

*Tree Survey – Princess Wallington
Reserve
Prepared for
City of Stirling*



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Tree Survey – Princess Wallington Reserve, Balga

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Tree Survey – Princess Wallington Reserve, Balga

BRIEF:

The City of Stirling has commissioned this consultant to inspect and submit a report in respect of 220 trees situated within the Princess Wallington Reserve, Princess Road, Balga due to the planned upgrade to include play grounds & nature play, skate park, BMX mountain bike track, market space and a car park at the site.

The objective of the survey was to undertake an inspection of the most prominent trees designated within the preliminary concept plan in relation to the proposed position of the future introduced items.

The survey is to establish the trees botanical name, height, canopy spread, DBH, DRF, TPZ radius & SRZ radius, health and structural condition, Quantified Tree Risk Assessment calculation and whether any remedial works are necessary.

A total of 220 trees have been audited and photographed.

The inspection consisted of several parts.

- Tagging each tree with a numerical tree tag from 1 – 220.
- Examination, observation and documenting the health, structural condition and tree inventory details.
- Carry out a QTRA calculation for each tree. (Using the latest Version 5.2/16)
- Photograph each tree.
- Add tree numbers to a site plan for ease of identification.

This consultant confirms that the site inspections were carried out between the 14th of May – Thursday 17th of May 2018.

FORM AND APPROACH:

This consultant used a surveyed aerial map of the site which was broken up into 5 maps to show the locations of the trees in question. This map was numbered to coordinate each tree tag and each tree is photographed and referenced at the end of this report to show the health and condition.

Below are the definitions for the captured information provided:

Botanical name Information:

Botanical names are listed detailing the generic name followed by the specific epithet. The variety is named where applicable. Only the scientific and botanical names should be accepted to identify an exact tree species.

The botanical name is used in the spread sheet in this report and the common name is provided for your reference.

Tree Age:

Tree age is based on the age of the tree that would be considered typical for the species in the general area. It is not based on the health of the tree.

Juvenile

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The tree has recently been planted or self-sown (within the last 3 – 5 years).

Semi mature

The tree has become established in the site and may be approaching its expected mature size. If correctly maintained the specimen will continue to grow to maturity.

Mature

Usually the tree will have reached the expected size for the species in the site.

Post mature

The tree has passed the mature stage of its life and is characterized by both a very slow growth rate and by intolerance to disturbances. The post-mature tree has limited energy reserves to fight invading diseases and insects, especially pruning wounds. Removal of live tissue is something to avoid.

Severe decline

The tree is in its final stages of life, the tree is beginning to lose its ability to defend itself. It is at this stage that the tree becomes susceptible to pests and disease. The tree will be assessed for hazards and may require reduction pruning or removal.

Note

It is important to note that tree age is not directly related to tree health. For example: It is possible for a young tree to have very poor health and a mature tree to have good health.

Tree health:

Good

The tree is demonstrating good or exceptional growth for the species. The tree should exhibit a full canopy of foliage, and have only minor pest or diseases problems. Foliage colour, size and density should be typical of a healthy specimen of that species.

Fair

The tree is in reasonable condition and growing well for the species. The tree should exhibit an adequate canopy of foliage. There may be some dead wood present in the crown, some grazing by insects or animals may be evident and/or foliage colour, size or density may be atypical for a healthy specimen of that species.

Poor

The tree is not growing to its full capacity; extension growth of the laterals may be minimal. The canopy may be thinning or sparse. Large amounts of dead wood may be evident throughout the crown. Significant pest and disease problems may be evident or symptoms of stress indicating tree decline.

Very poor

The tree appears to be in a state of decline and 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

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Tree Structure:

Each tree surveyed was examined in detail to ascertain its overall structural condition and then placed into one of five categories:

Good: The tree has a well-defined and balanced crown. Branch unions appear to be strong, with no defects evident in the trunk or the branches. Major limbs are well defined. The tree would be considered a good example of the species. Probability of significant failure is highly unlikely.

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 or branches may be exhibiting minor structural faults. If the tree is single trunked, this may be on a slight lean or be exhibiting minor defects. Probability of significant failure is low.

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 major root damage. Probability of significant failure is moderate.

Very Poor: The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps. Major limbs are not well defined. Branch unions may be poor or faulty at the point of attachment. A section of the tree has failed or is in imminent danger of failure. Active failure may be present or failure is probable in the immediate future.

Has Failed: A significant section of the tree or the whole tree has failed.

Quantified Tree Risk Assessment (QTRA)

Using the Quantified Tree Risk Assessment system (QTRA) allows us to evaluate the risk of significant harm from tree failure. This system assesses the risk of significant harm from the failure of a tree within a period of one year from the risk assessment.

An acceptable level of risk has been predetermined with a rating of 1/10,000. This means that the suggested limit of acceptable risk to the public is a 1 in 10,000 chance of tree failure causing damage/death or serious injury to persons or property. If a Risk of Harm rating exceeds 1/10,000 (meaning a number less than 10,000) remedial action should be considered to reduce the risk to the public.

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QTRA Advisory Risk Thresholds

	UNACCEPTABLE Risks will not ordinarily be tolerated	<ul style="list-style-type: none"> Control the risk
1/1 000	UNACCEPTABLE (where imposed on others) Risks will not ordinarily be tolerated	<ul style="list-style-type: none"> Control the risk Review the risk
	TOLERABLE (by agreement) Risks may be tolerated if those exposed to the risk accept it or if the tree has exceptional value	<ul style="list-style-type: none"> Control the risk unless there is broad stakeholder agreement to tolerate it or the tree has exceptional value
1/10 000	TOLERABLE (where imposed on others) Risks are tolerable if ALARP	<ul style="list-style-type: none"> Assess costs and benefits of risk control Control the risk only where a significant benefit might be achieved at reasonable cost Review the risk
1/1 000 000	BROADLY ACCEPTABLE Risk is already ALARP	<ul style="list-style-type: none"> No action currently required Review the risk

The trees were assessed using the target rating of either 1 or 2. This was assessed by looking at the location of the tree in relation to the proposed preliminary concept plan for the planned upgrades to the park, taking into account the location of footpaths, playgrounds, car parks and the new location for the market space. Each location is assessed to obtain a target rating and then the tree hazard is assessed in relation to that target.

The definitions for target rating of 1 & 2 are covered below.

Target: **1** - Occupancy rate of people under the tree is constant – 2.5 hours per day or 73 – 720 people per hour walking under tree.

Target: **2** – Occupancy rate of people under the tree 15 mins per day – 2.4 hours per day or 8 – 72 persons per hour walking under tree or between 480 - 4700 vehicles per day passing beneath the tree. Property value of vehicles or buildings within target range, estimate of >\$34,000 - \$340,000 (This is the amount of dollars in damages if branch failure was to occur onto a vehicle or building).

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Next we assess the tree for a stem or branch which is most likely to fail within the one year period. This is assessed as a size of part and the range which was used was Size of Part 4.

4 - >25mm-100mm diameter branch (Size of branch which may drop within 1 year, in this case it was lateral limbs up to 100mm in diameter).

Lastly the probability of failure is assessed which this consultant estimates out of 100 similar trees in a similar state in the same environment works out how many trees of this branch or stem size would be likely to fail during the coming year. The outcome which was most used was the Probability of Failure range of 1/100 - 1/1,000.

Probability of failure: 1/100 (Likelihood of a branch failing within one year is one in one hundred)

Probability of failure: 1/1,000 (Likelihood of a branch failing within one year is one in one thousand)

These three components provide a risk of harm rating outcome. 78 trees received a risk of harm outcome of <1/1,000,000 due to the trees location and or structure of the trees. At this time the trees hold very low targets due to having little or no proximity to infrastructure likely to encourage members of the public to regularly pass beneath the trees canopies.

79 trees received a risk of harm outcome of 1/500,000.

56 trees received a risk of harm outcome of 1/50,000.

These outcomes reflect that these trees currently pose an acceptable level of risk to the public.

Seven trees did not pass the QTRA Risk Assessment with a risk of harm ration of 1/5,000.

It is important to note that the Quantified Tree Risk Assessment (QTRA) calculations are valid for one year from the inspection date of the 17th March 2018. It is recommended that trees be inspected and assessed annually to ensure they remain at an acceptable level of risk.

If the target in relation to the tree changes within the coming year, for example, if the proposed landscaping construction plan changes to install a new item of play equipment directly underneath the tree or the route for a planned footpath changes, the tree/s need to be re-assessed to ensure that the QTRA Risk of Harm calculation remains acceptable.

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TPZ – Tree Protection zone

As per the Australian Standards AS 4970-2009 *Protection of trees on development sites* the tree protection zone (TPZ) is the principal means of protecting trees on sites where development is to occur. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.

The radius of the TPZ is calculated for each tree by multiplying its DBH x 12.
 Eg. DBH is 0.5m x 12 = 6m radius (TPZ = 6m measured from the centre of the trunk at ground level.)

If the proposed encroachment is greater than 10% into the TPZ or SRZ the project Arborist must demonstrate that the tree(s) would remain viable. Once proposed changes or designs of the site are completed the project Arborist may need to re-inspect selected trees to ensure the trees are adequately protected. The purpose of this is to determine the potential impact on trees proposed to be retained.

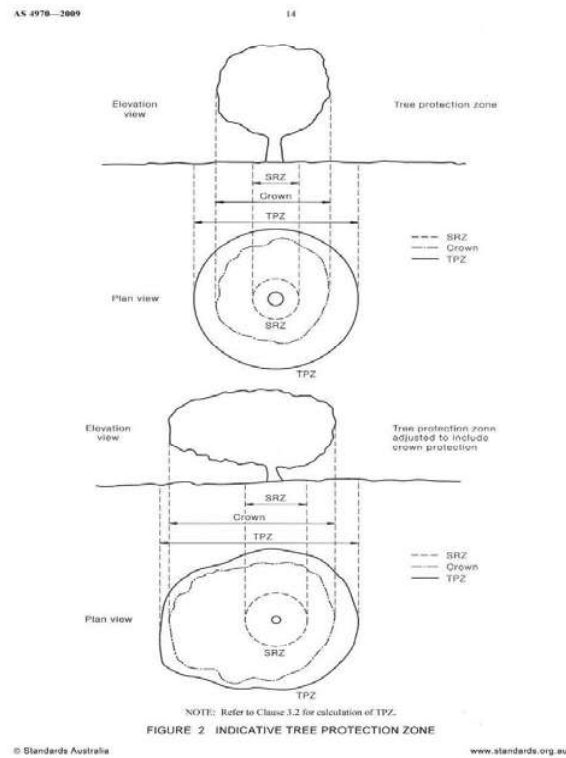


Figure 1 Indicative tree protection zone from AS 4970-2009

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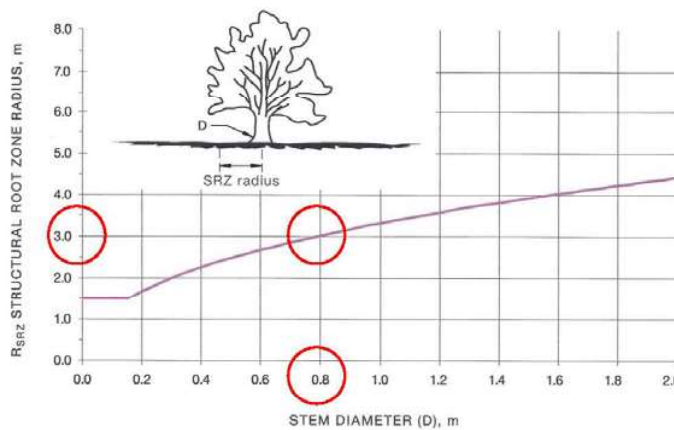
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SRZ – Structural Root Zone

This consultant advises that a structural root zone area of a tree is required for tree stability. Using Australian Standards AS 4970-2009 *Protection of trees on development sites* the structural root zone area can be calculated when major encroachment into a TPZ is proposed. This zone considers a tree’s structural stability only and not the root zone required for a tree’s health and long term viability, which is usually a much larger area. (As cited by AS 4970-2009) An indicative SRZ radius can be determined from the trunk diameter measured immediately above the buttress using the following formula. $SRZ\ radius = (D \times 50)^{0.42} \times 0.64$ or using the following guide from AS 4970-2009. Eg. Diameter at root flare is 0.8m (red circle) and using the graph below a 3m SRZ radius is required. This is measured from the centre of the trunk at ground level.

All trunk diameters used in TPZ and SRZ calculations were measured directly.



The curve can be expressed by the following formula:
 $R_{SRZ} = (D \times 50)^{0.42} \times 0.64$

NOTES:

- 1 R_{SRZ} is the calculated structural root zone radius (SRZ radius).
- 2 D is the stem diameter measured immediately above root buttress.
- 3 The R_{SRZ} for trees less than 0.15 m diameter is 1.5 m.
- 4 The R_{SRZ} formula and graph do not apply to palms, other monocots, cycads and tree ferns.
- 5 This does not apply to trees with an asymmetrical root plate.

Figure 2 Displays the Structural Root Zone Calculation from AS 4970-2009 *Protection of trees on development sites* and indicates how to work out the SRZ of each tree.

Tree Survey Details over leaf.

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Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
1	<i>Eucalyptus melliodora</i>	21	18.5	730	1040	8.8	3.4	Found to be in good health and fair structural condition displaying a large broad crown with the tree leaning in a northerly direction, major limb forks appear sound with no cracking or splitting visible, sporadic minor deadwood throughout which is not considered to be a hazard to surrounding targets, Root plate is firm.	No works required at this time, re inspect in 12 months	<1/1,000,000
2	<i>Eucalyptus marginata</i>	16	8.5	590	720	7.1	2.9	Displaying fair health and structural condition, major limb forks appear sound with no cracking or splitting visible, sporadic light minor deadwood and epicormic growth visible which is not of a size or weight to represent a hazard to surrounding targets.	Remove deadwood, re inspect in 12 months	1/500,000
3	<i>Eucalyptus robusta</i>	13	8	320	440	3.8	2.3	Found to be in good health and fair structural condition displaying a tall slender habit, major limb forks appear sound with no splitting or cracking visible, light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
4	<i>Eucalyptus melliodora</i>	21	15	530	740	6.4	2.9	Displaying good health and fair structural condition with a good coverage of healthy foliage, major limb forks appear sound with no separation or cracking visible, light deadwood visible throughout, previous limb failure visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
5	<i>Eucalyptus sideroxylon</i>	20.5	12.5	590	700	7.1	2.8	Displaying good health and fair structural condition with the canopy suppressed by adjacent tree, light deadwood and epicormic growth visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
6	<i>Eucalyptus sideroxylon</i>	19	11.5	510	590	6.1	2.7	Displaying good health and fair structural condition with the canopy suppressed by adjacent tree, light deadwood and epicormic growth visible which are not considered to be a hazard at this time, limb forks appear sound at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
7	<i>Eucalyptus sideroxylon</i>	21	11	690	810	8.3	3.0	Found in good health and fair structural condition with the canopy suppressed by adjacent tree, light deadwood and epicormic growth visible which are not considered to be a hazard at this time, limb forks currently sound.	No works required at this time, re inspect in 12 months	<1/1,000,000
8	<i>Eucalyptus sideroxylon</i>	20	10.5	560	650	6.7	2.8	Displaying fair health and structural condition with a reduced canopy of healthy foliage, sporadic minor deadwood and epicormic growth visible which are not considered to be a hazard at this time, major limb forks appear sound with no separation or cracking visible.	No works required at this time, re inspect in 12 months	1/500,000
9	<i>Eucalyptus botryoides</i>	21.5	14	920	1100	11.0	3.4	Displaying good health and fair structural condition, limb forks appear sound with no separation or cracking visible, evidence of previous limb failures visible, bird browsing damage evident, previous termite damage visible with no active termites sighted during inspection.	No works required at this time, re inspect in 12 months	1/500,000
10	<i>Eucalyptus marginata</i>	8.5	8	600	850	7.2	3.1	Multi stemmed tree displaying fair health and structural condition, one stem has died, fire damage evident, major deadwood visible with some of a size and weight to represent a hazard at this time, limb forks appear sound.	Remove dead stem, remove major deadwood throughout, re inspect in 12 months	1/500,000

