Appendix C

Arboricultural Impact Assessment

Report

APPENDIX C

arboricultural impact assessment report

AIA-01

Revision B, Issued for Planning Proposal
28 November, 2024

PROJECT

Anglicare – Rohini Village

51-53 Rohini Street
Turramurra, NSW

CLIENT / PRINCIPAL

Anglicare

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i EXECUTIVE SUMMARY

This Arboricultural Impact Assessment (AIA) is prepared on behalf of Anglicare (the client) to support a Planning Proposal associated with a renewal project for the Rohini Retirement Village at 51-53 Rohini Street, Turramurra (the site). The proposal involves redevelopment of the existing village buildings to create a contemporary aged care precinct.

This is a report of potential tree related matters in support of a planning proposal and is not requesting or expecting formal approval for the removal, transplanting, or pruning of any tree or the conducting of any physical works. Its intention is to merely illustrate the likely consequences of the planning proposal, should it be endorsed, and to help facilitate assessment by the relevant authorities as to whether any changes or amendments should be identified to better retain or protect any of the trees, should the development proceed to the next stage of a 'Development Application' (DA). Formal approval for the removal, pruning, or transplanting of any tree will be subject to further detailed review and assessment at the DA stage.

Arterra was previously engaged in January 2022 to undertake a preliminary arboricultural assessment of the site to identify any tree-related constraints and help guide the design development phase. We have then been engaged in July 2023 to provide an assessment of the proposed tree impacts and further advice regarding the current planning proposal for the site.

This report assesses the potential impacts of construction works that are proposed to occur within the boundary of the site. It does not address possible public domain improvements to Rohini Street that may be undertaken by Ku-ring-gai Council. If Council choses to proceed with these works, assessment of impact to the trees in the vicinity (T09 and T10) will need to be undertaken separately when the detail of the works is known.

A total of **104** trees were assessed for this report. These are 'trees' as defined by Council's DCP, having a height of 3.5 metres or more or a trunk diameter exceeding 100mm at 1400mm above ground level. Very small trees (<3.5m), shrubs and dead trees have typically not been included in the assessment.

Tree Retention Values	Total Existing Trees	Trees Recommended for Removal	Trees Transplanted	Trees Retained	%Category Retained
High	15	nil	nil	15	100%
Moderate	43	5	1	37	86%
Low	46	37	nil	9	20%
TOTAL	**104**	**42**	**1**	**61**	**60%**

The following points are summarised from the impact assessment:

- **All** High retention value trees (100%) are being retained and protected.
- **37** Moderate retention value trees (86%) are being retained and protected.
- **1** Moderate retention value tree is being retained, protected and then ultimately transplanted to a suitable new location within the site.
- A total of **42** trees are suggested for removal. Of these:
    - 37 (87%) have been assessed as having Low retention value. They are predominantly small, exotic or weed species or identified as having poor form or major defects. 28 of these are within the footprint of the proposed works.
    - 5 (13%) are trees of Moderate retention value and are situated within the footprint of the proposed works.

The trees to be retained are generally situated on the perimeter of the site, along the property boundaries. They include street trees, other public trees, and neighbouring trees. They will generally be protected during construction within consolidated Tree Protection Areas, amplifying the benefit of individual tree protection zones.

The development proposal involves some incursion into nominal Tree Protection Zones, ranging from 3% to 17%. The larger percentages, suggesting major encroachments, occur for some of the trees situated along the steep embankment lining the pre-existing private roadway, on the southwest of the site, near the railway corridor. These trees are growing in an embankment. It is the authors' opinion that it is highly unlikely for significant tree roots to extend into the area beneath the pre-existing buildings and driveway due to the heavy compaction likely beneath

the pre-existing constructions. The incursions into the nominal radius are therefore considered acceptable and that the potential tree impacts are expected to be relatively minor in this area.

A subset of the trees that would experience encroachments into their TPZ will also require some pruning to minimise the potential for being damaged during the works and suitable clearances to future buildings. Pruning of up to 10-15% of the crown of a mature tree is generally considered acceptable if carried out in accordance with the standard (AS4373-2007). Three of the trees, however, would be considered to require 'major' pruning of greater than 15% of the canopy. The design team has undertaken to make localised modifications to the buildings during the detailed DA stage to minimise the canopy pruning requirements and therefore the impact to the three trees. The subject trees (**T19, T22 & T49**) display good health and vigour, and with some adjustments to the above ground building design, it would allow them to remain viable components of the landscape and significantly minimise the impacts from potential pruning. Given this is an early stage within a Planning Proposal application it is considered acceptable to suggest these trees will be retainable.

All other works anticipated to be undertaken within nominal TPZs will be carried out utilising suitable non-destructive or tree sensitive methods and will be under the direct oversight of a Project Consulting Arborist.

If tree assets are managed in accordance with the recommendations, it is reasonably expected that the site will retain its well planted boundary of mature trees, enclosing it and screening it from to the surrounding properties. The proposed Rohini Village development will be enhanced by the mature trees retained and integrated within the proposed and extensive new landscape and tree planting.

This document has been prepared by This report has been prepared by Christina Kanellaki Lowe and reviewed by Robert Smart, (AQF Level 5) Consulting Arborists. Robert is a member of the International Society of Arboriculture - Australian Chapter and is also a Registered Consulting Arborist with Arboriculture Australia.

Robert Smart AAILA , ISA, AA, IACA
Director, Registered Landscape Architect (054), Registered Consulting Arborist (1804).

1.0 INTRODUCTION

1.1 Background

This Arboricultural Impact Assessment is prepared on behalf of Anglicare (the client) to support a Planning Proposal associated with a renewal project for the Rohini Retirement Village at 51-53 Rohini Street, Turramurra (the site). The proposal involves redevelopment of the existing seniors living village and buildings to create a more contemporary aged care precinct.

This is a report of potential tree related matters in support of a planning proposal and is not requesting or expecting formal approval for the removal, transplanting, or pruning of any tree or the conducting of any physical works. Its intention is to merely illustrate the likely consequences of the planning proposal, should it be endorsed, and to help facilitate assessment by the relevant authorities as to whether any changes or amendments should be identified to better retain or protect any of the trees, should the development proceed to the next stage of a 'Development Application' (DA). Formal approval for the removal, pruning, or transplanting of any tree will be subject to further detailed review and assessment at the DA stage.

Arterra was previously engaged in Jan 2022 to undertake a preliminary arboricultural assessment of the site to identify any tree-related constraints and help guide the concept and design development. We have then been engaged in July 2023 to provide an assessment of the proposed tree impacts and advice regarding the current planning proposal for the site. This report assesses the potential impacts of construction works that are proposed to occur within the boundary of the site. It does not address possible public domain improvements to Rohini Street that may be undertaken by Ku-ring-gai Council. If Council choses to proceed with these works, assessment of impact to the trees in the vicinity (T09 and T10) will need to be undertaken separately when the detail of the works is more fully known.

The site is an irregular shape and identified as Lot 21 DP533032, Lots 25 & 26 DP585038 and Lot 2 DP302942, with an approximate land area of 9,380m^2. It is situated along the North Shore railway corridor and accessed from Rohini Street. A line of mature trees separates the site from the train line. The vegetation within the rail corridor represents a biodiversity zone that partly extends into the site at the termination of Rohini Street. The extent of the site is shown in figure 1, below.

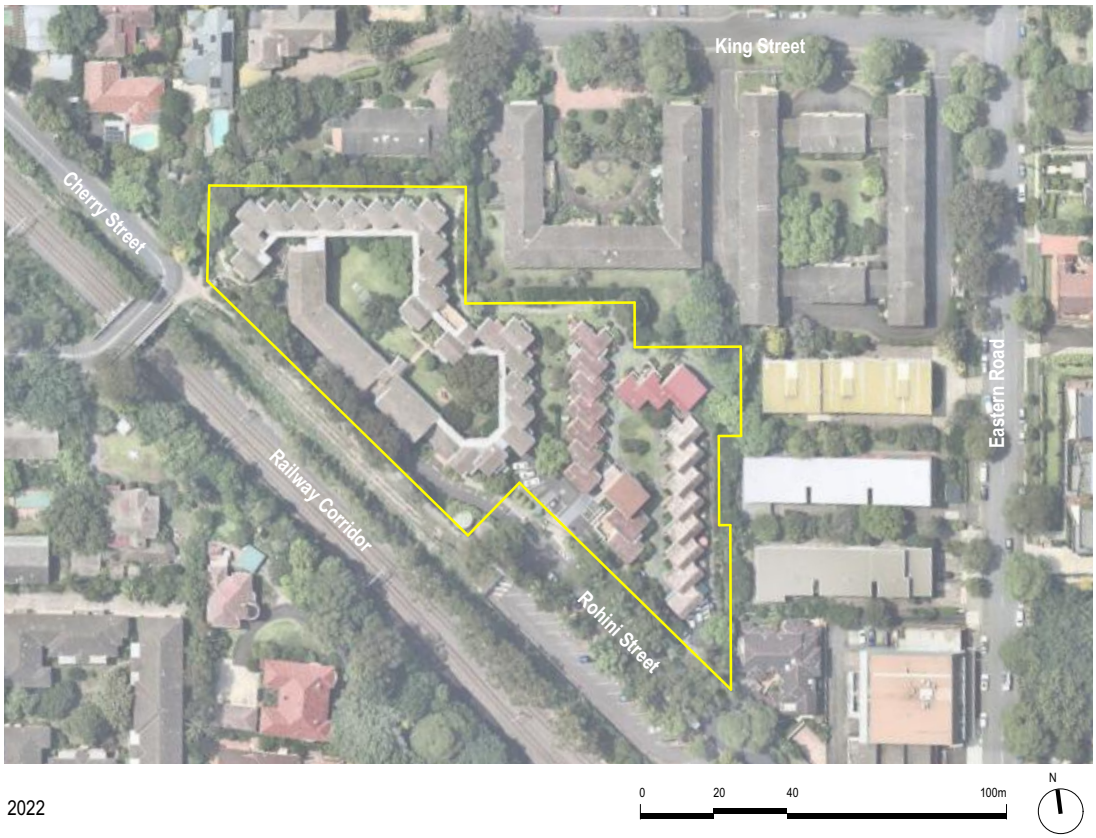


Figure 1 – Site context – approximate site outline shown in yellow. (Source: Nearmap/ Arterra January 2022)

Figure 2 – Photo of the site and conditions along Rohini Street, looking south. There are some significant tree trees lining Rohini Street. (Photo: Arterra 16/5/22)

Figure 3 – Photo of the site and conditions along the Rail Corridor boundary. There are some significant tree trees along this batter and frontage which will likely require retention and protection. (Photo: Arterra 16/5/22)

1.2 Aims of this Report

This arboricultural impact assessment has been prepared to identify the trees to be retained and removed as part of the Rohini Retirement Village renewal project and to assess potential tree impacts.

The specific aims of the report are to:

- assess the health and condition of the trees and record all the relevant data for existing trees;
- assess significance, Useful Life Expectancy (ULE) and retention values of the existing trees;
- provide recommendations as to which trees should ideally be retained and protected;
- identify the proposed Tree Protection Zones (TPZ) of the trees being retained;
- identify and assess the likely arboricultural impacts of the development on the trees; and
- provide recommendations on the tree protection measures that will be required during construction to ensure the trees are successfully retained.

The assessment is restricted to the trees within, or immediately adjacent to the site that were likely to be impacted by the works proposed within the boundary of the site. Other trees outside the extent of the proposed works and

unlikely to be impacted, are not addressed as part of this report. Similarly, it does not at this stage address the possible public domain improvements to Rohini Street that may be proposed and undertaken by Ku-ring-gai Council as part of potential planning proposal negotiations.

All tree plans contained in this report are based on information provided to Arterra, including site survey and architectural drawings. The tree plans should only be used for reference and relating to tree issues and are not suitable for any other purpose.

1.3 Relevant Controls or Legislation

The site is zoned part R4 High Density Residential under Ku ring gai Council LEP 2015 Land Zoning Map (https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address) accessed 8 June 2022).

Provisions of the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 and Ku-ring-gai Development Control Plan 2021 (KDCP 2021) apply to the management and maintenance of existing trees and vegetation in Ku-ring-gai. Together these documents require that a development consent or a permit is obtained from Council before removing or altering any "Prescribed Vegetation". Council's definition of "Prescribed Vegetation" is provided under clause 13.1.1 of its DCP 2021. This defines prescribed vegetation to include:

- Trees;
- Other vegetation; and
- Native vegetation.

A "tree" means:

i. any perennial plant with at least one self-supporting woody, fibrous stem, whether native or exotic, of 5 metres or more in height; and
ii. any plant that has a trunk diameter of 150mm or more measured at ground level.

"other vegetation" means:

i. vegetation that is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation. Including any of the following:
   - trees (including any sapling or shrub),
   - understorey plants,
   - groundcover (being any type of herbaceous vegetation),
   - plants occurring in a wetland.

"native vegetation" means:

i. trees or other vegetation (as defined above) native to New South Wales. This includes plants established in NSW before European settlement.
(As referred to within PlantNet (https://plantnet.rbgsyd.nsw.gov.au/)).

Section 13.2 of the DCP provides exemptions for tree and vegetation works. These exemptions don't apply to heritage items or items within Heritage Conservation Areas as defined in the DCP. This site is not identified as a heritage site. The following are exempt tree works:

- Removal or pruning of tree branches directly over the roofline of a residence or commercial building
- Removal or pruning of trees or vegetation within 3m of an approved habitable room of an approved dwelling.
- Removal or pruning of tree branches within 0.5m of electrical wires.
- Minor pruning or removal of dead wood.
- Removal of dead or dying trees / other vegetation.
- Removal of risk to human life / property (typically subject to Council approval except in emergencies).
- Removal of species listed under the Biosecurity Act 2015 (weeds and invasive species).
- Removal or pruning of the species listed in Table 8 (ii) below:

Table 1 – Exempt Species

Common Name	*Botanical Name*
Queensland Silver Wattle	*Acacia podalyriifolia*
Golden Wreath Wattle	*Acacia saligna*
Box Elder	*Acer negundo*
Tree of Heaven	*Ailanthus altissima*
Evergreen Alder	*Alnus jorullensis*
Queen Palm / Cocos Palm	*Syagrus romanzoffiana*
Nettle tree	*Celtis spp.*
Cotoneaster	*Cotoneaster spp.*
Loquat	*Eriobotrya japonica*
Common Coral	*Erythrina crista-galli*

Indian Coral Tree	*Erythrina indica*
Coral Tree	*Erythrina x sykesii*
Rubber Tree	*Ficus elastica*
Liquidambar	*Liquidambar stryraciflua (only if less than 12m tall)*
African Olive	*Olea europaea subsp. africana*
Crested Wattle	*Paraserianthes lophantha*
Lombardy Poplar	*Populous nigra 'italica'*
Firethorn	*Pyracantha spp.*
Black Locust	*Robinia pseudoacacia*
Golden Robinia	*Robinia pseudoacacia 'Frisia'*
Umbrella Tree	*Schefflera actinophylla*
Broad-leaf pepper tree	*Schinus terbinthifolius*
Rhus	*Toxiocodendron succedaneum*

1.4 Conduct and Author Qualifications

This report has been prepared by Christina Kanellaki Lowe and reviewed by Robert Smart, (AQF Level 5) Consulting Arborists, qualified to provide arboricultural assessment and advice. Furthermore, Robert Smart is a member of the International Society of Arboriculture - Australian Chapter, a Registered Consulting Arborist with Arboriculture Australia and a licenced Quantified Tree Risk Assessment practitioner, with 25 years' experience in managing trees in complex development sites.

Furthermore, Mr Smart confirms that he has read and agrees to be bound by the NSW Uniform Civil Procedure Rules 2005, Part 31 Division 2 Provisions, Schedule 7 - Expert witness code of conduct.

Arterra provides specialist consulting arborist services only; and does not provide any physical tree services such as climbing, pruning, removal, root investigations or root pruning. Our advice is based on impartial professional assessment, as we do not derive any financial benefit from specifying pruning or other physical arborist services. We do not specify any such activities unless we determine them to be essential to ongoing tree health or stability.

1.5 Key Definitions and Abbreviations

The following abbreviations are used throughout this report.

"TPZ" = Tree Protect Zone

This is the area as defined by AS 4970 – "Protection of Trees on Development Sites" and means the typical minimum area above and below ground at a given distance from the trunk to provide for protection of the tree. Most importantly it represents the root zone required to be left undisturbed to maintain a healthy and viable tree. Please note, that roots will usually extend well beyond this zone, so this represents the minimum remaining root zone required, assuming all others are lost or damaged due to construction. It is typically calculated as a circle centred on the trunk unless existing site conditions can be assessed and indicate otherwise.

"TPA" = Tree Protection Area

Although based on the nominal TPZ above, this is a consolidated and often simplified area to be applied during construction for tree protection. This area is often shaped to deal with practical construction realities whilst maintaining appropriate protection of the nominal TPZ (i.e fencing a nominal circular TPZ can be difficult and impractical. TPA areas often define a square or rectangular shape which includes the area calculated as the nominal TPZ). It often amalgamates and simplifies tree protection zones, particularly when they are overlapping and can be amended for items such as buildings, walls, pathways and existing fences. It also protects areas that are contiguous to the calculated nominal TPZ, which are to be applied when the nominal TPZ is not completely circular due to structures potentially impeding root growth, or when there is an incursion calculated within the TPZ.

"SRZ" = Structural Root Zone

This is the area as defined by AS 4970 – "Protection of Trees on Development Sites" and means the area immediately around the base of the tree at a given distance from the trunk within which the woody roots and soil cohesion are considered vital to the structural stability of the tree. Disturbance, damage or removal of soil and roots within this area will typically render the tree unstable and require its removal. It is typically calculated as a circle, centred on the trunk, unless existing site conditions can be assessed and indicate otherwise.

"DBH" = Diameter at Breast Height

This is the diameter of the trunk measured at 1.4m above ground level.

"DGL" = Diameter at Ground Level

This is the diameter of the trunk measured at ground level, but just above any root flare.

Non-Destructive Digging
This is the process of safely excavating the ground surface to minimise the risk of damage to existing tree roots. This method is used to map and locate existing tree roots within the TPZ and/or SRZ and helps to guide and inform the installation and/or construction of proposed services and/or structures which are in close proximity to retained trees. This is often achieved through hand digging using a shovel, trowel and/or fork with care not to damage the bark and wood of any roots. Compressed air (air spade) or water vacuum extraction are appropriate non-destructive alternatives to hand digging. When this work occurs within a TPZ and/or SRZ of a tree to be retained, a consulting arborist should always be present to monitor the works. Alternatively services can be installed via under boring at a depth of not less than 1.2m below existing ground levels, when passing the tree(s).

Inclusion or Included Bark Branch Union
Growth of bark at the interface of two or more branches on the inner side of the branch union which is unable to be lost from the tree and accumulates, or is trapped, between the acutely divergent branches. This can form a weakened branch union in some species.

Epicormic Growth
Juvenile shoots produced along branches or trunks from dormant or latent buds concealed beneath bark. Production can be stimulated by fire, pruning, wounding or root damage and may also be an indicator of tree stress or decline.

1.6 Documents Reviewed

The following plans and documents were reviewed as part of this tree impact assessment:

LandPartners Surveyors:
- Detail and Levels Survey of 51-53 Rohini Street (Lot 21, DP533032, Lots 25 & 26 DP585038 and Lot 2, DP302942) Issued 24 February 2022.

Plus Architecture:
- Floor Plans FS002 -FS006 Dated 26 June 2023.
- Basement Plans FS006- FS007 Date August 2022

Site Image Landscape Architects
- Planning Proposal Landscape Concept June 2023

At this early stage we have not been provided with any detailed engineering and servicing strategies or plans. Based on the proposed architectural plans we are currently satisfied that the proposed servicing for the development can be achieved and designed to avoid major trenching or disturbance to the existing trees proposed to be retained. We would expect that is may be reasonably possible that no new services are proposed to be extended into or through the proposed TPAs and that any existing services that are no longer required will be able to be capped off and left in situ if located under trees to be retained.

1.7 Assessment Methodology

Data Collection
Arterra attended the site to undertake a detailed assessment of the trees within and immediately adjacent to the site and likely to be impacted by the proposed development. The trees' health and condition were assessed via a visual inspection undertaken from the ground only. Requisite tree data (including DBH, DGL, height & canopy spread, condition & proximity to services) were recorded using an Apple iPad and Filemaker Pro database.

The basic health and condition criteria that were inspected for each tree is summarised as follows:
- tree size, broad age-class and general balance of the tree;
- canopy foliage size, colour and density;
- dieback and epicormic growth;
- trunk or branch wounding, branch tear outs and pruning history;
- structural defects such as co-dominant stems, cracks, splits, included bark, decay;
- pests and disease evidence or occurrence;
- above-ground obstructions; and
- evidence of recent site disturbance.

All trees were photographed, given a unique identification number, and plotted onto a scaled base plan for referencing and identification throughout the report and for future discussions and co-ordination. Tree trunk diameters were measured using a metric diameter tape measure. Tree heights were measured using the two-point

clinometer function of a Nikon Forestry Pro laser range finder. Canopy spreads were estimated by pacing out distances along the cardinal axis of the canopy and cross-referencing to survey information and aerial photos.

No specialised equipment or methods were employed to test for the extent of decay in any of the trees, apart from a nylon 'sounding' mallet. No plant samples were analysed or independently tested to verify or formally identify any pests or diseases.

Desktop Review and Research

Digital AutoCAD files of the proposed works were imported into Arterra's standard CAD software (ArchiCAD v24) and superimposed over the tree and site survey information. The extent of site disturbance was analysed for the proposed building works, landscaping, services and other site grading. An assessment was made of the likely extent of impacts on the TPZs, taking into account the likely construction impacts depending on the type of work being undertaken (cut or fill, suspended slabs, decks, service trenches). Various area calculations and measurements were made in the CAD software of the likely incursions into the TPZs or SRZs.

Historical aerial photography was gathered from NSW Spatial viewer. More recent aerial imagery was obtained from the Nearmap website with aerial photos of the site dating from December 2022 imported into the above software for cross checking and assessment.

1.8 Pre-Development Tree Assessments – Tree Retention Values

The information gathered in the field was tabulated and the retention value assessed using a combination of techniques commonly used and recognised in the arboricultural industry. The tree life expectancy was established using the Useful Life Expectance (ULE) system. A brief summary of these systems is provided below.

Useful Life Expectance (ULE)

ULE is a system based on Jeremy Barrell's SULE (Safe Useful Life Expectancy) developed in 1993. It determines the time a tree may be expected to be retained based on its age, health, condition, safety and location. This is then moderated by the economics of maintenance or other costs of retaining the tree. A long ULE means the tree is presently expected to live longer than 40 years with minimal intervention and cost. A short ULE indicates a tree that is not expected to live longer than 5 years or may require substantial intervention or costs to retain it. The reference to 'safe' useful life expectancy is generally no longer used in the industry as it implies a certainty that cannot be delivered.

Retention Values

The proposed retention value of the trees was determined based on a considered combination of the size, age, condition and suitability of the tree. Each tree was then ranked according to one of 4 retention categories.

