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LIVING ENVIRONMENTS

Pukekohekohe Gateway Plan Change

Arboricultural Assessment

April 2025

Document Status

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Acronyms

Acronym/Term	Description
AC	Auckland Council
AUP-OP	Auckland Unitary Plan Operative in part 2016
BS	British Standards 5837:2012
CR	Crown Radius
DBH	Diameter at Breast Height
PRZ	Protected Root Zone
RC	Resource Consent
RMA	Resource Management Act 1991
RPMP	Regional Pest Management Plan 2019-2029
SRZ	Structural Root Zone
STEM	Standard Tree Evaluation Method
TOA	Tree Owner Approval
TPF	Tree Protection Fencing
TPM	Tree Protection Methodology
TPZ	Tree Protection Zone
VTA	Visual Tree Assessment

1 Introduction

1.1 Background

Greenscene Limited has been engaged by the *Auckland Thoroughbred Racing* to survey and assess existing trees within and adjacent to the proposed plan change area at Pukekohe Park, Pukekohe.

This report provides an assessment of the arboricultural aspects of the proposed Plan Change Area. This assessment has been prepared to inform the Pukekohekohe Gateway Plan Change and the formation of the Pukekohekohe Gateway Precinct and three sub-precincts (Figures 1 and 2).

It is proposed that the 23.44ha plan change area (Sub-precincts A and B) is changed from Special Purpose - Major Recreation Facility Zone to Residential-Mixed Housing and Open Space-Informal Recreation Zone.

The key matters addressed in this report are as follows:

(a) Identify and categorise the existing trees within and encroaching into the Pukekohe Park that would be suitable to be assessed as a possible notable tree candidate; and
(b) Identify trees that are protected under the **AUP-OP**.

1.2 Report Scope

Greenscene Limited has been engaged by the *Auckland Thoroughbred Racing* to survey and provide an assessment of the trees on site. This report will provide details on trees located within the Pukekohe Park site (including trees outside the proposed Plan Change area) and of those trees assessed, provide candidate trees that could be considered suitable to be included in the Notable Tree Schedule for the AUP-OP.

Figure 1: Pukekohekohe Gateway Precinct: Precinct Plan

Figure 2: Pukekohekohe Gateway Precinct: Sub-precincts

2 Methodology and Analysis

2.1 Assessment Methodology

2.1.1 Tree Data Capture

Trees were surveyed subject to the Council overlay, a large number of which are outside the Plan Change area. Trees were originally surveyed in August 2024 and then again in November 2024 after leaves had developed on the deciduous specimens. Two experienced tree surveyors and assessors from *Greenscene Limited* staff and Mr. Richie Hall from the *Paper Street Tree Company* undertook the required tree assessments. An arboricultural memo from *Paper Street Tree Company* detailing Mr. Hill's findings is provided in Appendix 8 of this report.

Tree survey data was collected using the following equipment:

- Tree height: Nikon Forestry Pro Rangefinder
- Trunk diameter: Million Diameter Tape or Bahco Callipers
- Tree position: Lecia laser

2.1.2 Tree Inventory

All trees are plotted in the field on to a GIS-based inventory which calculates the technical root zones. The methodology for determining tree root zones is provided in Appendix 5 of this report. Tree numbers and locations were provided by *Woods*.

2.2 Assessment Components

2.2.1 Tree Categorization - British Standards

The purpose of the tree categorization method is to identify the quality and arboricultural value of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development. The British Standard BS5837:2012 is recognised by AC as arboricultural best practice for trees in relation to design, demolition and construction processes. It sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.

When determining the appropriate category for any given tree, group or treed area the arboricultural assessment considers whether the tree falls within the following categories:

- **Category U** - Trees in such a condition that they cannot realistically be retained for longer than 10 years.
- **Category A** - Trees of high quality with an estimated life expectancy of at least 40 years.
- **Category B** - Trees of moderate quality with an estimated life expectancy of at least 20 years.
- **Category C** - Trees of low quality with an estimated life expectancy of at least 10 years or young trees with a DBH of <150mm.

Further numerical subcategories 1, 2 and 3 are assigned to A, B and C trees reflecting their arboricultural, landscape qualities and conservation values, respectively.

2.2.2 Notable Tree Assessments

The purpose of the Notable tree schedule is to identify significant trees or groups of trees in the Auckland Region. While all trees are important and provide a number of benefits, such as ecosystem services, health and mental wellbeing, and provide a visual amenity, Notable trees are regarded as exceptional or unique specimens.

While some trees may have been assessed as good quality trees worthy of retention under the British Standards, this does not mean the tree/s is/are worthy of scheduling. Trees must achieve a score of 20 or more against tree specific criteria or have at least one standalone factor to be considered for nomination. The guideline for assessing and scoring trees to be nominated for notable tree evaluation has been provided in Appendix 7 of this report.

In addition to this, a STEM assessment was undertaken on trees that were identified as being protected under the Auckland Council District Plan (Franklin Section) on this site.

3 Arboricultural Planning

3.1 Approach to Arboricultural Planning

A key objective of the proposed Plan Change is to enable surplus land at the Pukekohe Park to be used more efficiently, providing much needed additional housing capacity in Auckland. In addition amendments are also proposed to the AUP-OP Schedule 10 Notable Tree Schedule (ID 2684) and the inclusion of seven new trees to Schedule 10.

The following outlines the key elements of the planning context for the Project:

- The proposal is on 222-250 Manukau Road, Pukekohe, with a legal description of Lot 2 DP 337473, Lot 2 DP 100207, Lot 1 DP 337473, LOT 3 DP 511480, LOT 2 DP 511480, and has management overlays of:
  - Notable Trees Overlay – 2684, Elm, Plane, Puriri, English oak, Common Beech, Unverified position of tree

Table 1: AUP-OP planning chapters, activities and standards

Planning chapters and assessment standards	
D13: Notable trees	• Tree species identified on site that are listed in the Notable Tree Overlay ID# 2684 are: – London plane (52) trees – Elm (12) trees – Pūriri (1) tree
E17: Trees in roads	• 20 street trees are located adjacent to the site

4 Arboricultural Assessment

Section Summary

- Within the Notable tree Overlay (ID#2684) two species were not present on site despite being listed in the schedule i.e. there were no English oak (*Quercus robur*) or common beech (*Fagus sylvatica*) present on site. Two Algerian oak (*Quercus canariensis*) trees were previously misidentified as the English oak trees.
- Seven trees were identified as being suitable for consideration for the notable tree schedule based on the notable tree nomination guidelines. These trees are outside the proposed Plan Change Area. This includes the two Algerian oak trees previously misidentified as English oak.

4.1 Site Features

Pukekohe Park was originally established in 1919 as the Franklin Racing Club; as such there are a number of mature well established and veteran trees on site, both within and outside the proposed plan change area (Figure 3). Historical imagery sourced from Retrolens was used to identify the time when trees were planted to give an indication of approximate age. Aerial imagery from 1941 (Figure 4) shows that the majority of the London plane trees had already been established for some time. Tree planting on the hill adjacent to the clubrooms had been undertaken by this time; however the trees here are younger than the London planes. By 1979, the majority of vegetation had established on site (Figure 5) although planting of the pin oaks (*Quercus palustris*) had not occurred as the new road and park entrance was not established until the 1980s.