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Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
11	<i>Eucalyptus gomphocephala</i>	20	15.5	2300	2000	27.6	4.4	Displaying fair health and structural condition, central stem has died with a column of decay evident, evidence of borer damage with foliage displaying a witch's broom appearance, a large amount of canopy is currently held over the car park, major limb forks appear sound at this time.	Reduce dead stem down to 450mm diameter, reduce growth held over the car park by 20 percent, re inspect in 12 months	1/50,000
12	<i>Eucalyptus gomphocephala</i>	21.5	12	950	1150	11.4	3.5	Found to be in good health and fair structural condition with codominant stems having formed at 1.3m, evidence of borer damage, light minor deadwood and epicormic growth visible which are not considered to be a hazard at this time, limb held over footpath has the propensity for future failure.	Remove lower limb held over the footpath to source, re inspect in 12 months	1/500,000
13	<i>Eucalyptus marginata</i>	9.5	7	320	400	3.8	2.3	Displaying good health and fair structural condition with the tree leaning in a easterly direction, major limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard at this time, root plate appears firm.	No works required at this time, re inspect in 12 months	<1/1,000,000
14	<i>Eucalyptus marginata</i>	9.5	5.5	290	380	3.5	2.2	Displaying fair health and structural condition, light minor deadwood and epicormic growth visible which are not considered to be a hazard at this time, lower northern stem has died.	Remove lower dead stem to source, re inspect in 12 months	<1/1,000,000
15	<i>Eucalyptus marginata</i>	8	3	320	340	3.8	2.1	Displaying poor health and structural condition with the main leader having died leaving only minor epicormic growth displaying live foliage.	Remove tree	1/500,000

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Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
16	<i>Eucalyptus marginata</i>	13	7	390	460	4.7	2.4	Found to be in good health and fair structural condition displaying a tall slender habit, major limb forks appear sound with no separation or cracking visible, light minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
17	<i>Eucalyptus marginata</i>	15	13.5	950	990	11.4	3.3	Displaying good health and fair structural condition with a full canopy of healthy foliage, multi stemmed form with major limb forks sound with no separation or cracking visible, minor deadwood visible within the under canopy which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
18	<i>Eucalyptus marginata</i>	18.5	10	810	840	9.7	3.1	Displaying good health and fair structural condition with evidence of a major stem having been previously removed, bird browsing damage within branch forks visible however major limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
19	<i>Eucalyptus marginata</i>	17	11	1050	1010	12.6	3.3	Displaying poor health and fair structural condition with a large section of the canopy dead, major limb forks appear sound with no separation or cracking visible, tree is between proposed car park and market space.	Remove tree based upon safety grounds, not suitable for habitat retention due to no cavities having developed	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
20	<i>Eucalyptus marginata</i>	9	4.5	490	530	5.9	2.5	Displaying poor health and fair structural condition with the tree leaning in a northerly direction, canopy displays a reduced coverage of healthy foliage, minor deadwood visible which is not considered to be a hazard at this time, fire damage evident at the base.	No works required at this time, re inspect in 12 months	<1/1,000,000
21	<i>Eucalyptus marginata</i>	11.5	4	270	430	3.2	2.3	Found to be in good health and fair structural condition displaying a tall slender form, limb forks appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time	No works required at this time, re inspect in 12 months	<1/1,000,000
22	<i>Eucalyptus marginata</i>	14	4.5	360	470	4.3	2.4	Found to be in good health and fair structural condition displaying a tall slender habit, limb forks appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time	No works required at this time, re inspect in 12 months	<1/1,000,000
23	<i>Eucalyptus marginata</i>	12.5	9	590	610	7.1	2.7	Displaying fair health and structural condition, major limb forks appear sound, deadwood visible with some of a size and weight to represent a hazard to surrounding targets, previous fire damage visible.	Remove deadwood, re inspect in 12 months	1/50,000
24	<i>Eucalyptus marginata</i>	16	8.5	560	680	6.7	2.8	Found to be in good health and fair structural condition displaying a tall upright habit, bird browsing damage within forks visible however major branch unions appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
25	<i>Eucalyptus marginata</i>	13.5	4.5	390	580	4.7	2.6	Found to be in fair health and structural condition displaying a tall slender habit, limb forks appear sound at this time with no splitting or cracking visible, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
26	<i>Eucalyptus marginata</i>	16	5.5	1200	1000	14.4	3.3	Displaying good health and fair structural condition with a good coverage of healthy foliage, multiple secondary stems with major limb forks appearing sound with no separation or cracking visible, bird browsing damage evident, minor deadwood visible which light and not considered to be a hazard to surrounding targets, basal decay apparent.	No works required at this time, re inspect in 12 months	1/500,000
27	<i>Eucalyptus marginata</i>	14	7.5	710	790	8.5	3.0	Found to be in fair health and structural condition displaying secondary stems, basal decay visible, 1 x large piece of deadwood visible which of a size and weight to represent a hazard to surrounding targets.	Remove major deadwood, re inspect in 12 months	1/500,000
28	<i>Eucalyptus marginata</i>	13.5	14	630	800	7.6	3.0	Displaying fair health and poor structural condition with a large amount of deadwood visible with some of a size and weight to represent a hazard to surrounding targets, limb forks appear sound with no separation or cracking visible.	Remove deadwood throughout, re inspect in 12 months.	1/50,000

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29	<i>Eucalyptus marginata</i>	14.5	10	600	670	7.2	2.8	Found to be in fair health and structural condition displaying a slight westerly lean, major limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard at this time, root plate is firm with no soil heave or movement noticeable.	No works required at this time, re inspect in 12 months	1/500,000
30	<i>Eucalyptus marginata</i>	10	5	460	450	5.5	2.4	Displaying fair health and structural condition with basal decay visible, limb forks appear sound at this time with no separation or cracking noticeable.	No works required at this time, re inspect in 12 months	<1/1,000,000
31	<i>Eucalyptus marginata</i>	9.5	4	320	410	3.8	2.3	Found to be in fair health and structural condition displaying a tall slender form, major limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
32	<i>Eucalyptus marginata</i>	15	7.5	730	900	8.8	3.2	Found to be in fair health and structural condition displaying some abnormal swelling on the western stem at 7m, codominant stems formed at 2.5m with major deadwood visible, limb forks appear sound with no separation or cracking noticeable.	Remove major deadwood above swelling down to 160mm, re inspect in 12 months	1/500,000

