Attachment B

Arboricultural Impact Assessment Report prepared by Earthscape Horticultural Services – dated 3 September 2019

EARTHSCAPE HORTICULTURAL SERVICES
Arboricultural, Horticultural and Landscape Consultants

ABN 36 082 126 027

ARBORICULTURAL IMPACT ASSESSMENT REPORT

CONCEPT DA
PROPOSED MIXED USE DEVELOPMENT

14-26 WATTLE STREET, PYRMONT

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EXECUTIVE SUMMARY

This report was commissioned by Property Development Solution (Aust) Pty Ltd on behalf of Landream Pyrmont Pty Ltd to assess the health and condition of one-hundred and nine (109) trees located within or immediately adjacent to 14-26 Wattle Street, Pyrmont. The report has been prepared to aid in the assessment of a Concept Development Application (DA) based on an Indicative Reference Scheme prepared by Tzannes Associates for a new Mixed Use Development within the property.

The proposed development, in its current form (based on the Indicative Reference Scheme), will necessitate the removal of a total of fifty-three (53) trees, including four (4) trees of high retention value, fourteen (14) trees of moderate retention value and thirty-five (35) trees of low and very low retention value. The remaining fifty-four (54) trees, all of which are external to the site, are proposed to be retained. Five (5) of the trees to be retained will require extensive pruning to accommodate the development, which may adversely affect their health and diminish their amenity value. However, these trees are to be retained in the short term. The remaining trees should not be adversely affected by the proposed development, provided that appropriate tree protection measures are implemented during construction as recommended.

In order to compensate for the loss of amenity resulting from the removal of these trees to accommodate the proposed development, new tree planting is proposed throughout the proposed new communal open space areas within the site and within the adjacent road reserves. The new plantings within the site include five (5) large trees (12 metres canopy) diameter, twenty (20) medium-sized trees (8 metres canopy diameter) and fourteen (14) small trees (5 metres canopy diameter). This is forecast to achieve a total canopy cover equivalent to 15% of the site area (1,845 m²) within 10 years of the completion of the development, which meets the requirements of the *Sydney Development Control Plan*. As such, the extent of replacement planting is considered satisfactory and will ensure no net loss of amenity in the short term.

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1 INTRODUCTION

1.1.1 This report was commissioned by Property Development Solution (Aust) Pty Ltd on behalf of Landream Pyrmont Pty Ltd to assess the health and condition of one-hundred and nine (109) trees located within or immediately adjacent to 14-26 Wattle Street, Pyrmont. The report has been prepared to aid in the assessment of a Concept Development Application (DA) based on an Indicative Reference Scheme prepared by Tzannes Associates for a new Mixed-use (commercial/residential) Development within the property.

1.1.2 The purpose of this report is to assess the potential impact of the proposed development on the subject trees, together with recommendations for amendments to the design or construction methodology where necessary to minimise any adverse impact. The report also provides recommended tree protection measures to ensure the long-term preservation of the trees to be retained where appropriate.

1.1.3 This report has been prepared in accordance with the City of Sydney Council's guidelines for preparation of Arborists Reports as outlined in Schedule 8 of the *Sydney Development Control Plan* (SDCP) 2012 and Sections 2.3.2 - 2.3.5 of the Australian Standard for *Protection of Trees on Development Sites* (AS 4970:2009).

2 THE SITE

2.1.1 The subject property is a large commercial allotment known as Lot 2 in DP 834973, being 14-26 Wattle Street, Pyrmont. For the purposes of this report, the subject allotment will be referred to as 'the site'. The total area of the site is 12,125 m². The site is zoned Mixed Use [B4] under the *Sydney Local Environmental Plan 2012* (SLEP). The site contains a number of dilapidated buildings alongside the south-eastern and south-western boundaries. The remainder of the site is vacant and mostly covered with concrete pavements. The site is currently used by the City of Sydney Council as a storage depot. The site has a high sandstone cliff along the north-eastern boundary. The site adjoins the light rail corridor along the north-western boundary. The site contains a number of mature and semi-mature trees. These include a variety of locally-indigenous, non-local native and exotic (introduced) species.

2.1.2 Soils of this area have been extensively disturbed and modified for urban development. The original soils of this area are typical of the Gymea Landscape Group (as classified in the *Soil Landscapes of the Sydney 1:100,000 Sheet*), consisting of "shallow to moderately deep (300 – 1000 mm) *Yellow Earths* and *Earthy Sands* on crests and inside of benches and shallow (< 200 mm) *Siliceous Sands* on leading edges of benches; localised *Gleyed Podzolic Soils* and *Yellow Podzolic Soils* on shale lenses; and shallow to moderately deep (< 1000mm) *Siliceous Sands* and *Leached Sands* along Drainage Lines."[1] Soil materials are derived Hawkesbury Sandstone and may be discontinuous with localised rock outcrop. The site was formerly operated as a sandstone quarry with the eastern part of the site excavated through rock and the western section filled to create a fairly level platform.

2.1.3 The original vegetation of this area has been completely removed for urban development. The original vegetation community consisted of open forest & woodland typical of Hawkesbury Sandstone areas.[2] Locally-indigenous tree species formerly occurring in this area may have included *Angophora costata* (Sydney Red Gum), *Eucalyptus piperita* (Sydney Peppermint) and *Eucalyptus haemastoma* (Scribbly Gum). Other species occurring in this association may include *Allocasuarina littoralis* (Black She-Oak), *Corymbia gummifera* (Red Bloodwood), *Eucalyptus globoidea* (White Stringybark), *Eucalyptus sieberi* (Silvertop Ash) and *Banksia serrata* (Old Man Banksia). *Ficus rubiginosa* (Port Jakson Fig) and *Glochidion ferdinandi* (Cheese tree), may also be found on lower slopes of sheltered sites.

3 SUBJECT TREES

3.1.1 The subject trees were inspected by Earthscape Horticultural Services (EHS) on the 8th February 2019. Each tree has been provided with an identification number for reference purposes denoted on the attached Tree Location Plan (**Appendix 5**), based on the survey prepared by Rygate and Company Pty Ltd, Dwg. Ref No. 77705 dated 18/10/2016. The numbers used on this plan correlate with the Tree Assessment Schedule (**Appendix 3**). Tree No.s T2, T15, T16, T17, T18, T19, T22, T23, T24, T31, T38, T49, T52, T60, T74, T97 & T99 were not shown on the original survey and have been plotted on the drawing in their approximate positions.

4 HEALTH AND CONDITION ASSESSMENT

4.1 Methodology

4.1.1 An assessment of each tree was made using the Visual Tree Assessment (VTA) procedure.[3] All of the trees were assessed in view from the ground. No aerial inspection or diagnostic testing has been undertaken as part of this assessment.

4.1.2 The following information was collected for each tree:-

- Tree Species (Botanical & Common Name);
- Approximate height;
- Canopy spread; measured using a metric tape and an average taken.
- Trunk diameter (measured at 1.4 metres from ground level);
- Live Crown Size; (measured by subtracting the total height of the tree from the lowest point of the crown and multiplying by the average crown spread to give a value in square metres).
- Health & vigour; using foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback and epicormic growth as indicators,
- Condition; using visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators.
- Suitability of the tree to the site and its existing location; in consideration of damage or potential damage to services or structures, available space for future development and nuisance issues.

4.1.3 This information is presented in a tabulated form in **Appendix 3**.

4.2 Safe Useful Life Expectancy (SULE)

4.2.1 The remaining Safe Useful Life Expectancy[4] of the tree is an estimate of the sustainability of the tree in the landscape, calculated based on an estimate of the average age of the species in an urban area, less its estimated current age. The life expectancy of the tree has been further modified where necessary in consideration of its current health and vigour, condition and suitability to the site. The estimated SULE of each tree is shown in **Appendix 3.**

4.2.2 The following ranges have been allocated to each tree:-

- Greater than 40 years (Long)
- Between 15 and 40 years (Medium)
- Between 5 and 15 years (Short)
- Less than 5 years (Transient)
- Dead or immediately hazardous (defective or unstable)

4.2.1 SULE ratings are intended to provide a general overview of the long term sustainability of the trees within the site in consideration of these factors. The allocated ranges are not intended to be absolute. This information is useful in guiding future planning by highlighting the probable

lifespan of individual trees, for which a clear pattern may emerge. This information may be helpful in forecasting likely tree senescence and planning for replacement planting to ensure continuity in tree canopy across the site. It should be noted that SULEs *may* be extended or reduced depending on the way trees are managed. Intervention and remedial works may extend the SULE of some trees.

5 LANDSCAPE SIGNIFICANCE

5.1 Methodology for Determining Landscape Significance

5.1.1 The significance of a tree in the landscape is a combination of its environmental, heritage and amenity values. Whilst these values may be fairly subjective and difficult to assess consistently, some measure is necessary to assist in determining the retention value of each tree. To ensure a consistent approach, the assessment criteria shown in **Appendix 1** have been used in this assessment.

5.1.2 A rating has been applied to each tree to give an understanding of the relative significance of each tree in the landscape and to assist in determining priorities for retention, in accordance with the following categories:-

1. **Significant**
2. **Very High**
3. **High**
4. **Moderate**
5. **Low**
6. **Very Low**
7. **Insignificant**

5.2 Environmental Significance

5.2.1 Tree Management Controls

Prescribed Trees within the City of Sydney Local Government Area (LGA) are protected under the provisions of under Section 3.5.3 of the *Sydney Development Control Plan 2012* (SDCP) made pursuant to Clause 9 of the *State Environmental Planning Policy (Vegetation in Non-rural Areas) 2017* (SEPP VNRA). The SDCP generally protects all trees of a height of five (5) metres or greater or with a canopy spread of five (5) metres or greater, or trunk diameter of 300mm or greater (measured at ground level) or any tree listed on Council's Significant Tree Register. Some exemptions apply. The following trees are exempt (not protected) under the provisions of the SDCP:-

Tree No.	Species	Exemption
T7, T17, T18, T19 & T29	*Celtis sinensis* (Chinese Hackberry)	Noxious Weed, Environmental Weed Species (less than 10 metres in height)
T23	*Olea europaea subsp. africana* (African Olive)	Environmental Weed Species

5.2.2 Wildlife Habitat

Angophora costata (Sydney Red Gum) [T63, T65, T71, T81, T82, T85, T86, T88 & T89], *Eucalyptus punctata* (Grey Gum) [T67], *Pittosporum undulatum* (Native Daphne) [T22] and *Ficus rubiginosa* (Port Jackson Fig) [T15 & T31] are all locally-indigenous species, representative of the original vegetation of the area and would be of benefit to native wildlife. However, none of the trees contain cavities that would be suitable as nesting hollows for arboreal mammals or birds. There were no other visible signs of wildlife habitation. It should be noted that all of these trees

have either been planted or self-sown, none of these trees are remnant of the original vegetation community.

5.2.3 Noxious Plants & Environmental Weeds

Celtis sinensis (Chinese Hackberry) [T7, T12, T13, T14, T16, T17, T18, T19, T20, T21, T24, T25, T26, T27, T28, T29 & T30] is scheduled as a potential 'Biosecurity Risk' ('Priority Weed' – formerly 'Noxious Weed') within NSW under the provisions of the *Biosecurity Act 2015*. The growth of this plant species must be managed in a manner that continuously inhibits the ability of the plant to spread (so far as is reasonably practicable) and the plant must not be sold, propagated or knowingly distributed.

5.2.4 Threatened Species & Ecological Communities

Syzygium paniculatum (Magenta Cherry or Lilly Pilly) [T68, T69, T70, T73, T74, T75, T90-T97 and T99-T109] is listed as an Endangered Species under the *Biodiversity Conservation Act 2016* (NSW) and a nationally vulnerable species under the *Environmental Protection and Biodiversity Conservation Act 1999*. Whilst this species is listed as endangered and vulnerable in its natural habitat, it is a commonly planted ornamental tree and is not endemic to this area. As such, this species does not have any ecological significance in the context of this site.

None of the other trees are listed as Threatened or Vulnerable Species or form part of Endangered Ecological Communities (EECs) under the provisions of the *Biodiversity Conservation Act 2016* (NSW) or the *Environment Protection and Biodiversity Conservation Act 1999*.

5.3 Heritage Significance

5.3.1 Heritage Items

The subject property is *not* listed as an item of Environmental Heritage under Schedule 5, Part 1 of the *Sydney Local Environmental Plan 2012* (SLEP).

5.3.2 Heritage Conservation Area

The site is *not* located within a Heritage Conservation Area under Schedule 5, Part 2 of the SLEP 2012.

5.3.3 Significant Tree Register

None of the subject trees are listed on Council's *Register of Significant Trees* Volume 2 (*Significant Street Trees*) [5] *or* Volume 4 (*Significant Trees under Private Ownership*).[6]

5.3.4 General

None of the subject trees have any known or suspected heritage significance. The site was operated as a Sandstone Quarry between 1870 and 1916 by Charles Saunders, providing sandstone for many of Sydney's iconic buildings during the Victorian and Federation Era. These included the Great Hall at the University of Sydney, the Queen Victoria Building, the Australian Museum and the Sydney Town Hall. From 1916 to 2000, the site was used by the City of Sydney Council as a works depot, principally for activities associated with road construction.[7]

5.4 Amenity Value

5.4.1 Criteria for the assessment of amenity values are incorporated into **Appendix 1**. The amenity value of a tree is a measure of its live crown size, visual appearance (form, habit, crown density), visibility and position in the landscape and contribution to the visual character of an area. Generally the larger and more prominently located the tree, and the better its form and habit, the higher its amenity value.

6 TREE RETENTION VALUES

6.1.1 The Retention Values shown in **Appendix 3** and **Appendix 5** have been determined on the basis of the estimated longevity of the trees and their landscape significance rating, in accordance with **Table 1**. Together with guidelines contained in **Section 7** (Tree Protection Zones) this information should be used to determine the most appropriate position of building footprints and other infrastructure within the site, with due consideration to other site constraints, to minimise the impact on trees considered worthy of preservation.

TABLE 1 – TREE RETENTION VALUES – ASSESSMENT METHODOLOGY

	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							

6.1.2 The following table describes the implications of the retention values on site layout and design.

TABLE 2 – TREE RETENTION PRIORITES.

RETENTION VALUE	**RECOMMENDED ACTION**
"High"	These trees considered worthy of preservation; as such careful consideration should be given to their retention as a priority. Proposed site design and placement of buildings and infrastructure should consider the recommended setbacks as discussed in the following section (refer also **Appendix 2**) to avoid any adverse impact on these trees. In addition to Tree Protection Zones, 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"	The retention of these trees is desirable, but not essential. These trees should be retained as part of any proposed development if possible. However, these trees are considered less critical for retention. If these trees must be removed, replacement planting should be considered in accordance with Council's Tree Replenishment Policy to compensate for loss of amenity (refer also **Section 11**).
"Low"	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 SULE. These trees should not be considered as a constraint to the future development of the site.
"Very Low"	These trees are considered potentially hazardous or very poor specimens, or may be environmental or noxious weeds. The removal of these trees is therefore recommended regardless of the implications of any proposed development.

7 TREE PROTECTION ZONES

7.1.1 The Tree Protection Zone (TPZ) is a radial distance measured from the centre of the trunk of the tree as specified in **Appendix 4**. These have been calculated in accordance with AS 4970-2009 (Protection of Trees on Development Sites).[8]

7.1.2 The intention of the TPZ is to ensure protection of the root system and canopy from the potential damage from construction works and ensure the long-term health and stability of each tree to be retained. Incursions to the root zone may occur due to excavations, changes in ground levels, (either lowering or raising the grade), trenching or other forms or soil disturbance such as ripping, grading or inverting the soil profile. Such works may cause damage or loss of part of the root system, leading to an adverse impact on the tree.

7.2 Structural Root Zone (SRZ)

7.2.1 The Structural Root Zone (SRZ) provides the bulk of mechanical support and anchorage for a tree. This is also a radial distance measured from the centre of the trunk as specified in **Appendix 4**. The SRZ has been calculated in accordance with AS 4970-2009 (Protection of Trees on Development Sites).

7.2.2 Incursions within the SRZ are not recommended as they are likely to result in the severance of woody roots which may compromise the stability of the tree or lead to its decline and demise.

7.3 Acceptable Encroachments to the Tree Protection Zone.

7.3.1 Where encroachment to the TPZ is unavoidable, an incursion to the TPZ of not exceeding 10% of the area of the TPZ and outside the SRZ may be acceptable. Examples of acceptable incursions are shown in **Appendix 2**. Greater incursions to the TPZ may result in an adverse impact on the tree.

7.3.2 Where incursions greater than 10% of the TPZ are unavoidable, exploratory excavation using non-destructive methods may be required to evaluate the extent of the root system affected and determine whether or not the tree can remain viable

7.4 Acceptable Encroachments to the Canopy

7.4.1 The removal of a small portion of the crown (foliage and branches) is generally tolerable provided that the extent of pruning required is less than 10% of the total foliage volume of the tree and the removal of branches does not create large wounds or disfigure the natural form and habit of the tree. All pruning cuts must be undertaken in accordance with AS 4373:2007. This generally involves reduction of the affected branches back to the nearest branch collar at the junction with the parent branch, rather than at an intermediate point. The latter is referred to as “lopping” and is no longer an acceptable arboricultural practice. Generally speaking, the minimum pruning as required to accommodate any proposed works is desirable. Extensive pruning can result in a detrimental impact on tree health and may lead to exposure of remaining branches to wind forces that they were previously sheltered from, leading to a greater risk of branch failure.

7.4.2 Clearance to between the building line and canopy should take into account any projecting structures, such as balconies, awnings and the roofline and any requirement for temporary scaffolding to be erected during construction (typically 1-1.5 metres wide). High structures should preferably be located outside the canopy dripline (as shown indicatively on the attached plans) in order to avoid or minimise canopy pruning.

