ARBORICULTURAL IMPACT STATEMENT

On: Tree Specimens at tree inspection at 552 Pittwater Road North Manly NSW 2100

TREEHAVEN ENVIRONSCAPES.
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For.Mr. & Mrs. Davey
On. 21/8/2021

CONTENTS

DISCLAIMER

Whilst every attempt is made to be accurate and factual with regard to references used in this document no liability is assumed for the work done by others.

Please note that trees are living organisms which are subject to natural growth, change and also to 'Acts of God' such as storms and lightning strikes. This report contains empirical data gathered on the day for the purpose of tree assessment in terms of their health and long term viability. Given the transitory nature of living things such data only gives a 'snapshot' of the organism on the day and cannot be applied to future events, 'Acts of God', mechanical, pathogen attack or chemical damage to the organism after that time.

The information supplied herein is given in good faith and to the best available scientific and industry standards which apply to the Author's level of education and experience.

1 INTRODUCTION

1.1 The property at at 552 Pittwater Road North Manly NSW 2100, henceforth referred to as the Site, is owned by Mr. & Mrs. Davy who are proposing to demolish their existing dwelling and rebuild with a new structure on the property (See Appendix 2a & 2b)

1.2 The extension will directly affect 13 trees many of which 11 will need to be removed to accommodate the proposed dwelling (See Fig.1).

1.3 The Site is within the jurisdiction of The Northern Beaches Council (NBC) which has in place Tree Management Guidelines (TMG) which prohibits the pruning, removal, ringbarking, topping, lopping, injury or wilful destruction of trees over 5mwithout Council's written consent. For the removal or major pruning of trees covered by the TMG, THC requires an Arborist report whose purpose is to examine and appraise them prior to, and post any development of the site.
Consequently Mr. and Mrs. Davey have engaged Mr. Stephen McLoughlin of Treehaven Environscapes to visit the site and examine 13 specimens which will be affected by the development and prepare this report.

1.4 This report contains empirical data collected regarding the tree specimens supported by digital photos, a Discussion regarding the relevance of the specimens and presents Conclusions and Recommendations as to the future treatment of the trees.
Tables and plans relating to this report are included as Appendix 1& 2 at the end of the document.
This document pays heed to NBC's TMGsand utilizes the Australian Standards 4790-2009 *Trees on development sites*and 4373-2007 *Pruning of Amenity Trees* as a set of guiding principles.

2. SITE DESCRIPTION

2.1 The land on which the trees are sited is a rectangular shaped block with a North Westerly facing slope on a steep gradient which has been excavated at street level to accommodate a timber garage on Council owned land (see Fig 1).

2.2 At the time of my inspection there was an existing fibro clad dwelling on the Site with an annex to the East of the existing dwelling (See Appendix 2a).

2.3 The 13 trees are designated **T1** to **T13.** Of these 12 of the specimens are located in the front yard to the West of the dwelling while T1 is located on the neighbouring property to the South- west of the Site. (See Fig. 1 below). **T1** is included in this tree schedule as it within 5 m of the boundary may be subject to injury during deliveries or crane activity

Fig 1. Aerial view of Site with proposed for removal in Red circles and those to be protected and retained in green.

3. METHODOLOGY.

3.1 The tree specimens were visually assessed using non-destructive means by employing the Visual Tree Assessment (VTA) as developed by Matteck and Broeler (2006).

The information gathered was used to

i) Calculate Tree protection Zones (TPZ) and Structural Root Zones (SRZ) with reference to the Australian Standard (AS) 4970-2009 and

ii) Provide a qualitative assessment of the tree utilizing Jeremy Barrell's Safe Usable Life Expectancy (SULE) of which a table outlining the different categories appears in Appendix 3 of this document.

3.2 No invasive procedures, such as coring or drilling, were used in the examination of the specimens.

4. DESCRIPTION OF THE TREES (See Appendix 1).

4.1 Trees **T1 & T12** are both *Angophora costata* or 'Argyle Apple' which is an endemic tree common to the Sydney region and the Northern Beaches Council LGA[1] (See Figs. 2, 14 & 15). Both trees are forest remnants and therefore environmentally significant.

Impact of the development:

- Tree **T1** is located well away from the proposed development area and is unlikely to suffer from any adverse affects from the site works (See Appendix 2b).
- Tree **T2** will be subjected to a Major Encroachment into its TPZ and SRZ from the extension in the form of a deck which will replace and extend the existing deck (See Appendix 2b)

4.2 Trees **T2 & T9** are both *Cupressus macrocarpa* or 'Monteray Cypress' which is an exotic conifer species that have been planted in the front yard to the West of the existing dwelling (See Figs. 6 & 7). Both trees have significant defects in the form of multiple stems which adjoin in 'V' shaped stem junctions (See Figs. 3 & 9).

Impact of the development:

Both of these specimens will be entirely engulfed by the new extension and carparking space and will need to be removed for the development to proceed as planned (See Appendix 2b).