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Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
33	<i>Eucalyptus marginata</i>	17.5	14	710	830	8.5	3.1	Displaying fair health and structural condition with codominant stems having formed at 3m, bird browsing damage visible within branch forks however major unions appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove deadwood throughout, re inspect in 12 months	1/500,000
34	<i>Eucalyptus marginata</i>	10.5	10	600	730	7.2	2.9	Multi stemmed tree displaying fair health and structural condition, limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
35	<i>Eucalyptus marginata</i>	16	13	700	690	8.4	2.8	Found to be in poor health and structural condition displaying a large amount of major deadwood with the only live growth consisting of light epicormic shoots.	Remove tree based upon safety grounds and proximity to future targets	1/5,000
36	<i>Eucalyptus marginata</i>	17.5	13	790	950	9.5	3.2	Displaying fair health and structural condition with a large amount of major deadwood visible, bird browsing damage noticeable within branch forks however major unions appear sound with no separation or cracking visible, basal decay apparent.	Remove major deadwood throughout, re inspect in 12 months	1/50,000
37	<i>Eucalyptus marginata</i>	13	9.5	650	670	7.8	2.8	Twin stemmed tree displaying good health and fair structural condition, major limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
38	<i>Eucalyptus marginata</i>	14.5	13	820	870	9.8	3.1	Found to be in good health and fair structural condition displaying a secondary stem, major limb forks appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard to surrounding targets	Remove deadwood throughout, re inspect in 12 months	1/50,000
39	<i>Eucalyptus marginata</i>	16	14	930	980	11.2	3.3	Displaying good health and fair structural condition with codominant stems having formed at 1.3m, major limb forks appear sound with no separation or cracking visible, sporadic minor deadwood throughout which is not considered to be a hazard at this time	No works required at this time, re inspect in 12 months	1/500,000
40	<i>Eucalyptus marginata</i>	17	13.5	760	880	9.1	3.1	Displaying good health and poor structural condition, major limb forks appear sound with no separation or cracking visible, a large amount of major deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove deadwood throughout, re inspect in 12 months	1/50,000
41	<i>Eucalyptus marginata</i>	16	4.5	300	340	3.6	2.1	Found to be in fair health and structural condition with the canopy suppressed by adjacent tree, staining in the upper canopy indicating borer infestation noticeable, limb forks appear sound, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
42	<i>Eucalyptus gomphocephala</i>	22	15.5	1150	1400	13.8	3.8	Twin stemmed tree displaying fair health and structural condition, large tree with evidence of borer infestation damage in the upper crown, major limb forks appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
43	<i>Eucalyptus marginata</i>	16.5	17	1060	1200	12.7	3.6	Displaying fair health and structural condition with codominant stems having formed at 3m, major limb forks appear sound with no separation or cracking visible however previous limb failures are noticeable, very light deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	1/500,000
44	<i>Eucalyptus marginata</i>	9	8	500	520	6.0	2.5	Found to be in good health and fair structural condition with codominant stems having formed at 1.4m displaying included bark, major unions appear sound with no separation or cracking visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
45	<i>Eucalyptus marginata</i>	17	9	600	690	7.2	2.8	Displaying good health and fair structural condition, major limb forks appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
46	<i>Eucalyptus marginata</i>	12	7.5	400	520	4.8	2.5	Displaying fair health and fair structural condition with codominant stems having formed at 2.5m, branch unions appear soundly attached, light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
47	<i>Eucalyptus marginata</i>	14	10	390	530	4.7	2.5	Displaying fair health and structural condition, limb forks appear soundly attached with no cracking or splitting noticeable, very light deadwood visible which is not considered to be a hazard to surrounding targets	No works required at this time, re inspect in 12 months	<1/1,000,000
48	<i>Eucalyptus marginata</i>	16	7.5	490	540	5.9	2.6	Displaying good health and fair structural condition, major limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	<1/1,000,000
49	<i>Eucalyptus marginata</i>	13	9.5	520	490	6.2	2.5	Found to be in good health and fair structural condition with codominant stems having formed at 0.6m, branch unions appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
50	<i>Eucalyptus marginata</i>	12	4	240	280	2.9	1.9	Found to be in fair health and structural condition displaying a tall slender form, very light deadwood visible which is not considered to be a hazard to surrounding targets, major limb forks appear soundly attached.	No works required at this time, re inspect in 12 months	<1/1,000,000
51	<i>Eucalyptus marginata</i>	12	4.5	260	300	3.1	2.0	Found to be in good health and fair structural condition with the canopy suppressed by adjacent trees and displaying a tall upright form, limb forks appear soundly attached, very light deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
52	<i>Eucalyptus marginata</i>	14.5	12	630	650	7.6	2.8	Found to be in good health and fair structural condition with codominant stems having formed at 1m, branch unions appear sound with no separation or cracking visible, previous fire damage evident at the base.	No works required at this time, re inspect in 12 months	<1/1,000,000
53	<i>Eucalyptus marginata</i>	13.5	10	1000	1100	12.0	3.4	Multi stemmed tree displaying good health and fair structural condition, very light deadwood visible which is not considered to be a hazard to surrounding targets, major branch unions appear soundly attached.	No works required at this time, re inspect in 12 months	<1/1,000,000
54	<i>Eucalyptus marginata</i>	11	7.5	290	350	3.5	2.1	Found to be in good health and fair structural condition displaying a slight westerly lean, limb forks appear sound with no separation or cracking visible, light epicormic growth visible which is not considered to be a hazard to surrounding targets	No works required at this time, re inspect in 12 months	<1/1,000,000
55	<i>Eucalyptus marginata</i>	13	14.5	840	990	10.1	3.3	Multi stemmed tree displaying good health and fair structural condition, a column of decay is visible within the north eastern limb, limb forks display multiple included unions however no separation or cracking is currently visible, light minor deadwood noticeable which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
56	<i>Eucalyptus marginata</i>	12.5	10	780	1000	9.4	3.3	Displaying fair health and poor structural condition with a large open basal cavity and previous fire damage visible, major deadwood apparent with some of a size and weight to represent a hazard to surrounding targets, limb forks appear soundly attached.	Remove major deadwood throughout, re inspect in 12 months.	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
57	<i>Banksia species</i>	8.5	7	480	690	N/A	N/A	Tree is dead	Remove Tree	1/50,000
58	<i>Eucalyptus marginata</i>	14	7.5	520	640	6.2	2.7	Found to be in good health and fair structural condition with the canopy suppressed by adjacent tree and leaning in a north westerly direction, major limb forks display included unions with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
59	<i>Eucalyptus marginata</i>	14.5	16	970	1100	11.6	3.4	Displaying good health and fair structural condition with multiple included bark unions visible, branch forks appear soundly attached with no separation or cracking visible, sporadic minor deadwood noticeable which is not considered to be of a size and weight to represent a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
60	<i>Eucalyptus marginata</i>	11	9.5	420	490	5.0	2.5	Found to be in fair health and structural condition with the canopy suppressed by adjacent tree, limb forks appear soundly attached with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
61	<i>Eucalyptus marginata</i>	10.5	10	390	480	4.7	2.4	Found to be in fair health and structural condition with the canopy suppressed by adjacent tree and leaning in a northerly direction, secondary stems apparent with major limb forks appearing soundly attached with no separation or cracking visible, very light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
62	<i>Eucalyptus marginata</i>	12	9	380	440	4.6	2.3	Found to be in fair health and structural condition with codominant stems having formed at 2.5m and leaning in a easterly direction, limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	<1/1,000,000
63	<i>Eucalyptus marginata</i>	11.5	8.5	390	500	4.7	2.5	Displaying fair health and poor structural condition with major deadwood visible, limb forks appear soundly attached, basal decay evident.	Remove major deadwood, re inspect in 12 months	1/50,000
64	<i>Eucalyptus marginata</i>	16	11.5	430	600	5.2	2.7	Displaying good health and fair structural condition, major limb forks appear soundly attached with no separation or cracking visible, sporadic minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
65	<i>Eucalyptus marginata</i>	16	8.5	400	490	4.8	2.5	Twin stemmed tree in fair health and structural condition displaying a tall slender habit, branch unions appear soundly attached with no splitting or cracking visible. very light deadwood noticeable.	No works required at this time, re inspect in 12 months	<1/1,000,000
66	<i>Eucalyptus marginata</i>	11	4	190	230	2.3	1.8	Found to be in fair health and structural condition displaying a tall slender form, very light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
67	<i>Eucalyptus marginata</i>	17	6	740	820	8.9	3.0	Found to be in fair health and structural condition displaying a tall slender habit with included bark unions visible, limb forks appear soundly attached with no separation or cracking visible, major deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove major deadwood, re inspect in 12 months	1/500,000
68	<i>Eucalyptus marginata</i>	17.5	7.5	590	870	7.1	3.1	Found to be in good health and fair structural condition displaying a tall slender habit, exhibits secondary stems with codominant stems having formed at 2.5m on eastern stem, limb forks sound, very minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
69	<i>Allocasuarina torulosa</i>	13	5.5	280	470	3.4	2.4	Found to be in good health and fair structural condition displaying a tall slender habit with codominant stems having formed at 2.7m, limb forks appear soundly attached at this time however evidence of previous limb failures is noticeable, exposed roots.	No works required at this time, re inspect in 12 months	<1/1,000,000
70	<i>Casuarina cunninghamiana</i>	18	7.5	600	810	7.2	3.0	Found to be in good health and fair structural condition displaying a tall slender form, limb forks appear soundly attached, major deadwood visible which is not considered to be a hazard at this time, previous limb failures.	No works required at this time, re inspect in 12 months	1/500,000
71	<i>Eucalyptus marginata</i>	12	5	480	590	5.8	2.7	Displaying fair health and structural condition with the canopy suppressed by adjacent tree and leaning in a westerly direction, major limb forks appear soundly attached, light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
72	<i>Callistemon 'kings park special'</i>	7.5	8	640	830	7.7	3.1	Multi stemmed tree displaying good health and fair structural condition with the tree and leaning in a westerly direction, limb forks appear sound with no separation or cracking visible, light deadwood visible in the under canopy which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	<1/1,000,000
73	<i>Callistemon 'kings park special'</i>	7.5	6	520	540	6.2	2.6	Twin stemmed tree displaying good health and fair structural condition with the canopy suppressed by adjacent tree and leaning in a northerly direction, limb forks appear soundly attached, light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
74	<i>Callistemon 'kings park special'</i>	5	7	750	820	9.0	3.0	Displaying good health and fair condition supported by multi stemmed crown leaders, previously poorly pruned leaving long branch stubs, limb forks appear sound, light deadwood.	No works required at this time, re inspect in 12 months	<1/1,000,000
75	<i>Casuarina cunninghamiana</i>	6	4	350	490	4.2	2.5	Displaying fair health and poor structural condition with the main leader having failed and broken off leaving a large wound open to pathogens and decay.	Clean up wound to sound growth point, re inspect in 12 months.	<1/1,000,000
76	<i>Callistemon 'kings park special'</i>	7	4	330	520	4.0	2.5	Displaying good health and fair structural condition growing close to adjacent tree, twin stemmed form, limb forks appear sound, very light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
77	<i>Callistemon 'kings park special'</i>	7.5	5	240	590	2.9	2.7	Found to be in good health and fair structural condition, major limb forks appear soundly attached with no separation or cracking visible, previous major limbs removed, very light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
78	<i>Callistemon 'kings park special'</i>	7	5.5	470	520	5.6	2.5	Twin stemmed tree displaying good health and fair structural condition, major limb forks display included bark with no separation or cracking visible, very light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
79	<i>Eucalyptus marginata</i>	8.5	8	820	910	9.8	3.2	Multi stemmed tree displaying poor health and structural condition, dieback with major deadwood visible with some of a size and weight to represent a hazard to surrounding targets, light epicormic growth visible which is not considered to be a hazard at this time.	Remove major deadwood due to close proximity to proposed pathway, re inspect in 12 months	1/50,000
80	<i>Eucalyptus marginata</i>	11	8.5	970	1050	11.6	3.4	Multi stemmed tree displaying good health and fair structural condition, major limb forks appear sound with no separation or cracking visible, sporadic minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
81	<i>Eucalyptus marginata</i>	9.5	9.5	610	960	7.3	3.3	Multi stemmed tree displaying good health and fair structural condition with one stem leaning over the proposed BMX track, limb forks appear sound, light deadwood visible which is not considered to be a hazard at this time	Remove stem leaning over proposed BMX track, re inspect in 12 months	1/500,000
82	<i>Eucalyptus marginata</i>	11	7.5	740	860	8.9	3.1	Displaying good health and fair structural condition with a horizontal limb protruding over the proposed BMX track, codominant stems with major limb forks appearing sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time.	Remove horizontal limb over proposed BMX track to source, re inspect in 12 months	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
83	<i>Eucalyptus victrix</i>	13	9.5	590	820	7.1	3.0	Displaying good health and fair structural condition, major limb forks appear sound with no separation or cracking visible, sporadic minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
84	<i>Eucalyptus marginata</i>	9	3	190	350	2.3	2.1	Found to be in good health and fair structural condition displaying a tall slender habit, limb attachments appear sound with no separation or cracking visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
85	<i>Eucalyptus marginata</i>	15	5	460	630	5.5	2.7	Located within a small cluster of trees displaying good health and fair structural condition displaying a tall slender habit, limb forks appear soundly attached.	No works required at this time, re inspect in 12 months	<1/1,000,000
86	<i>Eucalyptus marginata</i>	11.5	6.5	320	580	3.8	2.6	Located within a small cluster of trees displaying good health and fair structural condition displaying a tall slender habit, limb forks appear sound, light minor deadwood visible, basal decay evident.	No works required at this time, re inspect in 12 months	<1/1,000,000
87	<i>Eucalyptus marginata</i>	3.5	2	170	200	2.0	1.7	Displaying poor health and structural condition, main leaders have died leaving only a small amount of live epicormic growth remaining.	Remove tree	<1/1,000,000
88	<i>Eucalyptus marginata</i>	13	4	290	400	3.5	2.3	Found to be in good health and fair structural condition displaying a tall slender habit, branch unions appear soundly attached, minor deadwood visible which is not considered to be a hazard to surrounding targets	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
89	<i>Eucalyptus marginata</i>	7	2.5	190	280	2.3	1.9	Found to be in good health and fair structural condition displaying a tall slender habit, light minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
90	<i>Casuarina cunninghamiana</i>	8	2.5	90	180	1.1	1.6	Self-sown tree displaying a tall slender habit, in good health with the main stem rubbing against adjacent tree.	Remove tree to enable adjacent tree to mature	<1/1,000,000
91	<i>Eucalyptus marginata</i>	8	4.5	230	290	2.8	2.0	Displaying good health and fair structural condition, limb forks appear soundly attached with no separation or cracking visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
92	<i>Eucalyptus marginata</i>	9.5	9	840	860	10.1	3.1	Tree has died	Remove tree	1/50,000
93	<i>Eucalyptus marginata</i>	5	2.5	190	320	2.3	2.1	Displaying poor health and structural condition, main leaders have died leaving only a small amount of live epicormic growth remaining.	Remove tree	<1/1,000,000
94	<i>Eucalyptus marginata</i>	11	6	540	610	6.5	2.7	Displaying fair health and structural condition, 2 x secondary stems have died, limb forks on remaining live stem sound, very light deadwood visible which is not considered to be a hazard at this time.	Remove 2 x dead stems, re inspect in 12 months	<1/1,000,000
95	<i>Eucalyptus marginata</i>	7.5	7	710	650	8.5	2.8	Multi stemmed tree displaying good health and fair structural condition, branch unions appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
96	<i>Eucalyptus marginata</i>	5.5	4	300	510	3.6	2.5	Displaying fair health and poor structural condition with the tree leaning in an easterly direction over proposed pathway by 40 degrees, large bark wound visible, minor deadwood visible which is not considered to be a hazard to surrounding targets at this time.	Remove tree due to poor structure and proximity to proposed main footpath	1/50,000
97	<i>Eucalyptus marginata</i>	11.5	10.5	870	1060	10.4	3.4	Displaying good health and fair structural condition, limb forks are displaying included bark with bird browsing damage visible, unions appear soundly attached with no separation or cracking visible, sporadic minor deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	1/500,000
98	<i>Tipuana tipu</i>	6.5	7	280	370	3.4	2.2	Displaying good health and fair structural condition, branch unions appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	1/500,000
99	<i>Tipuana tipu</i>	7	9.5	300	430	3.6	2.3	Displaying good health and fair structural condition, limb forks appear sound with no separation or cracking visible, sporadic light minor deadwood visible which is not considered to be a hazard at this time	No works required at this time, re inspect in 12 months	1/500,000
100	<i>Tipuana tipu</i>	7	5.5	240	360	2.9	2.2	Displaying good health & structural condition with a full canopy of healthy foliage, major limb forks appear sound with no separation or cracking visible, whipper snipper damage at the base.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
101	<i>Tipuana tipu</i>	7.5	7	290	450	3.5	2.4	Displaying good health and fair structural condition with codominant stems having formed at 2.3m, major limb forks appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	1/500,000
102	<i>Tipuana tipu</i>	11	8.5	390	580	4.7	2.6	Displaying good health and fair structural condition, major branch unions appear sound with no separation or cracking visible, exposed and girdled roots apparent, light deadwood.	No works required at this time, re inspect in 12 months	1/500,000
103	<i>Tipuana tipu</i>	9	9	340	550	4.1	2.6	Displaying good health and fair structural condition with codominant stems having formed at 1.7m, major limb forks appear sound with no separation or cracking visible, light minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
104	<i>Eucalyptus marginata</i>	9.5	7	790	1260	9.5	3.6	Twin stemmed tree displaying poor health and structural condition displaying a large amount of major deadwood over a proposed new pathway, open basal cavity with fire damage visible, remaining live growth consists of only light epicormic growth.	Remove tree due to poor structure and proximity to proposed pathway	1/50,000
105	<i>Eucalyptus marginata</i>	12	10	910	1030	10.9	3.4	Displaying good health and fair structural condition, major unions displaying included bark and bird browsing damage, limb forks appear sound with no separation or cracking visible, major deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove major deadwood, re inspect in 12 months	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
106	<i>Eucalyptus marginata</i>	6.5	5.5	390	450	4.7	2.4	Displaying good health and fair structural condition with the canopy suppressed by adjacent tree, major branch unions appear soundly attached with no separation or cracking visible.	No works required at this time, re inspect in 12 months	1/500,000
107	<i>Eucalyptus marginata</i>	7	4.5	210	290	2.5	2.0	Displaying fair health and structural condition with the tree leaning in a westerly direction, limb forks appear soundly attached, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
108	<i>Eucalyptus marginata</i>	12.5	10	990	710	11.9	2.9	Found to be in fair health and structural condition, major branch unions appear sound with no separation or cracking visible, sporadic minor deadwood throughout with some of a size and weight to represent a hazard to proposed future targets.	Remove deadwood throughout, re inspect in 12 months	1/50,000
109	<i>Eucalyptus marginata</i>	10	4	310	400	3.7	2.3	Found to be in fair health and structural condition displaying a tall slender habit, sporadic light minor deadwood and epicormic growth visible which are not considered to be a hazard at this time, limb forks appear soundly attached.	No works required at this time, re inspect in 12 months	1/500,000
110	<i>Eucalyptus marginata</i>	9	4.5	450	630	5.4	2.7	Twin stemmed tree displaying fair health and structural condition, limb forks appear soundly attached, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
111	<i>Eucalyptus marginata</i>	9.5	1.5	180	290	2.2	2.0	Found to be in good health and fair structural condition displaying a tall slender habit, basal decay evident, very light deadwood visible.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
112	<i>Eucalyptus marginata</i>	13	9	720	870	8.6	3.1	Displaying good health and fair structural condition with codominant stems having formed at 0.7m, bird browsing damage visible in forks, branch unions appear sound with no separation or cracking visible, minor deadwood noticeable which does not represent a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
113	<i>Eucalyptus marginata</i>	5.5	5.5	440	590	5.3	2.7	Displaying fair health and structural condition, limb forks appear soundly attached, minor deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove deadwood held over proposed pathway, re inspect in 12 months	1/50,000
114	<i>Eucalyptus marginata</i>	7	1.5	170	240	2.0	1.8	Displaying poor health and structural condition with the main leader having died leaving only a small amount of live epicormic growth remaining.	Remove tree due to poor health and structure	1/500,000
115	<i>Eucalyptus marginata</i>	7.5	1.4	170	280	2.0	1.9	Displaying poor health and structural condition with the main leader having died leaving only a small amount of live epicormic growth remaining.	Remove tree due to poor health and structure	1/500,000
116	<i>Eucalyptus marginata</i>	10	4.5	300	390	3.6	2.2	Found to be in fair health and structural condition, major deadwood visible with some of a size and weight to represent a hazard at this time, limb forks appear soundly attached.	Remove major deadwood, re inspect in 12 months	1/50,000
117	<i>Eucalyptus marginata</i>	8.5	4	290	460	3.5	2.4	Multi stemmed tree displaying fair health and structural condition, minor deadwood visible which is not considered to be a hazard at this time, limb forks appear soundly attached.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
118	<i>Eucalyptus marginata</i>	12	8	830	980	10.0	3.3	Displaying poor health and structural condition with a large proportion of the canopy displaying dieback and major deadwood, remaining live growth consists of light epicormic growth.	Remove tree due to poor health and proximity to proposed footpaths	1/50,000
119	<i>Tipuana tipu</i>	9.5	8.5	360	500	4.3	2.5	Displaying good health and fair structural condition, major branch unions appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
120	<i>Tipuana tipu</i>	7	9.5	290	480	3.5	2.4	Displaying good health and fair structural condition, branch unions appear soundly attached with no separation or cracking visible, light minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
121	<i>Eucalyptus rudis</i>	11	12.5	460	510	5.5	2.5	Displaying fair health and structural condition, history of previous limb failures apparent however major limb forks appear sound at this time with no separation or cracking visible, sporadic minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
122	<i>Eucalyptus camaldulensis</i>	9.5	9.5	420	500	5.0	2.5	Displaying fair health and poor structural condition with the tree leaning by 35 degrees in a northerly direction, limb forks appear soundly attached, minor deadwood visible with some of a size and weight to represent a hazard to proposed future targets	Remove tree if proposed pathway passes beneath canopy, re inspect in 12 months	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
123	<i>Eucalyptus marginata</i>	14.5	7.5	980	1270	11.8	3.7	Displaying poor health and structural condition with a large amount of major deadwood visible, open cavity at the base with fire damage visible.	Remove Tree	1/50,000
124	<i>Eucalyptus marginata</i>	9	7	800	1020	9.6	3.3	Tree has died	Remove Tree	1/50,000
125	<i>Corymbia calophylla</i>	14.5	10.5	660	790	7.9	3.0	Displaying good health and fair structural condition, major limb forks appear sound with no separation or cracking visible, resin visible which could be contributed to Marri canker, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
126	<i>Corymbia calophylla</i>	9	5	390	350	4.7	2.1	Displaying fair health and structural condition, branch unions appear sound with no separation or cracking visible, sporadic light deadwood throughout which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
127	<i>Corymbia calophylla</i>	11	8.5	490	580	5.9	2.6	Displaying fair health and structural condition, branch unions appear sound with no separation or cracking visible, sporadic light minor deadwood throughout which is not considered to be a hazard at this time, exposed roots.	No works required at this time, re inspect in 12 months	1/500,000
128	<i>Eucalyptus camaldulensis</i>	9.5	8	310	420	3.7	2.3	Displaying fair health and structural condition with codominant stems having formed at 2.5m, limb forks appear sound with no separation or cracking visible, minor deadwood noticeable with some of a size and weight to represent a hazard to surrounding targets.	Remove deadwood throughout, re inspect in 12 months	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
129	<i>Eucalyptus marginata</i>	14	10.5	680	850	8.2	3.1	Displaying fair health and structural condition, major deadwood visible with some of a size and weight to represent a hazard to proposed future targets, tree displays a slight north westerly lean with the main cluster of limbs having formed at 4.5m, major limb attachments appear soundly attached at this time with no separation or cracking visible, root plate is firm.	Remove major deadwood, re inspect in 12 months	1/50,000
130	<i>Eucalyptus marginata</i>	6	5	310	400	3.7	2.3	Multi stemmed tree displaying good health and fair structural condition with the canopy suppressed by adjacent tree and leaning in a northerly direction, limb forks appear soundly attached, root plate firm.	No works required at this time, re inspect in 12 months	1/500,000
131	<i>Eucalyptus gomphocephala</i>	13.5	10.5	580	670	7.0	2.8	Displaying fair health and structural condition, branch unions appear sound with no separation or cracking visible, mild borer infestation visible, sporadic minor deadwood visible with some of a size and weight to represent a hazard to proposed future targets.	Remove deadwood throughout, re inspect in 12 months	1/50,000