1. **"High" Retention Value** – these are trees that are typically in good or very good condition, large and visually prominent, historically or environmentally important. They may also be lesser quality trees, but part of an important grouping of trees. They should represent a serious physical constraint to the development and their removal avoided where possible and feasible.
2. **"Moderate" Retention Value** – these are trees that are in good to reasonable condition and should be retained where possible and feasible to do so. They may also be lesser trees, but part of an important grouping of trees and therefore warrant retention based on the group's value.
3. **"Low" Retention Value** – these are trees that are in poor condition or have structural defects, are particularly small or commonplace, are not historically, environmentally or socially significant and should not be considered as a constraint to the development. They could be retained only if they are not likely to be impacted by, or constrain potential desirable, development outcomes.
4. **"Should Remove" / No Retention Value** – these are trees that are in very poor health, exhibit poor form, or have serious structural defects, are considered weeds or combination of all these, and therefore should be considered for removal regardless of any development.

Consideration has also been given to the relationship of the trees to one another and their proximity to the likely development areas on the site. For example, trees that are part of a closely spaced group, or are likely to be significantly misshapen or unstable with the removal of surrounding trees and structures are considered with these factors in mind.

1.9 Tree Assessment – Tree Protection Zones

In order to ensure the long-term survival and growth of any tree to be retained on the development site, a suitable area is required to be protected around the tree. This area should typically be as large as possible. It should also take into consideration: -

- The size and age of the tree;

- Above and below ground properties;
- The health and condition of the tree;
- The species of tree and its tolerance to disturbance;
- Soil conditions, type, depth and site hydrology and
- Site specific conditions and any existing obstructions to root development

The Tree Protection Zones (TPZs) have been calculated using the formula and criteria outlined in AS 4970-2009 Protection of Trees on Development Sites. In summary the standard applies the calculation for the radius of the TPZ as 12 x (the tree trunk diameter (in metres) calculated at breast height (DBH)). DBH is taken at 1.4m above ground level.

A maximum TPZ radius will be 15m (unless crown protection is required) while the minimum TPZ radius shall be 2m. The TPZ is typically assumed to be radial and centred on the centre of the tree's trunk unless other site factors or tree canopy size and location dictate an adjustment. Encroachments of up to 10% of the area may be accepted within the TPZ as long as it is outside of the Structural Root Zone (SRZ). This is known as a "minor encroachment". Encroachments greater than this, known as "major encroachments" will only be accepted with additional specific evidence that the tree will not be unduly impacted.

Whenever an encroachment is made into a TPZ, a suitable compensation should be made elsewhere and physically contiguous to the remaining TPZ.

The Structural Root Zone (SRZ) is the area defined as the minimum area required to retain the structural stability of the tree. The formula for calculating the SRZ is outlined in AS 4970 Section 3.3.5. No encroachment into the SRZ shall typically be allowed.

2.0 BACKGROUND, OBSERVATIONS & ASSESSMENT

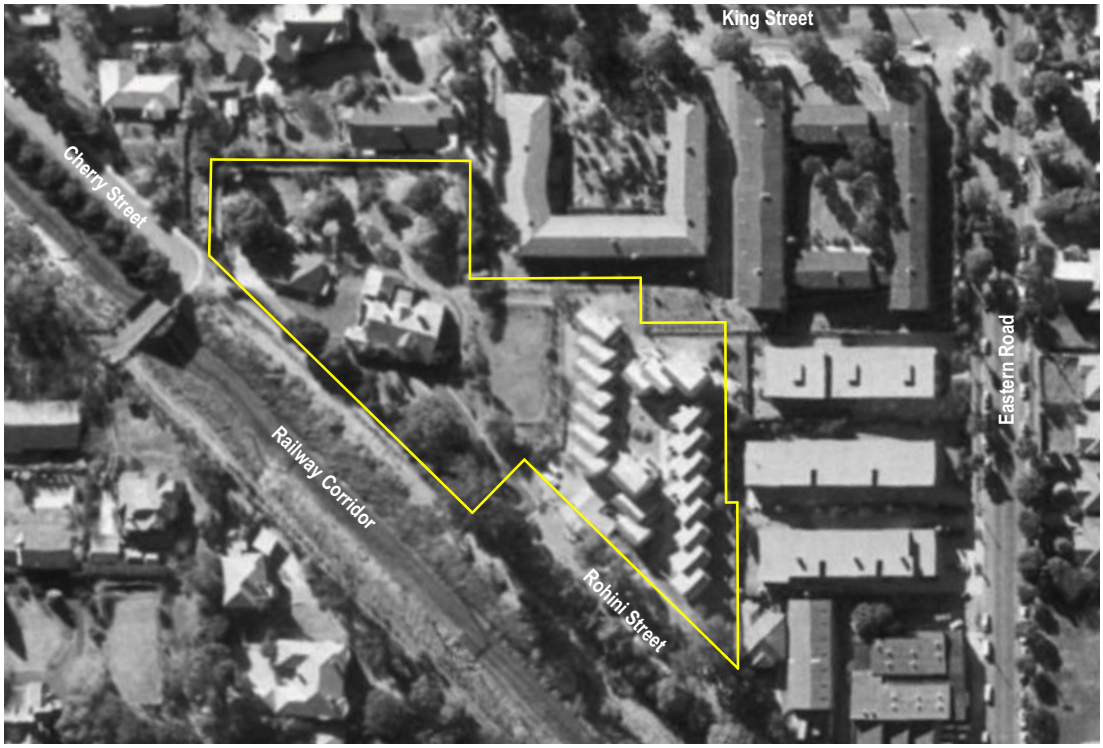
2.1 Outline History

The site at Turramurra is at the northern end of Rohini Street, adjacent the rail corridor for the North Shore Rail Line, located to the south-west of the site. Residential development exists to the north, east and south of the site. Turramurra is an Aboriginal word meaning "big hill." The earliest industry, like most of the northern suburbs, was timber getting, which was all but over by 1840, at which time orchards became prevalent.

When the railway was opened on 1 January 1890 the suburb was called Eastern Road. This was changed to Turramurra on 14 December 1890, as it was thought more appropriate to have an Aboriginal name. Growth occurred after the opening of the railway. Turramurra was a much higher elevation than Sydney: the air was clean and businessmen who wanted family homes in the country but needed to travel to Sydney each day purchased blocks of land in Turramurra and Pymble in the early 1900s. Subdivision of larger blocks and other land took place extensively between 1910 and 1920. Further significant residential and commercial development occurred in the 1960s and over the next few decades numerous developments of residential flats and medium-density housing had been constructed along the Pacific Highway. By the 1980s there was a major supermarket, a library, extended car parking and a number of small shops in an arcade in Rohini Street.
(http://dictionaryofsydney.org/entry/turramurra, accessed 04 May 2022)

Review of the earliest available aerial imagery from 1943, shows the site having a treed boundary with a large residence in the west of the site and extensive gardens to the east. The later aerial imagery shows the site from 1970 through to 2022. The images show the interior of the site was predominantly cleared during the development of the village from 1970 to 1975. The trees on the perimeter have been largely retained and similar to the c.1970s planting between and around the buildings have increased in size over time. These images illustrate that the older, more significant trees are situated on the perimeter of the site or in the adjacent properties and streetscape.

Figure 4 – 1943 aerial image shows the original house, various areas of garden and a well treed boundary. (Photo: NSW SpatialServices)



1970

Figure 5 – 1970 – Initial development, likely for current seniors housing to the eastern part of the site. Most pre-existing vegetation to the east of the site was cleared by this time to allow for development. The original residence still visible in the west of the site (Photo: NSW SpatialServices)

1975

Figure 6 – 1975 – Extensive seniors living development is evident across the large majority of the site and most pre-existing vegetation appears to have been cleared. Very few trees, if any, correlate with current tree locations apart from T32 and T10 and the Rohini Street street trees. (Photo: NSW SpatialServices)

1982

Figure 7 – 1982 –Extensive development for seniors living. Trees within the site are concentrated along the southwest boundary, adjacent to railway corridor. (Photo: NSW SpatialServices)

2005

Figure 8 – 2005 – Since 1982, numerous trees are now visible in the northern and central portions of the site and smaller trees are discernible around the buildings and relating to the current tree positions. (Photo: NSW SpatialServices)

Figure 9 – 2022 – The site and trees as it appears today. (Photo: NearMap)

Figure 10 – T49 on left and T32 on right, are High value trees, worth of retention. T32 appears to be one of the few remaining trees from the site's historic phase. (Photo: Arterra 16/5/22)

2.2 Soils and Landform

The site occurs within the mapping of the Glenorie Soil Landscape Association which occurs extensively around Turramurra and typically occurs on the adjacent broad plateaus and ridge tops associated with much of Ku-ring-gai, Hornsby and Ryde. These soils are often related to the remnants of highly weathered shales of the Wianamatta Shale Group.

Typically, these soils would be moderately deep Red or Brown Podzolic Soils, where the boundary the between topsoil and subsoils is relatively clear. They are generally friable loamy soils, but fertility is generally still low to moderate, and they are usually acidic. Due to the higher clay content, they can have reasonable nutrient and water holding capacity. Of key concern is that the topsoils and subsoils can become hard setting and subject to compaction, particularly if trafficked when moist. They may also subject to localised waterlogging and their acidity can lead to aluminium toxicity issues for plants.

Figure 11 – Soil sample with relatively deep topsoil to 600mm, then an underlying subsoil of heavy clay. (Photo: Arterra 16/05/2022)

A representative soil sample was taken in the field in the north-western portion of the site near tree T49 and T50 to depth of 900mm. The results from the sample taken indicate a deep brown podzolic soil with an extensive topsoil layer down to 600mm. From the topsoil sample taken at a 200mm depth, the soil structure was moderately pedal with medium to coarse sub angular blocky peds. The soil texture was a silty clay loam with the colour being very dark brown. The soil was weakly acidic with a pH of 6.5-6.0. There was change from the A to B horizons at around 600mm depth. The subsoil from a depth of 800mm was also sampled. The subsoil structure was strongly pedal with coarse sub angular blocky peds. The soil texture was a heavy clay, and its colour was orange brown. The soil pH was very strongly acidic at pH 5.5.

The natural vegetation that once characterised the Glenorie Soil Landscape Association has now been extensively cleared in the local area, but it would have been tall open forest known as Blue Gum High Forest. This is now a Critically Endangered Ecological Community (EEC) and was dominated by the following representative species:

- *Eucalyptus saligna* (Sydney Blue Gum)
- *Eucalyptus pilularis* (Blackbutt)
- *Eucalyptus paniculata* (Grey Ironbark)
- *Syncarpia glomulifera* (Turpentine)
- *Eucalyptus globoidea* (White Stringybark)
- *Angophora floribunda* (Rough-barked Apple)

2.3 Identification and Assessment of Existing Trees

The site assessment identified 104 trees. The site, and its immediate surrounds, contains trees from a variety of periods during its development but most of these only date from the late 1980s onwards. Most of the trees that are closely associated with the existing buildings, and the more recent facilities, are small, exotic and common place species. Many have been significantly pruned to achieve and maintain building and pedestrian clearances, with many displaying asymmetric forms due to the proximity to structures. This would often lead to substandard tree forms if they were retained after the buildings were removed. The majority of significant and better-formed trees are located towards the periphery of the site.

A total of **104** trees were assessed for this report and were generally determined to be in fair to good health. They are predominantly located on the perimeter of the site, providing screening to the street and surrounding properties. The High value trees are generally situated around the boundary of the property or on adjoining lands. There are shrubs and smaller trees located in the garden spaces surrounding the buildings and in the internal gardens. In general, these trees are a mixture of relatively small, common place natives and other exotic species of Low Retention Value that could easily be replaced with larger and more appropriate shade trees. Detailed information on each tree including heights, trunk diameters, canopy spreads, age classes and condition are all provided in Appendix 4.2 - 'Tree Impact Assessment Schedule'.

The following tables provide an overview of the existing tree population.

Table 2 – Existing Trees and Their Retention Values

Tree Retention Values	Total Trees	% Total Population
High	15	14%
Moderate	43	41%
Low	46	45%
TOTAL	**104**	**(100%)**

Table 3 – Species Distribution – Top Five Species by Prevalence

Species Name	Common Name	Number of Trees	% Total Population
Melaleuca quinquenervia	**Broad-leaf Paperbark**	12	12%
Camellia sasanqua	**Camellia**	10	10%
Archontophoenix alexandrae	**Alexander Palm**	9	9%
Camellia japonica	**Japanese Camellia**	8	8%
Jacaranda mimosifolia	**Jacaranda**	6	8%

Figure 12 – T01, 03, 05, 07 are significant public street trees and part of a longer, regular and alternating mixed avenue planting along this portion of Rohini Street. They are very reflective of Turramurra's original historic development and character. These trees will be protected during works, including the interspersed Queen Palms which are now included on Council's exempt species listing. (Photo: Arterra 16/5/22)

Figure 13 – T50 is a High value tree as it is a large and excellent specimen for this species and in good condition. (Photo: Arterra 16/5/22)

2.4 Tree Biology and Tree Care Basics

Trees are dynamic living organisms. Trees can be very susceptible to damage, stress and declining rapidly if overly impacted by construction. Trees take decades to grow but can be injured and killed in a very short time frame. This is particularly due to the irreparable damage to the often shallow, extensive and unseen root systems. It is rarely possible to repair a stressed or damaged tree, after the damage has occurred. Proper protection is the key to minimising construction related impacts. Severing of roots within the Structural Root Zone (SRZ) can also lead to potentially unsafe instability of the tree as a structure.

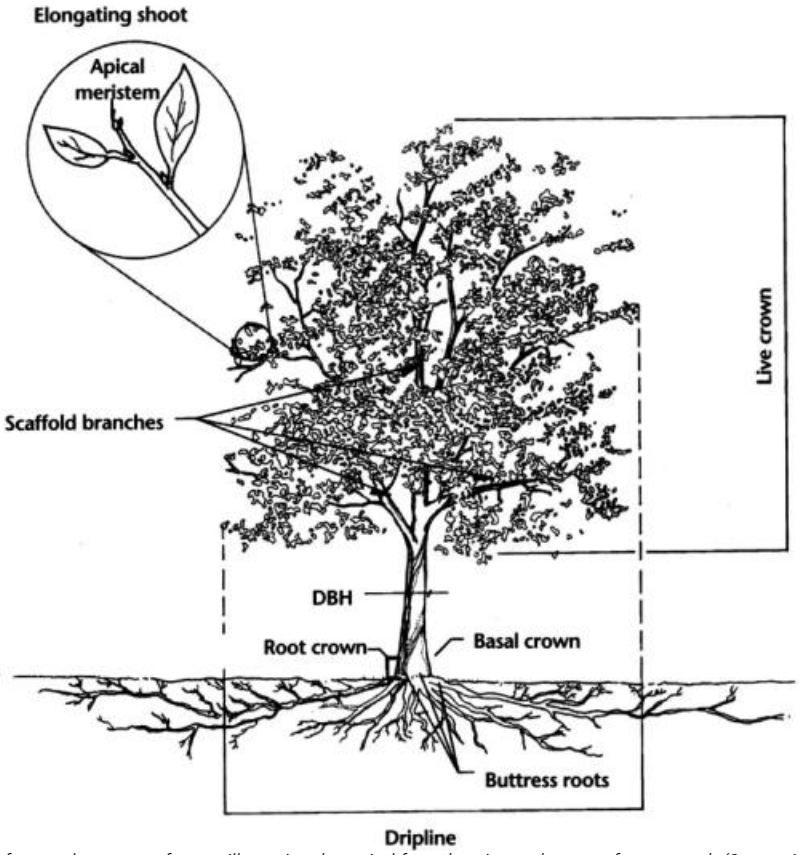


Figure 14 – Typical form and structure of a tree illustrating the typical form, location and extent of root growth (Source: Matheny and Clark, 1998)

Basic Tree Needs

As a living organism a tree remains alive by completing the following chemical reaction -
Carbon Dioxide and water in combination with chlorophyll and light is converted to Glucose and Oxygen [CO_2 + H_2O + light = sugar (CH_2O [Glucose]) + O_2]

The process ultimately leads to the plant cells 'respiring' and producing energy for survival, a natural requirement for all living cells. Anything that affects a plant's photosynthesis and then cellular respiration will affect the overall plant health. The limiting factors of photosynthesis and respiration will typically be the availability of oxygen, water and nutrients that make up the important chemical molecules and reactions.

Trees therefore have five basic requirements to survive and successfully grow:-

1. Oxygen (and particularly oxygen within the soil);
2. Water (a cellular necessity and primarily taken up by the tree roots);
3. Light & Sufficient Foliage (in order to photosynthesise and create the resources needed for cellular survival);
4. Soil (for physical anchorage and critical chemical nutrients) and
5. Physical Space (both above and below ground to grow).

Importantly, a minimum of 15% soil oxygen is required for active root growth and nutrient uptake. Less than 10% available soil oxygen starts to restrict root extension and growth and a minimum of 3% soil oxygen is required to just maintain root existence. Less than this will result in root death (Harris 1999).

One of the most insidious effects of construction on trees is often that of soil compaction or covering of root zones with impervious surfaces, as it:-

- Reduces infiltration rates of surface water;

- Reduces the availability of water to the roots as they can't naturally extract remaining moisture when soil becomes too dry;
- Reduces air to roots (roots cease to function properly and die without oxygen);
- Increased soil strength caused by compaction mean that roots need more energy to growth through it or can't even physically penetrate the soil;
- Roots are physically broken or crushed and there is increased potential for fungal and pathogen attack. (Harris 1999).

Tree Tolerance

Typically, older and larger trees are less tolerant of construction impacts. Different species also have different tolerance of injury and disturbance. Importantly it needs to be stressed, that a tree does not "heal" from injury as animals do. Typically, any injury made to a tree results in the tree expending considerable energy reserves to create new growth that "seals" and surrounds a wound and then attempting to compensate structurally and physically for any losses. Impacts to trees are therefore cumulative and a series of otherwise small and unrelated impacts can easily result in the death of a tree.

A tree that is already compromised or showing signs of stress is far less likely to tolerate construction impacts due to its lower levels of energy reserves and already weakened state. Therefore, a tree that is only in a fair condition or poor condition is less likely to tolerate construction impacts than a young tree in good or excellent condition.

Weakened or stressed trees are also far less able to combat the myriad of normal environmental stresses and pathogens that are naturally imposed against them such as drought, decay, fungi, bacteria and insect pests.

Figure 15 – View from the northeast corner of the site looking southeast towards T22 on the left of the image and T19 on the right. These Jacarandas contribute to the amenity of the site and provide some screening to and from the surrounding properties. (Photo: Arterra 16/5/22)

2.5 The Proposed Development

The renewal of the Rohini Village site, in summary involves the following:

- Demolition of the existing buildings and surrounding infrastructure.
- Removal of trees located in the internal parts of the site between existing buildings.
- Excavation for extensive basement car parking and back of house infrastructure.
- Extension and augmentation of existing services and infrastructure, as required.
- Construction of four new, multistorey buildings to replace the same number of dwellings as currently located on site.
- Landscaping and introduction of a prominent path through the centre of the site, with new tree planting.
- Extensive new pedestrian circulation pathways, including a route around the perimeter of the site, amongst the existing boundary trees.
- A new vehicular access to the basement levels incorporated at the southeast corner of the site.

The proposed works will result in a major site disturbance which will have potentially significant impacts on the trees within and adjacent to the site.

The proposed development will involve:

- Major demolition works;
- Use of large scale civil and earthmoving equipment;
- Access to and from the site with large trucks and construction plant;
- Major excavations;
- Large stockpiles of excavated material and demolition waste;
- Stockpiles/ storage of building materials;
- Trenching for services;
- Major building works involving concreting, painting and general construction;
- Use of large cranes;
- Parking for site personnel and deliveries;
- Paving and retaining walls and;
- Landscaping.

Key Assumptions:

- All excavations and demolition work within the defined TPAs shall be done using hand tools and or other non-destructive methods only under the oversight of an appropriately qualified consulting arborist. Roots of 40mm diameter or greater will not to be cut or damaged unless specifically approved by the supervising consulting arborist.
- Pedestrian paths with the TPA shall be constructed at or above the existing surface levels to minimise surface root impacts.
- Temporary battering or grading will not occur in the designated TPA. Excavation for footings or basements adjacent to the TPA will be undertaken using piling or other vertical shoring method.
- Despite the above, the line of disturbance outside of the building line has been typically estimated at a minimum of 1.0m from the face of the building to allow for provision of water proofing, services, access and scaffolding around the building during construction.
- All services for the building will enter and exit from Rohini Street, using existing hardstand areas and pathways and will typically be clear of any TPAs.
- All construction access, haulage routes and deliveries are to be away from trees and TPAs as much as possible.
- Where no spot levels or proposed contours are indicated it is assumed that the existing surface levels are retained.
- It is assumed that any new landscape grading within the nominated tree protection areas will be minimal and installed using high quality, imported manufactured topsoil. No cultivation of the existing soils shall be undertaken within the defined TPA.
- For any retaining walls situated near trees, their footings will be oriented away from the trees (ie footings will extend no further than the face closest to the tree).
- Demolition and or excavation within a defined TPA will be under the supervision and direction of the project arborist.

2.6 Tree Impact and Removal Assessment

Arterra has provided arboricultural advice during the preliminary stage of the project, to ensure the proposal accommodates retention of trees of High retention value and the largest possible number of Moderate retention value tree for the site and locality. Further, proactive tree management practices are recommended that allow all those trees identified for retention to remain viable throughout the construction process and continue to thrive as part of the future landscape setting for Rohini Village.

The Tree Plans in Appendix 4.1 illustrate the trees to be retained and those that are proposed to be removed as part of the Rohini Village renewal with **61** of the total number of trees surveyed to be retained, **43** proposed for removal. One of the trees (T68) is a memorial tree and is currently situated in a proposed major circulation zone, this tree to be maintained on the site and ultimately transplanted into an alternative location, during the construction of the works.

Of the 43 trees to be removed, 38 are trees of Low retention value. These trees are mostly in poor condition and generally small and easily replaced. They represent a range of species with one third being *Camelia sp*. and most are situated within internal spaces of the site. 5 of the trees to be removed are Moderate retention value trees. They are situated within the proposed building footprints and would need to be removed if the buildings are to be constructed as planned. Removal of these trees represents a loss of a small amount of canopy cover. On balance, loss of these Low and Moderate value trees is considered a minor overall impact to the site which would be mitigated by the substantial number of new tree proposed to be planted.

Arterra has raised concerns regarding the potential tree impacts experienced by a few high value trees based on the current building envelopes. Although these concerns have not been directly addressed as part of this planning

proposal, we specifically note that the design team has indicated support for modifying portions of the building design during detailed DA stage, to facilitate keeping three trees (being tree **T19, T22 and T49**) that are currently subject to major pruning under the current building extents. We have therefore counted these trees as retained, despite our reservations about the amount of canopy pruning proposed.