8 PROPOSED DEVELOPMENT

8.1.1 The proposed future development includes the demolition of all dilapidated buildings and other structures, site remediation and ultimately construction of a new Mixed Use Development within the property (incorporating commercial, retail and residential spaces, together with a childcare centre, recreation centre, communal open space, basement car parking facilities and associated landscape works). An Indicative Reference Scheme has been prepared by Tzannes Associates as part of a Concept DA. The Indicative Reference Scheme (IRS) is intended to guide proponents of a future design competition by prescribing the site constraints and general building massing envelopes for the future Mixed Use Development.

8.1.2 Previous Environmental Assessments of the Site have identified both soil and groundwater contamination as a result of previous activities and uses. These contaminants include petroleum hydrocarbon-based constituents. The Remedial Action Plan (RAP) prepared by JBS&G Australia proposes the removal (excavation and off-site disposal) of any underground petroleum storage systems and any surrounding soil impacted by hydrocarbons and the removal of soils contaminated with hydrocarbons, benzo(a)pyrene asbestos and tar. The extent of remedial works has been identified on Figure 7 of the JBS&G report.

8.1.3 It is understood there is some concern in relation to the stability of fill areas in the western portion of the site. Access to parts of these areas are currently restricted due to safety concerns in relation to both ground conditions and the structural integrity of the existing buildings. Further remediation may also be required in these areas, subject to confirmation by additional testing. This may have further implications for tree removal and retention which cannot be determined at this stage.

9 IMPACT ASSESSMENT

9.1.1 The intention of this assessment is to determine the incursions to the root zones and canopies created by the proposed development and evaluate the likely impact of the proposed works on the subject trees. Details shown on the following plans were used in this assessment:-

Title	Author	Dwg No.	Date
IRS -Basement 1 Plan	Tzannes Associates	19001 DA 1001 [12]	29/08/2019
IRS -Basement 2 Plan	Tzannes Associates	19001 DA 1002 [11]	29/08/2019
IRS - Level 1 Podium	Tzannes Associates	19001 DA 1003 [13]	29/08/2019
IRS – Wattle Level 2 – Level 10 Plans	Tzannes Associates	19001 DA 1004-1009 [12]	29/08/2019
IRS – Wattle Roof Plan	Tzannes Associates	19001 DA 1010 [8]	29/08/2019
IRS - Roof Plan	Tzannes Associates	19001 DA 1014 [13]	29/08/2019
IRS - Elevations	Tzannes Associates	19001 DA 2001-2004 [11]	29/08/2019
IRS - Sections	Tzannes Associates	19001 DA 3001-3006 [11]	29/08/2019
Landscape Masterplan	Oculus	S19-008	29/08/2019
Siteworks and Stormwater Plan - Basement	Enspire Solutions	180066-01-DA-C05.01 [2]	26/08/2019
Siteworks and Stormwater Plan - Podium	Enspire Solutions	180066-01-DA-C05.02 [2]	26/08/2019
Heritage Impact Statement	Urbis	P8098	29/08/2019

Remedial Action Plan	JBS&G Australia	55900-122315 [A]	06/06/2019

9.1.2 A summary of the impact of the proposed development on each tree within the site is shown in **Appendix 5**. The following criteria have been examined as part of this assessment:-

- Existing Relative Levels (R.L.);
- Tree Protection Zone (TPZ);
- Structural Root Zone (SRZ);
- Footprint and envelope of the proposed development and temporary structures (scaffolding, hoardings etc);
- Incursions to the TPZ & SRZ, including estimated cut & fill beyond the building footprint;
- Incursions to the tree canopy from the building envelope and temporary structures; and
- Assessment of the likely impact of the works on existing trees.

9.1.3 The proposed development will necessitate the removal of thirty-five (35) trees of low and very low retention value. These include Tree No.s T33, T34, T35 & T98 (River Oak), T37 (Swamp Oak), T7, T12, T13, T14, T16, T17, T18, T19, T20, T21, T24, T25, T26, T27, T28, T29 & T30 (Chinese Hackberry), T31 (Port Jackson Fig), T6 Crepe Myrtle), T23 (African Olive), T22 (Sweet Pittosporum), T1, T2, T3, T4, T5, T11, T41 & T42 (Oriental Plane) and T53 (Water Gum). None of these trees are considered significant or worthy of special measures to ensure their preservation. The removal of these trees to accommodate the proposed development is therefore considered warranted in this instance. It should be noted that Trees T33, T34, T35, T37, T41, T42 and T53 are located within the adjacent road reserves and T98 is located within the adjoining railway corridor. It also should be noted that T7, T17, T18, T19, T23 & T29 are exempt from Council's Tree Management Controls.

9.1.4 The proposed development will also necessitate the removal of fourteen (14) trees of moderate retention value. These include Tree No.s T32 (River Oak), T15 (Port Jackson Fig), T56 (Golden Rain Tree), T50, T51 & T54 (Broad-leaved Paperbark), T8, T38 & T39 (Oriental Plane), T96, T97 & T99 (Magenta Cherry), T48 (Water Gum) & T52 (Chinese Poplar). These trees are not considered significant, but are in good health and condition and make a fair contribution to the amenity of the site and surrounding properties. In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting with new trees elsewhere within the site in accordance with **Section 11**. It should be noted that Trees T32, T38, T39, T48, T50, T51 & T54 are located within the adjacent road reserves and trees T56, T96, T97 & T99 are located within the adjoining railway corridor.

9.1.5 The proposed development will also necessitate the removal of four (4) trees of high retention value. These include Tree No.s T36 (River Oak), and trees T9, T10 & T40 (Oriental Plane). These trees do not have any special ecological or heritage significance, but are in good health and condition and make a positive contribution to the amenity of the site and surrounding properties. Consideration has been given to retaining these trees. However, there are no feasible options that can be recommended in this instance that would permit the retention of these tree without significant changes to site design and layout. In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting with new trees elsewhere within the site in accordance with **Section 11**. It should be noted that Trees T36 & T40 are located within the adjacent road reserve.

9.1.6 An existing two-storey building is proposed to be demolished within the TPZs of Trees T43, T44 & T45 (Oriental Plane) and T46 & T47 (London Plane) (all street trees located in Fig Street) and a new seven-storey building is proposed to be constructed in a similar footprint. Given that the new building is in a similar footprint to the existing and will not result in any increase in encroachment to the TPZs, excavations for the new building foundations should not result in any adverse impact

on these trees, due to the barrier to root growth created by the existing structure and footings. However, the increased height of the new building (compared to the existing) and the requirement to erect temporary hoardings and scaffolding during construction on the southern façade will result in a moderate encroachment to the canopies of T43 & T44 (required pruning equivalent to about 20-25% crown loss) and a substantial encroachment to the canopies of T45, T46 & T47 (required pruning equivalent to about 35% crown loss). This extent of crown loss exceeds acceptable limits under AS 4373:2007 (*Pruning of Amenity Trees*). In the case of T43 & T44, this species will tolerate the extent of canopy pruning required. In the case of T45, T46 & T47, the extent of pruning required is likely to result in some adverse impact on the health of the trees and diminish their amenity value. In order to *minimise* any adverse impact on these trees any required canopy pruning (that essential to clear the building envelope and temporary scaffolding) should be undertaken in accordance with **Section 10.16** and any required temporary scaffolding and hoardings to be erected within the TPZs of these trees should be undertaken in accordance with **Section 10.17**.

9.1.7 The overshadowing created by the new building is also likely to result in an adverse impact on the health of trees T43, T44 & T45 (Oriental Plane) and T46 & T47 (London Plane) in the long term. In the short term, the trees are proposed to be retained (and pruned as required to accommodate the building and scaffolding) to maintain some amenity to the streetscape. However, a better long term outcome would be achieved if the trees are progressively removed (if they decline) and replaced with a more appropriate species, suitable to the altered micro-climatic conditions (shade cast by the building) and the constraints imposed by the building form (vertical walls). The Council's Street Tree Master Plan specifies *Platanus acerifolia* (London Plane) for Fig Street. However, a rainforest species (that can tolerate relatively low light conditions) with a more elliptical canopy form may be a more appropriate selection for this area.

9.1.8 The proposed new development will necessitate substantial ground level changes (both cut and placement of engineered fill) within the TPZs of T90-T109 (a row of Magenta Cherry located within the railway corridor alongside the north-western boundary). These trees are in good health and fair condition and provide an important visual buffer between the development and the roadway corridor and also provide important visual amenity to the existing pedestrian thoroughfare. With exception of four (4) trees required to be removed to accommodate the site through link connection to the light rail station (trees T96, T97, T98 & T99), the integrity of this row is proposed to be maintained with a six metre setback to buildings from the north-western boundary. An existing masonry fence and retaining wall is located close to the common boundary within the TPZs of these trees. This wall and footing would create a physical barrier to root development of these trees to the south. As such, the proposed cut and fill within the site will not result in any adverse impact on these trees, assuming that this existing retaining wall is maintained intact as is currently proposed. If any new retaining structure is required (to retain fill within the site), this should be constructed beyond (to the south-east of) the existing wall. Any fill material shall be battered down to the north-western boundary where the proposed finished ground level is higher than the existing ground level at the base of these trees, as currently shown in the Indicative Reference Scheme.

9.1.9 The existing street tree plantings in Wattle Street comprise a number of species in variable health and condition, including several recent plantings of *Populus simonii* (Chinese Poplar). In order to create a consistent street planting in Wattle Street, the existing street trees (with exception of the Chinese Poplars) are proposed to be removed and replaced with new trees of the same species. This will achieve improved amenity and visual quality to the streetscape in the short term and is therefore considered warranted in this instance.

9.1.10 The existing asphalt paved areas within the TPZs of Trees T43, T44, T45, T46, T47 (Plane Trees) and T49, T52 & T55 (Chinese Poplars) are proposed to be demolished and replaced with new pavements. Whilst the detail of the new pavements has not yet been determined, it is assumed that

this will be completed in accordance with Councils *Sydney Streets Code 2013*. Provided that the existing pavements are demolished in accordance with **Section 10.9** and the new pavements are installed in accordance with **Section 10.13** and **10.14**, the proposed works should not result in any adverse impact on these trees as there will be no increase in encroachment from the present situation.

9.1.11 A new 450mm diameter stormwater pipeline is proposed to be installed within the TPZ of Tree T89 (Sydney Red Gum). The extent of encroachment to the root zone is less than 10% of the TPZ, which is considered within acceptable limits under AS 4970:2009. As such, the proposed works will not result in any adverse impact on this tree. In order to avoid any adverse impact on this tree, all open trenching for the proposed stormwater pipelines and excavations for the pits within the TPZ should be undertaken in accordance with **Section 10.12**.

9.1.12 No other trees will be adversely affected by the proposed development.

10 RECOMMENDED TREE PROTECTION MEASURES

10.1 Tree Protection Plan

10.1.1 The following Tree Protection Measures should be read in accordance with the Tree Protection Plan (**Appendix 6**). The Tree Protection Plan (TPP) indicates the position of tree protection devices and other recommended measures to ensure the protection of trees within the site to be retained as part of the proposed development.

10.2 Prohibited Activities

10.2.1 The following activities should be avoided within specified Tree Protection Zones (refer **Appendix 4 & 6** for extent of the TPZ for each tree):-

- Excavations and trenching (with exception of the approved remediation works, underground services, building foundations or pavement sub-grade);
- Soil disturbance, surface grading, compaction, tyning, ripping or cultivation of soil;
- Mechanical removal of vegetation, including extraction of tree stumps;
- Soil level changes including the placement of fill material (excluding imported validated fill for remediation works or placement of fill for approved works)
- Movement and storage of plant, equipment & vehicles (except within defined temporary haul roads, where ground protection has been installed, or within the footprint of existing floor slabs or paved areas);
- Erection of site sheds (except where approved by the site arborist);
- Affixing of signage, barricades or hoardings to trees;
- Storage of building materials, waste and waste receptacles;
- Stockpiling of spoil or fill;
- Stockpiling of bulk materials, such as soil, sand, gravel, roadbase or the like;
- Stockpiling of demolition waste;
- Disposal of waste materials and chemicals including paint, solvents, cement slurry, fuel, oil and other toxic liquids;
- Other physical damage to the trunk or root system; and
- Any other activity likely to cause damage to the tree.

10.3 Tree Damage

10.3.1 Care shall be taken when operating cranes, drilling rigs and similar equipment near trees to avoid damage to tree canopies (foliage and branches). Under no circumstances shall branches be torn-off by construction equipment. Where there is potential conflict between tree canopy and construction activities, the advice of the Site Arborist must be sought.

10.3.2 In the event of any tree becoming damaged for any reason during the construction period a consulting arborist [Australian Qualification Framework Level 5] shall be engaged to inspect and provide advice on any remedial action to minimise any adverse impact. Such remedial action shall be implemented as soon as practicable and certified by the arborist.

10.4 Tree Removal

10.4.1 The removal of Trees [**all trees nominated for removal as indicated on the Tree Protection Plan**] shall be carried out by an experienced tree surgeon in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998). Care shall be taken to avoid damage to other trees during the felling operation.

10.4.2 Stumps located within the TPZs of trees to be retained shall be grubbed-out where required using a mechanical stump grinder (or by hand where less than 150mm in diameter) without damage to the root system of other trees. Where trees to be removed are within the SRZ of any trees to be retained, consideration should be given to cutting the stump close to ground level and retaining the root crown intact. Stumps within the Tree Protection Zone of other trees to be retained shall **not** be pulled out using excavation equipment or similar.

10.5 Tree Protection Fencing

10.5.1 Trees [**T49, T52, T55, T89, T94, T95, T100 & T101**] shall be protected prior to and during construction from all activities that may result in detrimental impact by erecting a suitable protective fence in the positions as indicated on the Tree Protection Plan (**Appendix 6**). As a minimum, the fence shall consist of temporary chain wire panels of 1.8 metres in height, supported by steel stakes as required and fastened together and supported to prevent sideways movement using corner braces where required. The fence shall be erected prior to the commencement of any work on-site and shall be maintained in good condition for the duration of construction. Where tree protection zones merge together a single fence encompassing the area is deemed to be adequate. Existing site boundary fences may form part of the enclosure.

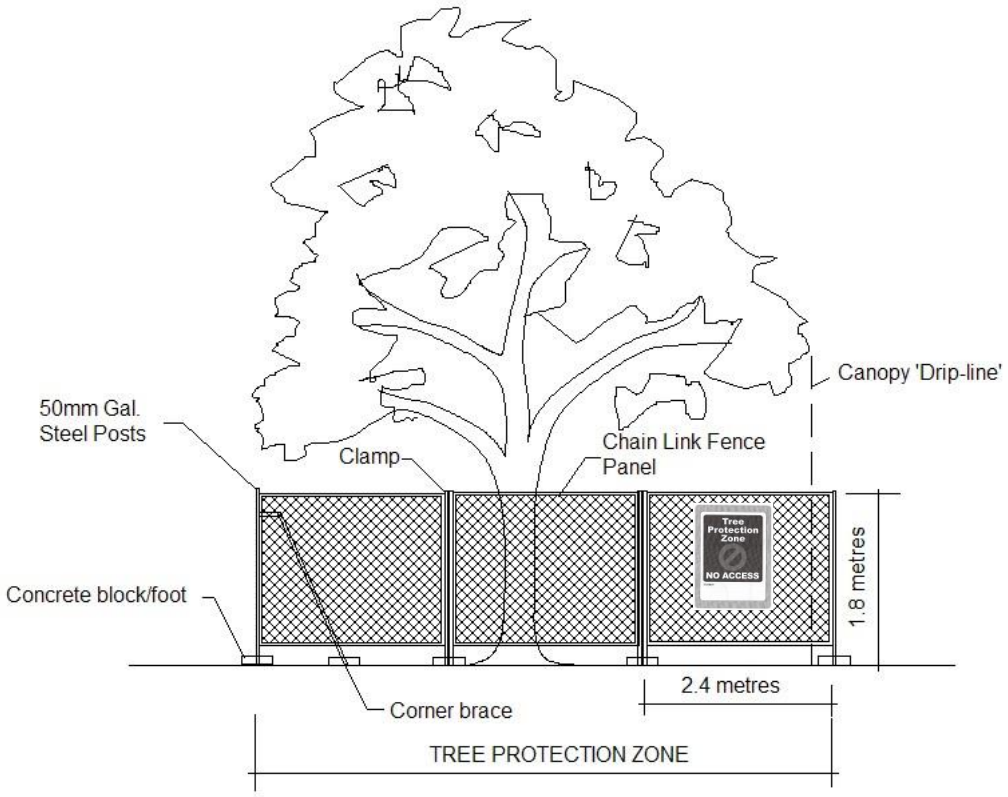

Figure 1 – Detail of Tree Protection Fence

10.6 Tree Protection Signs

10.6.1 Signs shall be installed on the Tree Protection Fence to prevent unauthorised movement of plant and equipment or entry to the Tree Protection Zone. The signs shall be securely attached to the fence using cable ties or equivalent. Signs shall be placed at minimum 10 metre intervals. The wording and layout of the sign shall comply with AS 4970-2009 as shown in **Figure 2**.