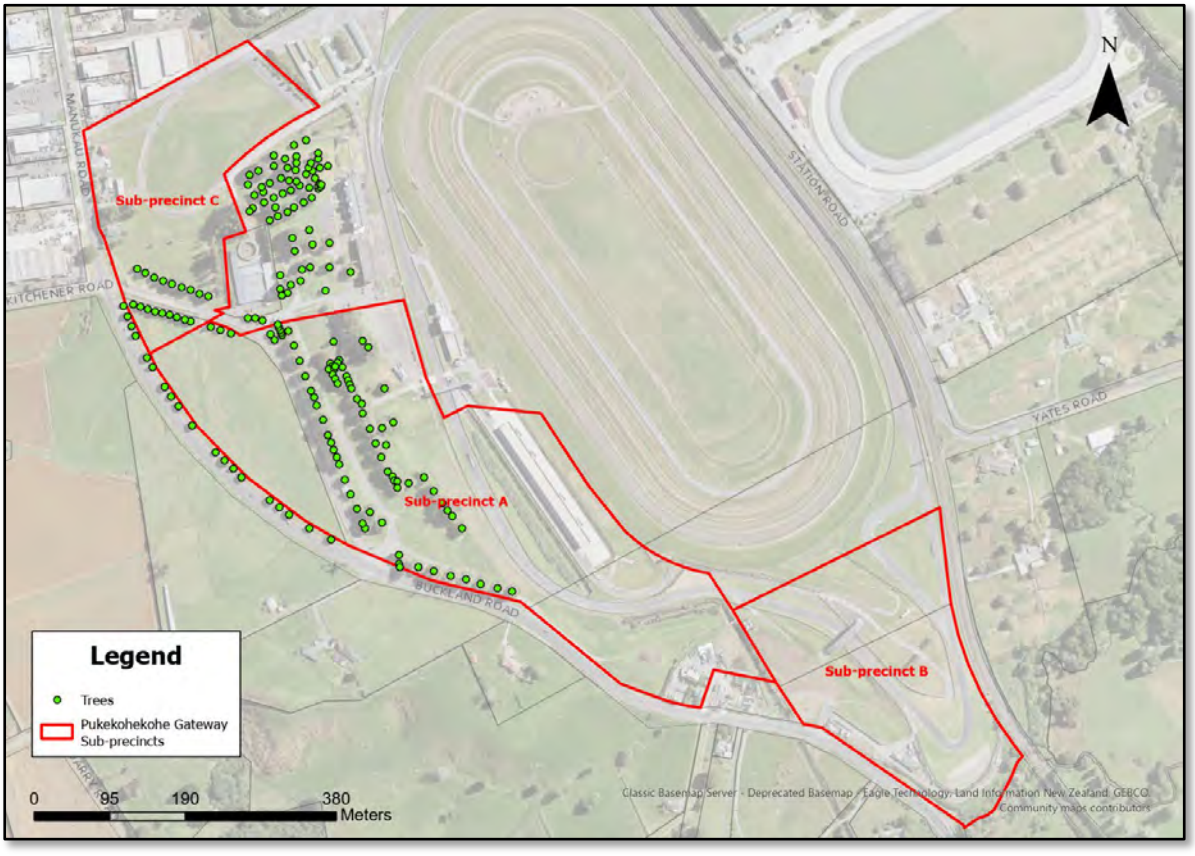

Figure 3: Pukekohekohe Gateway Plan Change: Tree survey

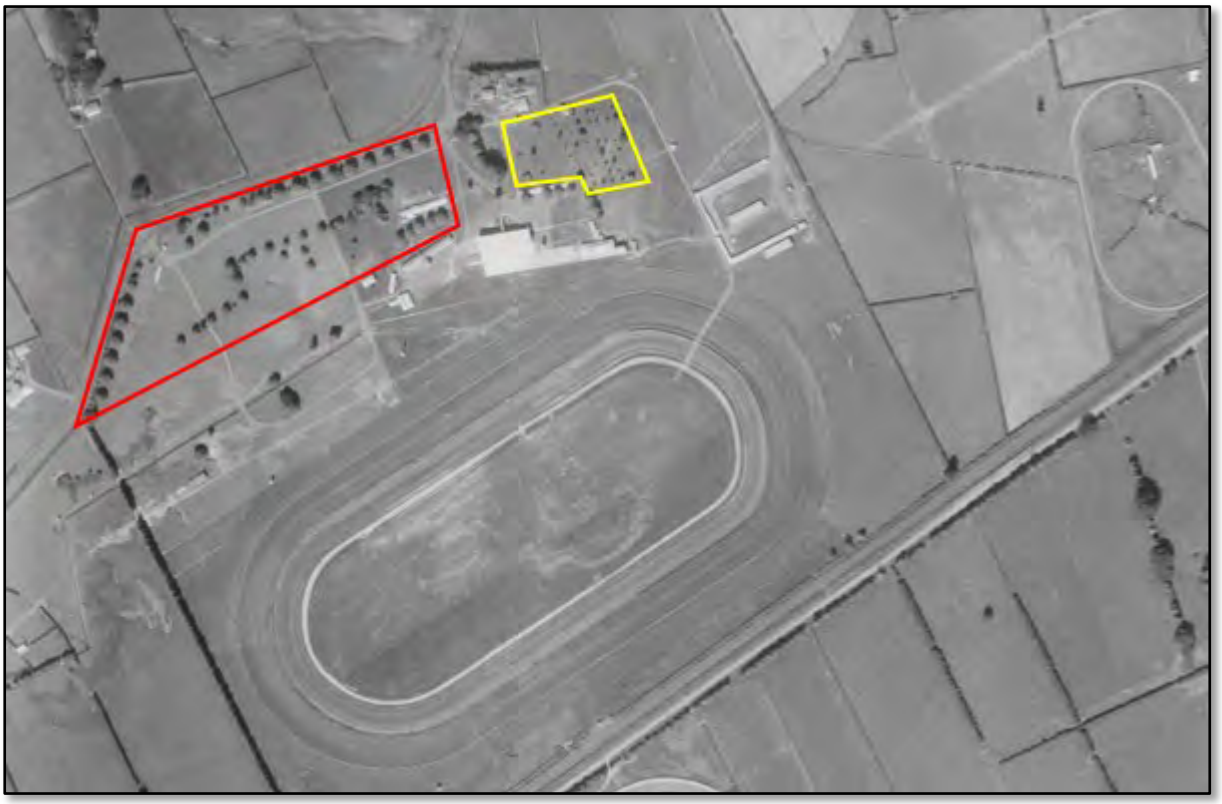

Figure 4: Imagery from 1941 showing established London planes (red area) and newer plantings to the north (yellow area), source Retrolens

Figure 5: Aerial imagery from 1978, source Retrolens

The trees on site vary in age, from the original London planes to more recent tree plantings on site. The trees within the proposed plan change area include the original London planes (Photo 1) and an area of mixed species where the AUP-OP 'unverified position of tree' is located (Photo 2). The London plane trees have historically been pollard-pruned, which is evident in the current growth form.

The trees on the hilltop beside the clubrooms are of various species and age. Some trees, given their size and stature, are likely to be some of the original site plantings; this includes species such as Algerian oak (*Quercus canariensis*), Holm oak (*Q. ilex*), Himalayan cedar (*Cedrus deodara*) and strawberry tree (*Arbutus unedo*) (Photo 3).

Newer plantings on site established after the 1980s includes the avenue of pin oak along the park entrance (Photo 4) and the pin oak street trees along Buckland Road (Photo 5).

Details of all trees surveyed are provided in Appendix 1 of this report. For growing locations of the identified specimens, please refer to the Tree Location Plans contained in Appendix 4 of this report. It should be noted that 3 trees (T28, T29 and T58) had been removed between the initial survey and the subsequent site visit in November 2024.

Photo 1 : London plane trees within Plan Change Area

Photo 2: Group of mixed tree species (left) where Notable Tree Unverified Position is located

Photo 3: Northern hilltop site beside clubrooms with various veteran tree species

Photo 4: Avenue of pin oak along Pukekohe Park entrance

Photo 5: Pin oak street trees along Buckland Road

4.2 Notable Trees

According to the Notable tree Overlay for the site, the tree species listed include Elm, Plane, Puriri, English Oak and Common Beech. An 'unverified position of tree' is the only indicator of the notable tree overlay across the entire site (Figure 6). No numbers have been provided within Schedule 10 for how many of each species are present within the Notable Tree Overlay, or the overall total number of trees present within the Notable Tree Overlay.

A copy of Council's Heritage site pack is provided in Appendix 9 of this report. Due to the quality of information provided under the AUP or lack thereof, all tree species that were listed within Schedule 10 have been treated as being included in the Notable Tree Overlay.

During the site survey, only Elm (*Ulmus* sp.), London plane (*Platanus x acerifolia*) and Pūriri (*Vitex lucens*) were identified. No English oak (*Quercus robur*) or Common Beech (*Fagus sylvatica*) were found. Heritage site pack data provided by Auckland Council shows all trees on site were scored as a single group, however some species listed in the group assessment are not included in Schedule 10, such as the tōtara (*Podocarpus totara*) and pin oak. Aside from the age of the pin oaks, it is unclear why some trees were included and not others when all trees were scored as one.

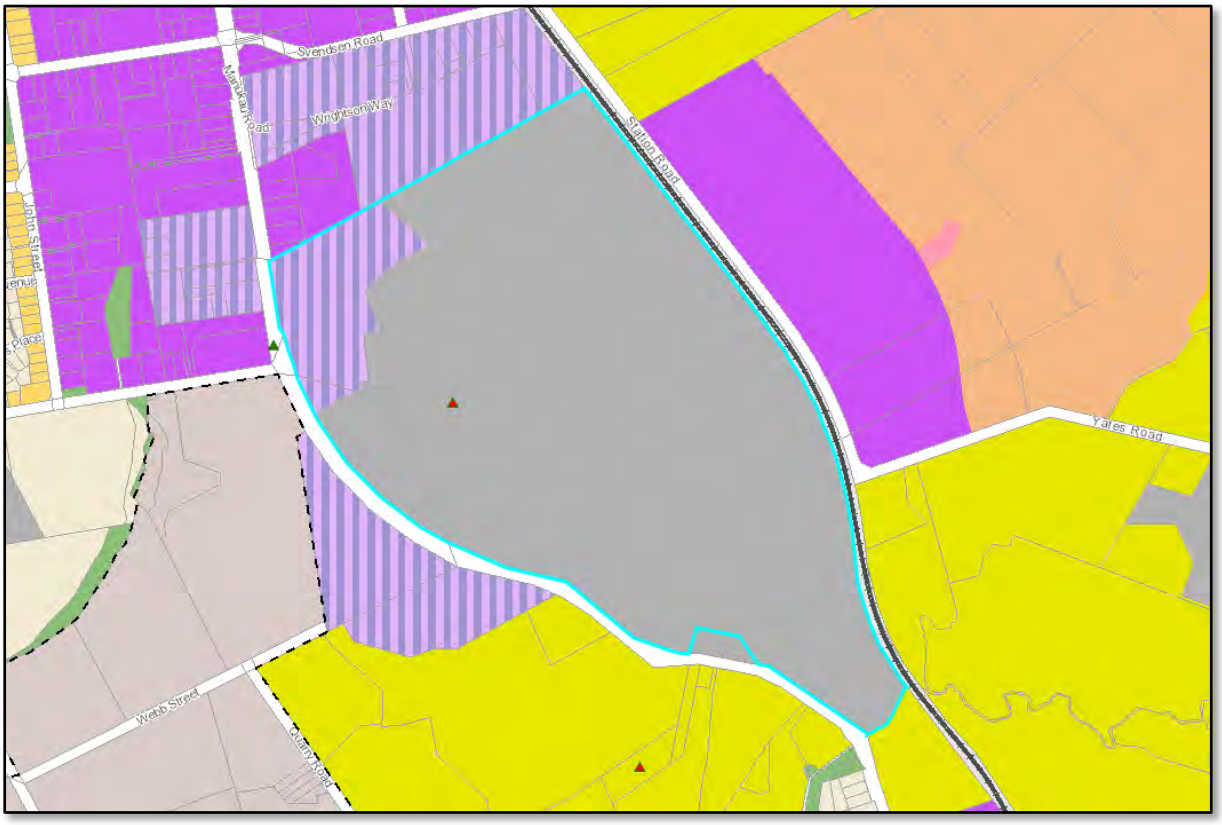

Figure 6: Unitary Plan Maps showing unverified position of tree within the site (blue outline). Source Auckland Council unitary plan viewer, December (2024)

With regard to the Notable Tree Overlay (2684), the results of the tree survey identified 52 London plane trees, 12 Elm trees and 1 Pūriri tree on site. With the exception of trees identified as having health, vitality and/or structural issues, the majority of London planes and elms were in relatively good condition.

Five Elm trees (Trees 47, 49, 50, 108 and 122), had poor form and character, previous limb failures and/or cavities within the stem/s.

One London plane (Tree 186) had previously been coppiced so its character and form were both considered to be poor. Some of the London planes have large old pruning cuts (some with cavities present), probably associated with historical pollarding. During the subsequent tree assessment undertaken in November once deciduous trees had developed leaves, it was noted that a number of the London plane tree leaves had lesions, leaf curl and/or tip dieback in the canopy. This is caused by the fungal disease Anthracnose affecting plane trees that can reduce visual amenity by causing defoliation of leaves.

A review of the Auckland Council District Plan (Franklin Section) Part 8 Cultural and Natural Heritage dated July 2015 provides more information on the Notable trees. Species listed under Group C: Trees (C.227) provides the same information that is included under Schedule 10 of the AUP-OP, however Map L - 222 Manukau Road, Pukekohe and the Key provided identifies the exact location and numbers the species included in the District Plan. The Auckland Council District Plan Map L and Key have been provided in Appendix 6.

According to the Auckland Council District Plan (Franklin Section), 51 trees were included in the schedule, these were:

- 2 x English oak
- 5 x Elm
- 42 x London plane
- 1 x Pūriri
- 1 x Beech

While the information provided in the Auckland Council District Plan has better accuracy (map and species list) than that provided within the AUP, there are still issues with the quality of data provided. The tree numbering and locations do not line up with what trees were identified on site. Also the selection of some ‘poor quality’ trees to be included over ‘better quality’ trees does not align with what would be expected from a notable tree assessment.

As previously mentioned, the pūriri tree (Tree 23 in the District Plan) on site is protected. A number of London plane trees are growing around/adjacent Tree 23 however the two larger of the London plane trees situated in this area are not included in the District Plan Notable tree layer; the smaller of these adjacent trees has been included (as shown in Figure 7). The two trees (T84 & T87) are larger than some of the other London planes that have been included in the notable tree layer so it is unclear why these specimens would have been excluded from the notable tree layer.

