



JACKSONS NATURE WORKS

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ARBORICULTURAL ASSESSMENT ADDENDUM REPORT

at

WESTFIELD WARRINGAH STORMWATER AUGMENTATION Cnr Cross & Green Streets

Prepared for

Westfield Design

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DISCLAIMER

The Client acknowledges that this Report, and any opinions, advice or recommendations expressed or given in it, are the information supplied by the Client and on the data inspections, measurements and analysis carried out or obtained by Jacksons Nature Works (JNW) and referred to in the Report. The Client should rely on The Report, and on its contents, only to that extent.

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However Ross Jackson – Consulting Arborist 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 examined and reflects the health and structure of the trees at the time of inspection. The documented, observations, results, recommendations and conclusions given may vary after the site visit due to environmental conditions.
- The inspection was limited to visual examination from the base of the subject tree without dissection, excavation, probing or coring; and
- There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

Ross Jackson.

Consulting Arborist

19th August 2015

Table of Contents

| | |
|---|----------|
| 1. Background and Methodology..... | 4 |
| 2. Observations..... | 5 |
| 3. Discussions..... | 5 |
| 4. Recommendations | 7 |
| | |
| Annexure A: Observations..... | 9 |

1. BACKGROUND and METHODOLOGY

- 1.1 The purpose of this Tree Report is to inform and accompany a Section 96 application works at the corner of Cross and Green Streets, Brookvale – The Site.
- 1.2 The report was commissioned by Mr W Thomas, Project Design Manager, SCENTRE Group to consider the development impacts on trees located in Cross Street by the proposed installation of B Class hoardings beside the Site.
- 1.3 The trees were examined by ground level Visual Tree Assessment (VTA) ¹ only in the data collection, taken on 19th August 2015. No aerial (climbing) was undertaken.
- 1.4 All site photographs were taken by the author at the site. All photographs were taken using a digital camera (Canon 600D) with no image enhancement either within the camera or on computer.
- 1.5 The subject trees were located on plans supplied. The trees have been plotted and can be found on Annexure B – Tree Location Plan.
- 1.6 To prepare this report we have reviewed the following documents:
 - Arboricultural Assessment Report by Jacksons Nature Works, dated 8.3.2014 (AAR);
 - Development Application No. DA 2014/0990, by Warringah Council, dated 18.9.2014; &
 - Warringah Council Tree Preservation Order (TPO); &
 - Australian Standard AS 4970 – 2009 Protection of trees on development sites.

2. OBSERVATIONS as seen on the days of inspection (19.08.2015)

2.1 The trees examined correspond to the numbers used in the AAR can be found in Annexure A.

3. DISCUSSIONS

- 3.1 Approval has been granted by Warringah Council to undertake Tree Removal (38) and Transplanting (7) in DA 2014/0990, dated 18.9.2014.
- 3.2 Included in the above approval is the retention of the following street trees: Trees 33, 37, 44 & 47 *Backhousia citriodora* and trees 38 & 42 *Lophostemon confertus* along Cross Street.
- 3.3 As part of the protection of any pedestrian in Cross Street and to provide separation from the Site works it is proposed to install “Class B Hoardings” along this street.

¹ Mattheck, Dr. Clause & Breloer, Helge (1994) – Sixth Edition (2001) **The Body Language of Trees – A Handbook for Failure Analysis** The Stationery Office, London, England

3.4 The hoardings are located over the edge of the exiting concrete footpath and behind the kerb and gutter in Cross Street. The Class B hoardings have a height clearance of 2.5 metres (m) above the footpath.

3.5 All of the six trees exceed the minimum height clearance to install the Class B hoardings – refer plate 1 showing tree 33.

Plate 1



Photo of tree 33 showing Class B hoarding behind & location along the footpath

3.6 To install the Class B hoarding to protect the pedestrians in Cross Street and provide an exclusion barrier for the Site works will now require the removal of the six trees – Trees 33, 37, 38, 42, 44 & 47. It is acknowledged these trees show good vitality, however the removal of the trees is unavoidable and shall be undertaken by contractors approved by Council. Approval to remove these trees will need to be obtained from Warringah Council as they are protected by their TPO.

3.7 To compensate for the loss of these trees along Cross Street at least six replacement trees shall be replanted along this street in a minimum bag size of 100 litres. The replacement species shall be advised by Council.

4. RECOMMENDATIONS

In consideration of the data collected recommendations are provided for the removal or retention of trees including specific tree protection measures required to reduce the

anticipated impacts from the proposed construction on those trees proposed to be retained.

The report specifically recommends:

1. The removal of the following street trees along Cross Street, Brookvale: Trees 33, 37, 38, 42, 44 & 47;
2. That a minimum of six replacement trees be replanted along Cross Street in a minimum bag size of 100 litres. The species to be advised by Council;
3. The trees shall be removed by a contractor approved by Council. Tree removal work shall be carried out by an experienced tree surgeon in accordance with NSW WorkCover Code of Practice for Amenity Tree Industry (1998);
4. Our tree location plans can be found on Annexure B & C.

A handwritten signature in black ink, appearing to read 'Ross Jackson', enclosed within a rectangular border.

