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Tree Management Plan
50 Morisett Street, Queanbeyan

Client: Spacelab
Client's Contact: Brendon Hill
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Contact: Matt Badham
Principal Consulting Arborist
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Date of Tree Management Plan: 23 November 2023

Amended: 29 November 2023

Any use of this document outside the purpose of the report must be authorised by the Consulting Arborist.

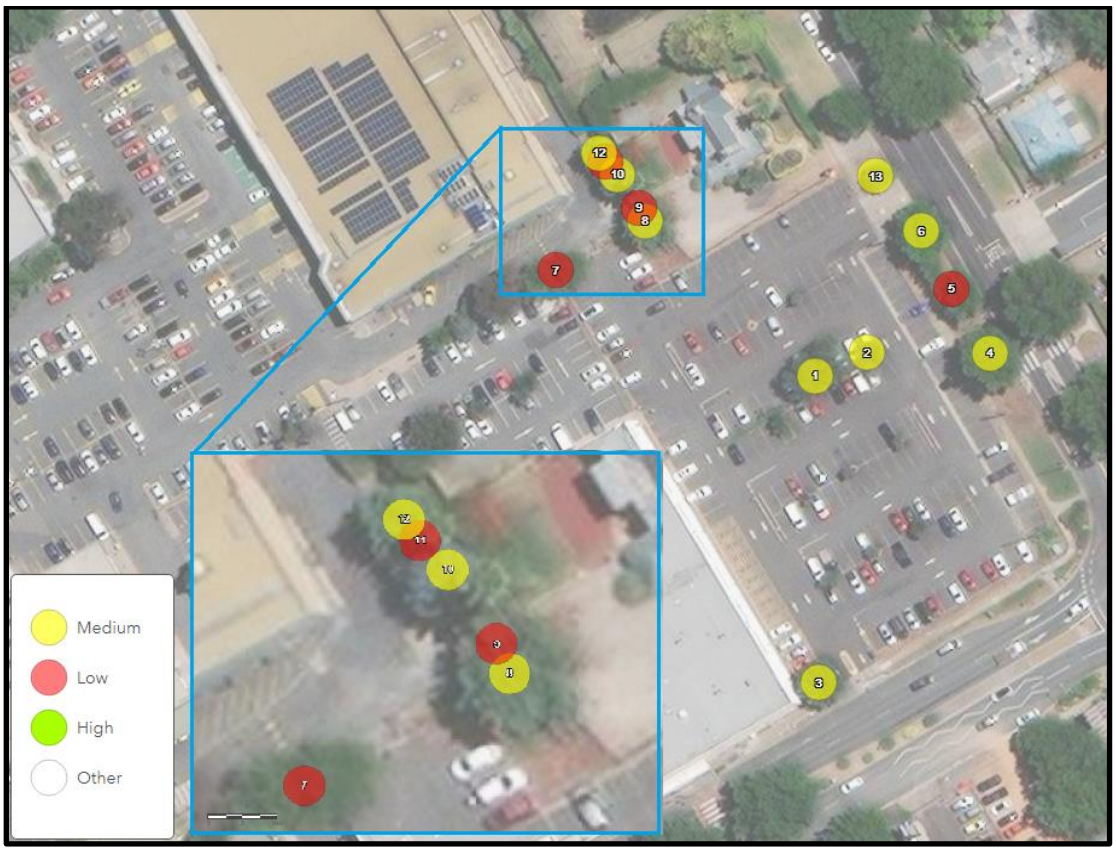

Figure 1. Shows the site with all trees noted for removal in red.

Purpose of the report

This impartial report was requested by Brendon Hill, Director – Landscape and Urban Design, Spacelab, for 50 Morisett Street, Queanbeyan (known as 'the site'). The site is proposed to be redeveloped as per the ground level footprint design in *Figures 2* and *3* and associated plans.

The purpose of the report is to:

- Provide the client with technical arboricultural advice for the trees located on and/or adjacent to the site
- Identify trees on the site that are to be retained and provide recommendations on protecting them through the proposed redevelopment of the site
- Identify trees that require removal and provide justification for their removal and
- Provide any other recommendations that may assist with the development of the site.

Figure 2. Shows the proposed ground floor of the development.

Figure 3. Shows the proposed 3D view from Collett Street.

Details of trees

Tree details can be found in *Appendix A*, Tree Schedule.

