

“GROWING MY WAY”

Tree Consultancy

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EXCELLENCE in ALL ASPECTS OF TREE MANAGEMENT

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Construction Impact & Management Statement

March 2021

Site:	Lot 2 in DP 13100 53 The Avenue NEWPORT, NSW
Client:	Bill & Margot Kerley 53 The Avenue NEWPORT, NSW 2106
Author:	Kyle A Hill Registered (Arb Aus #1884) Practising & Consulting Arborist Post Graduate Certificate in Arboriculture, Uni of Melb Diploma of Horticulture-Arboriculture TAFE, Grow SA Certificate of Horticulture, TAFE Certificate Advanced Tree Care TAFE Founder -Growing My Way Tree Services (1977) Member of International Society of Arboriculture Member of Arboriculture Australia

1 Summary

Bill & Margot Kerley (property owners) commissioned the Growing My Way Tree Consultancy (GMW) to prepare a *Construction Impact & Management Statement* relative to the proposed *Alterations/Additions* within the property known as 53 The Avenue, Newport, (from herein the subject site).

One (1) tree has been identified as being required to be discussed relative to the proposal for Alterations/Additions. The discussed in detail tree is subject to the tree management provisions as defined within the *Northern Beaches Council (from herein NBC) "Tree Management Provisions" plus the new SEPP "Vegetation in non-rural Areas, August 2017.* The discussed tree is confirmed to be by site survey within the adjoining common boundary property known as 53A The Avenue. (Over time the discussed tree trunk appears to have breached the common boundary of 53 & 53A The Avenue). Multiple other trees are located within both the subject site & adjoining common boundary properties but are not discussed as they are well away from & therefore not impacted upon the proposed works supported within this document.

The discussed tree is proposed to be retained.

The proposal is able to satisfy compliance criteria with the *Australian Standard (AS4970-2009 Protection of trees on development sites).*

Motor vehicle & pedestrian access is via The Avenue.

The sole consent authority is the NBC. The old *Pittwater Council Planning Instrument (Local Environment Plan, 2014)* applies at the time of writing.

Information related to the discussed trees was gathered by onsite data collection with cross referencing to:

- Site Survey by (TSS) Total Surveying Solutions, dated, 12 November 2019;
- Plans, Sections & Elevations, by Baikie Corr, Rev. C, dated, 17 February 2021;
- Pittwater Council/NBC "Tree Management Provisions" &
- SEPP 'Vegetation in Non-Rural Areas, 25 August 2017.

The aim of this report is:

1. To confirm individual trees health, vigour & condition considering any impact foreseen by the proposed demolition & redevelopment.
2. Confirm the Site-Specific 'Tree Plan of Management' for nearby trees to be retained, protected & managed is AS4970-2009 compliant.

This document supports (relative to tree management) the proposal for *Alterations/Additions*.

Kyle A Hill (AQF level 5 & 8 *Practicing/Consulting Arborist*) has prepared this report based on "Visual Tree Assessment" (VTA). Data was collected on Saturday, 24 October 2020.

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2 Introduction

This report contains observations & recommendations intended to assist in the management of the one (1) tree identified as necessary to be discussed by virtue of its location & proposed works.

Built form within the subject site is a two-storey clad residence with metal roof. It functions as a single dwelling residence with both hard & soft landscaping features.

This document supports the proposed *Alterations/Additions* with respect to tree management issues.

We confirm to be familiar with both the old *Pittwater Council* & now *NBC* “*Tree Management Provisions*” *plus the new SEPP “Vegetation in non-rural Areas, August 2017”*.

The sole consent authority is *NBC*.

The subject site is NOT within a *NBC* designated “*Heritage Conservation Area*”. The subject site is confirmed to NOT be a listed “*Heritage Item*” nor are any of the discussed trees known to be listed on any “*Significant Tree Register*”. No trees discussed are captured as being subject to the protection provisions within the state legislated ‘*NSW Scientific Committee*’-final determination, (*Threatened Species Conservation Act*) which identifies & protects the ‘*Pittwater spotted gum forest–endangered ecological community listing*’ under ‘*NSW legislation*’. The subject site is confirmed to be within a ‘*C03*’, “*Wildlife Corridor*” – “*Residential areas with some tree cover but requiring supplementary planting to aid fauna movements*” as defined within the *Pittwater 21 DCP* (see page 8).

The one (1) discussed tree is supported to be retained, protected & managed prior to the commencement of any works thru completion of such works.

The subject site is zoned “*E4*”, ‘*Environmental Living*’.

A Site Specific “*Tree Plan of Management*” is included within this document.

3 Methodology

Assessment of the discussed tree has been from ground level by eye, using *Visual Tree Assessment* * (VTA) techniques developed by Claus Mattheck. The principles of VTA are explained in his widely-used reference book “*The Body Language of Trees* (1994)”.

Assessment includes:

- Tree’s current condition & likely future health. Species tolerance to root disturbance &/or development
- Likely future hazard potential to persons & property
- Tree’s amenity value, such as significance, screening & habitat.

No root analysis, soil testing, ‘Resistograph’® drilling or aerial canopy inspection was undertaken. See the following Appendices for further information:

- Appendix A Glossary of Common Arboreal terms
- Appendix B Tree Protection & Management

* **VTA–Visual Tree Assessment**, as referenced is a systematic inspection of a tree for indicators of structural defects that may pose a risk due to failure. Stage 1 is made from ground level (i.e. no aerial inspection is undertaken). An aerial inspection (Stage 2) is undertaken when there are easily identified visual indicators that suggest such an inspection is merited. Visual indicators are outlined within *The Body Language of Trees* (Mattheck & Breloer, 1994). VTA is a broadly used relatively standardised approach. More complex (can be invasive) diagnostic fault detection equipment may be recommended once visual indicators of potential defects are confirmed.

4 Observations

4.1 The Site

The report discusses only trees within Lot 2 of DP 13100. The site is 719.40m² by Title & Site Survey in size. The site is linked to one (1) public road & two (2) developed residential lots.



Figure 1: Aerial photograph with lot boundaries courtesy of NBC website tool.

The subject site is Land Zoned “E4” ‘Environmental Living’.