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Annexure A: Observations as seen on the day of inspection of trees

| Tree No | Botanical Name | Age Class | Height metres | Spread metres | D.B.H. mm | Condition / comments on trees as seen on site | TPZ / SRZ Rad.m | SULE |
|---------|---|-----------|---------------|---------------|-----------|--|-----------------|------|
| 33 | <i>Backhousia citriodora</i> (Sweet Verbena Tree) | M | 5 | 3 | 120 | Street tree in G | 2, 1.5 | 2A |
| 37 | <i>Backhousia citriodora</i> (Sweet Verbena Tree) | M | 6 | 3 | 110 | G. Street tree | 2, 1.5 | 2A |
| 38 | <i>Tristaniopsis laurina</i> (Water Gum) | M | 5 | 4 | 100 | F – topped at 4m | 2, 1.5 | 3A |
| 42 | <i>Tristaniopsis confertus</i> (Brush Box) | M | 10 | 10 | 670 | G. Power line pruning thru middle of canopy. Street tree | 8.0, 2.8 | 2A |
| 44 | <i>Backhousia citriodora</i> (Sweet Verbena Tree) | M | 4 | 2 | 100 | G – small specimen. Street tree | 2, 1.5 | 3A |
| 47 | <i>Backhousia citriodora</i> (Sweet Verbena Tree) | M | 3 | 2 | 100 | F. Street tree | 2, 1.5 | 3A |

Terms used in Tree Survey & Report:

Age Class

(Y) – Young refers to a well-established but juvenile tree. Less than 1/3 life expectancy

(SM) – Semi-mature refers to a tree at growth stages between immaturity and full size. A tree has reached First Adult Form i.e. displays adult characteristics. 1/3 to 2/3 life expectancy

(M)- Mature refers to a full size tree with some capacity for future growth. Older than 2/3 life expectancy

(OM) – Over-mature refers to a tree approaching decline or already declining. Older than 2/3 life expectancy and showing signs of irreversible decline.

Health refers to a tree's vigour, growth rate, disease and/or insects.

Vitality summarises observations about the health and structure of the tree on a scale of: **(G) Good, (F) Fair, (P) Poor, (P) Poor & (D) Dead.**

Good: Tree is generally healthy and free from obvious signs of structural weaknesses or significant effects of pests and diseases or infection;

Fair: Tree is generally vigorous although has some indication of being adversely affected by the early effects of disease or infection or environmental or mechanical damage. Appropriate tree maintenance can usually improve overall health and halt decline;

Poor: Tree in decline and is not likely to improve with reasonable maintenance practices or has a structural fault such as bark inclusion;

Dead: Tree no longer capable of sustained growth.

Deadwood – deadwood found in canopy as a percentage.

Height expressed in metres refers to estimated overall height of tree.

Spread expressed in metres refers to estimated spread of crown at the drip line.

(DBH) Diameter at Breast Height expressed in millimetres refers to the trunk diameter at 1.4 metres above ground level.

(TPZ) Tree Protection Zone & Structural Root Zone (SRZ) as defined by AS 4970 – 2009 Section 3

(ULE) The various ULE categories indicate the useful life anticipated for an individual tree or trees assessed as a group. Factors such as the location, age, condition and vitality of the tree are significant to the determination of this rating. Other influences such as the tree's effect on better specimens and the economics of managing the tree successfully in its location are also relevant to ULE (Barrell 1993, 1995, 2001).

ULE RATING (UPDATED 1/4/01) BARRELL

| 1.Long ULE: Trees that appear to be retainable at the time of assessment for more than 40 years with an acceptable level of risk. | 2.Medium ULE: Trees that appear to be retainable at the time of assessment for more than 15-40 years with an acceptable level of risk. | 3.Short ULE: Trees that appear to be retainable at the time of assessment for more than 5-15 years with an acceptable level of risk. | 4.Remove: Trees that should be removed within the next 5 years. | 5.Small, young or regularly pruned: Trees that can be reliably moved or replaced. |
|---|--|--|---|---|
| (A) Structurally sound trees located in positions that can accommodate future growth | (A) Trees that may only live between 15 and 40 more years. | (A) Trees that may only live between 5 and 15 more years. | (A) Dead, dying, suppressed or declining trees because of disease or inhospitable conditions. | (A) Small trees less than 5 Metres in height. |
| (B) Trees that could be made suitable for retention in the long term by remedial tree care. | (B) Trees that could live for more than 40 years but may be removed for safety or nuisance reasons. | (B) Trees that could live for more than 15 years but may be removed for safety or nuisance reasons. | (B) Dangerous trees because of instability or recent loss of adjacent trees. | (B) Young trees less than 15 years old but over 5 metres in height. |
| (C) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention. | (C) Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting. | (C) Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting. | (C) Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form. | (C) Formal hedges and trees intended for regular pruning to artificially control growth. |
| | (D) Trees that could be made suitable for retention in the medium term by remedial tree care. | (D) Trees that require substantial remedial tree care and are only suitable for retention in the short term. | (D) Damaged trees that are clearly not safe to retain. | |
| | | | (E) Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting. | |
| | | | (F) Trees that are damaging or may cause damage to existing structures within 5 years. | |
| | | | (G) Trees that will become dangerous after removal of other trees for the reasons given in (A) to (F). | |
| | | | (H) Trees in categories (A) to (G) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review. | |

Annexure B: Tree location plan

