Risk Assessment and Recommended Works Report

For

Updated assessment of an avenue of trees along Bunbury Street, between Hyde and Moreland Streets, Footscray.

Prepared by

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Executive Summary

Homewood Consulting Pty Ltd have been engaged to undertake an updated assessment of an avenue of 54 Elms (*Ulmus procera)* and Desert Ash (*Fraxinus angustifolia subsp. angustifolia)* located along Bunbury Street, between Hyde Street and Moreland Street, Footscray (Figure 1).

Figure 1: Avenue of Elms and Ashes along Bunbury Street

An initial inspection was carried out in February 2020 by Homewood Consulting following large limb failures to assess the health, structure and risk that the trees present in the landscape and to provide recommendations on their management and future planting opportunities. Since this time, two more large failures have occurred (December 2021), and further concerns have been raised by Maribyrnong City Council regarding the safety and condition of the trees.

As recommended in the February 2020 report, climbing inspections were undertaken on ten of these trees to further assess cavities and decay unable to be seen from ground level.

In December 2021 two more large limb failures occurred and a site visit was undertaken by Homewood Consulting to assess immediate risk and discuss PiCUS Sonic Tomograph testing on some of the larger trees.

As recommended following the December 2021 inspection, a Level 3 PiCUS Sonic Tomograph testing was undertaken on several trees (Trees 1, 3, 10, 14, 15, 26, 27, 30, 34, 35, 36 and 54) in January 2022 by Enspec (Daniel 2022) and these results have been taken into consideration when reviewing the trees and recommending works. Results show that five trees have heavy decay and these have been recommended for removal (Trees 10, 14, 27, 30 and 36).

In January 2022 all trees within the avenue were re-assessed using a Level 2 Basic Assessment (ISA, 2017), individual tree assessment data was updated and works recommended. Since the previous assessment the condition of a few trees has declined, and Tree 33 has been removed. Two more trees (Trees 13 and 22) were recommended for Level 3 PiCUS Sonic Tomograph testing at this site visit, and this was undertaken in April 2022 by Enspec. As a result, Tree 22 has also been recommended for removal.

Many of the Elms are over-mature and becoming unmanageable in the landscape due to heavy trunk decay and cavities at the base of large stems. Some of the trees within the avenue are 100-120 years old (with first planting in 1903) and have declined in structure from several pruning events due to previous management practices, and natural senescence. This

particularly applies to the Elms on the northern verge, as the Elms on the southern verge are located offset to overhead powerlines.

A risk assessment has been conducted on all trees. A summary of risk categories is shown in Table 1 overleaf.

Table 1: Risk Summary

QTRA Threshold	No. of trees
Unacceptable	14
Tolerable	15
Broadly acceptable	25
Total	**54**

Trees that have been assessed as having an Unacceptable risk have been recommended for works to mitigate and reduce the risk they present.

Works have been recommended for each tree individually to reduce the risk of limb or whole tree failure.

In total, 33 trees have been recommended for works with 17 of these recommended for removal. Other works include risk reduction pruning, deadwood removal, canopy lifting and irrigation. Works should be carried out according to arborist recommendations and the priority timeframes specified in this report.

Useful Life Expectancy (ULE) has been assigned to individual trees as an approximation of how long the tree can be retained safely and usefully in the landscape at an acceptable level of risk (Table 2).

Table 2: ULE

Useful Life Expectancy	No. of trees
Over 40 years	22
20- 40 years	10
9-20 years	3
5-10 years	1
1-5 years	6
0 years	12

Over-mature Elms within the avenue have low ULEs. ULEs have been used as a guide for the removal and replacement for restoration of the avenue. Trees with ULEs of 0 or 1-5 years have been recommended for removal and replanting.

Recommendations

It is recommended that:

- Works are completed as per the contents of this report and all works/removals are carried out for trees within the specified timeframes recommended within this report.
- All pruning works are undertaken by qualified arborists and conform to the Australian Standard 4373: *Pruning Amenity Trees* (Standards Australia 2007).
- Trees that are removed should be replaced with large deciduous broad canopied species to retain continuity of the avenue, character of the landscape and to ensure the ongoing shade and amenity contribution.

- A walkover assessment of the site should be undertaken every two years to inspect tree condition, ensure the trees are maintained at an acceptable level of risk and to determine any further work requirements.

Contents

1. Introduction

Homewood Consulting Pty Ltd has been engaged to undertake an assessment of an avenue of Elms and Desert Ash located along Bunbury Street, Footscray. Concerns have been raised by Maribyrnong City Council regarding the condition of the trees following recent large limb failures.

An arborist report was carried out in February 2020 by Homewood Consulting, also following large limb failures, to assess the health, structure and risk that the trees present in the landscape and to provide recommendations on their management and future planting opportunities. Two more large failures occurred in December 2021 and further concerns have been raised by Maribyrnong City Council regarding the safety and condition of the trees.

Following site visits in December 2021 and February 2022 by Homewood Consulting, PiCUS Sonic Tomograph testing was undertaken on several trees in January 2022 and April 2022 by Enspec, and these results have been taken into consideration when reviewing these trees and recommending works.

The avenue is an important historical feature of the landscape and is protected by a heritage overlay (HO108).

2. Method

2.1 Initial site inspection

On Tuesday, 14 January 2020 Emma Barrett and Maria Koulaginis conducted an initial site inspection using a Level 2 inspection.

Data collected for the trees included:

- Botanical Name
- Canopy Dimensions
- Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

Simple tools can be used in a Level 2 'Basic Assessment' to acquire more information about the tree or any potential defects, including a mallet used to 'sound' the tree and listen for tone variations that may indicate hollows or decay.

Further investigation was required and on Wednesday, 22 January 2020 Damien Navaud and Libby Johnson conducted a Level 3 climbing inspection on 10 trees that could not be viewed properly from ground level. Aerial canopy inspections were completed for selected trees (Trees 10, 13-15, 29-31, 33, 36, 47) using a combination of industry standard rope and harness techniques or secured ladder access, as dictated by tree height restrictions. A sounding hammer was used to test for decay. Trees with active beehives were inspected using a visual canopy assessment only and no decay sounding was completed. The report was produced following these investigations and assessments.