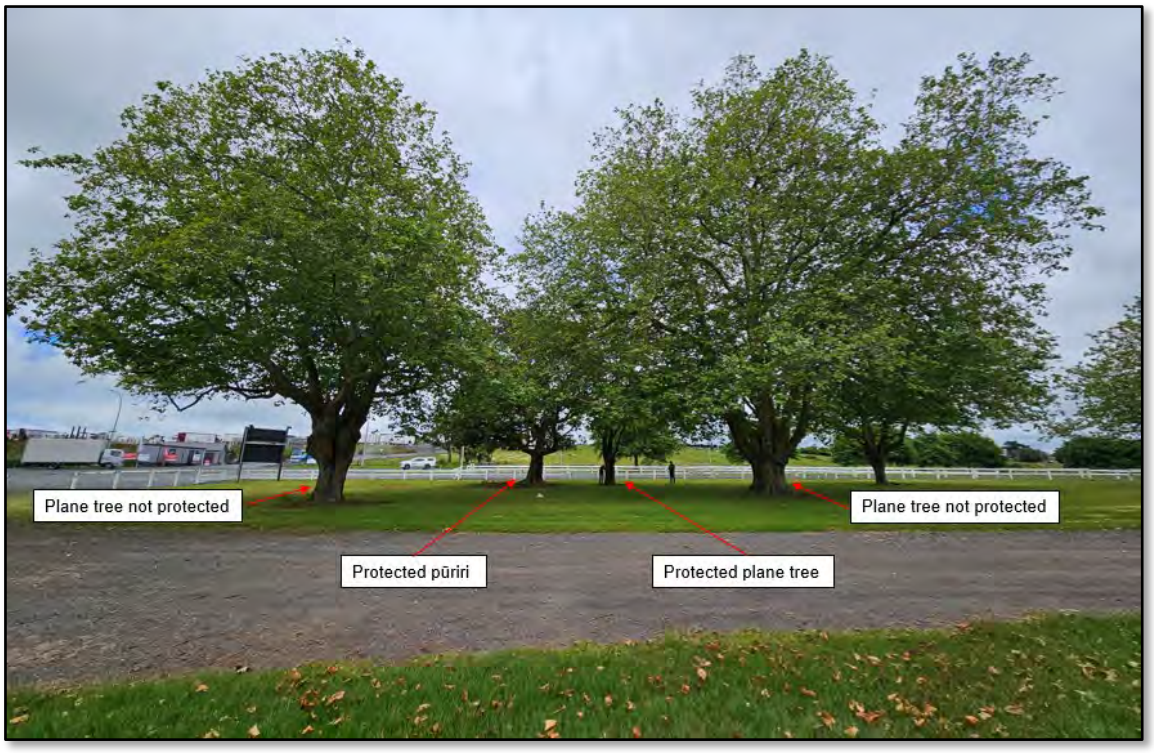

Figure 7: Group of London plane trees growing around protected pūriri

As previously stated, no English oak or Beech were identified as being present on site. When compared to Map L and the species table provided in the District Plan, the 2 x English oak (Trees 6 & 7 of the District Plan) are in fact 2 x Algerian oak (Trees T69 & T142).

There is no beech tree (Tree 51) on site. Two elm trees (Trees 16 & 24 of the District Plan) have been removed at some stage since 2017.

There is an elm stump in the location where Tree 16 (District Plan Tree Number) would have been. Mulch has been piled in the location where Tree 24 (District Plan Tree Number) would have been so no stump was observed.

At the time of writing, it is not known what the reasons were for the tree removals that have occurred on site, or if these trees were even there given the misidentification of some species. One of the elm trees identified in the District Plan is in the location of an Algerian oak (Tree 18). Figure 8 below identifies the remaining trees included in the Auckland Council District Plan (Franklin Section).

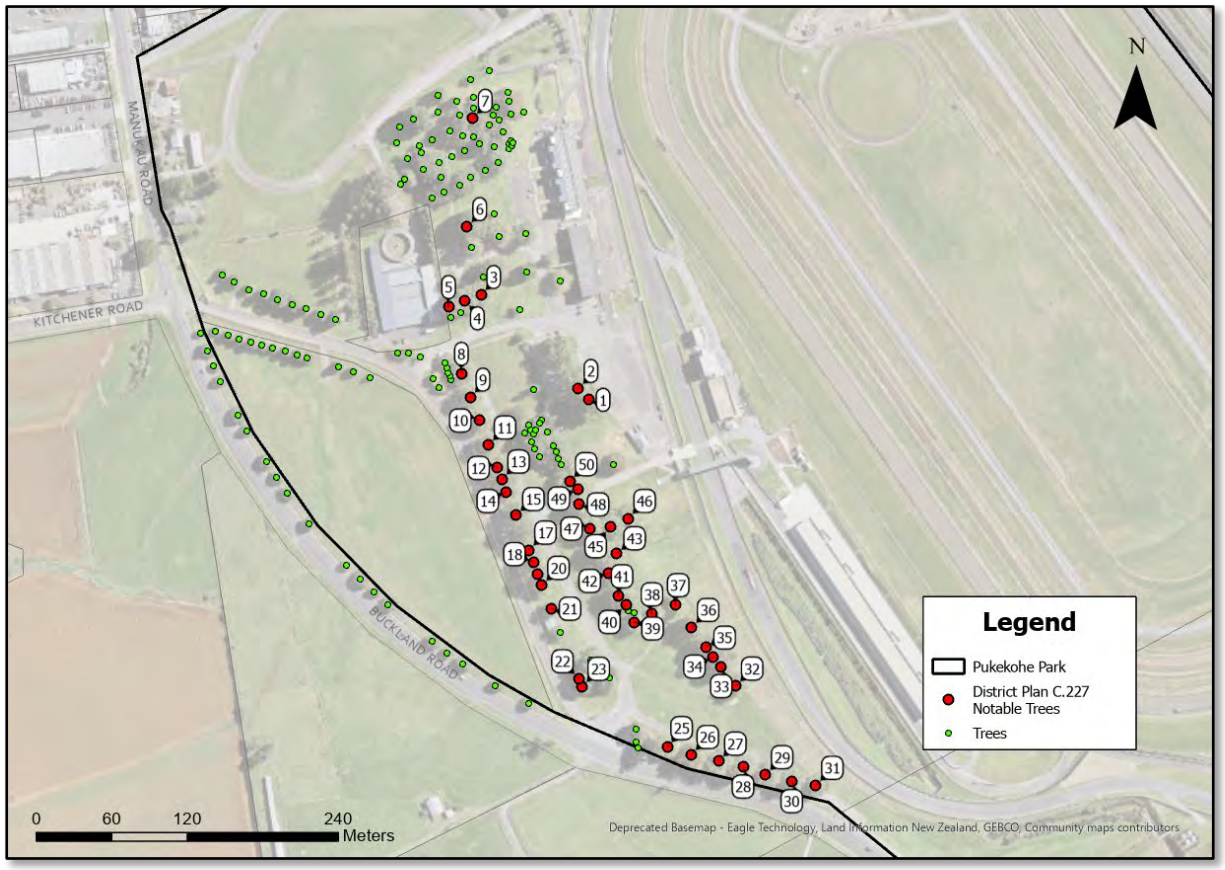

Figure 8: GIS overlay of the remaining Auckland Council District Plan (Franklin Section) Notable trees

4.3 Individual Tree Assessments

Tree assessments of multiple specimens can be undertaken either as individual trees or groups of trees. Trees are considered as a 'group' where the canopies are in close proximity to each other (i.e. overlapping'). Due to the spread-out nature of the growing locations of the surveyed trees, providing a group score for all trees assessed would be hard to justify under the current assessment guidelines as tree canopy is not contiguous. Due to the fragmented tree canopy coverage, all trees were assessed as individual specimens.

The Auckland Council guidelines for nominating a notable tree have been provided in Appendix 7 of this report. Trees were scored against the tree-specific factors provided in Section 6 of the guideline. Scoring of trees on site under the Unitary Plan Notable Tree Guideline has been provided in Appendix 2 of this report. It is assumed that most trees will have some Negative Effects as they grow (Section 7 of the guideline); this being due to their dynamic and changeable nature, as well as environmental effects, trees will lose branches from time to time. This matter is, however, considered to be manageable by the implementation of good arboricultural practices. At the time of the onsite assessment no Special Factors (Section 8 of the guideline) had been identified on/to/with any of the trees on site.

The following individual assessments have been provided on the largest and oldest specimen trees identified on site. Trees that score 20 or more from the tree-specific factors may be nominated to be

included in the Notable tree schedule. Details of the individual Notable tree scores are provided in Appendix 2 of this report.

For comparison with the above evaluation process, trees were also scored using the previous Auckland Council District Plan STEM valuation method. At the time of report compilation, Auckland Council was unable to provide the STEM threshold scores, so it is unclear what the 'cut-off/threshold' total score was for the trees assessed using this method at this time. It must be noted, again, that these trees were all assessed as a single group so it is unclear why some trees were included in the schedule and not others.

As detailed within Council's Heritage site pack, the total STEM group score for the site was 144. On the STEM valuation assessment forms, Notable Valuation scores were not provided for by the assessor. The Notable Valuation section is equivalent to Section 8 in the Unitary Plan Notable Tree Guidelines.

In the most recent site assessments, the average STEM score across all trees on site was 128.5. Individual tree scores were averaged across assessors' individual scores to provide an average individual score for each tree. Eighteen (18) trees scored above the average (128.5). Details of the individual STEM scores are provided in Appendix 3 of this report.

Following are the highest scoring individual specific species under the current AUP Notable tree nomination guidelines; some which did not meet, met or exceed the current scoring system's threshold. Those that did meet or exceed the threshold could be considered suitable for nomination. Seven trees scored ≥20 under the Guidelines for nominating a Notable Tree; Figure 9 below identifies the individual trees and their locations on site.

