Arboricultural Impact Assessment

REPORT COMMISSIONED BY:
Bo Chen

DATE OF ASSESSMENT:
Monday, February 10, 2020

SUBJECT SITE:
15 - 17 Marriott Parade,
Glen Waverley VIC 3150

DATE OF REPORT:
Wednesday, February 12, 2020

REPORT PREPARED BY:
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Consulting Arborist
Certificate 5 Horticulture (Arboriculture)

VERSION 1

TAYLOR'S TREES

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Contents

1 Assignment

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1.2 Client

Name
Bo Chen
Site Address
15 - 17 Marriott Parade,
Glen Waverley VIC 3150

Intended Audience

- The property/tree owner(s)
- The development project manager and associated construction staff
- Council Planning Department

1.3 Brief

The purpose of this report is to provide an independent arboricultural assessment of prominent trees that are located within the subject site and within three metres of the site boundary lines.

Detail has been requested in relation to the following instructions:

- To provide an objective assessment of the trees in their current state.
- To provide an objective assessment of the retention value of the subject trees.
- To determine the Tree Protection Zones (TPZ) and Structural Root Zones (SRZ) of the subject trees.
- To determine if the subject trees are expected to remain viable as a result of the proposed development.
- To propose tree and site management options to ensure that the subject trees are expected to remain viable as a result of the proposed development.

2 Data collection

2.1 Site Visit

- Nicholas Holian, of Taylors Tree and Stump Removal, visited the site for an arboricultural assessment on Monday the 10th of February 2020 at 2:00pm.

2.2 Method of data collection

- The subject trees were assessed from observations made as viewed from ground level.
- Access to neighbouring properties was not permitted therefore, assessment was limited only to parts of the trees that were visible from within the subject site.
- Field notes were documented, the summary of observations is an accurate account of notes gathered whilst in the field.
- The height and spread of the trees were estimated.
- A digital camera was used at ground level to gather photographic evidence.
- A diameter tape was used to determine the trunk dimensions of trees within the Council nature strip (Trees 6 – 13).
- Trunk dimensions of neighbouring trees were estimated due to restricted access (Tree 1 - 5 & 13).

2.2.1 Documents viewed

- Proposed plans (30/01/2020)
- Monash Council Planning Scheme
- Australian Standard AS4970 – 2009 – Protection of Trees on Development Sites

2.2.2 Proposed siting

- The proposed plan referenced in this report is a preliminary siting and may be subject to change.
- Trees have been mapped in their approximate locations.

3 Site description

- 15 Marriott Parade is located in a General Residential Zone – Schedule 7 (GRZ7) within the Monash Council.
- 17 Marriott Parade is located in a Residential Growth Zone – Schedule 4 (GRZ4) within the Monash Council.
- An existing residential dwelling is currently situated within each site.
- The terrain of the site presented as inclining in a northerly direction.
- The subject trees are located within the Council nature strip and within adjoining properties (6 Berkley Court and 125 Kings Way).
- The subject trees are located amongst a mixture of native and exotic vegetation that were not assessed, as they are insignificant in size and are not suitable for retention.
- Several trees have recently been removed from within the subject sites.

4 Tree data

The following tables represent the tree data obtained from the site visit:

Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread N-S E-W	DBH CA1 DAB	Health	Structure	ULE	Amenity Value	Retention Value	TPZ Radius	SRZ Radius	Comments
1	*Camellia japonica* Japanese camellia	Semi mature	Exotic	4 m	N-S: 3 m E-W: 3 m	0.05 m 0.05 m (0.07m) 0.23 m 0.10 m	Fair	Fair	20 + years	Low	Other Person's Tree	2 m	1.5 m	Neighbouring tree located on the western adjoining property (6 Berkley Crt). Co-dominant stems at ground level.
2	*Melaleuca sp.* Paperbark	Mature	Native	8 m	N-S: 3 m E-W: 3 m	0.15 m 0.50 m 0.20 m	Fair	Fair	20 + years	Low	Other Person's Tree	2 m	1.7 m	Neighbouring tree located on the western adjoining property (6 Berkley Crt). Existing paving located within TPZ. Existing retaining wall 0.3m in height located 2m east of the trunk. Existing retaining wall is expected to be restricting root growth to the areas of the subject site which are located beyond the retained wall.