Of the **61** trees that are to be retained and protected:

- **48** trees have no or minimal foreseeable impact from construction related activity. These trees are not discussed further.
- **6** trees **(T01, T05, T19, T22, T50)** have a 'minor encroachment' (<10%) into their nominal TPZs, as defined by AS4970-2009 - Protection of Trees on Development Sites. These encroachments are shown shaded on the Tree Retention and Removal Plan (T-02) and noted in the schedule. These minor incursions are all considered acceptable and unlikely to adversely impact the long-term condition of the trees. They are discussed in further detail below.
- **6** trees **(T03, T49, T77, T84, T86 & T90)** appear to have a 'major encroachment' (>10%) into the nominal TPZ, as defined by AS4970-2009 Protection of Trees on Development Sites. Four of these are situated within the embankment adjacent to the railway corridor. The existing level change in this area, suggests that it is unlikely for significant roots to be growing in the lower parts, within the pre-existing compacted and limited soils beneath the roadway and building. The TPZ is a nominal indicator of the root zones. In this case, it is the opinion of the authors that the circular TPZ is unlikely to represent the extent of the actual root growth due to the particular site conditions. The subject trees and their incursion are discussed in further detail below.
- A subset of the trees that experience encroachments of their TPZ will also require some pruning to facilitate the proposed building clearances and minimise the potential for being damaged during the construction works. These are **T19, T22, T49, T50, T77, T84, T86** & **T90.** Pruning of up to 10-15% of the crown of a mature tree is generally considered acceptable if carried out in accordance with the relevant standard. Two of the trees (T22 & T49), however, would be considered to require 'major' pruning greater than 15% of the canopy, as noted above.
- **1** tree **(T68)** will be held temporarily protected on the site and then transplanted to a suitable location during the construction works. This will allow it be maintained within the Rohini Village landscape.
- A number of trees will have minor pedestrian paths proposed to be constructed within their TPZ. They will require minor surface impacts to be managed during demolition, preparation and construction. The areas of minor surface impact are shown shaded on the Tree Retention and Removal Plan (T-02) and noted in the schedule. It is believed that these works can be completed with minimal tree impacts as long as it is properly planned and there is adequate oversight from a project arborist.

An important component of this tree assessment is to determine the likely foreseeable incursions into retained trees' root zones and their canopies by the proposed development and then evaluate the likely impact of the proposed works on those trees. A detailed listing of the incursions and likely impacts of the proposed development on each tree is shown in Appendix 4.2 – Tree Impact Assessment Schedule and Appendix 4.1 – Tree Plans. The following tables summarise the likely impacts on trees proposed to be retained and protected. For the more important trees, TPZ incursions and canopy pruning anticipated as part of the re-development are discussed further in the notes below.

Table 4 – Tree Impacts — TPZ Incursions at Root Zone (AS4970-2009)

Tree ID	Species	Common Name	TPZ % Incursion (AS4970)
T01	*Cinnamomum camphora*	**Camphor Laurel**	6% (minor)
T03	*Cinnamomum camphora*	**Camphor Laurel**	11% (major)
T05	*Lophostemon confertus*	**Brush Box**	8% (minor)
T19	*Jacaranda mimosifolia*	**Jacaranda**	3% (minor)
T22	*Jacaranda mimosifolia*	**Jacaranda**	5% (minor)
T30	*Metasequoia glyptostroboides*	**Dawn Redwood**	4% (minor)
T49	*Toona ciliata*	**Red Cedar**	12% (major)
T50	*Tristaniopsis laurina*	**Water Gum**	5% (minor)
T77	*Platanus orientalis*	**Oriental Plane Tree**	11% (major)
T84	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	11% (major)
T86	*Eucalyptus microcorys*	**Tallowood**	14% (major)
T90	*Eucalyptus microcorys*	**Tallowood**	17% (major)

Table 5 – Tree Impacts — Canopy/Foliage Loss

Tree ID	Species	Common Name	Crown Loss as % of Canopy Area
T19	*Jacaranda mimosifolia*	**Jacaranda**	20%
T22	*Jacaranda mimosifolia*	**Jacaranda**	20%
T49	*Toona ciliata*	**Red Cedar**	20%
T50	*Tristaniopsis laurina*	**Water Gum**	12%
T77	*Platanus orientalis*	**Oriental Plane Tree**	8%
T84	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	3%
T86	*Eucalyptus microcorys*	**Tallowood**	2%
T90	*Eucalyptus microcorys*	**Tallowood**	7%

Figure 16 – T01 is seen on the right of the image and part of T03 on the left. These are High value street trees that contribute to the character and amenity of Rohini Street. (Photo: Arterra 16/5/22)

Figure 17 – The two Jacarandas are T22 on the left and T19 on the right. They exhibit excellent vigour and contribute to the amenity of the site by providing shade, floral display, as well as some screening to and from the surrounding properties. (Photo: Arterra 16/5/22)

T01 & T03 *Cinnamomum camphora* (Camphor Laurel)
These are High retention value street trees. The trees flank a proposed vehicular access to the basement car park. The access point is situated at a low point on the site and involves a ramp to the basement level. Excavation for the ramp involves a 6% incursion into the TPZ of T01 and 11 % in the TPZ of T03. There are likely to also be some surface impacts in the zone of the footpath crossover.

This level of incursion into the TPZs is considered acceptable and will not impact the trees' long-term viability. Works affecting the ground surface within the TPZ would be carried out non-destructively and monitored by the project arborist.

T05 *Lophostemon confertus* (Brush Box)
A street tree of high retention value. Construction of two ground level terraces in this area would result in an 8% incursion into the TPZ. This is considered a minor impact and is unlikely to be detrimental to the tree's viability Furthermore, Lophostemon is well-known as a robust species, reasonably tolerant of root disturbance.

T09 *Lophostemon confertus* (Brush Box) & **T10** *Eucalyptus pilularis* (Blackbutt)
Both street trees of High retention value. These trees would be retained and protected during any works on site and would not be impacted by works on the renewal proposal for Rohini Village.

If Council choses to proceed with public domain improvements to Rohini Street, it will require removal of T09 and involve some impacts to T10.

T19 *Jacaranda mimosifolia* (Jacaranda)
Trees T19 is situated in the northeast corner of the site and has been rated as having Moderate retention value. Minor TPZ incursions of 3% is anticipated, which would be a negligible impact to the tree. However, there is potential impact to the crown from pruning required to accommodate the above ground building construction. Approximately 20% of the canopy would be required to be pruned for building, scaffolding and construction access. This is a major impact to the canopy of T19 and is likely to be detrimental to the health of the tree and form of the tree. The effects of pruning impacts are discussed further below. It is recommended that modifications be made to the building as part of the detailed design resolution for DA stage, to minimise the requirement for pruning and limit the potential impacts.

T22 *Jacaranda mimosifolia* (Jacaranda)
Tree 22 is assessed as a High retention value tree which contributes to the amenity of the site and the adjacent property. The built fabric of the proposed building would be situated very close to this tree. It is assumed that the curved balcony element is cantilevered so that it floats above the ground and does not impact the root zone. The ground disturbance of the building would encroach the TPZ by 6%, which is considered minor and not expected to harm the tree. However, there would be unacceptable impact to the crown from major pruning required for construction. Approximately 20% of T22 would need to be removed to accommodate building, piling rig clearances, scaffolding, construction access and to provide suitable building clearances when the project is completed.

The amount of pruning that is judged to be acceptable varies depending on the age, species, size, health and vigour of the tree. It needs to ensure that the tree's natural form is preserved, and that balance of the crown and foliage distribution is retained. A further consideration is best practice in pruning, as set out in the standard (AS 4373-2007) which dictates that branches cannot be pruned at some nominal and convenient distance from the proposed building. Cuts need to be made near a suitably sized internal branch or union or at the trunk attachment/branch collar, to minimised epicormic growth and encourage wound closure.

Jacarandas generally do not respond well to excessive pruning and have a tendency to reaily sprout epicormic shoots, resulting in a compromised form. Removal of >20% of the crown of T22 is likely to be detrimental to both the form and the health of the tree. The tree has been recommended to be retained due to its High value and acceptable (minor) ground level incursion in the root zone. However, the tree would be comprised by excessive pruning and the creation of large pruning wounds and it is recommended that modifications be made to this portion of the building as part of the detailed design for DA stage, to minimise the requirement for pruning and limit the impacts to the form and to the tree's photosynthesising capacity.

T30 *Metasequoia glyptostroboides* (Dawn Redwood)
T30 is a prominent tree and fine specimen of the species. It is estimated that the building works would involve a 4% incursion into the TPZ. This is a very minor encroachment into the root zone. A large part of the TPZ of T30 is situated outside of the site boundary, in an open lawn area. There would be expected to be negligible impact, to this tree. Construction of the proposed pedestrian paths would have to be carefully designed and monitored to limit root disturbance.

T49 *Toona ciliata* (Red Cedar) & **T50** *Tristaniopsis laurina* (Water Gum)

Both prominent, High value trees, situated in the northwest corner of the site. Major encroachment of 12% is expected in the TPZ of T49 and 5% encroachment into the TPZ of T50, due to basement excavations. The 12% encroachment for T49 is only marginally over the 10% identified for minor impacts and therefore still considered acceptable. Considerations that have been taken into account at this include the tree being in good health and vigour and its location in an area where it is possible to protect an extensive and contiguous root zone from further construction impacts. Furthermore, the area of proposed encroachment is wedge-shaped quadrant, limiting the extent of general root loss that often takes place with more one-sided encroachments.

A major impact however is anticipated to the canopy of the two trees as a result of pruning needed to accommodate the building, scaffolding and construction access. A 20% canopy loss is estimated for T49 and 12% for T50. This level of impact to the canopy of T49 is likely to be detrimental to the form of the tree and likely to impact tree health in the longer term. At this planning proposal stage T49 is still recommended to be retained, despite the canopy impacts discussed above. It is an excellent tree and the impacts to the root zone are considered acceptable as the incursion is only marginally over the 10% identified in the standard. It provides screening at the boundary of the property and attractive presentation of foliage. It is recommended that modifications be made to the building as part of the detailed design for DA stage, to minimise the requirement for pruning and limit the tree impacts.

Figure 18 – View looking north towards T49. This Toona ciliata (Red Cedar) is a well-formed tree and an excellent specimen for this species. (Photo: Arterra 16/5/22)

T68 *Magnolia grandiflora* (American Bull Bay Magnolia)
T68 is rated as a Moderate value tree, as a memorial planting for the centenary of the Anzac Gallipoli Landing and recommended for retention. As it is situated within a proposed major north-south circulation zone and is recommended to be transplanted to a suitable location in the final landscape setting of the site. This would need to be undertaken by a suitably experienced and professional tree transplanter.

Figure 19 – T68 Magnolia grandiflora (American Bull Bay Magnolia) is an ANZAC memorial tree, planted in 2015. (Photo: Arterra 16/5/22)

T77 *Platanus orientalis* (Oriental Plane Tree), **T84** *Melaleuca quinquenervia* (Broad Leafed Paperbark)
These are two trees of Moderate retention value. They are growing in the relatively steep embankment situated alongside the railway corridor. At the top of the embankment the tree roots have unimpeded access to soils within the site as well as the adjoining pathway and railway corridor, whereas at the bottom of the embankment is a retaining wall and an asphalted road. It is considered unlikely that roots would be growing in the compacted earth beneath the roadway and even less likely that they would extend past the footings of the pre-existing building. While the potential incursion into the *nominal* TPZ of these trees is calculated as 11% for T77 and 11% for T84, it is in our opinion unlikely that roots would actually be found beneath the roadway and even less likely beneath the building. It is therefore anticipated that there would be little impact to tree roots. Some minor loss of foliage

and minor impact to the tree form is anticipated as a result of pruning of the upper most canopy for scaffolding and construction access.

An elevated walkway is proposed, taking a somewhat winding path in the location of the current roadway. In the unlikely event that tree roots are present beneath the road, removal of the existing asphalt may result in some surface impacts within the TPZ, however, in the longer term would create a more tree friendly environment and may encourage roots to extend into this area. Placement of structural supports for the walkway will be located with careful root investigation undertaken via non-destructive methods. Overall, the potential impacts to these trees can be managed with suitable monitoring of works within the root zones by a consulting arborist so that the trees may be successfully protected and retained.

Figure 20 – View looking northwest along the private roadway within the site, showing the relationship between the vegetated bank, the roadway and existing buildings. It is unlikely that tree roots growing in the embankment would have preferenced the compacted soil beneath the roadway, let alone the zone beneath the building, over the irrigated bank and the unimpeded soil in the adjacent railway corridor. (Photo: Arterra 16/5/22)

T86 & T90 *Eucalyptus microcorys* (Tallowood)

These are two large and prominent trees of High retention value. As with T77 and T84, above, the *E. microcorys* are growing in an embankment which runs parallel with the rail corridor and public walklway. It is considered unlikely that roots would be growing within the compacted earth beneath the roadway and even less likely that they would extend past the footings of the pre-existing building. An incursion to the *nominal* TPZ is calculated at 20% for T86 and 23% for T90, however, in our opinion it is unlikely that significant roots would actually be found in this area east of the trees. It is therefore anticipated that there would be little impact to tree roots. Some minor loss of foliage and minor impact to the tree form is anticipated as a result of pruning of the upper most canopy for scaffolding and construction access.

As discussed above, an elevated walkway, meandering along the alignment of the current roadway, is expected to be constructed using non-destructive methods. Overall, the potential impacts to these trees can be managed with an arborist monitoring the demolition and works within the root zone, so that the trees may be successfully retained.

Trees along the northern and eastern boundaries

A pedestrian path is proposed to take a route amongst the trees, and within their TPZs, along the northern and eastern boundaries. This will be undertaken in permeable materials and constructed at or above ground level to minimise disturbance. Minor surface impacts are anticipated resulting from removal of the existing surface layer of lawn or mulch. Overall, the potential impacts to these trees can be managed with an arborist monitoring the demolition and works within the root zone, so that the trees may be successfully retained.

Figure 21 – T90 Eucalyptus microcorys (Tallowood) is growing in an embankment on the southeast boundary of the site. (Photo: Arterra 16/5/22)

2.7 Potential Tree Related Impacts to be Managed During Construction

The potential impacts from the proposed construction and activity discussed above can be summarised as tree damage and 'reduced life expectancy' caused by:

- Root loss and disturbance due to inappropriate excavation for the building and services;
- Compaction of the root zone from storage or stockpiling of materials;
- Contamination of the soil from; the preparation of chemicals, wash down/ cleaning of equipment, refuelling of vehicles and dumping of waste;
- Compaction of the root zones from haul roads and the parking or use of vehicles/ plant equipment;
- Root disturbances from unauthorised cut and fill and soil level changes;
- Physical damage to the tree trunks and branches from passing machinery;
- Damage to the tree roots from landscaping and pedestrian pathway construction; and
- Inappropriate or excessive pruning for construction access.

The following section of this report provides the recommendations and proposed measures that will aim to minimise and avoid these impacts as much as realistically possible.

3.0 TREE MANAGEMENT RECOMMENDATIONS

3.1 Potential Minor Amendments to Site Layout and Designs to Reduce Tree Impacts

Arterra undertook a preliminary arboricultural assessment of the site to identify any tree-related constraints and help guide the development.

As the Consulting Arborists, Arterra has aimed to assess and minimise the impact on the existing trees to be retained. The trees noted for removal, as well as those to be retained, have been given careful consideration and recommendation for removal has not been given lightly.

Should the planning proposal be endorsed and accepted we do note two key areas where the design should be modified during detailed designs to support a DA, to minimise potential impacts to the trees and maximise the their successful retention.

- In the northeast corner of the site, in the vicinity of T19 and T22, the building should be modified so as to reduce the above ground conflict with the tree canopies and reduce the amount of pruning required.
- The detailed design of the curved balcony element, adjacent to T22, should be designed and detailed to ensure that it is cantilevered, so that it floats above the ground avoiding impacts to the ground level TPZ of T22.
- In the northwest corner of the site, the above ground building envelope should be moved further away from **T49 and T50**, to reduce the requirements for any extensive canopy pruning.

If the above is achieved we believe the above trees can be successfully retained and protected.

3.2 Management of Construction Period Tree Impacts

The following general recommendations are made to reduce the potential negative construction impacts on the existing trees identified to be retained.

- Ensure that an appropriately qualified Arborist is on site and monitor all major demolition work and any trenching or excavations occurring within the identified TPA areas.
- Ensure that all work within the identified TPAs is carried out with appropriate skill and care to limit surface impacts. If roots greater than 40mm Ø are encountered, works shall cease and direction sought from the project arborist before proceeding further.
- Appropriately fence all TPAs outside of the already noted incursions for the duration of all major site construction work. See Appendix 4.1 Tree Plans for locations and extent.
- Fence and control access to and from the construction areas so that movement does not occur through any TPAs other than for the already identified building incursions.
- Ensure all the new above and below ground services are excluded from running through any TPAs beyond any already noted incursions.
- Minimise the re-grading of the ground surface within the identified TPAs, beyond the noted building incursions, in order to meet and match proposed pathways and other building levels. Where it is required, limit it to a maximum depth of 300mm above existing ground levels and ensure it is only quality sandy manufactured organic garden mix or other suitable site topsoils. No excavation below existing levels shall typically be allowed.
- Avoid digging into existing root zones for the installation of any proposed landscaping around the trees and the installation sizes of new plants to be 5L or less to ensure that excavations are less than 200mm in depth. It is recommended to build up soil levels for any new planting or garden areas to a maximum of 200mm to enable the new planting to occur without disturbing existing tree roots.
- Do not allow storage or stockpiling of any materials or site sheds within established TPAs unless that it can be demonstrated that this will not impact on the tree retention, and it is specifically approved in writing by the Project Consulting Arborist.
- Do not allow any temporary battering or stockpiling to occur within TPAs.

3.3 Canopy Pruning and Pruning Methodology

In order to be constructed, the proposal will require pruning to 8 trees as shown in Table 5. The tree schedule and drawings currently show T22 *Jacaranda mimosifolia* (Jacaranda) and T49 *Toona australis* (Red Cedar) as being retained. The design team has expressed support in making modifications to the building design during the design development phase so that these trees may be successfully retained without disfiguring. The remaining trees identified in Table 5 require some minor canopy pruning to provide building and construction clearance. This section aims to:

- Ensure suitable qualifications of the personnel undertaking pruning works.
- Define the supervision required for the pruning.
- Define the work standards that are to be applied.
- Outline the minimum standards for machinery and pedestrian access and safety protocols to be applied.

All pruning works are to be completed according to AS4373 Pruning of Amenity Trees and under the direction of the project consulting arborist.

- A suitably qualified Tree Contractor/Utility Arborist shall be employed to undertake the pruning and they shall be a member of Arboriculture Australia or equivalent body. They are to be employed, instructed, and directly supervised in their activities by an Arborist with a minimum AQF level 4 qualification in arboriculture.
- The Head Contractor/Development Manager is to submit to the Project Consulting Arborist the name(s), relevant qualifications, trade certificates, first aid and memberships, licenses and experience of the chosen utility arborist personnel.
- The Tree Contractor shall prune only the parts of trees shown on the Canopy Pruning Plan (T-03) and only as directed by the Project Consulting Arborist. The resulting pruning wounds are not to be treated.
- The Tree Contractor shall minimise the size and number of wounds resulting from all pruning and ensure the remaining canopy is balanced with appropriate foliage weight and crown distribution. They shall use only clean, sharp pruning implements for all pruning work, ensuring that cuts are made without damage, tearing, or bruising to remaining vascular tissue.
- Access to the foliage shall be from the ground using equipment with suitable reach to access the required canopy.
- Where the tree work can result in a danger to other workers on the site, 'spotter' personnel shall be placed to ensure the work is undertaken safely.
- All branches and foliage that is pruned is to be chipped and removed from the site. All chipping activities shall be undertaken within the site boundaries, where feasible.
- Only the specified 'selective pruning' is to be undertaken as annotated on the drawings and as directed by the Project Consulting Arborist. Work shall be done 'incrementally' until the appropriate pedestrian or building clearance is achieved.

3.4 Proposed Tree Protection & Construction Activity Sequencing

The following sequence of activities should be followed for this project:

1. A Tree Protection Specification & Plan is to be prepared and issued as part of the construction contract prior to any construction work.
2. The Project Consulting Arborist, Landscape Architect, Civil and Structural Engineers, Client and Contractor Site Foreman are to meet prior to beginning any work on the site to discuss and review all work procedures, construction access routes, stockpiling and tree protection measures (including fence types and locations, access, cranage points, piling methods etc.).
3. Contractors to discuss locations and type of any sediment and erosion controls (if any) and install them with minimal tree impact when within or passing through the TPA.
4. Existing pathways, fences, driveways, furniture and shrubs are to be carefully removed from within the TPA.
5. Trees identified for removal on the Tree Protection and Removal Plan (T-02) are to be identified on site and clearly marked in a high visibility manner. Removal and clearing of existing trees should be done by qualified arboricultural staff with care not to impact or damage other surrounding trees throughout the process. Stumps are to be ground when near remaining trees to avoid the use of excavators and the like from grubbing out stumps, which may lead to damage of any intertwined roots.
6. Designated TPAs are to be mulched with 75mm of recycled hardwood woodchip mulch to improve soil conditions around tree and remain in place until future final landscaping.
7. Trunk protection to be placed on all trees to be retained as shown on Tree Plans.
8. Ground protection boards, or equivalent, are to be place in areas where the Tree Protection Area is not able to be completely fenced.
9. A utility Arborist is to undertake selective pruning of canopy or branches to facilitate construction of the building and provide pedestrian access clearances without accidental damage to the tree canopy. Pruning to be undertaken in accordance with the methodology set out in Section 3.2 and Tree Canopy Pruning Plan (T-03).
10. The Construction Phase TPA is to be clearly defined and fenced off with a 1.8m high metal or plywood temporary fence prior to any further work within the vicinity of the trees as shown on the Tree Plans. Any required rumble boards shall be installed to protect TPA areas where access is required.
11. Plywood (or similar) is to be placed under any scaffolds or pedestrian works paths when they are running through any identified TPAs.
12. Building works to be completed (external).

13. Contractor to remove the TPA fencing and only then install final pathways and landscaping within the TPAs under the trees, but only after construction of the building exterior and all civil works are completed.

3.5 Demolition Work Near Trees or within TPAs

Demolition of paths and other structures required within a TPA shall be done with small tracked equipment or by hand, with care to limit surface damage and disturbance of the root zone. All such work within TPAs shall be supervised and overseen by a qualified Project Consulting Arborist.

3.6 Tree Protection Fencing & Definition of TPAs

Establish a clearly defined tree protection zone as indicated in Appendix 4.1 Tree Plans. Install a 1.8m high temporary fence with either plywood hoarding or temporary steel mesh or chain wire fencing with adequate lateral bracing. Fencing shall comply with the requirements of AS 4687-2007 Temporary fencing and hoardings. These areas around the trees shall be delineated as a "Tree Protection Zone" during the remaining construction process, via appropriate weatherproof signage at not more than 30m spacing. Access will typically be excluded from these zones and the levels will be left largely at the existing levels with the exception of the installation of the 75mm of mulch. No stockpiling, excavation, trenching, re-fuelling or material storage should be allowed in this area.

