



TREESWEST AUSTRALIA

ARBORIST REPORT



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Arboricultural assessment on: Two trees designated for retention

Site Address: Cnr Heath Road/Canning Road, Kalamunda

Attn: Hindley & Associates PTY LTD
Andrew Jennings-Lowe

Date: 31.07.24

Prepared by:
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Dave Crispin



CONTENTS		Page
1.0	Abstract	5
1.1	Detail	5
2.0	Introduction	5
2.1	Treeswest	5
2.2	Work scope	5
3.0	Location	6
4.0	Methods	7
4.1	Equipment	7
4.2	VTA	7
5.0	Observations	8
5.1	Marri tree 1	8
5.2	Discussion	8
5.3	Marri tree 2	9
5.4	Discussion	9
6.0	Recommendations	10
6.1	Detail	10
7.0	Conclusion	11
7.1	Detail	11
 APPENDICES		
A	Marri 1	12
B	Surface roots	13
C	Laterite/Roots	14
D	pH test	15
E	Tree fracture	16
F	Low canopy	17
G	Proposal	18

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1. ABSTRACT

- 1.1** This assessment is a follow on from the previous assessment, that looked at the general health and condition of all the trees on the site. The recent client brief was to assess two trees that have been designated for retention, providing detail on protection measures based on the proposed scope of works.

Advice has been given for working around, or close to the trees, and steps to take to minimise any damage to the trees.

Recommendations have been made at the end of the report.

2. INTRODUCTION

2.1 Engagement

Treeswest Australia were engaged by Hindley & Associates to provide an updated assessment on the two trees designated for retention, along with advice on tree protection measures during the proposed works.

2.2 Scope of works

- The request was to assess the two trees to ascertain their current health and condition as part of a development application..
- The relevant zones for tree protection were requested, based on the Australian Standard 4970-2009.
- Measures were to be included on how to protect the trees during the scope of the work.

3. LOCATION

Image taken below in May 2014 from Google Maps.

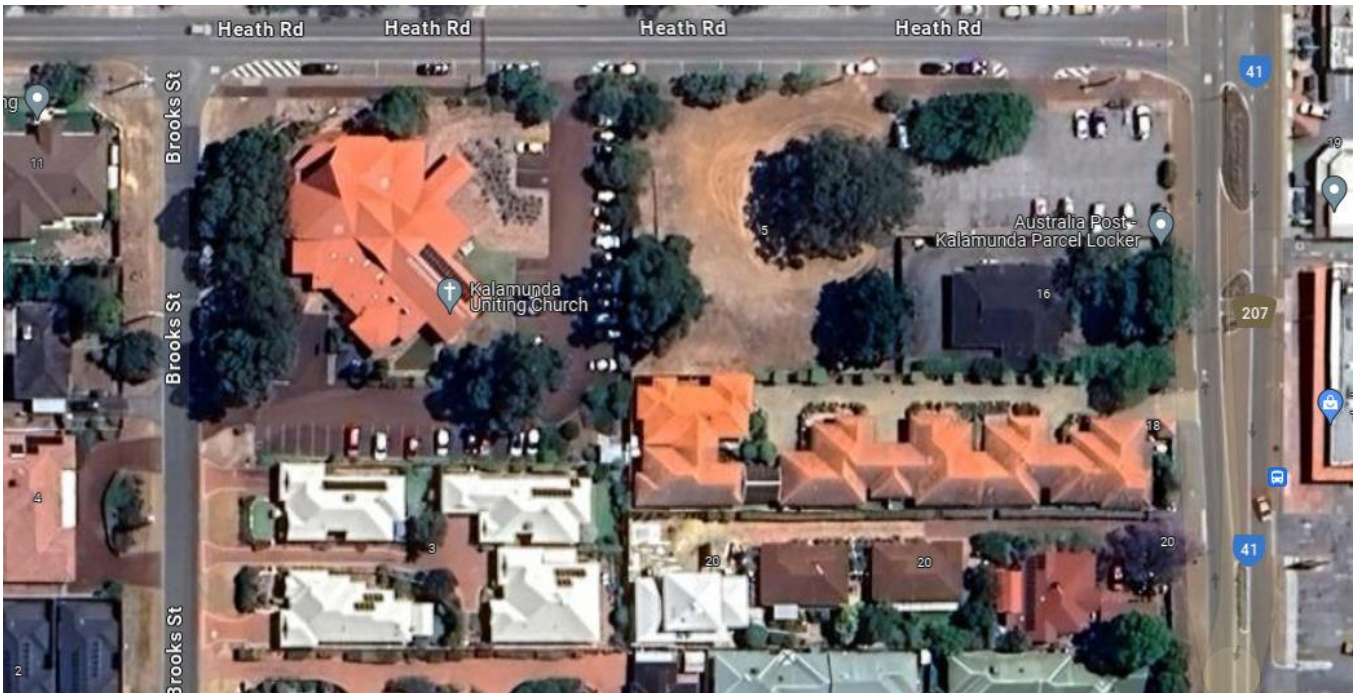


Image above is current in 2024 taken from Google maps. Trees designated for retention are highlighted.