[1] Local Government Area

4.3 Tree **T3** is a *Pittosporum undulatum* or 'Native Daphne' which is an endemic tree common to the Sydney region and the Northern beaches LGA. The species is undesirable due to its weedy properties (NSW Weedwise)

Impact of the development:

This specimen will be entirely engulfed by the new extension and carparking space and will need to be removed for the development to proceed as planned (See Appendix 2b).

4.4 Trees **T4** and **T5** are both *Glochidion ferdinandii* or 'Cheese tree' which is an endemic tree common to the Sydney region and the Northern beaches LGA. They are growing at the top of the cutting above the existing garage (See Figs. 4 & 5).

Impact of the development:

These specimens will be entirely engulfed by the new extension and carparking space and will need to be removed for the development to proceed as planned (See Appendix 2b).

4.5 Trees **T6, T7** and **T10** are all *Syagrus romanzoffianum* or 'Cocos Palms' which is an exotic species endemic to South America. They are growing in the front yard to the West of the existing dwelling (See Figs. 6, 7, 8 & 9). The species is listed as exempt from protection in the Northern Beaches DCP and can be removed without consent.

Impact of the development:

These specimens will be entirely engulfed by the new extension and carparking space and will need to be removed for the development to proceed as planned (See Appendix 2b).

4.6 Tree **T8** is a *Rhododendron* which is an exotic species that has been planted in the front yard to the West of the existing dwelling (See Fig. 10). The tree is in poor condition with at least 50% of its canopy dead or dying.

Impact of the development:

This will be entirely engulfed by the new extension and will need to be removed for the development to proceed as planned (See Appendix 2b).

4.7 Tree **T9** is an *Olea africana* or 'African Olive' which is an exotic species endemic to South Africa. It is growing in the front yard to the West of the existing dwelling (See Fig. 13). The species is listed as exempt from protection in the Northern Beaches DCP and can be removed without consent.

Impact of the development:

These specimens will be entirely engulfed by the new extension and carparking space and will need to be removed for the development to proceed as planned (See Appendix 2b).

5. DISCUSSION

5.1 11 trees are proposed for removal on this Site (See Appendix 2b). Of these;

- 4 specimens, **T6, T7, T9 & T10** belong the species which are exempt from protection in the NBC local government area (LGA) and can be removed.
- Two exotic conifers, **T2 & T9**, are in poor condition.
- Three medium sized endemic trees, **T3, T4 & T5,** will be engulfed by the deep excavation for the garage. These are common in the LGA, seed readily and not rare or endangered.
- One exotic tree, **T8**, is in poor condition with many dead branches.
- On native tree, **T13**, will be engulfed by the new staircase coming up from the garage.

5.2 Two environmentally significant trees, **T1 & T12**, are proposed for Retention. Of these;

- **T1** is well outside the building area and the deep excavation and is not anticipated to be adversely affected by the proposed development.
- **T12** has been accommodated for in the plans in that the deep excavation will leave a 3m sandstone bench in situ to accommodate the tree.

5.3 Tree **T12** will require stem and branch protection during the development.

5.4 Two replacement trees are proposed in the landscape plan (See Appendix 2d). These are;

- 1 x *Tristainiopsus laurina 'Luscious'* (Water Gum) in 45 Litre
- 1 x *Corymbia ficifolia 'Summer Beauty'* (Red Flowering Gum) in 45 Litre

6.CONCLUSIONS & RECOMENDATIONS

6.1 It is recommended that trees **T2, T3, T4, T5, T6, T7, T8, T9, T10, T11 & T13** be removed from the Site for the development to proceed as planned.

6.2 Trees **T1** and **T12** are to be retained and protected.

Yours sincerely

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7. THE AUTHOR'S QUALIFICATIONS AND EXPERIENCE.

Stephen McLoughlin obtained a Horticultural Certificate (1982) with Arboriculture as the third year elective whilst an employee of 10 years service with Baulkham Hills Shire Council (BHSC) now The Hills Council. Most of this time employed in the Council's Parks and Gardens and street tree plantings and, later, managing the Council's Nursery. This was augmented with a Bush Regeneration Certificate (1987) where he studied native plant communities, the means necessary to protect and restore them and the identification and eradication of weed species. Additional to this he obtained a Bachelor of Environmental Science Degree (1997) involving the study of natural environments, Ecology, data collection, analysis and documentation, report writing as well studies in relevant Common Law, current Environmental and Heritage Legislation. Since obtaining his degree Stephen writes reports on a regular basis covering Environmental, Heritage and Horticultural / Arboricultural subjects.

Further to this he upgraded his qualifications to that of Arborist Qualification 5 (AQF5) having completed the Associate Diploma of Horticulture / Arboriculture, a standard of qualification which is currently expected by many Local Government and statutory bodies.

