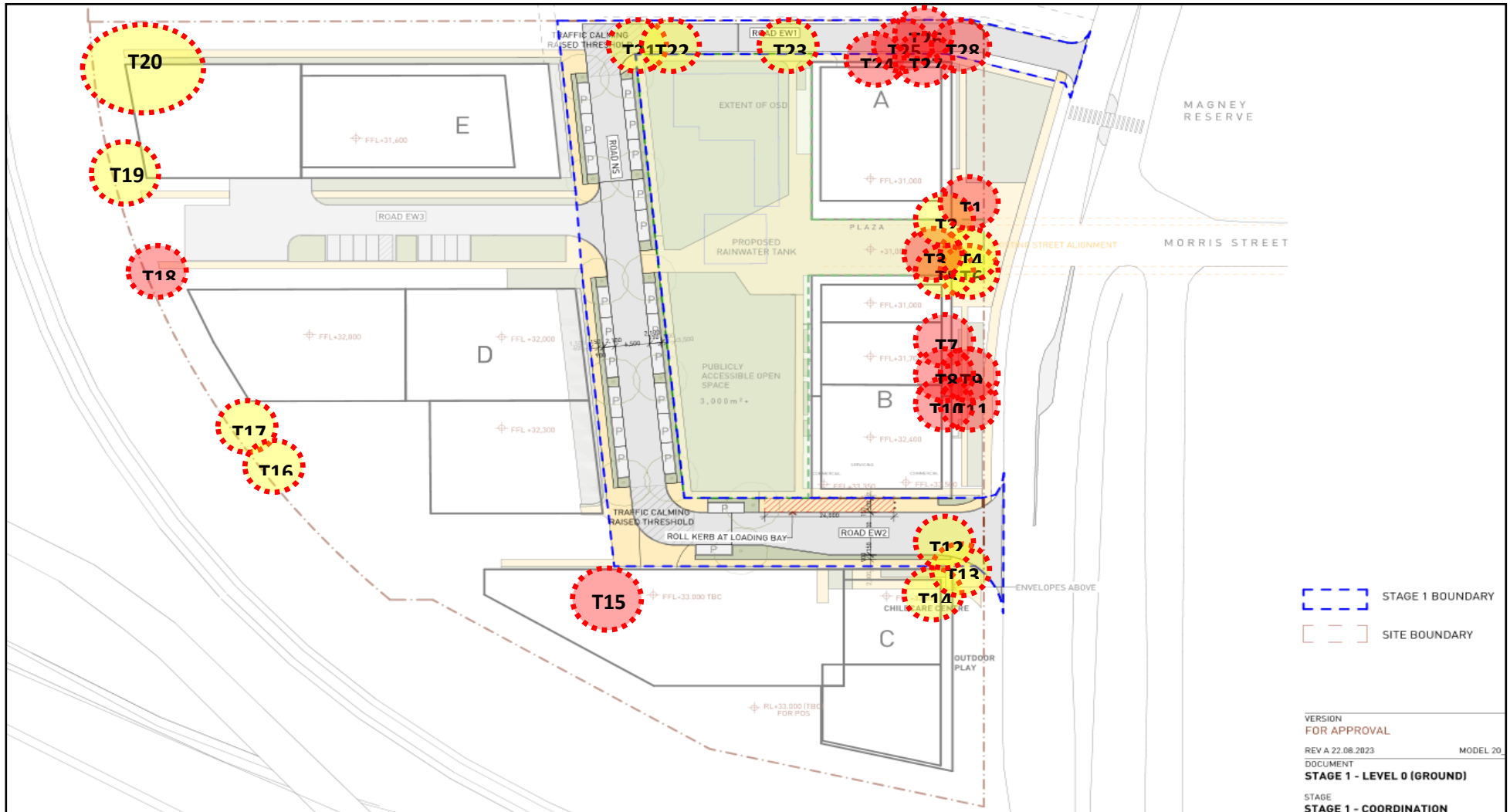


Figure 4 Shows Trees in RED and TPO Exempt in YELLOW to be removed based on the proposed development layout.

9.0 SITE PHOTOGRAPHS



Figure 5 Shows looking along Auburn Road front boundary and Trees 1 to 6.



Figure 6 Shows looking down along the Northern boundary with minor trees along the side boundary to be removed.



Figure 7 Shows Tree 1 and minor shrubs adjoining trees/shrubs.



Figure 8 Shows an open wound with rot and bracket fungi damage on Tree 1 trunk.



Figure 9 Shows minor self-seeded Cotoneaster and Olive to be removed.



Figure 10 Shows Trees 5 from a distance being an African olive required to be removed.



Figure 11 Shows Trees 7 to 11 from a distance in poor health and condition to be removed.



Figure 12 Shows Trees 12, 13 and 14 all being exempt due to weed species or height along Auburn Road.



Figure 13 Shows Tree 14 being a Camphor laurel to be removed.