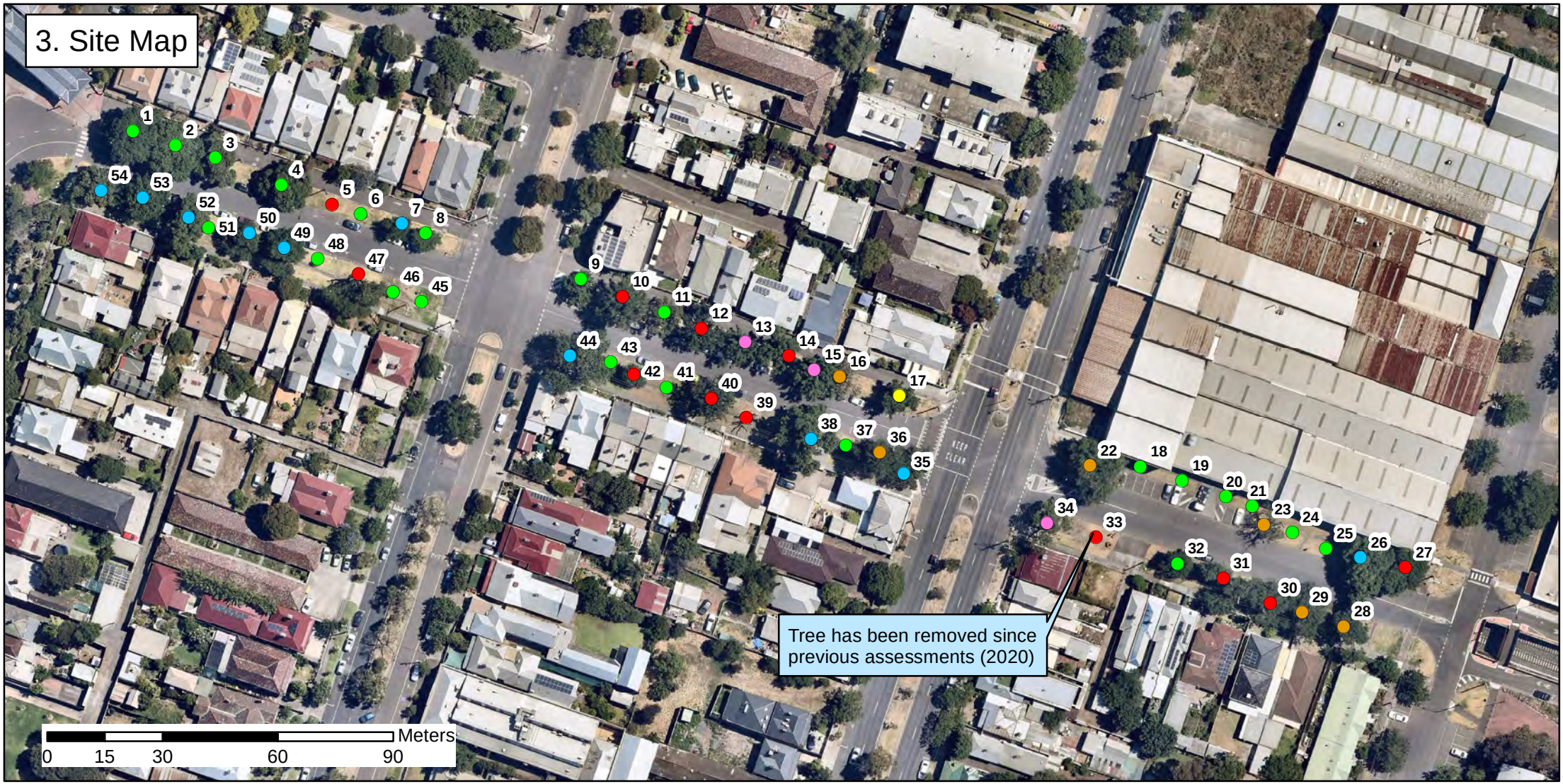
A further site visit was undertaken by Emma Barrett of Homewood Consulting on 15th December 2021 following two major limb failures, to assess immediate risk of all trees and two trees were recommended for immediate removal. Other trees were recommended for Level 3 assessment to further investigate levels of decay at the base of major limbs and at the top of trunks.

A Level 3 assessment was carried out on Trees 1, 3, 10, 14, 15, 26, 27, 30, 34, 35, 36 and 54 in January 2022 by Enspec. This utilised PiCUS Sonic Tomograph testing which assesses the level of decay through wood at certain points. A report containing the methodology and results was undertaken by Enspec (Daniel 2022).

After obtaining these results, a site visit was carried out on 2nd February 2022 by Emma Barrett of Homewood Consulting to reassess all trees using a Level 2 Basic Assessment (ISA, 2017). Two more PiCUS Sonic Tomograph testing on trees was recommended and this was undertaken in April 2022 by Enspec. Individual tree assessment data was updated and works recommended.

All trees have been located with sub-metre GPS allowing for the creation of accurate maps and relocation by tree contractors in the field.

For definitions and descriptors of the data collected on site see Appendix 1. Appendix 1 shows the data collected for each individual tree, including type of assessment and recommended works.



Useful Life Expectancies (ULE) of an Avenue of trees located along Bunbury Street, Footscray

Base information supplied by:
Nearmaps 2022
Plotted: ELB
Coordinate System:
GDA 1994 MGA Zone 55
Page size: A4
Date: 14/01/2022

Legend

Trees

ULE

- 0 years
- 1-5 years
- 5-10 years
- 9-20 years
- 20-40 years
- 40+ years

N

4. Observations/ Discussion

4.1 Site Details

The avenue of planted Elms and Ash are located along Bunbury St, between Hyde St and Moreland St. Bunbury Street is one of the main entry points to Footscray Railway station and the overall municipality. There is high pedestrian traffic in the area due to proximity of Footscray Railway station and Footscray markets.

The avenue runs west to east with powerlines located on the southern side. Powerlines are located offset to avenue plantings with low to moderate clearance pruning required.

Planting of the avenue began in 1903 and has been recorded within the Victorian Heritage database (HO108) under criteria:

- B.2 Rarity.
- A.4 Demonstrates well the course and pattern of history, important historic events.

Figure 2: Avenue of trees

4.2 Tree Details

A total of 54 trees have been assessed, consisting of predominately *Ulmus procera* (English Elm), with scattered individuals of *Fraxinus angustifolia* (Desert Ash).

4.2.1 Heath

The majority of trees have 'Good' or 'Fair' health. 20 trees have been assessed as having 'Fair' health, the majority of which are large mature English Elms or younger Elms. 10 trees have been assessed as having 'Poor' health consisting of over-mature (Figure 3) and young English Elms (Figure 4).

Figure 3: Large over-mature English Elm (Tree 12) in 'Poor' health

Figure 4: New planting in 'Poor' health requiring irrigation

Since the January 2020 assessment eight trees have had their Health status downgraded, indicating a further decline in overall health within the avenue. Examples of changes in health are shown in the following pages (Figure 5, Figure 6, Figure 7, Figure 8, Figure 9 and Figure 10). One tree has been removed since the 2020 assessments (Tree 33).

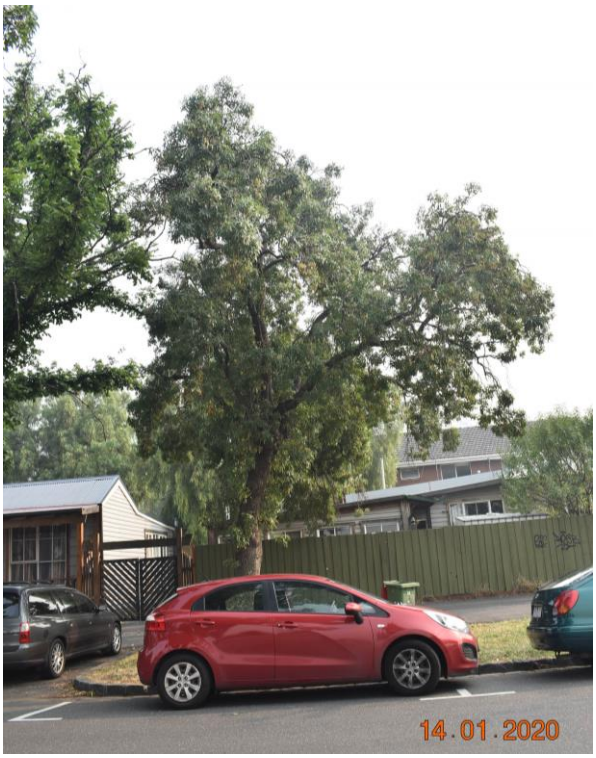


Figure 5: Tree 16 in 2020

Figure 6: Tree 16 in 2022. Major dieback of limbs

Figure 7: Tree 22 in 2020

Figure 8: Tree 22 in 2022. Dieback of tips is evident

Figure 9: Tree 23 in 2020

Figure 10: Tree 23 in 2022. Major dieback of branches

4.2.1.1 Senescence

Majority of the large old Elms are overmature and are beginning to senesce. Once any tree reaches maturity it will slowly begin to senesce until it eventually dies or fails (Figure 11). Common symptoms of senescence in these trees, in addition to the continual loss of small and large limbs, are; a decrease in foliage density, a reduced ability to cope with insect attack and reduced ability to cope with decay (Harris, Clarke and Matheny, 1999).