Stephen also has a current NSW Structural Landscaper's Licence and has been involved in regular landscape construction works as both Principle and Sub Contractor on many Public, Private and Commercial ventures since commencing his contracting business in 1989. He has many garden and estate maintenance contracts, and Bush Regeneration projects involving large scale properties with many trees under his care, including the providing of advice and practical solutions to the issues of Bush Fire Asset Protection Zones.

Consequently Stephen has well grounded experience in both Public and Private tree plantings, the care and maintenance of them as well as hands on experience of what occurs on construction sites and the results of mechanical disturbance to trees on such sites.

The Author is also an accredited Root Barrier Australia ® installer and has been involved with many excavations involving tree roots.

In 2014 Stephen completed his Diploma of Environmental Management at the Ryde campus of North Sydney TAFE involving studies with regard to Bushfire Management, Global Information Systems (GIS), Mapping, Managing Native Fauna (for which he obtained a distinction) and River Restorations.

Also he has recently completed the Quantified Tree Risk Assessment Course (QTRA)

Yours sincerely 

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8. REFERENCES

Australian Standard 4373 1996 *Pruning of amenity trees.*

Australian Standard 4790 2009 *Trees on development sites.*

Barrell, J. 1996. '*Predevelopment tree assessment'*

Matteck C and Breloer H. 2006 'The Body Language of Trees'

Six Maps. Aerial view of site (fig 1).

Northern Beaches Council2009'Tree Management Guidelines'

Websites visited

NSW Weedwise
https://weeds.dpi.nsw.gov.au/Weeds/SweetPittosporum

APPENDIX 1a. Schedule of trees identified on the site listing condition and physical dimensions of trees on the site.

Table describing trees growing on the development site. Tree numbers correspond with numbers on site plan appendix. 2.
*DBH Diameter at Breast Height. **DGH Diameter at Ground Height. ***SULE ratings are included as Appendix 3 of this report.

Specimen name	Est. Height	Diameter DBH* DGH**	Crown	Comments	SULE ***	TPZ	SRZ
T1 *Angophora costata* Common name 'Argyle Apple' Age class 60 years See Fig. 2	18m	68cm 85cm at the base	N 4m E 6m S 0m W 0m	A native tree common to the Sydney region and the Northern Beaches LGA. The tree is growing in the neighbouring property to the South West of the Site and was in good health and condition at the time of my inspection. There were no significant pathogens nor signs of mechanical damage. It is noted that the specimen is growing on a sandstone outcrop and would have formed an asymmetric root plate. The tree has a strong bias in its crown towards the North East.	A1	8.16m	N/A*
T2 *Cupressus macrocarpa* Common name 'Monteray cypress Age class 50 years See Fig. 3.	12m	2 x 10cm 1 x 12cm 1 x 22cm 30cm at the base	N 1m E 0m S 0m W 2m	An exotic specimen endemic to West Coast USA. The tree has been planted in the North West of the Site. At the time of inspection the tree was in poor health and condition with many dead branches and a bias in the crown toward the North West. The specimen is growing on the edge of a steep embankment and would have formed as asymmetric rootplate,	A4	3.45m	N/A*
T3 *Pittosporum undulatum* Common name 'Native Daphne' Age class 40 years See Fig. 4	3m	20cm 25cm at the base	N 0m E 0m S 0m W 3m	A native tree common to the Sydney region and the Northern Beaches LGA. The species is known for its weedy properties[2] tree was growing adjacent to the existing shed to the West of the Site. The tree is relatively small and suppressed in its growth by surrounding vegetation. The specimen is sited on the edge of an excavated area incorporating the existing garage. Consequently the tree has formed an asymmetric rootplate. The specimen has a strong bias in its canopy towards the West.	A5	2.4m	N/A*

[2] https://weeds.dpi.nsw.gov.au/Weeds/SweetPittosporum

T4 *Glochidion ferdinandii* Common name 'Cheese Tree' Age class 40 years See Fig. 4	6m	1 x 5cm 1 x 12cm 2 x 20cm 45cm at the base	N 2m E 0m S 0m W 3m	A native tree common to the Sydney region and the Northern Beaches LGA. The tree was growing atop the embankment adjacent to the existing shed to the West of the Site. The tree is relatively small and suppressed in its growth by surrounding vegetation. The specimen is sited on the edge of an excavated area incorporating the existing garage. Consequently the tree has formed an asymmetric rootplate. The specimen has a strong bias in its canopy towards the North West.	A3	3.73m	N/A*
T5 *Glochidion ferdinandii* Common name 'Cheese Tree' Age class 40 years See Fig. 5	7m	1 x 36cm 1 x 54cm 70cm at the base	N 2m E 0m S 0m W 3m	A native tree common to the Sydney region and the Northern Beaches LGA. The tree was growing atop the embankment adjacent to the existing shed to the West of the Site. The tree is relatively small and suppressed in its growth by surrounding vegetation. The specimen is sited on the edge of an excavated area incorporating the existing garage. Consequently the tree has formed an asymmetric rootplate. The specimen has a strong bias in its canopy towards the North West.	B3	7.8m	N/A*
T6 *Syagrus romanzoffianum* Common name 'Cocos Palm' Age class 40 years See Fig. 6.	6m	N/A	N/A	An exotic specimen from South America. The species is listed as exempt from protection in the TMG.	B3	N/A	N/A
T7 *Syagrus romanzoffianum* Common name 'Cocos Palm' Age class 40 years See Fig. 7.	7m	N/A	N/A	An exotic specimen from South America. The species is listed as exempt from protection in the TMG.	B3	N/A	N/A