Figure 14 Shows Tree 15 with a retaining wall that is unable to be retained and will be replaced upon completion.



Figure 15 Shows self-seeded Privet growing along the rear rail corridor boundary.



Figure 16 Shows Tree 18 to be removed due to its poor structural condition and replaced upon completion in the landscape. This tree was previously approved to be removed.



Figure 17 Shows Privet, Green Cestrum, and date palm along the rear boundary, all being TPO Exempt.



Figure 18 Shows Privet, Cestrum and Firethorn, all being TPO Exempt to be removed.



Figure 19 Shows Tree 22 being a Camphor laurel to be removed.



Figure 20 Shows Trees 24 to 28 being self-seeded clumping Swamp oaks to be removed.

10.0 CONCLUSION

The trees which are subject of this report are protected under Canterbury Bankstown City Council Development Control Plan 2023 and Bankstown Local Environmental Plan 2023.

Consideration of retaining mature significant vegetation to the area was paramount. After close visual and physical investigation of the various trees condition the results from field investigations are as follows;

Subject to Council process, approval is recommended for the removal of Twenty-two-(28) site trees numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 (Group of weed species), 21, 22, 23, 24, 25, 26, 27 and 28 based on their location within the building/basement envelope, site regrading, construction requirements, parking areas, landscaping and considered scope of works within the development.

Furthermore, Trees Numbered 1, 3, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18 and 24 were previously approved for removal under Canterbury Bankstown DA-56/2019.

Based on Canterbury Bankstown City Council Development Control Plan 2023, and Bankstown Development Control Plan 2023, the following species of trees and numbered 2, 4, 5, 6, 12, 13, 14, 16, 17, 19, 20, 21, 22 and 23 are Listed as being TPO Exempt, Section 2.4 Exemptions, due to height requirements and or being species listed as Exempt.

Whilst the trees range from good to fair health, density, and structural condition, they are required to be removed due to the required site demolition works, building/construction material removal, and the proposed site excavation/site levelling and construction works.

All considerations, options regarding their individual retention was considered based on the proposed design tabled, however, site modifications if trees are retained will result in long term modifications to these trees natural environment (TPZ/SRZ) through but not limited to; surface root and soil compaction, loss of anchorage roots, natural water table redirection through the required cut and fill levels that would result in the decline of the tree's health and overall stability in the long term.

No roosting or habitat hollows were observed in any of the site trees proposed to be removed.

As stated, this tabled report is a snapshot of the existing trees structural condition, health, and condition at that particular point in time on site and should be used as a guide when assessing this Development Application.

In summary, no objections to this development and tree management are raised, subject to appropriate environmental safeguards as tabled.

11.0 RECOMMENDATIONS

After close visual and physical investigation of the trees condition (VTA), results from the field investigations indicated the following:

Subject to Council process, approval is recommended for the removal of Twenty-two-(28) site trees numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 (Group of weed species), 21, 22, 23, 24, 25, 26, 27 and 28 based on their location within the building/basement envelope, site regrading, construction requirements, parking areas, landscaping and considered scope of works within the development.

Based on Canterbury Bankstown City Council Development Control Plan 2023, and Bankstown Development Control Plan 2023, the following species of trees and numbered 2, 4, 5, 6, 12, 13, 14, 16, 17, 19, 20, 21, 22 and 23 are Listed as being TPO Exempt, Section 2.4 Exemptions, due to height requirements and or being species listed as Exempt.

Whilst the trees range from good to fair health, density, and structural condition, they are required to be removed due to the required site demolition works, building/construction material removal, and the proposed basement excavations/site levelling and construction works.

