TREE WISE MEN®
AUSTRALIA PTY LTD

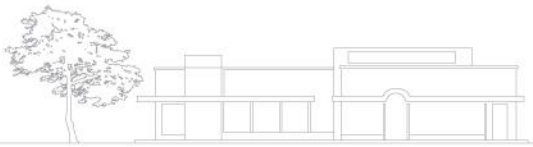
Arboricultural Impact Assessment
For
White City Redevelopment (Stage 2)
At
30 Alma Street
PADDINGTON

Prepared for:

Hakoah Club Limited
30 Alma Street
PADDINGTON NSW 2021

Ref: 2601AIA

April 2019



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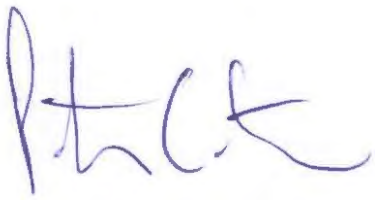

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Member: IACA, AA, ISA, LGTRA, PIA, UDIA, MAE (UK)
28 April 2019

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1. EXECUTIVE SUMMARY

1.1 THE PROPOSED DEVELOPMENT

1.1.1 This Arboricultural Impact Assessment (AIA) was prepared for the Hakoah Club Limited in relation to the Stage 2 development of the Hakoah Club and Maccabi Tennis Centre (White City) at 30 Alma Street, Paddington (the subject site).

1.1.2 This AIA addresses the relevant *B.6 and B.7 Consent Conditions* so as to coordinate accurately with the Landscape Plan in terms of trees being retained, transplanted or removed. The Landscape Plan is to be prepared by others.

1.1.3 The tree numbers adopted are those used in the earlier Stage 1 AIA prepared by TreeiQ dated 1 September, 2015. The tree data contained in that earlier AIA has been verified and where necessary revised. An additional nineteen (19) trees (Trees 98-116) have been assessed given that works now proposed in the southeastern corner of the site.

1.2 TREE IMPACTS

1.2.1 A summary of trees to the retained, removed or transplanted by ©Retention Value is contained in the Tree Schedule (Attachment A).

1.2.2 Of the one hundred and sixteen (116) assessed trees, thirty two (32) can be retained, seventy four (74) need to be removed and one (1) tree, Tree 4 is to be transplanted for the Stage 2 development. Nine (9) trees have been removed since the 2015 assessment.

1.2.3 Only Tree 101 on Glenmore Road verge is to be removed to allow for the new Carpark entrance in the southeastern corner of the site.

1.2.4 All the trees adjoining the Sydney Grammar Preparation School are to be removed with the exception of Tree 4 (Canary Island Date Palm, *Phoenix canariensis*) which is to be transplanted.

1.2.5 Most of the low ©Retention Value trees along the northeastern boundary are to be removed to allow for Carparking, soccer field or open grassed area. Trees 45 and 51 are to be retained as per Stage 1 *Consent Condition B.6*. Trees 37, 94, 95 and 96 are to be retained adjacent to Open Grassed Area 2.

1.2.6 No trees on adjoining private properties are to be removed or are impacted.

1.2.7 Of the seventy four (74) trees to be removed there were forty one (41) listed as *Noxious weeds*[1] *and Exempt species* under *E3.4.1* of the *WDCP 2014*. This includes nine (9) trees greater than 10m in height (including Chinese Hackberry, *Celtis sinensis*, African Olive, *Olea europaea subsp. cuspidata*, Cocos Palm, *Syagrus romanzoffianum* and Camphor Laurel, *Cinnamomum camphora*) which will require Council notification prior to removal.

[1] Noxious Weeds in NSW are now referred to as Priority Weeds under the new Biosecurity Act 2015 which repealed the Noxious Weeds Act 1993.

2. BACKGROUND

2.1 INTRODUCTION

2.1.1 This Arboricultural Impact Assessment (AIA) was prepared for the Hakoah Club Limited in relation to the Stage 2 development of the Hakoah Club and Maccabi Tennis Centre (White City) at 30 Alma Street, Paddington (the subject site).

2.1.2 Stage 1 concept proposal *DA 438/2015/1* was approved by Woollahra Council in *Notice of Determination* dated 15 December, 2015. *Part B – Conditions to be met in future development application(s) for Stage 2* included *Trees and Landscape* B.6 and B.7 which stated:

B.6 A Landscape Plan for the whole site and the adjoining public domain areas and road reserves shall be submitted with any future development application(s) for Stage 2. The Landscape Plan shall include a planting scheme that does not obscure significant views and maintains the open valley floor character of the site in accordance with the Policy No. 24 of the approved Conservation Management Plan. The Landscape Plan shall address the following matters:

- *Retention of trees 45 and 51;*
- *Retention in-situ or transplanting of trees 4 and 16;*
- *Retention or replacement planting for tree 24;*
- *Replacement planting in the south-west area of the site (consistent with TPO approval 358/20144/1 which included the re=planting of 3x400 litre trees at the south-western boundary;*
- *Replacement planting along the eastern boundary adjoining Sydney Grammar School and*
- *Retention of [or] replacement planting of trees 2, 3 4, 6 and 8 located at the southern boundary of the existing carpark adjoining Sydney Grammar School.*

B.7 Future development application(s) shall include an Arborist Report [AIA]. The Arborist report shall include a Tree Protection Plan and Exploratory Root Mapping for major encroachments as follows:

- *Exploratory root mapping for major encroachment to Council street 85, 86, 88 and 89 located on Glenmore Road;*
- *Tree protection plan for Council street trees 85, 86 and 89 located on Glenmore Road and the trees adjacent to the sports field.*

2.1.3 This AIA addresses the relevant *B.6 and B.7 Consent Conditions* so as to coordinate accurately with the Landscape Plan in terms of trees being retained, transplanted or removed. The Landscape Plan is to be prepared by others.

2.1.4 The purpose of this AIA is to describe and categorise the existing trees on and adjacent to the subject site (as at 26 March, 2019) and to assess the impact of the Stage 2 development on these trees.

2.1.5 This AIA will assist in the preparation of the Statement of Environmental Effects forming part of the Development Application (DA) to Woollahra Council.

2.1.6 This AIA acknowledged the objectives *E3.1.3* of the *Woollahra Council DCP Chapter E3 - Tree Management*

2.1.7 Australian Standard *AS4970-2009 Protection of trees on development sites* has been used as a benchmark in the preparation of this Report.

2.2 THE SUBJECT TREES

2.2.1 The general findings and data collected for each of the one hundred and sixteen (116) subject trees are contained in Tree Schedule (Attachment A). The trees are numbered and located on the Tree Protection Plan (Attachment D). The tree numbering system used in the TreeiQ 2015 Report has been adopted.

2.2.2 As indicated in the Locality Plan the existing trees are predominantly located around the perimeter of the site.

2.2.3 The subject trees are planted exotics and locally indigenous Australian natives with the street trees on Glenmore Road being the most significant individual trees given their size and impact on the Glenmore Road streetscape. There was an unmanaged, dense bank of vegetation in the south-western section of the property adjoining Sydney Grammar Preparation School. This vegetation is to be removed and replanted.

2.2.4 Of the one hundred and sixteen (116) assessed trees nine (9) had been removed since the 2015 TreeiQ AIA assessment. The previously removed trees included Trees 22, 23, 24, 31, 32, 33, 34, 80 and Tree 90.

2.2.5 An additional nineteen (19) trees (Trees 98-116) have been assessed since the 2015 TreeiQ Report given that works now proposed in the southeastern corner of the site.

2.3 THE SUBJECT SITE

2.3.1 The subject site currently consists of the Hakoah Club, Maccabi Tennis Centre and associated Carpark and extensive open play ground areas with vegetation adjacent to the boundaries. The site adjoins Sydney Grammar Preparation School to the southwest, Weigall Playing Fields to the west, a stormwater channel (Rushcutters Creek) to the northeast and residential apartments to the east. Refer to the *Location and Context* plan *DA-1846-01 Issue A* prepared by Sturt Noble Associates Landscape Architects for further detail of the existing site features.

2.3.2 The pre-development Soil Landscape[2] for the site is indicated as Hawkesbury (*9130ha*) at the upper Glenmore Road section and Disturbed 9130xx for the low section of the site. Hawkesbury Soil Landscape is characterised by rugged, rolling to very steep hills on Hawkesbury Sandstone. None of the assessed trees on the site are typical of those found naturally on this soil landscape. Soil depth over rock will vary across the site. The original pre-settlement soil profiles across the site are likely to have been highly altered during earlier development and levelling of the lower sections of the site.

[2] **Chapman, G.A. and Murphy, C.L.** (1989). *Soil Landscapes of the Sydney 1:100000 Sheet. Soil Conservation Service of NSW, Sydney.*

Locality Plan: 30 Alma Street (source SixMap)

2.4 THE PROPOSAL

2.4.1 The proposed development is for new Carparking, sporting facilities including tennis courts, basketball courts, soccer field, indoor and outdoor swimming pool, Grandstands and a Prop Shop. The Stage 2 development follows the approval of the Stage 1 concept proposal *DA 438/2015/1*. The *Trees and Landscape Consent Conditions B.6 and B.7* are considered in this AIA.

2.4.2 The recommendations and comments in this Report assume the following:

- A high quality, shady, outdoor environment is desired.
- The amenity of the adjoining neighbours needs to be considered.
- Existing landscape character should be retained where possible through the retention of existing significant trees.
- The objectives of Chapter 3 Tree Management of Woollahra Council DCP 2015 are complied with.

3. METHODOLOGY

3.1 DATA COLLECTION

3.1.1 In preparation of this Report a ground level, visual tree assessment (VTA)[3] was undertaken on 13 March, 2019. No aerial (climbing) inspections, woody tissue testing or tree root mapping were undertaken as part of this assessment.

3.1.2 The tree data contained in the TreeiQ AIA and Tree Protection Specification Report 1 September 2015 was verified. Relevant amendments have been including trees which have been subsequently removed. Preliminary arboricultural advice has been provided to the design team to assist with the proposed layout.

3.1.3 Attachment B provides definition of arboricultural terms used in this Report. Tree heights were estimated. Trunk diameter at breast height (DBH) was measured at 1.4 metres above ground level (unless otherwise stated) and rounded to the nearest centimetre. Structural Root Zones (SRZ) and Tree Protection Zones (TPZ) radii were rounded to the nearest 0.1 metre.

3.1.4 All tree offsets mentioned in this Report are to centre of trunk unless otherwise stated.

3.2 IDENTIFICATION OF SUBJECT TREES

3.2.1 The one hundred and sixteen (116) assessed trees included the ninety seven (97) TreeiQ assessed trees and an additional nineteen (19) trees in the southeastern corner adjacent the new Driveway entrance from Glenmore Road. The ninety seven (97) TreeiQ trees were indicated on *Tree Retention Assessment Plan MPDA 7100 Issue A* at Appendix 3. The additional nineteen (19) trees in the southeastern corner are indicated on the *Dunlop Thorpe & Co Detail Survey* dated 15.9.14.

3.2.2 Trees 81-92 and Trees 98-102 were located on the Glenmore Road verge. Tree 103 was located on the adjoining property to the southeast.

3.2.3 None of the trees have been tagged/numbered on site.

3.3 DOCUMENTS AND PLANS REFERENCED

3.3.1 The conclusions and recommendations in this Report are based on the findings from the site inspection, discussions with the client, Project Architect and analysis of the following Plans and documents:

- *Architectural Drawing Set Job 5669, DDA 000, Issue 02 to 7004, Issue 02* prepared by CotteeParker JPRA.
- *Architectural Drawing Set Job 5669, DA 1007, Issue C, DA2010, Issue C to 2013, Issue C* prepared by CotteeParker JPRA.
- *Landscape Architectural Development Application (Final Draft) DA-1846-01/A – 13/A* dated 04.03.2019 prepared by Sturt Noble
- *Detail Survey Job 15685* dated 15.10.14 prepared by Dunlop Thorpe & Co.
- *Chapter E3 Tree Management, Woollahra DCP 2015*.