T8 *Rhododendron spp* Common name 'Monteray cypress Age class 40 years See Fig. 8.	3m	N\A	N/A	An exotic specimen endemic to Asia but also North America. The tree was growing near the border the Site in the North of the property. At the time of inspection the tree was in poor condition with at least 50% of the crown and branches dead.	A4	N/A	N/A
T9 *Olea African* Common name 'African Olive' Age class 40 years See Fig. 9.	3m	N/A	N/A	An exotic specimen from South Africa. The species is listed as exempt from protection in the TMG.	B3	N/A	N/A
T10 *Cupressus macrocarpa* Common name 'Monteray cypress Age class 40 years See Fig. 10.	20m	69cm 78cm at the base	N/A	An exotic specimen from West Coast USA. The tree was growing near the border the Site in the South of the property. At the time of inspection the tree had been removed and identification was made from remaining parts and view from Google Street view.	B3	N/A	N/A
T11 *Syagrus romanzoffianum* Common name 'Cocos Palm' Age class 40 years See Fig. 11.	8m	N/A	N/A	An exotic specimen from South America. The species is listed as exempt from protection in the TMG.	B3	N/A	N/A
T12 *Syagrus romanzoffianum* Common name 'Cocos Palm' Age class 40 years See Fig. 12.	8m	N\A	N/A	An exotic specimen from South America. The species is listed as exempt from protection in the TMG.	B3	N/A	N/A
T13 *Angophora costata* Common name 'Argyle Apple'	16m	1 x 44cm 1 x 52cm 112cm at the base	N 5m E 6m S 7m W 10m	A native tree common to the Sydney region and the Northern Beaches LGA. The tree is growing in the Site to the South West of the existing dwelling and was in good health and condition at the time of my inspection. There	A1	7.8m	N/A*

Age class 80 years See Figs. 12 & 13				were no significant pathogens nor signs of mechanical damage. It is noted that the specimen is growing on a sandstone outcrop and, as a consequence has formed an asymmetric root plate. Limbs and branches overhang the existing dwelling.			
T14 *Leptospermum petersonii* Common name 'Lemon scented tea tree' Age class 40 years See Fig. 14	5m	1 x 8cm 1 x 10cm 16cm at the base	N 7m E 6m S 4m W 4m	A native tree common to North Eastern NSW and Coastal Queensland. The tree was growing adjacent to the existing shed to the North West of the existing dwelling. The tree was in good health and vigour at the time of inspection with no significant pathogens or signs of mechanical damage.	A5	2m Min TPZ	1.5m Min SRZ

***Not Applicable due to asymmetric root plates**

Fig 2. Photo of T1 an *Angophora costata*

Fig 3. Photo of tree T2 a *Cupressus macrocarpa.*

Fig 4. Photo of lower stems from trees T3 and T4 beside garage excavation.

Fig 5. Photo of T5 a *Glochidion ferdinandii*.