132	<i>Eucalyptus gomphocephala</i>	18	16.5	2200	2000	26.4	4.4	Displaying fair health and poor structural condition with a large amount of major deadwood visible, cavities with active bees noticeable, major limb forks appear sound with no separation or cracking visible, borer infestation visible within the upper canopy.	Remove deadwood throughout, re inspect in 12 months	1/5,000
133	<i>Eucalyptus gomphocephala</i>	11	4.5	240	350	2.9	2.1	Found to be in good health and fair structural condition displaying a tall slender habit, branch unions appear soundly attached, very light deadwood visible.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
134	<i>Eucalyptus sideroxylon</i>	11.5	8.5	600	660	7.2	2.8	Displaying good health and fair structural condition with codominant stems having formed at 4m, tree is leaning in a westerly direction, limb forks appear soundly attached at this time, minor deadwood visible which is not considered to be a hazard at this time, root plate appears firm.	No works required at this time, re inspect in 12 months	1/500,000
135	<i>Eucalyptus marginata</i>	10	9	560	580	6.7	2.6	Found to be in good health and fair structural condition with the canopy suppressed by adjacent tree and displaying a previous limb failure, limb forks appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard to proposed future targets.	Remove deadwood, re inspect in 12 months.	1/50,000
136	<i>Eucalyptus marginata</i>	13.5	8.5	600	690	7.2	2.8	Displaying fair health and structural condition, major limb forks appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard to future targets.	Remove deadwood, re inspect in 12 months.	1/50,000
137	<i>Eucalyptus sideroxylon</i>	16.5	8	510	680	6.1	2.8	Found to be in good health and fair structural condition displaying a tall slender habit, major limb forks appear sound with no separation or cracking visible, co dominant stems at 10m, very light deadwood visible.	No works required at this time, re inspect in 12 months	1/500,000
138	<i>Corymbia ficifolia</i>	5	5.5	440	590	5.3	2.7	Displaying good health and structural condition, branch unions appear sound with no separation or cracking visible, very light deadwood visible in the under canopy.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
139	<i>Corymbia calophylla</i>	16.5	7	470	590	5.6	2.7	Displaying fair health and structural condition with the canopy suppressed by adjacent trees, co dominant stems have formed at 5.5m, bird browsing damage in forks however limb forks appear soundly attached with no cracking or splitting noticeable, minor deadwood visible with some of a size and weight to represent a hazard to proposed future targets.	Remove lower lateral over path to source, remove deadwood throughout, re inspect in 12 months	1/50,000
140	<i>Eucalyptus marginata</i>	11.5	10	580	800	7.0	3.0	Found to be in fair health and structural condition with the canopy suppressed by adjacent tree, major deadwood visible throughout, limb forks appear sound with no separation or cracking visible.	Remove major deadwood throughout, re inspect in 12 months	1/50,000
141	<i>Eucalyptus marginata</i>	13	7.5	480	740	5.8	2.9	Displaying fair health and structural condition with the canopy suppressed by adjacent tree, basal decay and fire damage visible, limb forks appear soundly attached, minor deadwood visible with some of a size and weight to represent a hazard to proposed future targets.	Remove deadwood throughout, re inspect in 12 months	1/50,000
142	<i>Eucalyptus gomphocephala</i>	21	17	1200	1310	14.4	3.7	Large tree displaying fair health and structural condition with a large amount of major deadwood visible, limb forks appear sound with no separation or cracking visible, bird browsing damage visible, noticeable borer infestation damage within the upper canopy, epicormic growth visible which is not a hazard at this time.	Remove major deadwood throughout, re inspect in 12 months	1/5,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
143	<i>Eucalyptus gomphocephala</i>	20	14	950	1100	11.4	3.4	Displaying fair health and structural condition, canopy displays borer infestation with a large amount of major deadwood visible, major limb forks appear sound with no separation or cracking visible, epicormic growth throughout which is light and not considered to be a hazard at this time.	Remove major deadwood throughout, re inspect in 12 months	1/5,000
144	<i>Eucalyptus marginata</i>	16	11	930	1240	11.2	3.6	Found to be in good health and fair structural condition displaying an open basal decay with fire damage evident, major limb forks appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard to proposed future targets.	Remove deadwood throughout, re inspect in 12 months	1/50,000
145	<i>Eucalyptus marginata</i>	5.5	4.5	360	390	4.3	2.2	Twin stemmed tree displaying good health and fair structural condition, limb forks appear soundly attached at this time, very light deadwood and epicormic growth visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
146	<i>Eucalyptus gomphocephala</i>	8	6.5	260	310	3.1	2.0	Displaying good health and fair structural condition, branch unions appear soundly attached, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
147	<i>Eucalyptus marginata</i>	9.5	6	350	390	4.2	2.2	Displaying good health and fair structural condition, codominant stems have formed at 2.5m and exhibiting included bark, limb forks appear sound with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
148	<i>Eucalyptus gomphocephala</i>	14	7.5	440	570	5.3	2.6	Displaying fair health and structural condition with codominant stems having formed at 2m, limb forks appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove lower lateral growth up to 2.5m, remove deadwood throughout, re inspect in 12 months	1/50,000
149	<i>Eucalyptus marginata</i>	13	11	660	810	7.9	3.0	Displaying fair health and structural condition with major deadwood visible, limb forks appear sound with no separation or cracking visible, basal decay evident	Remove major deadwood throughout, re inspect in 12 months	1/50,000
150	<i>Eucalyptus marginata</i>	10.5	4.5	290	540	3.5	2.6	Tree has died and displaying an open basal cavity with fire damage visible.	Remove tree based upon safety grounds.	1/5,000
151	<i>Eucalyptus marginata</i>	12.5	7.5	690	960	8.3	3.3	Multi stemmed tree displaying good health and fair structural condition, basal cavity with fire damage visible, limb forks appear soundly attached, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/50,000
152	<i>Eucalyptus marginata</i>	12	7	560	730	6.7	2.9	Multi stemmed tree displaying good health and fair structural condition, previous limb failure visible, limb forks appear soundly attached, very light deadwood visible which is not considered to be a hazard to proposed future targets.	No works required at this time, re inspect in 12 months	1/500,000
153	<i>Eucalyptus gomphocephala</i>	15	7	510	590	6.1	2.7	Twin stemmed tree found to be in good health and fair structural condition displaying a tall slender habit, branch unions appear soundly attached, minor deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove deadwood throughout, re inspect in 12 months	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
154	<i>Eucalyptus marginata</i>	14.5	10.5	890	980	10.7	3.3	Found to be in fair health and structural condition, basal cavity with fire damage visible with secondary stem leaning in a westerly direction, major deadwood visible, major branch unions appear sound with no separation or cracking visible.	Remove major deadwood and secondary stem, re inspect in 12 months	1/50,000
155	<i>Eucalyptus gomphocephala</i>	11.5	8	360	600	4.3	2.7	Displaying good health and fair structural condition, branch unions appear sound with no separation or cracking visible, secondary stem leaning in an easterly direction.	Remove secondary stem and lateral growth up to 2m, re inspect in 12 months	1/500,000
156	<i>Eucalyptus marginata</i>	13.5	7.5	670	830	8.0	3.1	Displaying fair health and structural condition with major deadwood visible, branch unions appear sound with no separation or cracking visible, basal cavity with fire damage visible.	Remove major deadwood throughout, re inspect in 12 months	1/50,000
157	<i>Eucalyptus marginata</i>	9.5	9.5	980	1300	11.8	3.7	Multi stemmed tree displaying poor health and structural condition, two eastern stems display columns of decay and large amounts of major deadwood with proposed footpath to run beneath the canopy.	Remove 2x eastern stems, retain western stem if possible, re inspect in 12 months	1/50,000
158	<i>Eucalyptus nicholii</i>	11.5	8.5	520	590	6.2	2.7	Found to be in good health and fair structural condition, limb forks appear sound with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard at this time, root plate appears firm.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
159	<i>Eucalyptus nicholii</i>	6.5	3.5	280	310	3.4	2.0	Displaying good health and fair structural condition with the tree displaying a slight westerly lean, branch unions appear sound, very light deadwood visible, root plate appears firm with no soil heave or movement visible	No works required at this time, re inspect in 12 months	<1/1,000,000
160	<i>Eucalyptus sideroxylon</i>	9	5.5	380	430	4.6	2.3	Displaying good health and fair structural condition with the main leader having failed and snapped out, branch unions appear soundly attached, epicormic growth has formed around limb failures however growth is light and not considered to be a hazard at this time	No works required at this time, re inspect in 12 months	<1/1,000,000
161	<i>Eucalyptus marginata</i>	8.5	7	370	460	4.4	2.4	Displaying good health and structural condition with codominant stems having formed at 2.5m, branch unions appear sound with no separation or cracking visible, very light deadwood visible.	No works required at this time, re inspect in 12 months	1/500,000
162	<i>Eucalyptus gomphocephala</i>	10.5	9	380	440	4.6	2.3	Displaying good health and fair structural condition, branch unions appear sound with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard at this time, lower north east lateral branch is position directly over the proposed main footpath and has the propensity for future failure.	Remove lower north east lateral branch to source, remove minor deadwood, re inspect in 12 months	1/500,000
163	<i>Corymbia ficifolia</i>	7.5	8.5	510	1040	6.1	3.4	Displaying good health and fair structural condition, major branch unions appear sound with no separation or cracking visible, light deadwood visible throughout which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
164	<i>Eucalyptus marginata</i>	13.5	8.5	530	640	6.4	2.7	Displaying good health and fair structural condition with codominant stems having formed at 8m, branch unions appear sound at this time with no separation or cracking visible, 1 piece of major deadwood is visible on the western side.	Remove major deadwood, re inspect in 12 months.	1/500,000
165	<i>Eucalyptus marginata</i>	7	3	260	300	3.1	2.0	Tree is dead	Remove tree	1/50,000
166	<i>Eucalyptus marginata</i>	5.5	5	320	440	3.8	2.3	Displaying good health and poor structural condition with the tree leaning in an easterly direction by 30 degrees, branch unions appear soundly attached, root plate appears firm with no soil heave or movement visible at this time.	Remove tree due to poor structure and proximity to pathways and proposed new infrastructure	1/50,000
167	<i>Callistemon 'kings park special'</i>	5	5	300	440	3.6	2.3	Displaying fair health and fair structural condition, branch unions appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time, base close to pathway.	No works required at this time, re inspect in 12 months	<1/1,000,000
168	<i>Eucalyptus marginata</i>	11	5.5	490	600	5.9	2.7	Displaying poor health and structural condition with the main leader having died leaving only a small amount of live epicormic growth remaining.	Remove tree	1/50,000
169	<i>Eucalyptus marginata</i>	6.5	4.5	280	390	3.4	2.2	Displaying fair health and structural condition, limb forks appear sound with no separation or cracking visible, major deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
170	<i>Eucalyptus marginata</i>	10.5	12.5	1010	1200	12.1	3.6	Multi stemmed tree displaying good health and fair structural condition, major branch unions appear sound with no separation or cracking visible, major deadwood held over pathway with some of a size and weight to represent a hazard at this time.	Remove deadwood throughout, re inspect in 12 months	1/50,000
171	<i>Eucalyptus marginata</i>	7.5	6.5	740	910	8.9	3.2	Multi stemmed tree displaying good health and fair structural condition located within a closely planted cluster of trees, limb forks appear soundly attached, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
172	<i>Eucalyptus marginata</i>	8.5	7	690	820	8.3	3.0	Multi stemmed tree displaying good health and fair structural condition and located within a closely planted cluster of trees, limb forks appear soundly attached, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
173	<i>Eucalyptus marginata</i>	8.5	6.5	300	410	3.6	2.3	Displaying good health and fair structural condition located within a closely planted cluster of trees and leaning in a westerly direction, limb forks appear soundly attached, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
174	<i>Eucalyptus marginata</i>	14	8	470	690	5.6	2.8	Displaying fair health and structural condition, major deadwood visible with some of a size and weight to represent a hazard to proposed future targets, limb forks appear soundly attached at this time.	Remove major deadwood, re inspect in 12 months	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
175	<i>Eucalyptus marginata</i>	13.5	9	380	450	4.6	2.4	Found to be in good health and fair structural condition displaying minor deadwood with some of a size and weight to represent a hazard to proposed future targets, major branch unions appear soundly attached at this time.	Remove deadwood throughout, re inspect in 12 months	1/50,000
176	<i>Eucalyptus gomphocephala</i>	17.5	5.5	290	340	3.5	2.1	Found to be in good health and fair structural condition displaying a tall slender habit, branch unions appear soundly attached at this time, acacia is growing very close to the base	Remove adjacent Acacia, re inspect in 12 months.	1/500,000
177	<i>Eucalyptus gomphocephala</i>	19.5	13	830	990	10.0	3.3	Twin stemmed tree displaying good health and fair structural condition, northern stem is leaning by 20 degrees, major branch unions appear sound with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
178	<i>Eucalyptus marginata</i>	8.5	6	320	360	3.8	2.2	Displaying good health and fair structural condition, major limb forks appear sound with no separation or cracking visible, very light deadwood and epicormic growth visible which are not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
179	<i>Unknown species</i>	25	14	1700	2010	20.4	4.4	Dead tree currently retained for habitat, multiple cavities home to bees and nesting bird species, fungal fruiting bodies at base, remaining limb forks appear soundly attached at this time, basal decay with fire damage evident.	No works required at this time, suitable for retention within garden bed ensuring no pathways are constructed within 10m of base, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
180	<i>Eucalyptus gomphocephala</i>	18.5	10	550	700	6.6	2.8	Found to be in good health and fair structural condition displaying evidence of borer infestation at the tips, major branch attachments appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard to proposed future targets.	Remove deadwood throughout, re inspect in 12 months.	1/50,000
181	<i>Eucalyptus marginata</i>	12	10.5	610	650	7.3	2.8	Displaying good health and fair structural condition, branch unions appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard when proposed pathway is installed beneath.	Remove minor deadwood, re inspect in 12 months	1/50,000
182	<i>Eucalyptus marginata</i>	12	12	770	880	9.2	3.1	Displaying good health and fair structural condition, branch unions appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard when proposed pathway is installed beneath.	Remove minor deadwood, re inspect in 12 months	1/50,000
183	<i>Eucalyptus marginata</i>	8	6	530	640	6.4	2.7	Displaying good health and fair structural condition with the canopy suppressed by adjacent tree, secondary stem leaning in a north easterly direction, limb forks appear soundly attached, very light deadwood and epicormic growth visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
184	<i>Eucalyptus marginata</i>	11	13	890	970	10.7	3.3	Found to be in fair health and structural condition with codominant stems having formed 0.6m, major branch unions appear sound with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard to future targets.	No works required at this time, re inspect in 12 months	1/500,000
185	<i>Eucalyptus gomphocephala</i>	21.5	14	960	1050	11.5	3.4	Found to be in good health and fair structural condition displaying borer damage in the upper canopy, codominant stems have formed at 2.3m with major branch unions appear soundly attached with no separation or cracking visible, lower southern lateral limb over proposed footpath has the propensity for future failure, minor deadwood visible which is not considered to be a hazard at this time.	Remove lower southern lateral to source re inspect in 12 months	1/50,000
186	<i>Eucalyptus marginata</i>	7	6	320	450	3.8	2.4	Displaying good health and fair structural condition with the canopy suppressed by adjacent tree, limb forks appear sound with no separation or cracking visible, light epicormic growth visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	<1/1,000,000
187	Unknown species	7	7.5	570	680	6.8	2.8	Dead tree retained for habitat, limb forks appear sound with no separation or cracking visible, proposed footpath is located nearby.	Remove tree due to location of proposed footpath	<1/1,000,000
188	<i>Eucalyptus marginata</i>	10	9	600	730	7.2	2.9	Displaying good health and fair structural condition with codominant stems having formed at 4.5m and secondary stem located on the eastern side, limb forks appear sound with no separation or cracking visible.	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
189	<i>Eucalyptus marginata</i>	11.5	9	1100	1490	13.2	3.9	Displaying fair health and structural condition with the southern stem having died, remaining stems are leaning in a northerly direction, major limb forks appear sound with no separation or cracking visible, light epicormic growth visible which is not considered to be a hazard at this time.	Remove dead stem, re inspect in 12 months	<1/1,000,000
190	<i>Banksia attenuata</i>	9	7.5	550	580	6.6	2.6	Tree is dead	Remove tree	<1/1,000,000
191	<i>Eucalyptus marginata</i>	11	11	690	750	8.3	2.9	Displaying good health and fair structural condition, major branch unions appear sound with no separation or cracking visible, sporadic minor deadwood held throughout which is not considered to be a hazard to current or future proposed targets	No works required at this time, re inspect in 12 months	<1/1,000,000
192	<i>Eucalyptus gomphocephala</i>	19	15	800	970	9.6	3.3	Found to be in fair health and structural condition displaying a reduced coverage of foliage with borer damage visible in the upper canopy, major branch unions appear sound with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
193	<i>Eucalyptus gomphocephala</i>	8	7	470	550	5.6	2.6	Displaying good health and fair structural condition with the canopy suppressed by adjacent tree and leaning in a northerly direction, limb forks appear sound at this time with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard to proposed future targets	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
194	<i>Eucalyptus marginata</i>	6.5	9	290	410	3.5	2.3	Twin stemmed tree displaying fair health and structural condition, limb forks appear soundly attached, minor deadwood visible throughout with some of a size and weight to represent a hazard with a proposed path located directly beneath the tree.	Prune low hanging growth, remove minor deadwood throughout, re inspect in 12 months.	1/50,000
195	<i>Eucalyptus marginata</i>	12	7	750	720	9.0	2.9	Multi stemmed tree displaying good health and fair structural condition, branch unions appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard to proposed future targets.	No works required at this time, re inspect in 12 months	<1/1,000,000
196	<i>Eucalyptus marginata</i>	10	7	515	750	6.2	2.9	Found to be in fair health and poor structural condition with the tree leaning easterly by 35 degrees and displaying an open basal cavity on the tensile side of the tree, major deadwood visible with some of a size and weight to represent a hazard to future targets.	Remove tree due to poor structure and proximity to proposed footpath	1/50,000
197	<i>Eucalyptus marginata</i>	10.5	6.5	280	340	3.4	2.1	Found to be in good health and fair structural condition displaying a tall slender habit with codominant stems having formed at 2.7m, limb forks appear sound with no separation or cracking visible, light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/50,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
198	<i>Eucalyptus marginata</i>	10.5	8.5	610	710	7.3	2.9	Displaying good health and fair structural condition with codominant stems displaying included bark having formed at 2m, branch unions appear sound with no separation or cracking visible, minor deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/50,000
199	<i>Eucalyptus marginata</i>	9.5	7	410	430	4.9	2.3	Displaying fair health and structural condition with codominant stems having formed at 3m, branch unions appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard to future targets	No works required at this time, re inspect in 12 months	1/500,000
200	<i>Eucalyptus marginata</i>	10.5	9	380	450	4.6	2.4	Displaying good health and fair structural condition with codominant stems having formed at 5m, major limb forks appear soundly attached, minor deadwood visible which is not considered to be a hazard to surrounding targets, fire damage at base visible.	No works required at this time, re inspect in 12 months	1/500,000
201	<i>Eucalyptus gomphocephala</i>	21.5	8.5	560	705	6.7	2.9	Displaying good health and fair structural condition, branch unions appear sound with no separation or cracking visible, very light deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	1/50,000
202	<i>Eucalyptus marginata</i>	8	6	700	790	8.4	3.0	Multi stemmed tree which has died	Remove tree based upon safety grounds	1/5,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
203	<i>Eucalyptus marginata</i>	9	6	230	330	2.8	2.1	Displaying fair health and structural condition, limb forks appear sound with no separation or splitting visible, minor deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove minor deadwood, re inspect in 12 months	1/500,000
204	<i>Eucalyptus marginata</i>	12.5	10.5	840	1030	10.1	3.4	Found to be in fair health and structural condition with codominant stems having formed at 4m and leaning in a northerly direction, bird browsing damage within forks however major branch unions appear sound with no separation or cracking visible, major deadwood visible with some of a size and weight to represent a hazard to surrounding targets, basal decay evident.	Remove major deadwood, re inspect in 12 months	1/50,000
205	<i>Eucalyptus marginata</i>	10	8.5	390	460	4.7	2.4	Displaying good health and fair structural condition with codominant stems having formed at 3m, major branch unions appear sound with no separation or cracking visible, minor deadwood visible with some of a size and weight to represent a hazard to surrounding targets.	Remove minor deadwood throughout, re inspect in 12 months	1/50,000
206	<i>Eucalyptus gomphocephala</i>	21.5	16	970	1080	11.6	3.4	Displaying good health and fair structural condition with secondary stem evident, major branch unions appear sound with no separation or splitting visible, evidence of borer damage noticeable, light deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
207	<i>Eucalyptus gomphocephala</i>	18.5	8	420	560	5.0	2.6	Displaying good health and fair structural condition with the canopy suppressed by adjacent tree and displaying a slight northerly lean, borer damage visible within upper canopy, major limb forks appear soundly attached, very light deadwood visible which is not considered to be a hazard at this time.	No works required at this time, re inspect in 12 months	1/500,000
208	<i>Eucalyptus gomphocephala</i>	18.5	17.5	1310	1600	15.7	4.0	Displaying fair health and poor structural condition with a large column of decay from possible lightning strike noticeable, major deadwood throughout with some of a size and weight to represent a hazard to surrounding targets, major branch unions appear soundly attached at this time, active bee hive apparent.	Remove 3x large dead limbs to sound growth points, remove remaining deadwood throughout, re inspect in 12 months	1/5,000
209	<i>Eucalyptus sideroxylon</i>	12	3.5	230	360	2.8	2.2	Found to be in good health and fair structural condition displaying a tall slender habit, limb forks appear soundly attached at this time, very light deadwood visible which is not considered to be a hazard to proposed future targets	No works required at this time, re inspect in 12 months	1/500,000
210	<i>Eucalyptus sideroxylon</i>	11.5	4	240	360	2.9	2.2	Found to be in good health and fair structural condition displaying a tall slender habit, limb forks appear soundly attached at this time, very light deadwood visible which is not considered to be a hazard to proposed future targets.	No works required at this time, re inspect in 12 months	1/500,000
211	<i>Araucaria columnaris</i>	8	4	250	290	3.0	2.0	Displaying good health and structural condition with the canopy suppressed by adjacent tree	No works required at this time, re inspect in 12 months	<1/1,000,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
212	<i>Pinus pinaster</i>	12	12.5	1250	1310	15.0	3.7	Displaying good health and fair structural condition with the main cluster of limbs having formed at 1.5m, major limbs display included unions and rubbing branches however attachments appear soundly attached with no separation or cracking visible, very light deadwood within the under canopy visible which is not considered to be a hazard at this time, exposed roots noticeable.	No works required at this time, re inspect in 12 months	1/500,000
213	<i>Araucaria columnaris</i>	13.5	4.5	340	430	4.1	2.3	Displaying good health and structural condition with the canopy suppressed by adjacent tree	No works, re inspect in 12 months	<1/1,000,000
214	<i>Pinus pinaster</i>	12	14.4	1330	1230	16.0	3.6	Displaying good health and fair structural condition with the main cluster of limbs having formed at 1.5m, major limbs display included unions and rubbing branches however attachments appear soundly attached with no separation or cracking visible, very light deadwood within the under canopy visible which is not considered to be a hazard at this time, exposed roots noticeable.	No works required at this time, re inspect in 12 months	1/500,000
215	<i>Pinus pinaster</i>	12	13.5	1110	1070	13.3	3.4	Displaying good health and fair structural condition with the main cluster of limbs having formed at 1.5m, major limbs display included unions and rubbing branches however attachments appear soundly attached with no separation or cracking visible, very light deadwood within the under canopy visible which is not considered to be a hazard at this time, exposed roots noticeable.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Tree Tag	Botanical name	Height (m)	Canopy Spread (m)	DBH (mm)	DRF (mm)	TPZ	SRZ	Health & condition	Recommendations	QTRA
216	<i>Araucaria columnaris</i>	12	4	300	350	3.6	2.1	Displaying good health and structural condition with the canopy suppressed by adjacent tree	No works required at this time, re inspect in 12 months	<1/1,000,000
217	<i>Araucaria columnaris</i>	13.5	3	370	460	4.4	2.4	Displaying good health and fair structural condition with the tree slightly leaning north, basal decay visible.	No works required at this time, re inspect in 12 months	<1/1,000,000
218	<i>Araucaria columnaris</i>	13.5	4.5	430	530	5.2	2.5	Displaying good health and fair structural condition with codominant stems having formed at 8.5m	No works required at this time, re inspect in 12 months	<1/1,000,000
219	<i>Eucalyptus marginata</i>	7.5	7.5	950	1350	11.4	3.8	Displaying fair health and poor structural condition with codominant stems having formed at 3m, previous major limb removals visible with a column of decay noticeable on southern stem, active termite's visible, minor deadwood visible which is not considered to be a hazard to surrounding targets.	No works required at this time, re inspect in 12 months	1/500,000
220	<i>Eucalyptus marginata</i>	14.5	10.5	970	1060	11.6	3.4	Displaying good health and fair structural condition, major limb forks display included unions with no separation or cracking visible, major limb removed on northern side, very light deadwood visible, exposed roots.	No works required at this time, re inspect in 12 months	1/500,000