Overall, there are thirteen (13) mature trees located either within the boundary (Trees 1-3 and 7-12) or on Queanbeyan-Palerang Council (QPRC) land (Trees 4, 5, 6 and 13 are located on the nature strip of Collett Street). There are several small, young trees (*Fraxinus angustifolia* – Claret Ash) recently planted throughout the car parking area. These smaller young trees were not requested to be assessed for the purposes of this redevelopment. Claret Ash have proven to hold a short to medium longevity in the landscape, with only approximately 25% surviving past twenty-five (25) years, and then there is a steady attrition rate with only approximately 5% surviving past forty (40) years.

The assessment found that of the thirteen (13) trees, four (4) trees (Trees 5, 7, 9 and 11) held a low retention value and the remaining nine (9) trees (Trees 1-4, 6, 10 and 12-13) held medium retention values.

There were no high retention value trees identified across the site or on adjacent lands that would be impacted by the proposed redevelopment.

Given the scale of the development on the block, it does not appear appropriate to retain any of the trees within the main building footprint, nor alter or change the design, as none of the trees were identified as holding a high retention value.

Form the assessment of the trees and consideration of the proposed design the following is recommended:

- The removal of Trees 1, 2 and 3 (on the block).
- The retention of Trees 4, 6 and 13 (on the nature strip).
- Tree 5, *Quercus palustris* (Pin Oak) located on the Collett Street nature strip has significant trunk decay and poor structural integrity overhanging the road. It is strongly recommended that Council undertake an assessment of this tree and schedule in works in accordance with their own priorities.
- There is a requirement to house a substation within the block. The most appropriate location appears to be in the vicinity of Tree 8 in the alcove area towards the loading dock of Woolworths. Given the required infrastructure works to install the substation it is recommended to have Tree 8 removed.
- Consideration of the retention of Trees 10 and 12 in the alcove area towards the loading dock of Woolworths.
- While it is recommended to remove Trees 9 and 11, in the alcove area towards the loading dock of Woolworths, due to decline and or poor form, it has been requested that these trees are retained in the landscape to assist with holding established trees as part of the redevelopment. Tree 9 may need to be removed for the installation of the substation.
- The removal of Tree 7 as it is noted as being an *Acer negundo* (Box Elder) which is considered to be a problematic and pest species, due to its prolific weed potential.

Further details of the individual tree recommendations can be found in *Appendix A*, Tree Schedule.

With the current push for medium and high-density dwellings throughout the region, the land space on the site lends itself to high density dwellings with market business spaces below. This would appear to be in accordance with surrounding developments for the area and in the opinion of this Arborist, would be of greater benefit to the community than retaining an open air car parking area with low and medium retention trees.

As part of the redevelopment of the site and area, the broader community would anticipate a rejuvenation of the landscape and streetscape plantings. Consideration should be given to replanting parts of the surrounding area for the removal of the trees for the development.

Potential issues with the development and findings

1/ For the current proposal to proceed, it will require the approval and removal of three (3) mature trees and several small/young trees inside the boundary.

2/ Trees on the nature strip and the alcove towards the loading dock of Woolworths can be retained and protected without any significant impact on their overall health and or condition, as long as appropriate tree protection measures are in place.

3/ Unnecessary damage to the Tree Protection Zones (TPZ's) of retained trees, largely through compaction of the soil profile by parking on the nature strip or the alcove area towards the loading dock of Woolworths. To preserve areas with trees being retained, the following tree protection measures shall be used:

- Tree protection fencing is to be installed as specified in *Figure 4*, and in accordance with the *Australian Standards - Tree Protection on Development Sites AS 4978 (2009)*, shown in *Figure 5*.
- Trunk protection is to be used in accordance with the *Australian Standards - Tree Protection on Development Sites AS 4978 (2009)*, shown in *Figure 6.*
- Access for the site shall be through the current hard surface access areas as shown in *Figure 4*.

4/ Currently there are no known areas of excavation within the Tree Protection Zones (TPZ's), however it is understood that with these large developments, additional tie-ins and service line may be required. Should any excavation within the TPZ be required, then the following hydro excavation methods should be used, particularly beneath any tree canopies:

- Fan shaped nozzle is to be used (no ball head)
- Spray head shall be used no less than 150mm away from the surface being sprayed
- A maximum of 2000psi shall be used.

5/ To assist with early intervention of potential remedial works for retained trees and to ensure that tree protection measures are used and enforced, it is strongly recommended that a Site Arborist (minimum AQF* Level 5) be appointed to the project to oversee all tree protection measures.