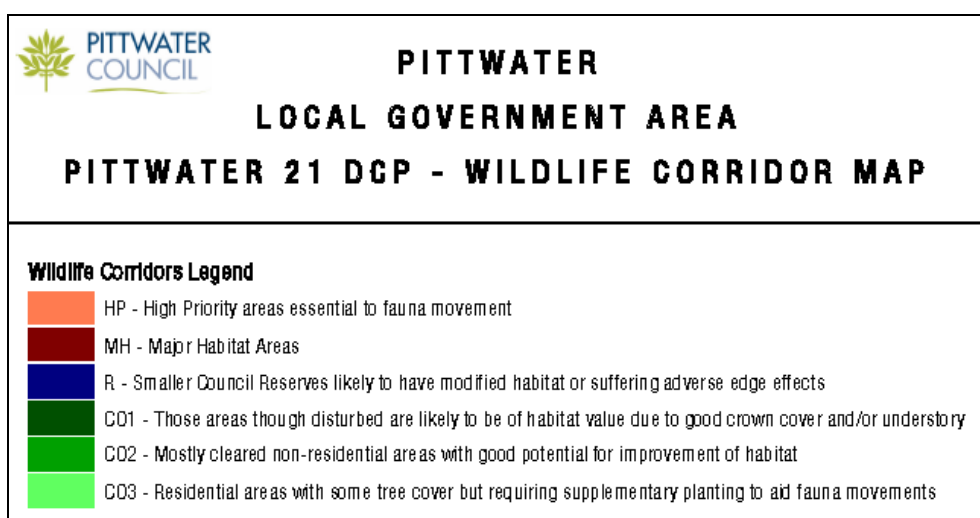
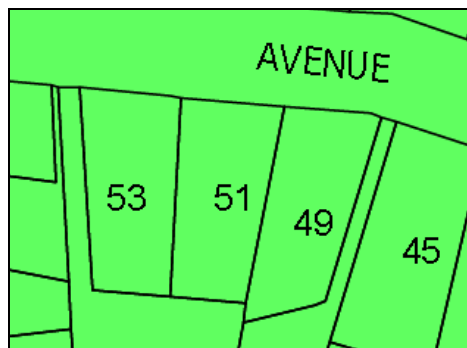


Figure 2: Confirms Pittwater 21 DCP-Wildlife Corridor Status.



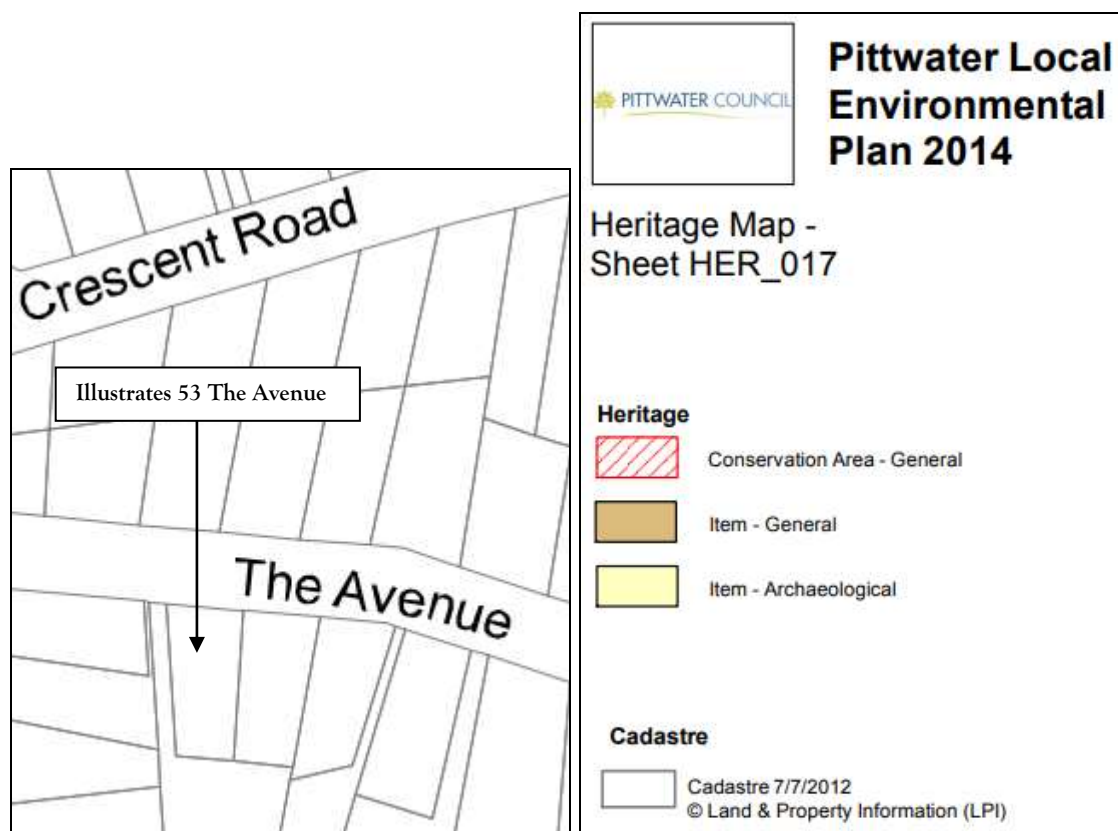


Figure 3: Above & previous page illustrates Land Zoning & Heritage Conservation Area status.

The site is NOT within a NBC designated “Heritage Conservation Area” (see page 6). The site is also confirmed to NOT be a listed “Heritage Item” nor is it near any listed “Heritage Item”. The discussed tree is NOT known to be on any ‘significant tree register’. The subject site & local environs are located within a designated ‘Wildlife Corridor’ C03 – “Residential areas with some tree cover but requiring supplementary planting to aid fauna movements”.