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Tree Survey – Princess Wallington Reserve, Balga

Summary/ Discussion

This consultant's inspection of the 220 trees located within the proposed planned upgrades for the Princess Wallington Reserve revealed they were predominantly in good/fair health and fair structural condition at this time.

A total of 19 different species were located within the planned upgrade area of the park.

Botanical name	Common name
<i>Allocasuarina torulosa</i>	Forest Oak
<i>Araucaria columnaris</i>	Cook Pine
<i>Banksia attenuata</i>	Candlestick Banksia
<i>Callistemon 'kings park special'</i>	Bottlebrush
<i>Casuarina cunninghamiana</i>	She-oak
<i>Corymbia calophylla</i>	Marri
<i>Corymbia ficifolia</i>	Red Flowering Gum
<i>Eucalyptus botryoides</i>	Southern Mahogany
<i>Eucalyptus camaldulensis</i>	Red River Gum
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus marginata</i>	Jarra
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Eucalyptus nicholii</i>	Narrow-Leaved Black Peppermint
<i>Eucalyptus robusta</i>	Swamp Mahogany
<i>Eucalyptus rudis</i>	Flooded Gum
<i>Eucalyptus victrix</i>	Western Coolibah
<i>Eucalyptus sideroxylon</i>	Ironbark
<i>Pinus pinaster</i>	Maritime Pine
<i>Tipuana tipu</i>	Rosewood

Of the 220 trees inspected:

- 60 trees are recommended for remedial pruning works to further reduce the risk to potential future targets. Works recommended consist of deadwood removal and weight reduction to limbs considered to be at an increased likelihood of failure due to excessive limb loading at the distal sections.
- 24 trees are recommended for removal due to either being dead, found to have poor structure due to large amounts of deadwood/dieback and remedial pruning works unlikely to improve the overall health and risk to surrounding targets.
- 136 trees required no works at this time.

An excel spreadsheet outlining the recommended tree works accompanies this report.

Pruning is to be carried out by a qualified Arborist in a manner consistent with AS 4373-2007 *Pruning of Amenity Trees*.

The future management, maintenance and condition of the trees have a considerable bearing on their location, with safety to property and persons the main priority. Therefore, each tree retained is recommended to be re-inspected on an annual basis to ensure that the trees remain healthy and in a structurally sound condition with a level of risk that is acceptable.

Tree Survey – Princess Wallington Reserve, Balga

QTRA results:

213 trees passed the QTRA Risk of harm calculation at this time, with the Target levels set at an indicative target of 1 & 2 at this time due to existing park numbers that currently use the park especially on Friday's when the community markets are held. QTRA calculations were also assessed by looking at the trees current location in relation to the Preliminary concept plan provided by the City of Stirling outlining the proposed upgrades planned for the park including the new nature play area and new footpaths planned in the upgrades.

78 trees received a risk of harm outcome of <1/1,000,000.

79 trees received a risk of harm outcome of 1/500,000.

56 trees received a risk of harm outcome of 1/50,000.

These outcomes reflect that these trees currently pose an acceptable level of risk to the public.

7 trees did not pass the QTRA Risk Assessment with a risk of harm ratio of 1/5,000. These trees were predominately located around the proposed nature play area of the park with mature trees currently displaying large amounts of major deadwood which would pose a high risk of failure onto targets below.

If the target in relation to the tree changes within the coming year, for example, if the proposed landscaping construction plan changes to install a new item of play equipment directly underneath the tree or the route for a planned footpath changes, the tree/s need to be re-assessed when construction has been implemented to ensure that the QTRA Risk of Harm calculation remains acceptable.

Considerations to be taking into account when construction commences:

More than 90% of trees' roots are located in the upper 1.0m of soil depth and tree roots generally extend well beyond the canopy spread of the tree.

Machinery and vehicle movements in proximity to trees and the stock piling of building materials beneath trees can damage both tree roots and the lower sections of the canopy and need to be restricted.

Where trees are being retained it is crucial that designers, contractors and sub-contractors are informed of the likely extent of tree roots and the potential damage to roots and lower branches from the construction of infrastructure too close to trees.

The tree protection zones (TPZ) and structural root zones (SRZ) according to the Australian standards AS 4970-2009 *Protection of trees on development sites* are included within this report.

It is recommended that:

- Tree Protection Fencing is erected around each tree or groups of trees to prevent damage to canopies and the root zone.
- Soil levels around trees out to the TPZ radius are not to be raised or lowered.

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Tree Survey – Princess Wallington Reserve, Balga

- Pavements are to be installed slightly above natural grade to reduce potential root disturbance.
- When clearing the site and removing overburden, excavators should be fitted with a flat edge bucket and a spotter employed to check for tree roots. Where damaged, roots are to be cleanly cut using a hand saw or secateurs. The project Arborist is to be advised if more than 3 x 30mm diameter roots are cut on any tree which is being retained to ensure the trees remain low risk and structurally stable.
- Irrigation main lines, pipes and sprinklers are to be hand dug within TPZ radius of trees.
- Services design should seek to locate lines outside of the TPZ of trees to be retained wherever possible and ensure under boring is utilised within the TPZ radius.
- To minimise stresses upon the trees it is recommended to provide supplementary watering to the retained trees once per week with added wetting agent, approximately 600 – 1,000 litres per tree is required.



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Tree Survey – Princess Wallington Reserve, Balga

Limitation of liability

Trees can be managed, but they cannot be controlled. To live or work near a tree involves a degree of risk.

This report only covers identifiable defects present at the time of inspection. Paperbark Technologies accepts no responsibility and cannot be held liable for any structural defect or unforeseen event/situation or adverse weather conditions that may occur after the time of inspection.

Paperbark Technologies cannot guarantee that the tree/s contained within this report will be structurally sound under all circumstances, and is not able to detect every condition that may possibly lead to the structural failure of a tree. Paperbark Technologies cannot guarantee that the recommendations made will categorically result in the tree being made safe.

Unless specifically mentioned this report will only be concerned with above ground inspections, as such all observations have been visually assessed from ground level. Trees are living organisms and as such cannot be classified as safe under any circumstances. Trees fail in ways that the arboriculture industry does not fully understand.

The recommendations are made on the basis of what can be reasonably identified at the time of inspection therefore Paperbark Technologies accepts no liability for any recommendations made.

All care has been taken to obtain information from reliable sources, however Paperbark Technologies can neither guarantee nor be responsible for the accuracy of information provided by others.

In the event that reinspection of the tree/s is recommended it is the client's responsibility to make arrangements with Paperbark Technologies.

References

Mattheck, C & Breloer H, (1994) *The body language of trees, a handbook for failure analysis*. London TSO (The Stationery Office)

Lonsdale David, (1999) *Principles of Tree Hazard Assessment and Management*. London TSO (The Stationery Office).

Hayes, Ed (2007) *Evaluating Tree Defects, second edition*. Safetrees Rochester.

Australian Standard 4373-2007 *Pruning of amenity trees*.