3.7 Ground Protection within TPAs

Vehicular movement and access shall typically not be required or approved through the TPAs. If it is absolutely necessary and it is proposed to create any access or haul road, or similar, within the TPA of a retained tree, the Contractor shall install rumble strips / boards over the designated TPA ground surface. No excavation shall be allowed. Contractor shall first place a suitable permeable geotextile to the extent required and then a 100mm thick layer of wood chip mulch or coarse no-fines gravel over the extent to be covered with the rumble strip / boards. Then place hardwood boards (minimum 3600 x 200 x 75mm) on their flat edge, side by side, with a 30 - 50mm gap to form a rumble strip. These boards are to be held together with three galvanised metal bracing straps nailed to each board. The two outer straps are to be approximately 200mm in from the ends of the boards. The third strap is to be along the centre line of the boards.

Figure 22 – Example of acceptable Tree Protection Area ground protection (Photo: Arterra)

3.8 Trunk and Lower Branch Protection

A trunk barrier is to be erected around the circumference of the tree trunk and root buttress where shown. This barrier will consist of two to three 'rings' of 50mm diameter unsocked ag-line wrapped around tree trunk or branch and the ends cable tied to secure in place. A layer of battens is to be placed over and tight to the ag-lines. The battens are to have a maximum spacing of 50mm. The height of the battens is to be at least 2.4 metres or to the height of the first branches. Lower large branches may require the same protection if likely to be damaged by

passing vehicles or equipment. Secure battens in place with galvanised steel bracing straps. Do not nail or screw into or otherwise injure the trunk or bark. Battens may be made from any suitable waste timber of similar sizes and depths. All sharp or protruding edges are to be properly covered with tape or similar padding.

Figure 22 – Example of acceptable Trunk Protection batten installation. (Photo: Arterra)

3.9 Provision of Temporary Irrigation

At the sole discretion of the Project Consulting Arborist, a temporary and automated (battery powered timer is sufficient) watering system may need to be placed within the TPAs to maintain adequate water to the retained trees and help maintain their healthy condition. This can be a surface mounted 'residential-style' soaker hose and/or surface sprinkler systems. It is to be surface visible and spray delivered so that is operation can be easily visible and verified. It should be on a designated supply line, separate from other construction related water supplies to minimise its likelihood of being disconnected.

Typically, during spring and summer months it should be set to run for a minimum of 30 minutes every day, in the early morning. During, autumn and winter months it should be set to run for 1 hour once every week. The operation can be suspended temporarily in periods of extensive and/or prolonged rain.

The system is to remain in place for the duration of construction, or until the Project Consulting Arborist approves its removal. It may be removed to allow the final landscape treatments to proceed. If accidentally disturbed or damaged by construction activities, it is to be reinstated as soon as practicable.

3.10 Final Landscaping within TPZs

Once final levels are set by the finished structural elements. The final trimming and landscaping shall be judiciously undertaken. The final pedestrian pavements shall be installed without undue excavation or compaction to the soil and all soft landscaping within the tree protection zone will be installed with care to avoid root disturbance via irrigation trenching, lighting installation and the planting of larger plants. The installation of 100-200mm of new garden mix topsoil over the pre-existing soil will provide a suitable medium in which to plant new plants without damage to existing tree roots. Permanent irrigation (if used) shall be installed as spray heads located outside of TPAs and spraying inwards. All other services such as electrical services shall also be designed and installed to avoid any excavation or trenching around the trees.

3.11 Final Building and Pedestrian Clearance Pruning

Once the final levels and finishes are in place the Project Consulting Arborist shall direct and supervise any remaining selective pruning of any lower peripheral branches to the retained trees to achieve any clearances for final pedestrian or building access. This shall be minimised as much as possible. It is anticipated that the final pruning of any of the retained trees will be less than 5% of the existing canopy and will not have any serious impact to the trees' health or habit.

The branches of the tree shall only be pruned as specifically needed and directed by the Project Consulting Arborist. Work is to be in strictly accordance with to AS4373 - Pruning of Amenity Trees. Do not treat wounds. Only clean, sharp pruning implements shall be used for all pruning work, ensuring that cuts are made without damage, tearing or bruising of the vascular tissue.

3.12 Other Tree Protection Measures to be Implemented

The following is a summary of the main measures that will be required during construction. These should be adopted for the Construction Contract and conditioned by Council.

Controlled Construction Access & Parking

Construction access points and stockpiling and storage areas shall be clearly identified and fenced where appropriate. Uncontrolled access points and parking of vehicles outside of designated areas is to be avoided. If temporary access is required through a tree protection zone, ground protection shall be employed to limit soil compaction and root damage and disturbance.

Clearing and Removal of Trees to be Removed

Removal and clearing of existing trees should be done by qualified arboricultural staff with care not to impact or damage other surrounding trees throughout the process. Existing stumps should be grubbed out or ground in a controlled fashion to remove wood that may decay and promote unwanted pathogens.

Communication - Tool Box Meetings and Construction Inductions

All contractors and subcontractors shall be inducted prior to working on the site. All inductions shall include description and identification of the Tree Protection Zones and the restriction on work and activities with regard to trees. The site foreman shall ensure that all new staff and contractors are appropriately inducted and that brief "tool box" meetings are conducted regularly to ensure Tree Protection is maintained at the forefront of all construction workers minds.

3.13 References

- Harris, R.W, Clark, J.R & Matheny, Nelda P, 1999*, Arboriculture: Integrated management of landscape trees, shrubs and vines*. 3rd Ed. Prentice Hall. New Jersey, US
- Matheny, Nelda P and Clark J.R, 1998, *Trees and development - a technical guide to preservation of trees during land development*, International Society of Arboriculture, Illinois, US.
- Roberts, J. Jackson, N. and Smith, M. 2006. *Tree roots in the built environment. No.8* Research for Amenity Trees, Dept. for Communities and Local Government, London.
- Standards Australia, 2007, *AS 4373-2007 Pruning of amenity trees*. Standards Australia, Sydney.

- Standards Australia, 2009, *AS 4970-2009 Protection of Trees on Development Sites*. Standards Australia, Sydney.
- Standards Australia, 2007, AS 4687-2007 *Temporary fencing and hoardings*. Standards Australia, Sydney.

- End of report -

4.0 APPENDICES

4.1 Tree Plans

NOTE

Refer to the accompanying Preliminary Arboricultural Assessment Report for full description of trees, measurements and methods used to assess the trees, and proposed tree protection measures.

TREE RETENTION VALUE NOTES

The proposed retention value of the trees was determined based on a considered combination of the size, age, condition and suitability of the tree. Each tree was then ranked according to one of 4 retention categories;

1. **"High" Retention Value** — these are trees that are typically in good or very good condition, large and visually prominent, historically or environmentally important. They should represent a serious physical constraint to development and their removal avoided where possible and feasible.
2. **"Moderate" Retention Value** — these are trees that are in good to reasonable condition, with no major structural defects and could be retained where possible and feasible to do so.
3. **"Low" Retention Value** — these are trees that are of poor condition or have structural defects, are particularly small or common place, are not historically, environmentally or socially significant and should not be considered as a constraint to development. They could be retained only if they are not likely to be impacted by or constrain potentially desirable development outcomes.
4. **"Nil" Retention Value** — these are trees that are in very poor health, or poor form, or have serious structural defects, are considered weeds or combination of all these, and therefore should be considered for removal regardless of any development.

Consideration has also been given to the relationship of the trees to one another and their proximity to the likely development areas on the site. For example, trees that are part of a closely spaced group, or are likely to be significantly misshapen or unstable with the removal of surrounding trees and structures are considered with these factors in mind.

Anglicare Rohini Village, Turramurra - Tree Assessment Schedule

Tree ID	Trees in Group	Tree Species	Common Name	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Retention Value	Recommendation
1	1	*Cinnamomum camphora*	Camphor Laurel	1.29	1.80	15.00	4.24	High	Retain and Protect
2	1	*Syagrus romanzoffiana*	Queen Palm	0.31	0.40	3.00	1.20	Low	Retain and Protect
3	1	*Cinnamomum camphora*	Camphor Laurel	1.00	1.00	12.00	3.31	High	Retain and Protect
4	1	*Syagrus romanzoffiana*	Queen Palm	0.33	0.43	3.00	1.22	Low	Retain and Protect
5	1	*Lophostemon confertus*	Brush Box	0.98	0.98	11.76	3.28	High	Retain and Protect
6	1	*Syagrus romanzoffiana*	Queen Palm	0.28	0.41	3.00	1.21	Low	Retain and Protect
7	1	*Lophostemon confertus*	Brush Box	0.65	0.86	7.80	3.11	High	Retain and Protect
8	1	*Syagrus romanzoffiana*	Queen Palm	0.31	0.51	3.00	1.26	Low	Retain and Protect
9	1	*Lophostemon confertus*	Brush Box	0.74	0.77	8.88	2.97	High	Retain and Protect
10	1	*Eucalyptus pilularis*	Blackbutt	1.06	1.21	12.72	3.59	High	Retain and Protect
11	1	*Camellia sasanqua*	Camellia	0.17	0.20	2.04	1.68	Low	Remove
12	1	*Jacaranda mimosifolia*	Jacaranda	0.38	0.38	4.56	2.20	Moderate	Remove
13	1	*Archontophoenix alexandrae*	Alexandra Palm	0.26	0.37	3.00	1.19	Moderate	Retain and Protect
14	1	*Archontophoenix alexandrae*	Alexandra Palm	0.26	0.36	3.00	1.18	Moderate	Retain and Protect
15	1	*Camellia japonica*	Japanese Camellia	0.22	0.20	2.64	1.68	Low	Remove
16	1	*Celtis sinensis*	Chinese Hackberry	0.23	0.33	2.76	2.08	Low	Retain and Protect
17	1	*Rhaphiolepis indica*	Indian Hawthorn	0.25	0.42	3.00	2.30	Moderate	Retain and Protect
18	1	*Malus sp. Hybrid cv.*	Crabapple	0.34	0.48	4.08	2.43	Low	Remove
19	1	*Jacaranda mimosifolia*	Jacaranda	0.56	0.60	6.72	2.67	Moderate	Retain and Protect
20	1	*Jacaranda mimosifolia*	Jacaranda	0.55	0.65	6.60	2.76	High	Retain and Protect
21	1	*Ceratopetalum gummiferum*	New South Wales Christmas Bush	0.09	0.12	2.00	1.36	Low	Remove
22	1	*Jacaranda mimosifolia*	Jacaranda	0.47	0.52	5.64	2.51	High	Retain and Protect
23	1	*Ficus benjamina 'Variegata'*	Variegated Weeping Fig	0.29	0.27	3.48	1.91	Moderate	Retain and Protect
24	1	*Camellia sasanqua*	Camellia	0.26	0.25	3.12	1.85	Moderate	Retain and Protect
25	1	*Persea gratissima*	Avocado	0.14	0.22	2.00	1.75	Low	Retain and Protect
26	1	*Fraxinus angustifolia (syn.F.oxycarpa)*	Narrow-leaf Ash	0.55	0.65	6.60	2.76	Moderate	Retain and Protect
27	1	*Grevillea robusta*	Silky Oak	0.65	0.80	7.80	3.01	Moderate	Retain and Protect
28	1	*Archontophoenix alexandrae*	Alexandra Palm	0.25	0.34	3.00	1.17	Moderate	Retain and Protect
29	1	*Archontophoenix alexandrae*	Alexandra Palm	0.25	0.30	3.00	1.15	Moderate	Retain and Protect
30	1	*Metasequoia glyptostroboides*	Dawn Redwood	0.62	0.75	7.44	2.93	High	Retain and Protect
31	1	*Ginkgo biloba*	Ginkgo or Maidenhair Tree	0.22	0.35	2.64	2.13	Moderate	Retain and Protect
32	1	*Phoenix canariensis*	Canary Island Date Palm	0.68	2.00	3.50	2.00	High	Retain and Protect
33	1	*Camellia sasanqua*	Camellia	0.20	0.22	2.40	1.75	Low	Remove
34	1	*Brachychiton acerifolius*	Illawarra Flame Tree	0.42	0.55	5.04	2.57	Moderate	Retain and Protect
35	1	*Tibouchina lepidota*	Lasiandra	0.20	0.25	2.40	1.85	Low	Remove
36	1	*Polyscias elegans*	Celery Wood	0.45	0.67	5.40	2.80	Low	Retain and Protect
37	1	*Polyscias elegans*	Celery Wood	0.14	0.18	2.00	1.61	Moderate	Retain and Protect
38	4	*Lagerstroemia indica*	Crepe Myrtle	0.34	0.60	4.08	2.67	Moderate	Retain and Protect
39	1	*Polyscias elegans*	Celery Wood	0.29	0.30	3.48	2.00	Moderate	Retain and Protect
40	1	*Magnolia x soulangiana*	Magnolia	0.21	0.33	2.52	2.08	Low	Remove
41	1	*Camellia sasanqua*	Camellia	0.12	0.15	2.00	1.49	Moderate	Retain and Protect
42	1	*Lagerstroemia indica*	Crepe Myrtle	0.19	0.18	2.28	1.61	Moderate	Retain and Protect
43	1	*Archontophoenix alexandrae*	Alexandra Palm	0.28	0.34	3.50	1.17	Moderate	Retain and Protect
44	1	*Stenocarpus sinuatus*	Queensland Firewheel Tree	0.19	0.24	2.28	1.82	Low	Remove
45	2	*Alectryon tomentosus*	Hairy Bird's Eye	0.21	0.25	2.52	1.85	Moderate	Retain and Protect
46	3	*Archontophoenix alexandrae*	Alexandra Palm	0.23	0.31	3.00	1.16	Moderate	Retain and Protect
47	1	*Archontophoenix alexandrae*	Alexandra Palm	0.22	0.25	3.00	1.13	Moderate	Retain and Protect
48	1	*Brachychiton acerifolius*	Illawarra Flame Tree	0.66	0.75	7.92	2.93	High	Retain and Protect
49	1	*Toona ciliata*	Red Cedar	0.43	0.53	5.16	2.53	High	Retain and Protect
50	1	*Tristaniopsis laurina*	Water Gum	0.50	0.56	6.00	2.59	High	Retain and Protect
51	2	*Celtis sinensis*	Chinese Hackberry	0.40	0.48	4.80	2.43	Low	Retain and Protect
52	1	*Camellia sasanqua*	Camellia	0.25	0.25	3.00	1.85	Low	Remove
53	1	*Camellia sasanqua*	Camellia	0.40	0.40	4.80	2.25	Low	Remove
54	2	*Camellia japonica*	Japanese Camellia	0.20	0.20	2.40	1.68	Low	Remove
55	1	*Cyathea cooperi*	Scaly Tree Fern	0.10	0.15	2.00	1.49	Low	Remove
56	1	*Jacaranda mimosifolia*	Jacaranda	0.55	0.57	6.60	2.61	Moderate	Remove
57	1	*Fraxinus oxycarpa 'Raywood'*	Claret Ash	0.65	0.72	7.80	2.88	Low	Remove
58	1	*Magnolia x soulangiana*	Magnolia	0.24	0.40	2.88	2.25	Low	Remove
59	1	*Camellia japonica*	Japanese Camellia	0.54	0.24	6.48	1.82	Low	Remove
60	1	*Liquidambar styraciflua*	Liquidambar	0.70	0.85	8.40	3.09	Moderate	Remove
61	1	*Cyathea australis*	Rough Tree Fern	0.20	0.20	2.40	1.68	Low	Remove
62	1	*Camellia japonica*	Japanese Camellia	0.13	0.13	2.00	1.40	Low	Remove
63	1	*Camellia japonica*	Japanese Camellia	0.14	0.16	2.00	1.53	Low	Remove
64	1	*Camellia japonica*	Japanese Camellia	0.14	0.17	2.00	1.57	Low	Remove
65	1	*Camellia sasanqua*	Camellia	0.20	0.21	2.40	1.72	Low	Remove
66	1	*Acer palmatum*	Japanese Maple	0.30	0.30	3.60	2.00	Low	Remove
67	1	*Camellia japonica*	Japanese Camellia	0.18	0.22	2.16	1.75	Low	Remove
68	1	*Magnolia grandiflora*	American Bull Bay Magnolia	0.40	0.46	4.80	2.39	Moderate	Retain, Protect, and Transplant to new location within the site
69	1	*Jacaranda mimosifolia*	Jacaranda	0.47	0.53	5.64	2.53	Moderate	Remove
70	1	*Prunus x subhirtella cv.*	Weeping Cherry	0.36	0.38	4.32	2.20	Low	Remove
71	1	*Callistemon citrinus cv.*	Crimson Bottlebrush	0.31	0.40	3.72	2.25	Low	Remove
72	2	*Camellia sasanqua*	Camellia	0.21	0.33	2.52	2.08	Low	Remove
73	1	*Tristaniopsis laurina*	Water Gum	0.35	0.46	4.20	2.39	Moderate	Remove
74	1	*Callistemon viminalis cv.*	Weeping Bottlebrush	0.11	0.15	2.00	1.49	Low	Remove
75	1	*Syzygium paniculatum*	Magenta Cherry	0.11	0.15	2.00	1.49	Low	Remove
76	1	*Pittosporum undulatum*	Sweet Pittosporum	0.43	0.59	5.16	2.65	Low	Remove
77	1	*Platanus orientalis*	Oriental Plane Tree	0.54	0.65	6.48	2.76	Moderate	Retain and Protect
78	1	*Camellia sasanqua*	Camellia	0.19	0.23	2.28	1.79	Low	Remove
79	2	*Cyathea cooperi*	Scaly Tree Fern	0.10	0.15	2.00	1.49	Low	Remove
80	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.65	0.74	7.80	2.92	Moderate	Retain and Protect
81	1	*Ulmus parvifolia*	Chinese Elm	0.26	0.32	3.12	2.05	Low	Remove
82	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.46	0.62	5.52	2.71	Moderate	Retain and Protect
83	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.41	0.54	4.92	2.55	Moderate	Retain and Protect
84	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.46	0.56	5.52	2.59	Moderate	Retain and Protect
85	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.21	0.26	2.52	1.88	Low	Remove
86	1	*Eucalyptus microcorys*	Tallowood	0.79	0.84	9.48	3.08	High	Retain and Protect
87	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.42	0.52	5.04	2.51	Moderate	Retain and Protect
88	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.26	0.31	3.12	2.02	Moderate	Retain and Protect
89	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.23	0.28	2.76	1.94	Low	Remove
90	1	*Eucalyptus microcorys*	Tallowood	0.71	0.83	8.52	3.06	High	Retain and Protect
91	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.27	0.35	3.24	2.13	Low	Remove
92	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.35	0.56	4.20	2.59	Moderate	Retain and Protect
93	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.37	0.58	4.44	2.63	Moderate	Retain and Protect
94	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.64	0.83	7.68	3.06	Moderate	Retain and Protect

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REVISION	DESCRIPTION	CHKD	DATE
B	For Planning Proposal	RWS	10/07/23
A	For Information	RWS	20/05/22

PROJECT & CLIENT

Anglicare - Rohini Village, Turramurra

Anglicare

Project No : 22.11
Designed : RWS
Drawn : CKL
North Scale : 1:300@A1/1:600@A3

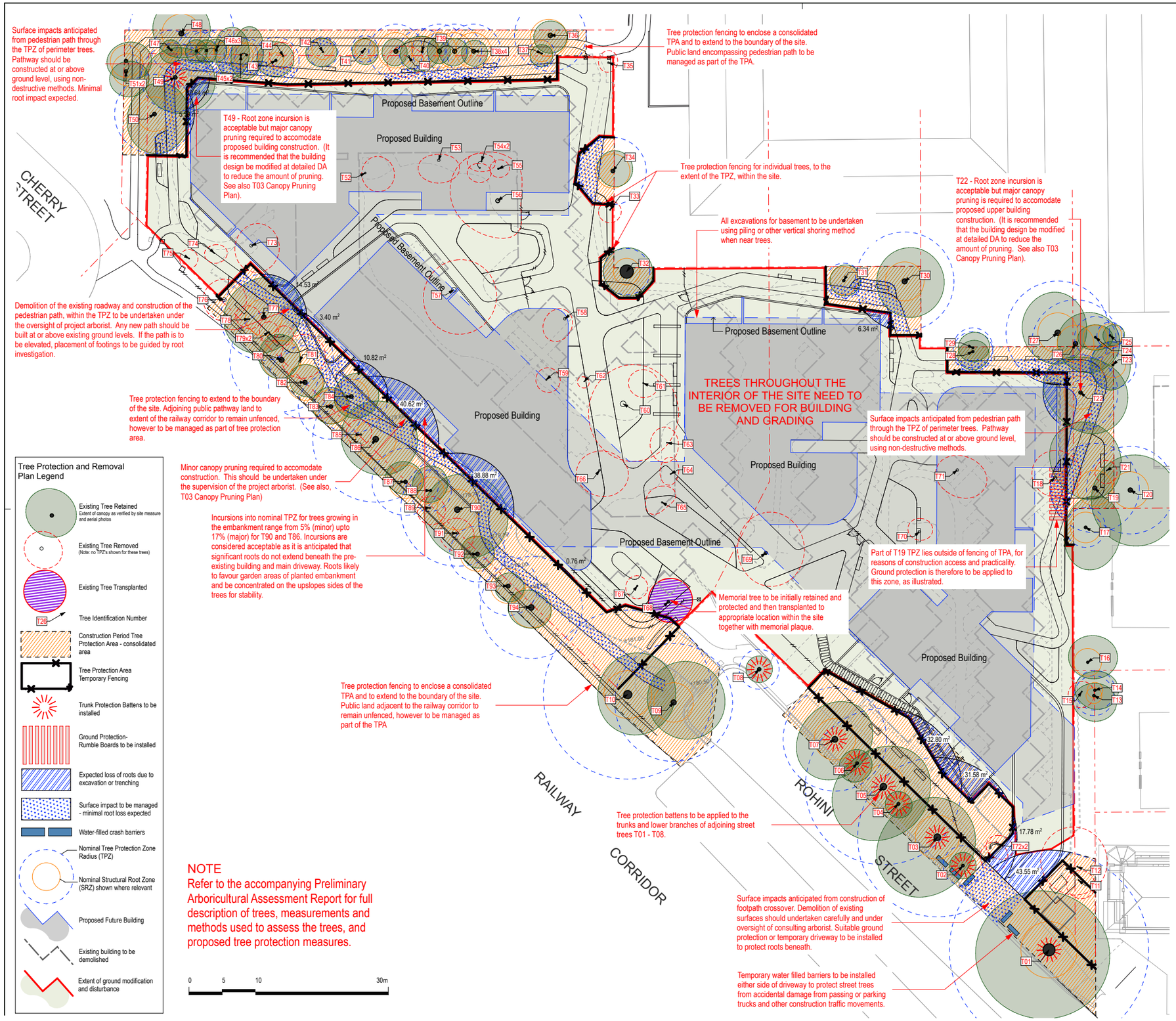
DRAWING TITLE

Tree Retention Value Plan

DRAWING NUMBER T-01

REVISION B

Plotted at : 4:35 pm 10/7/2023



Tree Protection and Removal Plan Legend

- Existing Tree Retained — Extent of canopy as verified by site measure and aerial photos
- Existing Tree Removed (Note: no TPZ's shown for these trees)
- Existing Tree Transplanted
- T26 — Tree Identification Number
- Construction Period Tree Protection Area - consolidated area
- Tree Protection Area Temporary Fencing
- Trunk Protection Battens to be installed
- Ground Protection- Rumble Boards to be installed
- Expected loss of roots due to excavation or trenching
- Surface impact to be managed - minimal root loss expected
- Water-filled crash barriers
- Nominal Tree Protection Zone Radius (TPZ)
- Nominal Structural Root Zone (SRZ) shown where relevant
- Proposed Future Building
- Existing building to be demolished
- Extent of ground modification and disturbance

NOTE
Refer to the accompanying Preliminary Arboricultural Assessment Report for full description of trees, measurements and methods used to assess the trees, and proposed tree protection measures.