Fig 6. Photo of T6 a *Syagrus romanzoffianum*

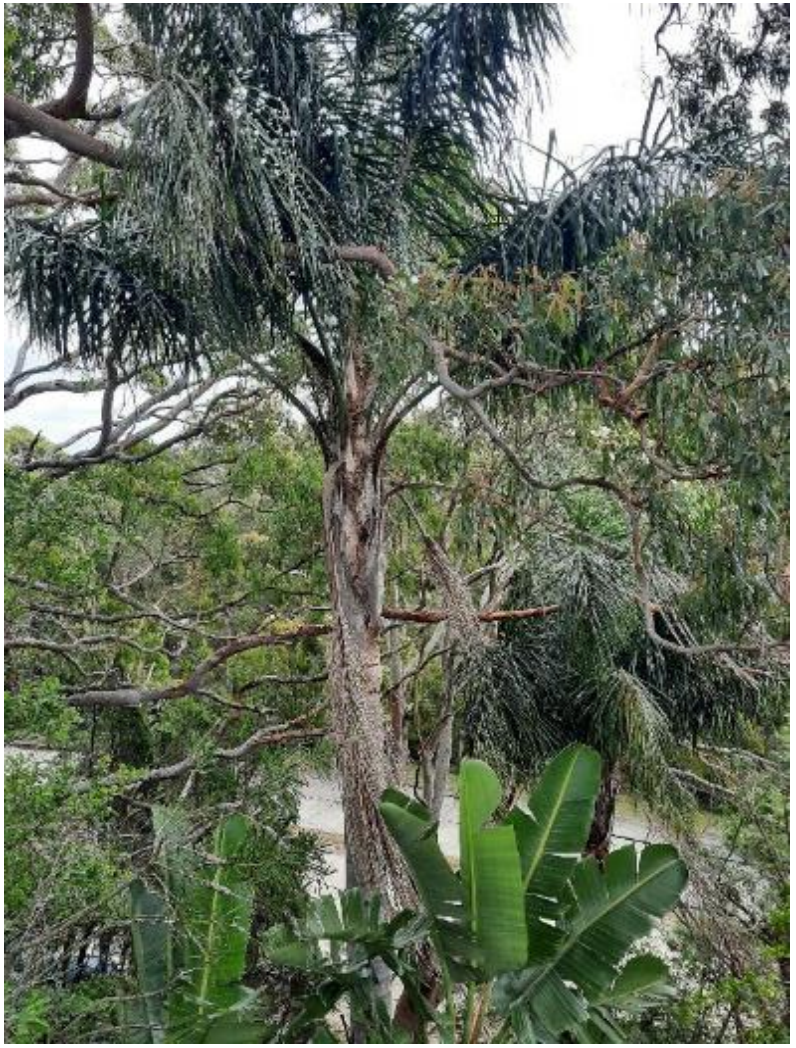


Fig 7. Photo of T7 a Syagrus romazoffianum.

Fig 8. Photo of T6 a *Syagrus romanzoffianum*

Fig 9. Photo of T7 a Syagrus romazoffianum.

Fig. 10. Photo of T8 a *Rhododendron* with many dead limbs and branches

Fig. 11. Photo of T9 a *Cupressus macrocarpa.*

Fig. 12. Photo of T10 a *Syagrus romanzoffianum*

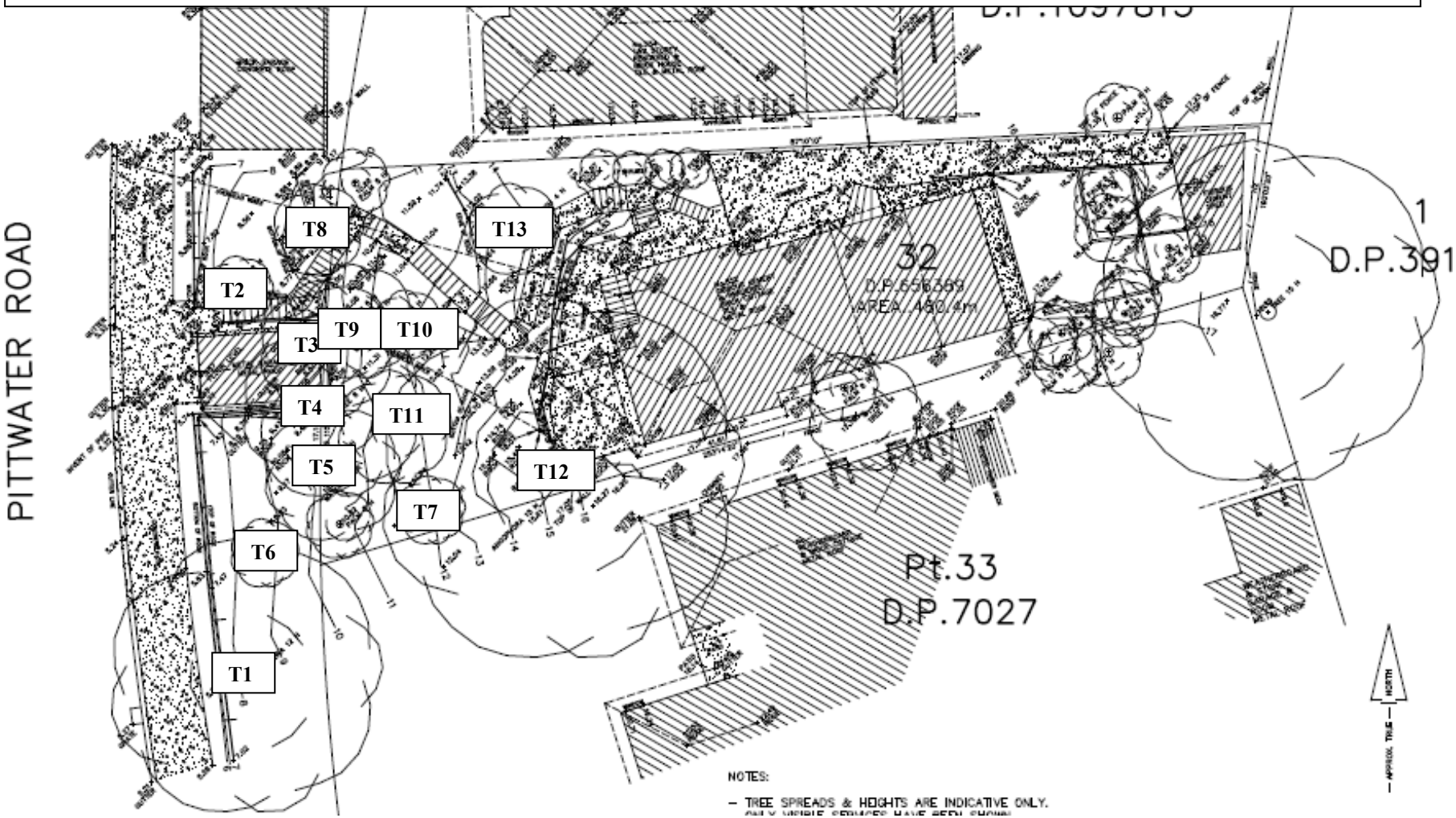
Fig. 13. Photo of T11 an *Olea africana.*