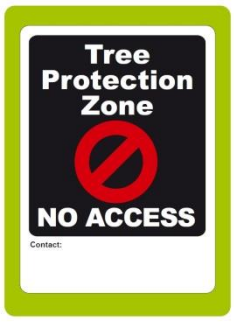

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Figure 2 – Detail of Tree Protection Sign

10.7 Trunk Protection

10.7.1 Trunk protection boarding shall be erected around Trees [**T43, T44, T45, T46 & T47**] to avoid accidental damage, as indicated on the Tree Protection Plan (**Appendix 6**). The trunk protection shall consist of a layer of carpet underfelt (or similar) wrapped around the trunk, followed by 1.8 metre lengths of softwood timbers (90 x 45mm in section) aligned vertically and spaced evenly around the trunk at 150mm centres (i.e. with a 50mm gap) and secured together with 2mm galvanised wire or galvanised hoop strap as shown in **Figure 3**. Recycled timber (such as demolition waste) may be suitable for this purpose, subject to the approval of the Project Arborist. The timbers shall be wrapped around the trunk (over the carpet underfelt), but not fixed to the tree to avoid mechanical injury or damage to the trunk. Trunk protection should be installed prior to any site works and maintained in good condition for the duration of the construction period. Carpet underfelt (alone) is sufficient for trees with a trunk diameter of less than 200mm. This shall be wrapped around the trunk in a double layer and held in place with heavy-duty fibre reinforced adhesive tape (e.g. Gaffer Tape).

Figure 3 – Detail of Trunk Protection

10.8 Ground Protection

10.8.1 Construction haul routes shall be confined to existing paved areas wherever possible. Where this is not feasible and construction haul routes or access for plant and equipment must traverse soft landscape areas within TPZs of [**any tree nominated for retention**], 20mm thick marine ply sheets or truck mats (such as Envirex Versadeck® access mats) (refer **Figure 4** shall be placed over the top of the ground surface to minimise compaction and disturbance of the underlying soil profile and root zone.

Figure 4 – Showing typical detail for truck mats.

10.8.2 Ground protection shall be installed prior to any site works and maintained in good condition for the duration of the construction period. On completion of the works, ground protection shall be removed without damage or disturbance to the underlying soil profile.

10.9 Demolition Works within Tree Protection Zones

10.9.1 Demolition of paved areas within the Tree Protection Zones (TPZs) of trees [**T43, T44, T45, T46, T47, T49, T52 & T55**] shall be undertaken under the supervision of a qualified Arborist [Australian Qualification Framework (AQF) Level 5].

10.9.1 Concrete pavements shall be demolished by breaking the slab into manageable sections (using a rock hammer or similar) and asphalt pavements shall be removed by breaking the topcoat into manageable pieces. The broken sections shall be carefully lifted and folded over the remaining paved surface to minimise disturbance and compaction of the underlying soil profile. Special care shall be taken where underlying woody roots have lifted or displaced the pavement. Any plant or equipment used in demolition work shall operate within the footprint of existing paved areas and avoid traversing soft landscape areas. Where this is unavoidable, suitable ground protection shall first be installed in accordance with **Section 10.8**.

10.9.2 The pavement sub-base within the TPZ shall be gradually removed (where required) in layers of no greater than 50mm thick using a small rubber tracked excavator or alternative approved method to avoid excessive disturbance and compaction of the underlying soil profile and damage to underlying roots and minimise. The machine shall work within the footprint of the existing path footprint to avoid compaction of the underlying soil. The final layer of sub-base material shall be removed using hand tools were required to avoid compaction of the underlying soil profile and avoid damage to any underlying woody roots.

10.9.3 Demolition of existing walls, kerbs and other structures within the TPZ of trees [**T43, T44, T45, T46, T47, T89, T95 & T100**] shall be undertaken under the supervision of a qualified Arborist [AQF level 5]. The structures shall be demolished using equipment on stationed outside the TPZ where possible or within the footprint of existing hardstand areas.

10.9.4 Care shall be taken to avoid the root systems, trunks and lower branches of trees in the vicinity of the structures during demolition works, with special attention required during demolition of the footings and other sub-surface members to avoid damage to woody roots. An observer ('spotter') shall be employed to assist the plant operator in order to detect and avoid damage to underlying woody roots during demolition. Trunk and/or branch protection shall be installed where there is a potential risk of damage to trees in proximity or overhead of the work

10.9.5 The existing masonry retaining walls alongside the north-western boundary within the TPZs of Trees [**T89-T95 and T100-T109**] shall be maintained intact.

10.10 Excavations within Tree Protection Zones

10.10.1 Prior to any mechanical excavations for building foundations or pavement sub-grade within the TPZs of Trees [**T43, T44, T45, T46, T47, T49, T52, T55, T89, T95 & T100**] exploratory excavation using non-destructive techniques shall be taken along the perimeter of the structure or pavement within the TPZ. Non-destructive excavation techniques may include the use of hand-held implements, air pressure (using an Air-spade® device) or water pressure. The exploratory excavation shall be undertaken along the perimeter of the foundation or pavement (within the TPZ) to the depth of the foundation or to a maximum of 800mm from surface levels, to locate and expose any woody roots prior to any mechanical excavation.

10.10.2 All care shall be undertaken to preserve woody roots intact and undamaged during exploratory excavation. Any roots encountered of less than 40mm in diameter may be cleanly severed with clean sharp pruning implements at the face of the excavation. The root zone in the vicinity of the excavation shall be kept moist following excavation for the duration of construction to minimise moisture stress on the tree. Where large woody roots (greater than 40mm diameter) are

encountered during exploratory excavations, further advice from a qualified arborist shall be sought prior to severance.

10.11 Alternative Construction Methods

10.11.1 Where necessary, (to avoid severing large woody roots) consideration should be given to the installation of an elevated structure (e.g. pier and beam footing, suspended slab or floor supported on piers, cantilevered slab, up-turned edge beam etc) in preference to structures requiring a deep edge beam or continuous perimeter strip footing. The beam section of any pier and beam footing should be placed **above** grade to avoid excavation within the SRZ. Pier footings intersecting large woody roots should be slightly offset where necessary to avoid root severance.

10.11.2 For masonry walls or fences it may be acceptable to delete continuous concrete strip footings and replace with suspended in-fill panels (e.g. steel or timber pickets, lattice etc) fixed to pillars. For paved areas, consideration should be given to raising the proposed pavement level and using a porous fill material in preference to excavation where large woody roots are found within the sub-base.

10.12 Underground Services

10.12.1 All proposed stormwater lines and other underground services should be located outside TPZs of trees proposed to be retained wherever possible or installed by alternative measures. Alternative measures include suspending pipelines beneath the floor of a building or structure (to avoid excavation with the TPZ), non-destructive excavation methods or Horizontal Directional Drilling (HDD). Where the installation of service lines within TPZs is unavoidable, the pipelines or conduits should be installed as follows.

10.12.2 Trenching for underground services and stormwater pipes within the TPZs of Trees [**any tree nominated for retention**], shall be undertaken using non-destructive excavation in accordance with **Section 10.10.** Where large woody roots are encountered during excavation or trenching (root diameter greater than 40mm), these shall be retained intact wherever possible (e.g. by tunnelling beneath roots and inserting the pipeline or conduit beneath or re-routing the service etc). Where this is not practical and root pruning is the only alternative, proposed root pruning should be assessed by a qualified arborist [AQF 5] to evaluate the potential impact on the health and stability of the subject tree.

10.12.3 Installation of underground services and stormwater pipes within the SRZs of Trees [**any tree nominated for retention**], shall only be undertaken by Horizontal Directional Drilling (HDD) (also referred to as sub-surface boring or Micro-tunnelling for large diameter pipes). The Invert Level of the pipe, plus the pipe diameter, must be lower than the estimated root zone depth as specified. At this site a minimum depth of 1 metre to the invert level of the pipe is specified.

10.13 Pavements

10.13.1 Proposed paved areas within the TPZs of Trees [**T43, T44, T45, T46, T47, T49, T52, T55, T89, T95 & T100**] shall be placed at or slightly above grade where possible to minimise excavations within the root zone and avoid severance and damage of woody roots. The pavement sub-base material should be supplied and installed in accordance with **Section 10.14.**

10.14 Pavement Sub-base

10.14.1 Pavement sub-base material within TPZs of trees [**T43, T44, T45, T46, T47, T49, T52, T55, T89, T95 & T100**] shall be a coarse, gap-graded material such as 20 – 50mm crushed basalt (Blue Metal) or equivalent no-fines gravel material to provide some aeration and moisture permeation to

the root zone. Note that road base or crushed sandstone or other similar material containing a high percentage of fines is unacceptable for this purpose. The fill material should be consolidated using a non-vibrating roller or similar to minimise compaction of the underlying soil. A permeable geotextile may be used beneath the sub-base to prevent migration of the stone into the sub-grade and provide greater load capacity.

10.15 Placement of Fill Material

10.15.1 Placement of fill material within the TPZs of Trees [**T89-T95 and T100-T109**] to be retained should be avoided wherever possible. Where placement of fill is unavoidable, the material shall be a well-drained friable material, equivalent in texture to the existing site topsoil material. The fill should be free from rocks, vegetation and other extraneous material complying with AS 4419:2003 (*Soils for Landscaping and Garden Use*).

10.15.2 The fill may be lightly consolidated, but shall not be compacted to engineering standards. No fill material should be placed in direct contact with the trunk.

10.15.3 Plant and equipment used to place and spread fill material should be stationed outside the TPZ where possible. Where not possible, suitable ground protection should be installed in accordance with **Section 10.14** to avoid compaction of the underlying soil profile and root zone.

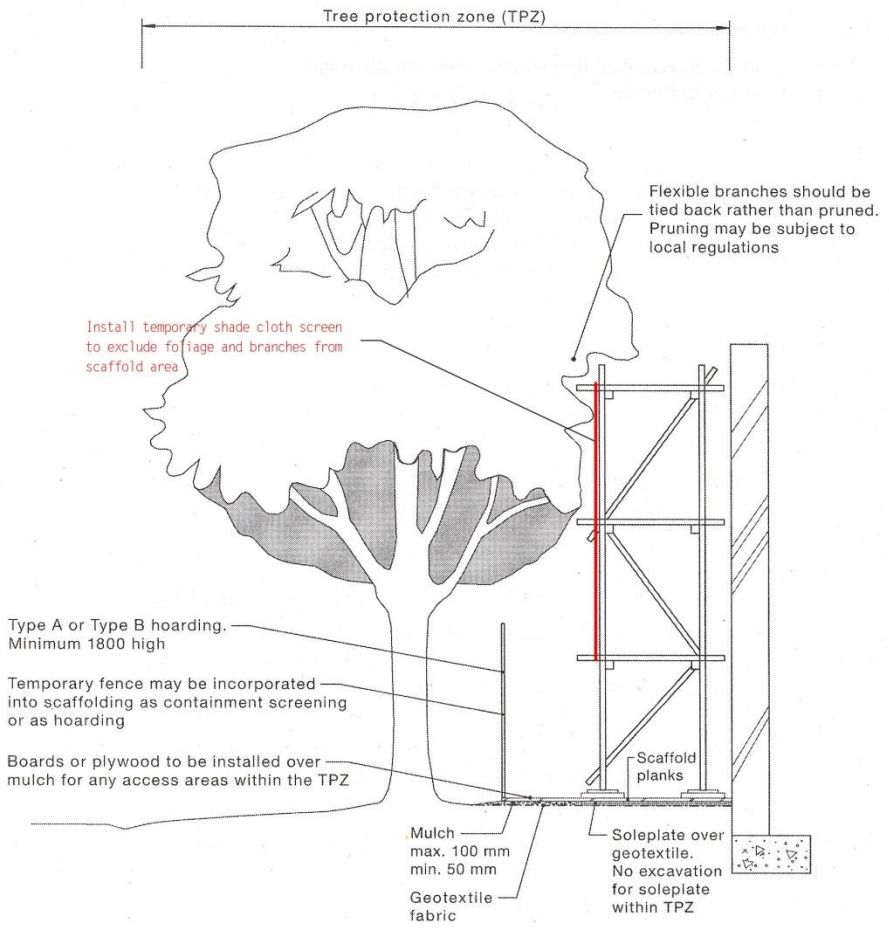
10.16 Canopy & Root Pruning

10.16.1 Canopy pruning of Trees [**T43, T44, T45, T46, T47 & T49**] (that essential to clear the building envelope and temporary scaffolding) shall be carried out in accordance with Australian Standard 4373-2007 – *Pruning of Amenity Trees*. All pruning work shall be carried out by a qualified and experienced arborist or tree surgeon [Australian Qualification Framework Level 3] in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998). No branches of greater than 100mm in diameter should be removed or pruned without further advice from a Consulting Arborist [Australian Qualification Framework Level 5].

10.16.2 Where root pruning of [**any tree nominated for retention**] is required to facilitate construction, roots shall be severed with clean, sharp pruning implements and retained in a moist condition during the construction phase using Hessian material or mulch where practical. No roots of greater than 40mm in diameter should be removed or pruned without further advice from a Consulting Arborist [Australian Qualification Framework Level 5]. Severed roots shall be treated with a suitable root growth hormone containing the active constituents Indol-3-yl-Butric Acid (IBA) and 1-Naphthylacetic Acid (NAA) to stimulate rapid regeneration of the root system.

10.17 Temporary Scaffolding

10.17.1 Where temporary scaffolding must be erected within the TPZ of trees [**T43, T44, T45, T46, T47 & T49**] (as indicated in **Appendix 6**), the scaffold shall be erected in accordance with **Figure 5**. Where foliage or branches project through the scaffold and create a safety hazard, this foliage and branches shall be temporarily excluded from the inner part of the scaffold by affixing a shade cloth screen on the outside of the scaffold **(**refer to **Figure 5)**, or alternatively temporarily tying back branches where required. The pruning or removal of branches to accommodate the scaffold should be avoided wherever possible. Suitable ground protection shall be installed beneath the scaffold as shown in **Figure 5** to prevent contamination, disturbance and compaction of the soil profile within the scaffold zone during construction.



NOTE: Excavation required for the insertion of support posts for tree protection fencing should not involve the severance of any roots greater than 20 mm in diameter, without the prior approval of the project arborist.

Figure 5 - Detail of Temporary scaffolding within a Tree Protection Zone

10.17.2 Where pruning or removal of branches to accommodate temporary scaffolding is unavoidable, all such pruning work shall be undertaken in accordance with **Section 10.8**.

11 REPLACEMENT PLANTING

11.1.1 In accordance with Part B, Section 3.5.2 of the SDCP, the site must support a minimum number of trees to provide at least 15% canopy cover (of the total site area) within 10 years of the completion of the development. This would be equivalent to 1,828 m², or 35 to 45 trees of seven to eight metres crown spread.

11.1.2 The landscape plan prepared by Oculus indicates that the proposed replacement planting will include five (5) new large trees (12 metres crown spread), twenty (20) medium-sized trees (8 metres crown spread) and fourteen (14) small trees (5 metres crown spread) to be planted within the site as part of the proposed development. This will achieve a total canopy coverage of 1,845 m², which equates to approximately 15% of the total site area. This meets the requirements of Council's Tree Replenishment Policy and will compensate for loss of amenity resulting from the removal of trees to accommodate the proposed development within the next ten (10) years.

11.1.3 Whilst the detail design has not yet been completed, much of the proposed landscape development will be sited over structures and over underlying rock. In order for the tree planting to establish successfully in this artificial soil environment and to be sustainable in the long-term, adequate soil depth and volume will need to be provided to suit the size of the trees proposed. A minimum depth

of 1.1 metres depth of soil media is proposed (excluding any drainage layer) in accordance with Councils requirements. The following minimum soil volumes should be provided according to the ultimate canopy size of the trees as follows:-

- between 50 and 80 cubic metres for a large tree (16-20 metres height x 16 metres spread x 600-800mm calliper);
- between 20 and 40 cubic metres for a medium sized tree (10-12 metres height x 8 metres spread x 300-450mm calliper); and
- between 5 and 15 cubic metres for a small tree (6-8 metres in height x 4 metres crown spread x 150-200mm calliper).

11.1.4 The soil volumes stipulated on the landscape plan for the trees proposed are as follows:-

- Large trees (12 metre crown spread) – 105 cubic metres/tree;
- Medium trees (8 metre crown spread) – 55 cubic metres/tree; and
- Small trees (5 metre crown spread) – 9 cubic metres/tree.

11.1.5 The soil volumes proposed are consistent with the City of Sydney's *Sydney Landscape Code* (2016) and are considered adequate for the size of the trees as proposed.

11.1.6 It may be feasible to reduce soil volumes per tree by creating interconnected planting pits, incorporating water Sensitive Urban Design (WSUD) technologies to planting pits and providing supplementary irrigation to ensure sustainability of the tree population. Narrow linear planting pits should be avoided, with an appropriate width commensurate with the ultimate spread of the root system to avoid the development of linear root systems, inadequate mechanical support or future infrastructure damage.

11.1.7 The following species are appropriate to the site conditions and could be considered for replacement planting:-

- *Syzygium paniculatum* (Magenta Cherry)
- *Acmena smithii* (Lillypilly)
- *Ficus rubiginosa* (Port Jackson Fig)
- *Glochidion ferdinandi* (Cheese Tree)
- *Cupaniopsis anarcardioides* (Tuckeroo)
- *Syncarpia glomulifera* (Turpentine)
- *Angophora costata* (Sydney Red Gum),
- *Jacaranda mimosifolia* (Jacaranda)
- *Lophostemon confertus* (Brushbox)
- *Magnolia grandiflora* (Bullbay Magnolia)
- *Waterhousea floribunda* (Weeping Lillypilly)
- *Ulmus parvifolia* 'Todd' (Chinese Elm)

11.1.8 In order to replace any trees to be removed on the nature strip (road reserve) an equivalent number of trees should be planted elsewhere on the nature strip. The species should be selected in accordance with City of Sydney Council's Street Tree Masterplan. The nominated species selection for Fig Street is *Platanus acerifolia* (London Plane) and the nominated species selection for Jones Street is *Lophostemon confertus* (Brushbox) [refer Precinct 14 – Ultimo]. The nominated species for Wattle Street is *Populus simonii* (Chinese Poplar) [refer Precinct 15 – Pyrmont]. Exceptions to the preferred species selection should be considered given the altered micro-climate and physical barriers that the development will impose on the streetscape (refer to **Section 9.1.7**). Given the scale of the development, there could be valid reason to vary the species selection adjacent the site to suit the altered microclimatic conditions (e.g. shade cast by tall buildings) and the proximity of the building alignment to the street. For example, the scale and proximity of the

proposed buildings to Fig Street may not be favourable to London Plane, which will tend to grow away from the buildings and int the road carriageway, leading to potential conflict with vehicular traffic. In this instance, a tree with a more elliptical crown shape that can tolerate lower light levels may perform better in the long term.