**AQF – Australian Qualification Framework*

Monitoring the health and condition of retained trees and ensuring that all tree protection measures are installed correctly shall be undertaken by enforcing a hold point at each stage of the project.

These hold points shall be at the following stages:

- Stage 1 - Site clearing phase
- Stage 2 - Construction phase
- Stage 3 – Landscape construction phase, fencing can be removed, however no heavy machinery is to be used or accessed through these areas.

Prior to the commencement of each stage of works, the tree protection measures must be reviewed and approved either by Council or an appointed the site Arborist. All tree protection measures must remain in situ throughout that stage of works. Any modifications to the tree protection measures must be supported by the Site Arborist and/or approved by the Council prior to being modified.

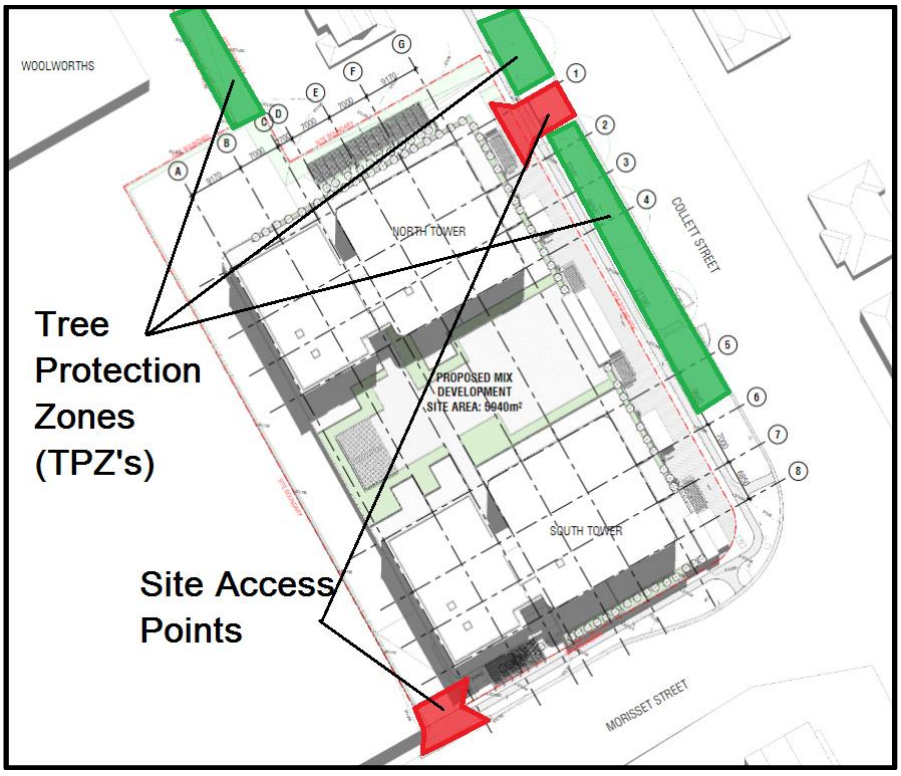

Figure 4. Shows the Tree Protection Zones (TPZ's) in green, to be fenced off and the access points to the site to be used (in red) for the redevelopment of the site. Please note that the TPZ in the alcove area should still remain as large as possible, however there is a need to access this area and install the substation.