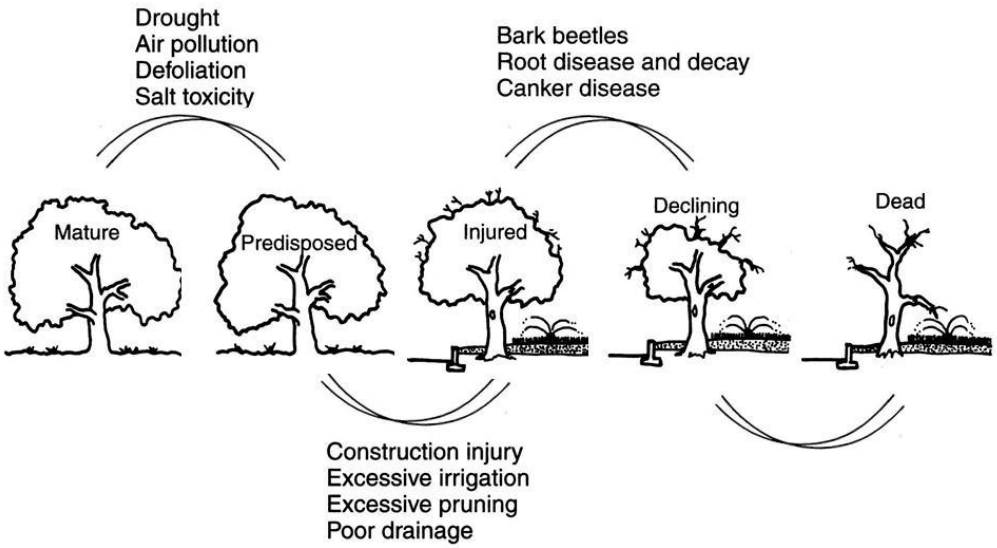


Figure 11: The 'mortality spiral' describing the process of decline from 'vigorous' to 'dead' as a result of specific biological, cultural, and environmental factors (taken from Harris, Clark and Matheny 1999)

4.2.2 Structure

The majority of trees have been assessed as having 'Fair' structure, with 14 trees assessed as having 'Poor' structure. Low structure ratings can be attributed to heavy decay, cavities and multiple previous pruning events.

Multiple pruning events of a tree along with age can also open the tree to infection and extensive decay (Figure 14 and Figure 15, overleaf) as well as hazardous epicormic growth which is usually a response to stress (i.e. major loss of canopy, drought, fire etc). Epicormic growth provides rapid energy to a tree and in the short-term it benefits most trees (Shigo 1991). It is the long-term effects of epicormic growth that cause concern. Epicormic growth is produced from dormant buds that lie beneath the bark of a tree. This growth does not form part of the tree's natural structure and, once the resultant branches reach a large size, they are very prone to failure (Shigo 1991).

Some lopping has also occurred. Lopping is the indiscriminate cutting of the branch between unions and, as opposed to target pruning, is considered very poor practice in modern arboriculture. It not only creates a poor tree structure, but it opens the tree to infection, extensive decay and hazardous epicormic growth.

A large contributing factor to reduced structural ratings within the tree population is the presence of decay and cavities within the trunk and major stems of the Elms. Many cavities are at the base of the major unions and not visible from a ground inspection. Aerial inspections have been used to assess the extent of decay causing large open cavities. Open cavities at the base of major unions increase the chance of failure due to compromised attachment point to the main stem. Multiple trees within the avenue were seen to have these cavities (Figure 12, Figure 13, Figure 14 and Figure 15, overleaf).

Figure 12: Tree 36 with large cavity at union to main stem, increasing risk of failure for major branch.

Figure 13: Multiple cavities located at unions of main branches, compromising overall structural integrity of Tree 30

Figure 14: Tree 31 with evidence of a previous pruning event

Figure 15: Heavy decay located at major union with large open cavities present.

Two trees have had major failures since the previous assessments in 2020. Tree 33 has since been removed and Tree 47 is still within the landscape (Figure 16 Figure 17). Both of these trees were recommended for removal at the December 2021 site visit. Tree 47 still poses a risk of branch failure over the footpath and this tree should be removed as soon as possible.

Figure 16: Pruning has been carried out to reduce risk on the roadside of Tree 47.

Figure 17: Close up of hollow trunk and large stem failure.

4.2.3 Useful Life Expectancy (ULE)

Useful Life Expectancy (ULE) is an approximation of how long a tree can be retained safely and usefully in the landscape at an acceptable level of risk.

The biological life span of any species invariably far exceeds its ULE. ULE includes considerations of tree location, tree health and structure, ongoing maintenance costs and risk to public safety. The benefits derived from vegetation, be they functional or visual, typically decrease during the over maturity/decline phase. This is concurrent with a steep rise in management costs as aging trees tend to require increasing arboricultural inputs to maintain them in a safe, attractive condition. This may result in a situation where trees require a level of maintenance that is disproportionate to the benefits they contribute to the landscape.

While majority of trees in the avenue have been given 'Fair' structure ratings, some are in worse condition than others and this is reflected by their respective ULEs (Table 3).

Table 3: Useful Life Expectancy (ULE) of assessed trees

Useful Life Expectancy	No. of trees
Over 40 years	22
20- 40 years	10
9-20 years	3
5-10 years	1
1-5 years	6
0 years	12

13 young *Ulmus procera* have been planted throughout the avenue, increasing the overall ULEs of the assessed trees (Figure 19). However, many of these have declined since the previous assessment 2 years ago and irrigation is required to ensure their ongoing health and longevity.

Figure 18: Tree 39 assessed as having a ULE of 0 years

Figure 19: Tree 24, newly planted *Ulmus procera* with a ULE 40+ years

5. Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) - The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) - The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.
- Target occupancy (TO) - The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. The major targets that exist around the assessed trees are Pedestrians.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA has a risk threshold which has also been described for each tree. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 4: QTRA Advisory Risk Thresholds

Risk Thresholds	Description	
1/1,000	Unacceptable Risks will not ordinarily be tolerated	• Control the risk
	Unacceptable (where imposed on others) Risks will not ordinarily be tolerated	• Control the risk • Review the risk
1/10,000	Tolerable (by agreement) Risks may be tolerated if those exposed to the risk accept it, or the tree has exceptional value	• Control the risk unless there is broad stakeholder agreement to tolerate it, or tree has exceptional value • Review the risk
1/1,000,000	Tolerable (when imposed on others) Risks are tolerable if ALARP (As Low As Reasonably Practical)	• Assess costs and benefits of risk control • Control the risk only where a significant benefit might be achieved at a reasonable cost • Review the risk
	Broadly Acceptable Risk is already ALARP	• No action currently required • Review the risk

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits provided should be accounted for when making tree risk management decisions. By quantifying the risks, we can more readily assess this balance.