Fig. 14. Photo of T12 an *Angophora costata*

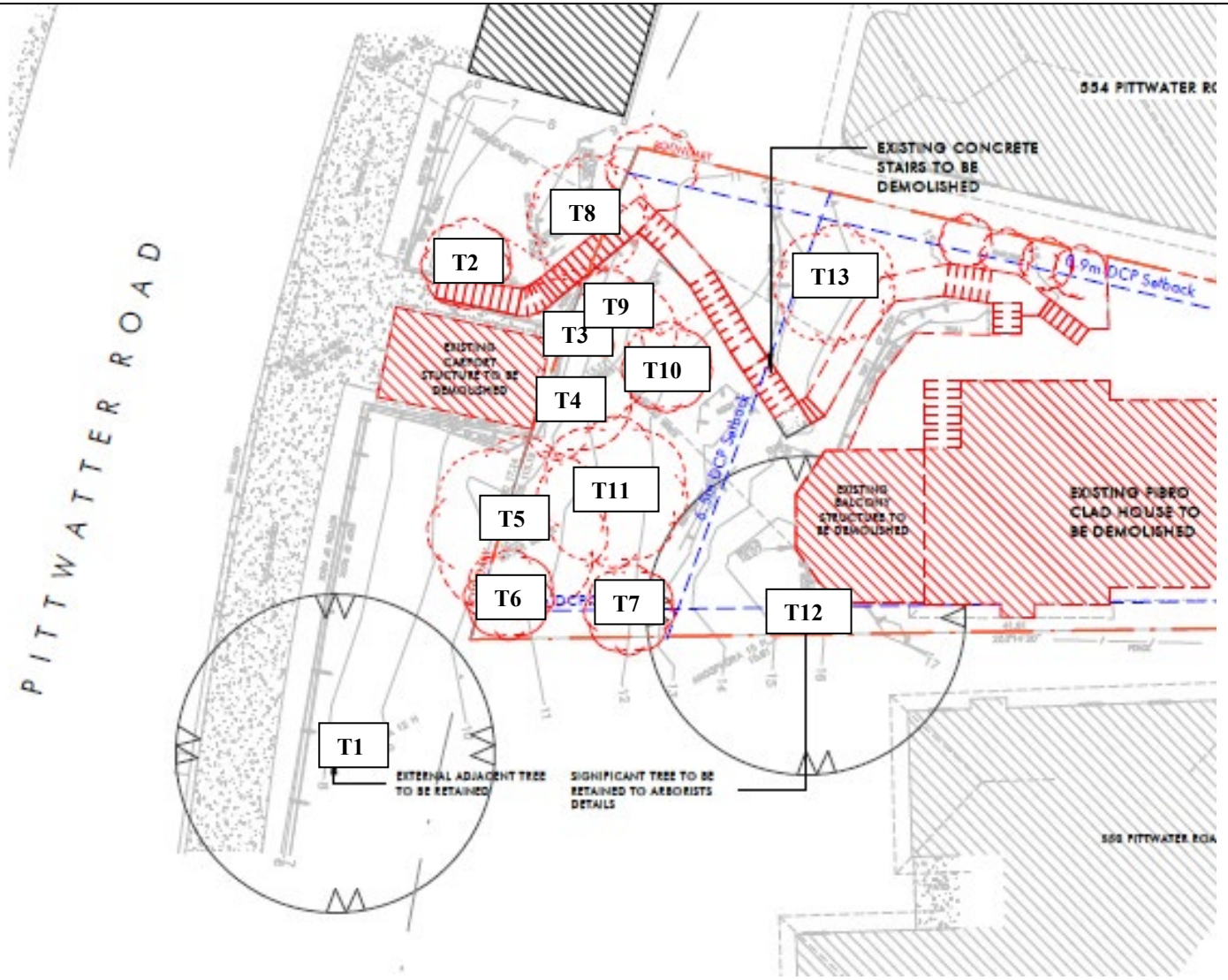
Fig. 15. Photo of rock shelf to the West of tree T12.

