



TREE REMOVAL & PRUNING APPLICATION

Innovation Plaza - Australian Technology Park,
Redfern 30.4.2018.

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1. Introduction

On the 26th February 2018 at the request of Belinda Aspinall Development Manager of Innovation Plaza Mirvac Australian Technology Park (ATP) Eveleigh Redfern, Mirvac Projects Pty Ltd.

Lee Hancock Consulting Arborist was commissioned to prepare a report to support the assessment of State Significant Development Application 8517 that seeks to redevelop and adaptively re-use Bays 1-4a within the Locomotive Workshop to provide, amongst other things, the provision of a loading dock in the northern portion of Bays 1 and 2 that will be accessed from Innovation Plaza.”

1.1 Previous reports submitted by Earthscape Horticultural Services 28th April 2017, have numbered the existing trees 59-80 (Avenue of London Plane Trees) located between Innovation Plaza and Locomotive Workshops. The *Ficus rubiginosa* (Port Jackson Fig) is numbered Tree 43 and is located at the goods entrance of Cornwallis Street, Redfern.

2. Aim

The purpose of this report is to assess the trees health and vigour, structural integrity, their significance in the landscape and assess their suitability for retention.

2.1 Table 1. Documents Provided

PLAN/DOCUMENT	PREPARED BY	DWG/REF NO	DATED
Australian Technology Park Locomotive Workshop Swept Path Assessment	GTA CONSULTANTS	N117430-04-03-01	13.9.2017
Arboricultural Impact Assessment	Eandscape Horticultural Services	N/A	28 th April 2017

3. Site Analysis

The entire site Australian Technology Park including the study site, Innovation Plaza is part of the Eveleigh Railway Workshops listing on the NSW State Heritage Register. The Innovation Plaza site in recent times have implemented an Avenue planting of semimature *Platanus x Hybrida*. (London Plane Tree). The entrance from Cornwallis St into Innovation Plaza stands a large mature *Ficus rubiginosa* (Port Jackson Fig) in established retained garden.



4. Discussion

An assessment of each tree was made using the Visual Tree Assessment (VTA) procedure. The prescribed trees were assessed from the ground only. No aerial inspection or diagnostic testing has been undertaken as part of this assessment.

4.1 The initial point of reference in assessing the impacts of the proposed development is AS4970 (2009) 'Protection of trees on development sites'.

4.2 The study area begins at 2-4 Cornwallis Street PT4002 DP. 1194309 National Innovation Centre and PT 4000 DP.1194309 Locomotive Workshop.

The subject trees numbers were obtained directly from Earthscape Horticultural Services Appendix 6. Tree Location Plan April 2017, by referencing the original Tree Location Plan this should aid the reader in the location of the existing trees.

Tree 43. *Ficus rubiginosa* (Port Jackson Fig)

Tree appears structurally stable, in good form and vigour. Tree canopy facing north shall be impacted upon by delivery trucks entering, crown lifting the canopy should minimise any damage to the long -term health and vigour of the existing trees. Crown lifting is the removal of lower branches to provide clearance for vehicles.

Trees 59, 60,61,62,65,66,68 *Platanus x Hybrida*. (London Plane Tree).

The subject trees were assessed, in good health and vigour, with sound structural branch attachments, semi-mature specimens. The proposed delivery truck route and loading dock will impact upon the trees 59, 60,61,62,65,66,68 lower structural branches. Crown lifting the lower branches to a height of 5m clearance without disfiguring the natural growth habit of the tree.

Selective pruning of the branches affected by trucks reversing and leaving the Avenue, will minimise any mitigating issues relating to trunk and branch damage.

Tree 67. *Platanus x Hybrida*. (London Plane Tree).

Semi mature tree in good health and vigour, sound branch attachments, the supplied swept path assessment plan shows there is no feasible alternative for the retention of the tree. Therefore, removal is recommended.

Consideration to transplant Tree 67. is an alternative measure to preserve the existing tree to a new location on site? This tree species is generally tolerant of transplanting. *Platanus x Hybrida*. (London Plane Tree) are deciduous trees, the most appropriate time to transplant is in their dormancy. Transplanting in this season will give the tree the best possible advantage to establish in its new location.

Table 2. Tree Health and Retention Values.

Tree	Genus & Species	Height	DBH /DAGL	Maturity	Condition	Health and Vigour	Landscape Significance Rating	Useful Life Expectancy	Retention Value
43	<i>Ficus rubiginosa</i> (Port Jackson Fig)	10m	1000/1400 mm	Mature	Good	Good	High	Long greater than 40 Years	High
67	<i>Platanus x Hybrida.</i> (London Plane Tree).	6m	310/330	Semi mature	Good	Good	Moderate	Long greater than 40 Years	Low

5. Conclusion

The site analysis has collected all relevant data in assessing the condition of trees located on the site of Innovation Centre and Locomotive workshops, an assessment of their health and vigour, estimated life expectancy and their significance in the landscape and amenity value have been recorded.