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Urban, James (2008) *Up by Roots – Healthy Soils and Trees in the Built Environment* International Society of Arboriculture, Champaign, Illinois USA

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Tree Survey – Princess Wallington Reserve, Balga

Overall map of site showing close up sections of Map 1 - 5



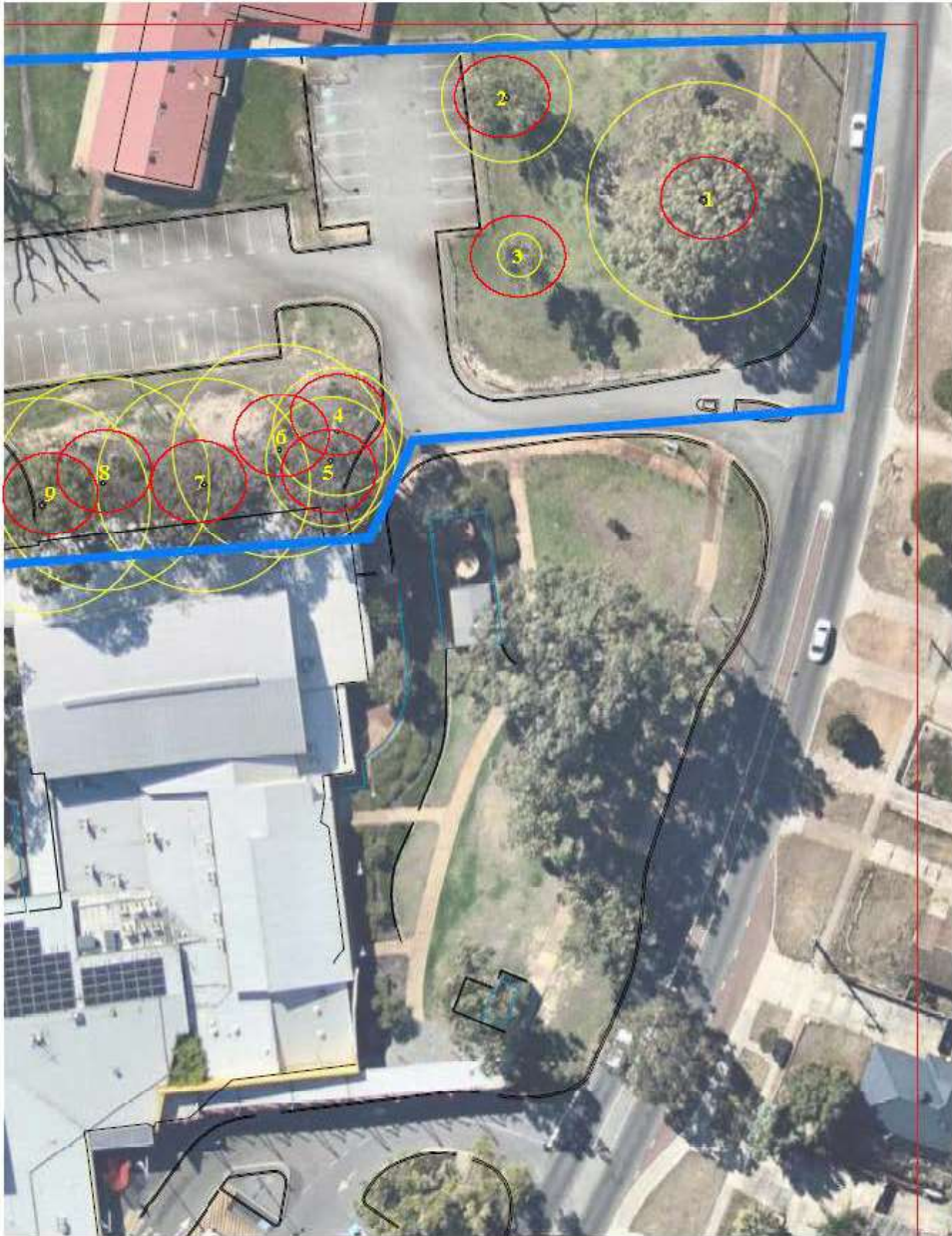
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Tree Survey – Princess Wallington Reserve, Balga

Maps showing tree locations

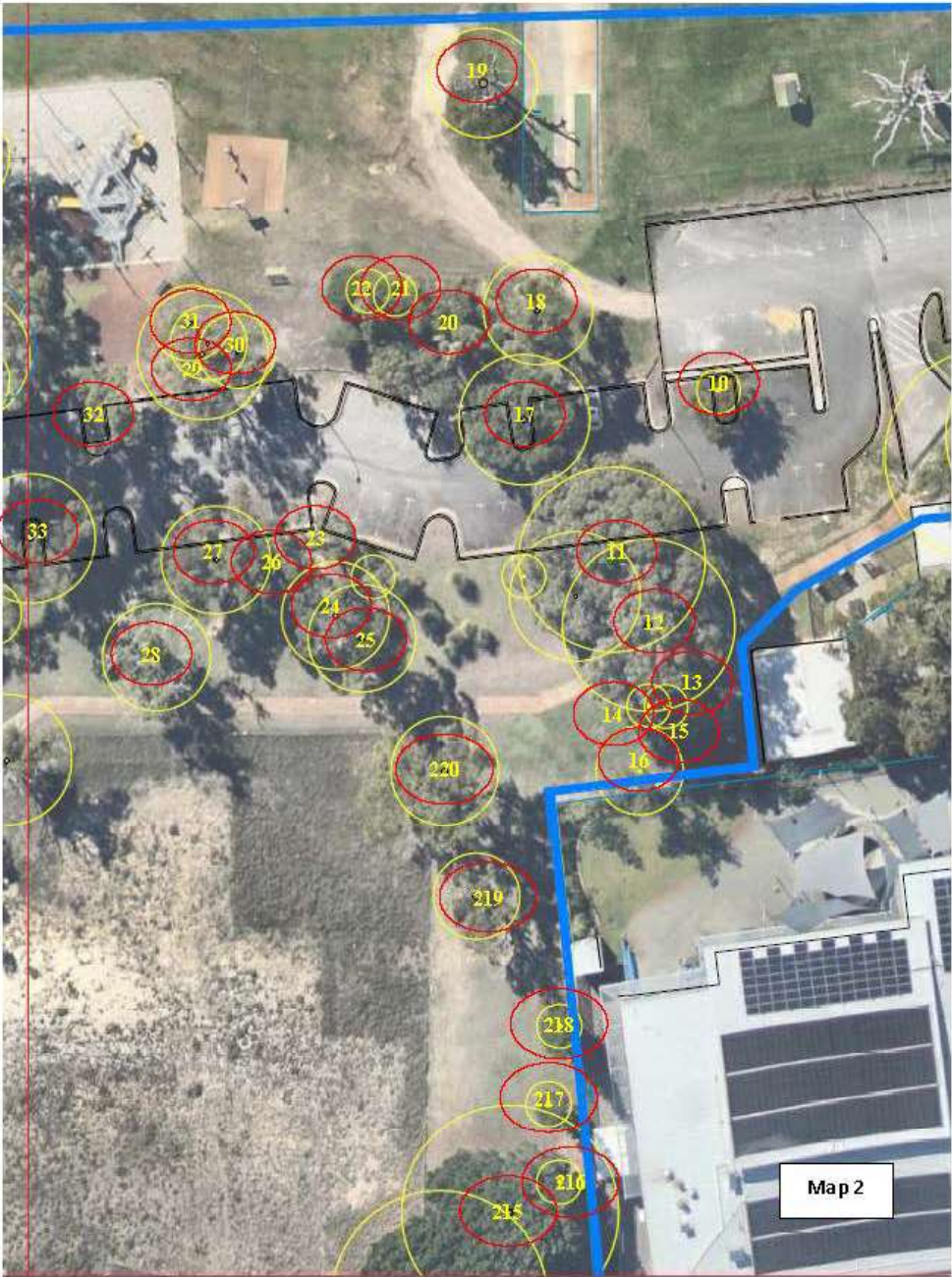
Map 1



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Map 2



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Map 3

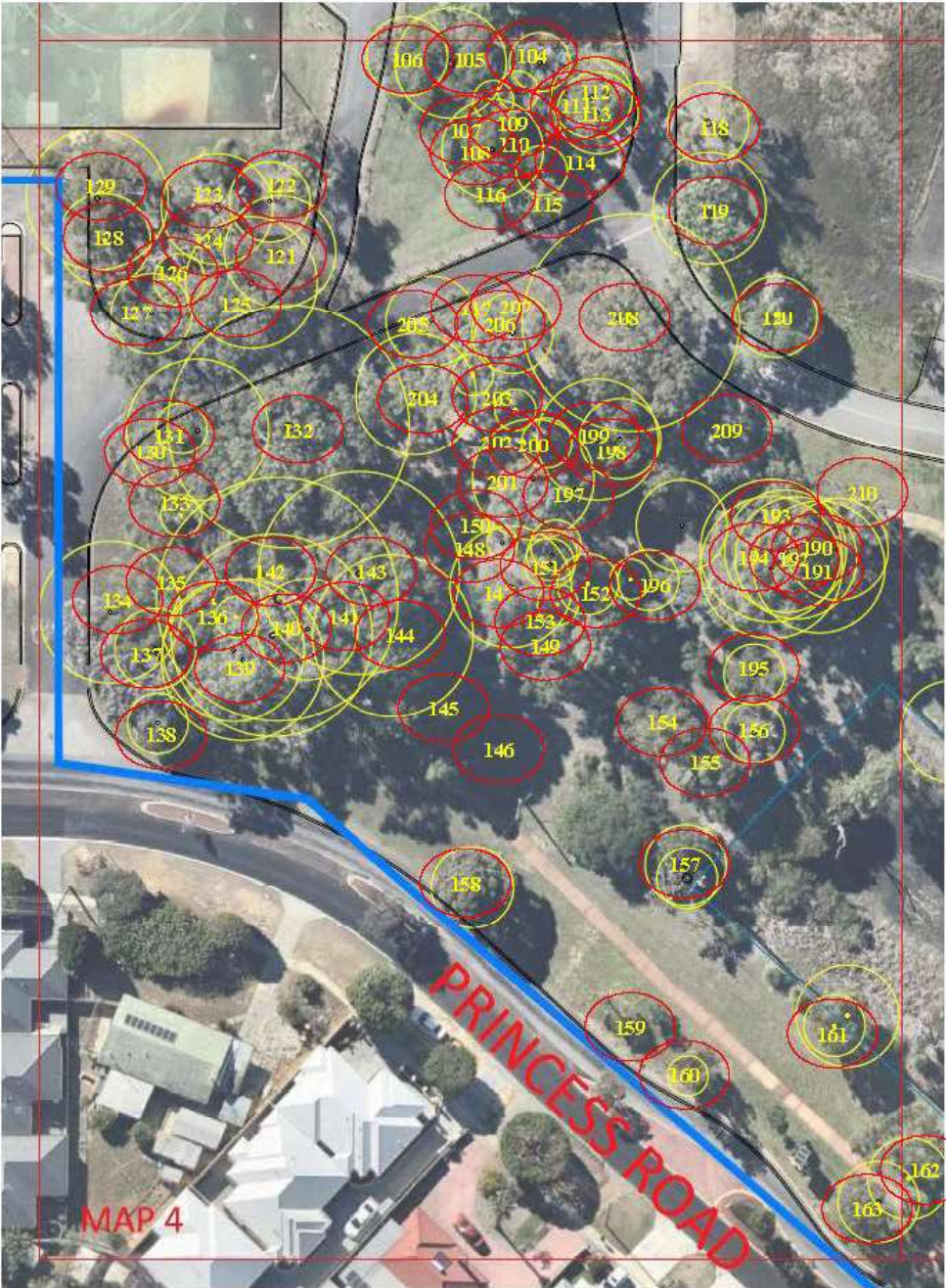


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Tree Survey – Princess Wallington Reserve, Balga

Map 4

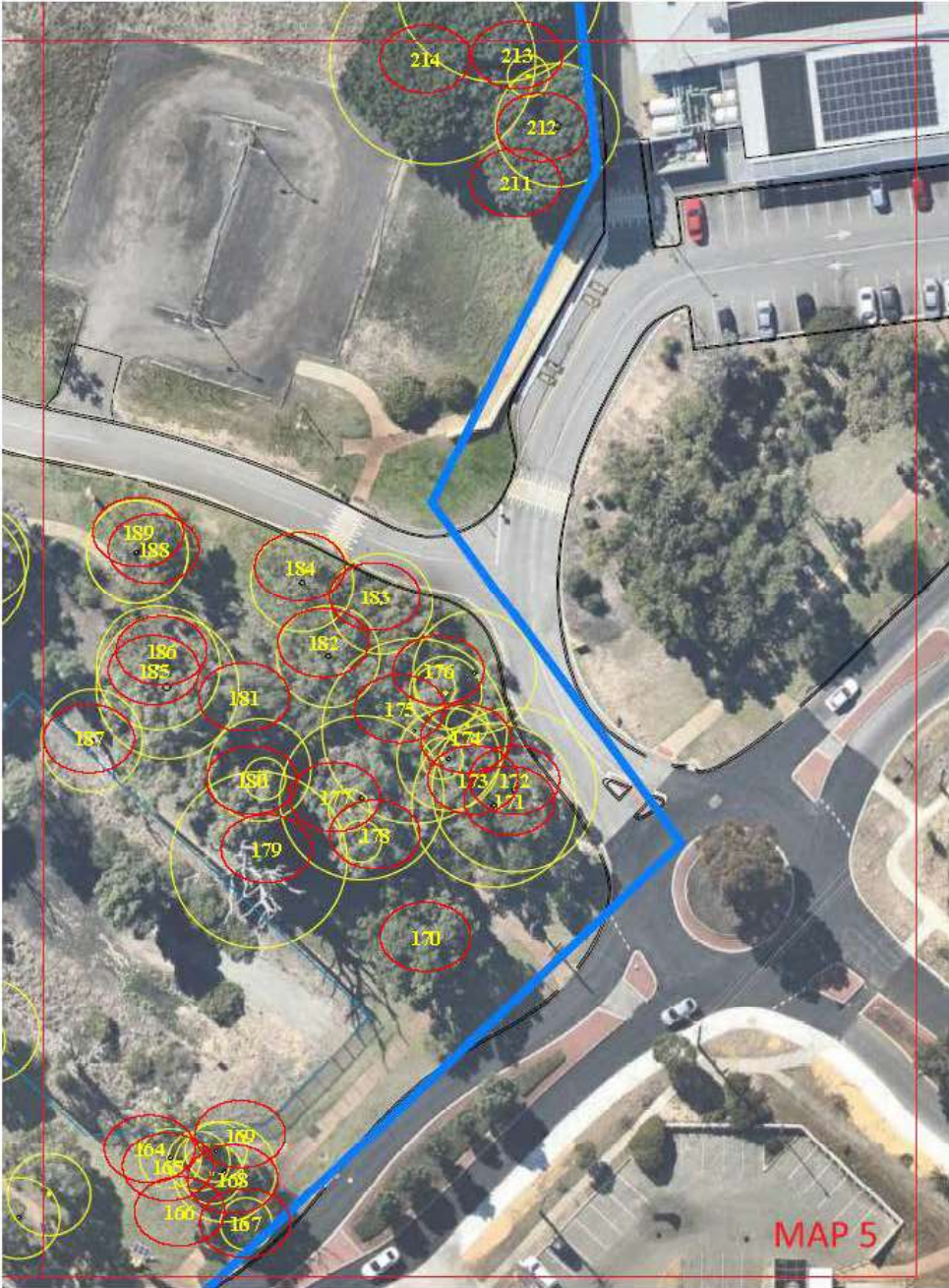


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Map 5



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Tree Survey – Princess Wallington Reserve, Balga