[3] VTA – Visual Tree Assessment, undertaken by tree professionals, is a recognised (International Society of Arboriculture, Journal of Arboriculture, Vol. 22 No. 6, Nov. 1996) systematic method of identifying tree characteristics and hazard potential. VTA is also an assessment method described by Claus Mattheck in *The Body Language of Trees – A handbook for failure analysis*. The Stationery Office, London (1994)

- *Arboricultural Impact Assessment and Tree Protection Specification* dated 1 September, 2015 prepared by TreeiQ.

3.4 AUSTRALIAN STANDARD AS4970-2009

3.4.1 The Australian Standard *AS4970–2009 Protection of trees on development sites* has been used as a benchmark in the preparation of this report and the terminology and impact assessment methodology have been adopted from this document. This AIA complies with *2.3.5 Arboricultural Impact Assessment* of *AS4970-2009.*

3.4.2 Recommendations have been based on tree ©Retention Value, Vigour, Condition, ULE and construction offsets (refer to Attachment B). Trees with ©Retention Value "A" should be given greater priority for retention than trees with ©Retention Value "B" or "C". Trees with *Long* (40 years +) ULE should be given greater priority for retention than trees with *Short* (5-15 years) ULE (refer to Attachment B).

3.4.3 Tree Protection Zones (TPZ) and Structural Root Zones (SRZ) are as per *Section 3* of *AS4970-2009* and are defined at Attachment B of this report.

3.4.4 "Construction" for the purpose of this AIA means excavation (greater than 100mm), compacted fill or machine trenching[4]. "Excavation" includes cut batters, boxing–out for the various pavement types, trenching for utilities and footings for retaining walls.

3.4.5 Trees within proposed construction footprints are recommended for removal (**Rm**).

3.4.6 Where construction is proposed within notional Structural Root Zone (SRZ) offsets, those trees have been similarly recommended for removal (**Rm**). Fully elevated, pier and beam type construction or hand dug services trenches (or horizontal boring) is however possible within a SRZ.

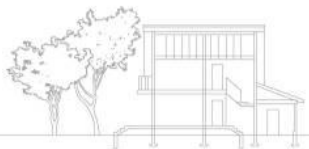
3.4.7 Trees with greater than 25% of the notional Tree Protection Zone (TPZ) impacted by construction are generally recommended for removal (**Rm**). There are however different types of construction encroachments proposed (e.g. compacted fill, deep cut, services trenching, pavement type, retaining walls) with varying tree impacts likely. Existing constraints to root development also vary the TPZ. Compacted fill can be equally as damaging to tree longevity: root development is restricted within heavily compacted soils.

3.4.8 Trees to be retained with construction impacting less than 25% of the notional TPZ area were rated as Retain Plus (**R+**). Specific construction monitoring will be required for the Retain (**R+**) trees (refer to Recommendations).

3.4.9 TPZ encroachments of >10% are defined (*3.3.3* of *AS4970*) as '*major*'. This does not mean that the tree will be fatally injured, but that '*the project arborist must demonstrate that the tree(s) would remain viable'* by reference to considerations listed at *3.3.4* of *AS4970.* Refer to Section 5.3 of this Report for explanation of tree retention recommendations.

3.4.10 Where construction is proposed beyond the TPZ, those trees are rated as Retain (**R**) with no specific tree protection design or tree protection monitoring required (refer to Attachment D).

[4] "Construction" is equivalent to "works" as defined at 1.4.9 of AS4970-2009.



4. TREE IMPACTS

4.1 SUMMARY

4.1.1 A summary of trees to the retained, removed or transplanted by ©Retention Value is contained in the Tree Schedule (Attachment A).

4.1.2 Of the one hundred and sixteen (116) assessed trees, thirty two (32) can be retained, seventy four (74) need to be removed and one (1) tree, Tree 4 is to be transplanted for the Stage 2 development. Nine (9) trees have been removed since the 2015 assessment.

4.1.3 Only Tree 101 on Glenmore Road verge is to be removed to allow for the new Carpark entrance in the southeastern corner of the site.

4.1.4 All the trees adjoining the Sydney Grammar Preparation School are to be removed with the exception of Tree 4 (Canary Island Date Palm, *Phoenix canariensis*) which is to be transplanted.

4.1.5 Most of the low ©Retention Value trees along the northeastern boundary are to be removed to allow for Carparking, soccer field or open grassed area. Trees 45 and 51 are to be retained as per Stage 1 *Consent Condition B.6*. Trees 37, 94, 95 and 96 are to be retained adjacent to Open Grassed Area 2.

4.1.6 No trees on adjoining private properties are to be removed or are impacted.

4.1.7 Of the seventy four (74) trees to be removed there were forty one (41) listed as *Noxious weeds*[5] *and Exempt species* under *E3.4.1* of the *WDCP 2014*.

4.1.8 Refer to Section 5 Recommendations for Tree Protection for tree protection measures required prior, during and post development.

4.1.9 Arborist supervision of the implementation of tree protection measures (see Section 5 below) will be required during works to ensure protection of those trees recommended for retention.

4.2 LANDSCAPE PLANS

4.2.1 *Landscape Architectural Development Application (Final Draft) DA-1846-01/A – 13/A,* dated 04.03.2019 prepared by Sturt Noble have been reviewed.

4.2.2 *Master Plan DA-1846-02/A* states:

> *13. Existing trees to be retained and protected as per arborist's report.*

4.2.3 *Carpark Areas DA-1846-03/A* states:

> *2. Existing trees to be retained and protected. Refer to arborist report.*

4.2.4 No individual tree numbers are indicated on the Landscape Plans. Tree canopy depictions appear to reflect the tree canopy indicated on the Detail Survey.

4.2.5 There is no particular reference to Stage 1 *Consent Condition B.6.*

[5] Noxious Weeds in NSW are now referred to as Priority Weeds under the new Biosecurity Act 2015 which repealed the Noxious Weeds Act 1993.

4.3 STORMWATER PLANS

4.3.1 Stormwater Drainage Plans have not been reviewed during the preparation of this report. Tree protection recommendations (Section 5 below) should be incorporated into the final Stormwater Plan design and layout.

5. RECOMMENDATIONS FOR TREE PROTECTION

5.1 ARBORIST INVOLVEMENT

5.1.1 An Arborist (the Project Arborist) experienced in tree protection on construction sites should be engaged prior to the commencement of construction work on the site. The Project Arborist shall monitor and report regularly to the Principal Certifying Authority (PCA) and the Applicant on the condition and protection of the retained trees during the construction works. The Project Arborist is to monitor any excavation, machine trenching or compacted fill placed within the TPZ of all retained trees.

5.1.2 The schedule of works for the development must acknowledge the role of the Project Arborist and the need to protect the retained trees. Sufficient notice must be given to the Arborist where his/her attendance is required. Should the proposed design change from that reviewed, additional arboricultural assessment will be required.

5.1.3 The Project Arborist should certify tree protection measures at key stages of the construction. Copies of the certification should be sent to PCA.

5.2 STAGE 1 CONSENT CONDITION B.6

5.2.1 *The Landscape Plan shall address the following matters:*

5.2.2 *Retention of trees 45 and 51*;

Tree 45, Chinese Liquidamber, *Liquidamber formosana* is to be retained due to the recent shift in the footprint of the soccer field away from the tree in the *s4.55 Plans*. The TPZ encroachment is now acceptable. Refer to 5.5.7 below for tree protection recommendations.

Tree 51, Black Teatree, *Melaleuca bracteata* is to be retained adjacent to the proposed Carpark in the northwestern corner. The Carpark construction within the TPZ (6.0m radius) is to constructed with tree-sensitive methods. Refer to 5.5.8 below for tree protection recommendations.

5.2.3 *Retention in-situ or transplanting of trees 4 and 16;*

Tree 4 Canary Island Date Palm, *Phoenix canariensis* is to be transplanted. Landscape Plan for CC should detail the final location on site for this palm.

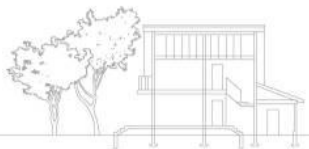
Tree 16 African Olive, *Olea europaea subsp. cuspidata* is not transplantable particularly from the existing location immediately adjacent to the boundary. The *s4.55 Application* should propose removal rather than transplantation.

5.2.4 *Retention or replacement planting for tree 24;*

Tree 24 London Plane Tree, *Platanus x hybrida* has been removed. The Landscape Plan for CC should identify a replacement planting.

5.2.5 *Replacement planting in the south-west area of the site (consistent with TPO approval 358/20144/1 which included the replanting of 3x400 litre trees at the south-western boundary;*

The Landscape Plan for CC should identify this particular replacement planting.



5.2.6 *Replacement planting along the eastern boundary adjoining Sydney Grammar School and Retention of [or] replacement planting of trees 2, 3 4, 6 and 8 located at the southern boundary of the existing carpark adjoining Sydney Grammar School*

All the existing vegetation along the eastern boundary of Sydney Grammar School is to be removed and replaced within a significantly reduced landscape zone.

Trees 2, 3, 4 (transplanted) 6 and 8 need to be removed for the proposed construction. The Landscape Plan for CC should identify this particular replacement planting. The planting may need to be on the roof of the structure proposed in this location.

5.3 STAGE 1 CONSENT CONDITION B.7

5.3.1 *Future development application(s) shall include an Arborist Report [AIA]. The Arborist report shall include a Tree Protection Plan and Exploratory Root Mapping for major encroachments as follows:*

5.3.2 Exploratory root mapping for major encroachment to Council street trees, Trees 85, 86, 88 and 89 located on Glenmore Road;

Root mapping was undertaken as part of the TreeiQ Stage 1 assessment. At 3.2.9 it stated:

> *Investigations into the footing depth of the existing grandstand fronting Glenmore Road indicated a 45m (approx.) long, continuous concrete footing of over 1000mm in depth is present at the western end of the grandstand structure. It is considered likely that this [existing] structure has restricted the spread of roots from the adjacent street trees (Trees 86, 88 and 89) on Glenmore Road into the site.*

Only Tree 88 Southern Mahogany, *Eucalyptus botryoides* has a major (>10%) notional TPZ encroachment associated with the bulk earthworks as indicated on DA2010/C and as indicated on the Tree Protection Plan (Sheet 1 of 5). However even if roots have grown beneath the existing 1000mm deep footing these roots will have been restricted by the low soil moisture beneath the existing Grandstand structure.

We do not consider that root mapping adjacent to Trees 86, 88 and 89 is required in this instance.

Potholing adjacent to Tree 88 may need to be undertaken if the root mapping completed by TreeiQ did not cover this area. This potholing would confirm the footing depth and possible root breaches onto the site and across the proposed excavation line.

At 3.2.10 of the TreeiQ report is states:

> *The footing at the eastern end of the grandstand comprises of isolated columns. Therefore, the root spread of Tree 85 may have potentially extended into the site, in the eastern quarter of its TPZ. However,….the excavation for the sports hall and pool hall represents less than 10% of the TPZ.*

The proposed TPZ excavation for Tree 85 is currently 0%. There may be a requirement for additional support piers beyond the footprint of the existing piers.

We do not believe that root mapping adjacent to T85 is required in this instance.

5.3.3 Tree Protection Plan for Council street trees Trees 85, 86, [88] and 89 located on Glenmore Road and the trees adjacent to the sports field.

Refer to 5.5.1 and 5.5.2 below for the particular tree protection requirements for street Trees 85, 86, 88 and 89.

5.4 TREE RETENTION

5.4.1 Thirty two (32) trees are to be retained. Refer to the Tree Schedule and Tree Protection Plan for individual tree locations.

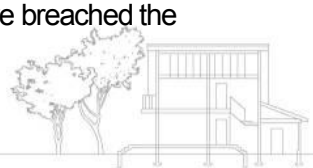
5.4.2 Of these retained trees eighteen (18) are located clear of the works with no TPZ encroachments. Other than tree protection fencing, there are no specific, additional tree protection requirements for these trees.