Anglicare Rohini Village, Turramurra - Tree Assessment Schedule

Tree ID	Trees in Group	Tree Species	Common Name	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Retention Value	Recommendation
1	1	*Cinnamomum camphora*	Camphor Laurel	1.29	1.80	15.00	4.24	High	Retain and Protect
2	1	*Syagrus romanzoffiana*	Queen Palm	0.31	0.40	3.00	1.20	Low	Retain and Protect
3	1	*Cinnamomum camphora*	Camphor Laurel	1.00	1.00	12.00	3.31	High	Retain and Protect
4	1	*Syagrus romanzoffiana*	Queen Palm	0.33	0.43	3.00	1.22	Low	Retain and Protect
5	1	*Lophostemon confertus*	Brush Box	0.98	0.98	11.76	3.28	High	Retain and Protect
6	1	*Syagrus romanzoffiana*	Queen Palm	0.28	0.41	3.00	1.21	Low	Retain and Protect
7	1	*Lophostemon confertus*	Brush Box	0.65	0.86	7.80	3.11	High	Retain and Protect
8	1	*Syagrus romanzoffiana*	Queen Palm	0.31	0.51	3.00	1.26	Low	Retain and Protect
9	1	*Lophostemon confertus*	Brush Box	0.74	0.77	8.88	2.97	High	Retain and Protect
10	1	*Eucalyptus pilularis*	Blackbutt	1.06	1.21	12.72	3.59	High	Retain and Protect
11	1	*Camellia sasanqua*	Camellia	0.17	0.20	2.04	1.68	Low	Remove
12	1	*Jacaranda mimosifolia*	Jacaranda	0.38	0.38	4.56	2.20	Moderate	Remove
13	1	*Archontophoenix alexandrae*	Alexandra Palm	0.26	0.37	3.00	1.19	Moderate	Retain and Protect
14	1	*Archontophoenix alexandrae*	Alexandra Palm	0.26	0.36	3.00	1.18	Moderate	Retain and Protect
15	1	*Camellia japonica*	Japanese Camellia	0.22	0.20	2.64	1.68	Low	Remove
16	1	*Celtis sinensis*	Chinese Hackberry	0.23	0.33	2.76	2.08	Low	Retain and Protect
17	1	*Rhaphiolepis indica*	Indian Hawthorn	0.25	0.42	3.00	2.30	Moderate	Retain and Protect
18	1	*Malus sp. Hybrid cv.*	Crabapple	0.34	0.48	4.08	2.43	Low	Remove
19	1	*Jacaranda mimosifolia*	Jacaranda	0.56	0.60	6.72	2.67	Moderate	Retain and Protect
20	1	*Jacaranda mimosifolia*	Jacaranda	0.55	0.65	6.60	2.76	High	Retain and Protect
21	1	*Ceratopetalum gummiferum*	New South Wales Christmas Bush	0.09	0.12	2.00	1.36	Low	Remove
22	1	*Jacaranda mimosifolia*	Jacaranda	0.47	0.52	5.64	2.51	High	Retain and Protect
23	1	*Ficus benjamina 'Variegata'*	Variegated Weeping Fig	0.29	0.27	3.48	1.91	Moderate	Retain and Protect
24	1	*Camellia sasanqua*	Camellia	0.26	0.25	3.12	1.85	Moderate	Retain and Protect
25	1	*Persea gratissima*	Avocado	0.14	0.22	2.00	1.75	Low	Retain and Protect
26	1	*Fraxinus angustifolia (syn.F.oxycarpa)*	Narrow-leaf Ash	0.55	0.65	6.60	2.76	Moderate	Retain and Protect
27	1	*Grevillea robusta*	Silky Oak	0.65	0.80	7.80	3.01	Moderate	Retain and Protect
28	1	*Archontophoenix alexandrae*	Alexandra Palm	0.25	0.34	3.00	1.17	Moderate	Retain and Protect
29	1	*Archontophoenix alexandrae*	Alexandra Palm	0.25	0.30	3.00	1.15	Moderate	Retain and Protect
30	1	*Metasequoia glyptostroboides*	Dawn Redwood	0.62	0.75	7.44	2.93	High	Retain and Protect
31	1	*Ginkgo biloba*	Ginkgo or Maidenhair Tree	0.22	0.35	2.64	2.13	Moderate	Retain and Protect
32	1	*Phoenix canariensis*	Canary Island Date Palm	0.68	2.00	3.50	2.00	High	Retain and Protect
33	1	*Camellia sasanqua*	Camellia	0.20	0.22	2.40	1.75	Low	Remove
34	1	*Brachychiton acerifolius*	Illawarra Flame Tree	0.42	0.55	5.04	2.57	Moderate	Retain and Protect
35	1	*Tibouchina lepidota*	Lasiandra	0.20	0.25	2.40	1.85	Low	Remove
36	1	*Polyscias elegans*	Celery Wood	0.45	0.67	5.40	2.80	Low	Retain and Protect
37	1	*Polyscias elegans*	Celery Wood	0.14	0.18	2.00	1.61	Moderate	Retain and Protect
38	4	*Lagerstroemia indica*	Crepe Myrtle	0.34	0.60	4.08	2.67	Moderate	Retain and Protect
39	1	*Polyscias elegans*	Celery Wood	0.29	0.30	3.48	2.00	Moderate	Retain and Protect
40	1	*Magnolia x soulangiana*	Magnolia	0.21	0.33	2.52	2.08	Low	Remove
41	1	*Camellia sasanqua*	Camellia	0.12	0.15	2.00	1.49	Moderate	Retain and Protect
42	1	*Lagerstroemia indica*	Crepe Myrtle	0.19	0.18	2.28	1.61	Moderate	Retain and Protect
43	1	*Archontophoenix alexandrae*	Alexandra Palm	0.28	0.34	3.50	1.17	Moderate	Retain and Protect
44	1	*Stenocarpus sinuatus*	Queensland Firewheel Tree	0.19	0.24	2.28	1.82	Low	Remove
45	2	*Alectryon tomentosus*	Hairy Bird's Eye	0.21	0.25	2.52	1.85	Moderate	Retain and Protect
46	3	*Archontophoenix alexandrae*	Alexandra Palm	0.23	0.31	3.00	1.16	Moderate	Retain and Protect
47	1	*Archontophoenix alexandrae*	Alexandra Palm	0.22	0.25	3.00	1.13	Moderate	Retain and Protect
48	1	*Brachychiton acerifolius*	Illawarra Flame Tree	0.66	0.75	7.92	2.93	High	Retain and Protect
49	1	*Toona ciliata*	Red Cedar	0.43	0.53	5.16	2.53	High	Retain and Protect
50	1	*Tristaniopsis laurina*	Water Gum	0.50	0.56	6.00	2.59	High	Retain and Protect
51	2	*Celtis sinensis*	Chinese Hackberry	0.40	0.48	4.80	2.43	Low	Retain and Protect
52	1	*Camellia sasanqua*	Camellia	0.25	0.25	3.00	1.85	Low	Remove
53	1	*Camellia sasanqua*	Camellia	0.40	0.40	4.80	2.25	Low	Remove
54	2	*Camellia japonica*	Japanese Camellia	0.20	0.20	2.40	1.68	Low	Remove
55	1	*Cyathea cooperi*	Scaly Tree Fern	0.10	0.15	2.00	1.49	Low	Remove
56	1	*Jacaranda mimosifolia*	Jacaranda	0.55	0.57	6.60	2.61	Moderate	Remove
57	1	*Fraxinus oxycarpa 'Raywood'*	Claret Ash	0.65	0.72	7.80	2.88	Low	Remove
58	1	*Magnolia x soulangiana*	Magnolia	0.24	0.40	2.88	2.25	Low	Remove
59	1	*Camellia japonica*	Japanese Camellia	0.54	0.24	6.48	1.82	Low	Remove
60	1	*Liquidambar styraciflua*	Liquidambar	0.70	0.85	8.40	3.09	Moderate	Remove
61	1	*Cyathea australis*	Rough Tree Fern	0.20	0.20	2.40	1.68	Low	Remove
62	1	*Camellia japonica*	Japanese Camellia	0.13	0.13	2.00	1.40	Low	Remove
63	1	*Camellia japonica*	Japanese Camellia	0.14	0.16	2.00	1.53	Low	Remove
64	1	*Camellia japonica*	Japanese Camellia	0.14	0.17	2.00	1.57	Low	Remove
65	1	*Camellia sasanqua*	Camellia	0.20	0.21	2.40	1.72	Low	Remove
66	1	*Acer palmatum*	Japanese Maple	0.30	0.30	3.60	2.00	Low	Remove
67	1	*Camellia japonica*	Japanese Camellia	0.18	0.22	2.16	1.75	Low	Remove
68	1	*Magnolia grandiflora*	American Bull Bay Magnolia	0.40	0.46	4.80	2.39	Moderate	Retain, Protect, and Transplant to new location within the site
69	1	*Jacaranda mimosifolia*	Jacaranda	0.47	0.53	5.64	2.53	Moderate	Remove
70	1	*Prunus x subhirtella cv.*	Weeping Cherry	0.36	0.38	4.32	2.20	Low	Remove
71	1	*Callistemon citrinus cv.*	Crimson Bottlebrush	0.31	0.40	3.72	2.25	Low	Remove
72	2	*Camellia sasanqua*	Camellia	0.21	0.33	2.52	2.08	Low	Remove
73	1	*Tristaniopsis laurina*	Water Gum	0.35	0.46	4.20	2.39	Moderate	Remove
74	1	*Callistemon viminalis cv.*	Weeping Bottlebrush	0.11	0.15	2.00	1.49	Low	Remove
75	1	*Syzygium paniculatum*	Magenta Cherry	0.11	0.15	2.00	1.49	Low	Remove
76	1	*Pittosporum undulatum*	Sweet Pittosporum	0.43	0.59	5.16	2.65	Low	Remove
77	1	*Platanus orientalis*	Oriental Plane Tree	0.54	0.65	6.48	2.76	Moderate	Retain and Protect
78	1	*Camellia sasanqua*	Camellia	0.19	0.23	2.28	1.79	Low	Remove
79	2	*Cyathea cooperi*	Scaly Tree Fern	0.10	0.15	2.00	1.49	Low	Remove
80	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.65	0.74	7.80	2.92	Moderate	Retain and Protect
81	1	*Ulmus parvifolia*	Chinese Elm	0.26	0.32	3.12	2.05	Low	Remove
82	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.46	0.62	5.52	2.71	Moderate	Retain and Protect
83	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.41	0.54	4.92	2.55	Moderate	Retain and Protect
84	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.46	0.56	5.52	2.59	Moderate	Retain and Protect
85	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.21	0.26	2.52	1.88	Low	Remove
86	1	*Eucalyptus microcorys*	Tallowood	0.79	0.84	9.48	3.08	High	Retain and Protect
87	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.42	0.52	5.04	2.51	Moderate	Retain and Protect
88	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.26	0.31	3.12	2.02	Moderate	Retain and Protect
89	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.23	0.28	2.76	1.94	Low	Remove
90	1	*Eucalyptus microcorys*	Tallowood	0.71	0.83	8.52	3.06	High	Retain and Protect
91	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.27	0.35	3.24	2.13	Low	Remove
92	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.35	0.56	4.20	2.59	Moderate	Retain and Protect
93	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.37	0.58	4.44	2.63	Moderate	Retain and Protect
94	1	*Melaleuca quinquenervia*	Broad Leafed Paperbark	0.64	0.83	7.68	3.06	Moderate	Retain and Protect

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REVISION	DESCRIPTION	CHKD	DATE
A	For Planning Proposal	RWS	10/07/23

PROJECT & CLIENT
Anglicare - Rohini Village, Turramurra
Anglicare

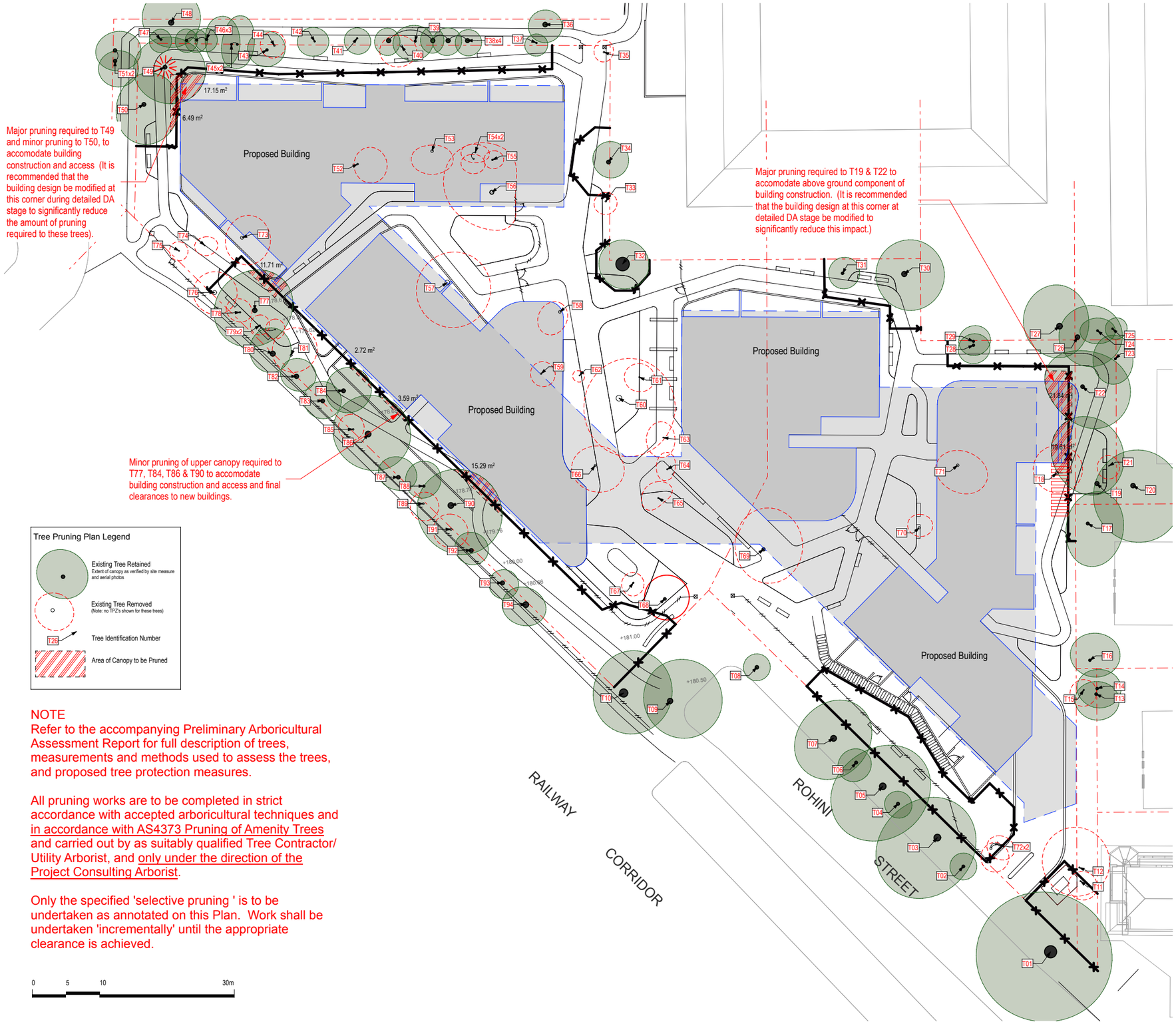
Project No : 22.11
Designed : RWS
Drawn : CKL
Scale : 1:300@A1/1:600@A3
North

DRAWING TITLE
Tree Protection and Removal Plan

DRAWING NUMBER
T-02

REVISION
A

Plotted at : 4:37 pm 10/7/2023



Tree Pruning Plan Legend

- Existing Tree Retained — Extent of canopy as verified by site measure and aerial photos
- Existing Tree Removed (Note: no TPZ's shown for these trees)
- T26 — Tree Identification Number
- Area of Canopy to be Pruned

NOTE

Refer to the accompanying Preliminary Arboricultural Assessment Report for full description of trees, measurements and methods used to assess the trees, and proposed tree protection measures.

All pruning works are to be completed in strict accordance with accepted arboricultural techniques and in accordance with AS4373 Pruning of Amenity Trees and carried out by as suitably qualified Tree Contractor/ Utility Arborist, and only under the direction of the Project Consulting Arborist.

Only the specified 'selective pruning ' is to be undertaken as annotated on this Plan. Work shall be undertaken 'incrementally' until the appropriate clearance is achieved.

0 5 10 30m

Anglicare Rohini Village, Turramurra - Tree Assessment Schedule

Tree ID	Trees in Group	Tree Species	Common Name	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Retention Value	Recommendation
1	1	*Cinnamomum camphora*	**Camphor Laurel**	1.29	1.80	15.00	4.24	High	Retain and Protect
2	1	*Syagrus romanzoffiana*	**Queen Palm**	0.31	0.40	3.00	1.20	Low	Retain and Protect
3	1	*Cinnamomum camphora*	**Camphor Laurel**	1.00	1.00	12.00	3.31	High	Retain and Protect
4	1	*Syagrus romanzoffiana*	**Queen Palm**	0.33	0.43	3.00	1.22	Low	Retain and Protect
5	1	*Lophostemon confertus*	**Brush Box**	0.98	0.98	11.76	3.28	High	Retain and Protect
6	1	*Syagrus romanzoffiana*	**Queen Palm**	0.28	0.41	3.00	1.21	Low	Retain and Protect
7	1	*Lophostemon confertus*	**Brush Box**	0.65	0.86	7.80	3.11	High	Retain and Protect
8	1	*Syagrus romanzoffiana*	**Queen Palm**	0.31	0.51	3.00	1.26	Low	Retain and Protect
9	1	*Lophostemon confertus*	**Brush Box**	0.74	0.77	8.88	2.97	High	Retain and Protect
10	1	*Eucalyptus pilularis*	**Blackbutt**	1.06	1.21	12.72	3.59	High	Retain and Protect
11	1	*Camellia sasanqua*	**Camellia**	0.17	0.20	2.04	1.68	Low	Remove
12	1	*Jacaranda mimosifolia*	**Jacaranda**	0.38	0.38	4.56	2.20	Moderate	Remove
13	1	*Archontophoenix alexandrae*	**Alexandra Palm**	0.26	0.37	3.00	1.19	Moderate	Retain and Protect
14	1	*Archontophoenix alexandrae*	**Alexandra Palm**	0.26	0.36	3.00	1.18	Moderate	Retain and Protect
15	1	*Camellia japonica*	**Japanese Camellia**	0.22	0.20	2.64	1.68	Low	Remove
16	1	*Celtis sinensis*	**Chinese Hackberry**	0.23	0.33	2.76	2.08	Low	Retain and Protect
17	1	*Rhaphiolepis indica*	**Indian Hawthorn**	0.25	0.42	3.00	2.30	Moderate	Retain and Protect
18	1	*Malus sp. Hybrid cv.*	**Crabapple**	0.34	0.48	4.08	2.43	Low	Remove
19	1	*Jacaranda mimosifolia*	**Jacaranda**	0.56	0.60	6.72	2.67	Moderate	Retain and Protect
20	1	*Jacaranda mimosifolia*	**Jacaranda**	0.55	0.65	6.60	2.76	High	Retain and Protect
21	1	*Ceratopetalum gummiferum*	**New South Wales Christmas Bush**	0.09	0.12	2.00	1.36	Low	Remove
22	1	*Jacaranda mimosifolia*	**Jacaranda**	0.47	0.52	5.64	2.51	High	Retain and Protect
23	1	*Ficus benjamina 'Variegata'*	**Variegated Weeping Fig**	0.29	0.27	3.48	1.91	Moderate	Retain and Protect
24	1	*Camellia sasanqua*	**Camellia**	0.26	0.25	3.12	1.85	Moderate	Retain and Protect
25	1	*Persea gratissima*	**Avocado**	0.14	0.22	2.00	1.75	Low	Retain and Protect
26	1	*Fraxinus angustifolia (syn.F.oxycarpa)*	**Narrow-leaf Ash**	0.55	0.65	6.60	2.76	Moderate	Retain and Protect
27	1	*Grevillea robusta*	**Silky Oak**	0.65	0.80	7.80	3.01	Moderate	Retain and Protect
28	1	*Archontophoenix alexandrae*	**Alexandra Palm**	0.25	0.34	3.00	1.17	Moderate	Retain and Protect
29	1	*Archontophoenix alexandrae*	**Alexandra Palm**	0.25	0.30	3.00	1.15	Moderate	Retain and Protect
30	1	*Metasequoia glyptostroboides*	**Dawn Redwood**	0.62	0.75	7.44	2.93	High	Retain and Protect
31	1	*Ginkgo biloba*	**Ginkgo or Maidenhair Tree**	0.22	0.35	2.64	2.13	Moderate	Retain and Protect
32	1	*Phoenix canariensis*	**Canary Island Date Palm**	0.68	2.00	3.50	2.00	High	Retain and Protect
33	1	*Camellia sasanqua*	**Camellia**	0.20	0.22	2.40	1.75	Low	Remove
34	1	*Brachychiton acerifolius*	**Illawarra Flame Tree**	0.42	0.55	5.04	2.57	Moderate	Retain and Protect
35	1	*Tibouchina lepidota*	**Lasiandra**	0.20	0.25	2.40	1.85	Low	Remove
36	1	*Polyscias elegans*	**Celery Wood**	0.45	0.67	5.40	2.80	Low	Retain and Protect
37	1	*Polyscias elegans*	**Celery Wood**	0.14	0.18	2.00	1.61	Moderate	Retain and Protect
38	4	*Lagerstroemia indica*	**Crepe Myrtle**	0.34	0.60	4.08	2.67	Moderate	Retain and Protect
39	1	*Polyscias elegans*	**Celery Wood**	0.29	0.30	3.48	2.00	Moderate	Retain and Protect
40	1	*Magnolia x soulangiana*	**Magnolia**	0.21	0.33	2.52	2.08	Low	Remove
41	1	*Camellia sasanqua*	**Camellia**	0.12	0.15	2.00	1.49	Moderate	Retain and Protect
42	1	*Lagerstroemia indica*	**Crepe Myrtle**	0.19	0.18	2.28	1.61	Moderate	Retain and Protect
43	1	*Archontophoenix alexandrae*	**Alexandra Palm**	0.28	0.34	3.50	1.17	Moderate	Retain and Protect
44	1	*Stenocarpus sinuatus*	**Queensland Firewheel Tree**	0.19	0.24	2.28	1.82	Low	Remove
45	2	*Alectryon tomentosus*	**Hairy Bird's Eye**	0.21	0.25	2.52	1.85	Moderate	Retain and Protect
46	3	*Archontophoenix alexandrae*	**Alexandra Palm**	0.23	0.31	3.00	1.16	Moderate	Retain and Protect
47	1	*Archontophoenix alexandrae*	**Alexandra Palm**	0.22	0.25	3.00	1.13	Moderate	Retain and Protect
48	1	*Brachychiton acerifolius*	**Illawarra Flame Tree**	0.66	0.75	7.92	2.93	High	Retain and Protect
49	1	*Toona ciliata*	**Red Cedar**	0.43	0.53	5.16	2.53	High	Retain and Protect
50	1	*Tristaniopsis laurina*	**Water Gum**	0.50	0.56	6.00	2.59	High	Retain and Protect
51	2	*Celtis sinensis*	**Chinese Hackberry**	0.40	0.48	4.80	2.43	Low	Retain and Protect
52	1	*Camellia sasanqua*	**Camellia**	0.25	0.25	3.00	1.85	Low	Remove
53	1	*Camellia sasanqua*	**Camellia**	0.40	0.40	4.80	2.25	Low	Remove
54	2	*Camellia japonica*	**Japanese Camellia**	0.20	0.20	2.40	1.68	Low	Remove
55	1	*Cyathea cooperi*	**Scaly Tree Fern**	0.10	0.15	2.00	1.49	Low	Remove
56	1	*Jacaranda mimosifolia*	**Jacaranda**	0.55	0.57	6.60	2.61	Moderate	Remove
57	1	*Fraxinus oxycarpa 'Raywood'*	**Claret Ash**	0.65	0.72	7.80	2.88	Low	Remove
58	1	*Magnolia x soulangiana*	**Magnolia**	0.24	0.40	2.88	2.25	Low	Remove
59	1	*Camellia japonica*	**Japanese Camellia**	0.54	0.24	6.48	1.82	Low	Remove
60	1	*Liquidambar styraciflua*	**Liquidambar**	0.70	0.85	8.40	3.09	Moderate	Remove
61	1	*Cyathea australis*	**Rough Tree Fern**	0.20	0.20	2.40	1.68	Low	Remove
62	1	*Camellia japonica*	**Japanese Camellia**	0.13	0.13	2.00	1.40	Low	Remove
63	1	*Camellia japonica*	**Japanese Camellia**	0.14	0.16	2.00	1.53	Low	Remove
64	1	*Camellia japonica*	**Japanese Camellia**	0.14	0.17	2.00	1.57	Low	Remove
65	1	*Camellia sasanqua*	**Camellia**	0.20	0.21	2.40	1.72	Low	Remove
66	1	*Acer palmatum*	**Japanese Maple**	0.30	0.30	3.60	2.00	Low	Remove
67	1	*Camellia japonica*	**Japanese Camellia**	0.18	0.22	2.16	1.75	Low	Remove
68	1	*Magnolia grandiflora*	**American Bull Bay Magnolia**	0.40	0.46	4.80	2.39	Moderate	Retain, Protect, and Transplant to new location within the site
69	1	*Jacaranda mimosifolia*	**Jacaranda**	0.47	0.53	5.64	2.53	Moderate	Remove
70	1	*Prunus x subhirtella cv.*	**Weeping Cherry**	0.36	0.38	4.32	2.20	Low	Remove
71	1	*Callistemon citrinus cv.*	**Crimson Bottlebrush**	0.31	0.40	3.72	2.25	Low	Remove
72	2	*Camellia sasanqua*	**Camellia**	0.21	0.33	2.52	2.08	Low	Remove
73	1	*Tristaniopsis laurina*	**Water Gum**	0.35	0.46	4.20	2.39	Moderate	Remove
74	1	*Callistemon viminalis cv.*	**Weeping Bottlebrush**	0.11	0.15	2.00	1.49	Low	Remove
75	1	*Syzygium paniculatum*	**Magenta Cherry**	0.11	0.15	2.00	1.49	Low	Remove
76	1	*Pittosporum undulatum*	**Sweet Pittosporum**	0.43	0.59	5.16	2.65	Low	Remove
77	1	*Platanus orientalis*	**Oriental Plane Tree**	0.54	0.65	6.48	2.76	Moderate	Retain and Protect
78	1	*Camellia sasanqua*	**Camellia**	0.19	0.23	2.28	1.79	Low	Remove
79	2	*Cyathea cooperi*	**Scaly Tree Fern**	0.10	0.15	2.00	1.49	Low	Remove
80	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.65	0.74	7.80	2.92	Moderate	Retain and Protect
81	1	*Ulmus parvifolia*	**Chinese Elm**	0.26	0.32	3.12	2.05	Low	Remove
82	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.46	0.62	5.52	2.71	Moderate	Retain and Protect
83	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.41	0.54	4.92	2.55	Moderate	Retain and Protect
84	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.46	0.56	5.52	2.59	Moderate	Retain and Protect
85	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.21	0.26	2.52	1.88	Low	Remove
86	1	*Eucalyptus microcorys*	**Tallowood**	0.79	0.84	9.48	3.08	High	Retain and Protect
87	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.42	0.52	5.04	2.51	Moderate	Retain and Protect
88	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.26	0.31	3.12	2.02	Moderate	Retain and Protect
89	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.23	0.28	2.76	1.94	Low	Remove
90	1	*Eucalyptus microcorys*	**Tallowood**	0.71	0.83	8.52	3.06	High	Retain and Protect
91	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.27	0.35	3.24	2.13	Low	Remove
92	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.35	0.56	4.20	2.59	Moderate	Retain and Protect
93	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.37	0.58	4.44	2.63	Moderate	Retain and Protect
94	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	0.64	0.83	7.68	3.06	Moderate	Retain and Protect