This report provides recommendations relating to tree management only. Advice should be sought from appropriately qualified consultants regarding design/construction issues.

A comprehensive risk assessment and management plan for the trees is beyond the scope of this report.

6. Recommendation

The proposed Loading Dock planned for Innovation Plaza / Locomotion Workshops shall necessitate the removal of one (1) *Platanus x Hybrida*. (London Plane Tree).

Alternatively, consideration to transplanting the tree to a new location on-site of Australian Technology Park. This species is generally tolerant of transplanting. A Transplant Method Statement should be prepared prior to the transplanting operation being undertaken. Any trees that fail to establish within twelve months of the completion of the developments works should be replaced with advanced -size specimens of the same species.

6.1 The remaining London Plane trees 59, 60,61,62,65,66,68 that shall be impacted upon the arrival and leaving of delivery trucks shall be pruned to provide clearance for vehicles. Crown lifting is the removal of lower branches to provide clearance. It is recommended that pruning lower branches to a height of 5m clearance without disfiguring the natural growth habit of the tree. The maximum diameter of branches removed should not exceed 100mm in diameter.

6.1.1 Tree 43 *Ficus rubiginosa* (Port Jackson Fig)

It is recommended that crown lifting the lower branches to a height of 5m clearance without disfiguring the natural growth habit of the tree. The maximum diameter of branches removed should not exceed 100mm in diameter.

6.2 Pruning shall be compliant with AS4373 (2007) *Pruning of Amenity Trees* and undertaken by an experienced Certified AQF Level 3 Arborist in accordance with Safe Work Australia Code of Practice 'Guide to Managing Risks of Tree Trimming and Removal Work'.

6.3 Approved tree removal shall be undertaken by an experienced Certified AQF Level 3 Arborist in accordance with Safe Work Australia Code of Practice 'Guide to Managing Risks of Tree Trimming and Removal Work'.

6.4 All pruning and removal works shall be supervised on the day by the Project Arborist.

6.5 Installation of ornamental tree guards around trees 66 and 68. Tree guards provide protection from acts of vandalism and in this case scenario trucks entering and leaving the dock.

7. Images

Ficus rubiginosa (Port Jackson Fig) Crown lifting to accommodate vehicles.