5.4.3 Fourteen (14) of the retained trees have works proposed within the TPZ.

5.5 TREE RETENTION RECOMMENDATIONS

5.5.1 ***The proposed Roof Plan footprint matches the existing southern Grandstand footprint adjacent to the Glenmore Road boundary. The notional TPZs of Trees 85, 86, 88 and 89 are within this these footprints.***

- Demolition Plan, Bulk Earthworks Plan and Construction Management Plan are to have particular notations requiring retention of all street trees (except T101) on Glenmore Road and in particular Trees 85, 86, 88 and 89.
- Construction Management Plan (or equivalent) is to detail the method of part demolition/renovation of the existing southern grandstand with reference to crown, trunk and root protection.
- Demolition/renovation of the existing Grandstand building should be undertaken from within the site rather than from the verge so as to minimise tree impacts.
- The proposed footings indicated on *DDA2055/02* between the trees and the proposed line of excavation should duplicate existing footings where feasible. Where this is not feasible footings are to hand dug within TPZs for the upper 1000mm or to rock prior to machine piling/excavation. No roots greater than 50mm diameter are to be cut without certification from the Project Arborist. The cross-sectional area of the footings is to minimised to reduce impact of roots.
- The bulk earthworks for the proposed Ground Floor (RL 3.200) is to be undertaken without benching or battering of soils towards the trees. Sheet piling or similar vertical shoring is to be used to minimise TPZ excavation to the line of the proposed retaining wall.
- The likely height of the piling machinery is to consider the extent of crown overhang of the proposed works. Crown pruning is to be avoided unless approved under the DA Consent.
- Tree protection fencing is to be installed as per TPP prior to commencement of demolition or site preparation works.
- If a workzone is proposed on Glenmore Road ground protection will be required within TPZs of the verge trees. Ground protection is to comply with Figure 4 of *AS4970- 2009* and comprise rubble boards, track mats or steel plating to protect underlying roots.
- The depth of the existing footing at its closest offset to Tree 88 is to be confirmed with potholing/root mapping to determine whether roots have breached the footing and grown onto the site.



5.5.2 ***The crowns of Trees 85, 86, 88 and 89 overhang the existing and proposed Roof Plan.***

- A Work Method Statement or equivalent is to be provided to detail the method to be used during demolition and construction adjacent the trees to protect the existing overhanging crown.

5.5.3 ***Tree 81 on Glenmore Road has a major, notional TPZ encroachment associated with the proposed Carpark ramp.***

- The bulk earthworks for the proposed Driveway ramp is to be undertaken without benching or battering of soils towards the trees. Sheet piling or similar vertical shoring is to be used to minimise TPZ excavation to the line of the proposed retaining wall.
- Root mapping is not required as the presence of Trees 25 and 26 between the tree and the works is likely to have restricted root spread.
- The likely height of the piling machinery is to consider the extent of crown overhang of the proposed works. Crown pruning is to be avoided unless approved under the DA consent.

5.5.4 ***Tree 102 on Glenmore Road has an SRZ encroachment from the proposed Carpark entrance crossover and layback.***

- Root mapping is to be undertaken to confirm the extent of root cutting required and whether the tree can be retained.

5.5.5 ***Trees 82, 83, 84, 91 and 99 (Weeping Bottlebrush) on Glenmore Road are low ©Retention Value trees.***

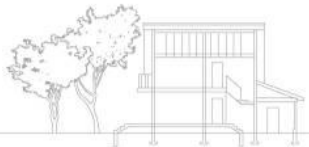
- Removal and replacement of these low value trees should be considered by Council as part of the enhancement of the Glenmore Road streetscape. Water Gums (Trees 110 and 111) have recently been planted adjacent to the site.

5.5.6 ***The bitumen footpath levels adjacent to Tree 85 are significantly raised by tree roots.***

- Consideration is to be given to underlying roots within the TPZ if footpath regrading is proposed as part of the DA.

5.5.7 ***Tree 45, Chinese Liquidambar has a major (notional) TPZ encroachment from the proposed soccer field.***

- The finished level of the playing surface should be above existing levels to reduce the likely depth of the excavation required for construction.
- A root barrier should be installed within the TPZ to minimise the root encroachment under the playing surface.
- The proposed works (excavation or compacted fill) are to be confined to the playing surface.
- Tree protection fencing is to be installed as per TPP prior to commencement of site preparation works.
- Given the tree is deciduous and produces large round woody fruits the playing surface will require regular cleaning prior to play depending upon the season.



5.5.8 ***Tree 51, Black Teatree has proposed Carpark within SRZ.***

- We recommend an elevated concrete slab be constructed with RL of underside of the slab to match existing ground lines. The slab may need to be supported with isolated piers.
- Kerb opening should be designed to direct a portion of the captured rainfall back to the tree rather than being piped. There is to be no soil stripping or subsoil compaction within the TPZ.
- Tree protection fencing is to be installed as per TPP prior to commencement of site preparation works.

5.5.9 ***Trees 37, 94, 95 and 96 are to be retained on the northeastern boundary adjacent the Open Grass Area 2.***

- Tree protection fencing is to be installed as per TPP prior to commencement of site preparation works.
- These are low ©Retention Value trees and should be considered for removal and replacement with more appropriate plantings.

5.5.10 ***Tree 4, Canary Island Date Palm is to be transplanted as per Stage 1 Consent Condition B.6.***

- A Transplant Work Method Statement (TWMS) should be prepared for CC detailing the preparation, handling, planting and post-development maintenance. The TWMS should include a 12-month post-transplant maintenance contract with the transplant company to ensure continuity of care.

5.5.11 Tree Protection Fencing

Tree protection fencing as indicated on the TPP (Sheet 1 of 5) and Figure 3 (Sheet 5 of 5) (Attachment D) should be erected prior to commencement of early works. Where this is not feasible due to construction access issues, the trunks are to be battened (as per Figure 4) to avoid bark wounding and ground protection provided (as per Figure 4) with placement of mulch or additional boarding. The fencing should be erected immediately following approved tree removal.

5.5.12 Prohibited Activities Within Tree Protection Fencing

The following activities are prohibited within tree protection fencing:

- Stockpiling of soils or other building material
- Depositing of potentially phytotoxic substances such as paints and concrete tailings
- Installation of site offices and sheds without installation of particular ground protection

5.5.13 Crown Pruning

If crown pruning of retained trees is required it is to comply with Australian Standard *AS4373-2007*: *Pruning of Amenity Trees.* Pruning (and tree removal) works are to comply with Safe Work Australia *"Guide to Managing Risks of Tree Trimming and Removal Work"* July, 2016.

5.5.14 Tree Protection Plan

The Tree Protection Plan (Attachment D) is to be amended for CC documentation to reflect any changes to layout or levels within TPZs from that assessed in this report. The amended TPP should be kept in the site office during the construction period to guide tree protection procedures. The recommendations contained in the TPP should be incorporated into the Construction Management Plan and Sediment Control Plan.

5.6 TREE REMOVAL

5.6.1 Seventy four (74) of the one hundred and sixteen (116) assessed trees need to be removed to allow for the proposed development.

5.6.2 Of these there were forty one (41) listed as *Noxious weeds*[6] *and Exempt species* under *E3.4.1* of the *WDCP 2014*. This includes nine (9) trees greater than 10m in height (including Chinese Hackberry, *Celtis sinensis*, African Olive, *Olea europaea subsp. cuspidata,* Cocos Palm, *Syagrus romanzoffianum* and Camphor Laurel, *Cinnamomum camphora*) which will require Council notification prior to removal.

5.6.3 All tree removal works must comply with the *Safe Work Australia "Guide to Managing Risks of Tree Trimming and Removal Work" July, 2016*.

[6] Noxious Weeds in NSW are now referred to as Priority Weeds under the new Biosecurity Act 2015 which repealed the Noxious Weeds Act 1993.