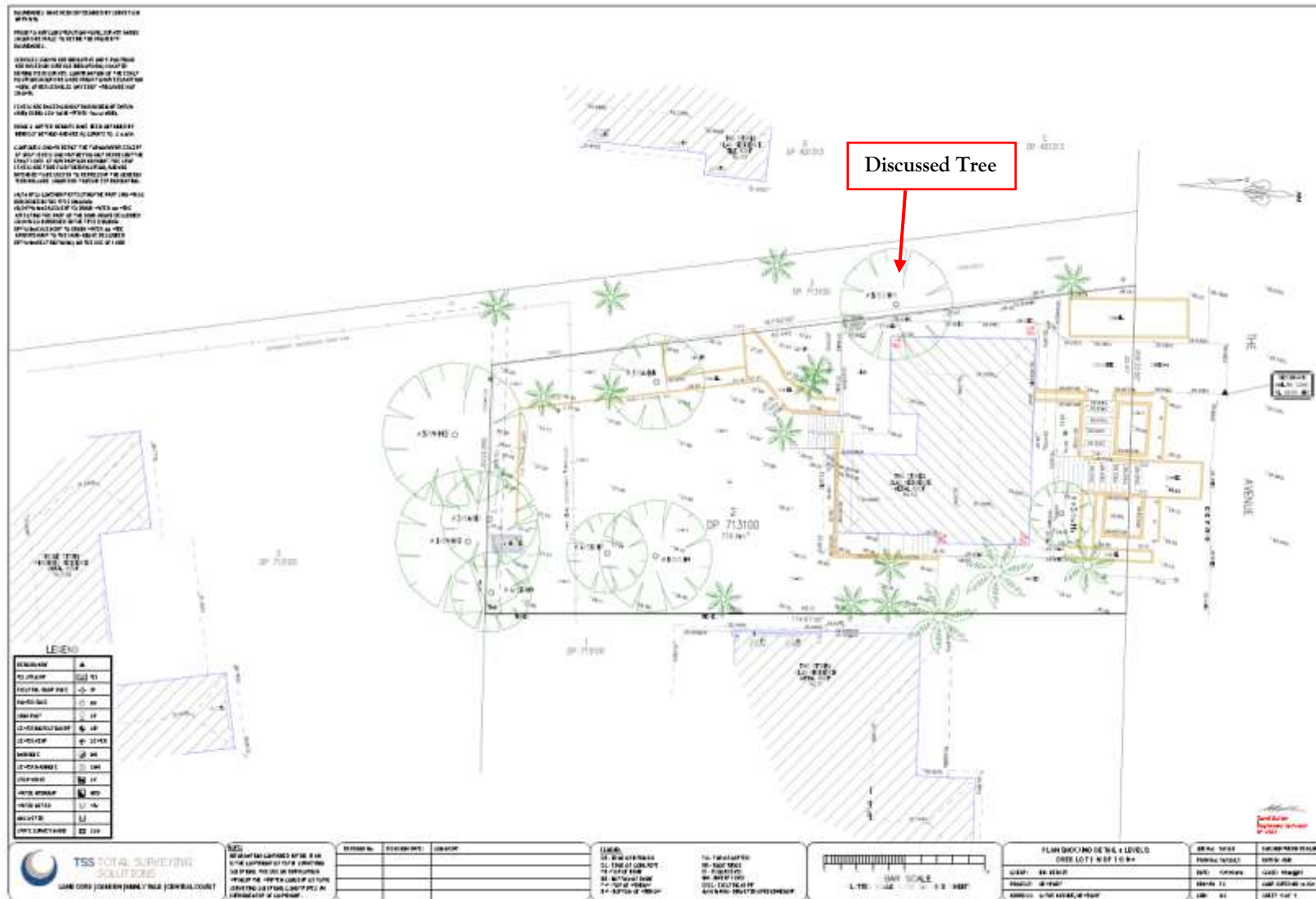
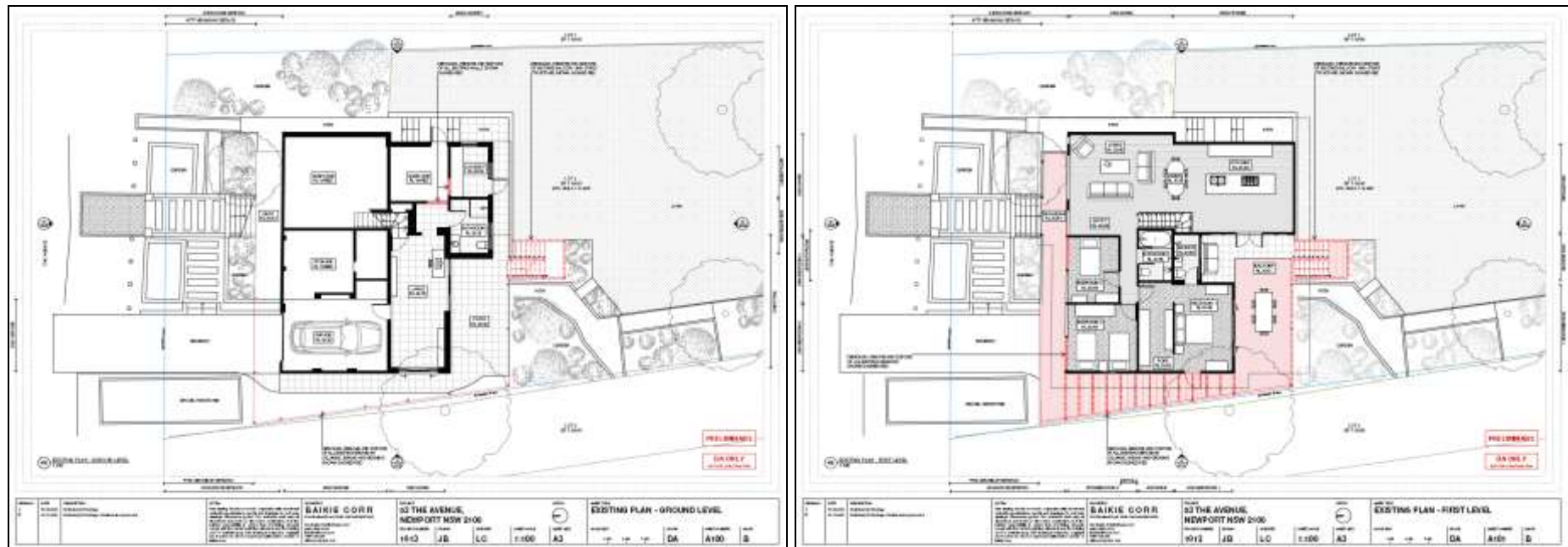