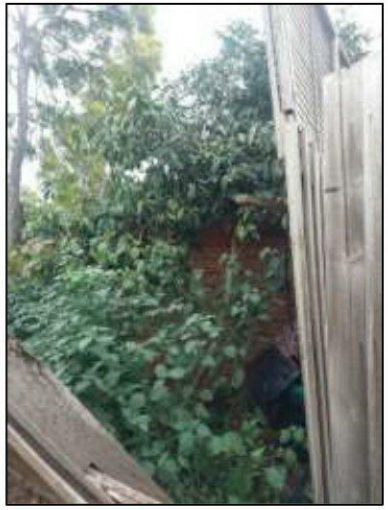
Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread N-S E-W	DBH & DAB	Health	Structure	ULE	Amenity Value	Retention Value	TPZ Radius	SRZ Radius	Comments
3	*Ligustrum lucidum* Broadleaf privet	Semi mature	Exotic	3 m	N-S: 3 m E-W: 3 m	N/A	Fair	Fair	20 + years	Low	Other Person's Tree	2 m	1.5 m	Neighbouring tree located on the western adjoining property (6 Berkley Crt). Too many stems to practically measure or estimate. TPZ & SRZ have therefore been estimated. Existing retaining wall 0.5m in height located 2m east of the trunk. Existing retaining wall is expected to be restricting root growth to the areas of the subject site which are located beyond the retained wall.
4	*Prunus cerasifera* 'Nigra' Black cherry plum	Semi mature	Exotic	3 m	N-S: 3 m E-W: 3 m	N/A	Fair	Fair	20 + years	Low	Other Person's Tree	2 m	1.5 m	Neighbouring tree located on the western adjoining property (6 Berkley Crt). Too many stems to practically measure or estimate. TPZ & SRZ have therefore been estimated. Existing retaining wall 0.5m in height located 2m east of the trunk. Existing retaining wall is expected to be restricting root growth to the areas of the subject site which are located beyond the retained wall.

Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread N-S E-W	DBH & DAB	Health	Structure	ULE	Amenity Value	Retention Value	TPZ Radius	SRZ Radius	Comments
5	*Acer palmatum* Japanese maple	Mature	Exotic	8 m	N-S: 6 m E-W: 6 m	0.25 m 0.25 m (0.35m) 1.16 m 0.45 m	Fair	Fair	20 + years	Moderate	Other Person's Tree	4.2 m	2.4 m	Neighbouring tree located on the western adjoining property (6 Berkley Crt). Co-dominant stems at 0.4m above ground level.
6	*Prunus cerasifera* 'Nigra' Black cherry plum	Mature	Exotic	6 m	N-S: 5 m E-W: 5 m	0.20 m 0.63 m 0.20 m	Fair	Fair	20 + years	Low	Council Owned Tree	2.4 m	1.7 m	Council owned tree located within the nature strip in front of the western adjoining property (6 Berkley Crt). Multi-stemmed at ground level. DBH & CA1 measured at ground level.
7	*Prunus sp.* Prunus	Mature	Exotic	6 m	N-S: 5 m E-W: 5 m	0.13 m 0.21 m (0.25m) 0.83 m 0.33 m	Fair	Fair	20 + years	Low	Council Owned Tree	3 m	2.1 m	Council owned tree located within the front nature strip.
8	*Prunus sp.* Prunus	Mature	Exotic	4 m	N-S: 4 m E-W: 4 m	0.18 m 0.60 m 0.24 m	Fair	Poor	10-20 years	Low	Council Owned Tree	2.2 m	1.8 m	Council owned tree located within the front nature strip. Leaning to the west. Unbalanced canopy mass. Decay present within trunk.
9	*Malus sp.* Crab apple	Young	Exotic	1.5 m	N-S: 0.7 m E-W: 0.7 m	0.02 m 0.07 m 0.03 m	Fair	Fair	20 + years	Low	Council Owned Tree	2 m	1.5 m	Council owned tree located within the front nature strip.

Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread N-S E-W	DBH CA1 DAB	Health	Structure	ULE	Amenity Value	Retention Value	TPZ Radius	SRZ Radius	Comments
10	*Malus sp.* Crab apple	Young	Exotic	1.5 m	N-S: 0.7 m E-W: 0.7 m	0.02 m 0.07 m 0.03 m	Fair	Fair	20 + years	Low	Council Owned Tree	2 m	1.5 m	Council owned tree located within the front nature strip.
11	*Malus sp.* Crab apple	Mature	Exotic	6 m	N-S: 6 m E-W: 5 m	0.23 m 0.72 m 0.23 m	Fair	Fair	20 + years	Low	Council Owned Tree	2.8 m	1.8 m	Council owned tree located within the front nature strip. Multi-stemmed at ground level. DBH & CA1 measured at ground level.
12	*Malus sp.* Crab apple	Mature	Exotic	5 m	N-S: 5 m E-W: 4 m	0.25 m 0.79 m 0.25 m	Fair	Fair	20 + years	Low	Council Owned Tree	3 m	1.9 m	Council owned tree located within the front nature strip. Multi-stemmed at ground level. DBH & CA1 measured at ground level.
13	*Lophostemon confertus* Queensland box	Mature	Native QLD	9 m	N-S: 6 m E-W: 6 m	0.40 m 1.31 m 0.46 m	Good	Fair	20 + years	Moderate	Council Owned Tree	4.8 m	2.4 m	Council owned tree located within the front nature strip.
14	*Nerium oleander* Oleander	Mature	Exotic	4 m	N-S: 4 m E-W: 3 m	N/A	Fair	Fair	20 + years	Low	Other Person's Tree	2 m	1.5 m	Neighbouring tree located on the northern adjoining property (125 Kings Way). Too many stems to practically measure or estimate. TPZ & SRZ have therefore been estimated.

4.1 Photographic evidence

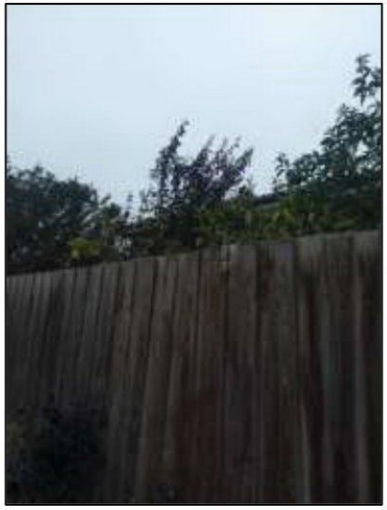
The following photographs were obtained during the site visit:



Tree 1

Tree 2

Tree 3



Tree 4

Tree 5

Tree 6

Tree 7

Tree 8

Tree 9

Tree 10

Tree 11

Tree 12

Tree 13

Tree 14

15 Marriott Parade

17 Marriott Parade

17 Marriott Parade driveway

17 Marriott Parade as viewed from the north

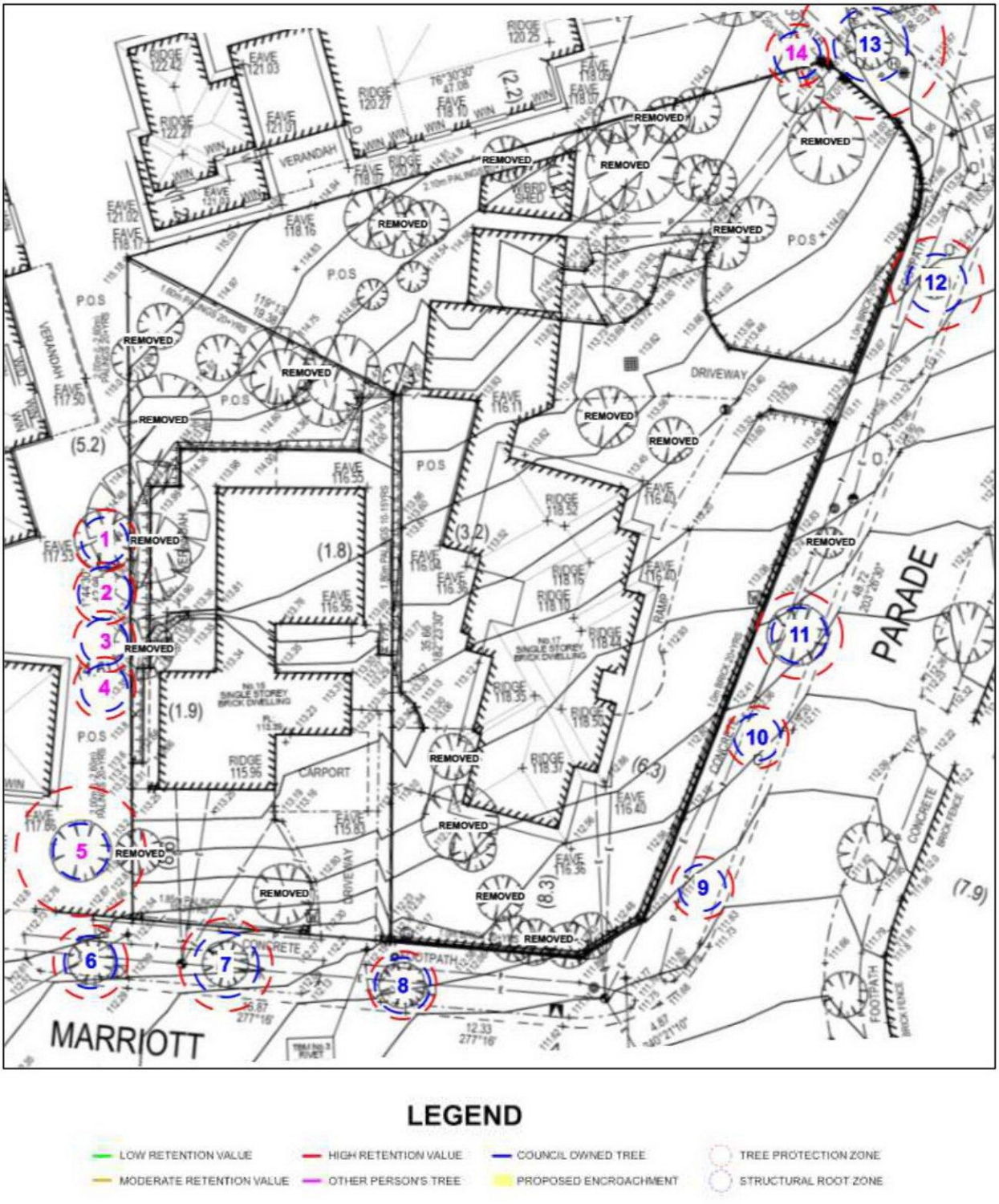
15 Marriott Parade rear yard as viewed from the south

15 Marriott Parade rear yard as viewed from the north

5 Site maps

5.1 Site survey

The following map indicates the tree locations in relation to the existing conditions:



5.2 Proposed plans

The following map indicates the tree locations in relation to the proposed development:

6 Discussion

6.1 Tree Protection zone

The tree protection zone is determined by multiplying the trunk diameter of the tree at breast height, 1.4m from ground level, by 12. A 10% encroachment on one side of this zone is acceptable without investigation into root distribution or offset of the lost area.

Section 3.2 of the Australian Standard AS4970 – 2009 Protection of Trees on Development Sites states that the TPZ of Palms, other monocots, cycads and tree ferns should not be less than 1 m outside the crown projection.

6.2 Structural root zone

The structural root zone (SRZ) is the setback required to avoid damage to stabilising structural roots. The loss of roots within the SRZ must be avoided. The SRZ is determined by applying the following formula: (D X 50) 0.42 X 0.64 where D = trunk diameter in metres.

6.3 Designing Around Trees

It may be possible to encroach into or make variations to the TPZ of the trees that must be retained. Encroachment includes excavation, compacted fill and machine trenching.

The following is referenced from section 3.3.3 of the Australian Standards AS4970 – 2009 Protection of Trees on Development Sites:

6.3.1 Minor encroachment

If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.

6.3.2 Major encroachment

If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ the project arborist must demonstrate that the trees would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods.