Attachment A: Tree Schedule

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
1	Canary Island Date Palm, *Phoenix canariensis*	80	7	4	M	G	G	1.5	5.0	M	3	B	Rm	*Remove. Development works. Within 1.5m of existing infrastructure. Partially suppressed.*
2	Brushbox, *Lophostemon confertus*	55	11	5	M	G	F	2.7	6.6	M	3	B	Rm	*Remove. Development works. Within 1.5m of existing infrastructure. Lopped at 2m and 3m. Crown consists mainly of mature epicormic growth. Partially suppressed.* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 2 to be retained. S4.55 to remove tree.*
3	Brushbox, *Lophostemon confertus*	60	12	7	M	G	F	2.8	7.2	M	3	B	Rm	*Remove. Development works. Lopped at 2m and 3m. Crown consists mainly of mature epicormic growth. Partially suppressed..* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 3 to be retained. S4.55 to remove tree.*
4	Canary Island Date Palm, *Phoenix canariensis*	90	9	4	M	G	G	1.5	5.0	L	3	B	T	*Remove. Development works. Partially suppressed.* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 4 to be retained. Tree 4 to be transplanted.*
5	African Olive, *Olea europaea* subsp. *cuspidata*	35 @g	5	5	SM	F	F	2.2	4.2	S	4	D	Rm	*Remove. Not on Survey. Exempt species. Heavily suppressed. S4.55 to remove tree.*
6	Swamp Sheoak, *Casuarina glauca*	80 @g	16	5	M	G	F	3.1	9.6	M	3	B	Rm	*Remove. Development works. Co dominant inclusion.* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 6 to be retained. S4.55 to remove tree.*
7	Chinese Hackberry, *Celtis sinensis*	15, 15, 15	9	7	SM	G	F	2.0	3.6	M	4	C	Rm	*Remove. Not on Survey. Exempt species. No access to base. Partially suppressed. Crown skew to N.*
8	Camphor Laurel, *Cinnamomum camphora*	45, 50, 70, 80	14	10	M	G	F	3.9	15.0	L	2	A	Rm	*Remove. Development works. Large (>75mm) diameter deadwood in low volumes. Wound/s, early stages of decay. Crossing 2nd Order branches.* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 8 to be retained. S4.55 to remove tree.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
9	Camphor Laurel, *Cinnamomum camphora*	25, 30	14	10	SM	G	P	2.4	4.8	S	4	D	Rm	*Remove. Development works. Heavily suppressed. Branch contact with Tree 8. Small (<25mm) diameter epicormic growth in moderate volumes.*
10	Camphor Laurel, *Cinnamomum camphora*	15	7	4	SM	F	P	1.6	2.0	S	4	D	Rm	*Remove. Not on Survey. Exempt species. Heavily suppressed. Crown consists mainly of epicormic growth.*
11	Native Daphne, *Pittosporum undulatum*	25, 30	6	6	M	G	P	2.4	4.8	M	4	C	Rm	*Remove. Development works. Co dominant inclusion. Partially suppressed. Phototropic lean, severe.*
12	Chinese Hackberry, *Celtis sinensis*	30	9	4	SM	F	F	2.1	3.6	S	4	D	Rm	*Remove. Exempt species. Partially suppressed. Growing through chain link fence. Occluded mesh in trunk.*
13	Swamp Sheoak, *Casuarina glauca*	40	16	5	M	G	P	2.3	4.8	S	3	C	Rm	*Remove. Not on Survey. Development works. Wound/s, advanced stages of decay on 2m long, on 1st Order branch at 4m.*
14	Mulberry, *Morus nigra*	15, 15, 15, 15	6	5	SM	G	F	2.1	3.6	S	4	D	Rm	*Remove. Not on Survey. Development works. Branch inclusion/s, minor. Partially suppressed.*
15	Swamp Sheoak, *Casuarina glauca*	10	10	3	IM	G	F	1.5	2.0	M	4	C	Rm	*Remove. Not on Survey. Development works. Group of 6. Self seeded. Heavily suppressed.*
16	African Olive, *Olea europaea* subsp. *cuspidata*	25	8	4	SM	G	F	1.9	3.0	S	4	D	Rm	*Remove. Not on Survey. Exempt species. Heavily suppressed.* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 16 to be transplanted. S4.55 to remove tree.*
17	Canary Island Date Palm, *Phoenix canariensis*	70	7	4	M	G	G	1.5	5.0	L	3	B	R+	*Retain. Trunk straddles boundary.*
18	Jacaranda, *Jacaranda mimosifolia*	20, 55	9	6	M	G	F	2.8	7.2	M	3	B	Rm	*Remove. Delete one car space. Branches in contact with fence. Tree conflicts with the proposed HRV and base turning head.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
19	Liquidambar, *Liquidambar styraciflua*	45	8	5	SM	G	G	2.5	5.4	L	3	B	Rm	*Remove. Development works. Vertical seam of depressed tissue on trunk may indicate internal decay. Wound/s, no visible signs of decay.*
20	Chinese Tallow Tree, *Triadica sebifera (* syn. *Sapium sebiferum)*	50	10	5	M	G	G	2.6	6.0	M	3	B	Rm	*Remove. Development works. Growing in raised planter. Damage to raised garden bed and asphalt.*
21	Chinese Tallow Tree, *Triadica sebifera (* syn. *Sapium sebiferum)*	60	11	6	M	G	G	2.8	7.2	M	3	B	Rm	*Remove. Development works. Small (<25mm) diameter epicormic growth in low volumes. Roots damaging raised garden bed.*
22	Blueberry Ash, *Elaeocarpus reticulatus*											PR	PR	*Previously removed.*
23	Golden Ash, *Fraxinus excelsior*											PR	PR	*Previously removed.*
24	London Plane Tree, *Platanus x hybrida*											PR	PR	*Previously removed.* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 24 to be retained. S4.55 to remove tree.*
25	Chinese Hackberry, *Celtis sinensis*	15, 25, 30	14	7	SM	G	F	2.4	4.8	L	3	B	Rm	*Remove. Development works (driveway ramp). Co dominant inclusion. Partially suppressed. Small (<25mm) diameter epicormic growth in low volumes.*
26	Jacaranda, *Jacaranda mimosifolia*	40	14	7	SM	G	F	2.3	4.8	M	3	B	Rm	*Remove. Development works (driveway ramp). Heavily suppressed by T81.*
27	Lawson Cypress, *Chamaecyparis lawsoniana*	30	9	4	SM	F	G	2.1	3.6	M	4	C	Rm	*Remove. Development works (tennis court).*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
28	African Olive, *Olea europaea* subsp. *cuspidata*	30	14	5	SM	G	F	2.1	3.6	S	4	D	Rm	*Remove. Not on Survey. Exempt species. Self seeded. Base of trunk supported by existing concrete foundation of stadium. Limited building clearance.*
29	African Olive, *Olea europaea* subsp. *cuspidata*	50	11	9	M	G	G	2.6	6.0	S	3	C	Rm	*Remove. Within the ground floor footprint. Exempt Species. Phototropic lean, severe. Limited building clearance. Small (<25mm) diameter deadwood in moderate volumes.*
30	African Olive, *Olea europaea* subsp. *cuspidata*	15	9	3	SM	F	G	1.6	2.0	S	4	D	Rm	*Remove. Within the ground floor footprint. Exempt species. Heavily suppressed.*
31	Cypress, *Cupressus* sp.											PR	PR	*Previously removed. Within the ground floor footprint.*
32	Chinese Hackberry, *Celtis sinensis*											PR	PR	*Previously removed. Within the ground floor footprint.*
33	Chinese Hackberry, *Celtis sinensis*											PR	PR	*Previously removed. Within the ground floor footprint.*
34	Native Daphne, *Pittosporum undulatum*											PR	PR	*Previously removed. Within the ground floor footprint.*
35	Port Jackson Fig, *Ficus rubiginosa*	25	5	5	SM	G	F	1.9	3.0	S	4	D	Rm	*Remove. Not on Survey. Development works. Growing out of brick wall. Within the ground floor footprint.*
36	Orange Jessamine, *Murraya paniculata*	40 @g	3	2	M	G	G	2.3	4.8	M	4	C	Rm	*Remove. Development works. Exempt species. Group of 8.*
37	Fiddlewood, *Citharexylum spinosum*	55	12	6	M	G	F	2.7	6.6	L	3	B	R+	*Retain. Minor encroachment playground/football field installation.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
38	Chinese Hackberry, *Celtis sinensis*	30	8	5	SM	G	F	2.1	3.6	S	4	D	Rm	*Remove. Exempt species.*
39	Lilly Pilly, *Syzygium* sp.	30, 30	7	3	M	G	F	2.5	4.8	M	3	B	Rm	*Remove. Within playground/football field curtilage.*
40	River Sheoak, *Casuarina cunninghamiana*	75	20	9	M	G	F	3.1	9.0	M	2	A	Rm	*Remove. Within playground/football field curtilage.*
41	Chinese Hackberry, *Celtis sinensis*	30	6	4	SM	G	F	2.1	3.6	M	4	C	Rm	*Remove. Within playground/football field curtilage. Exempt species. Heavily suppressed.*
42	Swamp Sheoak, *Casuarina glauca*	50	18	4	M	P	F	2.6	6.0	S	3	C	Rm	*Remove. Within playground/football field curtilage.*
43	Swamp Sheoak, *Casuarina glauca*	25	11	3	SM	G	G	1.9	3.0	M	3	B	Rm	*Remove. Within playground/football field curtilage.*
44	Chinese Hackberry, *Celtis sinensis*	30	5	4	SM	G	F	2.1	3.6	M	4	C	Rm	*Remove. Not on Survey. Within playground/football field curtilage. Exempt species. Heavily suppressed form.*
45	Chinese Liquidamber, *Liquidamber formosana*	50	13	6	M	G	G	2.6	6.0	L	3	B	R+	*Retain. Within playground/football field curtilage.* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 45 to be retained with a shift in soccer field.*
46	Chinese Hackberry, *Celtis sinensis*	25	7	4	SM	G	G	1.9	3.0	M	4	C	Rm	*Remove. Within playground/football field curtilage. Exempt species. Group of 3. Growing on edge of stormwater channel.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
47	Canary Island Date Palm, *Phoenix canariensis*	100	5	4	SM	G	G	1.5	5.0	M	4	C	Rm	*Remove. Not on Survey. Within playground/football field curtilage.*
48	Chinese Hackberry, *Celtis sinensis*	30	9	4	SM	G	F	2.1	3.6	S	4	D	Rm	*Remove. Within playground/football field curtilage. Exempt species. Localised crown death. Growing on edge of stormwater channel.*
49	Chinese Hackberry, *Celtis sinensis*	35	9	4	SM	G	G	2.2	4.2	S	4	D	Rm	*Remove. Within playground/football field curtilage. Exempt species.*
50	Chinese Hackberry, *Celtis sinensis*	10, 10, 25, 30	7	4	SM	G	F	2.4	4.8	S	4	D	Rm	*Remove. Within proposed Carpark. Exempt species.*
51	Black Teatree, *Melaleuca bracteata*	20, 30, 30	6	5	M	G	F	2.6	6.0	M	3	B	R+	*Retain. Within proposed Carpark.* ***DA 438/2015 Consent Condition B.6 Trees and Landscaping:*** *Tree 51 to be retained with elevated concrete deck within the TPZ..*
52	New Zealand Christmas Tree, *Metrosideros excelsa*									Rm	4	D	Rm	*Remove. Dead.*
53	Canary Island Date Palm, *Phoenix canariensis*	60	5	3	SM	G	G	1.5	4.0	L	4	C	Rm	*Remove. Not on Survey. Within proposed Road.*
54	Lilly Pilly, *Syzygium* sp.	30, 30	9	5	SM	G	F	2.5	4.8	M	3	B	Rm	*Remove. Within proposed Road. Co-dominant inclusion.*
55	Chinese Hackberry, *Celtis sinensis*	20, 20	5	3	SM	G	G	2.1	3.6	S	4	D	Rm	*Remove. Not on Survey. Within proposed Road. Exempt species. Growing on edge of stormwater channel on N side of fence.*
56	Camphor Laurel, *Cinnamomum camphora*	15, 15, 15, 20	10	6	SM	F	F	2.2	3.6	M	4	C	Rm	*Remove. Within proposed Road. Partially suppressed. Ivy in crown. Branch inclusion/s, minor.*
57	Windmill Palm, *Trachycarpus fortunei*	20	5	2	SM	G	G	1.0	3.0	L	4	C	Rm	*Remove. Within proposed Carpark. Development works. Group of 3. Heavily suppressed. Ivy on trunks.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
58	Cocos Palm, *Syagrus romanzoffianum*	30	15	4	M	F	G	1.0	5.0	M	4	C	Rm	*Remove. Within proposed Carpark. Exempt species. Ivy on trunk. Partially suppressed. Dense Celtis and Olive understorey within 5m.*
59	Cocos Palm, *Syagrus romanzoffianum*	30	15	4	M	F	G	1.0	5.0	M	4	C	Rm	*Remove. Within proposed Carpark. Exempt species. Ivy on trunk. Partially suppressed. Dense Celtis and Olive understorey within 5m.*
60	Cocos Palm, *Syagrus romanzoffianum*	30	15	4	M	F	G	1.0	5.0	M	4	C	Rm	*Remove. Within proposed Carpark. Exempt species. Ivy on trunk.*
61	Chinese Hackberry, *Celtis sinensis*	30	13	8	SM	G	G	2.1	3.6	M	4	C	Rm	*Remove. SRZ within proposed Carpark. Ivy on trunk.*
62	Chinese Hackberry, *Celtis sinensis*	35, 35	14	7	SM	G	P	2.6	6.0	S	4	D	Rm	*Remove. Not on Survey. SRZ within proposed Carpark. Co dominant inclusion. 1st Order branch occluding chain link fence. Ivy on trunk.*
63	Chinese Hackberry, *Celtis sinensis*	25	13	4	SM	G	F	1.9	3.0	M	4	C	Rm	*Remove. Within proposed Carpark. Ivy on trunk. Partially suppressed.*
64	Chinese Hackberry, *Celtis sinensis*	40	15	8	M	G	F	2.3	4.8	M	3	B	Rm	*Remove. SRZ within proposed Carpark. Co dominant inclusion. Ivy on trunk.*
65	Cotoneaster, *Cotoneaster* sp.	40 @g	6	5	OM	F	P	2.3	4.8	S	4	D	Rm	*Remove. Within proposed Carpark. Heavily suppressed.*
66	Weeping Bottlebrush, *Callistemon viminalis*	15	6	5	SM	F	F	1.6	2.0	S	4	D	Rm	*Remove. SRZ within proposed Carpark. Heavily suppressed. Wound/s, early stages of decay.*
67	Orange Jessamine, *Murraya paniculata*	50 @g	6	3	M	F	F	2.5	6.0	M	4	C	Rm	*Remove. Within proposed Carpark. Partially suppressed. Branch inclusion/s, minor.*
68	Chinese Hackberry, *Celtis sinensis*	30	12	5	SM	G	F	2.1	3.6	S	4	D	Rm	*Remove. SRZ within proposed Carpark. Branch occluding chain link fence. Partially suppressed.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
69	Chinese Hackberry, *Celtis sinensis*	30	13	7	SM	G	F	2.1	3.6	M	4	C	Rm	*Remove. Within proposed Carpark. Partially suppressed. Ivy on trunk*
70	Chinese Hackberry, *Celtis sinensis*	50	15	8	M	G	G	2.6	6.0	M	3	B	Rm	*Remove. SRZ within proposed Carpark. Wisteria and Ivy in crown. Basal flare displacing boundary wall.*
71	Chinese Hackberry, *Celtis sinensis*	30, 30	15	10	SM	G	F	2.5	4.8	S	3	C	Rm	*Remove. Within proposed Carpark. Group of 3. Partially suppressed. Phototropic lean, moderate. Limited stadium clearance. Etiolated form.*
72	Cocos Palm, *Syagrus romanzoffianum*	30	9	3	M	G	G	1.0	4.0	M	4	C	Rm	*Remove. Within proposed Carpark. Exempt species. Group of 2. Ivy on trunk.*
73	Chinese Hackberry, *Celtis sinensis*	30	12	5	SM	G	G	2.1	3.6	M	4	C	Rm	*Remove. Within proposed Carpark. Ivy on trunk.*
74	Chinese Hackberry, *Celtis sinensis*	65 @g	14	11	M	G	F	2.8	7.8	M	3	B	Rm	*Remove. Within proposed Carpark. Co dominant inclusion. Ivy in crown.*
75	Chinese Hackberry, *Celtis sinensis*	30, 30	14	11	SM	G	F	2.5	4.8	M	4	C	Rm	*Remove. Within proposed Carpark. Co dominant inclusion. Ivy in crown.*
76	Cocos Palm, *Syagrus romanzoffianum*	25	7	3	SM	G	G	1.0	4.0	M	4	C	Rm	*Remove. Within proposed Carpark. Group of 2. Ivy on trunk.*
77	Chinese Hackberry, *Celtis sinensis*	60	10	9	M	F	P	2.8	7.2	S	3	C	Rm	*Remove. Within proposed Carpark. Group of 4. Damaged by fig failure. No access to base.*
78	Monterey Cypress (cultivar), *Cupressus macrocarpa 'cv.'*	35	9	3	M	G	G	2.2	4.2	M	3	B	Rm	*Remove. Development works.*
79	Cypress, *Cupressus* sp.	40	9	3	M	F	F	2.3	4.8	M	3	B	Rm	*Remove. Development works. Co dominant inclusion. 1st Order branch in contact with adjacent structure. Partially suppressed by T30. Recent pruning south side.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
80	London Plane Tree, *Platanus x hybrida*											PR	PR	*Previously removed.*
81	Southern Mahogany, *Eucalyptus botryoides*	105	24	9	M	G	G	3.5	12.6	L	1	A	R+	*Retain. Verge tree. Minor TPZ encroachment from Carpark ramp. Minor encroachment, stairs. Previous branch failure/s.*
82	Weeping Bottlebrush, *Callistemon viminalis*	25	6	4	M	F	F	1.9	3.0	M	4	C	R	*Retain. Verge tree.*
83	Weeping Bottlebrush, *Callistemon viminalis*	25	6	4	M	F	F	1.9	3.0	M	4	C	R	*Retain. Verge tree.*
84	Weeping Bottlebrush, *Callistemon viminalis*	35	7	5	M	F	F	2.2	4.2	S	4	D	R	*Retain. Verge tree.*
85	Southern Mahogany, *Eucalyptus botryoides*	60, 65	24	10	M	G	F	3.3	10.8	M	1	A	R+	*Retain. Use tree sensitive methods during construction.*
86	Lemon-scented Gum, *Corymbia citriodora*	75	24	12	M	F	F	3.1	9.0	M	1	A	R+	*Retain. Minor encroachment, Sports Hall, Pool Hall & Parking. Use tree sensitive methods during construction. Crown extends over Stadium Roof.*
87	Lemon-scented Gum, *Corymbia citriodora*	15	8	3	SM	F	F	1.6	2.0	M	4	C	R	*Retain. Basal wound/s, early stages of decay.*
88	Southern Mahogany, *Eucalyptus botryoides*	120	25	12	M	G	G	3.7	14.4	L	1	A	R+	*Retain. Major encroachment from ground floor construction. Use tree sensitive methods during construction. Existing Kerb damage.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
89	Lemon-scented Gum, *Corymbia citriodora*	55	20	12	M	G	G	2.7	6.6	L	1	A	R+	*Retain. Crown overhangs southern Grandstand. Use tree sensitive methods during construction. Partially suppressed.*
90	Dead Tree, *Dead*											PR	PR	*Previously removed.*
91	Weeping Bottlebrush, *Callistemon viminalis*	30	6	5	M	F	G	2.1	3.6	M	3	B	R	*Retain. No works in TPZ. Partially suppressed.*
92	Lemon-scented Gum, *Corymbia citriodora*	65	20	10	M	F	G	2.9	7.8	L	1	A	R	*Retain. No works in TPZ.*
93	Orange Jessamine, *Murraya paniculata*	30 @g	5	3	M	G	G	2.0	3.6	L	4	C	Rm	*Remove. Within proposed Carpark in NW corner of the site. Hedge 3m to 5m.*
94	Hibiscus, *Hibiscus* sp.	40 @g	5	2	M	G	F	2.3	4.8	M	4	C	R	*Retain. Heavily suppressed. Planted as hedge.*
95	Tibouchina, *Tibouchina* sp.	40 @g	4	3	M	G	G	2.3	4.8	M	4	C	R	*Retain.*
96	Group of Tibouchina (*Tibouchina* sp.) and African Olive (*Olea europaea subsp. Cuspidata*)	40 @g	4	2	M	F	G	2.3	4.8	M	4	C	R	*Retain. Only the African Olive is an Exempt species.*
97	Chinese Hackberry, *Celtis sinensis*	25	8	3	SM	G	G	1.9	3.0	L	4	C	Rm	*Remove. Exempt species. No works in TPZ.*
98	Lemon-scented Gum, *Corymbia citriodora*	25	12	5	SM	G	F	1.9	3.0	M	3	B	R	*Retain. Verge tree. Lean to E.*
99	Weeping Bottlebrush, *Callistemon viminalis*	20	6	3	M	F	F	1.8	2.4	S	4	D	R	*Retain. Verge tree.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
100	Lemon-scented Gum, *Corymbia citriodora*	55	26	10	M	G	G	2.7	6.6	L	2	A	R+	*Retain. TPZ encroachment, proposed Driveway. Verge tree.*
101	Lemon-scented Gum, *Corymbia citriodora*	42	26	8	M	G	G	2.4	5.0	L	2	A	Rm	*Remove. Within proposed Driveway. Verge tree.*
102	Lemon-scented Gum, *Corymbia citriodora*	51	26	8	M	G	G	2.6	6.1	L	2	A	R+	*Retain. Verge tree.*
103	Swamp Sheoak, *Casuarina glauca*	40	17	6	M	G	F	2.3	4.8	M	3	B	R+	*Retain. On adjoining property. Three other Swamp Sheoak within 3m.*
104	Jacaranda, *Jacaranda mimosifolia*	32	11	6	M	G	G	2.1	3.8	L	3	B	Rm	*Remove. Within proposed Driveway.*
105	Jacaranda, *Jacaranda mimosifolia*	20, 28	7	5	SM	G	F	2.3	4.8	M	3	B	Rm	*Remove. SRZ encroachment, proposed Ground Floor. Suppressed by adjacent Chinese Hackberry.*
106	Chinese Hackberry, *Celtis sinensis*	16, 18	12	5	SM	G	F	2.0	2.4	S	4	D	Rm	*Remove. Not on Survey. Within proposed Driveway.*
107	Jacaranda, *Jacaranda mimosifolia*	38	10	6	M	G	G	2.3	4.6	L	3	B	Rm	*Remove. SRZ encroachment, proposed Ground Floor.*
108	Jacaranda, *Jacaranda mimosifolia*	10	5	2	SM	F	F	1.5	2.0	S	4	D	R	*Retain.*
109	Jacaranda, *Jacaranda mimosifolia*	26, 32	9	6	M	G	G	2.4	4.8	L	3	B	R+	*Retain. Minor TPZ encroachment from driveway ramp.*
110	Water Gum, *Tristaniopsis laurina*	5	2	1	IM	G	G	1.5	2.0	L	4	C	R	*Retain. New street tree.*
111	Water Gum, *Tristaniopsis laurina*	5	2	1	IM	G	G	1.5	2.0	L	4	C	R	*Retain. New street tree.*
112	Brushbox, *Lophostemon confertus*	40	17	6	M	G	F	2.3	4.8	M	3	B	R	*Retain. Crown skew to S.*
113	Camphor Laurel, *Cinnamomum camphora*	90	20	8	M	G	G	3.3	10.8	M	2	A	R	*Retain.*
114	Lacebark Kurrajong, *Brachychiton discolor*	80	18	6	M	G	F	3.1	9.6	M	2	A	R	*Retain. Five metre Chinese Hackberry at base.*