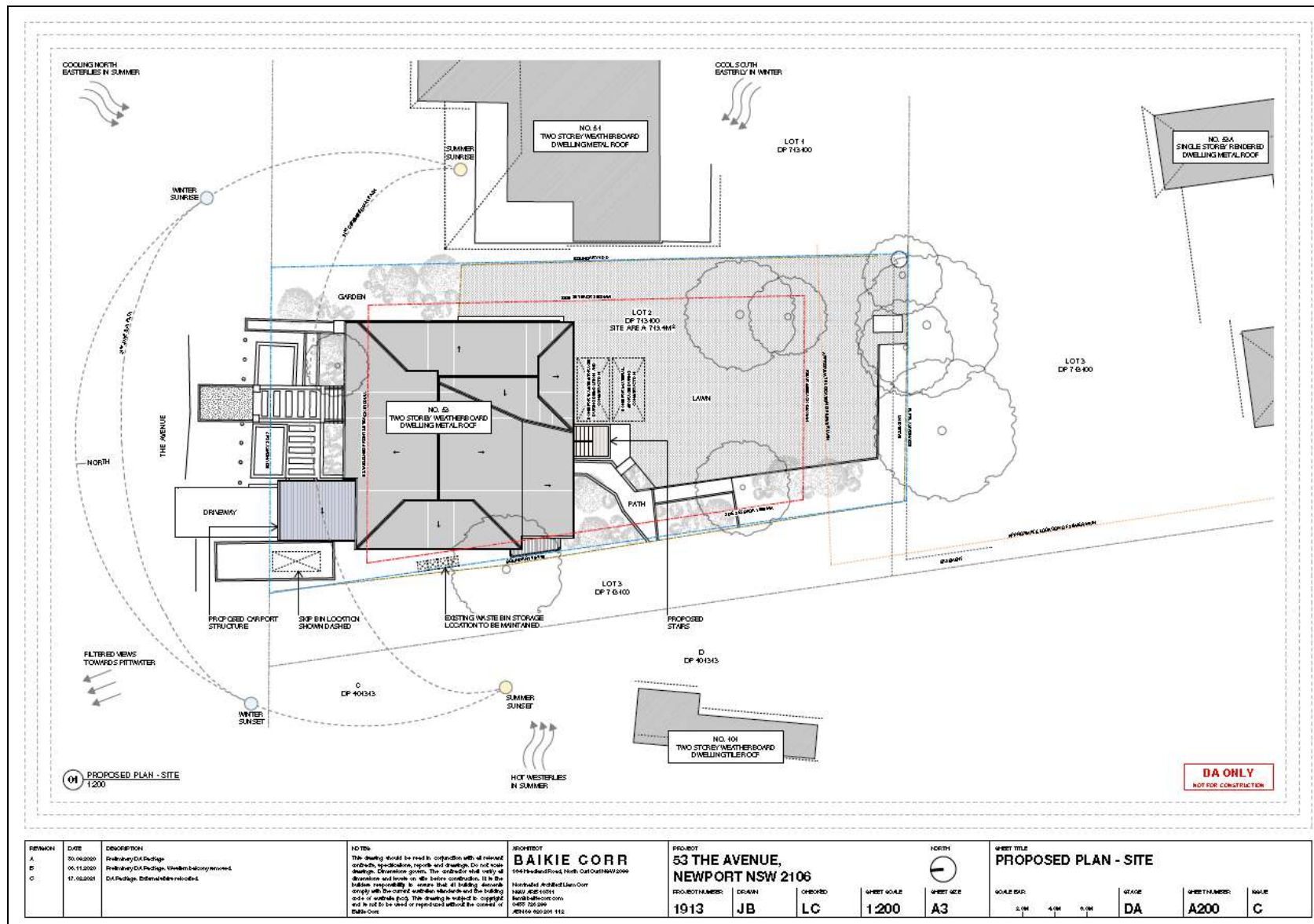
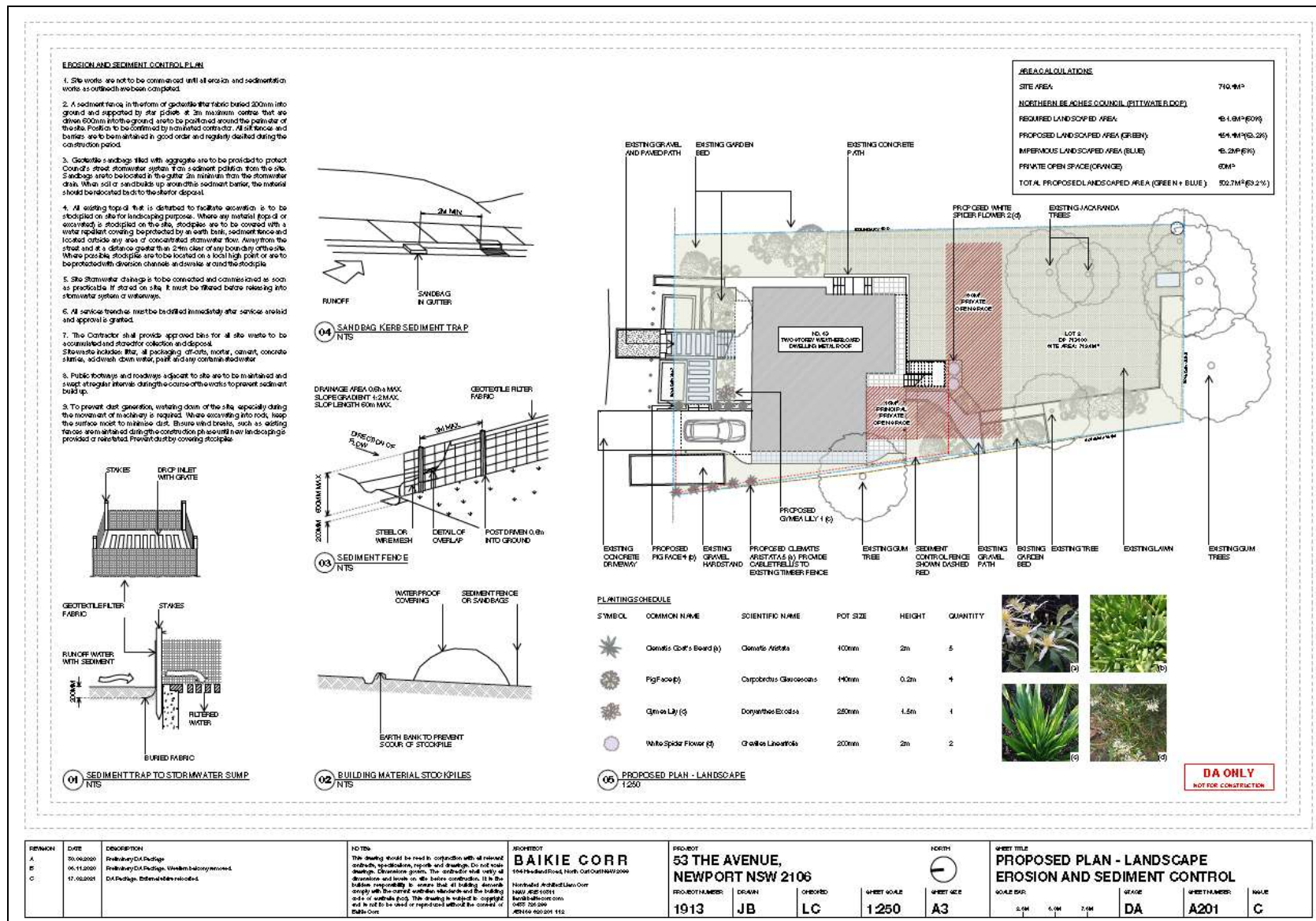