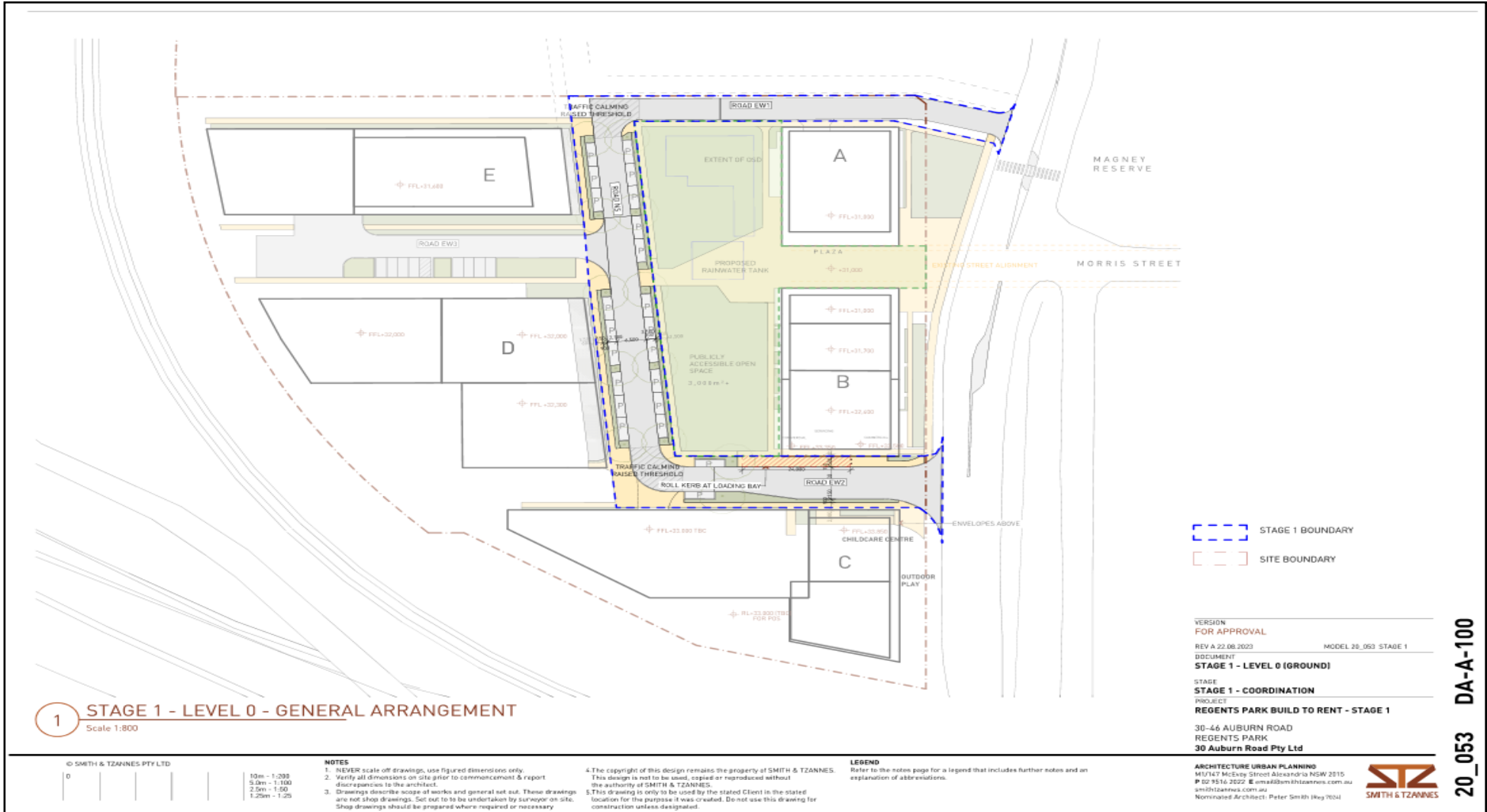
The following points may be considered for the proposed development application;

- The applicant considers choosing plant species indigenous to the area, and thus would help to increase flora and fauna habitat and greater diversity of the area,
- Tree planting should take into consideration the high priority of the commercial and residential visual element,
- The tree should be programmed to be removed whilst it is upright and intact,
- The trees prior to removal shall be fully investigated for any nesting or roosting fauna,
- Tree removal should be undertaken by a qualified tree surgeon, being AQF L3 Arborist as minimum,

Tree removal work is specialised, and in order to be undertaken safely and to ensure the works carried out are not detrimental to the survival of adjoining trees or surrounding vegetation, all works should be undertaken by a qualified Arborist with appropriate competencies recognised within the Australian Qualification frame work (Level 3 Arborist), with a minimum of 5 years of continual experience within the industry of operational amenity arboriculture, and covered by appropriate and current types of insurance to undertake such works.

APPENDICES

APPENDIX A: PROPOSED DEVELOPMENT LAYOUT



APPENDIX B: SUPPORTING INFORMATION FOR TREE ASSESSMENT TABLE

B.1 TREE PROTECTION ZONE CALCULATION

A Tree Protection Zone (TPZ) is a radial distance measured from the centre of the trunk of the tree. The intention of the TPZ is to minimise incursions to the root system and canopy to ensure the long-term health and stability of the tree. A commonly used delineation for the TPZ is the dripline (extent of the crown spread projected to the ground plane). However, this may not provide adequate protection for trees that have prominent leans or distorted imbalanced or narrow crowns. A more appropriate guideline is the trunk diameter.

The Tree trunk measurement is recorded and known as the Diameter at Breast Height (DBH) at 1.4 metres from ground level using a metric tape measure. The TPZ area is then calculated by $DBH \times 12$.

The TPZ incorporates the Structural Root Zone (SRZ). The SRZ is the area required for tree stability and has a standard calculation formula. The SRZ calculation is only used when a major encroachment into a TPZ is proposed.