Fig. 15. Photo of tree T13 a *Leptospermum petersonii*

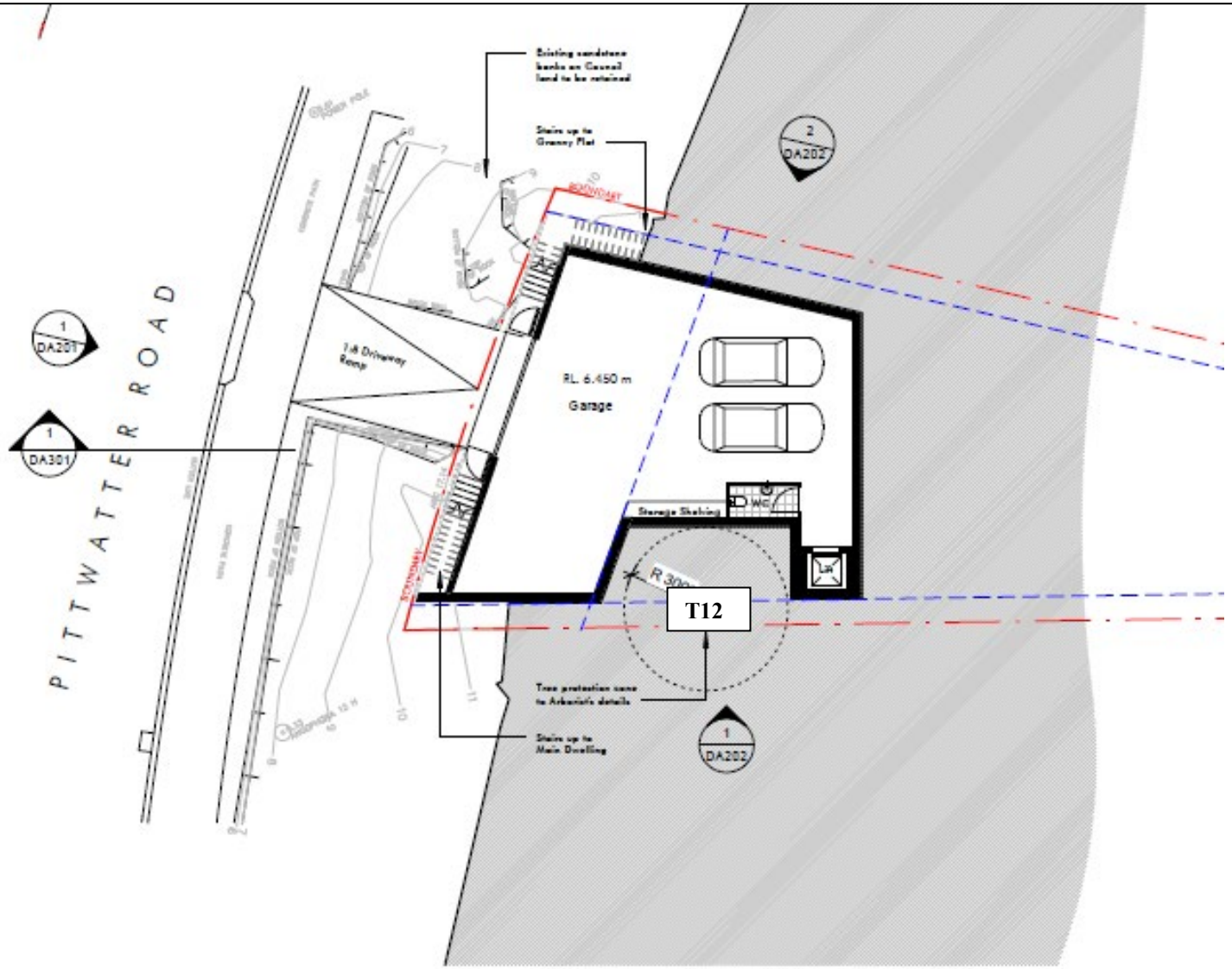
APPENDIX 2a. Excerpt from Site Survey showing position of trees examined in this report.