7 Conclusion

7.1 Tree retention value

7.1.1 Council owned trees

The following trees belong to Monash Council:

- Tree 6
- Tree 7
- Tree 8
- Tree 9
- Tree 10
- Tree 11
- Tree 12
- Tree 13

7.1.2 Other person's trees

The following trees do not belong to the property owner:

- Tree 1
- Tree 2
- Tree 3
- Tree 4
- Tree 5
- Tree 14

7.2 Permit requirements

The site is not subject to any local law or overlay in relation to tree protection.

The following trees are owned by the Monash Council and must only be maintained by Council staff or Council contractors:

- Tree 6
- Tree 7
- Tree 8
- Tree 9
- Tree 10
- Tree 11
- Tree 12
- Tree 13

7.3 Impact assessment

The following table represents the encroachments of the proposed development:

Tree No.	Encroachment	TPZ encroachment	SRZ encroachment	Encroachment category	Proposed retention
1	N/A	0%	0%	N/A	Retain
2	N/A	0%	0%	N/A	Retain
3	N/A	0%	0%	N/A	Retain
4	N/A	0%	0%	N/A	Retain
5	N/A	0%	0%	N/A	Retain
6	N/A	0%	0%	N/A	Retain
7	N/A	0%	0%	N/A	Retain
8	Proposed crossover	Entire tree	Entire tree	Major	Remove
9	N/A	0%	0%	N/A	Retain
10	N/A	0%	0%	N/A	Retain
11	N/A	0%	0%	N/A	Retain
12	N/A	0%	0%	N/A	Retain
13	Paving	1.1%	0%	Minor	Retain
14	N/A	0%	0%	N/A	Retain

Note: encroachment calculations are approximate and do not consider over excavation

7.3.1 No Encroachment

The proposed development does not encroach into the TPZ or SRZ of the following trees:

- Tree 1
- Tree 2
- Tree 3
- Tree 4
- Tree 5
- Tree 6
- Tree 7
- Tree 9
- Tree 10
- Tree 11
- Tree 12
- Tree 14

The proposed development is not expected to compromise the health and/or structural integrity of the above-mentioned trees.

Less invasive construction measures or development redesign is therefore not required to ensure that these trees remain viable post construction.

7.3.2 Minor encroachment

The proposed development is considered to be a minor encroachment according to section 3.3 of the Australian Standard AS4970 – The Protection of Trees on Development Sites of the following tree:

- Tree 13

The proposed development is not expected to compromise the health and/or structural integrity of the above-mentioned tree.

Less invasive construction measures or development redesign is therefore not required to ensure that this tree remains viable post construction.

7.3.3 Major encroachment

The proposed development is considered to be a major encroachment according to section 3.3 of the Australian Standard AS4970 – The Protection of Trees on Development Sites of the following tree:

- Tree 8

Tree 8

- The tree is located within the footprint of the proposed crossover.
- The tree is required to be removed in order to achieve the proposed design.
- This is a Council owned tree.
- This tree must only be maintained or removed by Council staff or Council contractors.
- In the event of removal, less invasive construction measures or development redesign is not required.

8 Recommendations

8.1 Tree retention

The following trees are proposed to be retained:

- Tree 1
- Tree 2
- Tree 3
- Tree 4
- Tree 5
- Tree 6
- Tree 7
- Tree 9
- Tree 10
- Tree 11
- Tree 12
- Tree 13
- Tree 14

In the event of tree retention, the following is recommended in order to ensure that retained trees remain viable post construction:

- Comply with construction measures (8.3)
- Comply with tree protection measures (8.4)

8.2 Tree removal

The following tree is proposed to be removed:

- Tree 8

In the event that the removal of a tree is undertaken, the following is recommended:

- Tree removal must be undertaken prior to construction commencing (including demolition).
- An offset planting program to accommodate the loss of the subject tree(s) should be considered.
- Written consent from the responsible authority must be obtained prior to tree removal.

8.3 Construction measures

- Less invasive construction measures or development redesign is not required to ensure that trees which are proposed to be retained (8.1) would remain viable post construction.

8.4 Tree Protection Measures

8.4.1 Pruning

- Pruning of trees that are proposed to be retained (8.1) is not required for clearance purposes and should therefore not be undertaken.