B.2 TREE AGE TERMINOLOGY

Rating	Description
Juvenile	Less than 20% of the life expectancy for the species
Semi-mature	Middle age trees, 20% to 50% of life expectancy
Mature	Greater than 50 – 80% of the life expectancy for the species
Over-mature	Greater than 80% of the life expectancy for the species, senescent tree, or those declining irreversibly to death

B.3 DEFINITION OF ASSESSED HEALTH AND CONDITION OF TREE

The condition of each tree has been rated in overall terms as one of the following:

Rating	Description
Good	The tree is generally healthy, vigorous, and free from the presence of major disease, obvious structural weaknesses, and fungal or insect infestation. It is expected to continue to live in the same condition as at the time of the inspection. Only small recommendations may be required to help continue the trees longevity.
Fair	The tree is generally vigorous but has some indication of decline possibly due to the early effects of disease, fungal or insect infestation, affected by physical (storm damage) or mechanical damage (Vandalism or involved in an accident by a vehicle), or is faltering due to the modification of the tree's environment essential for its survival. This tree group may recover with remedial work undertaken by a Qualified Arborist where appropriate or without intervention and may regain some vigour and stabilise over time. Medium recommendations are required to bring this tree up to a satisfactory standard.
Poor	The tree is exhibiting symptoms of advanced and irreversible decline due to possible factors such as fungal infestation, termite damage, ring barking of the tree's trunk due to borer infestation. Symptoms observed can include major die-back in branches, foliage thinning in the crown, and epicormic growth throughout the inner canopy. This tree group will normally decline further to death regardless of remedial works or modifications undertaken.
Dead	The tree is no longer alive and is in poor structural condition, that may cause damage to people or property and removal is strongly recommended.

B.4 ASSESSED STRUCTURAL CONDITION

This refers to the tree's form and growth habit, modified by its environment, including the state of the trunk and main structural branches. It considers the presence of defects such as decay, weak branch junctions and other visible abnormalities. Although some trees without defects fail in major storms, the presence of any defect will increase the chances of failure.

Rating	Description
Good	Trees with a single dominant trunk along which evenly spaced branches are spread. Branches have properly formed collars which provide strong attachment to the trunk and are about 25% of the trunk diameter. Minor structural defects may be present with low failure potentials.
Average	Trees with structural defects with low failure potential.
Fair	Trees with structural defects with medium failure potentials and require monitoring on an annual basis.
Poor	Trees with defects which have failed, or have a high risk of failing soon, and corrective action must be taken soon as possible.

B.5 SAFE USEFUL LIFE EXPECTANCY (SULE)

The remaining Safe Useful Life Expectancy of a tree is an estimate of the sustainability of the tree within the site/landscape, calculated based on an estimate of the average age of the species in an urban area, compared with its estimated current age. SULE ratings are estimated in line with the following table:

	1 LONG - 40+ yrs	2 MEDIUM - 15 to 40 yrs	3 SHORT- 5 to 15 yrs	4 REMOVAL - < 5 yrs	5 MOVED OR REPLACED
	Likely to be useful for over 40 years with acceptable risk and assuming reasonable maintenance	Likely to be useful for 15-40 years with acceptable risk and assuming reasonable maintenance	Trees that appeared to be retainable at the time of assessment for 5 to 15 years with acceptable level of risk.	Tree to be removed within the next 5 years	Tree which can be reliably moved or replaced.
A	Structurally sound trees growing in positions that can accommodate future growth	Trees which may only live 15-40 years	Trees that may only live between 5 and 15 more years.	Dead, dying, suppressed or declining trees through disease or inhospitable conditions.	Small tree less than 5m in height.
B	Trees which could be made suitable for long term retention by further care	Trees which may live for more than 40 years but which would be removed for safety or nuisance reasons	Trees which may live for more than 15 years but which would be removed for safety or nuisance reasons	Dangerous trees through instability or recent loss of adjacent trees.	Young trees less than 15 years old but over 5m in height.
C	Trees of special significance for history, commemorative or rarity reasons that warrant extraordinary efforts to secure their long-term future	Trees that may live for more than 40 years but would be removed to prevent interference with more suitable individuals or to provide space for new plantings	Trees that may live for more than 15 years but should be removed to prevent interference with more suitable individuals or to provide space for new plantings	Dangerous trees through structural defects including cavities, decay included bark, wounds, or poor form.	Trees that have been pruned to artificially control growth.
D		Trees which could be made suitable for medium term retention by remedial care	Trees which require substantial remediation tree care and are only suitable for retention in the short term.	Damaged trees that are clearly not safe to retain.	
E				Trees that may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to provide space for new plantings	
F				Trees damaging Or which may cause damage to existing structures within the next 5 years	
G				Trees that will become dangerous after removal of other trees for reasons given in A) to F)	

SULE table adapted from Barrell (1995).

NOTE: No tree is “safe” i.e. entirely without hazard potential. The SULE rating given to any tree in this report assumes that reasonable maintenance will be provided by & qualified arborist using correct and acknowledged techniques. Retained trees are to have a reasonable setback and be protected from root damage. Incorrect practices can significantly accelerate tree decline and increase hazard potential.

B.6 ECOLOGICAL SIGNIFICANCE

These categories are based upon the criteria used in the Thyer Tree Valuation Method (1996) to evaluate a tree's ecological benefit.