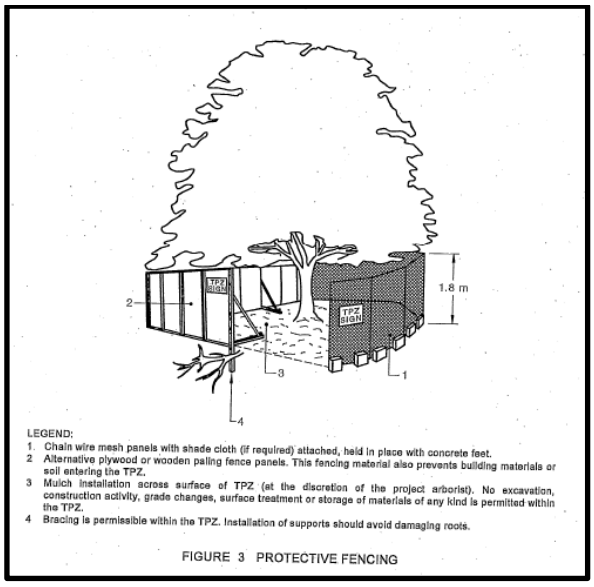

Figure 5

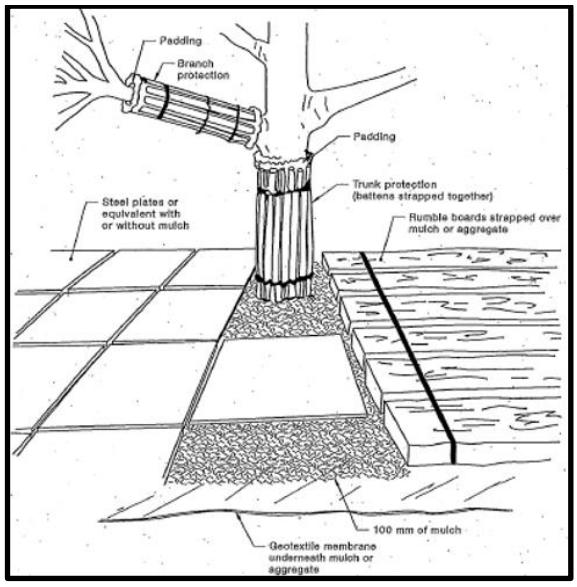

Figure 6

Figure 5. Shows the tree protection fencing, as per the Australian Standard for Tree Protection on Development Sites AS 4978 (2009)

Figure 6. Shows trunk and low branching protection, as per the Australian Standard for Tree Protection on Development Sites AS 4978 (2009)

Additional notes

- Tree protection zones (TPZ's) should be as large as possible
- During any stage of the redevelopment that works are to be undertaken within the TPZ's, the site Arborist shall be on site to observe and provide recommendations. This will ensure that access to this construction area is only opened when required and still provides some level of protection zones for the trees to be retained.
- Any works within the TPZ's should be undertaken with care, and movement of soil taken by small amounts in a direction of away from the tree.
- Any roots damaged during these works shall be inspected by the site Arborist and can only be removed under instruction of the site Arborist by a suitably qualified Arborist (holding a minimum Certificate III in Arboriculture - AQF3 Arborist).
- In the event excavation is required within the TPZ's then the previously stated hydro excavation specifications should be used.

The aim of these tree protection measures is to assist with the long term retention of the identified trees on or adjacent to the site. To assist with upholding the restricted areas and limiting access for the redevelopment, all site users should be inducted into the site by the site Arborist, who is able to provide explanations of the tree protection zones, hold points and the requirements of tree protection for this site.

Please do not hesitate to contact me if you require any further information or clarification about the report.

Thank you,

Matt Badham
Director / Senior Consulting Arborist

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Expertise of Consultant

Education and experience:

- Diploma in Arboriculture, Ryde TAFE, Sydney NSW (2012)
- VALID Tree risk assessment training, Canberra ACT (2019)
- VALID Tree risk assessment workshop, Sydney NSW (2017)
- Tree Anatomy Workshop (Three-day workshop) training, Adelaide SA (2016)
- Tree Risk Assessment Qualification (TRAQ), Melbourne VIC (2014)
- Quantified Tree Risk Assessment (QTRA) training, Melbourne VIC (2014)
- Quantified Tree Risk Assessment (QTRA), Visual tree inspection (VTA) training, Melbourne VIC (2014)
- Diploma in Horticulture, Canberra Institute of Technology (CIT), ACT (2006)
- Certificate III in Arboriculture, CIT, ACT (2008)
- Certificate IV in Horticulture, CIT, ACT (2004)
- Certificate III in Horticulture, CIT, ACT (2003)
- Two-day intensive tree hazard risk training with resistograph and quantifying structural strengths of defective trees, IML in Canberra, ACT (2012).
- Sixteen years' experience in tree assessments and administering required works for the Federal and ACT Government
- Twenty-six years' experience in the field of arboriculture, horticulture and maintenance works.

Conferences attended:

- International Society of Arboriculture (ISA) 2017 Canberra, ACT
- Treenet 2016 Adelaide, SA
- International Society of Arboriculture (ISA) 2015 Adelaide, SA
- International Society of Arboriculture (ISA) 2011 Parramatta, NSW
- International Society of Arboriculture (ISA) 2008 Brisbane, QLD
- Green X 2007 Penrith, NSW
- International Society of Arboriculture (ISA) 2006 Launceston, TAS
- Treenet 2005 Ryde, NSW

Bibliography

Draper, D. and Richards, P. *Dictionary for Managing Trees*, 2009.