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REVISION	DESCRIPTION	CHKD	DATE
A	For Planning Proposal	RWS	10/07/23

PROJECT & CLIENT
Anglicare - Rohini Village, Turramurra
Anglicare

Project No : 22.11
Designed : RWS
Drawn : CKL
Scale : 1:300@A1/1:600@A3
North

DRAWING TITLE
Tree Canopy Pruning Plan

DRAWING NUMBER T-03

REVISION A

Plotted at : 4:38 pm 10/7/2023

TREE PROTECTION SPECIFICATIONS

1. Tree Protection Measures and Protocols.
All work around existing trees to be retained shall be in accordance with AS 4970-2009 Protection of trees on development sites with the clear establishment of the required Tree Protection Areas (TPA's). If the scope of work allowed within or the extent of the Tree Protection Areas of existing trees is not clear, please refer to the Contract Manager or Project Consulting Arborist for clarification.

Before any site works commence tree protection zones and other measures must be established and conveyed to those all working on the site. The Contractor shall ensure all subcontractors are inducted prior to working on the site. All inductions shall include description and identification of the Tree Protection Zones and the restriction on work and activities with regard to trees.

Damage to roots or degradation of the soil through compaction and/or excavation within TPA's is likely to cause serious damage to the tree. Any work operations required within TPA's must be carried out with extreme care. All trees, palms and other shrubs within TPA's are to be retained unless shown otherwise on the Tree Protection Plan(s). Trees marked for retention shall not be used to display signage, or as fence or cable supports for any reason. No materials stockpiling, chemicals or washout areas are permitted immediately upslope of or within the Tree Protection Area. The washing down of wheel barrows, paint cans/brushes, acids and the like shall not to be done near existing trees as the runoff is very harmful to tree roots.

No fuel powered pumps or generators or air compressors are to be placed within TPA's. No fuel or chemicals shall be stored and no equipment or vehicles shall be serviced or re-fuelled within a TPA.

2. Controlled Construction Access
Construction access points, stockpiling and storage areas shall be clearly identified on site and fenced off where appropriate. Uncontrolled access and parking of vehicles inside TPA's shall be avoided. If access is required through a tree protection area, the access way shall be treated with ground protection.

3. Tree Protection Fencing & Signage
The Tree Protection Plan(s) shows the extent of areas to be fenced and protected. Protection measures shall be certified as adequate by the Project Consulting Arborist. This fencing may form part of the general construction site fencing, where practical. It shall remain in place as long as possible and typically not be removed until the final landscape installation in those areas begins.

All tree protection fencing shall be 1800mm high galvanised chain wire or welded steel mesh. Fencing must be bolted together and secured with the necessary back stays and bracing.

Star pickets with bunting or danger tape shall not constitute acceptable tree protection fencing.

Suitable signage as defined by AS 4970-2009 Appendix C shall be affixed to the external side of the fencing at a spacing of not less than 1 sign per 20 lineal metres of fence.

If fence locations conflict with the proposed works, contact the Project Consulting Arborist and Contract Manager for resolution. No new services (unless under-bored) shall be located within or through the Tree Protection Area.

4. Trunk and Lower Branch Protection
A trunk barrier is to be erected around the circumference of the tree trunk and root buttress where shown. This barrier will consist of two to three 'rings' of 50mm diameter socked ag-line wrapped around tree trunk or branch and the ends cable tied to secure in place. A layer of battens is to be placed over and tight to the ag-lines. The battens are to have a maximum spacing of 50mm. The height of the battens is to be 2 metres or to the height of the first branches. Lower large branches may require the same protection if likely to be damaged by passing vehicles or equipment. Secure battens in place with galvanised steel bracing straps. Do not nail into or otherwise injure the trunk or bark. Battens may be made from any suitable waste timber of similar sizes and depths. All sharp or protruding edges are to be properly covered with tape or similar padding.

5. Works within the TPA's
All work within the root zone of existing trees shall be undertaken with the utmost care. If by necessity a tree requires removal of branches for building or access, pruning shall be done in strict accordance with accepted arboriculture techniques and AS 4373-2007. No rubbish, spoil or new materials shall be placed on the root zone of any existing tree or against their trunks.

6. Ground Protection
If it is proposed to create any access route, or similar, within the TPA of a retained tree, the Contractor shall install rumble boards over the TPA ground surface. No excavation shall be allowed. Contractor shall first place a suitable permeable geotextile to the extent required and then a 100mm thick layer of wood chip mulch or coarse no-fines gravel over the extent to be covered. Then place hardwood boards (minimum 3600 x 200 x 75mm) on their flat edge, side by side, with a 30 - 50mm gap to form a rumble strip. These boards are to be held together with three galvanised metal bracing straps nailed to each board. The two outer straps are to be approximately 200mm in from the ends of the boards. The third strap is to be along the centre line of the boards.

7. Provision of Temporary Irrigation
No temporary irrigation requirement is anticipated for this project. However if accidental damage or other weather extremes dictate and the Project Consulting Arborist considers one is necessary it shall be installed as per the following. A temporary and automated (battery powered timer is sufficient) watering system to be placed within the specified TPAs of the trees nominated to maintain adequate water to the retained trees and help maintain their healthy condition. This shall be a surface mounted 'residential-style' soaker hose and/or similar surface sprinkler systems. It is to be surface visible and spray delivered so that is operation can be easily visible and verified. It should be on a designated supply line, separate from other construction related water supplies to minimise its likelihood of being disconnected.

Typically, during spring and summer months it should be set to run for a minimum of 30 minutes every day, in the early morning. During, autumn and winter months it should be set to run for 1 hour once every week. The operation can be suspended temporarily in periods of extensive and prolonged rain. The system is to remain in place for the duration of construction, or until the Project Consulting Arborist approves it's removal. It may be removed to allow final landscape treatments to proceed. If accidentally disturbed or damaged by construction activities, it is to be reinstated as soon as practicable.

8. Structural Demolition Within TPA's
Project Consulting Arborist shall be on site during all demolition work within the TPA's to monitor and advise on tree protection. Secateurs and a handsaw shall be available to deal with and cleanly cut any exposed roots that have to be cut. Machines with a long reach may be used if they can work from outside TPA's or from protected areas within TPA's. They shall not encroach onto unprotected soil in TPA's.

Debris to be removed from TPA's must be moved across existing hard surfacing or temporary ground protection in a way that prevents compaction and disturbance of soil. Alternatively, it can be lifted out by machines provided this does not disturb TPA's or damage the canopy. If appropriate, leave below ground structures such as footings and disused pipes in place if their removal will cause excessive root disturbance.

When pulling up existing paving the Contractor shall work backwards, lifting demolished paving back onto the existing paving. Roots may be found growing under the pavement and should not be trafficked. Roots growing into existing sub-base should be left and new surface finishes placed over the top without disturbance.

9. Excavations or Trenching within TPA's
Excavation within TPA's shall not be allowed using mechanical equipment such as excavators or backhoes. Excavation within TPA's shall only be carried out carefully by hand taking care not to damage the bark and wood of any roots. Specialist tools for removing soil around roots using compressed air (air spade), or water vacuum extraction shall be an appropriate alternative to hand digging and is the preferred method.

Exposed roots to be removed shall be cut cleanly with a sharp saw or secateurs at the face of the excavation. Roots temporarily exposed must be protected by appropriate covering with damp hessian or sand. Roots greater than 50mm in diameter are to be retained and shall only be cut in exceptional circumstances and only after consultation with the Project Consulting Arborist. Roots greater than 100mm in diameter shall typically not be allowed to be cut and must be worked around.

10. Soft Landscaping Installation
Final trimming and planting shall be judiciously undertaken around trees. All soft landscaping within the tree protection zones will be installed with care to avoid root disturbance from irrigation trenching, lighting installation and the planting of larger plants. Permanent irrigation (if used) shall be installed as spray heads located outside of TPA's and spraying inwards. All other services such as small-scale electrical services shall also be designed and installed to avoid any excavation or trenching around the trees.

No significant excavation or cultivation, especially by rotary hoes or excavators, shall occur within TPA's. Where new designs require the levels to be increased, good quality and permeable top soil shall be used. It should be firmed into place but not over compacted. All areas close to tree trunks shall be kept at the original ground level. Where turf is to be installed tree trunks shall have mulched rings applied rather than grass laid up to the trunk.

The size of the installed plants shall typically be less than 5L pots so that the maximum depth of the new root balls is less than 200mm. Any planting proposed that is larger than this shall be only installed outside of the SRZ and with care to not injure roots while digging planting holes.

11. Canopy Pruning
The Contractor shall prune branches of protected trees only as directed by the Project Consulting Arborist. Pruning is only to be undertaken by a qualified arborist (under the supervision of a person with AQF Level 4 or above). The Project Consulting Arborist is to be present at all times during the pruning work. Work is to be in strict accordance with AS4373 Pruning of Amenity Trees. Do not treat wounds.

12. Root Pruning
Pruning of roots of protected trees shall only be as directed the Project Consulting Arborist. The Tree Contractor shall use only a qualified arborist (AQF Level 4 or above). The Project Consulting Arborist is to be present at all times during the root pruning.

Roots are not to be cut using normal excavation machinery of any sort. This usually results in splitting and massive disturbance well past the intended line of cut. When required to cut roots, use hand methods and sharp hand tools (e.g. secateurs, hand saw) such that the remaining root systems are preserved intact and undamaged. Roots are to be cut back by hand square to the direction of the root travel (or edge of the excavation). Do not cut any tree roots exceeding 40mm diameter unless permitted. Excavations within root zones should be kept open for as short a period as possible. Any excavated face containing roots is to be temporarily supported, where necessary, to prevent soil loss from around the other retained roots.

13. Accidental Tree Damage
Should a tree be accidentally damaged, the Contractor shall immediately notify the Project Consulting Arborist. Timing can be of the essence, particularly with bark injuries, trunk damage or chemical contaminations.

If a branch has been broken, it shall be removed and the damaged end pruned to a suitable branch collar. If the branch has been torn out of the trunk, assessment shall be made and the damage cleaned up by as much as possible without further damage to the tree.

If roots are accidentally disturbed or excavated, any broken, crushed and torn sections shall be exposed and pruned leaving clean cuts to minimise risk of infection by fungal pathogens and promote good conditions for new root growth.

Example image of acceptable tree protection fencing measures to be applied. (1.8m high rigid metal fencing with appropriate lateral bracing)

Example image of acceptable tree tree protection battens

Example image of acceptable ground protection rumble boards

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REVISION	DESCRIPTION	CHKD	DATE
A	For Planning Proposal	RWS	10/07/23

PROJECT & CLIENT
Anglicare - Rohini Village, Turramurra
Anglicare

Project No : 22.11
Designed : RWS
Drawn : CKL
North Scale : N/A

DRAWING TITLE
Tree Protection Specifications

DRAWING NUMBER
T-04

REVISION
A

Plotted at : 4:39 pm 10/7/2023

4.2 Tree Impact Assessment Schedule

Anglicare Rohini Village, Turramurra - Tree Assessment Schedule [PLANNING PROPOSAL PHASE]

Tree ID	Trees in Group	Tree Species	Common Name	Height (m)	Spread Average (m)	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Age Class	Current Vigour	Current Form	Tree Origin	Noted Defects	SULE Rating	Retention Value	General Comments and Notes	Incursion and Impact	Recommendation
1	1	*Cinnamomum camphora*	**Camphor Laurel**	15.5	12.0	1.29	1.80	15.00	4.24	Mature	Fair	Average	Invasive	Epicormic Growth, Deadwood-Minor, Co-dominant Stems	Long (>40 years)	**High**	Significant street tree in Rohini St. Ivy on trunk. Multitrunked from base. Slightly valley pruned for power lines.	Minor incursion 6% into TPZ due to ramp excavation and surface impacts at footpath crossover. Minimal root losss expected.	Retain and Protect
2	1	*Syagrus romanzoffiana*	**Queen Palm**	13.5	4.0	0.31	0.40	3.00	1.20	Mature	Fair	Average	Exotic		Long (>40 years)	**Low**	Street tree on Rohini St.	Proposed driveway cross-over occurs at edge of TPZ. No impacts expected.	Retain and Protect
3	1	*Cinnamomum camphora*	**Camphor Laurel**	14.5	11.0	1.00	1.00	12.00	3.31	Mature	Fair	Average	Invasive	Epicormic Growth, Co-dominant Stems	Long (>40 years)	**High**	Significant street tree in Rohini St. Only a support cable to powerlines passing through tree.	11% incursion into TPZ due to ramp excavation and construction of ground level terraces. Surface impacts anticipated at vehicular crossover and new footpath. Overall, minimal impacts expected with arborist monitoring works within the TPZ.	Retain and Protect
4	1	*Syagrus romanzoffiana*	**Queen Palm**	10.5	4.0	0.33	0.43	3.00	1.22	Mature	Good	Average	Exotic		Long (>40 years)	**Low**	Street tree on Rohini St. Climbing spike wounds otherwise OK.	No impacts	Retain and Protect
5	1	*Lophostemon confertus*	**Brush Box**	11.5	10.0	0.98	0.98	11.76	3.28	Mature	Good	Average	Native	Co-dominant Stems, Branch Tearouts	Long (>40 years)	**High**	Prominent street tree on Rohini St.	8% incursion into TPZ for construction of ground level terraces. Additionally, surface impacts expected from construction of new path. Overall, minimal impacts expected with arborist monitoring works within the TPZ.	Retain and Protect
6	1	*Syagrus romanzoffiana*	**Queen Palm**	11.5	4.0	0.28	0.41	3.00	1.21	Mature	Fair	Average	Exotic		Long (>40 years)	**Low**	Street tree on Rohini St..	No impacts	Retain and Protect
7	1	*Lophostemon confertus*	**Brush Box**	10.5	9.0	0.65	0.86	7.80	3.11	Mature	Good	Average	Native	Epicormic Growth	Long (>40 years)	**High**	Prominent street tree on Rohini St.	No impacts	Retain and Protect
8	1	*Syagrus romanzoffiana*	**Queen Palm**	12.0	4.0	0.31	0.51	3.00	1.26	Mature	Fair	Average	Exotic		Long (>40 years)	**Low**	Street tree on Rohini St.	Low value tree removed. No impact.	Retain and Protect
9	1	*Lophostemon confertus*	**Brush Box**	11.5	9.0	0.74	0.77	8.88	2.97	Mature	Fair	Average	Native	Co-dominant Stems	Long (>40 years)	**High**	Street tree. Will require removal if PP proceeds and Council undertakes to carry out proposed roundabout/roadworks.	No impact from Rohini Village renewal. Future public domain improvements may result in loss of High value tree.	Retain and Protect
10	1	*Eucalyptus pilularis*	**Blackbutt**	32.5	10.0	1.06	1.21	12.72	3.59	Mature	Good	Average	Endemic	Epicormic Growth	Long (>40 years)	**High**	Street tree. Previous codominant trunk now removed. Endemic species representative of Blue Gum High Forest community. No obvious signs of any serious defect or decay.	No impact from Rohini Village renewal. Future public domain improvements may result in some impacts to this tree.	Retain and Protect
11	1	*Camellia sasanqua*	**Camellia**	5.0	4.0	0.17	0.20	2.04	1.68	Mature	Fair	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Low**	May optionally be retained	Low value tree. No impact	Remove
12	1	*Jacaranda mimosifolia*	**Jacaranda**	9.5	6.0	0.38	0.38	4.56	2.20	Mature	Good	Average	Exotic	Co-dominant Stems, Inclusions	Long (>40 years)	**Moderate**		Loss of Moderate value tree due to ramp excavation. Loss will be compensated with new tree plantings.	Remove
13	1	*Archontophoenix alexandrae*	**Alexandra Palm**	7.0	4.0	0.26	0.37	3.00	1.19	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**	Part of a closely spaced pair.	No impacts	Retain and Protect
14	1	*Archontophoenix alexandrae*	**Alexandra Palm**	6.0	4.0	0.26	0.36	3.00	1.18	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**	Part of a closely spaced pair.	No impacts	Retain and Protect
15	1	*Camellia japonica*	**Japanese Camellia**	5.0	3.0	0.22	0.20	2.64	1.68	Mature	Good	Average	Exotic	Co-dominant Stems, Inclusions	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
16	1	*Celtis sinensis*	**Chinese Hackberry**	7.0	4.0	0.23	0.33	2.76	2.08	Mature	Good	Average	Weed		Long (>40 years)	**Low**	Neighbouring property tree. Invasive weed species, no need to significantly protect.	No impacts	Retain and Protect
17	1	*Rhaphiolepis indica*	**Indian Hawthorn**	7.0	9.0	0.25	0.42	3.00	2.30	Mature	Excellent	Average	Exotic		Medium (15-40 years)	**Moderate**	Neighbouring property tree. Canopy overhangs boundary. Excellent lower and dense screening tree.	No impacts	Retain and Protect
18	1	*Malus sp. Hybrid cv.*	**Crabapple**	6.5	6.0	0.34	0.48	4.08	2.43	Mature	Fair	Poor	Exotic		Medium (15-40 years)	**Low**	Significantly crown raised and large branches historically pruned.	Low value tree removed. No impact.	Remove
19	1	*Jacaranda mimosifolia*	**Jacaranda**	9.0	10.0	0.56	0.60	6.72	2.67	Mature	Excellent	Poor	Exotic	Lean-Major, Very Asymmetric Form	Long (>40 years)	**Moderate**	Major lean through lower trunk. Asymmetric form to north. Very important tension roots observed on southern side of tree passing under boundary.	Minor TPZ incursion of 3% due to basement excavation and surface impacts due to path construction. Loss of approx 20% of canopy for scaffolding and construciton access. Minimal impacts expected with arborist monitoring of pruning and works with the TPZ.	Retain and Protect
20	1	*Jacaranda mimosifolia*	**Jacaranda**	10.5	10.0	0.55	0.65	6.60	2.76	Mature	Excellent	Average	Exotic	Inclusions	Long (>40 years)	**High**	Neighbouring property tree.	No impacts	Retain and Protect
21	1	*Ceratopetalum gummiferum*	**New South Wales Christmas Bush**	5.5	3.0	0.09	0.12	2.00	1.36	Mature	Poor	Average	Endemic		Medium (15-40 years)	**Low**	Generally poor specimen.	Low value tree removed. No impact.	Remove
22	1	*Jacaranda mimosifolia*	**Jacaranda**	12.5	10.0	0.47	0.52	5.64	2.51	Mature	Excellent	Excellent	Exotic		Long (>40 years)	**High**	Prominent and well formed specimen. Recommend to be a focus for retention.	Minor incursion of 6% into TPZ. Major impact to tree crown, requiring removal of 20% of canopy. The design team has expressed support for adjusting the building designs at DA stage to facilitate keeping the tree.	Retain and Protect
23	1	*Ficus benjamina 'Variegata'*	**Variegated Weeping Fig**	6.5	6.0	0.29	0.27	3.48	1.91	Mature	Good	Average	Exotic	Co-dominant Stems, Inclusions	Long (>40 years)	**Moderate**	Variegated form. Good screening tree on boundary.	No impacts	Retain and Protect
24	1	*Camellia sasanqua*	**Camellia**	6.5	6.0	0.26	0.25	3.12	1.85	Mature	Fair	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Moderate**	Neighbouring property tree. Very elongated and suppressed form but should be protected due to being neighbours tree.	No impacts	Retain and Protect
25	1	*Persea gratissima*	**Avocado**	6.5	3.0	0.14	0.22	2.00	1.75	Mature	Fair	Average	Exotic	Very Asymmetric Form, Lean-Minor	Medium (15-40 years)	**Low**	Neighbouring property tree. Leans away from site.	No impacts	Retain and Protect
26	1	*Fraxinus angustifolia (syn.F.oxycarpa)*	**Narrow-leaf Ash**	12.5	11.0	0.55	0.65	6.60	2.76	Mature	Fair	Average	Exotic		Medium (15-40 years)	**Moderate**	Historically vine covered. Neighbouring property tree. Bhould be protected due to being neighbours tree.	Surface impacts within TPZ for path construciton. Negligible root loss expected.	Retain and Protect
27	1	*Grevillea robusta*	**Silky Oak**	16.5	12.0	0.65	0.80	7.80	3.01	Mature	Good	Average	Invasive		Medium (15-40 years)	**Moderate**	Prominent neighbouring property tree. Should be protected due to being neighbours tree.	Surface impacts within TPZ for path construciton. Negligible root loss expected.	Retain and Protect
28	1	*Archontophoenix alexandrae*	**Alexandra Palm**	8.0	4.0	0.25	0.34	3.00	1.17	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**	Part of a closely spaced pair. Need to be treated as one.	Surface impacts within TPZ for path construciton. Negligible root loss expected.	Retain and Protect
29	1	*Archontophoenix alexandrae*	**Alexandra Palm**	8.0	4.0	0.25	0.30	3.00	1.15	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**	Part of a closely spaced pair. Need to be treated as one.	Surface impacts within TPZ for path construciton. Negligible root loss expected.	Retain and Protect
30	1	*Metasequoia glyptostroboides*	**Dawn Redwood**	17.0	9.0	0.62	0.75	7.44	2.93	Mature	Excellent	Excellent	Exotic		Long (>40 years)	**High**	Prominent and well formed specimen.	Surface impacts within TPZ and small proportion of SRZ due to path construction. Minor TPZ incursion of 6% in root zone for footings, unless the floors above the basement are constructed as cantilevers. Negligible affect to tree canopy. Minimal overal impacts expected with arborist monitoring of works with the TPZ.	Retain and Protect
31	1	*Ginkgo biloba*	**Ginkgo or Maidenhair Tree**	9.5	6.0	0.22	0.35	2.64	2.13	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**		Surface impacts within TPZ for path construciton. Negligible root loss expected.	Retain and Protect