11.1.9 The Landscape Plan prepared by Oculus indicates a total of thirty (30) new trees to be planted within the road reserves of Wattle Street, Fig Street and Jones Street immediately surrounding the site. This exceeds the number of trees to be removed to accommodate the proposed development. The new tree planting will compensate for loss of amenity resulting from the removal of street trees to accommodate the proposed development in the short term (next 10 years).

Andrew Morton
EARTHSCAPE HORTICULTURAL SERVICES
3rd September 2019

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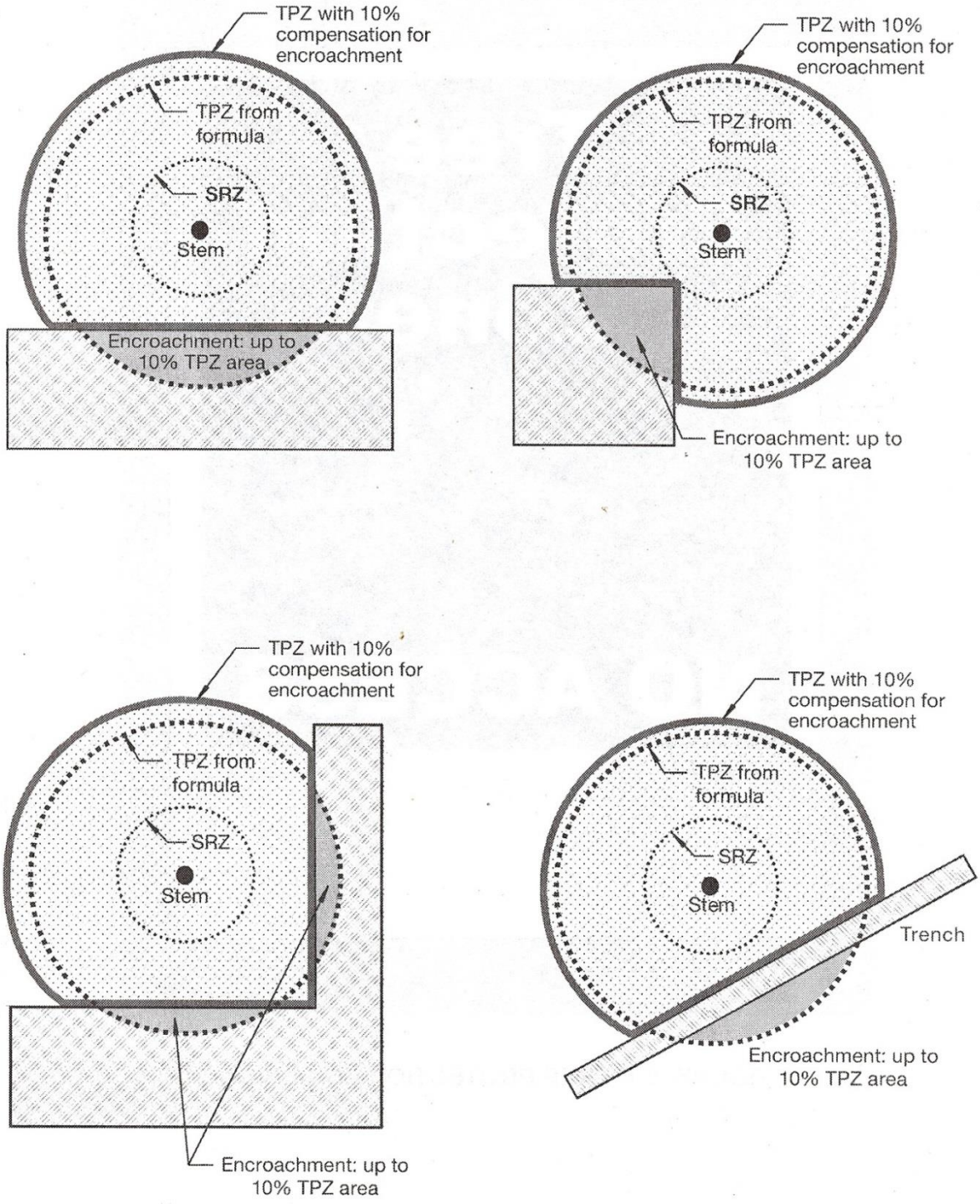
APPENDIX 1 - CRITERIA FOR ASSESSMENT OF LANDSCAPE SIGNIFICANCE

RATING	HERITAGE VALUE	ECOLOGICAL VALUE	AMENITY VALUE
1. SIGNIFICANT	The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance or is listed on Council's Significant Tree Register	The subject tree is scheduled as a Threatened Species as defined under the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999	The subject tree has a very large live crown size exceeding 300m² with normal to dense foliage cover, is located in a visually prominent position in the landscape, exhibits very good form and habit typical of the species
	The subject tree forms part of the curtilage of a Heritage Item (building /structure /artefact as defined under the LEP) and has a known or documented association with that item	The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species	The subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity
	The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event	The subject tree is a Remnant Tree, being a tree in existence prior to development of the area	The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.
2. VERY HIGH	The tree has a strong historical association with a heritage item (building/structure/artefact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site.	The tree is a locally-indigenous species, representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site.	The subject tree has a very large live crown size exceeding 200m²; a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area
3. HIGH	The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence	The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link / Wildlife Corridor or has known wildlife habitat value	The subject tree has a large live crown size exceeding 100m²; The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g. crown distortion/suppression) with a crown density of at least 70% (normal); The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area
4. MODERATE	The tree has no known or suspected historical association, but does not detract or diminish the value of the item and is sympathetic to the original era of planting.	The subject tree is a non-local native or exotic species that is protected under the provisions of this DCP.	The subject tree has a medium live crown size exceeding 40m²;The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% (thinning to normal); and
			The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area.
5. LOW	The subject tree detracts from heritage values or diminishes the value of a heritage item	The subject tree is scheduled as exempt (not protected) under the provisions of this DCP due to its species, nuisance or position relative to buildings or other structures.	The subject tree has a small live crown size of less than 40m² and can be replaced within the short term (5-10 years) with new tree planting
6. VERY LOW	The subject tree is causing significant damage to a heritage Item.	The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or is a known nuisance species.	The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area. The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% (sparse).
7. INSIGNIFICANT	The tree is completely dead and has no visible habitat value	The tree is a declared Noxious Weed under the Noxious Weeds Act (NSW) 1993 within the relevant Local Government Area.	The tree is completely dead and represents a potential hazard.

Ref:- Morton, A (2006) **Determining the Retention Value of Trees on Development Sites**

TreeNet - Proceedings of the 7th National Street Tree Symposium 2006 Government of South Australia Department for Transport, Energy and Infrastructure

APPENDIX 2 – ACCEPTABLE INCURSIONS TO THE TREE PROTECTION ZONE (TPZ)



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

REF:- Council of Standards Australia (August 2009)
AS 4970 – 2009 – Protection of Trees on Development Sites
Standards Australia, Sydney

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
1	***Platanus orientalis*** (Oriental Plane)	9	10	380	90	M	Appears stable with sound branching structure. Located within very small raised planter.	Selectively pruned & deadwooded.	Good	No Evidence	Short 5-15 Years	4	**Low**	On-site
2	***Platanus orientalis*** (Oriental Plane)	6	6	150	36	I	Appears stable with poor branching structure. Growing out of cracks in concrete pavement.	No Evidence	Fair	Moderate foliar insect infestation (Sycamore Lace Bug)	Transient (less than 5 years)	5	**Very Low**	On-site
3	***Platanus orientalis*** (Oriental Plane)	8	10	280 + 220x2 + 180	80	SM	Stability suspect with poor branching structure. Exhibits multiple severe bark inclusions at GL at junction of multiple co-dominant leaders. Very prominent lean to the north.	Selectively pruned.	Good	Low foliar insect infestation (Sycamore Lace Bug)	Short 5-15 Years	4	**Low**	On-site
4	***Platanus orientalis*** (Oriental Plane)	10	10	250 + 350	100	SM	Appears stable with poor branching structure. Exhibits multiple high bark inclusions at GL.	Selectively pruned.	Good	Low foliar insect infestation (Sycamore Lace Bug)	Short 5-15 Years	4	**Low**	On-site
5	***Platanus orientalis*** (Oriental Plane)	9	10	250 + 320	70	SM	Stability suspect with poor branching structure. Exhibits a very prominent lean to the north-west (self corrected). Severe bark inclusion at GL. Located very close to existing building (<0.5 metres).	Crown lifted to 3 metres	Good	Low foliar insect infestation (Sycamore Lace Bug)	Transient (less than 5 years)	4	**Very Low**	On-site
6	***Lagerstroemia indica*** (Crepe Myrtle)	7	6	200 + 250	30	M	Appears stable with fair branching structure. Exhibits multiple small wounds due previous pruning with decay evident at old branch collars. Multiple epicormics emanating from old pruning wounds.	Previously lopped at 2 metres (crown restored)	Fair	No Evidence	Short 5-15 Years	4	**Low**	On-site
7	***Celtis sinensis*** (Chinese Hackberry)	9	12	160 + 130x3	108	SM	Appears stable with poor branching structure. Exhibits multiple severe bark inclusions at GL.	No Evidence	Fair	Moderate foliar insect infestation (Scale & associated sooty mould)	Transient (less than 5 years)	7	**Very Low**	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
8	***Platanus orientalis*** (Oriental Plane)	14	15	250 + 300 + 400	195	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north-east. Crown suppressed on south-west side due to crowding. Located close to existing building. Multiple moderate bark inclusions at GL.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Medium 15-40 Years	3	**Moderate**	On-site
9	***Platanus orientalis*** (Oriental Plane)	18	18	800	288	M	Appears stable with sound branching structure. Crown suppressed on north side due to crowding. Fill (spoil) placed around trunk to 1.3 metres deep (local mounding).	Selectively pruned.	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	2	**High**	On-site
10	***Platanus orientalis*** (Oriental Plane)	20	20	850	340	M	Appears stable with sound branching structure. Crown suppressed on south side due to crowding. Fill (spoil) placed around trunk to 1.0 metres deep (local mounding).	Selectively pruned.	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	2	**High**	On-site
11	***Platanus orientalis*** (Oriental Plane)	15	13	400	169	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east (self-corrected). Located close to existing building.	No Evidence	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Short 5-15 Years	3	**Low**	On-site
12	***Celtis sinensis*** (Chinese Hackberry)	13	14	450	182	M	Appears stable with fair branching structure. Exhibits multiple moderate bark inclusions at 1-2 metres. Located close to edge of existing sandstone cliff.	Selectively pruned.	Good	No Evidence	Short 5-15 Years	7	**Very Low**	On-site
13	***Celtis sinensis*** (Chinese Hackberry)	13	9	300	99	SM	Stability suspect with fair with sound branching structure. Crown suppressed on the south-east side due to overshadowing. Prominent lean to the north-west.	No Evidence	Good	No Evidence	Short 5-15 Years	7	**Very Low**	On-site
14	***Celtis sinensis*** (Chinese Hackberry)	13	16	800	192	M	Appears stable with fair branching structure. Exhibits multiple co-dominant PLs at 1 metre. Some dieback with 20% deadwood and 10% epicormic growth.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	7	**Very Low**	On-site
15	***Ficus rubiginosa*** (Port Jackson Fig)	7	6	250	42	I	Appears stable with sound branching structure. Growing on sandstone cliff face & crevices.	No Evidence	Very Good	No Evidence	Medium 15-40 Years	4	**Moderate**	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
16	***Celtis sinensis*** (Chinese Hackberry)	10	6	190	48	I	Appears stable with fair branching structure. Growing in talus at toe of sandstone cliff.	No Evidence	Good	No Evidence	Short 5-15 Years	7	Very Low	On-site
17	***Celtis sinensis*** (Chinese Hackberry)	9	4	100	28	I	Appears stable with fair branching structure. Growing in talus at toe of sandstone cliff.	No Evidence	Fair	No Evidence	Short 5-15 Years	7	Very Low	On-site
18	***Celtis sinensis*** (Chinese Hackberry)	8	5	150	30	I	Appears stable with fair branching structure. Growing in talus at toe of sandstone cliff.	No Evidence	Fair	No Evidence	Short 5-15 Years	7	Very Low	On-site
19	***Celtis sinensis*** (Chinese Hackberry)	7	4	130	24	I	Appears stable with fair branching structure. Growing in talus at toe of sandstone cliff.	No Evidence	Good	No Evidence	Short 5-15 Years	7	Very Low	On-site
20	***Celtis sinensis*** (Chinese Hackberry)	9	7	200	63	I	Stability suspect with fair branching structure. Growing on sandstone bench and rock crevices. Exhibits a very prominent lean to the south-west.	No Evidence	Good	No Evidence	Short 5-15 Years	7	Very Low	On-site
21	***Celtis sinensis*** (Chinese Hackberry)	12	12	350	144	SM	Stability suspect with fair branching structure. Growing on sandstone bench and rock crevices. Prominent lean to the west.	No Evidence	Good	No Evidence	Short 5-15 Years	7	Very Low	On-site
22	***Pittosporum undulatum*** (Native Daphne)	7	5	250	35	SM	Stability suspect with fair branching structure. Growing on sandstone bench and rock crevices.	No Evidence	Good	No Evidence	Transient (less than 5 years)	5	Very Low	On-site
23	***Olea europaea subsp. africana*** (African Olive)	8	6	250	48	SM	Stability suspect with fair branching structure. Growing on sandstone bench and rock crevices. Exhibits multiple moderate bark inclusions at GL.	No Evidence	Good	No Evidence	Transient (less than 5 years)	6	Very Low	On-site
24	***Celtis sinensis*** (Chinese Hackberry)	10	11	200 + 270	77	SM	Stability suspect with poor branching structure. Growing in talus at toe of sandstone cliff. Exhibits a large wound on lower trunk at GL due mechanical injury. High bark inclusion at GL. Very prominent lean to the south-west. Contorted branching habit with entwined PLs.	No Evidence	Fair	No Evidence	Transient (less than 5 years)	7	Very Low	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
25	***Celtis sinensis*** (Chinese Hackberry)	12	5	180	40	I	Appears stable with sound branching structure. Growing in talus at toe of sandstone cliff.	No Evidence	Good	No Evidence	Transient (less than 5 years)	7	**Very Low**	On-site
26	***Celtis sinensis*** (Chinese Hackberry)	10	9	180	72	I	Appears stable with fair branching structure. Growing in talus at toe of sandstone cliff. Exhibits a very prominent lean to the south.	No Evidence	Good	No Evidence	Transient (less than 5 years)	7	**Very Low**	On-site
27	***Celtis sinensis*** (Chinese Hackberry)	14	14	400	168	M	Appears stable with fair branching structure. Growing in talus at toe of sandstone cliff. Exhibits a very prominent lean to the west.	No Evidence	Good	No Evidence	Transient (less than 5 years)	7	**Very Low**	On-site
28	***Celtis sinensis*** (Chinese Hackberry)	10	6	180	48	I	Appears stable with fair branching structure. Exhibits a very prominent lean to the south. Located immediately adjacent a concrete wall.	No Evidence	Good	No Evidence	Transient (less than 5 years)	7	**Very Low**	On-site
29	***Celtis sinensis*** (Chinese Hackberry)	7	7	250	49	I	Appears stable with fair branching structure. Located at top of cliff adjacent to a masonry retaining wall.	No Evidence	Good	No Evidence	Transient (less than 5 years)	7	**Very Low**	On-site
30	***Celtis sinensis*** (Chinese Hackberry)	12	13	450	156	M	Stability suspect with poor branching structure. Growing on sandstone cliff face. Very prominent lean to the south-west.	No Evidence	Very Good	No Evidence	Transient (less than 5 years)	7	**Very Low**	On-site
31	***Ficus rubiginosa*** (Port Jackson Fig)	7	7	250	49	SM	Stability suspect with fair branching structure. Growing on sandstone cliff face adjacent to sewer main.	No Evidence	Good	No Evidence	Short 5-15 Years	5	**Low**	On-site
32	***Casuarina cunninghamiana*** (River Oak)	16	9	414	99	M	Appears stable with sound branching structure. Crown suppressed on the south-east side due to overshadowing.	No Evidence	Good	No Evidence	Medium 15-40 Years	4	**Moderate**	Road reserve
33	***Casuarina cunninghamiana*** (River Oak)	7	4	213	20	SM	Appears stable with fair branching structure. Crown suppressed on the south-east side due to overshadowing. Prominent lean to the north-west.	No Evidence	Poor with sparse crown	No Evidence	Transient (less than 5 years)	5	**Very Low**	Road reserve
34	***Casuarina cunninghamiana*** (River Oak)	7	7	255	28	SM	Appears stable with poor branching structure. Crown suppressed on the south-east side due to overshadowing. Prominent lean to the north-west.	No Evidence	Good	No Evidence	Short 5-15 Years	5	**Low**	Road reserve