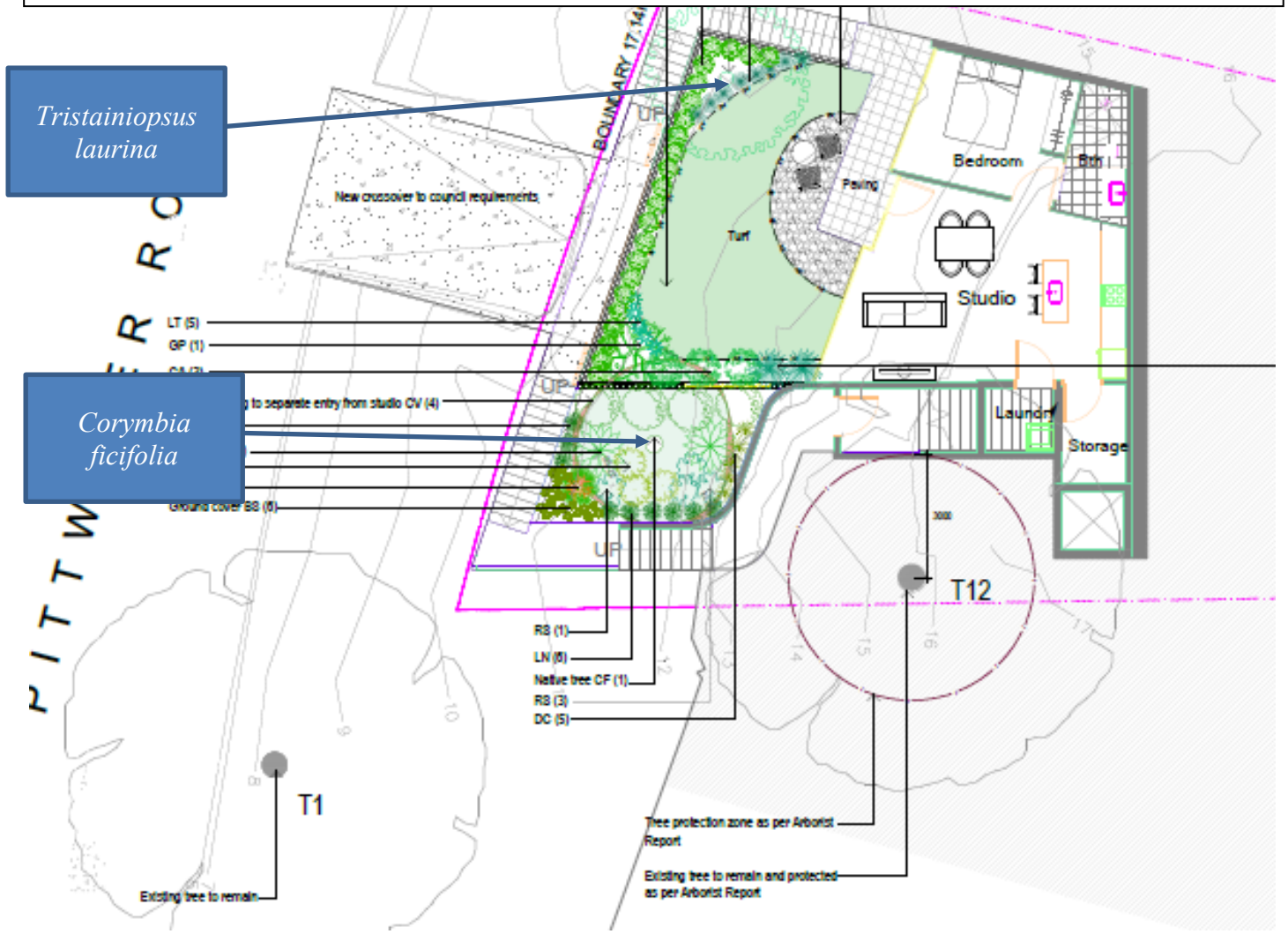
APPENDIX 2b. Excerpt from Site Plans showing tree removal and demolition plan for the site



APPENDIX 2c. Excerpt from Site Plans showing deep excavation near T12 given a 3m set



APPENDIX 2d. Excerpt from landscape Plan showing the location of two replacement trees a *Tristainiopsus laurina* and a *Corymbia ficifolia*



APPENDIX3. TABLE 2. SULE CATAGORIES AND SUB-CATEGORIES.

	1	2	3	4	5
	Long SULE: Appeared to be retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance.	Medium SULE: Appeared to be retainable at the time of assessment for 15 to 40 years with and acceptable degree of risk assuming reasonable maintenance.	Short SULE: Appeared to be retainable at the time of assessment for 5 to 15 years with and acceptable degree of risk assuming reasonable maintenance.	Remove: Trees which should be removed within the next 5 years.	Small young or regularly clipped: Trees that can be reliably transplanted or replaced.
A	Structurally sound trees located in positions that can accommodate future growth	Trees that may only live for 15 and 40 more years.	Trees that may only live for between 5 and 15 more years	Dead, Dying suppressed or declining trees through disease or inhospitable conditions.	Small trees less than 5 m in height.
B	Trees that could be made suitable for retention in the long term by remedial care.	Trees that may live for than 40 years, but would need to be removed for safety or nuisance reasons	Trees that may live for than 15 years, but would need to 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 historical, commemorative or rarity reasons that would warrant extraordinary efforts	Trees that may live for more than 40 years but should be removed to prevent interference with more suitable individuals or to	Trees that may live for more than 15years but should be removed to prevent interference with more suitable individuals or to	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been regularly pruned to artificially control their growth

	to secure their long term retention.	provide space for new plantings	provide space for new plantings		
D		Trees that could be made suitable for retention in the medium term by remedial care	Trees that require substantial remedial 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 that may cause damage to existing structures within 5 years.	
G				Trees that will become dangerous after removal of other surrounding trees	

Table 2 Ref Barrell, Jeremy (1996). Predevelopment tree assessment. Proceedings of the International Conference on Trees and Building Sites (Chicago)