4. METHODS

4.1 Equipment

The tree assessment was carried out on 30.07.24 at ground level by Dave Crispin, consulting Arborist for Treeswest Australia. The weather on the day was sunny/overcast, the temperature was around 14 deg Celsius with light wind. The assessment was carried out between 11.30hrs and 13:15hrs. The trees were viewed from the pseudo car park. Photographs were taken with an iPhone 11. Equipment used a Nikon clinometer, 8m retractable tape, trenching shovel, long handled screwdriver, a penetrometer for probing, and a nylon tapping hammer for percussion testing. Soil pH was tested using a 'Bluelab' soil tester. Data was recorded on a Panasonic toughpad.

4.2 Visual Tree Assessment

The VTA (Visual Tree Assessment) method is an internationally recognised and acknowledged method for tree inspection. Hazardous symptoms are interpreted, defects are confirmed and measured, and criteria of failure are assessed. VTA helps to distinguish between apparent hazardous trees from those that are hazardous. This method reduces the risk of removing a viable tree.

VTA gives information about the body language and the mechanics of trees.

The VTA method is thus neither tree-friendly nor tree-hostile. In the event of damage, this method enables a largely fair judgment to be reached. Claus Mattheck introduced a biomechanically based system of visual tree assessment (VTA), which uses the reactive nature of tree growth. The basis behind VTA is the identification of symptoms, which the tree produces in reaction to a weak spot, or area of mechanical stress.

Based on the above findings, appropriate management measures will be recommended.

5. OBSERVATIONS

5.1 Subject tree – Appendix A

- Species – *Corymbia calophylla* (Marri)
- Height – 24m
- Diameter Breast Height (DBH) – 1.63 m taken at 1.4m
- Tree Protection Zone (TPZ) – 15m
- Diameter Root Crown (DRC) – 1.79m
- Structural Root Zone (SRZ) – 4.23m
- Age – Mature
- Health – Good/Fair
- Useful Life Expectancy (ULE) – 50+ years
- Live Canopy Ratio (LCR) – 50%
- Canopy spread – N 11.6m, W 10.7m, S 10m, E 12.6m.
- Soil compaction – impenetrable
- pH – 5.5 – 5.7
- Temperature 17c (ideal 10c-24c)

5.2 Discussion

The ground around the tree is natural compacted laterite, typically laterite has a pH range of 4.5 to 5.5, our pH range is 5.5 and 5.7 taken within 6m of the base of the tree – Appendix D. Any imported soil for the garden beds should take this into consideration. The recommendation is that the imported soil be slightly acidic to neutral pH 6 – pH 7.

Several surface roots are present on the southern side, detailed at Appendix D. The roots are considered significant, due to their width, length and height protruding from the ground, the largest being 0.6m in length, 0.2m wide and 0.11. high. The heavy laterite rock presence around the tree seems to be more prominent on the southern side, which would explain the large number of surface roots. The method used to excise the rocks must take into account the value of these roots, the preferred method would be with a small 2-ton excavator and a narrow bucket. A project arborist should be present to work with the machine operator.

Given the size of the rocks are unknown, if a rock breaker is used it must be carried out under the guidance of the project arborist.

The obvious question is, “Can these roots just be removed?”

The size and the number of roots on the southern side are significant, and depending on the growth pattern, between them and the main trunk has a bearing on how it will impact the tree if removed. Finished soil height is another consideration.

Given the above ground nature of the roots they have sustained significant mechanical damage, mainly from cars driving over them. The outer bark or periderm has peeled back exposing dried out xylem tissue. Underground, they may still be viable as they are protected by the soil.

No damage was found around the trunk.

The tree appears to be experiencing stress, possibly due to the drought like conditions over the last 6 months. Although the recent rain will be beneficial, it will take time to percolate through the soil to make any significant difference. The stress can be seen in the quality of the chlorophyll in the leaf – a rich green colour is ideal, as opposed to the dull green/brown colour now showing on the tree.

The upper canopy, primary and secondary stems appear sound, no change was seen from the previous visit. There are several pieces of deadwood present, that are of a size that have the potential to cause harm or damage and should be removed.