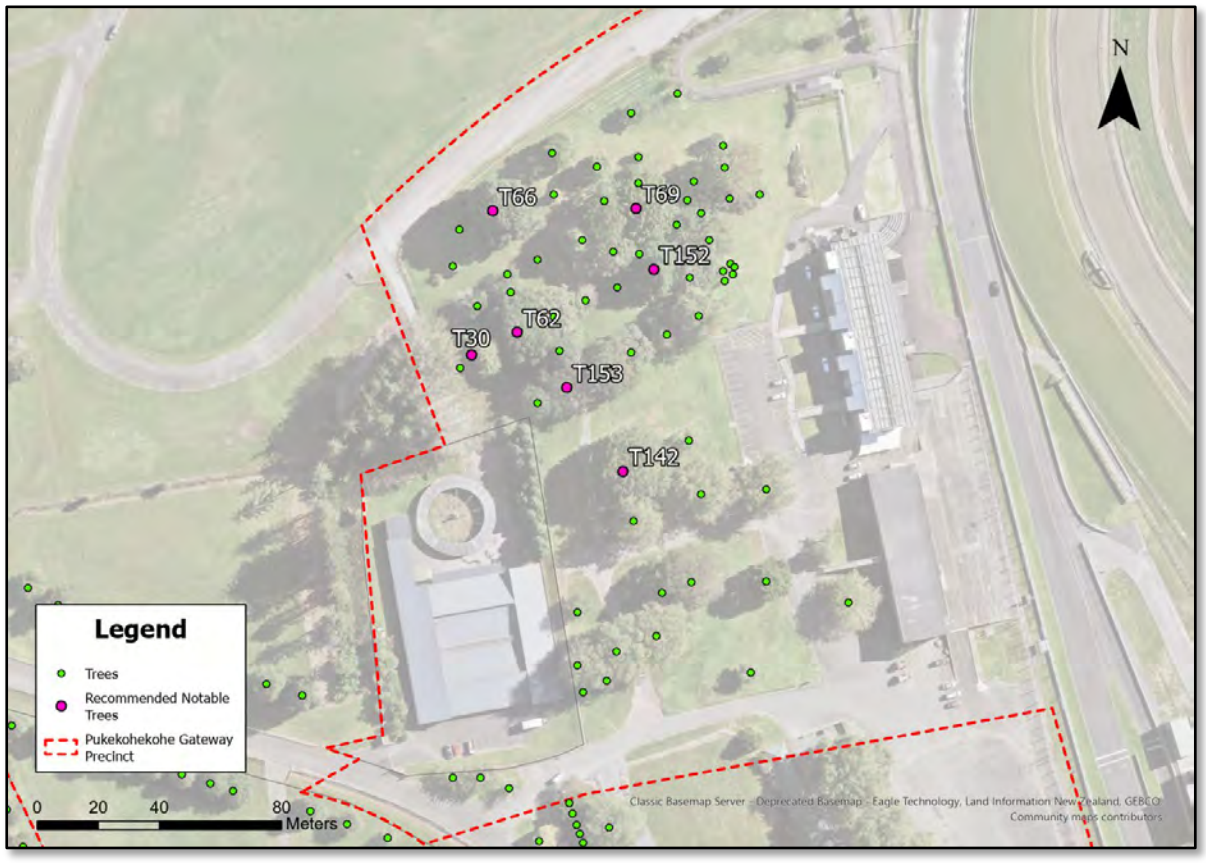

Figure 9: Trees recommended to be included in Schedule 10 (highlighted in pink)

4.3.1 Tree 13

Species: Pin oak (*Quercus palustris*)
Height: 14m
DBH: 878mm
Crown Radius: 12.9m

Age and Health	Character and form	Size	Visual contribution	Score
2	0	5	10	17

4.3.2 Tree 30

Species: Himalayan cedar (*Cedrus deodara*)
Height: 27.2m
DBH: 1234mm
Crown Radius: 10m

Age and Health	Character and form	Size	Visual contribution	Score
5	0	5	10	20

4.3.3 Tree 62

Species: Holm oak (*Quercus ilex*)
Height: 18m
DBH: 1748mm
Crown Radius: 14m

Age and Health	Character and form	Size	Visual contribution	Score
6	0	5	10	21

4.3.4 Tree 66

Species: Holm oak (*Quercus ilex*)
Height: 20.2m
DBH: 1750mm
Crown Radius: 13.5m

Age and Health	Character and form	Size	Visual contribution	Score
8	5	5	10	28

4.3.5 Tree 69

Species: Algerian oak (*Quercus canariensis*)
Height: 18m
DBH: 1278mm
Crown Radius: 12.6m

Age and Health	Character and form	Size	Visual contribution	Score
8	5	5	5	23

Tree 69 has been misidentified as an English oak (*Quercus robur*) under the Auckland Council District Plan (Franklin Section) Part 8 Cultural and Natural Heritage Group C: Trees (Tree 7).

4.3.6 Tree 135

Species: Algerian oak (*Quercus canariensis*)
Height: 18m
DBH: 1315mm
Crown Radius: 11.6m

Age and Health	Character and form	Size	Visual contribution	Score
6	0	5	5	16

4.3.7 Tree 136

Species: Tōtara (*Podocarpus totara* var. *totara*)
Height: 16m
DBH: 1394mm
Crown Radius: 8m

Age and Health	Character and form	Size	Visual contribution	Score
6	0	5	5	16

4.3.8 Tree 142

Species: Algerian oak (*Quercus canariensis*)
Height: 19m
DBH: 1425mm
Crown Radius: 15.7m

Age and Health	Character and form	Size	Visual contribution	Score
8	5	5	5	23

Tree 142 has been misidentified as an English oak (*Quercus robur*) under the Auckland Council District Plan (Franklin Section) Part 8 Cultural and Natural Heritage Group C: Trees (Tree 6).

4.3.9 Tree 152

Species: Himalayan cedar (*Cedrus deodara*)
Height: 16.5m
DBH: 1456mm
Crown Radius: 11.5m

Age and Health	Character and form	Size	Visual contribution	Score
8	5	5	5	23

4.3.10 Tree 153

Species: Strawberry tree (*Arbutus unedo*)
Height: 13.5m
DBH: 1377mm
Crown Radius: 11.5m

Age and Health	Character and form	Size	Visual contribution	Score
6	5	10	5	26

5 Recommendations and Conclusions

5.1 Recommendations

Review the Notable tree Overlay to provide updates to tree species and locations.

Identify a verified tree position or provide group of Notable trees Overlay within the site and quantify the number of trees protected within the Notable tree Overlay.

Trees identified as suitable for nomination to the Notable tree schedule (scoring over 20 for tree-specific factors) should be considered to be included in the Notable tree Overlay for the site. Trees 30, 62, 66, 69, 142, 152 and 153 all scored 20 or above and could be considered to be included in the schedule. These trees are all outside the proposed Plan Change Area and as such will be unaffected by proposed zoning changes and potential future development.

Resolve misidentification in Schedule 10. Trees 69 and 142 were originally included in the Auckland Council District Plan (Franklin Section) but were misidentified as English oak.

5.2 Conclusions

There are issues with the Notable tree Overlay for Pukekohe Park; namely detailed information provided in the Auckland Council District Plan (Franklin Section) has not made it through into the AUP-OP.

Furthermore, tree species detailed on the Notable tree Overlay have been misidentified, there is inaccuracy with tree locations and trees included in the original STEM group assessment were not included in Schedule 10.

The ‘unverified position of tree’ provided in the AUP-OP is not an adequate description of the Notable trees on site considering Auckland Council previously had detailed information on tree locations (and species numbers) included in the Auckland Council District Plan (Franklin Section). Although as mentioned, there are issues with this dataset as well.

The current AUP-OP Notable Tree Overlay is inadequate in its current state. The proposed Plan Change has the opportunity to update Auckland Council’s Notable tree Overlay by providing additional, quality detailed information on tree species, number of species, accurate tree locations and to correct misidentified tree species.

Out of the 184 trees assessed, only seven trees scored over the threshold (20) under the current Notable tree valuation guidelines that could be nominated for the Notable tree schedule. The seven trees recommended to be included in Schedule 10 are located outside the proposed Plan Change area.

6 References

Historical aerial imagery, Sourced from http://retrolens.nz and licensed by LINZ CC-BY 3.0

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Appendix 1. Tree Table

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T1	Pin oak	*Quercus palustris*	Mature	11	8	367		4.4	2.3	B	
T2	Pin oak	*Quercus palustris*	Mature	12	6.8	453		5.4	2.58	B	
T3	Pin oak	*Quercus palustris*	Mature	12	8.2	500		6.0	2.67	B	
T4	Pin oak	*Quercus palustris*	Mature	12	9.8	628		7.5	2.9	B	
T5	Pin oak	*Quercus palustris*	Mature	11	7	502		6.0	2.6	B	
T6	Pin oak	*Quercus palustris*	Mature	11	6.3	483		5.8	2.53	B	
T7	Pin oak	*Quercus palustris*	Mature	12	8.2	538		6.5	2.72	B	
T8	Pin oak	*Quercus palustris*	Mature	12	8.1	669		8.0	3.01	B	
T9	Pin oak	*Quercus palustris*	Mature	12.4	7.7	545		6.5	2.81	B	
T10	Pin oak	*Quercus palustris*	Mature	15.4	10.1	712		8.5	3.11	B	
T11	Pin oak	*Quercus palustris*	Mature	17.8	7.6	588		7.1	2.86	B	
T12	Pin oak	*Quercus palustris*	Mature	14	10.7	722		8.7	3.06	B	
T13	Pin oak	*Quercus palustris*	Mature	14	12.9	878		10.5	3.29	A	
T14	Pin oak	*Quercus palustris*	Mature	12	8.5	529		6.3	2.75	B	
T15	Pin oak	*Quercus palustris*	Mature	10	5.7	428		5.1	2.56	B	
T16	Pin oak	*Quercus palustris*	Mature	12	11	617		7.4	2.95	B	
T17	Pin oak	*Quercus palustris*	Mature	10.9	7.8	524		6.3	2.78	B	
T18	Pin oak	*Quercus palustris*	Mature	7	11.2	542	11.2	6.5	2.74	B	
T19	Pin oak	*Quercus palustris*	Mature	10.8	6.7	435	6.7	5.2	2.55	B	

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T20	Pin oak	*Quercus palustris*	Mature	6	7.3	518	7.3	6.2	2.51	B	
T21	Pin oak	*Quercus palustris*	Mature	8	10.1	562	10.1	6.7	2.81	B	
T22	Pin oak	*Quercus palustris*	Mature	6.4	7.2	348	7.2	4.2	2.37	B	
T23	Pin oak	*Quercus palustris*	Mature	10.4	6.9	520	6.9	6.2	2.73	B	
T24	Pin oak	*Quercus palustris*	Mature	12	7	567		6.8	2.87	B	Tree within Plan Change Area
T25	Pin oak	*Quercus palustris*	Mature	12	7.1	465		5.6	2.67	B	Tree within Plan Change Area
T26	Pin oak	*Quercus palustris*	Mature	11	6.7	321		3.9	2.27	B	Tree within Plan Change Area
T27	Pin oak	*Quercus palustris*	Mature	13.5	7.3	512		6.1	2.73	B	
T28	Flowering cherry	*Prunus* sp.	Mature	7	6.6	565		6.8	2.82	C	This tree had been removed between site visits
T29	Flowering cherry	*Prunus* sp.	Mature	5.5	6.8	596		7.2	2.66	C	This tree had been removed between site visits
T30	Himalayan cedar	*Cedrus deodara*	Mature	27.2	10	1234		14.8	3.82	A	
T31	Strawberry tree	*Arbutus unedo*	Mature	7.5	6	543		6.5	2.75	U	
T32	London plane	*Platanus x acerifolia*	Mature	14.6	13.3	1015	13.3	12.2	3.33	B	Tree within Plan Change Area
T33	London plane	*Platanus x acerifolia*	Mature	17	13.2	789	13.2	9.5	3	B	Tree within Plan Change Area
T34	London plane	*Platanus x acerifolia*	Mature	19	14.2	850	14.2	10.2	3.23	B	Tree within Plan Change Area
T35	Silver lime	*Tilia tomentosa*	Mature	15	9.5	662		7.9	2.89	B	Tree within Plan Change Area
T36	Algerian oak	*Quercus canariensis*	Mature	12.1	7.2	862		10.3	3.11	B	Tree within Plan Change Area
T37	Algerian oak	*Quercus canariensis*	Mature	14.5	10.3	794		9.5	3	C	Tree within Plan Change Area
T38	Himalayan cedar	*Cedrus deodara*	Mature	19	10.8	1091		13.1	3.43	B	Tree within Plan Change Area
T39	Elm	*Ulmus* sp.	Mature	18	15.9	700	15.9	8.4	2.95	B	Tree within Plan Change Area