The risk assessment generated for this report should be used as a guide only and works should be carried out according to the works priority timeframes.

Of the assessed trees,13 trees present an Unacceptable risk of harm. 16 trees present a Tolerable risk of harm and 25 trees present a Broadly Acceptable risk of harm in the landscape.

Further detail regarding the Risk Assessment method and definitions for the categories assigned can be seen in Appendix 2. Individual risk scores and categories for each tree can be found in 0.

Table 5. Risk Assessment Summary

QTRA Threshold	No. of trees
Unacceptable	14
Tolerable	15
Broadly acceptable	25
Total	**54**

6. Recommended removal works

17 trees are recommended for removal.

- 15 trees (Trees 10, 12, 14, 17, 22, 27-31, 36, 39, 40, 42 and 47) have been recommended for ‘High’ priority removal and replacement.
- Two trees (Trees 16 and 23) have been recommended for ‘Moderate’ priority removal.
- Following removal, new trees should be planted using advanced stock.

6.1 Recommended Pruning Works

In addition to the tree removals outlined above the following works are recommended to maintain levels of safety and tree longevity:

- 9 trees (Trees 18, 19, 20, 21, 24, 25, 41, 45, 46) have been recommended for irrigation works. These works are Urgent due to the current hot weather and declining condition of the young trees.
- 4 trees (Trees 1, 15, 38 and 54) require risk reduction pruning to reduce risk and extend ULE.
- Other works include removing hangers, deadwood removal and canopy lift.

All pruning and removal works should be undertaken by qualified arborists and conform to the Australian Standard 4373: *Pruning Amenity Trees* (Standards Australia 2007).

A description of recommended works can be found in Appendix 3.

6.2 Priority Timeframes

A recommended timeframe for completion of works is set out in Table 6.

Table 6: Priority timeframe table

Works Priority	Completion Timeframe
Urgent	As soon as possible
High	Recommended works should be carried out within 3 months
Moderate	Recommended works should be carried out within 8 months
Low	Recommended works should be carried out within 12 months

7. Conclusion

An Avenue consisting of 54 trees including 42 *Ulmus procera* (English Elm*),* 11 *Fraxinus angustifolia subsp. augustifolia* (Desert Ash*)* and 1 stump were assessed along Bunbury Street, Footscray.

The Avenue has been identified as having significant value to Maribyrnong City Council and Heritage Victoria, and some of the Elms are approximately 100-120 years old. Many of the trees are declining in condition, with substantial heavy decay, reducing their ULEs. Four trees have had major limbs fail within the last two years causing damage to property and cars.

Due to the advanced stage of decline and senescence of the older Elms and following Advanced Assessments (Level 3), 17 trees have been recommended for removal and replacement. It is recommended that broad canopy trees are planted to replace removed trees to restore integrity, continuity, and aesthetic value to the avenue.

In general, the young and semi-mature trees are in fair condition and will eventually contribute to the overall landscape value of the avenue, however some of these are in poor health and require Urgent irrigation to assist tree health. Some mature trees have also declined in health and structure since the 2020 assessments, and one tree has been removed

8. References

Daniel, S., 2022, *PiCUS Sonic Tomograph Test Summary Report*, Enspec, Unit 2 – 13 Viewtech Place, Rowville.

Ellison, M.J., 2015, ‘Quantified tree risk assessment used in the management of amenity trees’, *Cheshire*, UK.

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment,* 2nd Edition, Champaigne, Illinois, USA.

Harris, R.W., Clark, J.R. & Matheny, N.P., 1999, *Arboriculture; Integrated management of landscape trees, shrubs, and vines,* Prentice Hall, Upper Saddle River, New Jersey.

Shigo, A.L., 1991 *Modern Arboriculture*, Shigo and Trees, Associates, Durham, New Hampshire.

Appendix 1. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

1.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

1.2 Common Name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

1.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

1.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

1.5 Basal diameter

Diameter of the trunk above the root buttress, measured using a diameter tape. Used to calculate the Structural Root Zone radius.

1.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

1.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

1.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

1.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long-lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead or is considered hazardous in the location. Removal may be required.

1.10 Tree Origin

Category	Description
Exotic	The species originates in a country other than Australia.
Australian Native	The species originates within Australia.
Indigenous	The species originates within the local environs.

1.11 Contribution to the Landscape

Category	Description
High	Generally a large tree which is a significant component of the local landscape and provides canopy cover to the site. May offer shade and other amenities such as screening. The tree may assist with erosion control, offer a windbreak or perform a vital function in the location (e.g.: Habitat, shade, flowers or fruit).
Medium	Generally a medium sized tree or group of small-medium trees which provide a moderate contribution to the local landscape and canopy cover. The tree may offer screening in the landscape or serve a particular function in the location.
Low	The tree offers little in the way of screening, amenity or canopy cover.
Negligible	The tree offers extremely little to nothing in the way of screening, amenity or canopy cover.

Appendix 2. Risk Assessment Methodology

2.1 Risk Score Overview

Many organisations now require an assessment of the potential risk or hazard that each tree presents. Risk scores, generated as part of the data collection methodology, often link to digital photography.

Risk scores and data collection methodology methods are not standardised and can vary. The Quantified Tree Risk Assessment (QTRA) (Ellison 2015) method has been adopted here and has the following elements:

- Probability of failure (PF) - The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) - The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.
- Target occupancy (TO) - The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. The major targets that exist around the assessed trees are Pedestrians.

QTRA methodology is probabilistic - the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction. For example, a risk score of 344 indicates that the predicted event has a 1/344 chance of occurrence, 1/1 indicates that an event is certain to occur and 1/10 000 000 000 indicates that it is extraordinarily unlikely.

An accepted threshold for the Tolerable Region of risk scores as defined by the Tolerability of Risk Framework (ToR) (HSE 2001) is a 1/10 000 chance of occurrence. Any tree that incurs a risk score lower than 10 000 would be expected to be worked upon within the next twelve months.

2.2 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 7.

Table 7: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
2	>$24,000 - $240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>$2,400 - $24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>$240 - $2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>$24 - $240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However if the likely failure is toward the path then the appropriate target range would be 2.

If the likely failure is of dead wood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure then the higher human occupation range should be used.

2.3 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However if the part most likely to fail is dead wood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree *prior to works being completed*. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.