Id	Species	V T A						S T A R S			Comments / Recommendations	Work type	Photos
		Height (m)	DBH (cm)	DRF (cm)	Maturity	Vitality	Structure	ELE	Significance	Retention value			
1	*Schinus molle (Pepper Tree)*	10	100	134	Mature	Fair	Fair	15-40	Medium	Medium	Proposed development design cannot be achieved with Tree 1 retained. Have Tree 1 removed.	Removal	
2	*Schinus molle (Pepper Tree)*	4	25*	52	Young Mature	Fair	Fair	40+	Low	Medium	Proposed development design cannot be achieved with Tree 2 retained. Have Tree 2 removed.	Removal	
3	*Ulmus procera (English Elm)*	9	56*	62	Mature	Fair	Fair to Poor	15-40	Medium	Medium	Proposed development design cannot be achieved with Tree 3 retained. Have Tree 3 removed.	Removal	
4	*Quercus palustris*	13	63	72	Mature	Fair	Poor	15-40	Medium	Medium	Tree has been heavily pruned from adjacent powerlines and has failed dead branching hung up in canopy overhanging pedestrian crossing. Look to undertake general canopy maintenance and remove dead wood and problematic branches.	Retain and protect	

Id	Species	V T A						S T A R S			Comments / Recommendations	Work type	Photos
		Height (m)	DBH (cm)	DRF (cm)	Maturity	Vitality	Structure	ELE	Significance	Retention value			
5	*Quercus palustris*	8	59	73	Mature	Fair	Poor	1-15	Low	Low	Tree has been heavily pruned from adjacent powerlines and has had its leader removed, leaving a poor canopy and poor branching attachments. Look to schedule in removal of tree.	Removal	
6	*Quercus palustris*	11	53	62	Mature	Fair	Fair to Poor	15-40	Medium	Medium	Tree has been heavily pruned from adjacent powerlines and appears to have wounding on the top of most branches, potentially with branch and trunk rot. Look to undertake aerial inspection and general canopy maintenance.	Retain and protect	
7	*Acer negundo (Boxelder)*	8	60*	86	Mature	Fair	Fair to Poor	1-15	Low	Low	Tree has had two of the three main leaders removed and now holds an unbalanced canopy. Look to have tree removed due to potential weed species.	Removal	
8	*Cupressus sp. (appears to be Cupressus arizonica (Arizona Cyprus))*	10	54	57	Mature	Fair	Fair to Poor	15-40	Medium	Medium	Proposed development design cannot be achieved with Tree 8 retained. Have Tree 8 removed.	Removal	

Id	Species	V T A						S T A R S			Comments / Recommendations	Work type	Photos
		Height (m)	DBH (cm)	DRF (cm)	Maturity	Vitality	Structure	ELE	Significance	Retention value			
9	*Cupressus sp. (appears to be Cupressus arizonica (Arizona Cyprus))*	8	41	54	Mature	Poor	Fair to Poor	1-15	Low	Low	Tree is in decline with dead main leader, look to have removed and replaced.	Removal	
10	*Cupressus arizonica glauca (Blue Arizona Cyprus)*	11	31	34	Young Mature	Fair	Fair to Poor	15-40	Medium	Medium	Potential issue with low stem diameter ratio. Appears stable in ground.	Retain and protect	
11	*Cupressus sp. (appears to be Cupressus arizonica (Arizona Cyprus))*	6	26	31	Young Mature	Poor	Fair to Poor	1-15	Low	Low	Tree is in decline with dead main leader, look to have removed and replaced.	Removal	
12	*Cupressus sp. (appears to be Cupressus arizonica (Arizona Cyprus))*	8	35	40	Mature	Fair	Fair to Poor	15-40	Medium	Medium	Continue to monitor overall vitality and stability of tree.	Retain and protect	

Id	Species	V T A						S T A R S			Comments / Recommendations	Work type	Photos
		Height (m)	DBH (cm)	DRF (cm)	Maturity	Vitality	Structure	ELE	Significance	Retention value			
13	*Quercus palustris*	6	35	43	Young Mature	Fair	Fair to Poor	15-40	Low	Medium	Tree appears stunted in growth due to earlier compaction to root plate. Could consider removing and replacing.	Retain and protect