Rating	Description
None	Weed species
Low	Restricts desirable plants or of little benefit to fauna.
Medium	Beneficial to flora & fauna provides food source and/or shelter.
High	Remnant /indigenous species of native vegetation.
Very High	Indigenous species being an integral part of a natural ecosystem.

B.7 LANDSCAPE SIGNIFICANCE

The site's **Landscape Significance** is a subjective value determined by assessing a combination of cultural, environmental, and aesthetic values of the subject trees. This may aid in determining their overall retention value. Generally, the Landscape Significance of the subject trees has been determined using the following criteria:

RATING	DESCRIPTION
HIGH	The subject tree is listed as a Heritage Item under the <i>Local Environmental Plan</i> with a local or state level of significance.
	The subject tree forms part of the curtilage of a heritage item.
	The subject tree creates a 'sense of place' or is considered 'landmark' tree.
	The subject tree is of local, cultural, or historical importance or is widely known.
	The subject tree is listed on Council's Significance Tree Register.
	The subject tree is scheduled as a Threatened Species or Threatened Plant Community under replaced by the Biodiversity Conservation Act (2016)
	The subject tree is a remnant tree.
	The subject tree is a locally indigenous species and is representative of the original vegetation of the area.
	The subject tree provides habitat to a threatened species.
	The subject tree is an excellent representative of the species in terms of aesthetic value.
MODERATE	The subject tree makes a positive contribution to the visual character or amenity of the area.
	The subject tree provides a specific function such as screening or minimising the scale of a building.
	The subject tree has a known habitat value.
	The subject tree is a good representative of the species in terms of aesthetic value.
LOW	The subject tree is an environmental pest species or is exempt under the provisions of the local Council's Tree Preservation Order.
	The subject tree makes little or no contribution to the amenity of the locality.
	The subject tree is a poor representative of the species in terms of aesthetic value.
NIL	The subject tree is declared a Noxious Weed under the Biosecurity Act (2015)

*NOTE: If the tree can be categorised into more than one value, the higher value should be allocated.

B.8 RETENTION VALUE WITHIN THE LANDSCAPE

The Retention Values of the trees have been determined based on the estimated longevity of the individual tree with consideration of its landscape significance rating. Together with recommendations contained within this report, the information should be used to determine the most appropriate action for trees considered for either retention or removal.

Retention Value Rating	Landscape/Environmental Significance						
	1- Very High	2- Very High to High	3- High to Moderate	4 - Moderate	5- Moderate to Low	6- Low	7- Nil
HIGH – (H) Greater than 40 Years	High Retention Value		Moderate Retention Value		Low Retention Value		
MEDIUM- (M) 15 to 40 Years							
LOW – (L) 5 to 15 years							
Less than 5 Years							
Dead or Hazardous							

APPENDIX C: TREE PROTECTION ZONES

The Tree Protection Zone (TPZ) is the designated area around a tree where optimum protection and preservation efforts should be implemented.

Root systems have two major functions, which are to obtain water and minerals from the soil and to give anchorage support to the tree. Most of the root system is in the surface 600mm to 800mm deep, extending radially for distances which are frequently in excess of the tree height. Unless conditions are uniform around the tree, which would be highly unusual, the extent of the root-systems can be irregular and difficult to predict. As tree roots are very opportunistic, they will not generally show the symmetry seen in the aerial parts.

On average, the tree's roots will extend to the outer reaches of their canopies, depending on morphology and disposition of the individual tree roots, and known to be influenced by past or existing site conditions including but not limited to;

- The individual tree species,
- Soil type, structure, and location,
- Topography and existing drainage,
- Location of either manmade hard structures or environment
- Pruning requirements, if required,

No disturbance should occur within this area. It is calculated by using a formula that considers the tolerance level of the species to disturbance, its age class, and its condition and trunk diameter.