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
35	***Casuarina cunninghamiana*** (River Oak)	8	5	213	35	SM	Appears stable with poor branching structure. Crown suppressed on the south-east side due to overshadowing. Prominent lean to the north-west.	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	5	**Low**	Road reserve
36	***Casuarina cunninghamiana*** (River Oak)	18	8	481	72	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	**High**	Road reserve
37	***Casuarina glauca*** (Swamp Oak)	9	3	127	21	I	Appears stable with sound branching structure. Located close to existing footpath. Insufficient space for future growth.	No Evidence	Good	No Evidence	Medium 15-40 Years	5	**Low**	Road reserve
38	***Platanus orientalis*** (Oriental Plane)	16	12	513	156	M	Appears stable with sound branching structure. Located within small pavement opening in concrete footpath.	Selectively pruned. Crown lifted to 4 metres	Very Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Medium 15-40 Years	3	**Moderate**	Road reserve
39	***Platanus orientalis*** (Oriental Plane)	13	8	341	72	SM	Appears stable with sound branching structure. Located within small pavement opening in concrete footpath.	Selectively pruned & deadwooded. Crown lifted to 4 metres	Fair with slightly thinning crown	Low foliar insect infestation (Sycamore Lace Bug)	Medium 15-40 Years	4	**Moderate**	Road reserve
40	***Platanus orientalis*** (Oriental Plane)	16	13	564	156	M	Appears stable with sound branching structure. Located within small pavement opening in concrete footpath. Exhibits a prominent lean to the east (self-corrected).	Selectively pruned & deadwooded.	Very Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	**High**	Road reserve
41	***Platanus orientalis*** (Oriental Plane)	14	8	420	88	SM	Appears stable with fair branching structure. Exhibits a prominent lean to the south-east. Some dieback with 10% deadwood and 20% epicormic growth.	Crown lifted to 4 metres	Fair with thinning crown	Moderate foliar insect infestation (Sycamore Lace Bug)	Short 5-15 Years	4	**Low**	Road reserve
42	***Platanus orientalis*** (Oriental Plane)	8	4.5	280	13.5	SM	Appears stable with fair branching structure. Exhibits a very prominent lean to the south-east. Exhibits 10% daedwood.	Selectively pruned & deadwooded. Crown lifted to 5 metres	Fair with thinning crown	High foliar insect infestation (Sycamore Lace Bug)	Short 5-15 Years	5	**Low**	Road reserve
43	***Platanus orientalis*** (Oriental Plane)	13	8	270	72	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the south-east.	Selectively pruned & deadwooded. Crown lifted to 4 metres	Fair with slightly thinning crown	Moderate foliar insect infestation (Sycamore Lace Bug)	Medium 15-40 Years	4	**Moderate**	Road reserve

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
44	***Platanus orientalis*** (Oriental Plane)	12	9	330	63	SM	Appears stable with sound branching structure.	Selectively pruned & deadwooded. Crown lifted to 5 metres	Fair	Low foliar insect infestation (Sycamore Lace Bug)	Medium 15-40 Years	4	**Moderate**	Road reserve
45	***Platanus orientalis*** (Oriental Plane)	13	10	300	80	SM	Appears stable with sound branching structure.	Selectively pruned & deadwooded. Crown lifted to 5 metres	Fair	Low foliar insect infestation (Sycamore Lace Bug)	Medium 15-40 Years	4	**Moderate**	Road reserve
46	***Platanus x hybrida*** (London Plane)	17	14	400	168	M	Appears stable with sound branching structure.	Crown lifted to 5 metres	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	**High**	Road reserve
47	***Platanus orientalis*** (Oriental Plane)	15	12	470	120	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east.	Crown lifted to 5 metres	Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	**High**	Road reserve
48	***Tristaniopsis laurina*** (Water Gum)	5	5	200x2	10	SM	Appears stable with sound branching structure. Exhibits multiple moderate wounds on lower trunk.	Crown lifted to 3 metres	Good	No Evidence	Medium 15-40 Years	4	**Moderate**	Road reserve
49	***Populus simonii*** (Chinese Poplar)	5	3	70	10.5	I	Appears stable with sound branching structure.	Crown lifted to 1 metre.	Very Good	No Evidence	Long - more than 40 years	5	**Moderate**	Road reserve
50	***Melaleuca quinquenervia*** (Broad-leaved Paperbark)	8	6	280 + 300	30	M	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at 0.8 metres at junction of co-dominant leaders.	Crown lifted to 3 metres	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Road reserve
51	***Melaleuca quinquenervia*** (Broad-leaved Paperbark)	8	9	320 + 350	54	M	Appears stable with fair branching structure. Exhibits multiple moderate bark inclusions at 2 metres at junctions of PLs. Moderate bark inclusion at GL.	Selectively pruned & crown lifted to 4 metres	Good	No Evidence	Long - more than 40 years	4	**Moderate**	Road reserve
52	***Populus simonii*** (Chinese Poplar)	6	3	60	13.5	I	Appears stable with sound branching structure.	Crown lifted to 2 metres	Very Good	No Evidence	Long - more than 40 years	5	**Moderate**	Rail Corridor

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
53	***Tristaniopsis laurina*** (Water Gum)	4	2	140	4	SM	Appears stable with fair branching structure. Exhibits a prominent lean to the south-west (self-corrected). Poor form and habit.	Crown lifted to 3 metres	Good	No Evidence	Medium 15-40 Years	5	**Low**	Road reserve
54	***Melaleuca quinquenervia*** (Broad-leaved Paperbark)	9	5	300	35	M	Appears stable with sound branching structure.	Crown lifted to 4 metres	Good	No Evidence	Long - more than 40 years	4	**Moderate**	Road reserve
55	***Populus simonii*** (Chinese Poplar)	6	3	70	15	I	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	5	**Moderate**	Rail Corridor
56	***Koelreutaria paniculata*** (Golden Rain Tree)	6	9	150x3 + 120x2	45	SM	Appears stable with fair branching structure. Exhibits multiple low bark inclusions at GL.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
57	***Koelreutaria paniculata*** (Golden Rain Tree)	6	7	200	21	SM	Appears stable with sound branching structure.	Crown lifted to 3 metres	Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
58	***Koelreutaria paniculata*** (Golden Rain Tree)	6	9	320	36	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at 1.3 metres at junction of co-dominant PLs.	Crown lifted to 3 metres	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
59	***Tristaniopsis laurina*** (Water Gum)	7	4	180	20	SM	Appears stable with poor branching structure. Crown suppresson the north side due to crowding. Prominent lean to the south. High bark inclusion at 1.5 metres.	Crown lifted to 3 metres	Very Good	No Evidence	Short 5-15 Years	5	**Low**	Rail Corridor
60	***Koelreutaria paniculata*** (Golden Rain Tree)	7	9	250	45	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at 0.7 metres at junction of co-dominant PLs.	Crown lifted to 2 metres	Very Good	No Evidence	Medium 15-40 Years	4	**Moderate**	Rail Corridor
61	***Tristaniopsis laurina*** (Water Gum)	6	6	180	36	SM	Appears stable with fair branching structure. Exhibits a very prominent lean to the south-west. Crown suppressed on the north-east side due to overshadowing. Poor form and habit.	No Evidence	Very Good	No Evidence	Short 5-15 Years	5	**Low**	Rail Corridor
62	***Koelreutaria paniculata*** (Golden Rain Tree)	6	9	320	36	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at 1.2 metres. Multiple small wounds due previous pruning.	Selectively pruned & crown lifted to 3 metres	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
63	***Angophora costata*** (Sydney Red Gum)	9	7	239	42	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
64	***Callistemon viminalis*** (Weeping Bottlebrush)	7	10	450	50	M	Appears stable with fair branching structure. Exhibits multiple moderate bark inclusions at GL.	Selectively pruned & crown lifted to 3 metres	Good	No Evidence	Short 5-15 Years	4	**Low**	Rail Corridor
65	***Angophora costata*** (Sydney Red Gum)	9	10	220 + 260	60	SM	Appears stable with fair branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
66	***Banksia integrifolia*** (Coast Banksia)	9	6	230	54	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north (self-corrected).	No Evidence	Good	No Evidence	Long - more than 40 years	5	**Moderate**	Rail Corridor
67	***Eucalyptus punctata*** (Grey Gum)	18	13	398	169	M	Appears stable with sound branching structure. Exhibits co-dominant leaders at 4 metres.	No Evidence	Very Good	No Evidence	Long - more than 40 years	3	**High**	Rail Corridor
68	***Syzygium paniculatum*** (Magenta Cherry)	8	6	207	42	SM	Appears stable with sound branching structure. Crown suppressed on the SE side due to crowding. Multiple woody surface roots to 1 metre radius.	No Evidence	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	4	**Moderate**	Rail Corridor
69	***Syzygium paniculatum*** (Magenta Cherry)	8	7	274	56	SM	Appears stable with sound branching structure. Crown suppressed on the south side due to crowding. Multiple woody surface roots to 2 metres radius.	No Evidence	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	4	**Moderate**	Rail Corridor
70	***Syzygium paniculatum*** (Magenta Cherry)	8	8	306	56	SM	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at 1.3 metres at junction of co-dominant PLs. Crown suppressed north-west side due to crowding. Multiple woody surface roots to 4 metres radius.	No Evidence	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	4	**Moderate**	Rail Corridor
71	***Angophora costata*** (Sydney Red Gum)	11	7	210	49	SM	Appears stable with sound branching structure. Exhibits a prominent lean to north. Low bark inclusion at 4.5 metres at junction of co-dominant PLs.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
72	***Casuarina cunninghamiana*** (River Oak)	18	15	631	195	M	Appears stable with fair branching structure. Exhibits multiple small wounds due previous branch loss (storm damage) with some broken & suspended branches in crown. Moderate bark inclusion at 5 metres.	No Evidence	Good	No Evidence	Long - more than 40 years	3	**High**	Rail Corridor
73	***Syzygium paniculatum*** (Magenta Cherry)	9	9	271	72	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
74	***Syzygium paniculatum*** (Magenta Cherry)	8	7	299	49	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
75	***Syzygium paniculatum*** (Magenta Cherry)	10	7	344	63	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
76	***Lophostemon confertus*** (Brushbox)	9	4	134	28	I	Appears stable with sound branching structure. Crown suppressed on the south-west side due to crowding.	No Evidence	Good	No Evidence	Medium 15-40 Years	5	**Low**	Rail Corridor
77	***Casuarina cunninghamiana*** (River Oak)	11	5	156	50	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	**Moderate**	Rail Corridor
78	***Casuarina cunninghamiana*** (River Oak)	17	12	443	192	M	Appears stable with sound branching structure. Exhibits multiple small wounds due previous branch loss (storm damage) with some broken & suspended branches in crown.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	3	**High**	Rail Corridor
79	***Casuarina cunninghamiana*** (River Oak)	14	7	264	91	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
80	***Casuarina cunninghamiana*** (River Oak)	14	7	287	91	SM	Appears stable with sound branching structure.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
81	***Angophora costata*** (Sydney Red Gum)	9	5	159	30	I	Appears stable with sound branching structure. Crown suppressed on the south-east side due to overshadowing.	No Evidence	Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
82	***Angophora costata*** (Sydney Red Gum)	7	3	111	9	I	Appears stable with fair branching structure. Crown suppressed on the south-east side due to overshadowing.	No Evidence	Fair	No Evidence	Long - more than 40 years	5	**Moderate**	Rail Corridor
83	***Banksia integrifolia*** (Coast Banksia)	7	3	102	15	I	Appears stable with fair branching structure. Crown suppressed on the south-east side due to overshadowing.	No Evidence	Good	No Evidence	Long - more than 40 years	5	**Moderate**	Rail Corridor
84	***Polyscias elegans*** (Celery Tree)	4	3	99	6	I	Appears stable with sound branching structure. Exhibits a prominent lean to the north.	No Evidence	Good	No Evidence	Long - more than 40 years	5	**Moderate**	Rail Corridor
85	***Angophora costata*** (Sydney Red Gum)	13	5	217	55	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
86	***Angophora costata*** (Sydney Red Gum)	7	5	159	25	I	Appears stable with sound branching structure. Crown suppressed on the south-west side due to overshadowing. Exhibits a very prominent lean to the north-west.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
87	***Melaleuca styphelioides*** (Prickly Paperbark)	7	6	159	42	SM	Appears stable with fair branching structure. Crown suppressed on the south-west side due to overshadowing	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	5	**Low**	Rail Corridor
88	***Angophora costata*** (Sydney Red Gum)	10	8	236	64	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
89	***Angophora costata*** (Sydney Red Gum)	15	13	497	169	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north.	No Evidence	Good	No Evidence	Long - more than 40 years	3	**High**	Rail Corridor
90	***Syzygium paniculatum*** (Magenta Cherry)	9	10	392	70	M	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at 1.3 metres.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	**Moderate**	Rail Corridor
91	***Syzygium paniculatum*** (Magenta Cherry)	9	10	293	60	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
92	***Syzygium paniculatum*** (Magenta Cherry)	9	10	264	60	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
93	***Syzygium paniculatum*** (Magenta Cherry)	9	10	325	60	M	Appears stable with fair branching structure. Crown suppressed on NE & SW sides due crowding. Exhibits multiple low bark inclusions at 1.3 + 2 metres.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
94	***Syzygium paniculatum*** (Magenta Cherry)	9	10	331	60	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding. Exhibits multiple moderate bark inclusions at 2 metres.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
95	***Syzygium paniculatum*** (Magenta Cherry)	9	10	398	60	M	Appears stable with fair branching structure. Crown suppressed on NE & SW sides due crowding. Exhibits multiple high bark inclusions at 0.7 + 1.8 metres.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
96	***Syzygium paniculatum*** (Magenta Cherry)	9	10	309	60	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding. Exhibits multiple low bark inclusions at 2 metres.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
97	***Syzygium paniculatum*** (Magenta Cherry)	9	9	210 + 220	54	M	Appears stable with poor branching structure. Exhibits a severe bark inclusion at 0.4 metres.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Wax Scale)	Medium 15-40 Years	4	**Moderate**	Rail Corridor
98	***Casuarina cunninghamiana*** (River Oak)	9	8	280	40	M	Appears stable with fair branching structure. Crown suppressed on NE & SW sides due crowding	Crown lifted to 4 metres	Fair with slightly thinning crown	Low foliar insect infestation (Wax Scale)	Short 5-15 Years	4	**Low**	Rail Corridor
99	***Syzygium paniculatum*** (Magenta Cherry)	9	10	270 + 300	70	M	Appears stable with fair branching structure. Exhibits a high bark inclusion at 0.4 metres.	Crown lifted to 3 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
100	***Syzygium paniculatum*** (Magenta Cherry)	9	10	331	80	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
101	***Syzygium paniculatum*** (Magenta Cherry)	9	8	318	64	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
102	***Syzygium paniculatum*** (Magenta Cherry)	9	7	191	49	SM	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m^2)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
103	***Syzygium paniculatum*** (Magenta Cherry)	9	7	261	49	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding. Exhibits a moderate bark inclusion at 2 metres.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
104	***Syzygium paniculatum*** (Magenta Cherry)	9	9	318	63	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
105	***Syzygium paniculatum*** (Magenta Cherry)	9	9	334	63	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
106	***Syzygium paniculatum*** (Magenta Cherry)	9	8	223	56	SM	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
107	***Syzygium paniculatum*** (Magenta Cherry)	9	8	299	56	M	Appears stable with sound branching structure. Crown suppressed on NE & SW sides due crowding.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Long - more than 40 years	4	**Moderate**	Rail Corridor
108	***Syzygium paniculatum*** (Magenta Cherry)	9	9	170 + 220	63	M	Appears stable with poor branching structure. Crown suppressed on NE & SW sides due crowding. Exhibits a severe bark inclusion at GL.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Short 5-15 Years	4	**Low**	Rail Corridor
109	***Syzygium paniculatum*** (Magenta Cherry)	9	9	170 + 200	63	M	Appears stable with poor branching structure. Crown suppressed on NE & SW sides due crowding. Exhibits a severe bark inclusion at GL.	Crown lifted to 2 metres	Very Good	Low foliar insect infestation (Wax Scale)	Short 5-15 Years	4	**Low**	Rail Corridor