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T40	Himalayan cedar	*Cedrus deodara*	Mature	19.2	9.2	860		10.3	3.22	B	Tree within Plan Change Area
T41	Algerian oak	*Quercus canariensis*	Mature	16.3	14.7	1032		12.4	3.44	B	Tree within Plan Change Area
T42	stump	na	na	na	na	na	na	na	na	na	
T43	Fir	*Abies* sp.	Mature	25.2	4.9	660		7.9	2.87	A	Tree within Plan Change Area
T44	Southern magnolia	*Magnolia grandiflora*	Mature	11	8.7	796		9.6	3.01	C	Tree within Plan Change Area
T45	Bay laurel	*Laurus nobilis*	Mature	7.7	3.3	307		3.7	2.02	B	Tree within Plan Change Area
T46	Caucasian fir	*Abies nordmanniana*	Mature	16.9	5.5	573		6.9	2.68	A	Tree within Plan Change Area
T47	Elm	*Ulmus* sp.	Mature	21	10	840	10	10.1	3.2	C	Tree within Plan Change Area
T48	Tī kōuka	*Cordyline australis*	Mature	13.8	3.5	828		9.9	3.06	A	Tree within Plan Change Area
T49	Elm	*Ulmus* sp.	Mature	12	21.8	360	21.8	4.3	2.18	C	Tree within Plan Change Area
T50	Elm	*Ulmus* sp.	Mature	23	10.8	742	10.8	8.9	3.02	C	Tree within Plan Change Area
T51	Silver lime	*Tilia tomentosa*	Mature	11.7	9	1009		12.1	3.32	U	Tree within Plan Change Area
T52	London plane	*Platanus x acerifolia*	Mature	23.8	16.2	1715	16.2	15.0	4.15	B	Tree within Plan Change Area
T53	London plane	*Platanus x acerifolia*	Mature	23	14.2	1167	14.2	14.0	3.53	B	Tree within Plan Change Area
T54	Silky oak	*Grevillea robusta*	Mature	18.8	5.2	612		7.3	2.86	B	Tree within Plan Change Area
T55	Japanese zelkova	*Zelkova serrata*	Mature	6	6	319		3.8	2.27	C	Tree within Plan Change Area
T56	Japanese zelkova	*Zelkova serrata*	Mature	6	7.2	387		4.6	2.28	B	
T57	Japanese zelkova	*Zelkova serrata*	Mature	7	6.7	455		5.5	2.45	C	Tree within Plan Change Area
T58	Flowering cherry	*Prunus* sp.	Mature	6.6	5.5	413		5.0	2.58	C	This tree had been removed between site visits
T59	Boxelder	*Acer negundo*	Mature	11	11.2	1010		12.1	3.09	B	
T60	Tōtara	*Podocarpus totara*	Mature	14.4	7.6	1168		14.0	3.48	A	

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T61	Japanese camellia	*Camellia japonica*	Mature	4.6	4.3	341		4.1	2.25	A	
T62	Holm oak	*Quercus ilex*	Mature	18	14	1748		15.0	4.18	A	
T63	Oleander	*Nerium oleander*	Mature	6	3	na		2.0	3.43	C	
T64	Japanese cedar	*Cryptomeria japonica*	Mature	14	9.1	805		9.7	3.3	B	
T65	Tarata	*Pittosporum eugenioides*	Mature	5	3.4	277		3.3	2.02	C	
T66	Holm oak	*Quercus ilex*	Mature	20.2	13.5	1750		15.0	4.14	A	
T67	Liquidambar	*Liquidambar styraciflua*	Mature	20	13.2	1135		13.6	3.7	A	
T68	Algerian oak	*Quercus canariensis*	Mature	18	9.7	878		10.5	3.21	A	
T69	Algerian oak	*Quercus canariensis*	Mature	18	12.6	1278		15.0	3.77	A	
T70	Pōhutukawa	*Metrosideros excelsa*	Early mature	6.7	4.5	378		4.5	2.3	B	
T71	Wild olive	*Cartema americana*	Mature	8.3	3.7	382		4.6	2.14	U	
T72	Golden tōtara	*Podocarpus totara* 'Aurea'	Early mature	7.6	3.2	290		3.5	1.99	A	
T73	Golden tōtara	*Podocarpus totara* 'Aurea'	Early mature	7.8	3.4	293		3.5	1.91	A	
T74	Melia	*Melia azedarach*	Mature	7.3	6.1	410		4.9	2.32	B	
T75	Silver lime	*Tilia tomentosa*	Mature	9.8	6	507		6.1	2.68	B	
T76	Silver birch	*Betula pendula*	Early mature	9	3	178		2.1	1.92	B	
T77	Pin oak	*Quercus palustris*	Mature	8	9.4	520	9.4	6.2	2.66	B	
T78	Pin oak	*Quercus palustris*	Mature	9	6.9	421	6.9	5.1	2.58	B	
T79	Pin oak	*Quercus palustris*	Mature	9	9.2	528	9.2	6.3	2.75	B	
T80	Pin oak	*Quercus palustris*	Mature	10	9.1	540	9.1	6.5	2.77	B	
T81	Pin oak	*Quercus palustris*	Mature	11	9.3	521	9.3	6.3	2.89	B	

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T82	London plane	*Platanus x acerifolia*	Mature	10	8.2	607	8.2	7.3	2.68	B	Tree within Plan Change Area
T83	London plane	*Platanus x acerifolia*	Mature	15	9.9	705	9.9	8.5	2.86	B	Tree within Plan Change Area
T84	London plane	*Platanus x acerifolia*	Mature	16	11.5	1070	11.5	12.8	3.42	B	Tree within Plan Change Area
T85	Pūriri	*Vitex lucens*	Mature	13	11	1142	11	13.7	3.53	A	Tree within Plan Change Area
T86	London plane	*Platanus x acerifolia*	Mature	15	6.8	800	6.8	9.6	3.01	B	Tree within Plan Change Area
T87	London plane	*Platanus x acerifolia*	Mature	16	12.4	1402	12.4	15.0	3.81	B	Tree within Plan Change Area
T88	London plane	*Platanus x acerifolia*	Mature	14.7	12.1	1135	12.1	13.6	3.49	B	Tree within Plan Change Area
T89	London plane	*Platanus x acerifolia*	Mature	16.3	11.7	969	11.7	11.6	3.27	B	Tree within Plan Change Area
T90	London plane	*Platanus x acerifolia*	Mature	16	13	1056	13	12.7	3.39	B	Tree within Plan Change Area
T91	London plane	*Platanus x acerifolia*	Mature	16	14.2	1220	14.2	14.6	3.6	B	Tree within Plan Change Area
T92	London plane	*Platanus x acerifolia*	Mature	16	13.2	1190	13.2	14.3	3.56	B	Tree within Plan Change Area
T93	London plane	*Platanus x acerifolia*	Mature	16	13.3	1513	13.3	15.0	3.94	B	Tree within Plan Change Area
T94	London plane	*Platanus x acerifolia*	Mature	16	7.5	910	7.5	10.9	3.18	B	Tree within Plan Change Area
T95	London plane	*Platanus x acerifolia*	Mature	16	9.8	1090	9.8	13.1	3.43	B	Tree within Plan Change Area
T96	London plane	*Platanus x acerifolia*	Mature	18	11.9	935	11.9	11.2	3.22	B	Tree within Plan Change Area
T97	London plane	*Platanus x acerifolia*	Mature	15	10.5	981	10.5	11.8	3.28	B	Tree within Plan Change Area
T98	Elm	*Ulmus* sp.	Mature	21	14.4	1093	14.4	13.1	3.57	A	Tree within Plan Change Area
T99	London plane	*Platanus x acerifolia*	Mature	15	11.1	1118	11.1	13.4	3.47	B	Tree within Plan Change Area
T100	London plane	*Platanus x acerifolia*	Mature	15	8.6	898	8.6	10.8	3.16	B	Tree within Plan Change Area
T101	London plane	*Platanus x acerifolia*	Mature	12	8.7	945	8.7	11.3	3.23	B	Tree within Plan Change Area
T102	Spruce	*Picea* sp.	Mature	16	5.4	464		5.6	2.67	B	Tree within Plan Change Area

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T103	Maple	*Acer* sp.	Mature	9.6	6.1	500		6.0	2.48	C	Tree within Plan Change Area
T104	London plane	*Platanus x acerifolia*	Mature	16	11.1	820	11.1	9.8	3.04	B	Tree within Plan Change Area
T105	London plane	*Platanus x acerifolia*	Mature	16	11.2	958	11.2	11.5	3.25	B	Tree within Plan Change Area
T106	London plane	*Platanus x acerifolia*	Mature	16	12.4	960	12.4	11.5	3.25	B	Tree within Plan Change Area
T107	London plane	*Platanus x acerifolia*	Mature	16	11.8	880	11.8	10.6	3.14	B	Tree within Plan Change Area
T108	Elm	*Ulmus* sp.	Mature	18	11	908	11	10.9	3.3	B	Tree within Plan Change Area
T109	London plane	*Platanus x acerifolia*	Mature	16	11.5	847	11.5	10.2	3.09	B	Tree within Plan Change Area
T110	Pin oak	*Quercus palustris*	Mature	7.1	9.7	535	9.7	6.4	2.71	B	
T111	Pin oak	*Quercus palustris*	Mature	8	8.6	445	8.6	5.3	2.58	B	
T112	Pin oak	*Quercus palustris*	Mature	10	10.1	525	10.1	6.3	2.8	B	
T113	Pin oak	*Quercus palustris*	Mature	12	8.1	545	8.1	6.5	2.68	B	
T114	Pin oak	*Quercus palustris*	Mature	8.1	6	397	6	4.8	2.38	B	
T115	Pin oak	*Quercus palustris*	Mature	9	10.7	565	10.7	6.8	2.72	B	
T116	Pin oak	*Quercus palustris*	Mature	9	7.5	408	7.5	4.9	2.54	B	
T117	Pin oak	*Quercus palustris*	Mature	8	9.3	623	9.3	7.5	2.91	B	
T118	London plane	*Platanus x acerifolia*	Mature	16	10.9	979	10.9	11.7	3.28	B	Tree within Plan Change Area
T119	London plane	*Platanus x acerifolia*	Mature	16	14.4	859	14.4	10.3	3.1	B	Tree within Plan Change Area
T120	Algerian oak	*Quercus canariensis*	Mature	16	11.7	658	11.7	7.9	2.82	B	Tree within Plan Change Area
T121	London plane	*Platanus x acerifolia*	Mature	18	10	1023	10	12.3	3.34	B	Tree within Plan Change Area
T122	Elm	*Ulmus* sp.	Mature	20.7	12.6	1022	12.6	12.3	3.4	C	Tree within Plan Change Area
T123	London plane	*Platanus x acerifolia*	Mature	15	12	830	12	10.0	3.06	B	Tree within Plan Change Area