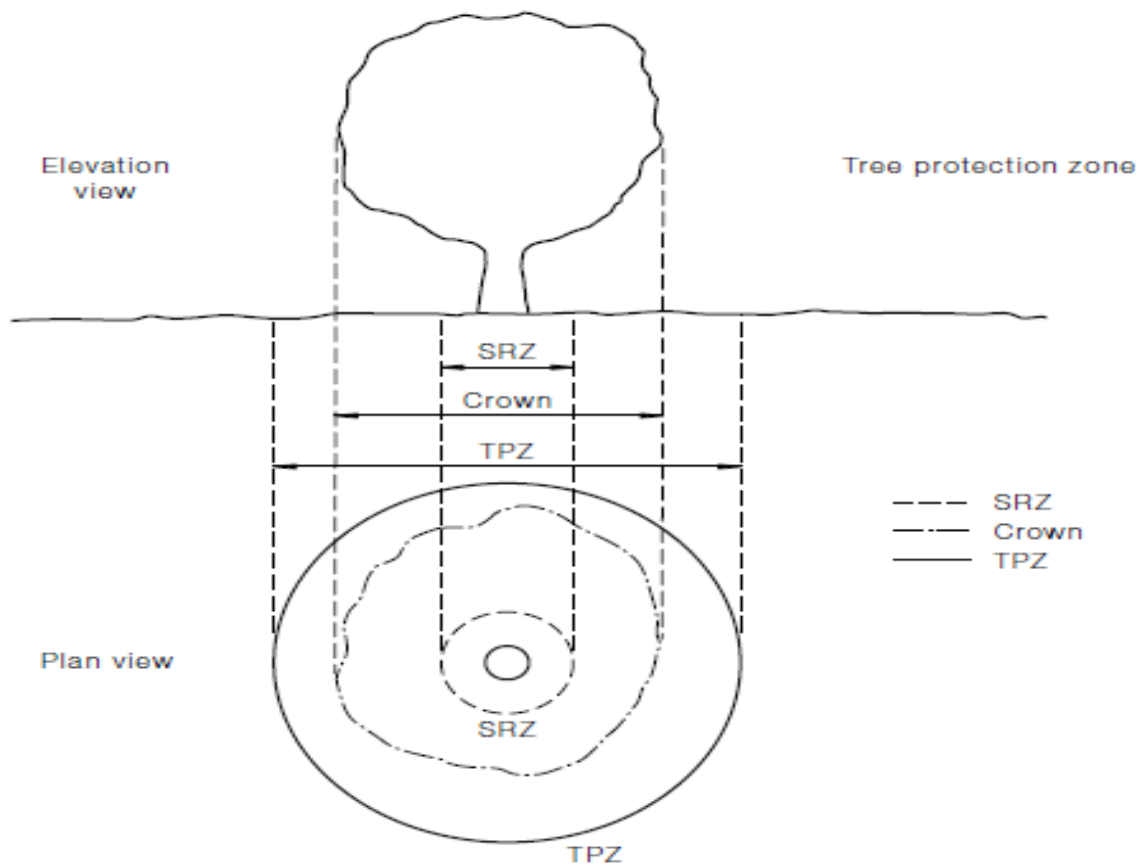
The main area for surface feeding roots to occur is from the tree trunk to the outer canopy known as the drip zone. These fibrous roots are less likely to occur under or near other buildings, as there is little surface moisture or soil air presence for root survival. These fibrous roots are those that take up water and nutrients.

While some tree roots will deeply penetrate the soil profile, in search of available water, most will occupy the first 60-80cm of the soil, as to obtain the needed sustenance. At times, it will not be possible to retain the optimum TPZ around each tree and any activities proposed within this area must be carefully analysed to minimise any effects on its health and/or stability.

The actual spread of the root system is largely dependent on the species involved, and their localised environment. Any work carried out within the TPZ should be reviewed and supervised by an appropriately qualified Arborist.

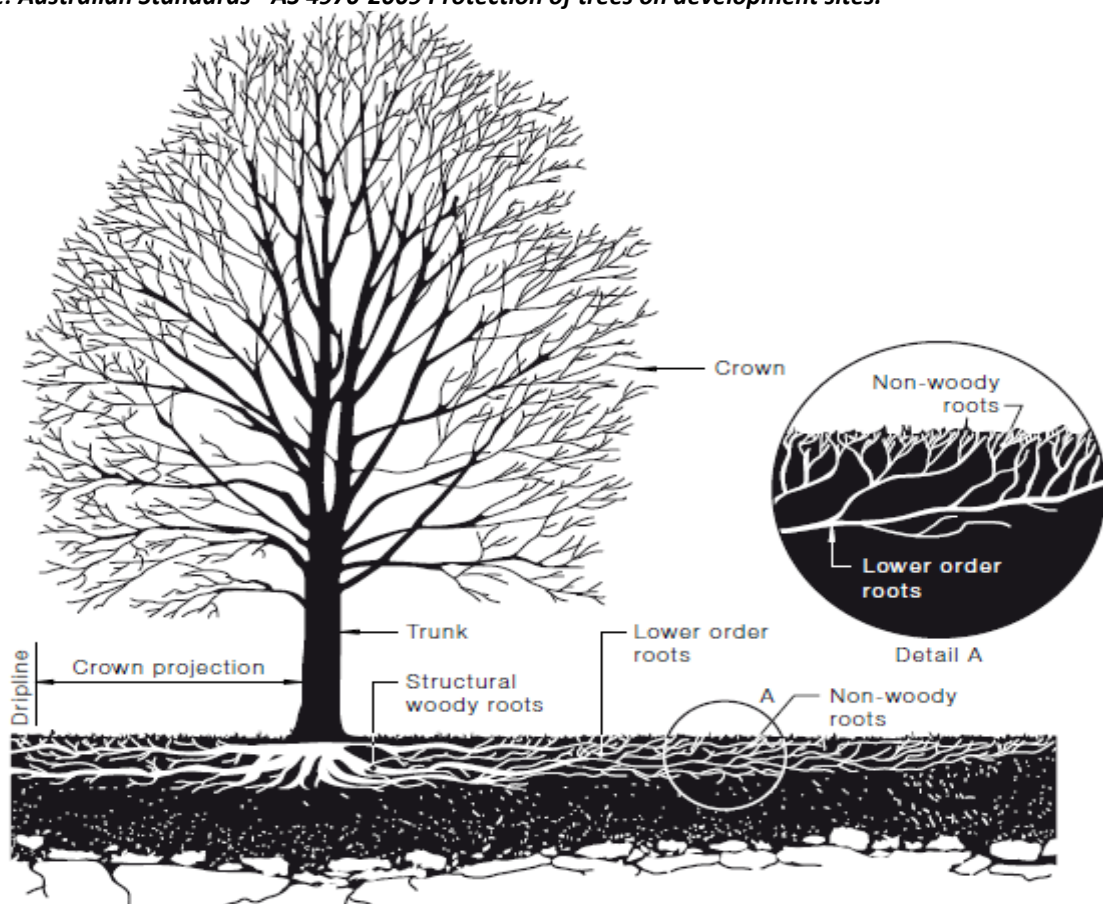
Construction works proposed to be undertaken around the trees if not correctly assessed may modify the natural water table and reduce the amount of soil air and moisture present/available to the trees and their longevity may be greatly diminished. Changing the drainage patterns around a tree by constructing a building, driveways, road, and paths etc will alter the amount of water the tree receives and may cause root death or damage. Trenches dug beside or adjoining large trees for water, sewer or services may also damage the roots and will make a tree unstable.