Figure 20. High failure potential

Table 8: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 - - >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

2.4 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 9: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

2.5 Examples

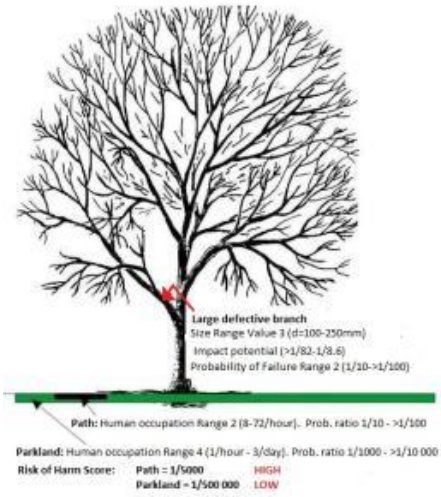


Figure 21. Risk Assessment Example 1

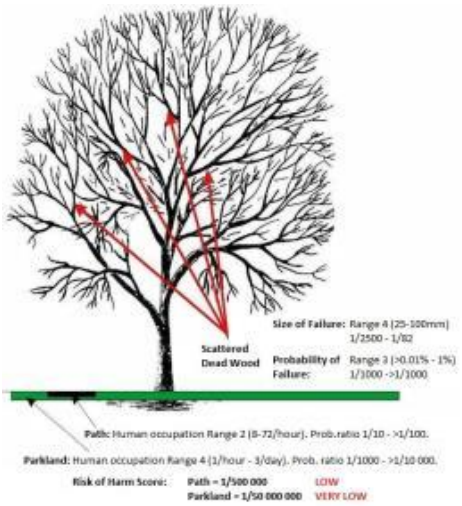


Figure 22. Risk Assessment Example 2

Appendix 3. Description of Recommended Works

3.1 Tree removal and stump grinding

In high traffic areas, trees should be removed to ground level and stumps ground out to 300mm depth below the existing grade. Grindings should be placed back in the hole and if suitable, a replacement tree established nearby.

3.2 Epicormic Management

Epicormic shoot growth is produced from dormant buds that lie beneath the bark surface. This growth is poorly attached when first produced and once the resultant branches reach a large size, they can be prone to failure (Shigo 1991).

Epicormic management is similar in practice to risk reduction pruning in that the design is to reduce the length of each epicormic shoot. The aim is to increase the taper of the limbs and subsequently the size of the shoot at the attachment point. It is very common for several epicormic shoots to arise from 1 point where ordinarily there would only be 1-2 branches. Some thinning of the number of shoots may be warranted to try and develop a healthy and sound crown over time.

3.3 Property/Asset Clearance

The branches in the canopy of the tree should be reduced or removed to ensure clearances from buildings and other assets are maintained. Branches should be kept clear of buildings to ensure a 2.0m clearance over the building is maintained. While ensuring that building clearance is maintained, it should be noted that it is acceptable for branches to overhang a building, provided a vertical clearance of no less than 2.0m is maintained.

3.4 Aerial Inspection

An aerial inspection is recommended for additional inspection of the upper canopy of the tree. This should be completed by a competent and qualified arborist and can be achieved by climbing or the use of an EWP. The minimum qualification should be:

- An Advanced Certificate of Arboriculture
- A National Certificate in Horticulture (Arboriculture) Level 5.

Additional works or recommendations may be required following the results of the inspection. Aerial inspection should only be used with large and high value trees.

8.1.1 Risk Reduction Pruning

Reducing overextended limbs can reduce the possibility of failure, extend a tree's ULE and reduce risk to a manageable level.

The aim is the selective pruning of long and extended branches starting in the 3rd order branching, back to a shorter, more compact growing point (Figure 23, overleaf). In some cases, it may be necessary to additionally remove 2nd order branching to achieve a particular outcome; however, cuts should be limited to a size of no greater than 30-100mm diameter where possible. Risk reduction pruning reduces the overall weight, length and leverage on the branch union. It should be noted that risk reduction pruning only reduces the chances of branch and trunk failure. It does not remove the potential for failure entirely.

These works will require qualified and experienced arborists to complete. The works generally involve climbing and specialised limb reduction works.

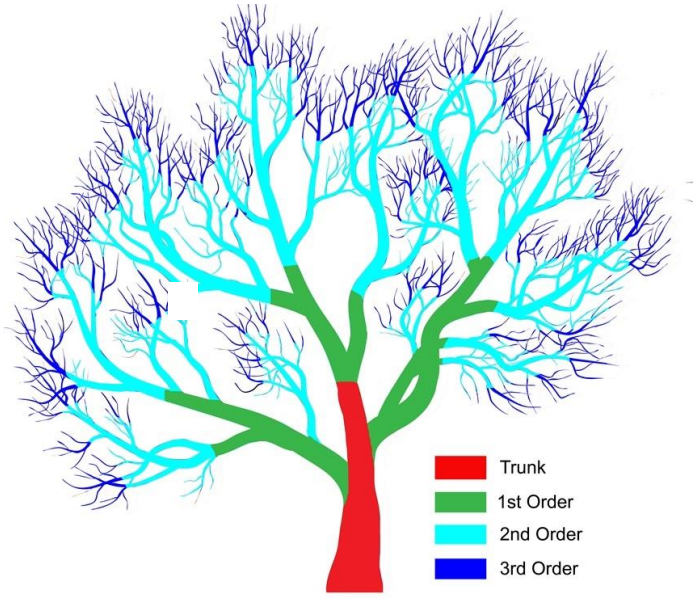


Figure 23: Tree structure representing multiple branching orders.

8.1.2 Canopy Lift

Canopy lifting involves reducing or removing lower branches in order to provide clearance or visibility for pedestrians, vehicles or buildings. In general, a 2m clearance is required for pedestrians and a 4m clearance for vehicle.

Removal of lower branches should be undertaken to the minimum extent required to provide necessary clearances.

8.1.3 Deadwood Removal

While dead branches in live trees are relatively safe until they become decayed, it is difficult to determine from a ground survey when dead branches become decayed enough to fail. Therefore, in areas with targets, large dead branches should be removed (Harris, Clark and Matheny 1999). Where deadwood removal has been recommended it generally refers to deadwood greater than 50mm in diameter at risk of failure over a high use target area.

Appendix 4 Recommended Works and Assessment Levels

Table 10: Recommended works and assessment levels.

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
1	*Ulmus procera*	11 x 13	61	Mature	Good	Fair	40+ years	High	Canopy lift, 10% risk reduction pruning, property clearance (light)	Moderate	Level 3 - Tomograph	Tomograph results show excellent condition at the test site
2	*Ulmus procera*	12 x 12	51	Mature	Good	Good	40+ years	High	Canopy lift, remove hangers from canopy	Moderate	Level 3 - Tomograph	
3	*Fraxinus angustifolia* subsp. angustifolia	11 x 11	69	Mature	Good	Fair	40+ years	High	No works	None	Level 2	Tomograph results show very good condition at the test site
4	*Fraxinus angustifolia* subsp. angustifolia	11 x 13	63	Mature	Good	Good	40+ years	High	No works	None	Level 2	
5	Stump	11 x 11	63	Mature	Good	Good	Less than 5 years	High	Stump removal	Low	Level 2	Planting opportunity after stump removal

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
6	*Ulmus procera*	2 x 1	2	Young	Good	Good	40+ years	High	No works	None	Level 2	
7	*Ulmus procera*	6 x 4	20	Semi mature	Good	Fair	20 to 40 years	Low	No works	None	Level 2	Borers, inclusion in main stem
8	*Ulmus procera*	6 x 4	19	Semi mature	Good	Fair	40+ years	Low	No works	None	Level 2	Borers
9	*Ulmus procera*	7 x 8	30	Semi mature	Good	Fair	40+ years	Medium	No works	None	Level 2	Borers
10	*Ulmus procera*	12 x 10	103	Mature	Poor	Fair	0 years	Medium	Removal	High	Level 3 - Aerial Inspection, Tomograph	Tomograph results show a compromised trunk with heavy decay at the test site
11	Fraxinus angustifolia subsp. angustifolia	8 x 8	49	Mature	Fair	Fair	40+ years	Medium	No works	None	Level 2	Possum damage
12	*Ulmus procera*	12 x 11	98	Mature	Poor	Poor	0 years	Low	Removal	High	Level 2	Heavy decay on both sides of stem, Large previous failures, ridge at base of unions