5.3 Subject tree – Appendix E

- Species – *Corymbia calophylla* (Marri)
- Height – 22m
- Diameter Breast Height (DBH) – 1.14 m taken at 1.4m
- Tree Protection Zone (TPZ) – 13.68m
- Diameter Root Crown (DRC) – 1.32m
- Structural Root Zone (SRZ) – 3.72m
- Age – Mature
- Health – Good
- Useful Life Expectancy (ULE) – 50+ years
- Live Canopy Ratio (LCR) – 75%
- Canopy spread – N 13.3m, W 10m, S 9.8m, E 12m.
- Soil compaction – 450 psi to 0.3m (300 – 450 psi ideal)
- pH 5.4
- Temperature 17c (ideal 10c-24c)

5.4 Discussion

The tree remains healthy, with a rich green canopy hanging down 0.5m from ground level. The recent rain has caused *Fumaria capreolata* (Fumitory) to shoot up around the base of the tree, probably due to the thick layer of organic matter underneath the canopy, see Appendix E. Approximately 0.3/0.4m of organic matter has mounded up around the tree, enriching the soil that reflects in the lower pH reading. As previously mentioned, the imported soil for the landscaping should be slightly acidic to neutral to avoid additional stress to the tree.

The southeastern buttress root shows a vertical fracture Appendix E, possibly due to flexure or mechanical damage. The wound shows good occlusal, with exudate sealing the wound.

Given the canopy is almost touching the ground, it is recommended that the canopy be uplifted, cutting back to suitable growth points. The recommended height, to allow for vehicles, is 4m.

6. RECOMMENDATIONS

- 6.1** The tree at Appendix A is a significant tree, its age, size and amenity value are of considerable importance and every attempt must be made to minimise the impact on the tree. The following measures, based on AS4970-2009 should be employed to increase the likelihood of the survival of the tree.
- Excavation within the SRZ (4.3m) should be carried out with a small excavator under the guidance of the project arborist. The laterite rock may require a rock breaker depending on the size of the rock in the ground, if this is the case a project arborist must be present.
 - Substrate for the bitumen within the TPZ should be a roadbase other than limestone.
 - Roots within the SRZ will be assessed for removal at the time of excavation by the project arborist, to ensure the tree remains viable. The determination will be made when most of the root is exposed.
 - At the time of the assessment, there were no pegs or indicators relating to the change in grade levels, therefore no comment can be made on the extent of root pruning or removal.
 - Imported soil for landscaping must be certified pathogen free and of a soil pH no greater than pH 7. The Green Life Soil Co is a reputable soil supplier.
 - Mulch should be applied to cover the soil upon completion of the landscaping project.
 - A temporary fence must be erected around both trees for protection, using the trees' SRZ's. The fences should be freestanding, 1.8m in height, cyclone mesh, and held together with clamps. Tree Protection Zone signage should be fixed around the outside of the fences.
 - Roots >35mm within the SRZ are considered significant and should not be removed without consulting with the project arborist.
 - Deadwood removal.
 - A regular monitoring plan of both trees should be implemented at a minimum of 3 monthly intervals, or as required.
 - The above is based on the Australian Standard for working around trees on a development site, AS4970-2009.

The tree at Appendix E appears healthier than the previous tree, probably due to less compaction around the base and rich in broken down organic matter to nourish the tree. The protection measures and work methodology are the same and based on AS4970-2009.

The canopy hangs lower down and requires lifting to accommodate vehicles, the pruning work should be carried out by a certified arborist to AS4373-2007 standards.

7. CONCLUSION

- 7.1** In concluding, both trees will be challenged by the proposed development, but given their status every attempt should be made to ensure their survival. If the above measures are employed it will greatly increase their chances. As part of the onsite induction for contractors, they should be aware of the value placed on the trees.

Any queries or questions, please do not hesitate to contact me,
Kind regards,

Dave Crispin
Senior Arborist - Dip. Arb. Hort.
Ph: 0435006423



NB. This report is based on the condition of the tree/s at the time of the assessments.