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T124	London plane	*Platanus x acerifolia*	Mature	16	10	800	10	9.6	3.01	B	Tree within Plan Change Area
T125	London plane	*Platanus x acerifolia*	Mature	12.7	10.3	1050	10.3	12.6	3.38	B	Tree within Plan Change Area
T126	London plane	*Platanus x acerifolia*	Mature	15	11.2	837	11.2	10.0	3.07	B	Tree within Plan Change Area
T127	London plane	*Platanus x acerifolia*	Mature	18	11	981	11	11.8	3.41	B	Tree within Plan Change Area
T128	London plane	*Platanus x acerifolia*	Mature	16	11.6	805	11.6	9.7	3.17	B	Tree within Plan Change Area
T129	London plane	*Platanus x acerifolia*	Mature	16	12.3	1134	12.3	13.6	3.49	B	Tree within Plan Change Area
T130	London plane	*Platanus x acerifolia*	Mature	15.6	11.9	871	11.9	10.5	3.2	B	Tree within Plan Change Area
T131	London plane	*Platanus x acerifolia*	Mature	18.5	12.4	895	12.4	10.7	3.16	B	Tree within Plan Change Area
T132	London plane	*Platanus x acerifolia*	Mature	16	12.1	1196	12.1	14.4	3.57	B	Tree within Plan Change Area
T133	Golden elm	*Ulmus glabra* 'Lutescens'	Mature	7	8.7	411		4.9	2.4	B	Tree within Plan Change Area
T134	Golden elm	*Ulmus glabra* 'Lutescens'	Mature	7.5	6	418		5.0	2.41	B	Tree within Plan Change Area
T135	Algerian oak	*Quercus canariensis*	Mature	18	11.6	1315		15.0	3.9	A	
T136	Tōtara	*Podocarpus totara*	Mature	16	8	1394		15.0	3.8	A	
T137	London plane	*Platanus x acerifolia*	Mature	20.3	14.5	1217	14.5	14.6	3.67	B	
T138	London plane	*Platanus x acerifolia*	Early mature	11	7.1	351	7.1	4.2	2.24	B	
T139	London plane	*Platanus x acerifolia*	Mature	17.5	11.8	1094	11.8	13.1	3.44	B	
T140	London plane	*Platanus x acerifolia*	Mature	17.5	12.8	1005	12.8	12.1	3.35	B	
T141	London plane	*Platanus x acerifolia*	Mature	19.1	11	783	11	9.4	3.16	B	
T142	Algerian oak	*Quercus canariensis*	Mature	19	15.7	1425		15.0	3.99	A	
T143	London plane	*Platanus x acerifolia*	Mature	18	13.9	915	13.9	11.0	3.35	B	
T144	Silver birch	*Betula pendula*	Mature	12	3.7	457		5.5	2.36	C	

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T145	London plane	*Platanus x acerifolia*	Mature	18.7	12.4	1230	12.4	14.8	3.75	B	
T146	Sycamore	*Platanus* sp.	Mature	8	7	611		7.3	2.66	B	
T147	Black poplar	*Populus nigra*	Mature	11	9.7	739		8.9	2.98	B	
T148	Swamp she-oak	*Casuarina glauca*	Mature	12.9	8.9	760		9.1	3.12	B	
T149	Strawberry tree	*Arbutus unedo*	Mature	10.4	7.4	727		8.7	2.92	B	
T150	Silky oak	*Grevillea robusta*	Mature	15.3	8.4	837		10.0	3.35	B	
T151	Pōhutukawa	*Metrosideros excelsa*	Mature	11.1	10.5	499		6.0	3.36	B	
T152	Himalayan cedar	*Cedrus deodara*	Mature	16.5	11	1456		15.0	3.88	A	
T153	Strawberry tree	*Arbutus unedo*	Mature	13.5	11.5	1377		15.0	3.94	A	
T154	Algerian oak	*Quercus canariensis*	Mature	16	10.5	897		10.8	3.34	A	
T155	Pōhutukawa	*Metrosideros excelsa*	Mature	9.1	9.1	838		10.1	3.6	A	
T156	Elm	*Ulmus* sp.	Mature	8.6	6.7	438	6.7	5.3	2.48	A	
T157	London plane	*Platanus x acerifolia*	Mature	13	11.9	1040		12.5	3.36	B	
T158	Silver birch	*Betula pendula*	Early mature	4	2.4	71		2.0	1.34	C	
T159	Silver birch	*Betula pendula*	Early mature	12.3	2.6	186		2.2	1.85	B	
T160	Silver birch	*Betula pendula*	Early mature	6	2.3	130		2.0	1.69	C	
T161	Silver birch	*Betula pendula*	Early mature	6	2.5	141		2.0	1.67	C	
T162	Silver birch	*Betula pendula*	Early mature	5.8	2.8	132		2.0	1.56	C	
T163	Holm oak	*Quercus ilex*	Mature	16.1	8.6	1050		12.6	3.4	A	
T164	Swamp she-oak	*Casuarina glauca*	Mature	14	12.7	1350		15.0	4.1	B	
T165	Elm	*Ulmus* sp.	Mature	5	6.1	317	6.1	3.8	2.16	A	

Tree No.	Common name	Species	Age Class	Dimensions						British Standards Category	Planning
				Hgt (m)	CR (m)	DBH (mm)	PRZ (m)	TPZ (m)	SRZ (m)		
T166	Tōtara	*Podocarpus totara*	Mature	13	6.7	1161		13.9	3.51	A	
T167	London plane	*Platanus x acerifolia*	Mature	11	10.6	1005	10.6	12.1	3.32	B	Tree within Plan Change Area
T168	London plane	*Platanus x acerifolia*	Mature	16	13.2	983	13.2	11.8	3.29	B	Tree within Plan Change Area
T169	Japanese zelkova	*Zelkova serrata*	Mature	7	8.1	373		4.5	2.49	C	Tree within Plan Change Area
T170	Japanese zelkova	*Zelkova serrata*	Mature	8	6.2	571		6.9	2.62	C	Tree within Plan Change Area
T171	Purple leaf cherry	*Prunus cerasifera* 'Nigra'	Mature	5.6	3.5	265		3.2	2.07	U	
T172	Gum	*Eucalyptus* sp.	Early mature	12.9	8.1	544		6.5	3.59	U	
T173	Pōhutukawa	*Metrosideros excelsa*	Early mature	8.3	4	314		3.8	2.9	B	
T175	Dogwood	*Cornus* sp.	Mature	8	6.1	634		7.6	2.81	C	
T176	Silky oak	*Grevillea robusta*	Mature	12.2	5	568		6.8	2.87	B	
T177	Himalayan cedar	*Cedrus deodara*	Mature	19	7	837		10.0	3.21	A	
T178	Pōhutukawa	*Metrosideros excelsa*	Early mature	6.7	4.6	479		5.7	2.72	B	
T179	Silver lime	*Tilia tomentosa*	Early mature	6.6	3.9	320		3.8	1.88	B	
T180	Pōhutukawa	*Metrosideros excelsa*	Early mature	5	3.1	321		3.9	2.49	B	
T181	Japanese cedar	*Cryptomeria japonica*	Mature	8	2.7	355		4.3	2.2	C	
T182	Pōhutukawa	*Metrosideros excelsa*	Early mature	8.2	4.7	449		5.4	2.91	B	
T183	Tī kōuka	*Cordyline australis*	Mature	6.3	4.2	na		5.2	4.37	A	
T184	Italian cypress	*Cupressus sempervirens*	Mature	15	4.1	633		7.6	2.73	B	Tree within Plan Change Area
T185	Wych elm	*Ulmus glabra*	Mature	14	7.5	653	7.5	7.8	3.17	B	Tree within Plan Change Area
T186	London plane	*Platanus x acerifolia*	Mature	14	8.1	1250	8.1	15.0	3.63	C	Tree within Plan Change Area

Appendix 2. Notable Tree Assessment (AUP)

Tree Number	Tree Species	Age and Health	Character and form	Size	Visual Contribution	Score
T1	Pin oak	2	0	0	10	12
T2	Pin oak	2	0	0	10	12
T3	Pin oak	2	0	0	10	12
T4	Pin oak	2	0	0	10	12
T5	Pin oak	2	0	0	10	12
T6	Pin oak	2	0	0	10	12
T7	Pin oak	2	0	0	10	12
T8	Pin oak	2	0	0	10	12
T9	Pin oak	2	0	0	10	12
T10	Pin oak	2	0	0	10	12
T11	Pin oak	2	0	0	10	12
T12	Pin oak	2	0	0	10	12
T13	Pin oak	2	0	5	10	17
T14	Pin oak	2	0	0	10	12
T15	Pin oak	2	0	0	10	12
T16	Pin oak	2	0	0	10	12
T17	Pin oak	2	0	0	10	12
T18	Pin oak	2	0	0	10	12
T19	Pin oak	2	0	0	10	12
T20	Pin oak	2	0	0	10	12
T21	Pin oak	2	0	0	10	12
T22	Pin oak	2	0	0	10	12
T23	Pin oak	2	0	0	10	12
T24	Pin oak	2	0	0	10	12

Tree Number	Tree Species	Age and Health	Character and form	Size	Visual Contribution	Score
T25	Pin oak	2	0	0	10	12
T26	Pin oak	2	0	0	10	12
T27	Pin oak	2	0	0	10	12
T28	Flowering cherry	2	0	0	5	7
T29	Flowering cherry	2	0	0	5	7
T30	Himalayan cedar	5	0	5	10	20
T31	Strawberry tree	2	0	0	5	7
T32	London plane	6	0	0	10	16
T33	London plane	6	0	0	10	16
T34	London plane	6	0	0	10	16
T35	Silver lime	4	0	0	5	9
T36	Algerian oak	5	0	0	5	10
T37	Algerian oak	3	0	0	5	8
T38	Himalayan cedar	5	0	0	5	10
T39	Elm	3	0	0	5	8
T40	Himalayan cedar	5	0	0	5	10
T41	Algerian oak	5	0	0	5	10
T42	Felled tree	0	0	0	0	0
T43	Fir	5	0	5	5	15
T44	Southern magnolia	5	0	0	5	10
T45	Bay laurel	4	0	0	5	9
T46	Caucasian fir	5	0	0	5	10
T47	Elm	3	0	0	5	8
T48	Tī kōuka	6	0	0	5	11
T49	Elm	3	0	0	5	8
T50	Elm	3	0	0	5	8