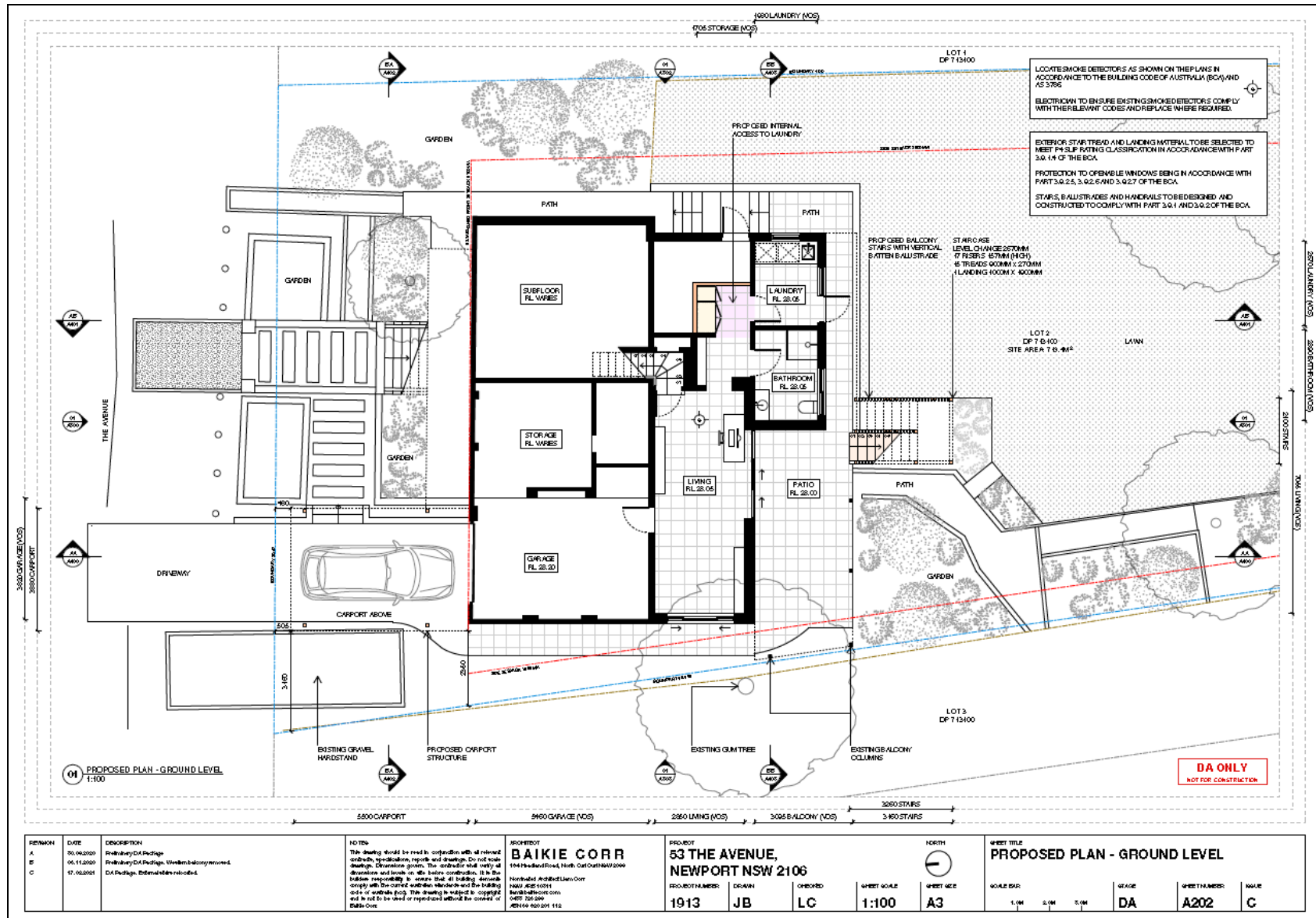
Figure 4: Site Survey with discussed Tree Location plotted.