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (cm)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	ULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
115	Port Jackson Fig, *Ficus rubiginosa*	20	4	3	IM	G	G	1.8	2.4	L	4	C	R+	*Retain.*
116	Loquat, *Eriobotrya japonica*	15	3	2	IM	G	G	1.6	2.0	S	4	D	R	*Retain. Exempt species. Partially suppressed. Retain for screening.*
116														

Tree Schedule -
White City, 30 Alma St, Paddington

Summary Data

©RETENTION INDEX	NO. OF TREES
A	13
B	31
C	39
D	24
PR	9
Total	**116**

RECOMMENDATION	NO. OF TREES
R	18
R+	14
T	1
Rm	74
PR	9
Total	**116**

©RETENTION INDEX	RECOMMENDATION			
	R	**R+**	**T**	**Rm**
A	3	7	0	3
B	3	6	1	21
C	8	1	0	30
D	4	0	0	20

Attachment B: Definition of Terms

COMMON NAME/GENUS SPECIES CULTIVAR – Common names can vary with selected texts. Where species is unknown, "*sp*." indicated after genus. Where cultivar is unknown "*cv*" indicated after species.

DBH – Diameter at Breast Height. Tree trunk diameter measured at breast height (1.4 metres above ground level). Fabric diameter tape is used which assumes a circular cross section. Multiple measurements indicate multiple trunks. Where DBH measurement cannot be taken at 1.4m the height at which it has been taken is indicated.

CANOPY SPREAD RADIUS – Average canopy radius (widest + narrowest ÷ 2). Circular canopy depictions on Tree Plan/Survey are indicative only. Where canopy spread was significantly skewed, all four cardinal point measurements were recorded.

AGE CLASS – Immature (IM), Semi-mature (SM), Mature (M), Over-mature (OM). Assessment of the tree's current Age. A **Mature (M)** tree has reached a near stable size (biomass) above and below ground. Trees can have a *Mature* age class for >90% of life span. **Over-mature (OM)** trees show symptoms of irreversible decline and decreasing biomass.

VIGOUR – Good (G), Fair (F) or Poor (P). The general appearance of the canopy/foliage of the tree at the time of inspection. Vigour can vary with the season and rainfall frequency. A tree can have *Good* vigour but be hazardous due to *Poor* condition. A tree in *Good* vigour has the ability to sustain its life processes. Vigour is synonymous with health.

CONDITION – Good (G), Fair (F) or Poor (P). The general form and structure of the trunk/s and branching. Trunk lean, trunk/branch structural defects, canopy skewness or other hazard features are considered.

SRZ RADIUS – Structural Root Zone. The area around a tree required for tree stability. Earthworks should be prohibited within the SRZ. The area is calculated from the formula and graph at Figure 1 of *AS4970-2009.* The SRZ graph has been adapted from the work of Claus Mattheck (1994). DBH + 10% has been used for the calculation of SRZ. Where DBH is measured at grade or at a height other than 1.4m above grade, 10% has not been added.

TPZ RADIUS – Tree Protection Zone. Radial offset (m) of twelve times (12x) trunk DBH measured from centre of trunk (for trees less than 0.3 metre DBH minimum TPZ is 2.0 metres). To satisfactorily retain the tree, construction activity (both soil cut and fill) must be restricted within this offset. TPZ offsets are rounded to the nearest 0.1 metre. Existing constraints to root spread can vary. Generally an area equivalent to the TPZ should be available to the tree post development. Encroachment occupying up to 10% of the TPZ area is acceptable without detailed rootzone assessment. Encroachments greater than 10% require specific arboricultural assessment as per 3.3.3 and 3.3.4 of Australian Standard *AS4970-2009 Protection of trees on development sites.*

TPZ ENCROACHMENT – The cut or compacted fill encroachment within the notional TPZ. The Tree Protection Zone is X12 trunk diameter (DBH) as per *3.2 of AS4970-2009*. Refer to the Tree Retention section of the AIA for methods/design used to minimise encroachments.