Tree Number	Tree Species	Age and Health	Character and form	Size	Visual Contribution	Score
T51	Silver lime	3	0	0	5	8
T52	London plane	6	0	0	5	11
T53	London plane	6	0	0	5	11
T54	Silky oak	3	0	0	5	8
T55	Flowering cherry	2	0	0	5	7
T56	Flowering cherry	4	0	0	5	9
T57	Flowering cherry	2	0	0	5	7
T58	Flowering cherry	2	0	0	5	7
T59	Boxelder	6	0	0	5	11
T60	Tōtara	6	0	0	5	11
T61	Japanese camellia	4	0	0	5	9
T62	Holm oak	6	0	5	10	21
T63	Oleander	4	0	0	5	9
T64	Japanese cedar	5	0	0	10	15
T65	Tarata	4	0	0	5	9
T66	Holm oak	8	5	5	10	28
T67	Liquidambar	8	0	0	5	13
T68	Algerian oak	8	0	0	5	13
T69	Algerian oak	8	5	5	5	23
T70	Pōhutukawa	2	0	0	5	7
T71	Wild olive	2	0	0	5	7
T72	Golden tōtara	2	0	0	5	7
T73	Golden tōtara	2	0	0	5	7
T74	Melia	2	0	0	5	7
T75	Silver lime	4	0	0	5	9
T76	Silver birch	2	0	0	5	7

Tree Number	Tree Species	Age and Health	Character and form	Size	Visual Contribution	Score
T77	Pin oak	2	0	0	10	12
T78	Pin oak	2	0	0	10	12
T79	Pin oak	2	0	0	10	12
T80	Pin oak	2	0	0	10	12
T81	Pin oak	2	0	0	10	12
T82	London plane	4	0	0	10	14
T83	London plane	6	0	0	10	16
T84	London plane	6	0	0	10	16
T85	Pūriri	6	0	0	10	16
T86	London plane	6	0	0	10	16
T87	London plane	6	0	0	10	16
T88	London plane	6	0	0	10	16
T89	London plane	6	0	0	10	16
T90	London plane	6	0	0	10	16
T91	London plane	6	0	0	10	16
T92	London plane	6	0	0	10	16
T93	London plane	6	0	0	10	16
T94	London plane	6	0	0	10	16
T95	London plane	4	0	0	10	14
T96	London plane	6	0	0	10	16
T97	London plane	6	0	0	10	16
T98	Elm	6	0	0	10	16
T99	London plane	4	0	0	10	14
T100	London plane	6	0	0	10	16
T101	London plane	6	0	0	10	16
T102	Spruce	4	0	0	10	14

Tree Number	Tree Species	Age and Health	Character and form	Size	Visual Contribution	Score
T103	Maple	2	0	0	5	7
T104	London plane	6	0	0	10	16
T105	London plane	6	0	0	10	16
T106	London plane	6	0	0	10	16
T107	London plane	4	0	0	10	14
T108	Elm	2	0	0	10	12
T109	London plane	6	0	0	10	16
T110	Pin oak	2	0	0	10	12
T111	Pin oak	2	0	0	10	12
T112	Pin oak	2	0	0	10	12
T113	Pin oak	2	0	0	10	12
T114	Pin oak	2	0	0	10	12
T115	Pin oak	2	0	0	10	12
T116	Pin oak	2	0	0	10	12
T117	Pin oak	2	0	0	10	12
T118	London plane	4	0	0	10	14
T119	London plane	6	0	0	10	16
T120	Elm	4	0	0	10	14
T121	London plane	6	0	0	10	16
T122	Elm	4	0	0	10	14
T123	London plane	6	0	0	10	16
T124	London plane	6	0	0	10	16
T125	London plane	4	0	0	10	14
T126	London plane	6	0	0	10	16
T127	London plane	6	0	0	10	16
T128	London plane	6	0	0	10	16

Tree Number	Tree Species	Age and Health	Character and form	Size	Visual Contribution	Score
T129	London plane	6	0	0	10	16
T130	London plane	6	0	0	10	16
T131	London plane	6	0	0	10	16
T132	London plane	6	0	0	10	16
T133	Boxelder	2	0	0	5	7
T134	Boxelder	2	0	0	5	7
T135	Algerian oak	6	0	5	5	16
T136	Tōtara	6	0	5	5	16
T137	London plane	6	0	0	5	11
T138	London plane	6	0	0	5	11
T139	London plane	6	0	0	5	11
T140	London plane	6	0	0	5	11
T141	London plane	6	0	0	5	11
T142	Algerian oak	8	5	5	5	23
T143	London plane	6	0	0	5	11
T144	Silver birch	2	0	0	5	7
T145	London plane	6	0	0	5	11
T146	Sycamore	4	0	0	5	9
T147	Black poplar	4	0	0	5	9
T148	Swamp she-oak	6	0	0	5	11
T149	Strawberry tree	4	0	0	5	9
T150	Silky oak	4	0	0	5	9
T151	Pōhutukawa	4	0	0	5	9
T152	Himalayan cedar	8	5	5	5	23
T153	Strawberry tree	6	5	10	5	26
T154	Algerian oak	6	0	0	5	11

Tree Number	Tree Species	Age and Health	Character and form	Size	Visual Contribution	Score
T155	Pōhutukawa	6	0	0	5	11
T156	Elm	4	0	0	5	9
T157	London plane	6	0	0	5	11
T158	Silver birch	2	0	0	5	7
T159	Silver birch	4	0	0	5	9
T160	Silver birch	2	0	0	5	7
T161	Silver birch	2	0	0	5	7
T162	Silver birch	2	0	0	5	7
T163	Holm oak	6	5	0	5	16
T164	Swamp she-oak	4	0	0	5	9
T165	Elm	4	0	0	5	9
T166	Tōtara	6	0	0	10	16
T167	London plane	6	0	0	10	16
T168	London plane	6	0	0	10	16
T169	Flowering cherry	2	0	0	5	7
T170	Flowering cherry	2	0	0	5	7
T171	Flowering cherry	2	0	0	5	7
T172	Gum	2	0	0	5	7
T173	Pōhutukawa	2	0	0	5	7
T175	Dogwood	2	0	0	5	7
T176	Silky oak	4	0	0	5	9
T177	Himalayan cedar	6	0	5	5	16
T178	Pōhutukawa	4	0	0	5	9
T179	Silver lime	2	0	0	5	7
T180	Pōhutukawa	2	0	0	5	7
T181	Japanese cedar	2	0	0	5	7

Tree Number	Tree Species	Age and Health	Character and form	Size	Visual Contribution	Score
T182	Pōhutukawa	2	0	0	5	7
T183	Tī kōuka	6	5	0	5	16
T184	Italian cypress	4	0	0	5	9
T185	Wych elm	4	0	0	10	14
T186	London plane	3	0	0	10	13

Appendix 3. District Plan Notable Tree Assessment (STEM)

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
1	T52	London plane	9	3	15	9	21	**57**	21	3	9	21	9	**63**	NA	**120**	
			15	9	21	15	21	**81**	21	21	9	15	9	**75**	NA	**156**	141
			9	9	21	21	21	**81**	27	3	9	9	15	**63**	3	**147**	
2	T53	London plane	9	3	15	9	21	**57**	21	3	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	132
			9	9	15	15	21	**69**	27	3	9	9	15	**63**	NA	**132**	
3	T137	London plane	9	3	15	9	21	**57**	15	3	9	21	9	**57**	NA	**114**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	128
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
4	T139	London plane	9	3	15	9	21	**57**	15	3	9	21	9	**57**	NA	**114**	
			15	9	9	15	21	**69**	15	21	9	15	9	**69**	NA	**138**	126
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
5	T140	London plane	9	3	15	9	21	**57**	15	3	9	21	9	**57**	NA	**114**	
			15	9	9	15	21	**69**	15	21	9	15	9	**69**	NA	**138**	126
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
6	T142	Algerian oak	9	9	15	15	21	**69**	15	3	9	27	9	**63**	NA	**132**	
			15	21	15	15	21	**87**	15	21	9	15	9	**69**	NA	**156**	152
			21	15	27	21	21	**105**	27	3	9	9	15	**63**	NA	**168**	
7	T69	Algerian oak	9	9	21	15	21	**75**	15	9	9	27	9	**69**	NA	**144**	
			21	21	21	15	21	**99**	15	21	9	15	9	**69**	NA	**168**	154
			15	15	27	15	21	**93**	21	3	9	9	15	**57**	NA	**150**	
8	T132	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	15	**69**	15	21	9	15	9	**69**	NA	**138**	128
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
9	T104	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	15	**69**	15	21	9	15	9	**69**	NA	**138**	128
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
10	T105	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	15	**69**	15	21	9	15	9	**69**	NA	**138**	128
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
11	T106	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	15	**69**	15	21	9	15	9	**69**	NA	**138**	126
			9	9	15	9	21	**63**	21	3	9	9	15	**57**	NA	**120**	
12	T107	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	15	**69**	15	21	9	15	9	**69**	NA	**138**	126
			9	9	15	9	21	**63**	21	3	9	9	15	**57**	NA	**120**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
13	T108	Elm	3	9	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			9	15	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	130
			15	9	21	15	21	**81**	15	3	9	9	9	**45**	NA	**126**	
14	T109	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	130
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
15	T118	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	126
			9	9	15	15	21	**69**	15	3	9	9	9	**45**	NA	**114**	
17	T119	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	9	15	21	**69**	15	21	9	15	9	**69**	NA	**138**	124
			9	9	9	9	21	**57**	21	3	9	9	15	**57**	NA	**114**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
18	T120	Algerian oak	9	9	15	9	21	**63**	9	9	9	21	9	**57**	NA	**120**	
			9	15	9	15	21	**69**	15	21	9	15	9	**69**	NA	**138**	128
			9	9	27	15	21	**81**	15	3	9	9	9	**45**	NA	**126**	
19	T121	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	126
			9	9	15	15	21	**69**	15	3	9	9	9	**45**	NA	**114**	
20	T123	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	126
			9	9	21	9	21	**69**	15	3	9	9	9	**45**	NA	**114**	
21	T124	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	9	21	9	15	9	**63**	NA	**138**	122
			9	9	15	9	21	**63**	15	3	9	9	9	**45**	NA	**108**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
22	T86	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			9	9	9	15	21	**63**	15	21	9	15	9	**69**	NA	**132**	118
			9	9	15	9	21	**63**	15	3	9	9	3	**39**	NA	**102**	
23	T85	Pūriri	9	15	15	21	21	**81**	9	9	9	27	9	**63**	NA	**144**	
			15	15	15	15	21	**81**	15	21	9	15	9	**69**	NA	**150**	143
			21	15	15	9	27	**87**	15	3	9	9	9	**45**	3	**135**	
25	T94	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			9	9	9	15	21	**63**	9	21	9	15	9	**63**	NA	**126**	116
			9	9	15	9	21	**63**	15	3	9	9	3	**39**	NA	**102**	
26	T93	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	132
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
27	T92	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	132
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
28	T91	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	132
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
29	T90	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	132
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
30	T89	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	130
			9	9	15	9	21	**63**	21	3	9	9	15	**57**	NA	**120**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
31	T88	London plane	9	3	15	9	21	**57**	9	9	9	21	9	**57**	NA	**114**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	130
			9	9	15	15	21	**69**	21	3	9	9	15	**57**	NA	**126**	
32	T95	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	124
			9	9	15	15	15	**63**	15	3	9	9	9	**45**	NA	**108**	
33	T96	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	128
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	
34	T98	Elm	9	9	15	9	21	**63**	21	9	9	21	9	**69**	NA	**132**	
			15	15	15	15	21	**81**	21	21	9	15	9	**75**	NA	**156**	140
			9	9	27	15	15	**75**	21	3	9	9	15	**57**	NA	**132**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
35	T97	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	122
			9	9	15	9	15	**57**	15	3	9	9	9	**45**	NA	**102**	
36	T99	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	128
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	
37	T125	London plane	9	3	15	9	21	**57**	9	9	9	21	9	**57**	NA	**114**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	120
			9	9	15	9	15	**57**	15	3	9	9	9	**45**	NA	**102**	
38	T100	London plane	9	3	15	9	21	**57**	15	9	9	15	9	**57**	NA	**114**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	118
			9	9	15	9	15	**57**	15	3	9	9	3	**39**	NA	**96**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
39	T101	London plane	9	3	15	9	21	**57**	9	9	9	15	9	**51**	NA	**108**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	118
			9	9	15	9	15	**57**	15	3	9	9	9	**45**	NA	**102**	
40	T126	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	124
			9	9	15	9	15	**57**	15	3	9	9	9	**45**	NA	**102**	
41	T127	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			21	9	15	15	21	**81**	21	21	9	15	9	**75**	NA	**156**	132
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	
42	T129	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	130
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
43	T167	London plane	9	3	15	9	21	**57**	9	9	9	21	9	**57**	NA	**114**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	122
			9	9	15	9	15	**57**	15	3	9	9	9	**45**	NA	**102**	
44	T128	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	130
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	
45	T168	London plane	9	3	15	9	21	**57**	15	3	9	21	9	**57**	NA	**114**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	128
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	
46	T32	London plane	9	3	15	9	21	**57**	9	3	9	9	9	**39**	NA	**96**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	122
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	