Tree Photos



Tree 1



Tree 2



Tree 3



Tree 4



Tree 5



Tree 6



Tree 7



Tree 8



Tree 9



Tree 10



Tree 11



Tree 12

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Tree 13



Tree 14



Tree 15



Tree 16



Tree 17



Tree 18



Tree 19



Tree 20



Tree 21



Tree 22



Tree 23



Tree 24

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Tree 25



Tree 26



Tree 27



Tree 28



Tree 29



Tree 30



Tree 31



Tree 32



Tree 33



Tree 34



Tree 35



Tree 36

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Tree 37



Tree 38



Tree 39



Tree 40



Tree 41



Tree 42



Tree 43



Tree 44



Tree 45



Tree 46



Tree 47



Tree 48

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Tree 49



Tree 50



Tree 51



Tree 52



Tree 53



Tree 54



Tree 55



Tree 56



Tree 57



Tree 58



Tree 59



Tree 60

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Tree 61



Tree 62



Tree 63



Tree 64



Tree 65



Tree 66



Tree 67



Tree 68



Tree 69



Tree 70



Tree 71



Tree 72

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Tree 73



Tree 74



Tree 75



Tree 76



Tree 77



Tree 78



Tree 79



Tree 80



Tree 81



Tree 82



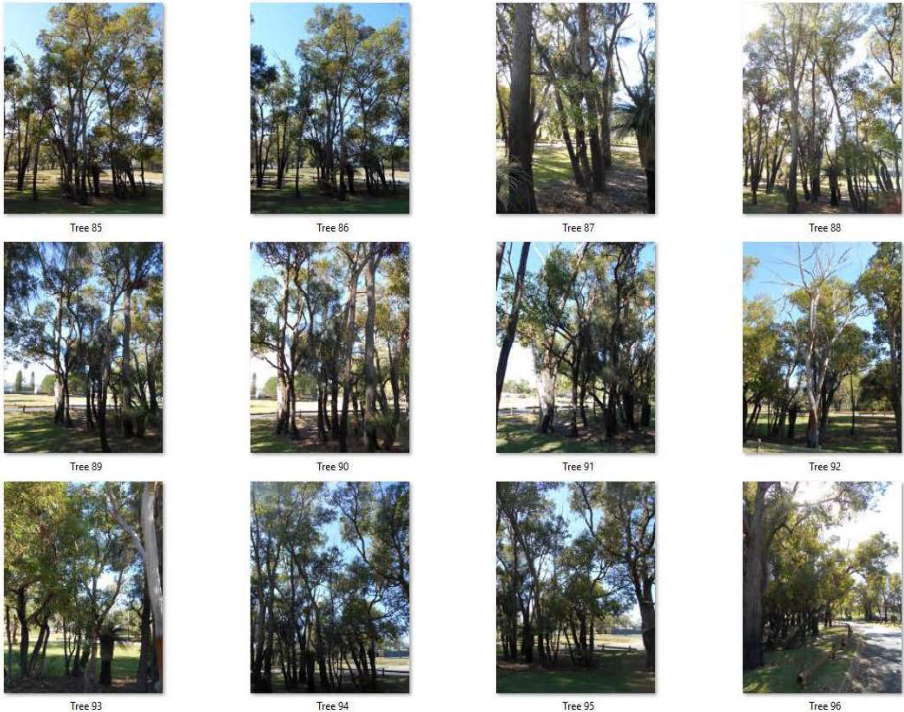
Tree 83



Tree 84

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Tree 97



Tree 98



Tree 99



Tree 100



Tree 101



Tree 102



Tree 103



Tree 104



Tree 105



Tree 106



Tree 107



Tree 108

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Tree 109



Tree 110



Tree 111



Tree 112



Tree 113



Tree 114



Tree 115



Tree 116



Tree 117



Tree 118



Tree 119



Tree 120

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Tree 121



Tree 122



Tree 123



Tree 124



Tree 125



Tree 126



Tree 127



Tree 128



Tree 129



Tree 130



Tree 131



Tree 132

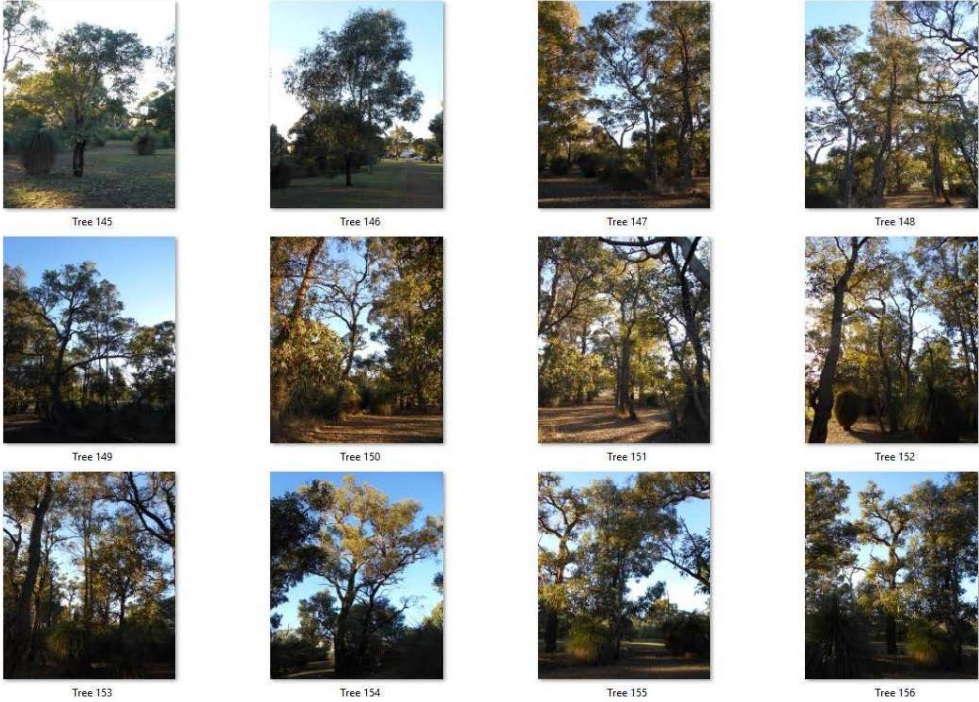
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Tree 157



Tree 158



Tree 159



Tree 160



Tree 161



Tree 162



Tree 163



Tree 164



Tree 165



Tree 166



Tree 167



Tree 168

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Tree 169



Tree 170



Tree 171



Tree 172



Tree 173



Tree 174



Tree 175



Tree 176



Tree 177



Tree 178



Tree 179



Tree 180

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Tree 181



Tree 182



Tree 183



Tree 184



Tree 185



Tree 186



Tree 187



Tree 188



Tree 189



Tree 190



Tree 191



Tree 192

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Tree 193



Tree 194



Tree 195



Tree 196



Tree 197



Tree 198



Tree 199



Tree 200



Tree 201



Tree 202



Tree 203



Tree 204

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Tree 205



Tree 206



Tree 207



Tree 208



Tree 209



Tree 210



Tree 211



Tree 212

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Tree 213



Tree 214



Tree 215



Tree 216



Tree 217



Tree 218



Tree 219



Tree 220

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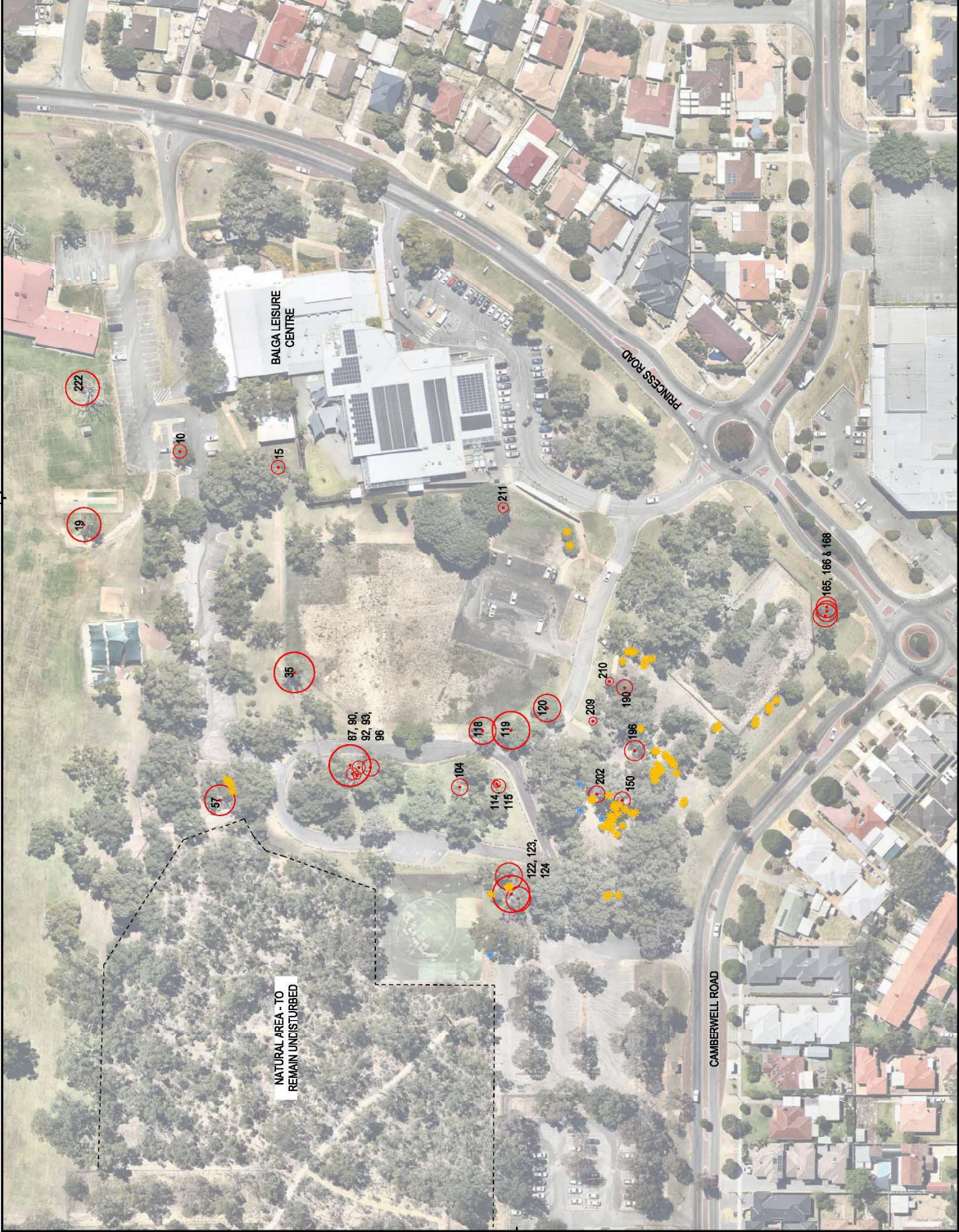
Attachment 4 – Identified Trees for Removal

SCHEDULE: EXISTING TREES TO BE REMOVED

TREE TAG	BOTANICAL NAME	SALVAGE FOR REUSE	Removed for QTAR recommendation	Removed for design reasons	Comment	Removed by CoS as Forward Works Contract	Removed as part of MAIN contract works
10	<i>Eucalyptus marginata</i>	Yes	✓	✓	Tree in redesigned car park area.	✓	✓
15	<i>Eucalyptus marginata</i>	Yes	✓	<input type="checkbox"/>		✓	<input type="checkbox"/>
19	<i>Eucalyptus marginata</i>	Yes	✓			✓	
35	<i>Eucalyptus marginata</i>	Yes	✓			✓	
57	<i>Banksia species</i>	Yes	✓			✓	
87	<i>Eucalyptus marginata</i>	Yes	✓			✓	
90	<i>Casuarina cunninghamiana</i>		✓			✓	
92	<i>Eucalyptus marginata</i>	Yes	✓			✓	
93	<i>Eucalyptus marginata</i>	Yes	✓			✓	
96	<i>Eucalyptus marginata</i>	Yes	✓			✓	
104	<i>Eucalyptus marginata</i>	Yes	✓			✓	
114	<i>Eucalyptus marginata</i>	Yes	✓			✓	
115	<i>Eucalyptus marginata</i>	Yes	✓			✓	
118	<i>Eucalyptus marginata</i>	Yes	✓			✓	
119	<i>Tipuana tipu</i>		<input type="checkbox"/>	✓	Tree located in new car parking area.		✓
120	<i>Tipuana tipu</i>		<input type="checkbox"/>	✓	Tree located in new car parking area.		✓
122	<i>Eucalyptus camaldulensis</i>	Yes	✓			✓	
123	<i>Eucalyptus marginata</i>	Yes	✓			✓	
124	<i>Eucalyptus marginata</i>	Yes	✓			✓	
150	<i>Eucalyptus marginata</i>	Yes	✓			✓	
165	<i>Eucalyptus marginata</i>	Yes	✓			✓	
166	<i>Eucalyptus marginata</i>	Yes	✓			✓	
168	<i>Eucalyptus marginata</i>	Yes	✓			✓	
187	<i>Unknown species</i>		✓			✓	
190	<i>Banksia attenuata</i>	Yes	✓			✓	

Department of Water and Environmental Regulation – Department of Mines, Industry Regulation and Safety

196	<i>Eucalyptus marginata</i>	Yes	✓	✓
202	<i>Eucalyptus marginata</i>	Yes	✓	✓
209	<i>Eucalyptus sideroxylon</i>	Yes	✓	Tree located in new car parking area. ✓
210	<i>Eucalyptus sideroxylon</i>	Yes	✓	Tree located in new car parking area. ✓
211	<i>Araucaria columnaris</i>		<input type="checkbox"/>	Tree located in new car parking area. ✓
221	Unknown species	Yes	✓	Not part of QTAR report. Dead tree located within new car parking area. ✓



- TREE TO BE REMOVED
- ★ GRASS TREE TO BE RELOCATED
- TREE STUMP TO BE REMOVED

City of Stirling 		PRINCESS WALLINGTON PARKLAND TREE REMOVALS		SHEET 1 OF 1 DRAWING NO. LSP01
PREPARED BY CC	CHECKED BY CC	DATE 26/05/19	A.I.D. DATE 05/06/19	INTS APPROVED
APPROVED BY CC	CHECKED BY CC	DATE 05/06/19	A.I.D. DATE 05/06/19	INTS APPROVED
DATE 05/06/19	BY CC	DATE 05/06/19	A.I.D. DATE 05/06/19	INTS APPROVED
CLEARING PERMIT				

Attachment 5 – Planting Species List

Species	Common Name	Size	Flowers	Colour	Shade To
Trees					
<i>Banksia attenuata</i>	Candle Banksia	8	Sep-Oct	yellow	no
<i>Banksia grandis</i>	Bull Banksia	8	Sep-Dec	yellow	no
<i>Banksia menziesii</i>	Firewood Banksia	6	Feb-Aug	orange	partial
<i>Banksia prionotes</i>	Saw Tooth Banksia	4	Feb-Aug	orange	partial
<i>Corymbia ficifolia</i>	Red-flowering Gum	7	Dec-Feb	white	partial
<i>Eucalyptus laeliae</i>	Darling Range Ghost Gum	12	Dec-Feb	white	partial
<i>Eucalyptus gomphocephala</i>	Tuart	30	Jan-Apr	cream	no
<i>Eucalyptus lane-pooleii</i>	Salmon Ghost Gum	8	Jan-Sep	white	partial
<i>Eucalyptus marginata</i>	Jarrah	25	Sep-Feb	cream	no
<i>Eucalyptus tottiana</i>	Prickly Bark	10	Feb	cream	partial
<i>Hymenosporum flavum</i>	Native Frangipani	8	All yesar	brown	yes
<i>Xanthorrhoea preissii</i>	Grass Tree	3	Nov-Jan	white	yes
<i>Xylomelum occidentale</i>	Woody Pear	6	Dec-Feb	cream	no
Shrubs					
<i>Allocasuarina humilis</i>	Dwarf Sheoak	1.5	May-Nov	orange	partial
<i>Alyxia buxifolia</i>	Dysentery Bush	1.5	Oct-Nov	white	partial
<i>Anigozanthos humilis</i>	Catspaw	0.5	Aug-Oct	orange	partial
<i>Anigozanthos humilis</i>	Catspaw	0.5	Aug-Oct	yellow/red	yes
<i>Anigozanthos manglesii</i>	Mangles Kangaroo Paw	0.5	Sep-Nov	green	partial
<i>Aotus procumbens</i>	Common Aotus	0.6	Aug-Oct	yellow	yes
<i>Banksia dallanneyi</i>	Couch Honey-pot	0.5	May-Sep	gold	yes
<i>Banksia spinulosa</i>	Birthday Candles	0.5	Feb-Aug	orange	partial
<i>Beaufortia elegans</i>	Elegant Beaufortia	1	Nov-Feb	purple	yes
<i>Bossiaea eriocarpa</i>	Common Brown Pea	0.5	Jul-Oct	orange	partial
<i>Burchardia congesta</i>	Milkmaids	0.5	Aug-Oct	white	yes
<i>Calothamnus sanguineus</i>	Silky Leaved Blood Flower	1	Mar-Nov	red	partial
<i>Calytrix angulata</i>	yellow Starflower	1	Sep-Dec	yellow	partial
<i>Conostylis aculeata</i>	Prickly Conostylis	0.5	Sep-Oct	yellow	partial
<i>Conostylis candicans</i>	Grey Cottonheads	0.5	Aug-Sep	yellow	partial
<i>Dianella revoluta</i>	Flax Lily	0.6	Jun-Aug	purple	yes
<i>Eremophila nivea</i>	Emu Bush	0.5	Jul-Jan	purple	partial
<i>Ficinia nodosa</i>	Nobby Club-rush	0.6	All yesar	brown	yes
<i>Gastrolobium capitatum</i>	Bacon and Eggs	0.5	Jun-Sep	yellow	no
<i>Gastrolobium nervosum</i>	Dune Eggs and Bacon	0.5	Jul-Nov	yellow/red	no
<i>Gompholobium aristatum</i>	yellow Wedge Pea	0.5	Jul-Dec	yellow	no
<i>Gompholobium confertum</i>	Purple Heath Pea	1	Sep-Dec	purple	partial
<i>Gompholobium scabrum</i>	Painted Lady	0.5	Aug-Sep	purple	partial
<i>Gompholobium tomentosum</i>	yellow Pea	0.5	Aug-Dec	yellow	no
<i>Grevillea obtusifolia</i>	Gingin Gem	1	Jul-sep	white	partial
<i>Hibbertia cunififormis</i>	Cutleaf Guinea Flower	1	Sep-Dec	yellow	yes
<i>Hypocalymma robustum</i>	Swan River Myrtle	1	Jul-Oct	pink	no