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
9	***Platanus orientalis*** (Oriental Plane)	M	9.6	3.0	289.4	Located within footprint of proposed building.	Proposed works will necessitate removal (high retention value). There are no feasible options that can be recommended in this instance that would permit the retention of this tree given the extent of site development and the layout as proposed.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
10	***Platanus orientalis*** (Oriental Plane)	M	10.2	3.1	326.7	Located within footprint of proposed building.	Proposed works will necessitate removal (high retention value). There are no feasible options that can be recommended in this instance that would permit the retention of this tree given the extent of site development and the layout as proposed.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
11	***Platanus orientalis*** (Oriental Plane)	M	7.0	2.3	153.9	Located within footprint of proposed building.	Proposed works will necessitate removal.	Remove tree.
12	***Celtis sinensis*** (Chinese Hackberry)	M	5.4	2.4	91.6	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
13	***Celtis sinensis*** (Chinese Hackberry)	M	3.6	2.0	40.7	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
14	***Celtis sinensis*** (Chinese Hackberry)	M	9.6	3.0	289.4	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
15	***Ficus rubiginosa*** (Port Jackson Fig)	M	3.5	1.8	38.5	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
16	***Celtis sinensis*** (Chinese Hackberry)	M	2.3	1.6	16.3	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
17	***Celtis sinensis*** (Chinese Hackberry)	M	1.2	1.3	4.5	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
18	***Celtis sinensis*** (Chinese Hackberry)	M	1.8	1.5	10.2	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
19	***Celtis sinensis*** (Chinese Hackberry)	M	1.6	1.4	7.6	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
20	***Celtis sinensis*** (Chinese Hackberry)	M	2.4	1.7	18.1	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
21	***Celtis sinensis*** (Chinese Hackberry)	M	4.2	2.1	55.4	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
22	***Pittosporum undulatum*** (Sweet Pittosporum)	M	3.0	1.8	28.3	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
23	***Olea europaea subsp. africana*** (African Olive)	M	3.0	1.8	28.3	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
24	***Celtis sinensis*** (Chinese Hackberry)	M	4.4	2.2	61.9	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
25	***Celtis sinensis*** (Chinese Hackberry)	M	2.2	1.6	14.6	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
26	***Celtis sinensis*** (Chinese Hackberry)	M	2.2	1.6	14.6	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
27	***Celtis sinensis*** (Chinese Hackberry)	M	4.8	2.3	72.3	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
28	***Celtis sinensis*** (Chinese Hackberry)	M	2.2	1.6	14.6	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
29	***Celtis sinensis*** (Chinese Hackberry)	M	3.0	1.8	28.3	Located within footprint of proposed building (Child Care Centre).	Proposed works will necessitate removal.	Remove tree.
30	***Celtis sinensis*** (Chinese Hackberry)	M	5.4	2.4	91.6	Located within footprint of proposed building (Commercial/Non-residential Retail).	Proposed works will necessitate removal.	Remove tree.
31	***Ficus rubiginosa*** (Port Jackson Fig)	M	4.0	1.8	50.2	Located within footprint of proposed building (Loading dock).	Proposed works will necessitate removal.	Remove tree.
32	***Casuarina cunninghamiana*** (River Oak)	M	5.0	2.3	77.5	Located within footprint of proposed driveway crossover to Loading Dock.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
33	***Casuarina cunninghamiana*** (River Oak)	M	2.6	1.7	20.6	Located within footprint of proposed driveway crossover to Loading Dock.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
34	***Casuarina cunninghamiana*** (River Oak)	M	3.1	1.9	29.4	Located within footprint of proposed driveway crossover to Loading Dock.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
35	***Casuarina cunninghamiana*** (River Oak)	M	3.1	1.7	30.2	Located within footprint of proposed driveway crossover to Loading Dock.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
36	***Casuarina cunninghamiana*** (River Oak)	M	5.8	2.4	104.6	Located within footprint of proposed driveway crossover to Loading Dock.	Proposed works will necessitate removal (high retention value). There are no feasible options that can be recommended in this instance that would permit the retention of this tree as this is the most appropriate position to site the Loading Dock based on advice from RMS.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
37	***Casuarina glauca*** (Swamp Oak)	M	1.5	1.4	7.3	Located within footprint of proposed driveway crossover to Loading Dock.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
38	***Platanus orientalis*** (Oriental Plane)	M	6.2	2.5	118.9	Located within footprint of proposed driveway crossover to Loading Dock.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
39	***Platanus orientalis*** (Oriental Plane)	M	4.1	2.1	52.5	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Existing 2 storey building offset 2 metres north-west to be demolished. New 7 storey building offset 2.4 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). No increase to present encroachment. Substantial canopy pruning required to clear temporary hoarding and scaffolding (35% crown loss).	Extent of canopy pruning required is likely to result in an adverse impact on this tree.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
40	***Platanus orientalis*** (Oriental Plane)	M	6.8	2.6	143.7	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Existing pallisade fence with masonry hob offset 2.3 metres north-west to be demolished. New 7 storey building offset 2.5 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). Encroachment to TPZ = 27%. Substantial canopy pruning required to clear temporary hoarding and scaffolding (35% crown loss).	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Proposed works are likely to result in an adverse impact. Extent of canopy pruning required is likely to result in a significant adverse impact on this tree (high retention value). There are no feasible options that can be recommended in this instance that would permit the retention of this tree without significant changes to site design and layout.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
41	***Platanus orientalis*** (Oriental Plane)	M	5.0	2.3	79.8	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Substantial root damage may be incurred due to nature of surface woody roots surrounding this tree. Existing building offset 2.1 metres north-west to be demolished. New 7 storey building offset 2.2 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). No increase in present encroachment. Substantial canopy pruning required to clear temporary hoarding and scaffolding (35% crown loss).	Extent of canopy pruning required and excavations for the new pavement sub-grade are likely to result in an adverse impact on this tree.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
42	***Platanus orientalis*** (Oriental Plane)	M	3.4	1.9	35.4	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Existing building offset 2.1 metres north-west to be demolished. New 7 storey building offset 2.2 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). No increase in present encroachment. Substantial canopy pruning required to clear temporary hoarding and scaffolding (10% crown loss).	No adverse impact, provided all works within TPZ are undertaken as recommended. Proposed to be removed due poor condition in favour of newstreet planting.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
43	***Platanus orientalis*** (Oriental Plane)	M	5.0	1.9	78.5	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Existing building offset 2.7 metres north-west to be demolished. New 7 storey building offset 2.8 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). No increase in present encroachment. Some canopy pruning required to clear temporary hoarding and scaffolding (20% crown loss).	Extent of canopy pruning required exceeds acceptable limits under AS 4373:2007. However, this species will tolerate the extent of pruning required. No adverse impact provided that all hoardings and scaffolding within the TPZ are erected as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.7. Demolish existing pavements within TPZ in accordance with Section 10.9. Undertake all excavations for new pavement sub-grade within TPZ in accordance with Section 10.10. Install new pavement and sub-base in accordance with Section 10.13 & 10.14. Install temporary scaffolding in accordance with Section 10.17. Undertake and required canopy pruning (that essential to clear the building envelope and temporary scaffolding) in accordance with Section 10.16.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
44	***Platanus orientalis*** (Oriental Plane)	M	5.0	2.1	78.5	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Existing building offset 2.7 metres north-west to be demolished. New 7 storey building offset 2.8 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). No increase in present encroachment. Some canopy pruning required to clear temporary hoarding and scaffolding (25% crown loss).	Extent of canopy pruning required exceeds acceptable limits under AS 4373:2007. However, this species will tolerate the extent of pruning required. No adverse impact provided that all hoardings and scaffolding within the TPZ are erected as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.7. Demolish existing pavements within TPZ in accordance with Section 10.9. Undertake all excavations for new pavement sub-grade within TPZ in accordance with Section 10.10. Install new pavement and sub-base in accordance with Section 10.13 & 10.14. Install temporary scaffolding in accordance with Section 10.17. Undertake and required canopy pruning (that essential to clear the building envelope and temporary scaffolding) in accordance with Section 10.16.
45	***Platanus orientalis*** (Oriental Plane)	M	6.0	2.0	113.0	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Existing building offset 2.7 metres north-west to be demolished. New 7 storey building offset 2.8 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). No increase in present encroachment. Some canopy pruning required to clear temporary hoarding and scaffolding (25% crown loss).	Extent of canopy pruning required exceeds acceptable limits under AS 4373:2007. However, this species will tolerate the extent of pruning required. No adverse impact provided that all hoardings and scaffolding within the TPZ are erected as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.7. Demolish existing pavements within TPZ in accordance with Section 10.9. Undertake all excavations for new pavement sub-grade within TPZ in accordance with Section 10.10. Install new pavement and sub-base in accordance with Section 10.13 & 10.14. Install temporary scaffolding in accordance with Section 10.17. Undertake and required canopy pruning (that essential to clear the building envelope and temporary scaffolding) in accordance with Section 10.16.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
46	***Platanus x hybrida*** (London Plane)	M	7.0	2.3	153.9	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Existing building offset 2.7 metres north-west to be demolished. New 7 storey building offset 2.8 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). No increase in present encroachment. Some canopy pruning required to clear temporary hoarding and scaffolding (35% crown loss).	Extent of canopy pruning required exceeds acceptable limits under AS 4373:2007. Extent of pruning may result in an adverse impact in the longer term and diminish the amenity value of this tree.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.7. Demolish existing pavements within TPZ in accordance with Section 10.9. Undertake all excavations for new pavement sub-grade within TPZ in accordance with Section 10.10. Install new pavement and sub-base in accordance with Section 10.13 & 10.14. Install temporary scaffolding in accordance with Section 10.17. Undertake and required canopy pruning (that essential to clear the building envelope and temporary scaffolding) in accordance with Section 10.16.
47	***Platanus orientalis*** (Oriental Plane)	M	6.0	2.4	113.0	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney Sydney Streets Code 2013). No increase in present encroachment. Existing building offset 2.7 metres north-west to be demolished. New 7 storey building offset 2.8 metres north-west at RL 3.1 (200mm above grade, within footprint of existing building). No increase in present encroachment. Some canopy pruning required to clear temporary hoarding and scaffolding (35% crown loss).	Extent of canopy pruning required exceeds acceptable limits under AS 4373:2007. Extent of pruning may result in an adverse impact in the longer term and diminish the amenity value of this tree.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.7. Demolish existing pavements within TPZ in accordance with Section 10.9. Undertake all excavations for new pavement sub-grade within TPZ in accordance with Section 10.10. Install new pavement and sub-base in accordance with Section 10.13 & 10.14. Install temporary scaffolding in accordance with Section 10.17. Undertake and required canopy pruning (that essential to clear the building envelope and temporary scaffolding) in accordance with Section 10.16.

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
48	***Tristaniopsis laurina*** (Water Gum)	M	3.6	2.0	40.7	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney *Sydney Streets Code 2013*). No increase in present encroachment.	Proposed to be removed in favour of new consistent street planting of the same species.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
49	***Populus simonii*** (Chinese Poplar)	M	2.0	1.1	12.6	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney *Sydney Streets Code 2013*). No increase in present encroachment.	No adverse impact, provided all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Demolish existing pavements within TPZ in accordance with Section 10.9. Undertake all excavations for new pavement sub-grade within TPZ in accordance with Section 10.10. Install new pavement and sub-base in accordance with Section 10.13 & 10.14.
50	***Melaleuca quinquenervia*** (Broad-leaved Paperbark)	M	5.4	2.4	91.6	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney *Sydney Streets Code 2013*). No increase in present encroachment.	Proposed to be removed in favour of new consistent street planting of the same species.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
51	***Melaleuca quinquenervia*** (Broad-leaved Paperbark)	M	5.4	2.4	91.6	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney *Sydney Streets Code 2013*). No increase in present encroachment.	Proposed to be removed in favour of new consistent street planting of the same species.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
52	***Populus simonii*** (Chinese Poplar)	M	2.0	1.0	12.6	Located within footprint of proposed driveway crossover.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
53	***Tristaniopsis laurina*** (Water Gum)	M	2.0	1.4	12.6	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney *Sydney Streets Code 2013*). No increase in present encroachment.	Proposed to be removed in favour of new consistent street planting of the same species.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
54	***Melaleuca quinquenervia*** (Broad-leaved Paperbark)	M	3.6	2.0	40.7	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney *Sydney Streets Code 2013*). No increase in present encroachment.	Proposed to be removed in favour of new consistent street planting of the same species.	Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 11.
55	***Populus simonii*** (Chinese Poplar)	M	2.0	1.1	12.6	Existing asphalt pavement within TPZ to be demolished and replaced with new pavement at similar level and grade (to City of Sydney *Sydney Streets Code 2013*). No increase in present encroachment.	No adverse impact, provided all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Demolish existing pavements within TPZ in accordance with Section 10.9. Undertake all excavations for new pavement sub-grade within TPZ in accordance with Section 10.10. Install new pavement and sub-base in accordance with Section 10.13 & 10.14.
56	***Koelreutaria paniculata*** (Golden Rain Tree)	M	4.8	2.1	72.3	Proposed ground level changes (cut and fill offset 2.4 metres south-east. Encroachment to TPZ = 19%. Substantial canopy pruning may be required to facilitate construction.	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Proposed works are likely to result in an adverse impact. Extent of canopy pruning required is likely to result in a significant adverse impact on this tree.	Undertake replacement planting with a new tree elsewhere within the reserve to compensate for loss of amenity in accordance with Section 11.
57	***Koelreutaria paniculata*** (Golden Rain Tree)	M	3.5	1.7	38.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
58	***Koelreutaria paniculata*** (Golden Rain Tree)	M	4.5	2.1	63.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
59	***Tristaniopsis laurina*** (Water Gum)	M	2.2	1.6	14.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
60	***Koelreutaria paniculata*** (Golden Rain Tree)	M	5.0	1.8	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
61	***Tristaniopsis laurina*** (Water Gum)	M	4.0	1.6	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
62	***Koelreutaria paniculata*** (Golden Rain Tree)	M	5.0	2.1	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
63	***Angophora costata*** (Sydney Red Gum)	P	4.0	1.8	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
64	***Callistemon viminalis*** (Weeping Bottlebrush)	M	5.4	2.4	91.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
65	***Angophora costata*** (Sydney Red Gum)	P	5.5	2.1	95.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
66	***Banksia integrifolia*** (Coast Banksia)	P	3.0	1.8	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
67	***Eucalyptus punctata*** (Grey Gum)	P	7.0	2.2	153.9	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
68	***Syzygium paniculatum*** (Magenta Cherry)	M	3.5	1.7	38.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
69	***Syzygium paniculatum*** (Magenta Cherry)	M	4.0	1.9	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
70	***Syzygium paniculatum*** (Magenta Cherry)	M	4.5	2.0	63.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
71	***Angophora costata*** (Sydney Red Gum)	P	4.0	1.7	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
72	***Casuarina cunninghamiana*** (River Oak)	M	7.6	2.7	179.8	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
73	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	1.9	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
74	***Syzygium paniculatum*** (Magenta Cherry)	M	4.0	2.0	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
75	***Syzygium paniculatum*** (Magenta Cherry)	M	4.5	2.1	63.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
76	***Lophostemon confertus*** (Brushbox)	M	3.0	1.4	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
77	***Casuarina cunninghamiana*** (River Oak)	M	3.0	1.5	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
78	***Casuarina cunninghamiana*** (River Oak)	M	7.0	2.4	153.9	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
79	***Casuarina cunninghamiana*** (River Oak)	M	4.0	1.9	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
80	***Casuarina cunninghamiana*** (River Oak)	M	4.0	2.0	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
81	***Angophora costata*** (Sydney Red Gum)	P	3.0	1.5	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
82	***Angophora costata*** (Sydney Red Gum)	P	2.0	1.3	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
83	***Banksia integrifolia*** (Coast Banksia)	P	2.0	1.3	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
84	***Polyscias elegans*** (Celery Tree)	M	2.0	1.3	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
85	***Angophora costata*** (Sydney Red Gum)	P	3.0	1.7	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
86	***Angophora costata*** (Sydney Red Gum)	P	3.0	1.5	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
87	***Melaleuca styphelioides*** (Prickly Paperbark)	M	3.0	1.5	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
88	***Angophora costata*** (Sydney Red Gum)	P	5.0	1.8	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
89	***Angophora costata*** (Sydney Red Gum)	P	7.5	2.5	176.6	Proposed outdoor play area asociated with new childcare centre offset 2.2 metres south-east at RL? (close to existing grade). Proposed elevated deck offset 4.7 metres south-east at RL? (assumed suspended above grade). Excavations for post footings within TPZ. Minor encroachment to TPZ. Proposed 450mm stormwater pipeline and associated pits offset 3.7 metres south-east at IL 5.08 (1.5 metres below grade). Excavations for stormwater within TPZ. Encroachment to TPZ = 7%	No adverse impact, provided at all existing ground levels within TPZ are maintained and any required excavations for post footings are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Demolish existing pavements within TPZ in accordance with Section 10.9. Undertake all excavations for new pavement sub-grade within TPZ in accordance with Section 10.10. Install new pavement and sub-base in accordance with Section 10.13 & 10.14. Undertake all excavations for proposed stormwater pits and pipeline within TPZ in accordance with Section
90	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.2	78.5	Proposed outdoor play area asociated with new childcare centre offset 1.5 metres south-east at RL? (close to existing grade, beyond existing masonry fence/wall to be maintained intact). Proposed elevated deck offset 4.0 metres south-east at RL? (assumed suspended above grade). Excavations for post footings within TPZ. Minor encroachment to TPZ.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10).
91	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.0	78.5	Proposed outdoor play area asociated with new childcare centre offset 1.5 metres south-east at RL? (close to existing grade, beyond existing masonry fence/wall to be maintained intact). Proposed elevated deck offset 4.0 metres south-east at RL? (assumed suspended above grade). Excavations for post footings within TPZ. Minor encroachment to TPZ.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10).

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
92	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	1.9	78.5	Proposed outdoor play area asociated with new childcare centre offset 1.5 metres south-east at RL? (close to existing grade, beyond existing masonry fence/wall to be maintained intact). Proposed elevated deck offset 4.0 metres south-east at RL? (assumed suspended above grade). Excavations for post footings within TPZ. Minor encroachment to TPZ.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10).
93	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.1	78.5	Proposed outdoor play area asociated with new childcare centre offset 1.5 metres south-east at RL? (close to existing grade, beyond existing masonry fence/wall to be maintained intact). Proposed elevated deck offset 4.0 metres south-east at RL? (assumed suspended above grade). Excavations for post footings within TPZ. Minor encroachment to TPZ.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10).
94	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.1	78.5	Proposed outdoor play area asociated with new childcare centre offset 1.5 metres south-east at RL? (close to existing grade, beyond existing masonry fence/wall to be maintained intact). Proposed elevated deck offset 4.0 metres south-east at RL? (assumed suspended above grade). Excavations for post footings within TPZ. Minor encroachment to TPZ.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10).

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
95	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.2	78.5	Proposed outdoor play area asociated with new childcare centre offset 1.5 metres south-east at RL? (close to existing grade, beyond existing masonry fence/wall to be maintained intact). Proposed elevated deck offset 4.0 metres south-east at RL? (assumed suspended above grade). Excavations for post footings within TPZ. Minor encroachment to TPZ. Proposed new pedestrian paving and edge offset 3-4 metres south-west at RL? (close to existing grade). Excavations for pavement sub-grade within TPZ. Encroachment to TPZ = 4%.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10).
96	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.0	78.5	Located close to footprint of proposed pedestrian pavement. Excavations for pavement sub-grade and edge retention within TPZ. Encroachment to TPZ = 25%.	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Proposed works are likely to result in an adverse impact.	Undertake replacement planting with a new tree elsewhere within the reserve to compensate for loss of amenity in accordance with Section 11.
97	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.1	78.5	Located within footprint of proposed pedestrian pavement.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the reserve to compensate for loss of amenity in accordance with Section 11.
98	***Casuarina cunninghamiana*** (River Oak)	M	3.4	1.9	35.5	Located within footprint of proposed pedestrian pavement.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the reserve to compensate for loss of amenity in accordance with Section 11.
99	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.3	78.5	Located within footprint of proposed pedestrian pavement.	Proposed works will necessitate removal.	Undertake replacement planting with a new tree elsewhere within the reserve to compensate for loss of amenity in accordance with Section 11.