Older trees will tolerate far less stress than younger trees as with age they become less responsive and find it very strenuous to respond to changes in their environment.



C.1. Diagram of the TPZ and SRZ of a typical tree.

Source: Australian Standards - AS 4970-2009 Protection of trees on development sites.



C2. Diagram of a typical tree root structure.

Source: Australian Standards - AS 4970-2009 Protection of trees on development sites.

APPENDIX D: TERMINOLOGY

CO-DOMINANT STEMS: The term 'co-dominant' is used to describe two or more stems or leaders that are approximately the same diameter and emerge from the same location on the main trunk. The junction where the two stems meet is a common location of above ground tree failure (Harris, Clark & Matheny, 1999).

CONDITION: An evaluation of the structural status of the tree including defects that may affect the useful life of an otherwise healthy specimen. Influencing factors include cavities and decay, weak unions between scaffolds (major branches) or trunks and faults of form or habit.

DBH: Acronym for trunk diameter at breast height (1.4m from ground level).

DEADWOOD: Deadwood is a normal function for plant growth and development. The safety of the target, namely pedestrians, is considered the primary basis for deadwood removal. As deadwood has an ecological value, the removal of deadwood is usually only carried where it is a potential hazard to site users. Deadwooding a tree does not increase its life expectancy.

DIEBACK: Dieback is the progressive death of branches or shoots originating from the tips. Dieback and decline are parts of a disease complex that have similar causal agents. Crown dieback is a recognizable, visible symptom of the early stages of decline and potential tree death.

DOMINANT: Trees with crowns above the upper layer of the canopy and generally receiving light from above and the sides.

EDGE: Trees located on the edge of a more dominant canopy of trees, and frequently possessing asymmetrical crowns, (heavier on the open side) and trunks that may be distorted due to competing with others for valuable nutrients i.e. soil air, water, light.

EPICORMIC GROWTH: Epicormic growth comes from dormant buds held in the cambium. Under normal growth conditions, these buds are held in a dormant state by hormones produced in the canopy. These shoots are often produced by the tree in response to injury or environmental stress. Epicormic growth has implications for tree structure as the attachment of an epicormic shoot is much weaker than that of a 'naturally' developed branch.

FOREST: Trees that have grown in a forest setting and only have about 1/3 of their canopy located on tall straight trunks.

INCLUDED BRANCH JUNCTIONS: Included branch junctions often form when two branches or trunks grow together at sharply acute angles, producing a wedge of inward-rolling bark. Junctions with included bark form weak attachments, as there is little connective tissue between the two stems.

INTERMEDIATE: Trees that have been overtopped, and become part of the understory canopy

MYCORRHIZAE: Mycorrhizae are fungi that grow in symbiotic association with tree roots (especially the fine root hairs) and are attributed with increasing the uptake of nutrients, particularly phosphorus, and reducing infection from soil borne pathogens. They greatly increase the surface area of a tree's root system. Mycorrhizae require aerobic soil conditions and are reduced in number by compaction, waterlogging, and over-use of soil fertilisers. Forest litter or similar mulch provides ideal conditions for the proliferation of mycorrhizae.

NON-WOODY ROOTS: Extending from the woody root system, a mass of non-woody, fine feeder roots develop. These non-woody roots are active in water and nutrient uptake, are fine in structure, typically less than 0.5mm diameter, and include mycorrhizal associations with some soil fungi.