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
13	*Ulmus procera*	10 x 7	61	Mature	Poor	Fair	10-20 years	Medium	No works	None	Level 3 - Aerial Inspection, Tomograph	Dieback, deadwood – Tomograph results show structurally sound at the test site.
14	*Ulmus procera*	12 x 7	61	Mature	Poor	Poor	0 years	Medium	Removal	High	Level 3 - Aerial Inspection, Tomograph	Tomograph results show a compromised trunk with heavy decay at the test site
15	*Ulmus procera*	12 x 10	70	Mature	Fair	Fair	10 to 20 years	Medium	15-20% risk reduction pruning required of extended branches	High	Level 3 - Aerial Inspection, Tomograph	Tomograph results show very good condition at the test site. Bees nest towards path, dieback, deadwood
16	*Fraxinus angustifolia* subsp. angustifolia	10 x 9	49	Mature	Poor	Fair	Less than 5 years	Medium	Removal	Moderate	Level 2	Major dieback, declined since last assessment 2 years ago

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
17	*Ulmus procera*	9 x 6	115	Mature	Poor	Poor	5 to 10 years	Low	Removal	High	Level 2	Previous large failures, lopped at trunk, epicormic growth. ULE extended due to being lopped and risk reduced
18	*Ulmus procera*	2 x 1	1	Young	Fair	Good	40+ years	Low	Irrigate	High	Level 2	
19	*Ulmus procera*	2 x 1	1	Young	Fair	Good	40+ years	High	Irrigate	High	Level 2	
20	*Ulmus procera*	2 x 1	1	Young	Fair	Good	40+ years	High	Irrigate	High	Level 2	
21	*Ulmus procera*	2 x 1	1	Young	Fair	Good	40+ years	High	Irrigate	High	Level 2	
22	*Ulmus procera*	15 x 13	104	Mature	Good	Poor	Less than 5 years	Low	Removal.	High	Level 3 - Tomograph	Tomograph results show a compromised trunk with heavy decay at the test site
23	*Fraxinus angustifolia* subsp. angustifolia	10 x 8	84	Mature	Poor	Fair	Less than 5 years	Medium	Removal	Moderate	Level 2	Major dieback and deadwood

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
24	*Ulmus procera*	2 x 1	1	Young	Fair	Good	40+ years	Low	Irrigate	High	Level 2	
25	*Ulmus procera*	2 x 1	1	Young	Fair	Good	40+ years	High	Irrigate	High	Level 2	
26	*Ulmus procera*	11 x 10	55	Mature	Good	Fair	20 to 40 years	High	No works	None	Level 3 - Tomograph	Bees nest
27	*Ulmus procera*	11 x 10	77	Mature	Fair	Fair	0 years	High	Removal	High	Level 3 - Tomograph	Tomograph results show a compromised trunk with heavy decay at the test site. Leaning, no trunk flare, decay.
28	*Ulmus procera*	12 x 15	79	Mature	Fair	Poor	Less than 5 years	Low	Removal	High	Level 2	Heavy decay on both sides of stem
29	*Ulmus procera*	10 x 10	92	Mature	Fair	Poor	Less than 5 years	High	Removal	High	Level 3 - Aerial Inspection	Column of decay in trunk to ground level, Decay extends into nearly all first order stems

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
30	*Ulmus procera*	10 x 8	89	Mature	Fair	Poor	0 years	High	Removal	High	Level 3 - Aerial Inspection, Tomograph	Tomograph results show a compromised trunk with heavy decay at the test site
31	*Ulmus procera*	10 x 12	100	Mature	Fair	Poor	0 years	Medium	Removal	High	Level 3 - Aerial Inspection	Column of decay in trunk, large cavity between multiple stem unions at top of trunk, Decay extends into nearly all first order stems
32	*Ulmus procera*	6 x 5	32	Semi mature	Good	Good	40+ years	Medium	No works	None	Level 2	
33	*Ulmus procera*	15 x 10	116	Mature	Fair	Poor	0 years	Low	No works	None	Level 3 - Aerial Inspection	Has been removed
34	*Fraxinus angustifolia* subsp. angustifolia	11 x 12	80	Mature	Fair	Fair	10 to 20 years	Medium	No works	None	Level 3 - Tomograph	
35	*Fraxinus angustifolia* subsp. angustifolia	11 x 8	65	Mature	Fair	Fair	20 to 40 years	High	No works	None	Level 3 - Tomograph	

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
36	*Ulmus procera*	16 x 10	101	Mature	Fair	Poor	Less than 5 years	Medium	Removal	High	Level 3 - Aerial Inspection, Tomograph	
37	*Ulmus procera*	3 x 2	7	Young	Good	Fair	40+ years	Low	No works	None	Level 2	
38	*Fraxinus angustifolia* subsp. angustifolia	15 x 11	92	Mature	Fair	Fair	20 to 40 years	High	10% risk reduction pruning over road	Moderate	Level 2	Lions tailed branches
39	*Ulmus procera*	6 x 5	115	Mature	Poor	Poor	0 years	Low	Removal	High	Level 2	Previous large limb failure - lopped at major limbs - no leaves
40	*Ulmus procera*	12 x 7	100	Mature	Poor	Poor	0 years	Medium	Removal	High	Level 2	Declining in health and with significant lean. Previous root plate movement.
41	*Ulmus procera*	2 x 1	1	Young	Fair	Fair	40+ years	Low	Irrigate	High	Level 2	
42	*Ulmus procera*	7 x 4	116	Mature	Poor	Poor	0 years	Low	Removal	High	Level 2	Lopped
43	*Ulmus procera*	4 x 2	7	Semi mature	Good	Fair	40+ years	Low	No works	None	Level 2	

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
44	*Fraxinus angustifolia* subsp. angustifolia	13 x 15	85	Mature	Good	Fair	20 to 40 years	High	Deadwood removal, Canopy lift	Moderate	Level 2	Lift over property
45	*Ulmus procera*	2 x 1	2	Young	Fair	Fair	40+ years	Low	Irrigate	High	Level 2	
46	*Ulmus procera*	3 x 1	2	Young	Poor	Fair	40+ years	Low	Irrigate	High	Level 2	
47	*Ulmus procera*	12 x 14	126	Mature	Fair	Poor	0 years	High	Removal	High	Level 3 - Aerial Inspection	Lost large limb recently, has been lopped
48	*Ulmus procera*	2 x 1	2	Young	Good	Good	40+ years	Low	No works	None	Level 2	
49	*Ulmus procera*	9 x 8	59	Mature	Good	Fair	20 to 40 years	Medium	No works	None	Level 2	
50	*Ulmus procera*	8 x 7	36	Mature	Good	Good	20 to 40 years	Medium	No works	None	Level 2	
51	*Ulmus procera*	2 x 1	2	Young	Good	Fair	40+ years	Low	No works	None	Level 2	
52	*Fraxinus angustifolia subsp. angustifolia*	15 x 11	84	Mature	Good	Fair	20 to 40 years	High	No works	None	Level 2	