Tree ID	Trees in Group	Tree Species	Common Name	Height (m)	Spread Average (m)	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Age Class	Current Vigour	Current Form	Tree Origin	Noted Defects	SULE Rating	Retention Value	General Comments and Notes	Incursion and Impact	Recommendation
32	1	*Phoenix canariensis*	**Canary Island Date Palm**	8.0	5.0	0.68	2.00	3.50	2.00	Mature	Good	Average	Exotic		Long (>40 years)	**High**	Very large diameter base to tree. Likely to relate and date to previous earlier periods of development in early 1900s.	Surface impacts due to introduction of a garden bed to a small portion of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
33	1	*Camellia sasanqua*	**Camellia**	7.5	4.0	0.20	0.22	2.40	1.75	Mature	Good	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Low**	Part of a longer and dense hedge planting but other specimens less than 5m in height.	Low value tree removed. No impact.	Remove
34	1	*Brachychiton acerifolius*	**Illawarra Flame Tree**	14.0	5.0	0.42	0.55	5.04	2.57	Mature	Good	Average	Endemic	Deadwood-Minor	Long (>40 years)	**Moderate**	Prominent butt sweep to north.	Surface impacts within TPZ for path construciton. Negligible root loss expected.	Retain and Protect
35	1	*Tibouchina lepidota*	**Lasiandra**	5.0	5.0	0.20	0.25	2.40	1.85	Mature	Fair	Average	Exotic		Medium (15-40 years)	**Low**		Low value tree removed. No impact.	Remove
36	1	*Polyscias elegans*	**Celery Wood**	8.0	6.0	0.45	0.67	5.40	2.80	Mature	Fair	Average	Native	Co-dominant Stems, Inclusions, Decay-Major, Cavity, Cracks/Splits	Medium (15-40 years)	**Low**	Numerous serious defects. Neighbouring public walkway tree.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
37	1	*Polyscias elegans*	**Celery Wood**	7.0	3.0	0.14	0.18	2.00	1.61	Semi-mature	Good	Average	Native	Epicormic Growth	Medium (15-40 years)	**Moderate**	Neighbouring public walkway tree.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
38	4	*Lagerstroemia indica*	**Crepe Myrtle**	7.0	4.0	0.34	0.60	4.08	2.67	Mature	Fair	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Moderate**	Closely spaced row planting of 4 trees, planted in public pathway, just outside boundary. Canopy and TPZ overhangs site.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
39	1	*Polyscias elegans*	**Celery Wood**	8.0	4.0	0.29	0.30	3.48	2.00	Mature	Fair	Average	Native	Co-dominant Stems, Inclusions	Medium (15-40 years)	**Moderate**	Neighbouring public pathway tree.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
40	1	*Magnolia x soulangiana*	**Magnolia**	6.0	5.0	0.21	0.33	2.52	2.08	Mature	Fair	Average	Exotic	Co-dominant Stems, Very Asymmetric Form	Medium (15-40 years)	**Low**	Trunk and branches impacting with fence.	Low value tree removed. No impact.	Remove
41	1	*Camellia sasanqua*	**Camellia**	7.0	4.0	0.12	0.15	2.00	1.49	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**	Neighbouring public path tree. Canopy and TPZ overhangs site.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
42	1	*Lagerstroemia indica*	**Crepe Myrtle**	7.0	5.0	0.19	0.18	2.28	1.61	Mature	Fair	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Moderate**	Neighbouring public path tree. Canopy and TPZ overhangs site.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
43	1	*Archontophoenix alexandrae*	**Alexandra Palm**	8.5	5.0	0.28	0.34	3.50	1.17	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**		Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
44	1	*Stenocarpus sinuatus*	**Queensland Firewheel Tree**	8.5	3.0	0.19	0.24	2.28	1.82	Mature	Fair	Poor	Native		Medium (15-40 years)	**Low**	Growing at the base of adjoining palm.	Low value tree removed. No impact.	Remove
45	2	*Alectryon tomentosus*	**Hairy Bird's Eye**	9.5	7.0	0.21	0.25	2.52	1.85	Mature	Excellent	Average	Native		Long (>40 years)	**Moderate**	Closely spaced group of two intergrown tree. Fence included within trunk of one. Prominent tree in good condition.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications. Minor canopy pruning may be required.	Retain and Protect
46	3	*Archontophoenix alexandrae*	**Alexandra Palm**	7.5	4.0	0.23	0.31	3.00	1.16	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**	Two of the specimens are 2 and 3 multi-trunked. Western specimen only single trunked. Located in public pathway property.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
47	1	*Archontophoenix alexandrae*	**Alexandra Palm**	7.5	4.0	0.22	0.25	3.00	1.13	Mature	Good	Average	Exotic		Long (>40 years)	**Moderate**	Located in public pathway property.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
48	1	*Brachychiton acerifolius*	**Illawarra Flame Tree**	11.5	8.0	0.66	0.75	7.92	2.93	Mature	Good	Average	Endemic		Long (>40 years)	**High**	Large tree on public walkway. TPZ encroaches on site.	Surface impacts due to introduction of a garden bed and path through part of the TPZ. Existing levels to be retained and planting to be carried out in accordance with AIA specifications.	Retain and Protect
49	1	*Toona ciliata*	**Red Cedar**	12.0	9.0	0.43	0.53	5.16	2.53	Mature	Good	Excellent	Endemic		Long (>40 years)	**High**	Prominent tree on site and well worth retention.	Minor TPZ incursion of 6 % due to basement piling. Major impact to tree crown, requiring removal of 20% of canopy. The design team has expressed support for adjusting the building designs at DA stage to facilitate keeping the tree.	Retain and Protect

Tree ID	Trees in Group	Tree Species	Common Name	Height (m)	Spread Average (m)	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Age Class	Current Vigour	Current Form	Tree Origin	Noted Defects	SULE Rating	Retention Value	General Comments and Notes	Incursion and Impact	Recommendation
50	1	*Tristaniopsis laurina*	**Water Gum**	13.5	8.0	0.50	0.56	6.00	2.59	Mature	Good	Excellent	Native		Long (>40 years)	**High**	Prominent tree on site and well worth retention. Very large specimen for species. Large lower branch pruned on eastern side otherwise OK.	Minor TPZ incursion of 10% for basement piling. Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Pruning to 12% of canopy required.	Retain and Protect
51	2	*Celtis sinensis*	**Chinese Hackberry**	12.0	8.0	0.40	0.48	4.80	2.43	Mature	Fair	Average	Weed	Very Asymmetric Form, Root Impacts	Long (>40 years)	**Low**	Neighbouring public path tree. Invasive species.	No impacts	Retain and Protect
52	1	*Camellia sasanqua*	**Camellia**	6.0	6.0	0.25	0.25	3.00	1.85	Mature	Good	Average	Exotic	Very Asymmetric Form	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
53	1	*Camellia sasanqua*	**Camellia**	7.0	6.0	0.40	0.40	4.80	2.25	Mature	Good	Average	Exotic	Co-dominant Stems, Inclusions, Very Asymmetric Form	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
54	2	*Camellia japonica*	**Japanese Camellia**	5.0	3.0	0.20	0.20	2.40	1.68	Mature	Good	Average	Exotic		Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
55	1	*Cyathea cooperi*	**Scaly Tree Fern**	6.0	3.0	0.10	0.15	2.00	1.49	Mature	Good	Average	Native		Medium (15-40 years)	**Low**		Low value tree removed. No impact.	Remove
56	1	*Jacaranda mimosifolia*	**Jacaranda**	9.5	11.0	0.55	0.57	6.60	2.61	Mature	Good	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Moderate**		Loss of Moderate value tree due to new building configuration. Loss will be compensated with new tree plantings.	Remove
57	1	*Fraxinus oxycarpa 'Raywood'*	**Claret Ash**	12.5	9.0	0.65	0.72	7.80	2.88	Mature	Fair	Poor	Exotic	Epicormic Growth	Medium (15-40 years)	**Low**	Heavily reduction pruned.	Low value tree removed. No impact.	Remove
58	1	*Magnolia x soulangiana*	**Magnolia**	8.0	6.0	0.24	0.40	2.88	2.25	Mature	Fair	Average	Exotic	Co-dominant Stems, Very Asymmetric Form	Medium (15-40 years)	**Low**	Fused branches, otherwise OK.	Low value tree removed. No impact.	Remove
59	1	*Camellia japonica*	**Japanese Camellia**	5.0	4.0	0.54	0.24	6.48	1.82	Mature	Good	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
60	1	*Liquidambar styraciflua*	**Liquidambar**	12.0	12.0	0.70	0.85	8.40	3.09	Mature	Fair	Average	Exotic		Long (>40 years)	**Moderate**		Tree is on council's exempt species list for its weed potential. No impact.	Remove
61	1	*Cyathea australis*	**Rough Tree Fern**	2.0	3.0	0.20	0.20	2.40	1.68	Mature	Good	Average	Native		Medium (15-40 years)	**Low**		Low value tree removed. No impact.	Remove
62	1	*Camellia japonica*	**Japanese Camellia**	5.0	2.0	0.13	0.13	2.00	1.40	Mature	Good	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Low**	Small specimen.	Low value tree removed. No impact.	Remove
63	1	*Camellia japonica*	**Japanese Camellia**	5.0	3.0	0.14	0.16	2.00	1.53	Mature	Good	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
64	1	*Camellia japonica*	**Japanese Camellia**	5.0	4.0	0.14	0.17	2.00	1.57	Mature	Fair	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
65	1	*Camellia sasanqua*	**Camellia**	5.0	4.0	0.20	0.21	2.40	1.72	Mature	Fair	Average	Exotic	Co-dominant Stems, Inclusions, Very Asymmetric Form	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
66	1	*Acer palmatum*	**Japanese Maple**	5.0	7.0	0.30	0.30	3.60	2.00	Mature	Fair	Average	Exotic	Co-dominant Stems, Epicormic Growth, Major Wounding	Medium (15-40 years)	**Low**	Sunscald to tops of most branches.	Low value tree removed. No impact.	Remove
67	1	*Camellia japonica*	**Japanese Camellia**	6.0	3.0	0.18	0.22	2.16	1.75	Mature	Good	Average	Exotic	Very Asymmetric Form	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
68	1	*Magnolia grandiflora*	**American Bull Bay Magnolia**	7.0	5.0	0.40	0.46	4.80	2.39	Mature	Fair	Average	Exotic		Long (>40 years)	**Moderate**	Noted as an ANZAC memorial tree, planted in 2015. Could be transplanted.	Moderate value tree to be transplanted to new location and reinstated as memorial planting.	Transplant to new location within the site
69	1	*Jacaranda mimosifolia*	**Jacaranda**	9.0	9.0	0.47	0.53	5.64	2.53	Mature	Good	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Moderate**	Growing in slightly raised bed.	Loss of Moderate value tree due to new building configuration. Loss will be compensated with new tree plantings.	Remove
70	1	*Prunus x subhirtella cv.*	**Weeping Cherry**	4.0	3.0	0.36	0.38	4.32	2.20	Mature	Fair	Average	Exotic		Medium (15-40 years)	**Low**		Low value tree removed. No impact.	Remove
71	1	*Callistemon citrinus cv.*	**Crimson Bottlebrush**	8.0	7.0	0.31	0.40	3.72	2.25	Mature	Fair	Average	Native	Co-dominant Stems, Inclusions	Medium (15-40 years)	**Low**		Low value tree removed. No impact.	Remove
72	2	*Camellia sasanqua*	**Camellia**	4.0	4.0	0.21	0.33	2.52	2.08	Mature	Good	Average	Exotic	Very Asymmetric Form, Co-dominant Stems	Long (>40 years)	**Low**		Low value trees removed for construction of ramp to basement. No impact.	Remove
73	1	*Tristaniopsis laurina*	**Water Gum**	10.0	6.0	0.35	0.46	4.20	2.39	Mature	Fair	Average	Native	Co-dominant Stems	Long (>40 years)	**Moderate**		Loss of Moderate value tree due to new building configuration. Loss will be compensated with new tree plantings.	Remove
74	1	*Callistemon viminalis cv.*	**Weeping Bottlebrush**	5.0	4.0	0.11	0.15	2.00	1.49	Mature	Fair	Average	Native		Medium (15-40 years)	**Low**		Low value tree removed. No impact.	Remove
75	1	*Syzygium paniculatum*	**Magenta Cherry**	5.0	3.0	0.11	0.15	2.00	1.49	Semi-mature	Fair	Average	Native		Replaceable (Small/Young)	**Low**		Low value tree removed. No impact.	Remove
76	1	*Pittosporum undulatum*	**Sweet Pittosporum**	8.0	6.0	0.43	0.59	5.16	2.65	Over-mature	Fair	Average	Endemic	Co-dominant Stems, Deadwood-Minor	Medium (15-40 years)	**Low**		Low value tree removed. No impact.	Remove
77	1	*Platanus orientalis*	**Oriental Plane Tree**	12.5	9.0	0.54	0.65	6.48	2.76	Mature	Fair	Average	Exotic		Long (>40 years)	**Moderate**		Minor TPZ incursion of 11% for basement piling. Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected. Pruning to 10% of canopy required.	Retain and Protect
78	1	*Camellia sasanqua*	**Camellia**	5.0	5.0	0.19	0.23	2.28	1.79	Mature	Good	Average	Exotic	Co-dominant Stems	Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
79	2	*Cyathea cooperi*	**Scaly Tree Fern**	5.0	3.0	0.10	0.15	2.00	1.49	Mature	Fair	Average	Native		Medium (15-40 years)	**Low**		Low value tree removed. No impact.	Remove
80	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	15.0	6.0	0.65	0.74	7.80	2.92	Mature	Fair	Average	Native	Co-dominant Stems	Long (>40 years)	**Moderate**		Minor TPZ incursion of 6% for basement piling. Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected.	Retain and Protect
81	1	*Ulmus parvifolia*	**Chinese Elm**	8.0	9.0	0.26	0.32	3.12	2.05	Mature	Fair	Average	Exotic	Very Asymmetric Form	Long (>40 years)	**Low**	Asymmetric to east. Propensity to be invasive due to self seeding.	Low value tree removed. No impact.	Remove
82	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	15.0	6.0	0.46	0.62	5.52	2.71	Mature	Fair	Average	Native		Long (>40 years)	**Moderate**		Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected.	Retain and Protect
83	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	15.0	5.0	0.41	0.54	4.92	2.55	Mature	Fair	Average	Native		Long (>40 years)	**Moderate**		Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected.	Retain and Protect
84	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	17.0	6.0	0.46	0.56	5.52	2.59	Mature	Fair	Average	Native	Lean-Minor	Long (>40 years)	**Moderate**		11% incursion into TPZ for basement piling. Root impacts likely to be negligible due to level change and presence of roadway on lower level. Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Some canopy pruning required.	Retain and Protect

Tree ID	Trees in Group	Tree Species	Common Name	Height (m)	Spread Average (m)	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Age Class	Current Vigour	Current Form	Tree Origin	Noted Defects	SULE Rating	Retention Value	General Comments and Notes	Incursion and Impact	Recommendation
85	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	12.5	4.0	0.21	0.26	2.52	1.88	Mature	Fair	Suppressed	Native		Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
86	1	*Eucalyptus microcorys*	**Tallowood**	16.0	12.0	0.79	0.84	9.48	3.08	Mature	Good	Average	Native		Long (>40 years)	**High**	Large and prominent tree.	20% incursion into TPZ for basement piling. Root impacts likely to be neglibible due to level change and presence of roadway on lower level. Some pruning required	Retain and Protect
87	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	15.0	5.0	0.42	0.52	5.04	2.51	Mature	Fair	Average	Native		Long (>40 years)	**Moderate**		Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected. Limited canopy pruning may be required.	Retain and Protect
88	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	12.0	6.0	0.26	0.31	3.12	2.02	Mature	Fair	Average	Native	Co-dominant Stems	Long (>40 years)	**Moderate**		Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected. Limited canopy pruning may be required.	Retain and Protect
89	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	12.0	3.0	0.23	0.28	2.76	1.94	Mature	Fair	Suppressed	Native		Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
90	1	*Eucalyptus microcorys*	**Tallowood**	17.5	10.0	0.71	0.83	8.52	3.06	Mature	Good	Average	Native	Branch Tearouts, Epicormic Growth	Long (>40 years)	**High**	Large and prominent tree.	23% incursion into TPZ for basement piling. Root impacts likely to be neglibible due to level change and presence of roadway on lower level. Up to 7% pruning of crown required.	Retain and Protect
91	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	11.0	4.0	0.27	0.35	3.24	2.13	Mature	Fair	Suppressed	Native		Long (>40 years)	**Low**		Low value tree removed. No impact.	Remove
92	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	15.0	4.0	0.35	0.56	4.20	2.59	Mature	Fair	Average	Native		Long (>40 years)	**Moderate**	Located on top large retaining. Root growth inhibited to east.	Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected.	Retain and Protect
93	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	16.5	4.0	0.37	0.58	4.44	2.63	Mature	Fair	Average	Native		Long (>40 years)	**Moderate**	Located on top large retaining. Root growth inhibited to east.	Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected.	Retain and Protect
94	1	*Melaleuca quinquenervia*	**Broad Leafed Paperbark**	16.5	6.0	0.64	0.83	7.68	3.06	Mature	Good	Average	Native	Branch Tearouts, Epicormic Growth	Long (>40 years)	**Moderate**	Edge of retaining wall but roots appear to have escaped and may be underneath adjoining road.	Suspended path to be constructed using tree-friendly methods. Any footings within TPZ will be located using root investigation. Negligible root loss expected.	Retain and Protect

4.3 Tree Data Summary Sheets

ID #	**01**
Species:	Cinnamomum camphora
Common:	Camphor Laurel
Height:	15.5
DBH: 1.29	DGL: 1.80
TPZ: 15	SRZ: 4.24
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**High**

Comments

Significant street tree in Rohini St. Ivy on trunk. Multitrunked from base. Slightly valley pruned for power lines.

ID #	**02**
Species:	Syagrus romanzoffiana
Common:	Queen Palm
Height:	13.50
DBH: 0.31	DGL: 0.40
TPZ: 3.72	SRZ: 2.25
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Low**

Comments

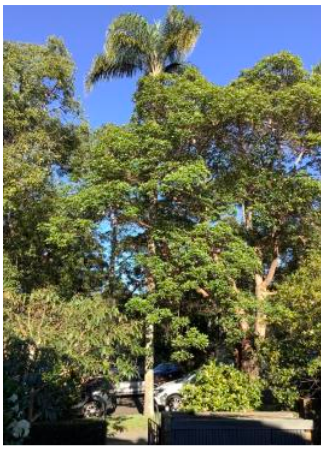
Street tree on Rohini St.

ID #	**03**
Species:	Cinnamomum camphora
Common:	Camphor Laurel
Height:	14.50
DBH: 1.00	DGL: 1.00
TPZ: 12	SRZ: 3.31
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**High**

Comments

Significant street tree in Rohini St. Only a support cable to powerlines passing through tree.