<i>Melaleuca systema</i>	Coastal Honeymyrtle	1	Sep-Dec	cream	yes
<i>Melaleuca thymoides</i>	Sand Wattle Myrtle	1	Sep-Jan	yellow	yes
<i>Lomandra longifolia</i>	Long-leaf Mat-Rush	0.6	Sep-Jan	cream	yes
<i>Trachymene coerulea</i>	Blue Lace Flower	0.5	Oct-Feb	blue	partial
<i>Verticordia acerosa</i>	yellow Verticordia	1	Sep-Dec	yellow	partial
Groundcovers					
<i>Banksia repens</i>	Creeping Banksia	0.3	Sep-Dec	cream	yes
<i>Banksia spinulosa</i>	Birthday Candles	0.3	Feb-Aug	orange	yes
<i>Burchardia congesta</i>	Milkmaids	0.3	Aug-Oct	white	yes
<i>Chorizema humile</i>	Prostrate Flame Pea	0.4	Sep-Dec	orange	yes
<i>Conostylis candicans</i>	Grey Cottonheads	0.3	Aug-Sep	yellow	partial
<i>Darwinia citriodora</i>	Lemon-scented Myrtle	0.4	Sep-Dec	orange	yes
<i>Eremophila glabra</i>	Tar Bush	0.3	Jul-Jan	orange	partial
<i>Ficinia cernua</i>	Nodding Club-rush	0.2	All yesar	brown	yes
<i>Hemiandra pungens</i>	Snake Bush	0.1	All yesar	purple	partial
<i>Hibertia scandens</i>	Snake vine	0.2	Aug-Jan	yellow	yes
<i>Kennedia nigricans</i>	Black Coral Pea	0.1	Jul-Nov	black	yes
<i>Laxmannia squarrosa</i>	Nodding Lily	0.1	Aug-Nov	white	yes
<i>Muehlenbeckia adpressa</i>	Climbing Lignum	0.3	Sep-Dec	yellow	yes
<i>Myoporum partialvifolium</i>	Creeping boobialla	0.2	All yesar	white	yes
<i>Orthrosanthus laxus</i>	Morning Iris	0.4	Aug-Oct	mauve	yes
<i>Patersonia occidentalis</i>	Western Patersonia	0.4	Sep-Dec	purple	yes
<i>Pimelia spectabilis</i>	Bunjong	1.4	Aug-Dec	purple	partial

REV	DATE	ISSUE
A	26/10/2018	50% DESIGN DEVELOPMENT PACKAGE
B	11/12/2018	100% DESIGN DEVELOPMENT PACKAGE

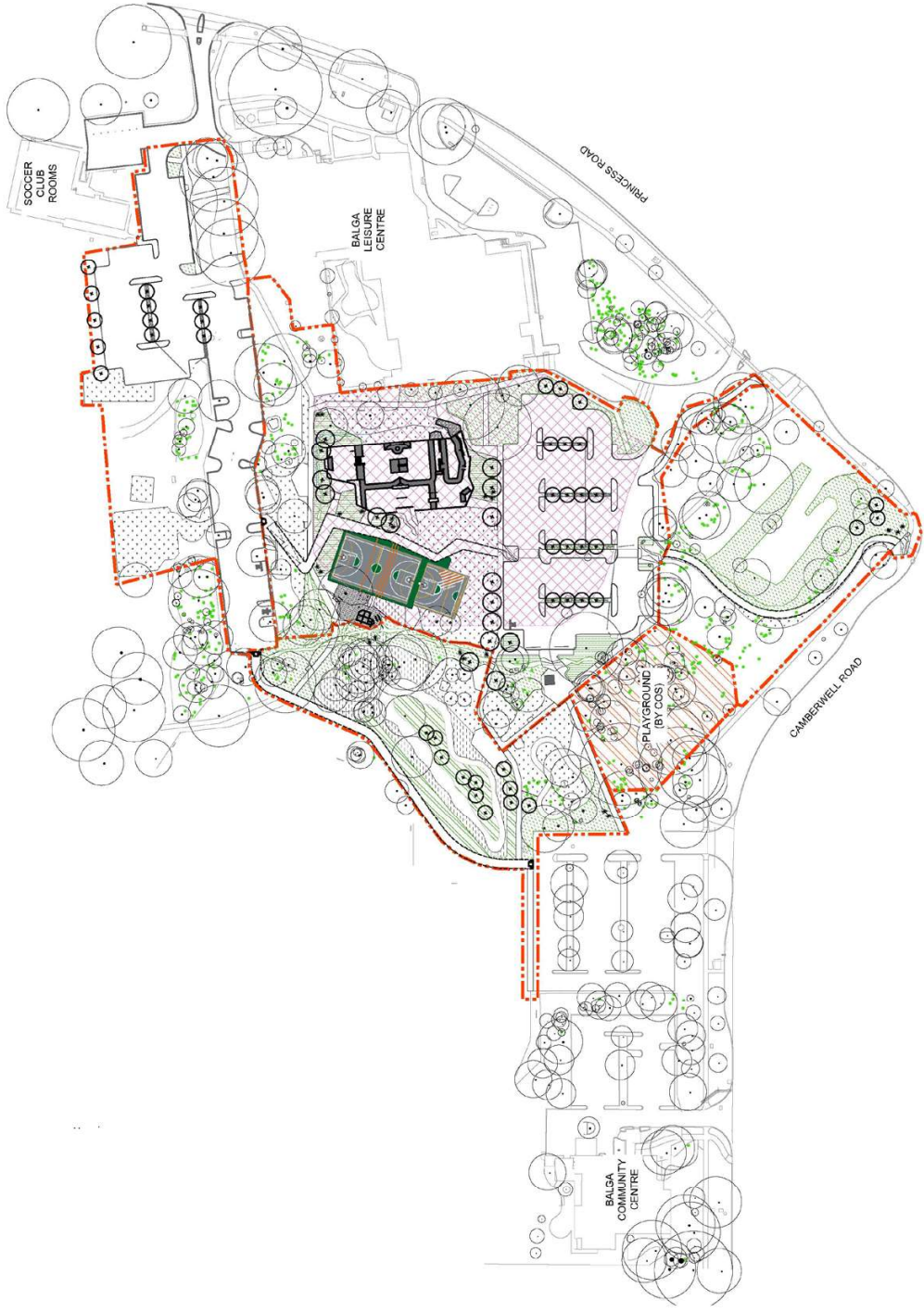
LEGEND

BOUNDARIES

- EXISTENT OF WORKS
- EXTENT OF ASSISTED GEO/VEGETATION

SOFTWORKS

- EXISTING TREE TO BE RETAINED
- PROPOSED TREE
- TRANSPLANT GRASS TREE
- MASS PLANTING TYPE 1 (30mm 3000 x 150mm GRAVEL)
- MASS PLANTING TYPE 2 (100mm 3000 x 150mm MULCH)
- MASS PLANTING TYPE 3 (100mm 3000 x 150mm MULCH)
- MASS PLANTING TYPE 4 (100mm 3000 x 150mm MULCH)
- TURF
- MULCH ONLY (100mm 3000 x 150mm)



NOTES

ALL DRAWINGS TO BE READ IN COLOUR.

ALL COMPLETED WORKS TO BE PROTECTED AND MADE GOOD ANY DAMAGE TO EXISTING PLANTING OR STRUCTURES TO BE MADE GOOD TO ORIGINAL CONDITION. ALL WORK WITHIN DRIP LINES OF EXISTING TREES IS TO BE DONE BY HAND.

ALL SET OUTS TO BE DONE BY A LICENSED SURVEYOR. THESE SET OUTS ARE TO BE VERIFIED BY AN INDEPENDENT SURVEYOR UPON REQUEST.

FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTOR SHALL NOTIFY SUPERINTENDENT OF ANY BIRTH/THIEF DISCREPANCIES PRIOR TO UNDERTAKING WORK.

UNLESS OTHERWISE SPECIFIED, ALL PLANTING IS TO BE DONE IN ACCORDANCE WITH THE CITY OF STIRLING PLANTING GUIDE.



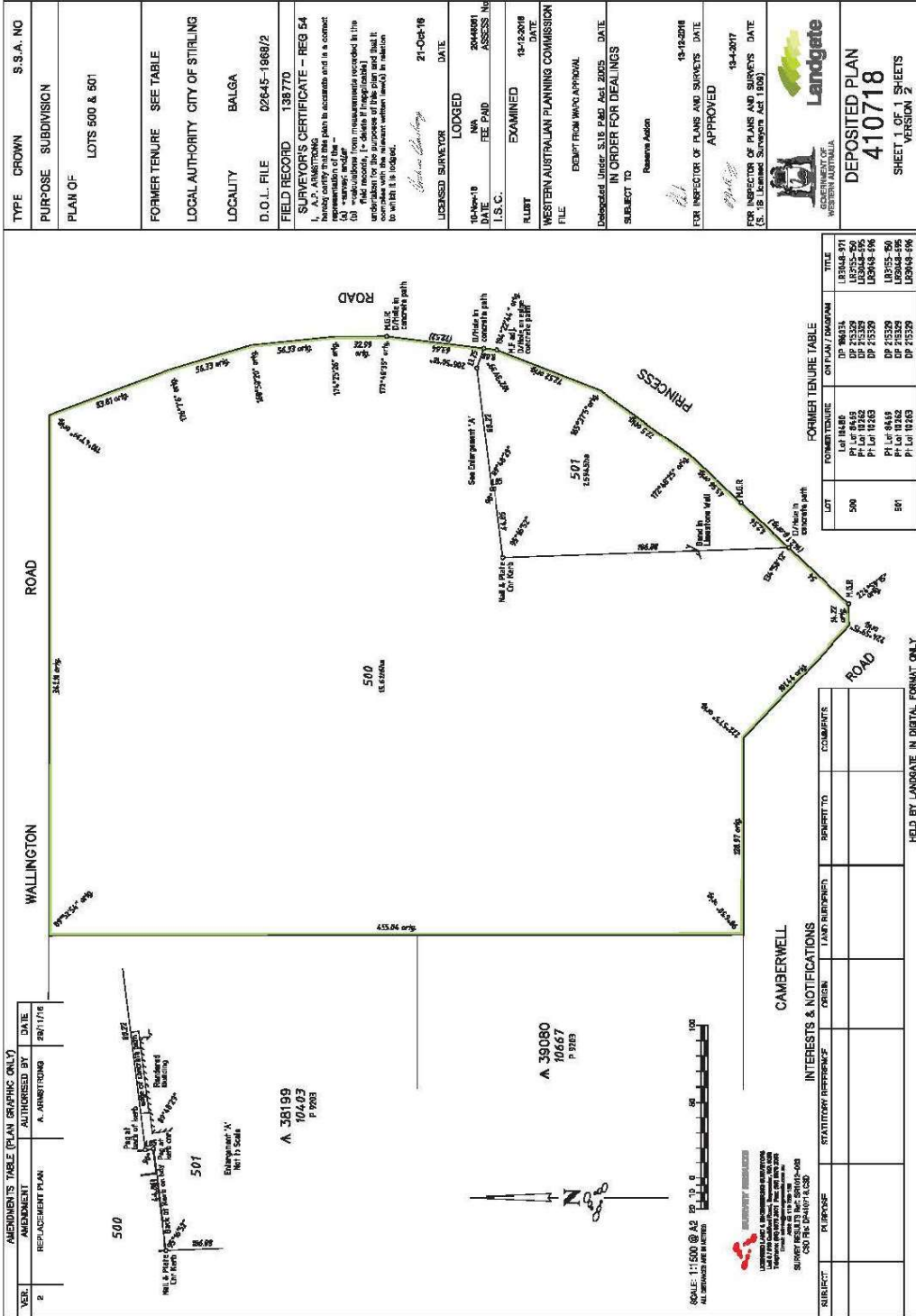
**PRINCESS WALLINGTON
COMMUNITY PARKLAND**
CITY OF STIRLING
PROJECT NO: 4187-17

DESIGN DEVELOPMENT
AUTHOR: LINDA CHECKED: P.J.
REV: B

PLANTING

L3-1





TYPE	CROWN	S.S.A. NO
PURPOSE	SUBDIVISION	
PLAN OF	LOTS 500 & 501	
FORMER TENURE	SEE TABLE	
LOCAL AUTHORITY	CITY OF STIRLING	
LOCALITY	BALGA	
D.O.L. FILE	D2645-1968/2	
FIELD RECORD	138770	
SURVEYOR'S CERTIFICATE – REG 54		
<p>I, S.P. ASHROCK, being duly sworn, depose and say that this plan is accurate and is a correct representation of the measurements recorded in the field notes, insofar as it respects the boundaries and areas shown thereon, and that it conforms with the relevant provisions of the Survey Act 1988.</p>		
LICENCED SURVEYOR	DATE	21-Oct-16
LOGGED		
DATE	20/06/01	
ASSESS. No		
I.S.C.		
EXAMINED		
DATE	13-12-2016	
WESTERN AUSTRALIAN PLANNING COMMISSION		
FILE		
EXEMPT FROM WAPC APPROVAL		
Delegated Under S.16 PAO Act 2005	DATE	
SUBJECT TO		
IN ORDER FOR DEALINGS		
FOR INSPECTOR OF PLANS AND SURVEYS DATE	13-12-2016	
APPROVED		
FOR INSPECTOR OF PLANS AND SURVEYS DATE	13-12-2017	
FOR INSPECTOR OF PLANS AND SURVEYS DATE	13-12-2017	
(S. 18 Landgate Surveyors Act 1988)		

LOT	FORMER TENURE	ON PLAN / ON MAP	TITLE
500	Lot 1848P P.Lot 1828S P.Lot 1828S P.Lot 1828S	DP 98434 DP 21339 DP 21339 DP 21339	LIBRAB 871 LIBRAB 871 LIBRAB 871 LIBRAB 871
501	P.Lot 8419 P.Lot 1828S P.Lot 1828S	DP 21339 DP 21339 DP 21339	LIBRAB 871 LIBRAB 871 LIBRAB 871

SUBJECT	PURPOSE	STATUTORY REFERENCE	ORIGIN	LAND SURVEYOR	REPORT TO	COMMENTS

INTERESTS & NOTIFICATIONS

SCALE: 1:500 @ A3

DATE: 28/1/16

AMENDED BY: A. AMSTROM

DATE: 28/1/16

REPLACEMENT PLAN

AMENDMENT 2

LANDGATE

WESTERN AUSTRALIA

DEPOSITED PLAN 410718

SHEET 1 OF 1 SHEETS

VERSION 2