The Site - Innovation Plaza

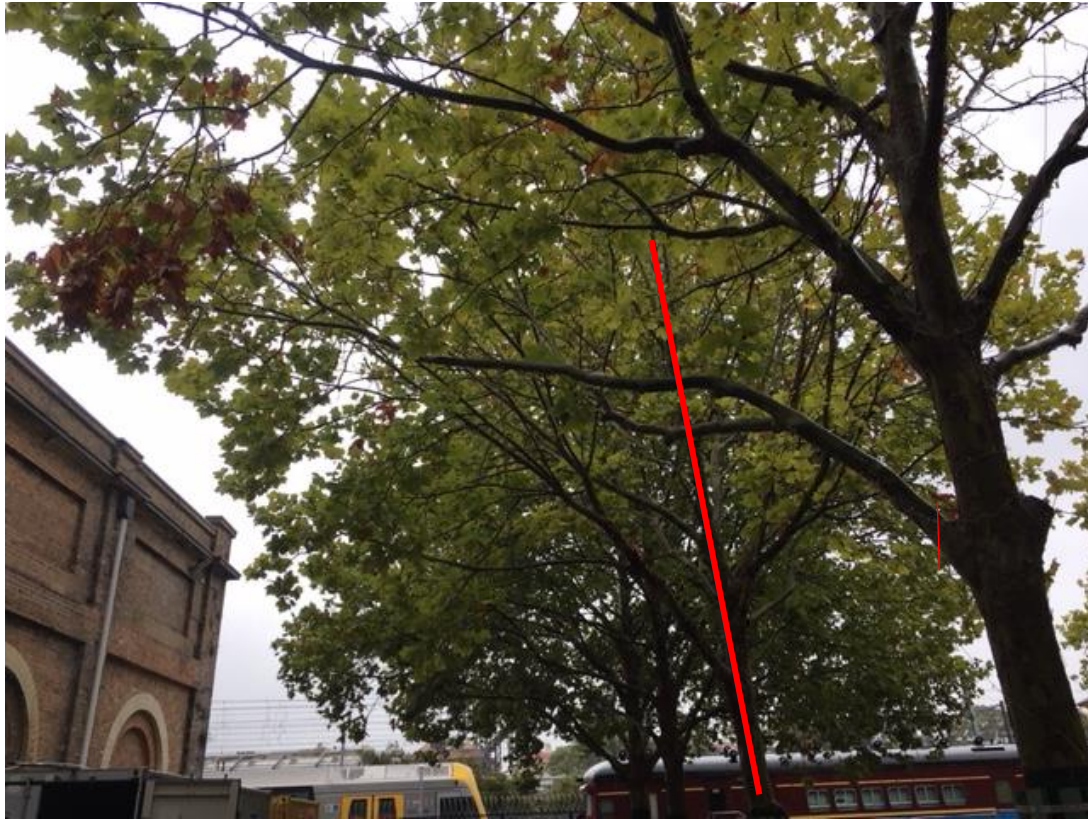


Tree 68. crown lifted

Tree 67 to be removed



Tree 67 indicated by red line to be removed. Tree 68 Lower branch removal indicated by red dash



Tree 68

Tree 67 removed or transplanted



8. References

AS4373 *Pruning of Amenity Trees* (2007)

AS4970 '*Protection of trees on development sites*'. (2009)

Harris, Clark & Matheny. *Arboriculture: Integrated Management of Landscape Trees, Shrubs and Vines*, (1999) Prentice Hall, New Jersey.

Mattheck, C. & Breloer, H. (1994) *The Body Language of Trees*.

Morton, A. Earthscape Horticultural Services -Tree Retention Values

Morton, A. Earthscape Horticultural Services - *Arboricultural Impact Assessment – Proposed Public Domain Upgrade Australian Technology Park – Henderson Road, Eveleigh, NSW*. Version 3 28th April 2017.

Disclaimer

The author, Lee Hancock Consulting Arborist takes no responsibility for actions taken and their consequences, contrary to those expert and professional instructions given as recommendations pertaining to safety by way of exercising our responsibility to our client and the public as our duty of care commitment to mitigate or prevent hazards from arising, from a failure moment in full or part, from a structurally deficient or unsound tree or a tree likely to be rendered thus by its retention and subsequent modifications to its growing environment either above or below ground contrary to our advice.

This report is a recommendation only. In no way does it guarantee any actions by the determining authorities.

9. Methodologies

9.1 Visual Tree Assessment (VTA)

A technique developed by (Mattheck & Breloer) was carried out on all trees from the ground. The technique involves, identification of the Genus and Species of trees on the site. The Diameter at Breast Height (DBH) 1.4m above ground level determined from the circumference of the trunk divided by π (π).

Tree height (m) Diameter at Ground Level (DAGL), Canopy spread (m) in four cardinal points (north, south, east, west) Structural integrity, Amenity value, Indigenous/ Endemic value, Health and vigor of trees.

9.2 Useful Life Expectancy (ULE)

An assessment procedure has been developed by (Barrell, J.D.) 1993 'by which trees on a site are accurately recorded and designated according to their suitability for retention in the short, medium or long term'. This methodology is a measure of the "sustainability" of the remaining contribution in years that the tree can provide in the context of the site.

9.3 Landscape Significance

The significance of trees in the landscape is assessed in determining their retention values in 3 categories. Heritage Value reflects Historical significance, Ecological Value maintains biodiversity values and Amenity value contributes to the character of the landscape.

9.4 Tree Retention Values

A rating was given to each tree on site; the information gathered was then processed by evaluating the health and vigour, the remaining useful life expectancy (ULE), plus their significance in the landscape. A retention value for each tree was then evaluated ranging from High, Moderate, Low and Very Low.