ULE – Useful Life Expectancy. The length of time from the date of inspection that the Arborist estimates the tree will live and provide a useful positive contribution to the landscape amenity of the site. ULE ratings are **Long** (retainable for 40 years or more), **Medium** (retainable for 16-39 years), **Short** (retainable for 5-15 years) and **Removal** (tree requiring immediate removal due to imminent risk or absolute unsuitability).

©SIG. RATING – ©Significance Rating Scale (see notes over)

©RETENTION INDEX (see notes over)

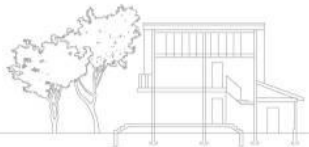
RECOMMENDATIONS – *Retain (R) No TPZ encroachments*; ***Retain Plus (R+) Acceptable levels of TPZ encroachment***; ***Transplant (T)*** or ***Remove (Rm)***.

COMMENTS – Comments relating to the location, surroundings and hazard potential of the trees at the time of inspection and where applicable the reason for removal.

©SIG. RATING – ©Significance Rating Scale. A site specific qualitative evaluation of a tree relative to the existing land use developed by Tree Wise Men® Australia Pty Ltd. Takes into consideration the impact of the tree on the surrounding landscape, streetscape and bushland. Rarity, habitat value, historical/cultural value and structural form of the tree are considered in this rating system. It is possible for a tree to have a *Short* ULE and a ©Significance Rating of 1. Likewise it is possible for a tree to be given a *Long* ULE and a ©Significance Rating of 4 (e.g. weed species). The ©Significance Ratings used in this Report are as outlined in Table 1.

Table 1: ©Significance Rating Characteristics

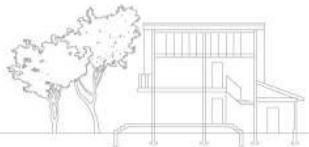
Rating	Significance	Characteristics (some or all)
©Sig. Rating 1	**Exceptional**	▪ Major contribution to site amenity ▪ Remnant specimen ▪ Heritage Listed ▪ Listed on Significant Tree Register ▪ Threatened Species ▪ *Good* vigour and condition ▪ Cultural significance ▪ Possible habitat tree for threatened fauna ▪ Excellent, well formed specimen ▪ Rare or unusual species ▪ Large above ground biomass ▪ Unique within the site and surrounds
©Sig. Rating 2	**High**	▪ Considerable contribution to site amenity ▪ Remnant specimen ▪ *Good* vigour and condition ▪ Threatened Species ▪ Cultural significance ▪ Possible habitat tree for threatened fauna ▪ Well formed specimen ▪ Rare or unusual species ▪ Large or moderate above ground biomass ▪ Other specimens with similar characteristics within the site and surrounds
©Sig. Rating 3	**Moderate**	▪ Minor contribution to site amenity ▪ Remnant or planted ▪ *Fair* or *Poor* vigour and condition ▪ Potential for growth ▪ Well formed or asymmetrical form ▪ Other specimens with similar characteristics within the site and surrounds
©Sig. Rating 4	**Low**	▪ Small/poor specimen ▪ *Poor* vigour and condition ▪ Inappropriate for the location ▪ Minor contribution to landscape amenity ▪ Easily replaced ▪ Weed species or TPO Exempt ▪ Hazardous ▪ Previously ©Sig. Rating 5 tree



©RETENTION INDEX. A site specific assessment of an individual tree's retention value developed by Tree Wise Men® Australia Pty Ltd. Incorporating ULE and ©Significance Rating each tree is allocated a ©Retention Value of A, B, C or D. The ©Retention Index values can be described as follows:

©Retention Value A	**Should be retained**	▪ Major redesign may be required (e.g. movement of building footprint, re-alignment of roadway).
©Retention Value B	**Could be retained**	▪ Minor redesign may be required (e.g. level changes, pavement detail).
©Retention Value C	**Could be removed**	▪ Should not constrain proposed development.
©Retention Value D	**Should be removed (irrespective of development layout**.)	▪ Should not constrain proposed development. ▪ **Remove ULE** should be removed irrespective of development layout.
	Should be removed or permanently fenced off	▪ Should not constrain proposed development ▪ **Short ULE** could be retained pending landscape proposal.

©Retention Index		**©Significance Rating**			
		1	**2**	**3**	**4**
ULE Rating	**Long (40+ years)**	**A**		**B**	**C**
	Medium (15-40 years)				
	Short (5-15 years)	**B**		**C**	**D**
	Remove (< 5 years)	**D**			



Attachment C: Tree Protection Requirements (Generic)

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TREE PROTECTION REQUIREMENTS (GENERIC)

The following generic tree protection requirements (1-12) should be implemented to minimise the impact of the proposed development on the retained trees. These requirements shall be implemented during the construction period in the event that no site-specific requirements are detailed in this document. Tree Protection Requirements should comply with *Section 4 Tree Protection Measures* of *AS4970-2009 Protection of trees on development sites* and the Tree Protection Plan (TPP) attached to this document.

1. Arborist Involvement – An Arborist (the project Arborist) with minimum AQF Level 5 qualifications, experienced in tree protection on construction sites shall be engaged prior to the commencement of work on the site. The Arborist's tasks will be to monitor and report regularly to the PCA and the Applicant on the condition of the retained trees for the duration of works on site. The Project Arborist shall be present to certify tree protection measures and to supervise any excavation, trenching or tunnelling within the TPZ of any retained trees.

The schedule of works for the development shall acknowledge the role of the Project Arborist and the need to protect the retained trees. Sufficient notice shall be given to the Project Arborist where his/her attendance is required. Should the proposed design change from that reviewed, additional arboricultural assessment will be required.

2. Tree Pruning and Removal – All tree pruning (including root pruning) and tree removal shall be carried out by a qualified and experienced Arborist (minimum AQF Level 3 qualification) to Australian Standard *AS4373-2007 Pruning of amenity trees* and the Safe Work Australia "*Guide to Managing Risks of Tree Trimming and Removal Work*" July, 2016.

When tree stumps are within the TPZ of retained trees, stump grinding of rootballs shall be performed rather than complete "grubbing". This will minimise unnecessary root damage to the retained trees. Unnecessary damage often occurs to retained trees when undertaken by earthmoving machinery.

3. Mulching – If construction activity is proposed within TPZ offsets mulching is required. Mulch to a depth of 100 millimetres using partially composted green waste mulch. The mulch should be free of weed seeds and other contaminants. Should constant access be required within the trees' TPZs, outside the protective fencing, heavier mulch should be spread to a depth no greater than 100 millimetres to reduce soil compaction.

4. Temporary Irrigation – Where construction related activity or root cutting is proposed within the TPZ of retained trees, temporary irrigation or water cart access may need to be provided to the remaining unimpacted TPZ areas to maintain adequate soil moisture levels. Delivery volumes are to allow for mulch layer and recent rainfall. The Project Arborist is to monitor soil moisture levels.

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5. Tree Protection Fencing – The retained trees shall be protected by means of fencing as per Figure 3 of *AS4970-2009* or as detailed in the TPP prior to commencement of demolition or bulk earthworks.

It should be constructed from 1.8 metre high chain link wire or welded mesh suspended by galvanised steel pipe or equivalent and enclose as much of the TPZ as practicable allowing for building alignments.

The location of the fence may need to be altered from that indicated on the Tree Protection Plan at a project meeting between the Civil Contractor and the Project Arborist. The area enclosed shall be mulched (**3**) and irrigated (**4**) and kept free from all building materials, contaminants and other debris and shall not be used for storage of any building materials or parking of vehicles or plant. If scaffolding (**8**) is required within a tree protection zone, the ground is to be mulched prior to erection of scaffolding.

6. Trunk Protection – Trunk and branch protection is to comply with *Figure 4* of *AS4970-2009* or as detailed in the TPP. Lengths of timber (75mm x 50mm x 2000mm) shall be used to protect a tree's trunk if construction or traffic is proposed within its SRZ and the tree cannot be fenced. The lengths of timber should be fastened around the trunk at 200 millimetre centres with hoop iron strapping or similar.

7. Signs – Signs complying with *Figure C1* of *AS4970-2009* should be placed at regular intervals (min. 1 per 15 metres) on tree protection fencing.

8. Scaffolding – If scaffolding or hoarding is required within the TPZ, install as per *Figure 5* of *AS4970-2009* or as detailed in the TPP. Installation is to be prior to demolition or bulk earthworks.

9. Bulk Earthworks – To prevent unnecessary root damage, walk machinery within defined haul routes beyond TPZs wherever possible. The excavation shall be carried out under the supervision of the Project Arborist. All roots within TPZ of retained trees are to be hand cut prior to machine cutting. Immediately following excavation, the face of the cut within the TPZ shall be draped and maintained moist until backfilled. This should be done using a 10mm thick jute matting or equivalent, pinned at ground level and allowed to cover the full depth of the rootzone excavation.

There is to be no soil battering or unnecessary over excavation within TPZ offsets. Topsoil stripping should be prohibited within TPZ offsets unless approved by the Project Arborist.

10. Prevention of Soil Compaction – During the construction period there may be considerable traffic movement associated with general building activities. The resultant soil compaction and possible contamination of the soil can have an equally detrimental impact on the tree as the severing of roots during excavation.

Specific machinery access tracks should be determined through consultation between the Civil Contractor and the project Arborist. Should heavy vehicle movement be required within a retained tree's TPZ, a track should be formed at grade using large diameter (up to 100mm) aggregate over geofabric or a corduroy of heavy timbers.

11. Prevention of Soil Inversion – Care shall be taken to avoid inversion of the soil layers on the site and particularly within TPZs. Clays placed over coarse textured soils reduces water infiltration, creating a perched water table, resulting in decline and/or death of underlying tree roots due to moisture stress.

12. Services – Trenching for services is to be regarded as "construction". Trenching within TPZ offsets should be avoided wherever possible to ensure <25% root loss (of TPZ) occurs on retained trees. Directional ("trenchless") boring or suspension of services should be used wherever possible. Where trenching is to occur within TPZ offsets, it is to be undertaken by hand to rock with no roots >50mm to be cut, under supervision of the Project Arborist.

Attachment D: Tree Protection Plan

ADJOINS SHEET 2

ADJOINS SHEET 3

CAR PARK

MACCABI TENNIS

DA 438/2015 Consent Condition B.6 Trees and Landscaping. Tree 24 to be retained or replacement planting. *S4.55 application to remove Tree 24.*

Retention of overhanging crown of Trees 85, 86, 88 & 89 to be confirmed by Project Engineer.

Tree 101 to be removed for new Carpark entrance.