4.2 The Proposal









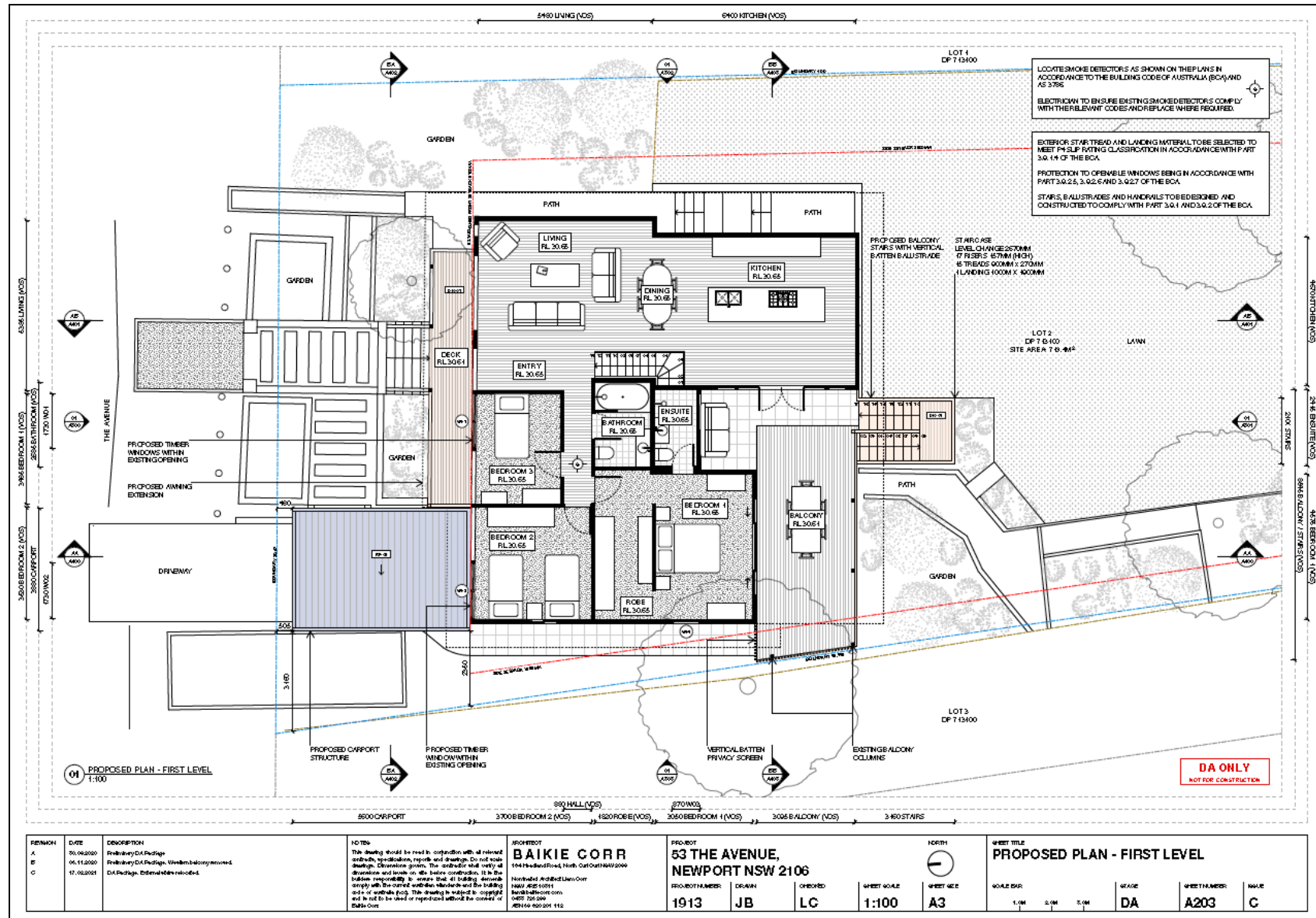




Figure 6: (Above & pages 11-14) Illustrates the proposed Plans, Elevations & Sections.



Figure 7: Illustrates the as proposed finished artist impressions of the completed project.

4.3 Tree Locations & Site Images





Figure 8: Previous page & above illustrates the discussed tree as viewed from adjoining common boundary property driveway.