ID #	**04**
Species:	Syagrus romanzoffiana
Common:	Queen Palm
Height:	10.5
DBH: 0.33	DGL: 0.43
TPZ: 3.96	SRZ: 2.32
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Low**



Comments

Street tree on Rohini St. Climbing spike wounds otherwise OK.

ID #	**05**
Species:	Lophostemon confertus
Common:	Brush Box
Height:	11.5
DBH: 0.98	DGL: 0.98
TPZ: 11.76	SRZ: 3.28
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**High**

Comments

Prominent street tree on Rohini St.

ID #	**06**
Species:	Syagrus romanzoffiana
Common:	Queen Palm
Height:	11.5
DBH: 0.28	DGL: 0.41
TPZ: 3.36	SRZ: 2.28
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Low**

Comments

Street tree on Rohini St..

ID # **07**
Species: Lophostemon confertus
Common: Brush Box
Height: 10.5
DBH: 0.65 DGL: 0.86
TPZ: 7.8 SRZ: 3.11
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **High**
Comments

Prominent street tree on Rohini St.

ID # **08**
Species: Syagrus romanzoffiana
Common: Queen Palm
Height: 12.0
DBH: 0.31 DGL: 0.51
TPZ: 3.72 SRZ: 2.49
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

Street tree on Rohini St.

ID # **09**
Species: Lophostemon confertus
Common: Brush Box
Height: 11.5
DBH: 0.74 DGL: 0.77
TPZ: 8.88 SRZ: 2.97
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **High**
Comments

ID # **10**
Species: Eucalyptus pilularis
Common: Blackbutt
Height: 32.5
DBH: 1.06 DGL: 1.21
TPZ: 12.72 SRZ: 3.59
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **High**
Comments

Previous codominant trunk now removed. Endemic species representative of Blue Gum High Forest community. No obvious signs of any serious defect or decay.

ID # **11**
Species: Camellia sasanqua
Common: Camellia
Height: 5.0
DBH: 0.17 DGL: 0.20
TPZ: 2.04 SRZ: 1.68
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # **12**
Species: Jacaranda mimosifolia
Common: Jacaranda
Height: 9.5
DBH: 0.38 DGL: 0.38
TPZ: 4.56 SRZ: 2.2
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # **13**
Species: Archontophoenix alexandrae
Common: Alexandra Palm
Height: 7.0
DBH: 0.26 DGL: 0.37
TPZ: 3.12 SRZ: 2.18
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**

Comments

Part of a closely spaced pair.

ID # **14**
Species: Archontophoenix alexandrae
Common: Alexandra Palm
Height: 6.0
DBH: 0.26 DGL: 0.36
TPZ: 3.12 SRZ: 2.15
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**

Comments

Part of a closely spaced pair.

ID # **15**
Species: Camellia japonica
Common: Japanese Camellia
Height: 5.0
DBH: 0.22 DGL: 0.20
TPZ: 2.64 SRZ: 1.68
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**

Comments

ID # **16**
Species: Celtis sinensis
Common: Chinese Hackberry
Height: 7.0
DBH: 0.23 DGL: 0.33
TPZ: 2.76 SRZ: 2.08
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**

Comments

Neighbouring property tree. Invasive weed species, no need to significantly protect.

ID # **17**
Species: Rhaphiolepis indica
Common: Indian Hawthorn
Height: 7.0
DBH: 0.25 DGL: 0.42
TPZ: 3 SRZ: 2.3
Current Form: Average
Current Vigour: Excellent
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Moderate**

Comments

Neighbouring property tree. Canopy overhangs boundary. Excellent lower and dense screening tree.

ID # **18**
Species: Malus sp. Hybrid cv.
Common: Crabapple
Height: 6.5
DBH: 0.34 DGL: 0.48
TPZ: 4.08 SRZ: 2.43
Current Form: Poor
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**

Comments

Significantly crown raised and large branches historically pruned.

ID # **19**
Species: Jacaranda mimosifolia
Common: Jacaranda
Height: 9.0
DBH: 0.56 DGL: 0.60
TPZ: 6.72 SRZ: 2.67
Current Form: Poor
Current Vigour: Excellent
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**

Comments

Major lean through lower trunk. Asymmetric form to north. Very important tension roots observed on southern side of tree passing under boundary.

ID # **22**
Species: Jacaranda mimosifolia
Common: Jacaranda
Height: 12.5
DBH: 0.47 DGL: 0.52
TPZ: 5.64 SRZ: 2.51
Current Form: Excellent
Current Vigour: Excellent
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **High**

Comments

Prominent and well formed specimen. Recommend to be a focus for retention.

ID # **20**
Species: Jacaranda mimosifolia
Common: Jacaranda
Height: 10.5
DBH: 0.55 DGL: 0.65
TPZ: 6.6 SRZ: 2.76
Current Form: Average
Current Vigour: Excellent
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **High**

Comments

Neighbouring property tree.

ID # **23**
Species: Ficus benjamina 'Variegata'
Common: Variegated Weeping Fig
Height: 6.5
DBH: 0.29 DGL: 0.27
TPZ: 3.48 SRZ: 1.91
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**

Comments

Variegated form. Good screening tree on boundary.

ID # **21**
Species: Ceratopetalum gummiferum
Common: New South Wales Christmas Bush
Height: 5.5
DBH: 0.09 DGL: 0.12
TPZ: 2 SRZ: 1.5
Current Form: Average
Current Vigour: Poor
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**

Comments

Generally poor specimen.

ID # **24**
Species: Camellia sasanqua
Common: Camellia
Height: 6.5
DBH: 0.26 DGL: 0.25
TPZ: 3.12 SRZ: 1.85
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**

Comments

Neighbouring property tree. Very elongated and suppressed form but should be protected due to being neighbours tree.

ID # 25
Species: Persea gratissima
Common: Avocado
Height: 6.5
DBH: 0.14 DGL: 0.22
TPZ: 2 SRZ: 1.75
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: Low

Comments

Neighbouring property tree. Leans away from site.

ID # 26
Species: Fraxinus angustifolia (syn.F.oxycarpa)
Common: Narrow-leaf Ash
Height: 12.5
DBH: 0.55 DGL: 0.65
TPZ: 6.6 SRZ: 2.76
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: Moderate

Comments

Historically vine covered. Neighbouring property tree. Bhould be protected due to being neighbours tree.

ID # 27
Species: Grevillea robusta
Common: Silky Oak
Height: 16.50
DBH: 0.65 DGL: 0.80
TPZ: 7.8 SRZ: 3.01
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: Moderate

Comments

Prominent neighbouring property tree. Should be protected due to being neighbours tree.

ID # 28
Species: Archontophoenix alexandrae
Common: Alexandra Palm
Height: 8.0
DBH: 0.25 DGL: 0.34
TPZ: 3 SRZ: 2.1
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: Moderate

Comments

Part of a closely spaced pair. Need to be treated as one.

ID # 29
Species: Archontophoenix alexandrae
Common: Alexandra Palm
Height: 8.0
DBH: 0.25 DGL: 0.30
TPZ: 3 SRZ: 2
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: Moderate

Comments

Part of a closely spaced pair. Need to be treated as one.

ID # 30
Species: Metasequoia glyptostroboides
Common: Dawn Redwood
Height: 17.0
DBH: 0.62 DGL: 0.75
TPZ: 7.44 SRZ: 2.93
Current Form: Excellent
Current Vigour: Excellent
Age Class: Mature
SULE: Long (>40 years)
Retention Value: High

Comments

Prominent and well formed specimen.

ID #	**31**
Species:	Ginkgo biloba
Common:	Ginkgo or Maidenhair Tree
Height:	9.5
DBH: 0.22	DGL: 0.35
TPZ: 2.64	SRZ: 2.13
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Moderate**

Comments

ID #	**32**
Species:	Phoenix canariensis
Common:	Canary Island Date Palm
Height:	8.0
DBH: 0.68	DGL: 2.00
TPZ: 8.16	SRZ: 4.43
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**High**

Comments

Very large diameter base to tree. Likely to relate and date to previous earlier periods of development in early 1900s.

ID #	**33**
Species:	Camellia sasanqua
Common:	Camellia
Height:	7.5
DBH: 0.20	DGL: 0.22
TPZ: 2.4	SRZ: 1.75
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Low**

Comments

Part of a longer and dense hedge planting but other specimens less than 5m in height.

ID #	**34**
Species:	Brachychiton acerifolius
Common:	Illawarra Flame Tree
Height:	14.0
DBH: 0.42	DGL: 0.55
TPZ: 5.04	SRZ: 2.57
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Moderate**

Comments

Prominent butt sweep to north.

ID #	**35**
Species:	Tibouchina lepidota
Common:	Lasiandra
Height:	5.0
DBH: 0.20	DGL: 0.25
TPZ: 2.4	SRZ: 1.85
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Medium (15-40 years)
Retention Value:	**Low**

Comments

ID #	**36**
Species:	Polyscias elegans
Common:	Celery Wood
Height:	8.0
DBH: 0.45	DGL: 0.67
TPZ: 5.4	SRZ: 2.8
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Medium (15-40 years)
Retention Value:	**Low**

Comments

Numerous serious defects. Neighbouring public walkway tree.

ID # **37**
Species: Polyscias elegans
Common: Celery Wood
Height: 7.0
DBH: 0.14 DGL: 0.18
TPZ: 2 SRZ: 1.61
Current Form: Average
Current Vigour: Good
Age Class: Semi-mature
SULE: Medium (15-40 years)
Retention Value: **Moderate**

Comments

Neighbouring public walkway tree.

ID # **38**
Species: Lagerstroemia indica
Common: Crepe Myrtle
Height: 7.0
DBH: 0.34 DGL: 0.60
TPZ: 4.08 SRZ: 2.67
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**

Comments

Closely spaced row planting of 4 trees, planted in public pathway, just outside boundary. Canopy and TPZ overhangs site.

ID # **39**
Species: Polyscias elegans
Common: Celery Wood
Height: 8.0
DBH: 0.29 DGL: 0.30
TPZ: 3.48 SRZ: 2
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Moderate**

Comments

Neighbouring public pathway tree.

ID # **40**
Species: Magnolia x soulangiana
Common: Magnolia
Height: 6.0
DBH: 0.21 DGL: 0.33
TPZ: 2.52 SRZ: 2.08
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**

Comments

Trunk and branches impacting with fence.

ID # **41**
Species: Camellia sasanqua
Common: Camellia
Height: 7.0
DBH: 0.12 DGL: 0.15
TPZ: 2 SRZ: 1.5
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**

Comments

Neighbouring public path tree. Canopy and TPZ overhangs site.

ID # **42**
Species: Lagerstroemia indica
Common: Crepe Myrtle
Height: 7.0
DBH: 0.19 DGL: 0.18
TPZ: 2.28 SRZ: 1.61
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**

Comments

Neighbouring public path tree. Canopy and TPZ overhangs site.

ID # 43
Species: Archontophoenix alexandrae
Common: Alexandra Palm
Height: 8.5
DBH: 0.28 DGL: 0.34
TPZ: 3.36 SRZ: 2.1
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # 46
Species: Archontophoenix alexandrae
Common: Alexandra Palm
Height: 7.5
DBH: 0.23 DGL: 0.31
TPZ: 2.76 SRZ: 2.02
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

Two of the specimens are 2 and 3 multi-trunked. Western specimen only single trunked. Located in public pathway property.

ID # 44
Species: Stenocarpus sinuatus
Common: Queensland Firewheel Tree
Height: 8.5
DBH: 0.19 DGL: 0.24
TPZ: 2.28 SRZ: 1.82
Current Form: Poor
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

Growing at the base of adjoining palm.

ID # 47
Species: Archontophoenix alexandrae
Common: Alexandra Palm
Height: 7.5
DBH: 0.22 DGL: 0.25
TPZ: 2.64 SRZ: 1.85
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

Located in public pathway property.

ID # 45
Species: Alectryon tomentosus
Common: Hairy Bird's Eye
Height: 9.5
DBH: 0.21 DGL: 0.25
TPZ: 2.52 SRZ: 1.85
Current Form: Average
Current Vigour: Excellent
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

Closely spaced group of two intergrown tree. Fence included within trunk of one. Prominent tree in good condition.

ID # 48
Species: Brachychiton acerifolius
Common: Illawarra Flame Tree
Height: 11.5
DBH: 0.66 DGL: 0.75
TPZ: 7.92 SRZ: 2.93
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **High**
Comments

Large tree on public walkway. TPZ encroaches on site.

ID # **49**
Species: Toona ciliata
Common: Red Cedar
Height: 12.0
DBH: 0.43 DGL: 0.53
TPZ: 5.16 SRZ: 2.53
Current Form: Excellent
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **High**
Comments

Prominent tree on site and well worth retention.

ID # **50**
Species: Tristaniopsis laurina
Common: Water Gum
Height: 13.5
DBH: 0.5 DGL: 0.56
TPZ: 6 SRZ: 2.59
Current Form: Excellent
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **High**
Comments

Prominent tree on site and well worth retention. Very large specimen for species. Large lower branch pruned on eastern side otherwise OK.

ID # **51**
Species: Celtis sinensis
Common: Chinese Hackberry
Height: 12.0
DBH: 0.40 DGL: 0.48
TPZ: 4.8 SRZ: 2.43
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

Neighbouring public path tree. Invasive species.

ID # **52**
Species: Camellia sasanqua
Common: Camellia
Height: 6.0
DBH: 0.25 DGL: 0.25
TPZ: 3 SRZ: 1.85
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # **53**
Species: Camellia sasanqua
Common: Camellia
Height: 7.0
DBH: 0.4 DGL: 0.4
TPZ: 4.8 SRZ: 2.25
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # **54**
Species: Camellia japonica
Common: Japanese Camellia
Height: 5.0
DBH: 0.2 DGL: 0.2
TPZ: 2.4 SRZ: 1.68
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # 55
Species: Cyathea cooperi
Common: Scaly Tree Fern
Height: 6.0
DBH: 0.10 DGL: 0.15
TPZ: 2 SRZ: 1.5
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

ID # 58
Species: Magnolia x soulangiana
Common: Magnolia
Height: 8.0
DBH: 0.24 DGL: 0.40
TPZ: 2.88 SRZ: 2.25
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

Fused branches, otherwise OK.

ID # 56
Species: Jacaranda mimosifolia
Common: Jacaranda
Height: 9.5
DBH: 0.55 DGL: 0.57
TPZ: 6.6 SRZ: 2.61
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # 59
Species: Camellia japonica
Common: Japanese Camellia
Height: 5.0
DBH: 0.54 DGL: 0.24
TPZ: 6.48 SRZ: 1.82
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # 57
Species: Fraxinus oxycarpa 'Raywood'
Common: Claret Ash
Height: 12.5
DBH: 0.65 DGL: 0.72
TPZ: 7.8 SRZ: 2.88
Current Form: Poor
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

Heavily reduction pruned.

ID # 60
Species: Liquidambar styraciflua
Common: Liquidambar
Height: 12.0
DBH: 0.70 DGL: 0.85
TPZ: 8.4 SRZ: 3.09
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # **61**
Species: Cyathea australis
Common: Rough Tree Fern
Height: 2.0
DBH: 0.2 DGL: 0.2
TPZ: 2.4 SRZ: 1.68
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

ID # **62**
Species: Camellia japonica
Common: Japanese Camellia
Height: 5.0
DBH: 0.13 DGL: 0.13
TPZ: 2 SRZ: 1.5
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

Small specimen.

ID # **63**
Species: Camellia japonica
Common: Japanese Camellia
Height: 5.0
DBH: 0.14 DGL: 0.16
TPZ: 2 SRZ: 1.53
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # **64**
Species: Camellia japonica
Common: Japanese Camellia
Height: 5.0
DBH: 0.14 DGL: 00.17
TPZ: 2 SRZ: 1.57
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # **65**
Species: Camellia sasanqua
Common: Camellia
Height: 5.0
DBH: 0.20 DGL: 0.21
TPZ: 2.4 SRZ: 1.72
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # **66**
Species: Acer palmatum
Common: Japanese Maple
Height: 5.0
DBH: 0.30 DGL: 0.30
TPZ: 3.6 SRZ: 2
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

Sunscald to tops of most branches.

ID # 67
Species: Camellia japonica
Common: Japanese Camellia
Height: 6.0
DBH: 0.18 DGL: 0.22
TPZ: 2.16 SRZ: 1.75
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # 68
Species: Magnolia grandiflora
Common: American Bull Bay Magnolia
Height: 7.0
DBH: 0.40 DGL: 0.46
TPZ: 4.8 SRZ: 2.39
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

Noted as an ANZAC memorial tree, planted in 2015. Could be transplanted.

ID # 69
Species: Jacaranda mimosifolia
Common: Jacaranda
Height: 9.0
DBH: 0.47 DGL: 0.53
TPZ: 5.64 SRZ: 2.53
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

Growing in slightly raised bed.

ID # 70
Species: Prunus x subhirtella cv.
Common: Weeping Cherry
Height: 4.0
DBH: 0.36 DGL: 0.38
TPZ: 4.32 SRZ: 2.2
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

ID # 71
Species: Callistemon citrinus cv.
Common: Crimson Bottlebrush
Height: 8.0
DBH: 0.31 DGL: 0.40
TPZ: 3.72 SRZ: 2.25
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

ID # 72
Species: Camellia sasanqua
Common: Camellia
Height: 4.0
DBH: 0.21 DGL: 0.33
TPZ: 2.52 SRZ: 2.08
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # 73
Species: Tristaniopsis laurina
Common: Water Gum
Height: 10.0
DBH: 0.35 DGL: 0.46
TPZ: 4.2 SRZ: 2.39
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # 74
Species: Callistemon viminalis cv.
Common: Weeping Bottlebrush
Height: 5.0
DBH: 0.11 DGL: 0.15
TPZ: 2 SRZ: 1.5
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

ID # 75
Species: Syzygium paniculatum
Common: Magenta Cherry
Height: 5.0
DBH: 0.11 DGL: 0.15
TPZ: 2 SRZ: 1.5
Current Form: Average
Current Vigour: Fair
Age Class: Semi-mature
SULE: Replaceable
Retention Value: **Low**
Comments

ID # 76
Species: Pittosporum undulatum
Common: Sweet Pittosporum
Height: 8.0
DBH: 0.43 DGL: 0.59
TPZ: 5.16 SRZ: 2.65
Current Form: Average
Current Vigour: Fair
Age Class: Over-mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

ID # 77
Species: Platanus orientalis
Common: Oriental Plane Tree
Height: 12.5
DBH: 0.54 DGL: 0.65
TPZ: 6.48 SRZ: 2.76
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # 78
Species: Camellia sasanqua
Common: Camellia
Height: 5.0
DBH: 0.19 DGL: 0.23
TPZ: 2.28 SRZ: 1.79
Current Form: Average
Current Vigour: Good
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # 79
Species: Cyathea cooperi
Common: Scaly Tree Fern
Height: 5.0
DBH: 0.10 DGL: 0.15
TPZ: 2 SRZ: 1.5
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Medium (15-40 years)
Retention Value: **Low**
Comments

ID # 82
Species: Melaleuca quinquenervia
Common: Broad Leafed Paperbark
Height: 15.0
DBH: 0.46 DGL: 0.62
TPZ: 5.52 SRZ: 2.71
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # 80
Species: Melaleuca quinquenervia
Common: Broad Leafed Paperbark
Height: 15.0
DBH: 0.65 DGL: 0.74
TPZ: 7.8 SRZ: 2.92
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # 83
Species: Melaleuca quinquenervia
Common: Broad Leafed Paperbark
Height: 15.0
DBH: 0.41 DGL: 0.54
TPZ: 4.92 SRZ: 2.55
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

ID # 81
Species: Ulmus parvifolia
Common: Chinese Elm
Height: 8.0
DBH: 0.26 DGL: 0.32
TPZ: 3.12 SRZ: 2.05
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Low**
Comments

ID # 84
Species: Melaleuca quinquenervia
Common: Broad Leafed Paperbark
Height: 17.0
DBH: 0.46 DGL: 0.56
TPZ: 5.52 SRZ: 2.59
Current Form: Average
Current Vigour: Fair
Age Class: Mature
SULE: Long (>40 years)
Retention Value: **Moderate**
Comments

Asymmetric to east. Propensity to be invasive due to self seeding.

ID #	**85**
Species:	Melaleuca quinquenervia
Common:	Broad Leafed Paperbark
Height:	12.5
DBH: 0.21	DGL: 0.26
TPZ: 2.52	SRZ: 1.88
Current Form:	Suppressed
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Low**

Comments

ID #	**88**
Species:	Melaleuca quinquenervia
Common:	Broad Leafed Paperbark
Height:	12.0
DBH: 0.26	DGL: 0.31
TPZ: 3.12	SRZ: 2.02
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Moderate**

Comments

ID #	**86**
Species:	Eucalyptus microcorys
Common:	Tallowood
Height:	16.0
DBH: 0.79	DGL: 0.84
TPZ: 9.48	SRZ: 3.08
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**High**

Comments

Large and prominent tree.

ID #	**89**
Species:	Melaleuca quinquenervia
Common:	Broad Leafed Paperbark
Height:	12.0
DBH: 0.23	DGL: 0.28
TPZ: 2.76	SRZ: 1.94
Current Form:	Suppressed
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Low**

Comments

ID #	**87**
Species:	Melaleuca quinquenervia
Common:	Broad Leafed Paperbark
Height:	15.0
DBH: 0.42	DGL: 0.52
TPZ: 5.04	SRZ: 2.51
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Moderate**

Comments

ID #	**90**
Species:	Eucalyptus microcorys
Common:	Tallowood
Height:	17.5
DBH: 0.71	DGL: 0.83
TPZ: 8.52	SRZ: 3.06
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**High**

Comments

Large and prominent tree.

ID #	**91**
Species:	Melaleuca quinquenervia
Common:	Broad Leafed Paperbark
Height:	11.0
DBH: 0.27	DGL: 0.35
TPZ: 3.24	SRZ: 2.13
Current Form:	Suppressed
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Low**

Comments

ID #	**94**
Species:	Melaleuca quinquenervia
Common:	Broad Leafed Paperbark
Height:	16.5
DBH: 0.64	DGL: 0.83
TPZ: 7.68	SRZ: 3.06
Current Form:	Average
Current Vigour:	Good
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Moderate**

Comments

Edge of retaining wall but roots appear to have escaped and may be underneath adjoining road.

ID #	**92**
Species:	Melaleuca quinquenervia
Common:	Broad Leafed Paperbark
Height:	15.0
DBH: 0.35	DGL: 0.56
TPZ: 4.2	SRZ: 2.59
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Moderate**

Comments

Located on top large retaining. Root growth inhibited to east.

ID #	**93**
Species:	Melaleuca quinquenervia
Common:	Broad Leafed Paperbark
Height:	16.5
DBH: 0.37	DGL: 0.58
TPZ: 4.44	SRZ: 2.63
Current Form:	Average
Current Vigour:	Fair
Age Class:	Mature
SULE:	Long (>40 years)
Retention Value:	**Moderate**

Comments

Located on top large retaining. Root growth inhibited to east.