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LEGEND

Site boundary:	
Tree number with trunk as plotted on Site Survey:	T85
Tree number with trunk not plotted on Site Survey (approximate location shown):	T106
Tree previously removed:	T32PR
Protective fencing:	
Transplant tree:	T4 (T)

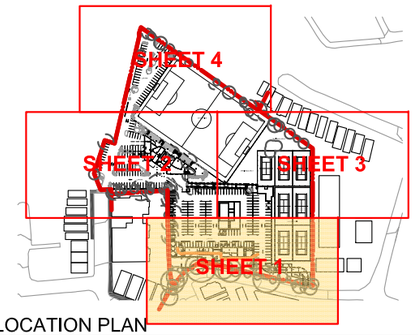
©Retention Index:

- ©Retention Value A TPZ:
- ©Retention Value B TPZ:
- ©Retention Value C TPZ:
- ©Retention Value D TPZ:
- Existing retaining wall:

Dead, dying or dangerous trees or noxious weeds to be removed irrespective of proposed development:

Trees requiring removal to facilitate development:

LOCATION PLAN



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CLIENT:	Hakoah Club Limited		
PROJECT:	WHITE CITY REDEVELOPMENT 30 ALMA ST, PADDINGTON		
DRAWING NO:	2601TPP SHT 1 OF 5		
DRAWN BY:	MH		
BASED ON:	FLOOR PLAN- GROUND FLOOR BY MACCABI TENNIS ARCHITECT, JOB NO. 5669, DWG NO DDA2010, ISSUE 2 DATED 06/03/2019, EXISTING & PLAN OF THE LAND COMPRISED IN CERTIFICATE OF TITLE 2/1114604 AT PADDINGTON IN THE LGA OF WOOLLAHRA BY DUNLOP THORPE & CO. PTY LTD. REF NO. 15685 DATED 15.10.2014. FLOOR PLAN - GROUND FLOOR BY MACCABI TENNIS ARCHITECT JOB NO. 5669, DWG NO. DA2010, ISSUE C DATED 10.04.2019		
DATE:	19/03/2019		
REV:	A	REV DATE:	22/04/2019
SCALE:	1:500@A3		

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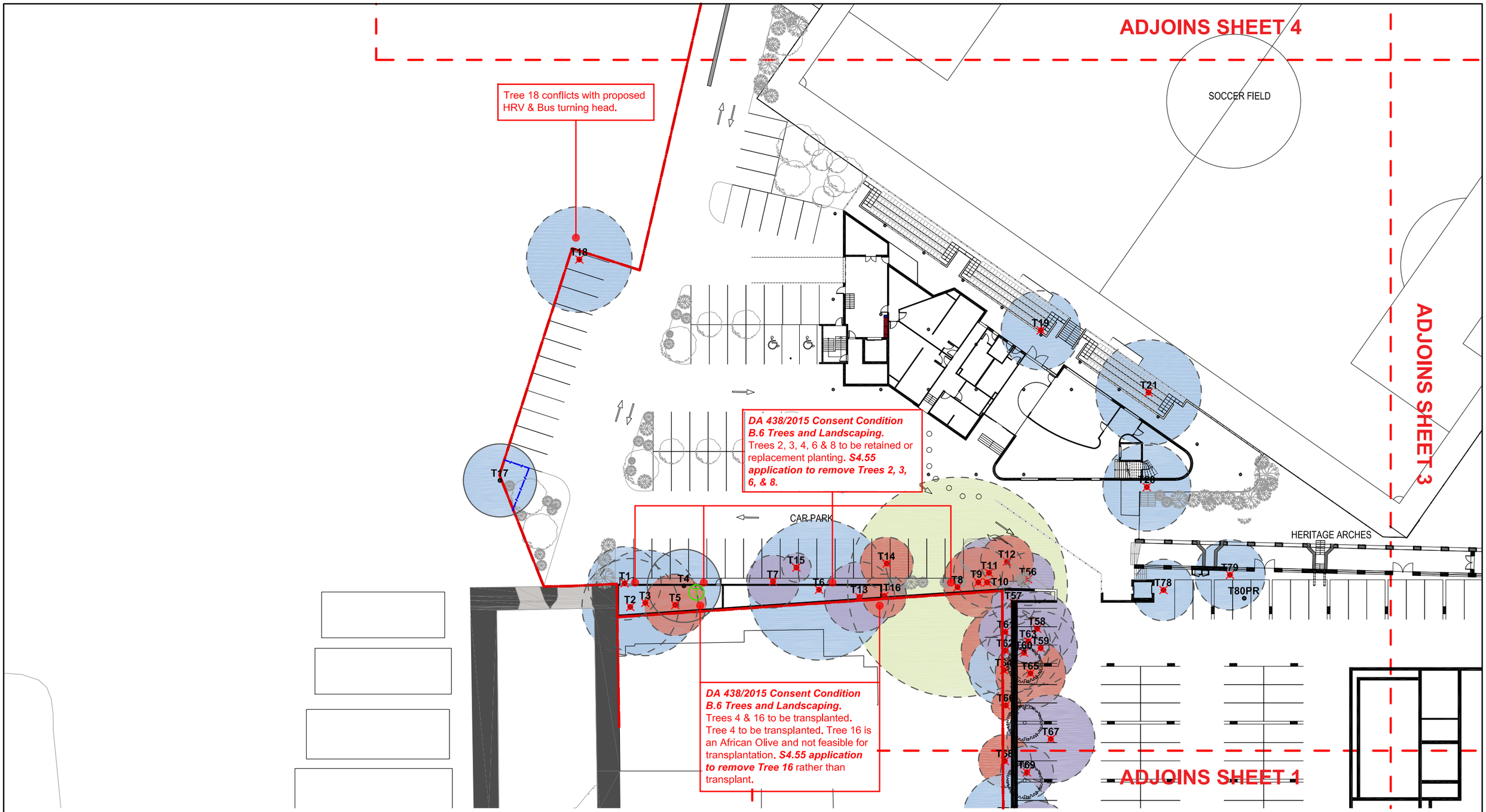

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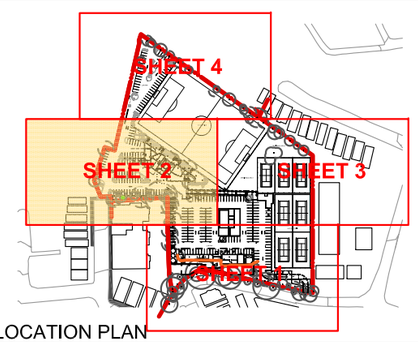
©Retention Index:

©Retention Value A TPZ:	
©Retention Value B TPZ:	
©Retention Value C TPZ:	
©Retention Value D TPZ:	
Existing retaining wall:	

Dead, dying or dangerous trees or noxious weeds to be removed irrespective of proposed development:	
Trees requiring removal to facilitate development:	

LOCATION PLAN



TITLE:	©TREE PROTECTION PLAN
CLIENT:	Hakoah Club Limited
PROJECT:	WHITE CITY REDEVELOPMENT 30 ALMA ST, PADDINGTON
DRAWING NO:	2601TPP SHT 2 OF 5
DRAWN BY:	MH
BASED ON:	FLOOR PLAN - GROUND FLOOR BY MACCABI TENNIS ARCHITECT, JOB NO. 5669, DWG NO DDA2010, ISSUE 2 DATED 06/03/2019. EXISTING & PLAN OF THE LAND COMPRISED IN CERTIFICATE OF TITLE 2/1114604 AT PADDINGTON IN THE LGA OF WOOLLAHRA BY DUNLOP THORPE & CO. PTY LTD, REF NO. 15685 DATED 15.10.2014. FLOOR PLAN - GROUND FLOOR BY MACCABI TENNIS ARCHITECT JOB NO. 5669, DWG NO. DA2010, ISSUE C DATED 10.04.2019
DATE:	19/03/2019
REV:	A REV DATE: 22/04/2019
SCALE:	1:500@A3

0 5 10 25 meters

N

ADJOINS SHEET 4

ADJOINS SHEET 2

ADJOINS SHEET 1

T42
T41
T40
T39
T38
T37
T94
T95
T97
T96
T36
T35
T22PR

OPEN GRASS AREA 2

OPEN GRASS AREA 1

MACCABI TENNIS

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©Retention Index:

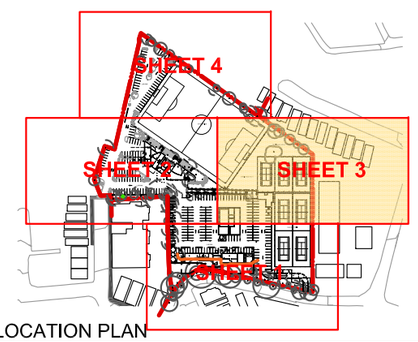
- ©Retention Value A TPZ:
- ©Retention Value B TPZ:
- ©Retention Value C TPZ:
- ©Retention Value D TPZ:

Existing retaining wall:

Dead, dying or dangerous trees or noxious weeds to be removed irrespective of proposed development:

Trees requiring removal to facilitate development:

LOCATION PLAN



TITLE:	©TREE PROTECTION PLAN
CLIENT:	Hakoah Club Limited
PROJECT:	WHITE CITY REDEVELOPMENT 30 ALMA ST, PADDINGTON
DRAWING NO:	2601TPP SHT 3 OF 5
DRAWN BY:	MH
BASED ON:	FLOOR PLAN- GROUND FLOOR BY MACCABI TENNIS ARCHITECT, JOB NO. 5669, DWG NO DDA2010, ISSUE 2 DATED 06/03/2019. EXISTING & PLAN OF THE LAND COMPRISED IN CERTIFICATE OF TITLE 2/1114604 AT PADDINGTON IN THE LGA OF WOOLLAHRA BY DUNLOP THORPE & CO. PTY LTD, REF NO. 15665 DATED 15.19.2014. FLOOR PLAN- GROUND FLOOR BY MACCABI TENNIS ARCHITECT JOB NO. 5669, DWG NO. DA2010, ISSUE C DATED 10.04.2019
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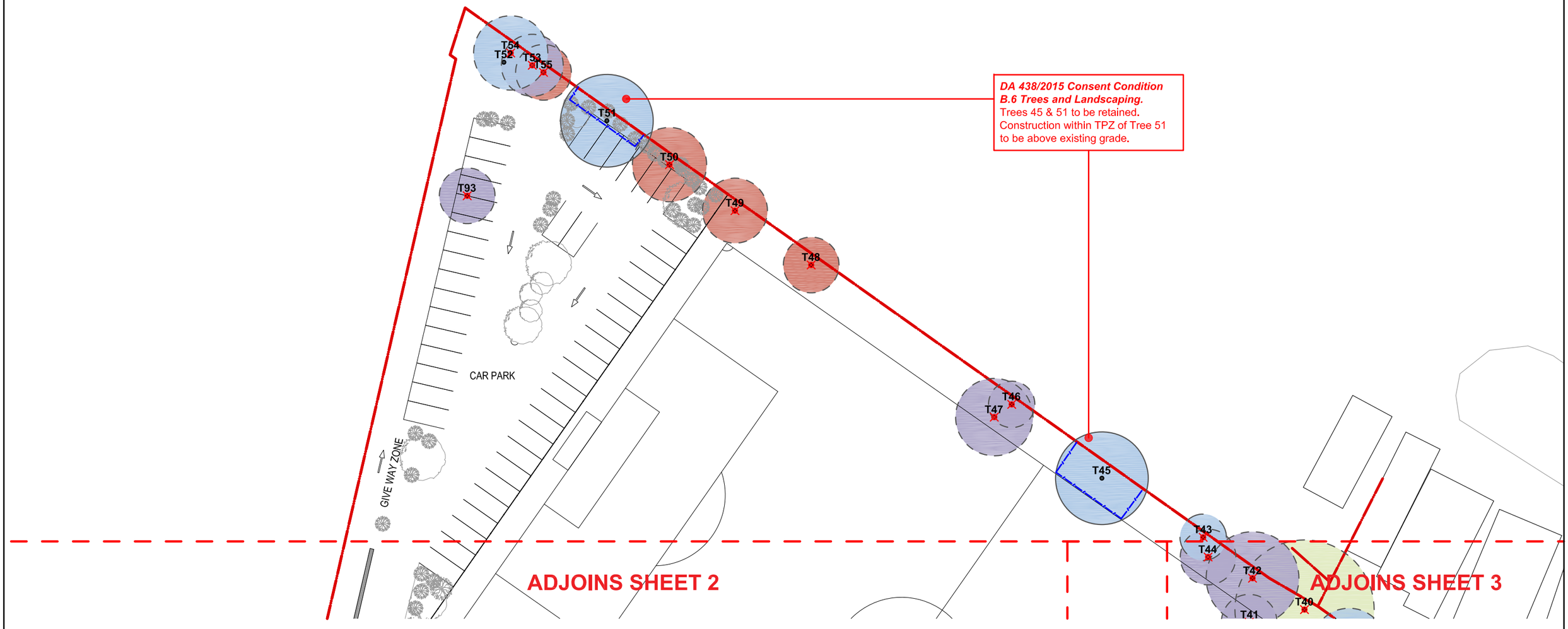
REV:	A REV DATE: 22/04/2019
SCALE:	1:500@A3