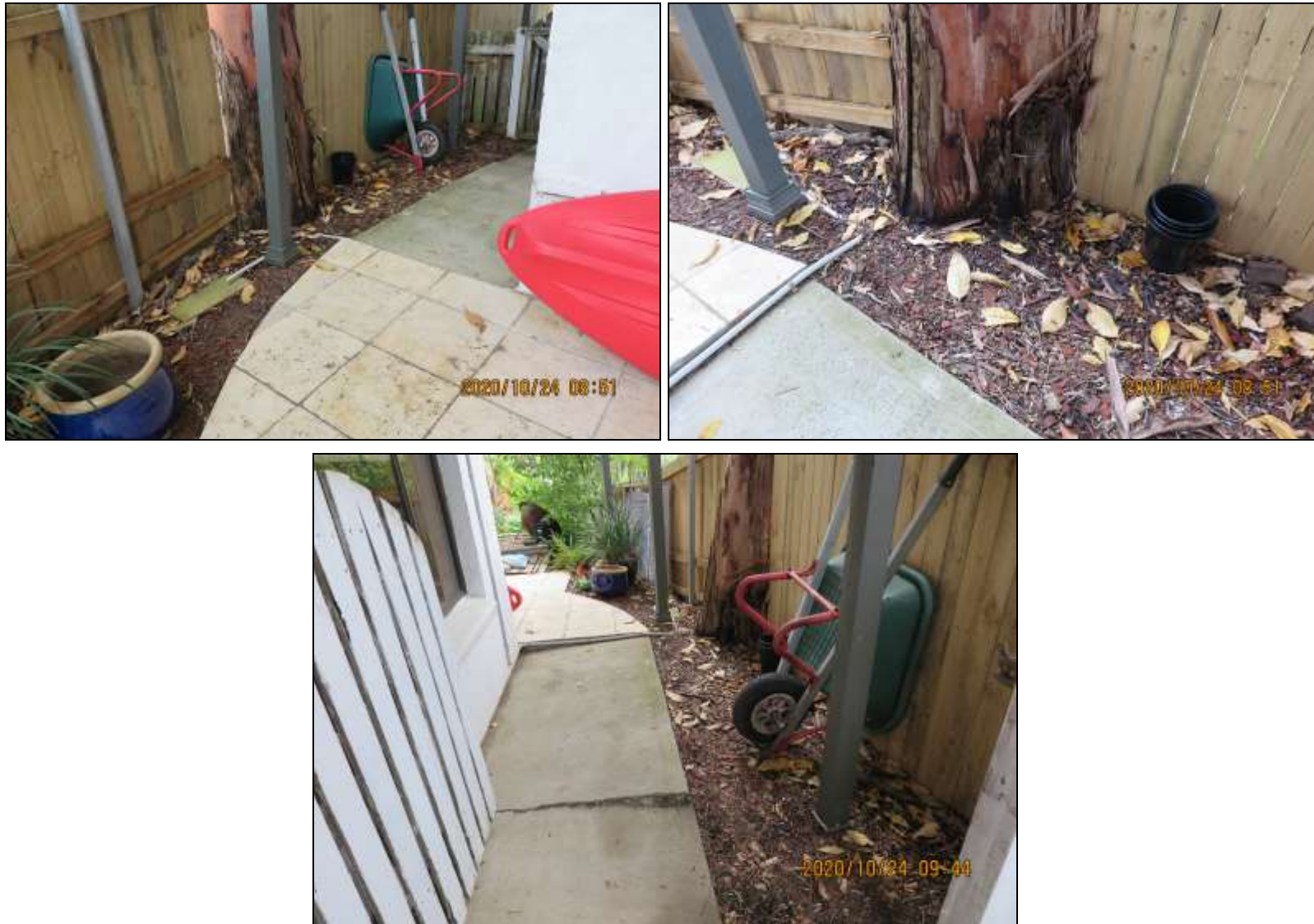


Figure 9: Illustrates existing subject site infrastructure.

4.4 The Tree – Summary Table

Read this table in conjunction with Appendix A–Common Arboreal Terms

Trees Recommended for removal

Trees Recommended for retention

Exempt species

Trees retainable but of low amenity

	Identification	Height (m)	Crown (m)	DBH (m)	TPZ (m)	SRZ (m)	Age	Health/Vigour	Structure	Significance/Retention Values	Comments
1	<i>Lophostemon confertus</i> Brushbox	<13.50	<9.50	0.67	8.10	2.90	Mature	Good & Good	Typical with single stem. Heavily pruned.	High/High	<u>Retain, Protect & Manage:</u> Tree is specified to have temporary 'Tree Trunk Guard to a minimum height of 3.00m installed prior to the issue of a 'Construction certificate'. Any Pooting/Pier sites must be manually excavated in 'flexible locations' so as to avoid damage to 'live supporting structural roots. No storage of building materials within TPZ radial distance of 8.10m.

5 Discussion

The *Australian Standard (AS4970–2009 Protection of trees on development sites)* is the guideline required to be addressed relative to best practice 'Tree Management Principles'. See Chapters 3, 4 & 5 of this document.

Discussed Tree #1 is confirmed to be very close to the proposed *Alterations/Additions*.

Tree #1 is acknowledged as being of High Significance & High Retention value by size, species, condition &/or presence. This tree is assessed as having been heavily pruned to remove/reduce canopy overhang of the subject site.

It is considered as easily retained without out any compromise to its Useful Life Expectancy with implementation of the *Site Specific 'Tree Plan of Management'* which will include installation of a temporary 'Tree trunk Guard as well as 'manual excavation for any new 'footing/pier sites' within its TPZ radial distance of 8.10m. Should a preferred 'footing/pier site' expose a 'significant diameter' (defined as being greater than 50mm in diameter) a new 'footing/pier site' is to be explored.

It is not considered practical to install normal temporary 'metal mesh fencing panels' to isolate the TPZ total surface area as the tree is mostly located within an adjoining site where it's not legal to store builders' materials etc. under any circumstances. It is specified that 'rumble boards' (Trakmats® or similar) be placed within the subject site TPZ radial distance (8.10m) where access for construction workers is essential.

Excavation required for the installation of footings/piers within the TPZ (8.10m)/SRZ (2.90m) radial distance must be completed manually with photographic evidence to be provided to the retained Principle Certifying Authority confirming NO Significant Diameter (in this situ defined as being >50mm Ø) 'live supporting root' has been damaged. Ideally, this should be completed by the sites retained Project Arborist.

Should significant diameter 'live supporting root' be exposed & deemed as not able to be worked around (relative to footing or services) the sites retained Practicing/consulting Arborist must be summonsed to manage & document with supporting photographic evidence the strategy adopted that results in the least disturbance to any significant diameter 'live supporting root'.

"Site Specific Tree Plan of Management"

TREE # & IDENTIFICATION	RETAIN MANAGE PROTECT	MANUAL EXCAVATION DOCUMENT- TATION (for footings/piers)	Install TPZ Fencing Install Tree Trunk Guard	Excavation Signoff	CC Signoff	OC Signoff
1 <i>Lophostemon confertus</i>	Yes	Yes Yes	No Yes	Yes	Yes	Yes

6 Conclusions

- **Relative to the information as presented the GMW consultancy supports the proposed works as presented in documentation reviewed.**
- **The DA submission is lodged for determination by council officers as per plans referenced considering the specified Site Specific “Tree Plan of Management”.**

If you have any questions relating to this report or implementation of recommendations, please contact Kyle Hill on 0412-221-962.

Kyle A. Hill

[AQF level 5 & AQF level 8 Registered with Arboriculture Australia (Reg #1884)
Practicing & Consulting Arborist]

7 Limitations on the use of this report

This report is to be utilised in its entirety only. Any written or verbal submission, report or presentation that includes statements taken from the findings, discussions, conclusions or recommendations made in this report, may only be used where the whole of the original report (or a copy) is referenced in, & directly attached to that submission, report or presentation.

8 Assumptions

Care has been taken to obtain information from reliable resources. All data has been verified insofar as possible; however, Growing My Way Tree Services, can neither guarantee nor be responsible for the accuracy of information provided by others.

Unless stated otherwise:

Information contained in this report covers only the trees that were examined & reflects the condition of the trees at the time of inspection.

The inspection was limited to visual examination of the subject trees without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

9 Recommended References

Barrell, J. 1993. 'Preplanning Tree Surveys: Safe Useful Life Expectancy (SULE) is the Natural Progression', Arboricultural Journal 17:1, February 1993, pp.