8.4.2 Tree protection fencing

- Tree protection fencing (TPF) should be installed for Trees 6, 7, 9, 10, 11, 12 & 13.
- TPF should be installed as close to the TPZ as practically possible provided that it does not encroach onto the road, footpath, crossover or proposed works.
- The existing site permitter fencing may be used as TPF for neighbouring trees.
- TPF should be erected prior to machinery being brought onsite for the demolition of the existing dwelling.
- TPF should be a minimum 1.8m high and comprised of wire mesh (or similar) supported by concrete feet (or similar).
- TPF should remain intact for the duration of the project.
- TPF should only be removed or shifted with the approval of the Project Arborist and the Responsible Authority.

8.4.3 Tree protection signage

- The signage on the TPF should be placed on TPZ fencing at regular intervals so that it is visible from any angle outside the TPZ.
- Signage should state 'Tree Protection Zone, No Access' or similar.
- Signage should be greater than 600mm X 400mm in size.

8.4.4 Ground protection

- Ground protection should be installed wherever practical between the proposed building footprint and the TPZ of trees that are proposed to be retained (8.1).
- Ground protection should be comprised of rumble boards with 100mm of mulch underneath.

8.4.5 Scaffolding

- When scaffolding must be erected within Tree Protection Zones, cover the ground with a 10cm layer of mulch, and then cover this with boards and plywood to prevent soil compaction.

8.4.6 Site storage

- A designated storage area where building materials, chemicals etc. can be stored should be located outside the TPZ of retained trees.

8.4.7 Prohibitions within the TPZ

The following activities are prohibited within the TPZ:

- Machine excavation including trenching (unless approved by the Project Arborist, Arborist supervision may be required)
- Cultivation
- Storage
- Preparation of chemicals, including cement products
- Parking of vehicles
- Refuelling
- Dumping of waste
- Wash down and cleaning of equipment
- Placement of fill
- Lighting of fires
- Physical damage to the tree
- Pruning or damaging of roots greater than 30mm in diameter

8.4.8 Drains and services

In the event that any drains or services are included in a greater than 10% encroachment into the TPZ or encroach into the SRZ of trees that are proposed to be retained, the following should be undertaken:

- Drains or services should be installed by non-root destructive means such as horizontal boring at greater than 1100mm in depth **or** by low pressure hydro-excavation to ensure that the bark of the roots remain intact, unless a root investigation determines that the tree(s) would remain viable.

Note: encroachment calculations must consider additional encroachments e.g. site cuts, retaining walls, building footprint.

9 Limitation of Liability

Taylors Trees and their employees are tree specialists who use their qualifications, education, knowledge, training, diagnostic tools and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of this assessment and report.

Taylors Trees and their employees cannot detect every condition that could possibly lead the structural failure of a tree. Trees are living organisms that fail in ways the arboriculture industry does not fully understand. Conditions are often hidden within trees and below ground. Unless otherwise stated observations have been made from ground level and limited to accessible components without dissection excavation or probing.

Taylors Trees cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments cannot be guaranteed. Treatment, pruning and removal of trees may involve considerations beyond the scope of Taylors Trees services, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters, and related incidents. Taylors Trees cannot take such issues into account unless complete and accurate information is given prior to or at the time of site inspection. Likewise, Taylors Trees cannot accept responsibility for the authorisation or non-authorisation of any recommended treatment or remedial measures undertaken.

In the event that Taylors Trees recommends retesting or inspection of trees at stated intervals or installs any cable/s, bracing systems and support systems Taylors Trees must inspect the system installed at intervals not greater than 12 months unless otherwise specified in written reports. It is the client's responsibility to make arrangements with Taylors Trees to conduct the re-inspection.

Information contained in this report covers those items that were examined and reflect the condition of those items at the time of inspection. There is no warranty or guarantee expressed or implied that the problems or deficiencies of the trees or property in question may not arise in the future. Trees can be managed, but they cannot be controlled. To live or work near a tree involves a degree of risk. The only way to eliminate all risks involved with a tree is to eliminate the tree.

All written reports must be read in their entirety, at no time shall part of the written assessment be referred to unless taken in full context of the whole written report.

If this written report is to be used in a court of law or any legal situation Taylors Trees must be advised in writing prior to the written assessment being presented in any form to any other party.