Tree ID	Botanical Name	Height & Width (m)	DBH (cm)	Age	Health	Structure	ULE	Retention Value	Works	Priority	Assessment Level	Comments
53	*Ulmus procera*	11 x 9	54	Mature	Good	Fair	20 to 40 years	Medium	No works	None	Level 2	
54	*Fraxinus angustifolia* subsp. angustifolia	12 x 10	60	Mature	Good	Good	20 to 40 years	Medium	15-20% risk reduction pruning	Moderate	Level 2	Reduce compromised branch over parked cars

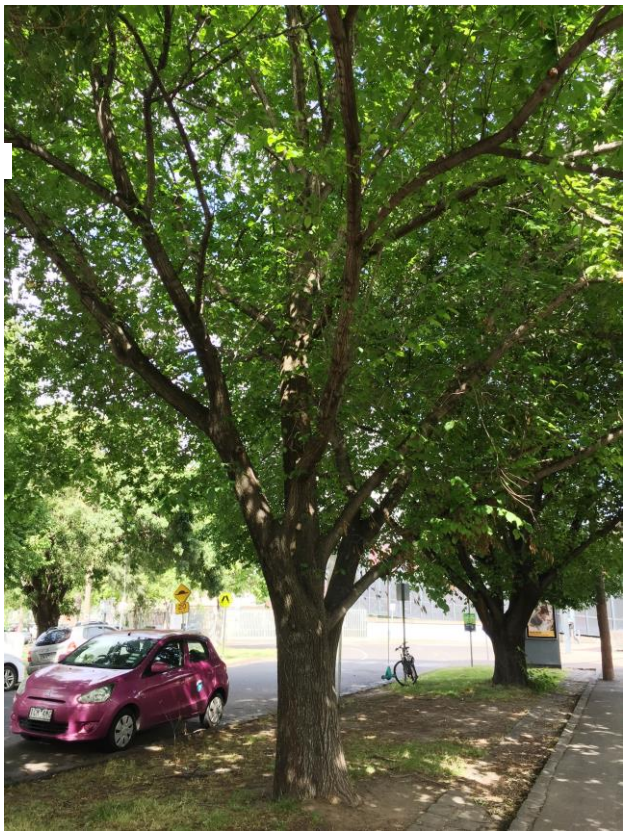
Appendix 5 Tree Assessments

Tree Number: 1

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Tomograph
Height & Width (m):	11 x 13
DBH (cm):	61
Health:	Good
Structure:	Fair
ULE:	40+ years
Maturity:	Mature
Recommended Works:	Canopy lift, 10% risk reduction pruning, property clearance (light)
Priority:	Moderate
Failure Potential:	4. Low
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 500,000**
Risk Category:	Moderate
Comments:	Tomograph results show excellent condition at the test site

Tree Number: 2

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	12 x 12
DBH (cm):	51
Health:	Good
Structure:	Good
ULE:	40+ years
Maturity:	Mature
Recommended Works:	Canopy lift, remove hangers from canopy
Priority:	Moderate
Failure Potential:	3. Moderate
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 500,000**
Risk Category:	Moderate
Comments:	



Tree Number: 3

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 3 - Tomograph
Height & Width (m):	11 x 11
DBH (cm):	69
Health:	Good
Structure:	Fair
ULE:	40+ years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	3. Moderate
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 500,000**
Risk Category:	Moderate
Comments:	Tomograph results show very good condition at the test site

Tree Number: 4

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 2
Height & Width (m):	11 x 13
DBH (cm):	63
Health:	Good
Structure:	Good
ULE:	40+ years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	4. Low
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 500,000**
Risk Category:	Moderate
Comments:	

Tree Number: 5

Botanical Name:	*Stump*
Common Name:	Stump
Assessment Level:	Level 2
Height & Width (m):	11 x 11
DBH (cm):	63
Health:	Good
Structure:	Good
ULE:	0 years
Maturity:	Mature
Recommended Works:	Stump removal
Priority:	Low
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	Planting opportunity after stump removal

Tree Number: 6

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	2
Health:	Good
Structure:	Good
ULE:	40+ years
Maturity:	Young
Recommended Works:	No works
Priority:	None
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 7

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	6 x 4
DBH (cm):	20
Health:	Good
Structure:	Fair
ULE:	20 to 40 years
Maturity:	Semi mature
Recommended Works:	No works
Priority:	None
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	Borers, inclusion in main stem

Tree Number: 8

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	6 x 4
DBH (cm):	19
Health:	Good
Structure:	Fair
ULE:	40+ years
Maturity:	Semi mature
Recommended Works:	No works
Priority:	None
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	Borers

Tree Number: 9

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	7 x 8
DBH (cm):	30
Health:	Good
Structure:	Fair
ULE:	40+ years
Maturity:	Semi mature
Recommended Works:	No works
Priority:	None
Failure Potential:	3. Moderate
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 500,000**
Risk Category:	Moderate
Comments:	Borers

Tree Number: 10

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection, Tomograph
Height & Width (m):	12 x 10
DBH (cm):	103
Health:	Poor
Structure:	Fair
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000**
Risk Category:	High
Comments:	Tomograph results show a compromised trunk with heavy decay at the test site

Tree Number: 11

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 2
Height & Width (m):	8 x 8
DBH (cm):	49
Health:	Fair
Structure:	Fair
ULE:	40+ years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	Possum damage

Tree Number: 12

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	12 x 11
DBH (cm):	98
Health:	Poor
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	2. 251-450mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 1,000**
Risk Category:	Very high
Comments:	Heavy decay on both sides of stem, Large previous failures, ridge at base of unions

Tree Number: 13

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection, Tomograph
Height & Width (m):	10 x 7
DBH (cm):	61
Health:	Poor
Structure:	Fair
ULE:	10 to 20 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	Dieback, deadwood. Tomograph results show structurally sound at the test site

Tree Number: 14

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection, Tomograph
Height & Width (m):	12 x 7
DBH (cm):	61
Health:	Poor
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000**
Risk Category:	High
Comments:	Tomograph results show a compromised trunk with heavy decay at the test site

Tree Number: 15

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection, Tomograph
Height & Width (m):	12 x 10
DBH (cm):	70
Health:	Fair
Structure:	Fair
ULE:	10 to 20 years
Maturity:	Mature
Recommended Works:	15-20% risk reduction pruning required of extended branches
Priority:	High
Failure Potential:	2. High
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000**
Risk Category:	High
Comments:	Tomograph results show very good condition at the test site. Bees nest towards path, dieback, deadwood

Tree Number: 16

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 2
Height & Width (m):	10 x 9
DBH (cm):	49
Health:	Poor
Structure:	Fair
ULE:	Less than 5 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	Moderate
Failure Potential:	2. High
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000**
Risk Category:	High
Comments:	Major dieback, declined since last assessment 2 years ago

Tree Number: 17

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	9 x 6
DBH (cm):	115
Health:	Poor
Structure:	Poor
ULE:	5 to 10 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	Previous large failures, lopped at trunk, epicormic growth. ULE extended due to being lopped and risk reduced

Tree Number: 18

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	1
Health:	Fair
Structure:	Good
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 19

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	1
Health:	Fair
Structure:	Good
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 20

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	1
Health:	Fair
Structure:	Good
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 21