Barrell, J. 1995, 'Pre-development Tree Assessments', in Trees & Building Sites, Proceedings of n International Conference Held in the Interest of Developing a Scientific Basis for Managing Trees in Proximity to Buildings, International Society of Arboriculture, Illinois

Dr. G. Watson & Dr. D. Neely, 'Trees & Building Sites', LSA Illinois USA 1995

Dr. N. Matheny & Dr. J.R. Clark, 'Trees & Development', ISA Illinois USA 1998

Phillip J. Craul, 'Urban Soil in Landscape Design', J. Wiley & Sons, New York USA 1992

10 Selected Bibliography

Hitchmough, J.D. 1994. 'Urban Landscape Management', Inkata Press, Sydney.

Mattheck, C. & Breloar, H. 1994 'Body Language of Trees', The Stationery Office, London.

AS 4373:2007, 'Pruning of Amenity Trees', Standards Australia.

AS 4970:2009, 'Protection of Trees on Development Sites', Standards Australia.

BS 5837:2005, 'Guide for Trees in Relation to Construction', Standards Board, UK.

Appendix A – Glossary

Glossary of common Arboreal terms

Age:	I	<i>Immature</i> refers to a refers to a well-established but juvenile tree
	SM	<i>Semi-mature</i> refers to a tree at growth stages between immaturity & full size
	M	<i>Mature</i> refers to a full sized tree with some capacity for further growth
	LM	<i>Late Mature</i> refers to a full sized tree with little capacity for growth that is not yet about to enter decline
	OM	<i>Over-mature</i> refers to a tree about to enter decline or already declining
	LS	<i>Live Stag</i> refers to a tree in a significant state of decline. This is the last life stage of a tree prior to death

Hth & Vig Health & Vigour

Health refers to the tree's form & growth habit, as modified by its environment (aspect, suppression by other tree, soils) & the state of the scaffold (ie. trunk & major branches), including structural defects such as cavities, crooked trunks or weak trunk/branch junctions. These are not directly connected with health & it is possible for a tree to be healthy but in poor condition/vigour. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

Vigour refers to the tree's growth rate/condition as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion & the degree of dieback. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

Useful Life Expectancy (ULE) refers to any individual tree specimen's potential life expectancy (viability) based on VTA assessment, three groups are described,

Short = Less than Fifteen years

Medium = Fifteen – Twenty-five years

Long = more than Twenty-five years

Significant diameter roots are defined as those being greater than 0.05m/50mm in diameter.

Diameter at Breast Height (DBH) refers to the tree trunk diameter at breast height (1.4 metres above ground level)

Structural Root Zone (SRZ) refers to a radial offset which relates to tree stability. This zone is presumed to be main location of the tree's structural support roots. It is calculated using the formula $SRZ\ radius = (D \times 50)^{0.42} \times 0.64$.

Primary Root Zone (PRZ) refers to a radial offset of ten (10) times the trunk DBH measured from the centre of the trunk. This zone often contains a significant amount of (but by no means all of a tree's) fine, non-woody roots required for uptake of nutrients, oxygen & water.

Tree Protection Zone (TPZ) is ideally a "No Go Zone" surrounding a tree to aid in its ability to cope with disturbances associated with construction works. $TPZ = DBH \times 12$. Tree protection involves minimising root damage that is caused by activities such as construction. Tree protection also reduces the chance of a tree's decline in health or death & the possibly damage to structural stability of the tree from root damage.

To limit damage to the tree, protection within a specified distance of the tree's trunk must be maintained throughout the proposed development works. No excavation, stockpiling of building materials or the use of machinery is permitted within the TPZ.

A TPZ is required for each tree or group of trees within five metres (unless otherwise specified) of building envelopes.

Stem/bark inclusion refers to a genetic fault in the tree's structure. This fault is located at the point where the stems/branches meet. In the case of an inclusion this point of attachment is potentially weak due to bark obstructing healthy tissue from joining together to strengthen the joint.

Decay refers to the break down tissues within the tree. There are numerous types of decay that affect different types of tissues, spread at different rates & have different affect on both the tree's health & structural integrity.

Point of Attachment refers to the point at which a stem/branch etc join.

Dead wood refers to any whole limb that no longer contains living tissues (eg live leaves &/or bark). Some dead wood is common in a number of tree species.

Die back refers to the death of growth tips/shoots & partial limbs. Die back is often an indicator of stress & tree health.

One dimensional crown refers to branching habits & leaves that extend/grow in One direction only. There are many causes for this growth habit such as competition & pruning.

Crown Foliage Density of Potential (CFDP) refers to the density of a tree's crown in relation to the expected density of a healthy specimen of the same species. CFDP is measured as a percentage.

Epicormic growth/shoots refers to growth/shoots that are/have sprouted from axillary buds within the bark. Epicormic growth/shoots are a survival mechanism that often indicates the presence of a current or past stress even such as fire, pruning, drought etc.

Over Head Powerlines (OHP) Over head electricity wiring.

LVOHP Low Voltage Over head Powerlines

HVOHP High Voltage Over head Powerlines

ABC Aerial Bundled Cable

Appendix B – Tree Protection & Management

Tree Protection & Management Prior to Excavation & During Construction

The installation of Tree Protection Zone (TPZ) fencing is to be carried out prior to commencement of all works. The most suitable fencing material is 1.8m tall chain link mesh with 50mm metal pole supports, see **detail 1: tree protection fencing**.

Trunk protection “Tree Guards” are detailed (below) by generic diagram.

A mulch layer of composted leaf & woodchip to a depth of 75mm is required within the TPZ to aid in retention of soil moisture & to protect soil from contaminants. Water is to be applied by handheld or soaker/leaky hose within TPZ as required & in Accordance with Stage 3 Water Restrictions. Watering is to be carried out by either an Arborist or is to form part of the Builder’s/Contractor’s contract, with recommended fortnightly checks by an Arborist.

There is to be no stock piling of building material (including waste), machinery or any other item within the TPZ of any retained tree. Access to personnel, machinery, & storage of fuel, chemicals, cement or site sheds is prohibited

Regular monitoring of protected trees during development works for unforeseen changes or decline, will aid in the success & longevity of the retained trees.