0 5 10 25 meters

N



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LEGEND

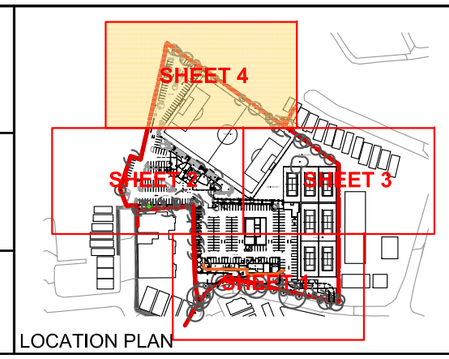
Site boundary:	
Tree number with trunk as plotted on Site Survey:	T85
Tree number with trunk not plotted on Site Survey (approximate location shown):	T106
Tree previously removed:	T32PR
Protective fencing:	
Transplant tree:	T4 (T)

©Retention Index:

- ©Retention Value A TPZ:
- ©Retention Value B TPZ:
- ©Retention Value C TPZ:
- ©Retention Value D TPZ:
- Existing retaining wall:

Dead, dying or dangerous trees or noxious weeds to be removed irrespective of proposed development:

Trees requiring removal to facilitate development:

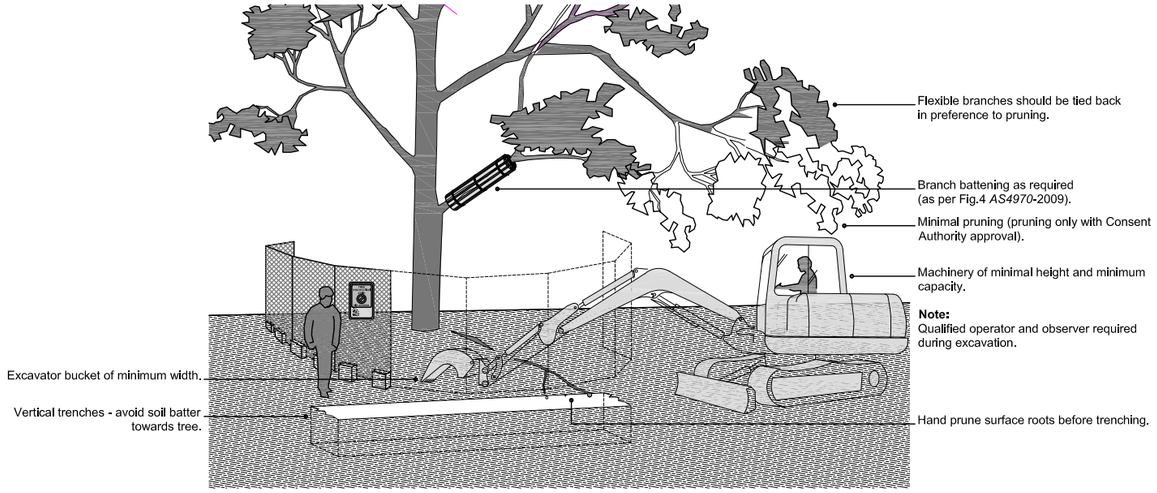


LOCATION PLAN

TITLE:	©TREE PROTECTION PLAN		
CLIENT:	Hakoah Club Limited		
PROJECT:	WHITE CITY REDEVELOPMENT 30 ALMA ST, PADDINGTON		
DRAWING NO:	2601TPP SHT 4 OF 5		
DRAWN BY:	MH		
BASED ON:	FLOOR PLAN- GROUND FLOOR BY MACCABI TENNIS ARCHITECT, JOB NO. 5669, DWG NO DDA2010, ISSUE 2 DATED 06/03/2019. EXISTING & PLAN OF THE LAND COMPRISED IN CERTIFICATE OF TITLE 2/1114604 AT PADDINGTON IN THE LGA OF WOOLLAHRA BY DUNLOP THORPE & CO. PTY LTD, REF NO. 15685 DATED 15.19.2014. FLOOR PLAN- GROUND FLOOR BY MACCABI TENNIS ARCHITECT JOB NO. 5669, DWG NO. DA2010, ISSUE C DATED 10.04.2019		
DATE:	19/03/2019		
REV:	A	REV DATE:	22/04/2019
SCALE:	1:500@A3		

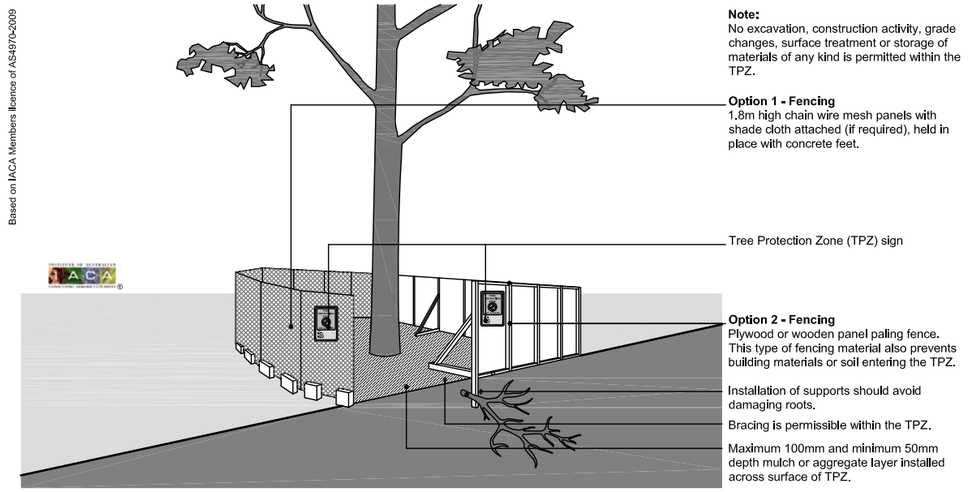
0 5 10 25 meters

N



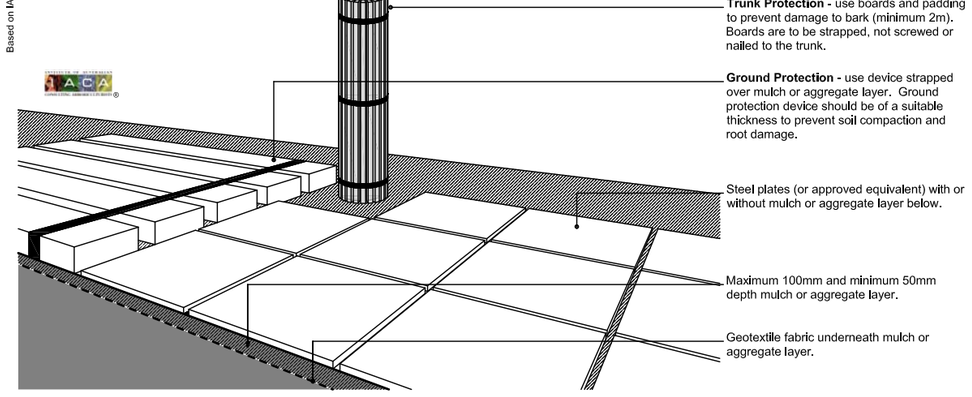
06 Machinery Use Within Tree Protection Zone (TPZ)

Not to Scale



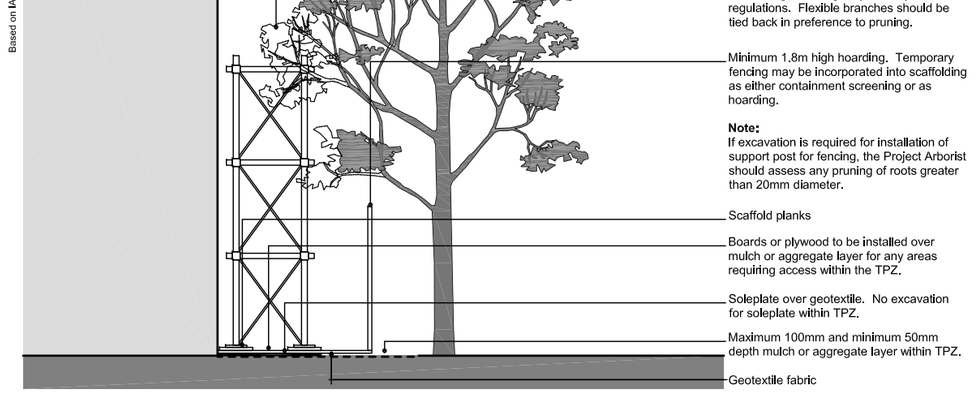
03 Tree Protection Fencing

Not to Scale



04 Examples of Branch, Trunk and Ground Protection

Not to Scale



05 Indicative Scaffolding within a Tree Protection Zone (TPZ)

Not to Scale

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Notes:

1. Tree Impact assessment has been considered In relation to ***AS4970-2009 Protection of trees on development sites***.

2. This ***Tree Protection Plan*** is equivalent to the Development Submission Plan identified in Table 1, ***AS4970-2009***.

3. This ***Tree Protection Plan*** should be incorporated into the site Construction Management Plan and the Sedlment Control Plan.

4. Tree impact assessment includes likely impacts from development including: building platforms, driveways/ accessways, services/infrastructure Installation and cut/fill batters.

5. The extent of TPZ shown on thls plan does not reflect any confinement of roots by existing structures, buildings, walls, topography, etc.

6. A ***Project Arborist*** with minimum AQF Level 5 qualifications is to be engaged to supervise works within TPZ areas and monitor and report regularly on the condition of trees.

7. ***Tree Protection Fencing*** as indicated, should be Installed prlor to demolltion of exlstlng structures and other site preparation works. Tree Protection Fencing should comprise of chainlink wire or wire mesh panels as per Flgure 03 of the TPP. If the location of the fencing needs to be altered, this shall be determlned at a project meetlng between the Civil Contractor and the Project Arborist. The following activities are to be prohibited within tree protectlon fencing: topsoll strlpplng, excavatlon, placement of soil fill, storage of any materials, placement of site sheds/offices, parking of heavy machinery, placement of machinery haul roads.

8. If ***scaffolding*** is required within TPZ, install as shown In Flgure 05 of the TPP.

9. Services installation should be supervised by the ***Project Arborist***, usIng dlrectlonal borlng wherever possible or manual excavation where trenching is to occur. No roots greater than 50mm dlameter are to be cut or damaged. Services should be routed beyond TPZ wherever possible.

10. ***Trunk battening*** and ***ground protection*** to be installed to trees where works are required within Tree Protection Fencing. Battening to comply with Flgure 04 of the TPP.

11. All ***tree pruning*** Is to comply wlth ***AS4373-2007, Pruning of amenity trees***. All approved tree removal is to comply with WorkCover Code of Practlce for the Amenlty Tree Industry. All tree pruning and removal shall be carried out by a qualifled and experlenced Arborlst (mInImum AQF Level 3 qualification).

12. ***Mulch*** is to be spread to a depth of 100mm within the TPZs if construction activity is proposed wlthln TPZ offsets. Where TPZs are greater than 5 metres or where native seedllng regeneration would be prohlbited by the mulch, seek advlce from the Project Arborist and Ecologist.

13. ***Over-excavation*** or battering towards trees is to be avoided unless indicated on Approved earthworks or services drawings and approved by the Project Arborist.

14. Contiguous ***strip footings*** are to be avoided wherever possible. Use discontinuous pier and beam type footings or other lightweight construction for walling and fencing within TPZs.

15. ***Temporary irrigation***, hand watering or water cart may be required to maintain adequate soil moisture levels. The Project Arborist is to monitor soil moisture levels and advise on delivery volumes and frequency.

16. Temporary ***haul roads*** may be required to be Installed where heavy machlnery movements are proposed within TPZs of trees to minimise compactlon. Woodchlp mulch should be used as a minimum. Recycled concrete or other aggregate placed over a geofabric may be required for heavy use areas.

TITLE:	**©TREE PROTECTION PLAN**		
CLIENT:	Hakoah Club Limited		
PROJECT:	WHITE CITY REDEVELOPMENT 30 ALMA ST, PADDINGTON		
DRAWING NO:	2601TPP SHT 5 OF 5		
DRAWN BY:	MH		
BASED ON:	IACA Licence of *AS4970-2009 Protection of trees on development sites*		
DATE:	19/03/2019		
REV:	A	REV DATE:	22/04/2019