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	1
Health:	Fair
Structure:	Good
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 22

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	15 x 13
DBH (cm):	104
Health:	Good
Structure:	Poor
ULE:	Less than 5 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000**
Risk Category:	High
Comments:	Tomograph results show a compromised trunk with heavy decay at the test site

Tree Number: 23

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 2
Height & Width (m):	10 x 8
DBH (cm):	84
Health:	Poor
Structure:	Fair
ULE:	Less than 5 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	Moderate
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	Major dieback and deadwood

Tree Number: 24

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	1
Health:	Fair
Structure:	Good
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 25

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	1
Health:	Fair
Structure:	Good
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 26

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Tomograph
Height & Width (m):	11 x 10
DBH (cm):	55
Health:	Good
Structure:	Fair
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	3. Moderate
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 500,000**
Risk Category:	Moderate
Comments:	Tomograph results show good condition at the test site. Bees nest

Tree Number: 27

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Tomograph
Height & Width (m):	11 x 10
DBH (cm):	77
Health:	Fair
Structure:	Fair
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	2. 251-450mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 1,000**
Risk Category:	Very high
Comments:	Tomograph results show a compromised trunk with heavy decay at the test site. Leaning, no trunk flare, decay.

Tree Number: 28

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	12 x 15
DBH (cm):	79
Health:	Fair
Structure:	Poor
ULE:	Less than 5 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	2. 251-450mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 1,000**
Risk Category:	Very high
Comments:	Heavy decay on both sides of stem

Tree Number: 29

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection
Height & Width (m):	10 x 10
DBH (cm):	92
Health:	Fair
Structure:	Poor
ULE:	Less than 5 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	2. 251-450mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 1,000**
Risk Category:	Very high
Comments:	Column of decay in trunk to ground level, Decay extends into nearly all first order stems

Tree Number: 30

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection, Tomograph
Height & Width (m):	10 x 8
DBH (cm):	89
Health:	Fair
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	2. 251-450mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 1,000**
Risk Category:	Very high
Comments:	Tomograph results show a compromised trunk with heavy decay at the test site

Tree Number: 31

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection
Height & Width (m):	10 x 12
DBH (cm):	100
Health:	Fair
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	2. 251-450mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 1,000**
Risk Category:	Very high
Comments:	Column of decay in trunk, large cavity between multiple stem unions at top of trunk, Decay extends into nearly all first order stems

Tree Number: 32

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	6 x 5
DBH (cm):	32
Health:	Good
Structure:	Good
ULE:	40+ years
Maturity:	Semi mature
Recommended Works:	No works
Priority:	None
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	

Tree Number: 33

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection
Height & Width (m):	15 x 10
DBH (cm):	116
Health:	Fair
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	Has been removed

Tree Number: 34

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 3 - Tomograph
Height & Width (m):	11 x 12
DBH (cm):	80
Health:	Fair
Structure:	Fair
ULE:	10 to 20 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	Tomograph results show excellent condition at the test site

Tree Number: 35

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 3 - Tomograph
Height & Width (m):	11 x 8
DBH (cm):	65
Health:	Fair
Structure:	Fair
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	Tomograph results show excellent condition at the test site

Tree Number: 36

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection, Tomograph
Height & Width (m):	16 x 10
DBH (cm):	101
Health:	Fair
Structure:	Poor
ULE:	Less than 5 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	2. 251-450mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 1,000**
Risk Category:	Very high
Comments:	Tomograph results show a compromised trunk with heavy decay at the test site.

Tree Number: 37

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	3 x 2
DBH (cm):	7
Health:	Good
Structure:	Fair
ULE:	40+ years
Maturity:	Young
Recommended Works:	No works
Priority:	None
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 38

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 2
Height & Width (m):	15 x 11
DBH (cm):	92
Health:	Fair
Structure:	Fair
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	10% risk reduction pruning over road
Priority:	Moderate
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	Lionstailed branches

Tree Number: 39

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	6 x 5
DBH (cm):	115
Health:	Poor
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	Previous large limb failure - lopped at major limbs

Tree Number: 40

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	12 x 7
DBH (cm):	100
Health:	Poor
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	2. 251-450mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 1,000**
Risk Category:	Very high
Comments:	Declining in health and with significant lean. Previous root plate movement.

Tree Number: 41

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	1
Health:	Fair
Structure:	Fair
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	

Tree Number: 42

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	7 x 4
DBH (cm):	116
Health:	Poor
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	Lopped

Tree Number: 43

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	4 x 2
DBH (cm):	7
Health:	Good
Structure:	Fair
ULE:	40+ years
Maturity:	Semi mature
Recommended Works:	No works
Priority:	None
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 44

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 2
Height & Width (m):	13 x 15
DBH (cm):	85
Health:	Good
Structure:	Fair
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	Deadwood removal,Canopy lift
Priority:	Moderate
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Human Occupancy, 2.5hrs/day to 15
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	Lift over property

Tree Number: 45

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	2
Health:	Fair
Structure:	Fair
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 46

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	3 x 1
DBH (cm):	2
Health:	Poor
Structure:	Fair
ULE:	40+ years
Maturity:	Young
Recommended Works:	Irrigate
Priority:	Urgent
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 47

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 3 - Aerial Inspection
Height & Width (m):	12 x 14
DBH (cm):	126
Health:	Fair
Structure:	Poor
ULE:	0 years
Maturity:	Mature
Recommended Works:	Removal
Priority:	High
Failure Potential:	2. High
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000**
Risk Category:	High
Comments:	Lost large limb recently, has been lopped on one side

Tree Number: 48

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	2
Health:	Good
Structure:	Good
ULE:	40+ years
Maturity:	Young
Recommended Works:	No works
Priority:	None
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 49

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	9 x 8
DBH (cm):	59
Health:	Good
Structure:	Fair
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	

Tree Number: 50

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	8 x 7
DBH (cm):	36
Health:	Good
Structure:	Good
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	4. Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 5,000,000**
Risk Category:	Low
Comments:	

Tree Number: 51

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	2 x 1
DBH (cm):	2
Health:	Good
Structure:	Fair
ULE:	40+ years
Maturity:	Young
Recommended Works:	No works
Priority:	None
Failure Potential:	5. Very Low
Failure Size:	4. 26-100mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000,000**
Risk Category:	Very low
Comments:	

Tree Number: 52

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 2
Height & Width (m):	15 x 11
DBH (cm):	84
Health:	Good
Structure:	Fair
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	

Tree Number: 53

Botanical Name:	*Ulmus procera*
Common Name:	English Elm
Assessment Level:	Level 2
Height & Width (m):	11 x 9
DBH (cm):	54
Health:	Good
Structure:	Fair
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	No works
Priority:	None
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	

Tree Number: 54

Botanical Name:	*Fraxinus angustifolia subsp. angustifolia*
Common Name:	Desert Ash
Assessment Level:	Level 2
Height & Width (m):	12 x 10
DBH (cm):	60
Health:	Good
Structure:	Good
ULE:	20 to 40 years
Maturity:	Mature
Recommended Works:	15-20% risk reduction pruning
Priority:	Moderate
Failure Potential:	3. Moderate
Failure Size:	3. 101-250mm
Target Occupancy:	2. Pedestrians, 8-72/hr
Risk of Harm	**1 in 50,000**
Risk Category:	Moderate
Comments:	Reduce compromised branch over parked cars