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Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
100	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.1	78.5	Proposed pedestrian pavement offset 2.3 metres south-east at RL7.15 (2 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ (beyond existing masonry retaining wall). No actual incursion to root zone due to barrier created by existing wall.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.
101	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.0	78.5	Proposed pedestrian pavement offset 2.3 metres south-east at RL7.15 (2 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ (beyond existing masonry retaining wall). No actual incursion to root zone due to barrier created by existing wall.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.
102	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	1.7	78.5	Proposed communal open space offset 2.3 metres south-east at RL7.15 (2 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ (beyond existing masonry retaining wall). No actual incursion to root zone due to barrier created by existing wall.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.
103	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	1.9	78.5	Proposed communal open space offset 2.6 metres south-east at RL7.15 (4 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ (beyond existing masonry retaining wall). No actual incursion to root zone due to barrier created by existing wall.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.
104	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.0	78.5	Proposed communal open space offset 1.9 metres south-east at RL7.15 (5 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ. No actual incursion to root zone assuming existing concrete retaining wall is maintained intact.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.

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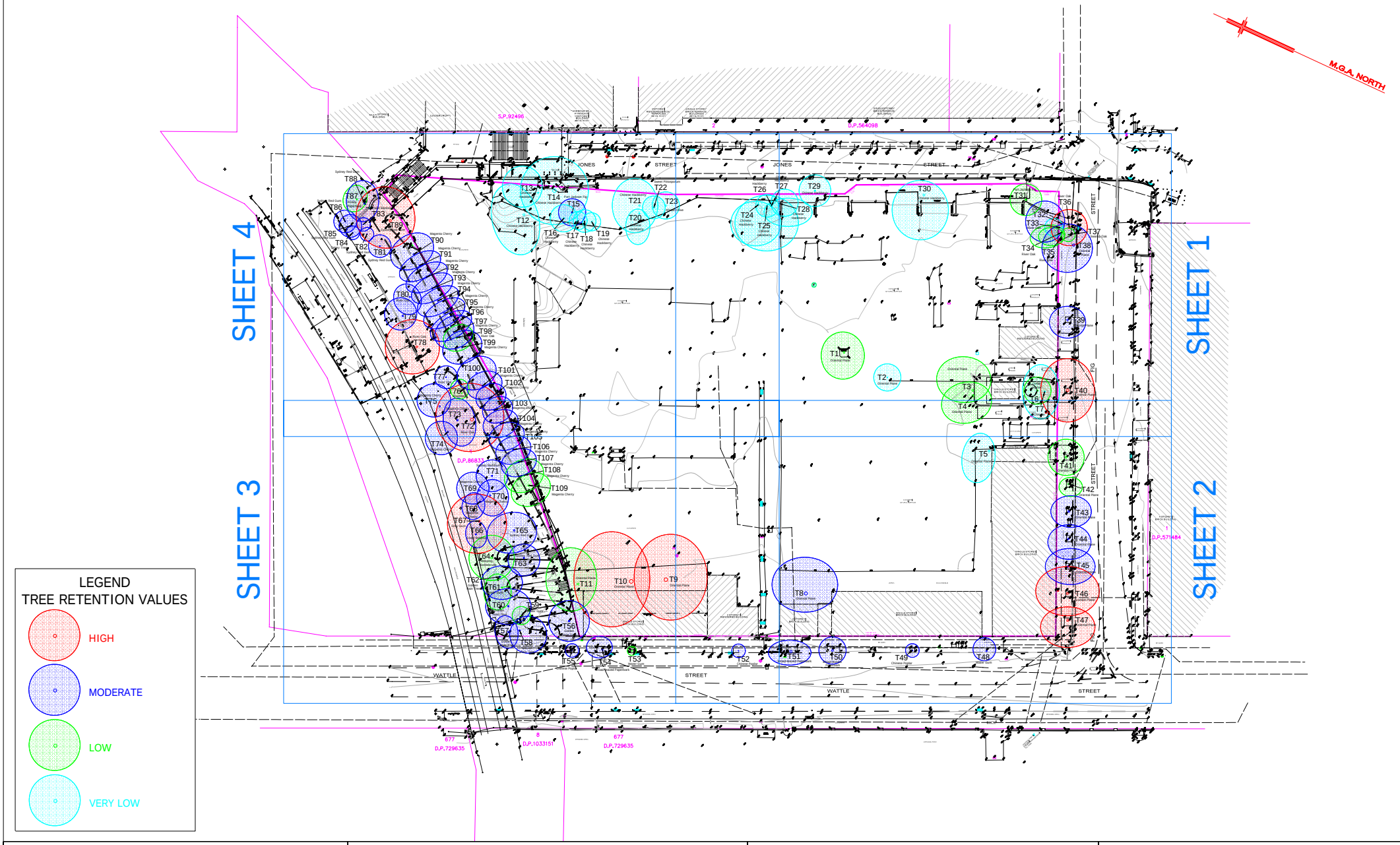
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m^2)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
105	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.1	78.5	Proposed communal open space offset 1.7 metres south-east at RL7.15 (5 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ. No actual incursion to root zone assuming existing concrete retaining wall is maintained intact.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.
106	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	1.8	78.5	Proposed communal open space offset 1.4 metres south-east at RL7.15 (5 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ. No actual incursion to root zone assuming existing concrete retaining wall is maintained intact.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.
107	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.0	78.5	Proposed communal open space offset 1.3 metres south-east at RL7.15 (5 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ. No actual incursion to root zone assuming existing concrete retaining wall is maintained intact.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.
108	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.0	78.5	Proposed communal open space offset 1.2 metres south-east at RL7.15 (5 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ. No actual incursion to root zone assuming existing concrete retaining wall is maintained intact.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.
109	***Syzygium paniculatum*** (Magenta Cherry)	M	5.0	2.0	78.5	Proposed communal open space offset 1.0 metres south-east at RL7.15 (5 metres above grade). Placement of engineered fill for pavement sub-grade within TPZ. No actual incursion to root zone assuming existing concrete retaining wall is maintained intact.	No adverse impact assuming existing masonry wall/fence is maintained intact as this would create a barrier to root development to the south-east.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Maintain existing masonry wall close to common boundary intact.



APPENDIX 5
TREE LOCATION PLAN SHOWING
TREE RETENTION VALUES

14-26 Wattle Street, PYRMONT, NSW

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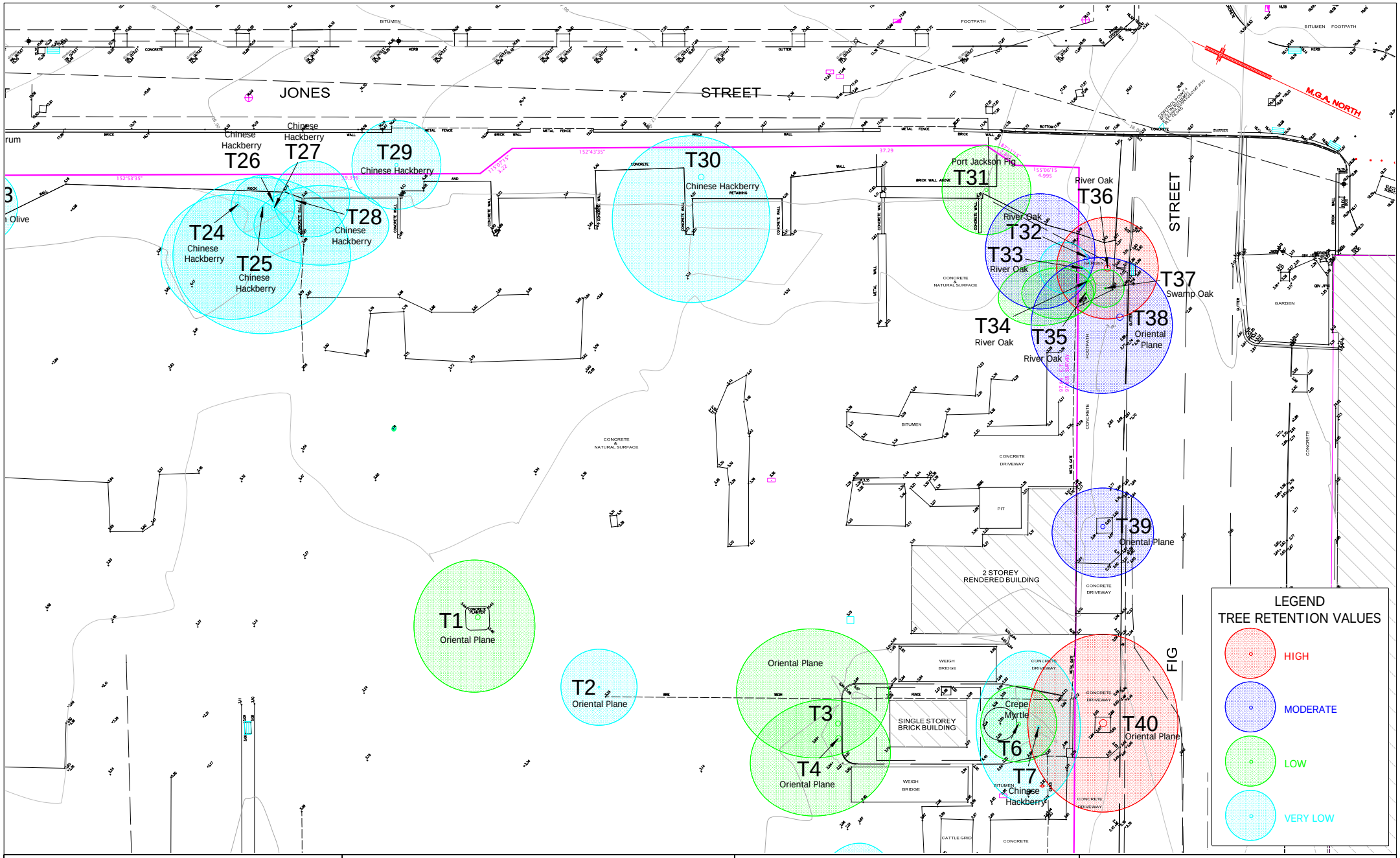
Based on the Survey Drawing
prepared by Ian Linton Surveying
Dwg Ref No. DWGBLAME
Dated 30th June 2008

DWG No. T19-021201 [A]

KEY PLAN

DATE: 12/02/2019



APPENDIX 5
TREE LOCATION PLAN SHOWING
TREE RETENTION VALUES

14-26 Wattle Street, PYRMONT, NSW

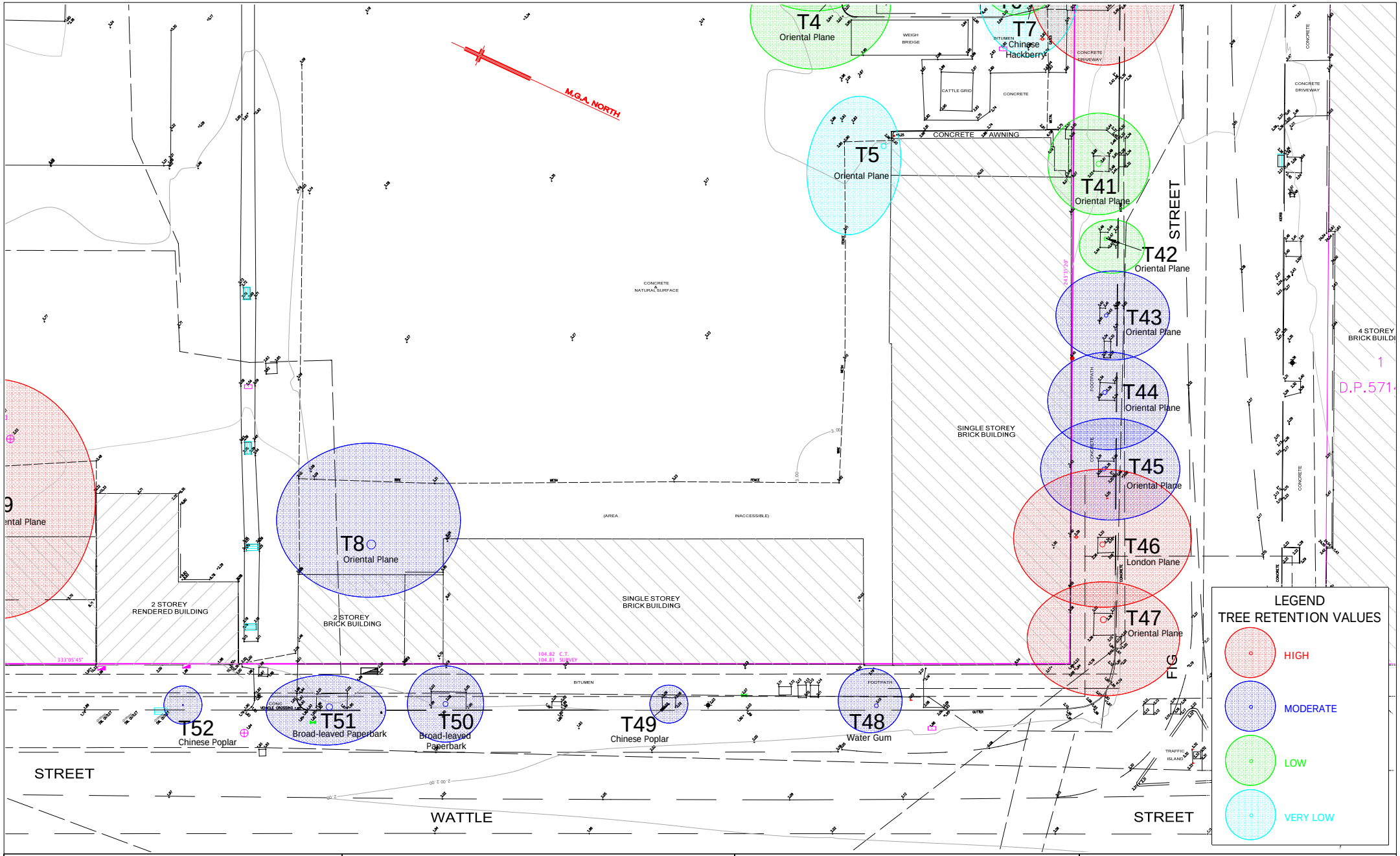
Earthscape Horticultural Services
Arboricultural and Horticultural Consultants
PO Box 364
BEROWRA NSW 2081
Ph: 02 9456 4787
Fax: 02 9456 5757 e: earthscape@iinet.net.au

Based on the Survey Drawing
prepared by Ian Linton Surveying
Dwg Ref No. DWGBLAME
Dated 30th June 2008

DWG No. T19-021201 [A]

SHEET 1

DATE: 12/02/2019



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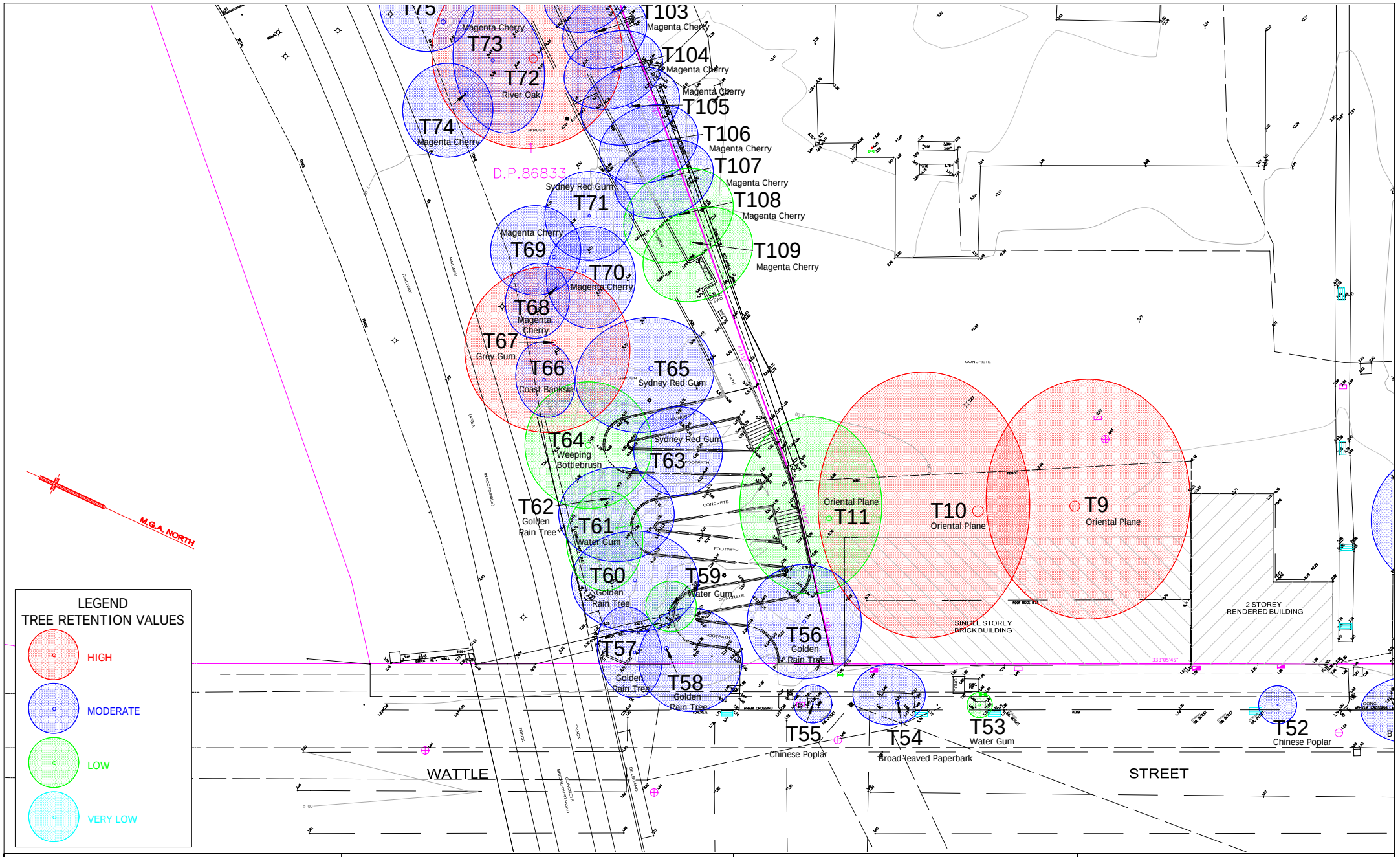
SHEET 2
DATE: 12/02/2019