PROJECT ARBORIST: The person responsible for carrying out the tree assessment, report preparation, consultation with designers, specifying tree protection measures, monitoring, and certification. The project arborist will be suitably experienced and competent in arboriculture, having acquired through training, qualification (minimum Australian Qualification Framework (AQF) Level 5, Diploma of Horticulture (Arboriculture)) and/or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this Standard.

ROOT PLATE: This forms the main structural woody roots which provides overall anchorage for the tree. It is this central part of the root-system (large root mass with sub-soil normally attached) which may tilt over or rotates in storm events.

STRUCTURAL ROOT ZONE (SRZ): The area around the base of a tree required for the tree's stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. This zone considers a tree's structural stability only, not the root zone required for a tree's vigour and long-term viability, which will usually be a much larger area.

TREE HAZARD POTENTIAL: An assessment of the risks associated in retaining a tree in its existing or proposed surrounds. Factors to consider are the growth characteristics of the species, tree vitality, condition and the frequency and type of potential targets. The impact the proposed works may have on tree vitality can only be assumed.

TREE PROTECTION ZONE (TPZ): A specified area above and below ground, and at a given distance from the trunk, set aside for the protection of a tree's roots and crown to provide for the viability and stability of a tree to be retained.

TREE: Long lived woody perennial plant greater than (or usually greater than) 3 m in height with one or relatively few main stems or trunks (or as defined by the determining authority).

VIGOUR: Ability of a tree to sustain its life processes. The term 'vigour' in this document is synonymous with commonly used terms such as 'health' and 'vitality'.

VITALITY: Indicates the energy reserves of the tree and is determined by the observed crown colour and density, the percentage of dead / dying branches and epicormic growth. The vitality of the canopy and that of the root system is interdependent. Root damage or heavy pruning draws on a tree's energy reserves. The tree's ability to initiate internal defence systems (compartmentalisation of damage) is reduced and it can also become predisposed to attack by insects and pathogens.

WOODY ROOTS: Beyond the root plate the root system rapidly subdivides into smaller diameter woody roots (hydrotopic) which conduct water and nutrients from the non-woody roots.

WORK: Any physical activity in relation to land that is specified by the determining authority.

WOUNDING: Wounding may be the result of mechanical injury from construction equipment; branch failure, splitting or cracking during high wind events. The long-term effects of tree wounding are the potential development of decay and loss of wood strength.

APPENDIX E: REFERENCES

American Society of Consulting Arborists (1995), *A Guide to Report Writing for Consulting Arborists*, International Society of Arboriculture, USA.

Australian Standard, 4970; 2009 – Protection of Trees on Development Sites, Australia

Barrell, J., (1993) 'Pre-planning Tree Surveys: Safe Useful Life Expectancy {SULE} is the Natural Progression' *Arboricultural Journal* Vol. 17, pp 33-46, AB Academic Publishers, Great Britain.

Barrell, J., (2001) 'Safe Useful Life Expectancy Categories updated 4/01' from Management of Mature Trees, proceeding of the 4th NAAA Tree Management Seminar, National Arborists Association of Australia, Sydney, Australia, Appendix 3.

Bradshaw, Hunt & Walmsley (1995), *Trees in the Urban Landscape*, E & FN Spon, London.

Dunster, J. A., Smiley, E. T., Matheny, N. P., & Lilly, S. (2017). *Tree Risk Assessment Manual*. International Society of Arboriculture.

Hadlington & Johnston (1988), *Australian Trees: Their Care & Repair*, UNSW Press, Sydney.

Harris, Clark & Matheny (1999), *Arboriculture: Integrated Management of Landscape Trees*,

Heatwole, H. & Lawman, M. (1986) 'Dieback. death of an Australian landscape' Reed Books Pty Ltd. Frenchs Forest, NSW

Matheny & Clark (1994), *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas*, International Society of Arboriculture, USA

Mattheck & Breloer (1994), *The Body Language of Trees: A Handbook for Failure Analysis*, The Stationary Office, London.

Thyer, P. (1996) 'Thyer Tree Valuation Method'

www.whereis.com.au.

www.Nearmaps.com.

Canterbury Bankstown City Council Development Control Plan 202

Bankstown City Council Local Environmental Plan 2023

APPENDIX F: CERTIFICATION

I certify that the enclosed "Arboricultural Impact Assessment" for the proposed development at 30 to 46 Auburn Road, Regents Park NSW has been prepared by Horticultural Management Services.

To the best of my knowledge and professional integrity, it is true in all material particulars and does not, by its presentation or omission of information, materially mislead.

Qualifications:

- *Diploma of Arboriculture (AQF L5)*
- *International Society of Arboriculture (ISA) Tree Risk Assessment TRAQ Certified*
- *Diploma of Horticulture*
- *Diploma of Conservation and Land Management*

Scott Freeman

Scott Freeman
Principal
Horticultural Management Services

© Copyright Horticultural Management Services 2023