Appendix A



Appendix B



Appendix C







Appendix F



Appendix G

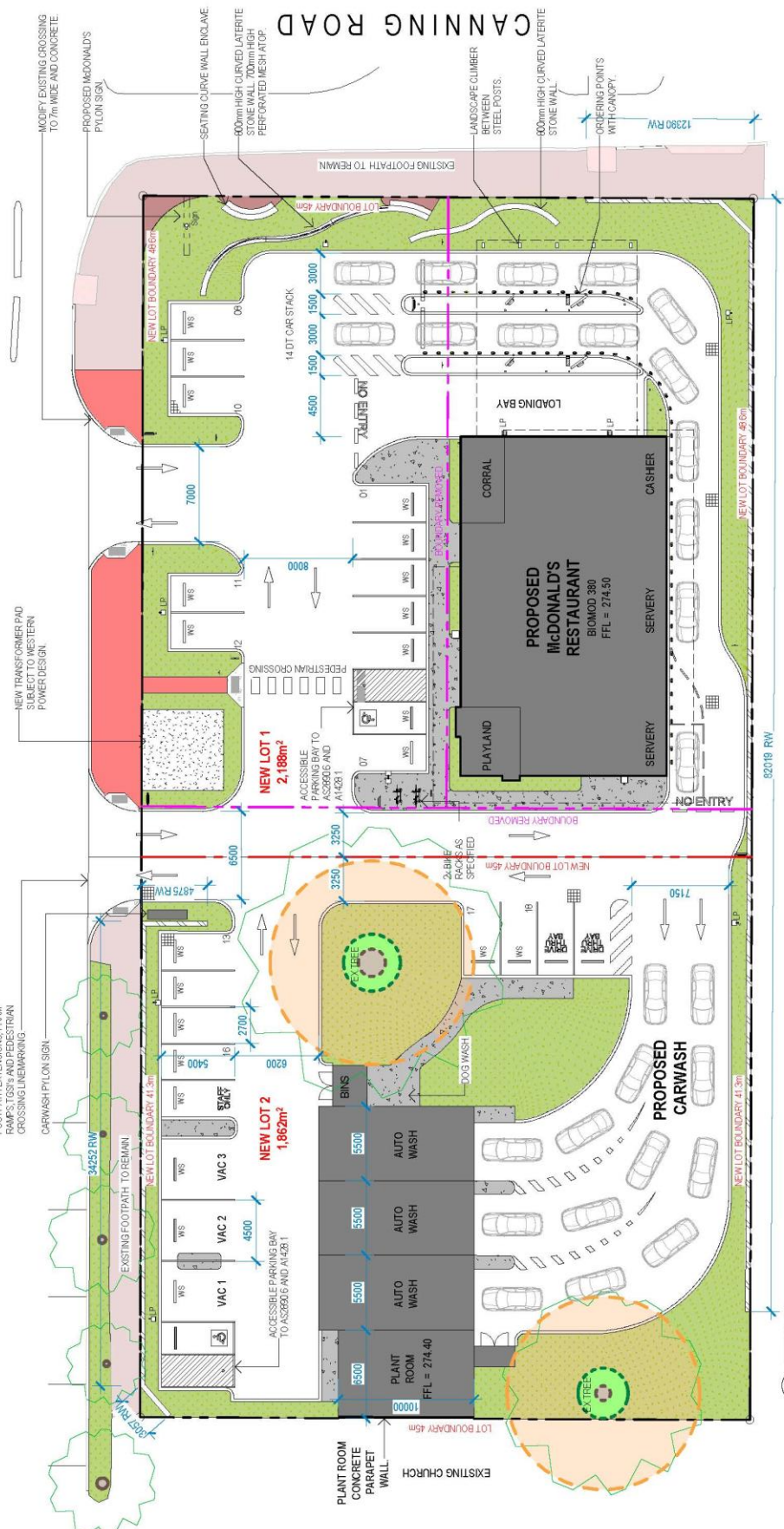


PARKING SUMMARY - LOT2	
TYPE	NO
ACCESSIBLE BAY	1
STANDARD BAYS	6
WAITING BAY	2

TYPE	NO
ACCESSIBLE BAY	1
STANDARD BAYS	11

SITE AREA SCHEDULE	
IDENTITY	AREA m2
ORIGINAL LOT 3, 28, 29	4050m2
NEW LOT 1	2188m2
NEW LOT 2	1862m2

HEATH ROAD



EXISTING RESIDENTIAL LOTS

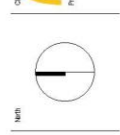
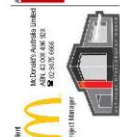
1 SITE PLAN
1:300

DEVELOPMENT APPLICATION

Serial	Device
As indicated @ A3	BIO MD 380
Drawing	
SITE PLAN	
Project Number	Drawing Number
0882	DA03
	Issue
	0

Project	McDONALDS STANDARD DOCUMENTS
Location	LOT 3, 28, 29, 14-16 CANNING ROAD KUALA LUMPUR, MALAYSIA

Hindley and Associates Pty Ltd
Building Designers
Unit 4/166 Stirling Highway
Nedlands WA 6009
PO Box 439 Nedlands WA 6909
08 9366 6636
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Drawing Notes

Project	DATE	BY	CHK	DATE	BY
IMPROVED 24-HOUR Description	JUL 2004	AJ	NR		