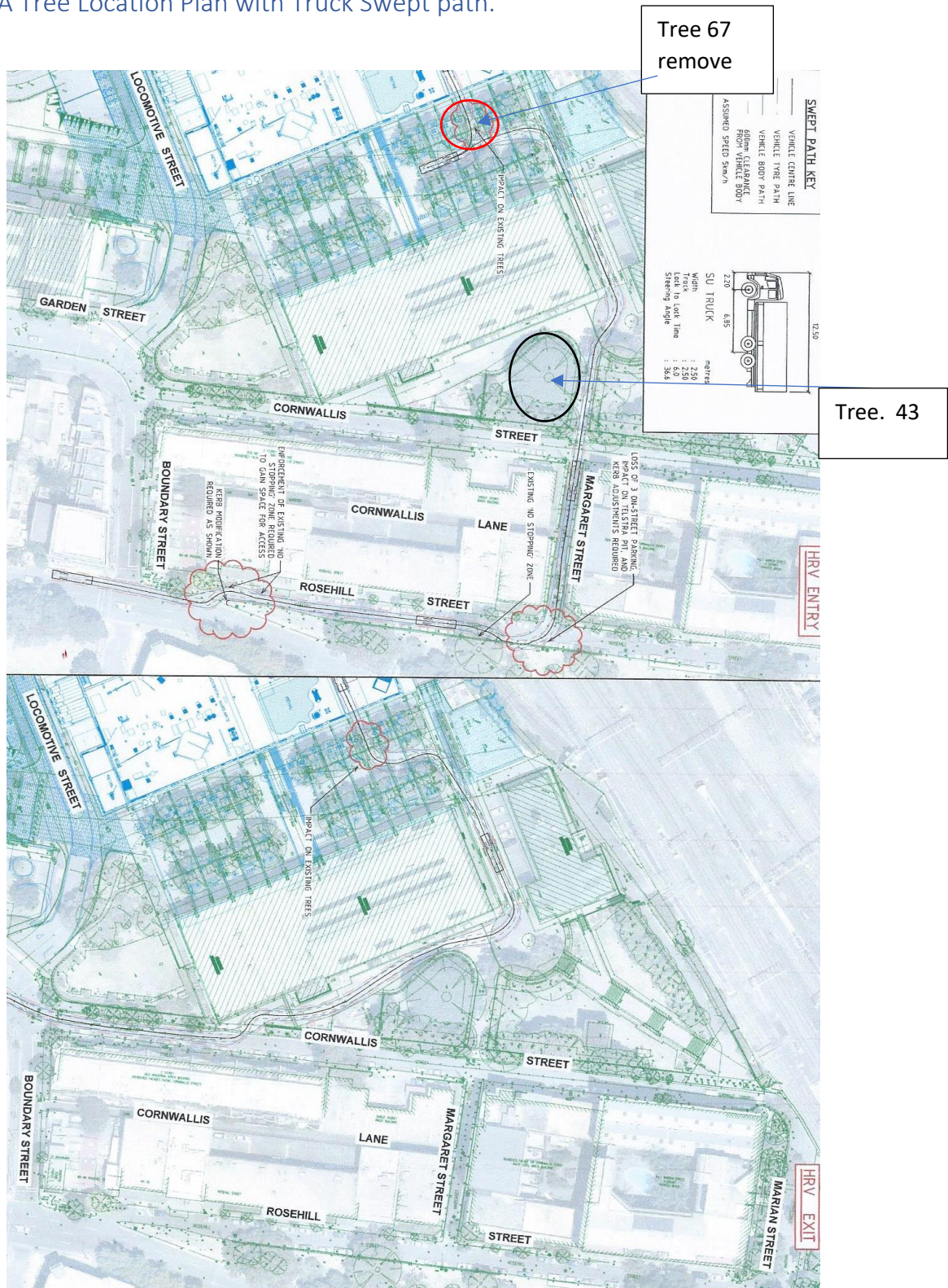
Table 3. Tree Health and Retention Value

	Landscape Significance Rating						
Estimated Life Expectancy	1	2	3	4	5	6	7
Long - Greater than 40 Years	High Retention Value						
Medium- 15 to 40 Years			Moderate Retention Value				
Short - 5 to 15 years			Low Ret. Value				
Transient - Less than 5 Years				Very Low Retention Value			
Dead or Potentially Hazardous							

Table 4. Tree Retention Values

RETENTION VALUE	RECOMMENDED ACTION
“High”	1. These trees considered worthy of preservation; as such careful consideration, should be given to their retention as a priority. 2. Proposed site design and placement of buildings and infrastructure should consider lessening any mitigating issues in relation to trees. 3. In addition, the extent of the canopy (canopy drip-line) should also be considered, particularly in relation to high rise developments. Significant pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable.
“Moderate”	1. The retention of these trees is desirable. 2. These trees should be retained as part of any potential development if possible however the trees are considered less critical for retention. 3. If these trees must be removed, replacement planting should be considered in accordance with Council’s Tree Replacement Policy to compensate for loss of amenity.
“Low”	4. These trees are not considered to worthy of any special measures to ensure their preservation, due to current health, condition or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their ULE. 5. These trees should not be considered as a constraint to the potential development of the site.
“Very Low”	1. These trees are considered potentially hazardous or very poor specimens or may be environmental or noxious weeds. 2. The removal of these trees is therefore recommended regardless of the implications of any proposed development.

Appendix A Tree Location Plan with Truck Swept path.



Legend:



Tree removed



Trees retained