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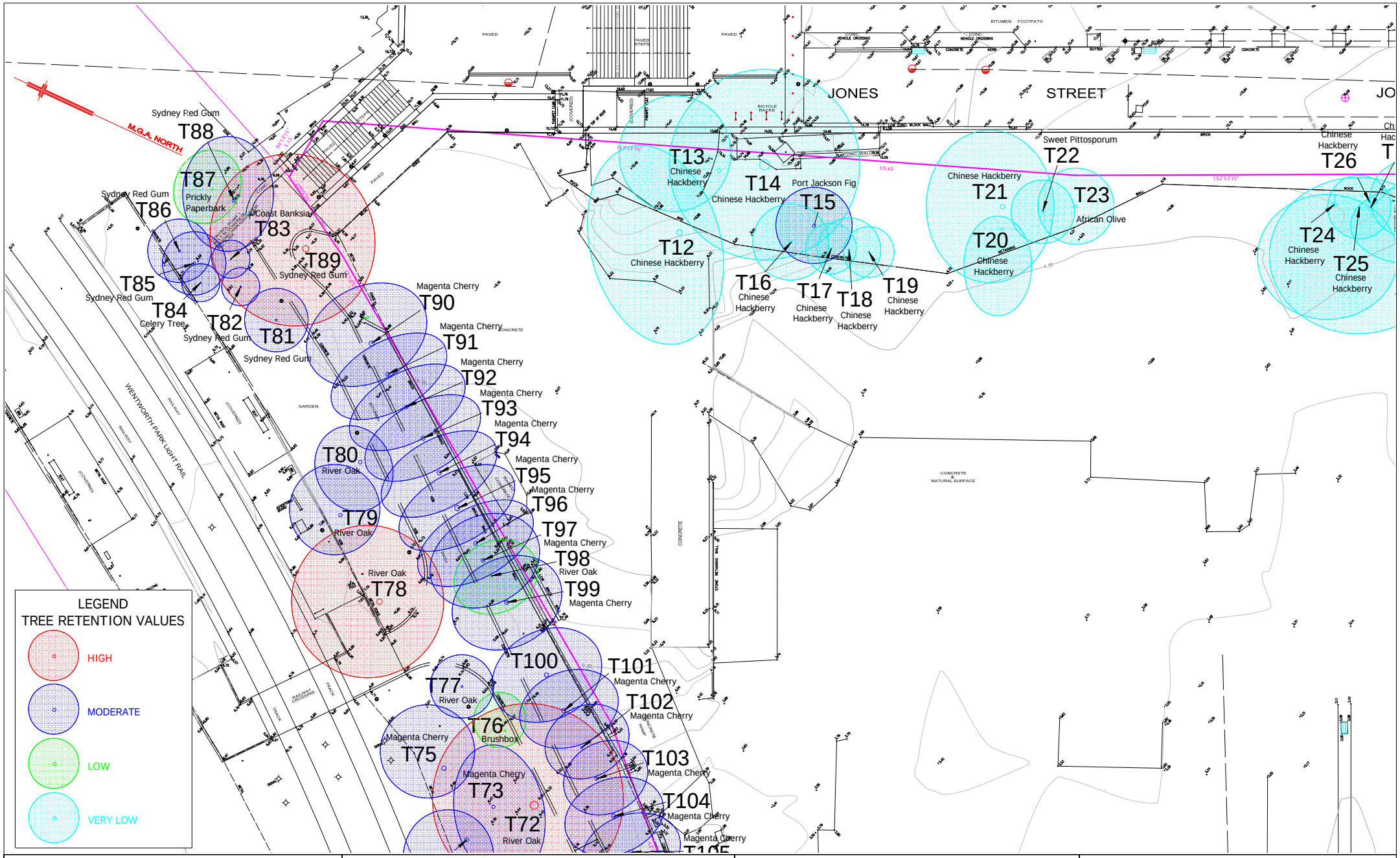
SHEET 3

DATE: 12/02/2019



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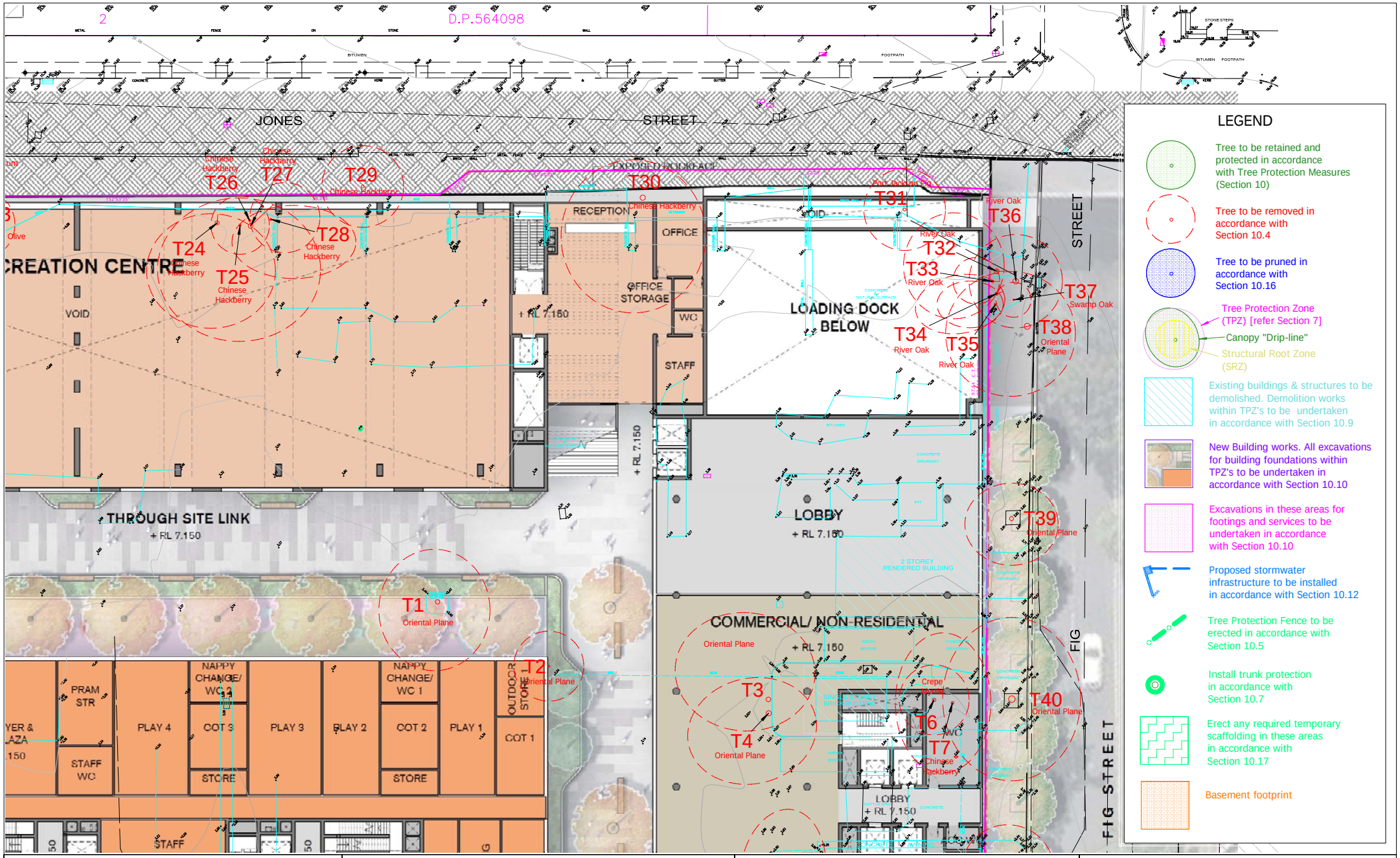
SHEET 4
DATE: 12/02/2019



APPENDIX 6

TREE PROTECTION PLAN

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Dwg Ref No. DWGBLAME

Dated 30th June 2008

M.G.A. NORTH

DWG No. T19-021202 [F]

SHEET 1

DATE: 30/08/2019

LEGEND

- Tree to be retained and protected in accordance with Tree Protection Measures (Section 10)
- Tree to be removed in accordance with Section 10.4
- Tree to be pruned in accordance with Section 10.16
- Tree Protection Zone (TPZ) [refer Section 7]
  - Canopy "Drip-line"
  - Structural Root Zone (SRZ)
- Existing buildings & structures to be demolished. Demolition works within TPZ's to be undertaken in accordance with Section 10.9
- New Building works. All excavations for building foundations within TPZ's to be undertaken in accordance with Section 10.10
- Excavations in these areas for footings and services to be undertaken in accordance with Section 10.10
- Proposed stormwater infrastructure to be installed in accordance with Section 10.12
- Tree Protection Fence to be erected in accordance with Section 10.5
- Install trunk protection in accordance with Section 10.7
- Erect any required temporary scaffolding in these areas in accordance with Section 10.17
- Basement footprint

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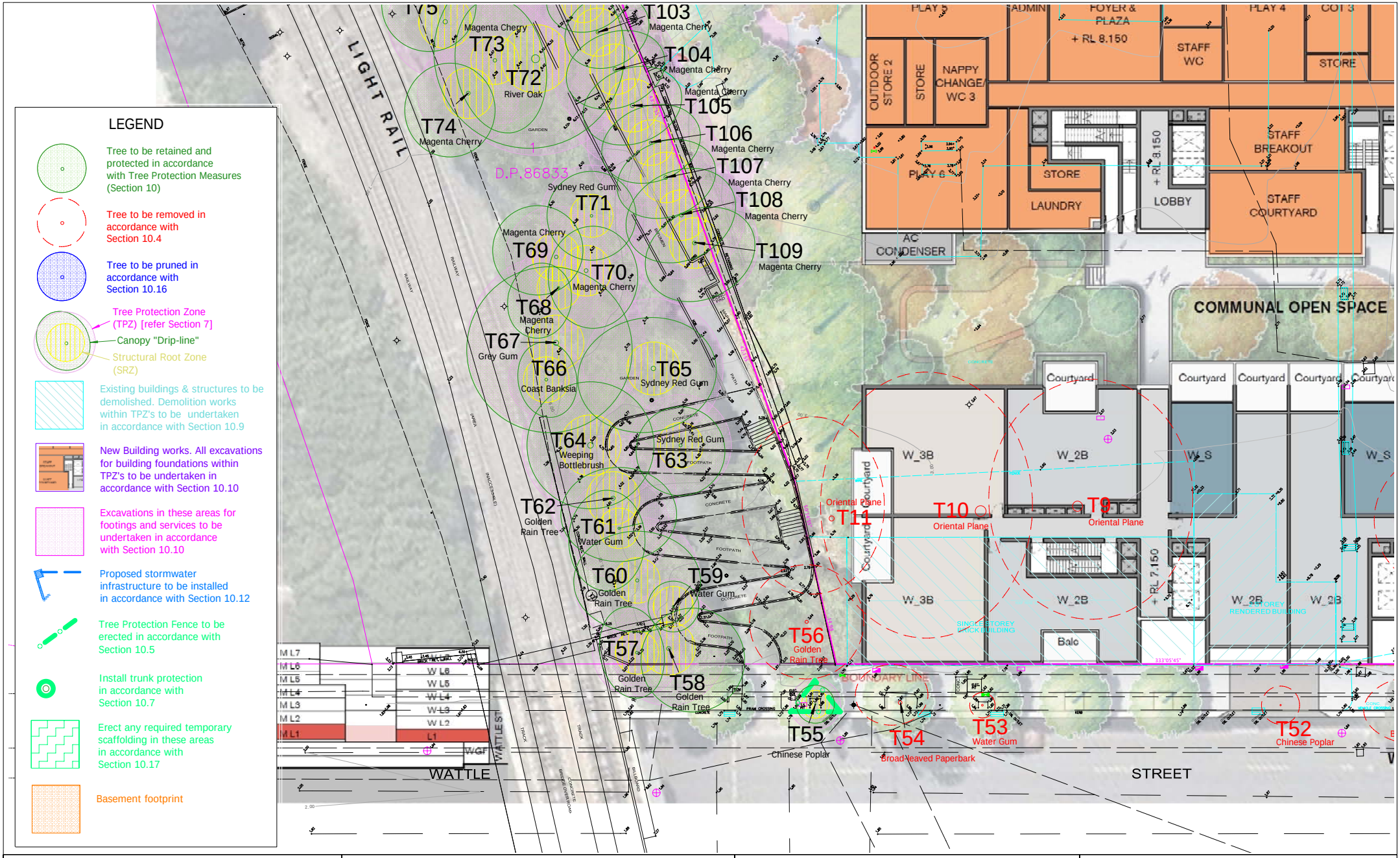
DATE: 30/08/2019



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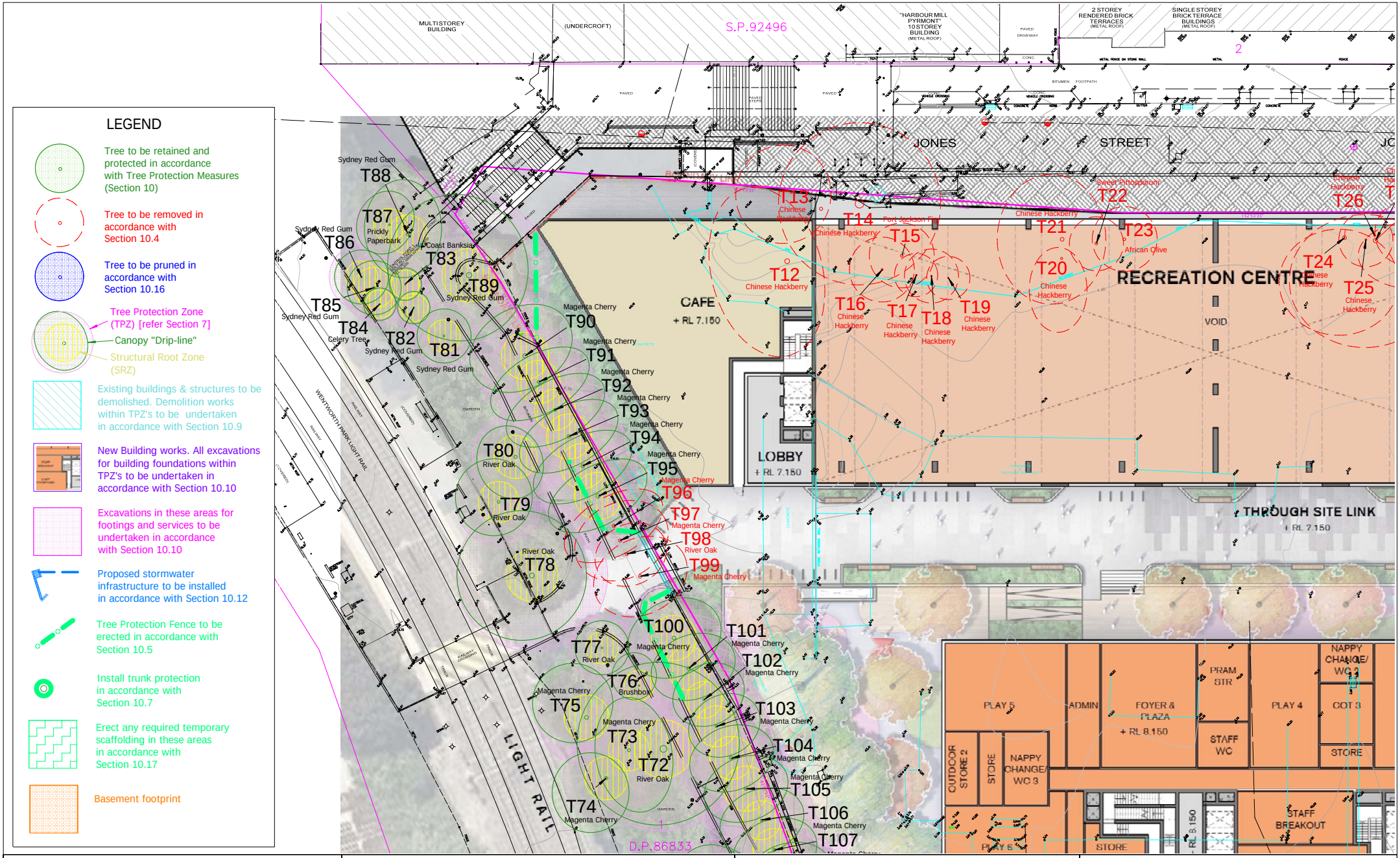

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