District Plan ID Number	Woods ID Number	Common Name	Form	Occurrence	Vigour/ Vitality	Function	Age	Sub Total	Stature	Visibility	Proximity	Role	Climate	Sub Total	Notable Valuation	Grand Total	Average STEM Score
47	T130	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	130
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	
48	T131	London plane	9	3	15	9	21	**57**	15	9	9	21	9	**63**	NA	**120**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	128
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	
49	T34	London plane	9	3	15	9	21	**57**	15	9	9	15	9	**57**	NA	**114**	
			15	9	15	15	21	**75**	21	21	9	15	9	**75**	NA	**150**	126
			9	9	15	9	15	**57**	21	3	9	9	15	**57**	NA	**114**	
50	T33	London plane	9	3	15	9	21	**57**	15	9	9	15	9	**57**	NA	**114**	
			15	9	15	15	21	**75**	15	21	9	15	9	**69**	NA	**144**	126
			9	9	15	15	15	**63**	21	3	9	9	15	**57**	NA	**120**	

Appendix 4. Tree Location Plans

N

Legend

- Trees
- Pukekohe Park
- Pukekohe Park Plan Change Area

PAGE 1

PAGE 2

WRIGHTSON WAY

MANUKAU ROAD

KITCHENER ROAD

STATION ROAD

YATES ROAD

BUCKLAND ROAD

WEBB STREET

QUARRY ROAD

0 80 160 320 Meters

Spatial Reference
Name: NZGD 2000 New Zealand Transverse Mercator
PCS: NZGD 2000 New Zealand Transverse Mercator
GCS: GCS NZGD 2000
Datum: NZGD 2000
Projection: Transverse Mercator

Disclaimer: Tree locations are subject to limitations as outlined in the Arboricultural Report Section 2.
This content must not be amended or used for any other purposes other than those intended.
All images are for illustrative purposes only and not to be used for construction purposes.

PROJECT NAME: PUKEKOHE PARK PLAN CHANGE		PROJECT #: G17220
PROJECT ADDRESS: 222-250 MANUKAU ROAD, PUKEKOHE	DATE 26/08/2024	MAP #: PP00
	SCALE @ A3 1:5,380	
MAP NAME: ARBORICULTURAL PLANS	DRAWN CR	
	CHECKED AH	REV A

FILE I:\Clients\GENERAL\P\Pukekohe Park Scheduled Tree Assessment Pukekohe June 24

Deprecated Basemap - Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors

GREENSCENENZ
ENHANCING AND PROTECTING LIVING ENVIRONMENTS

N

Legend

- Trees
- PRZ
- TPZ
- SRZ
- Pukekohe Park
- Pukekohe Park Plan Change Area

0 10 20 40 Meters

BUCKLAND ROAD

Spatial Reference
Name: NZGD 2000 New Zealand Transverse Mercator
PCS: NZGD 2000 New Zealand Transverse Mercator
GCS: GCS NZGD 2000
Datum: NZGD 2000
Projection: Transverse Mercator

Disclaimer: Tree locations are subject to limitations as outlined in the Arboricultural Report Section 2.
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All images are for illustrative purposes only and not to be used for construction purposes.

PROJECT NAME: PUKEKOHE PARK PLAN CHANGE		PROJECT # G17220
PROJECT ADDRESS: 222-250 MANUKAU ROAD, PUKEKOHE	DATE 26/08/2024	MAP # PP001
MAP NAME: TREE LOCATION PLAN	SCALE @ A3 1:1,250	
	DRAWN CR	
	CHECKED AH	REV A

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GREENSCENENZ
ENHANCING AND PROTECTING LIVING ENVIRONMENTS

N

Legend

- Trees
- PRZ
- TPZ
- SRZ
- Pukekohe Park
- Pukekohe Park Plan Change Area

0 10 20 40 Meters

BUCKLAND ROAD

301

Spatial Reference
Name: NZGD 2000 New Zealand Transverse Mercator
PCS: NZGD 2000 New Zealand Transverse Mercator
GCS: GCS NZGD 2000
Datum: NZGD 2000
Projection: Transverse Mercator

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PROJECT NAME: PUKEKOHE PARK PLAN CHANGE		PROJECT #: G17220
PROJECT ADDRESS: 222-250 MANUKAU ROAD, PUKEKOHE	DATE 26/08/2024	MAP #: PP002
	SCALE @ A3 1:1,250	
MAP NAME: TREE LOCATION PLAN	DRAWN CR	
	CHECKED AH	REV A

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GREENSCENENZ
ENHANCING AND PROTECTING LIVING ENVIRONMENTS

N

Legend

Pukekohe Park Trees

Quality Assessment

- A
- B
- C
- U

Pukekohe Park

Pukekohe Park Plan Change Area

0 10 20 40 Meters

BUCKLAND ROAD

Spatial Reference
Name: NZGD 2000 New Zealand Transverse Mercator
PCS: NZGD 2000 New Zealand Transverse Mercator
GCS: GCS NZGD 2000
Datum: NZGD 2000
Projection: Transverse Mercator

Disclaimer: Tree locations are subject to limitations as outlined in the Arboricultural Report Section 2.
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PROJECT NAME: PUKEKOHE PARK PLAN CHANGE		PROJECT #: G17220
PROJECT ADDRESS: 222-250 MANUKAU ROAD, PUKEKOHE	DATE 26/08/2024	MAP #: PP02.1
	SCALE @ A3 1:1,250	
MAP NAME: TREE QUALITY PLAN	DRAWN CR	
	CHECKED AH	REV A

FILE I:\Clients\GENERAL\P\Pukekohe Park Scheduled Tree Assessment Pukekohe June 24

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GREENSCENENZ
ENHANCING AND PROTECTING LIVING ENVIRONMENTS

N

Legend

Pukekohe Park Trees

Quality Assessment

- A
- B
- C
- U

Pukekohe Park

Pukekohe Park Plan Change Area

0 10 20 40 Meters

BUCKLAND ROAD

301

Spatial Reference
Name: NZGD 2000 New Zealand Transverse Mercator
PCS: NZGD 2000 New Zealand Transverse Mercator
GCS: GCS NZGD 2000
Datum: NZGD 2000
Projection: Transverse Mercator

Disclaimer: Tree locations are subject to limitations as outlined in the Arboricultural Report Section 2.
This content must not be amended or used for any other purposes other than those intended.
All images are for illustrative purposes only and not to be used for construction purposes.

PROJECT NAME: PUKEKOHE PARK PLAN CHANGE		PROJECT #: G17220
PROJECT ADDRESS: 222-250 MANUKAU ROAD, PUKEKOHE	DATE 26/08/2024 SCALE @ A3 1:1,250	MAP #: PP02.2
MAP NAME: TREE QUALITY PLAN	DRAWN CR CHECKED AH	REV A

FILE I:\Clients\GENERAL\P\Pukekohe Park Scheduled Tree Assessment Pukekohe June 24

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GREENSCENENZ
ENHANCING AND PROTECTING LIVING ENVIRONMENTS

Appendix 5. Tree Protection Zones

Tree Protection Areas

As outlined in the AUP-OP all proposed works within the root zone should be consistent with best arboricultural practices to assess the extent of impact to vegetation, particularly in matters of discretion. To comply with best arboricultural practice the NZ Arboricultural Association recommends professional standards to complement the existing legislation for the assessment of tree root zones, the three indicative root zones are as follows.

Protected Root Zone – PRZ

The PRZ radius is determined by calculating the widest lateral crown projection, or half the height for columnar species in accordance with the AUP-OP, see Figure 3.

The PRZ is the legislated (AUP-OP) protected root zone of scheduled notable trees and any protected tree within designated open space and road reserve zones, it is the environment required for sustained absorption, conduction and growth-regulating processes. The extent of permitted PRZ activities for trees in open spaces or the road reserves are:

- Any minor incursion of less than 10% into the PRZ where roots no larger than 60 mm diameter are pruned, is a Permitted activity.
- Any moderate incursion of greater than 10% into the PRZ but no more than 20%, where roots no larger than 80 mm diameter are pruned is also a Permitted activity, but only with arborist supervision.

The extent of permitted PRZ activities for scheduled notable trees is:

- Any incursion excavation less than $1m^2$ and which disturb no more than 10% of the PRZ is Permitted, for trenchless activities only.

All other activities are Discretionary or Restricted Discretionary and should be assessed to best arboricultural practice, different rules apply for proposed infrastructure works under AUP-OP Chapter E26.

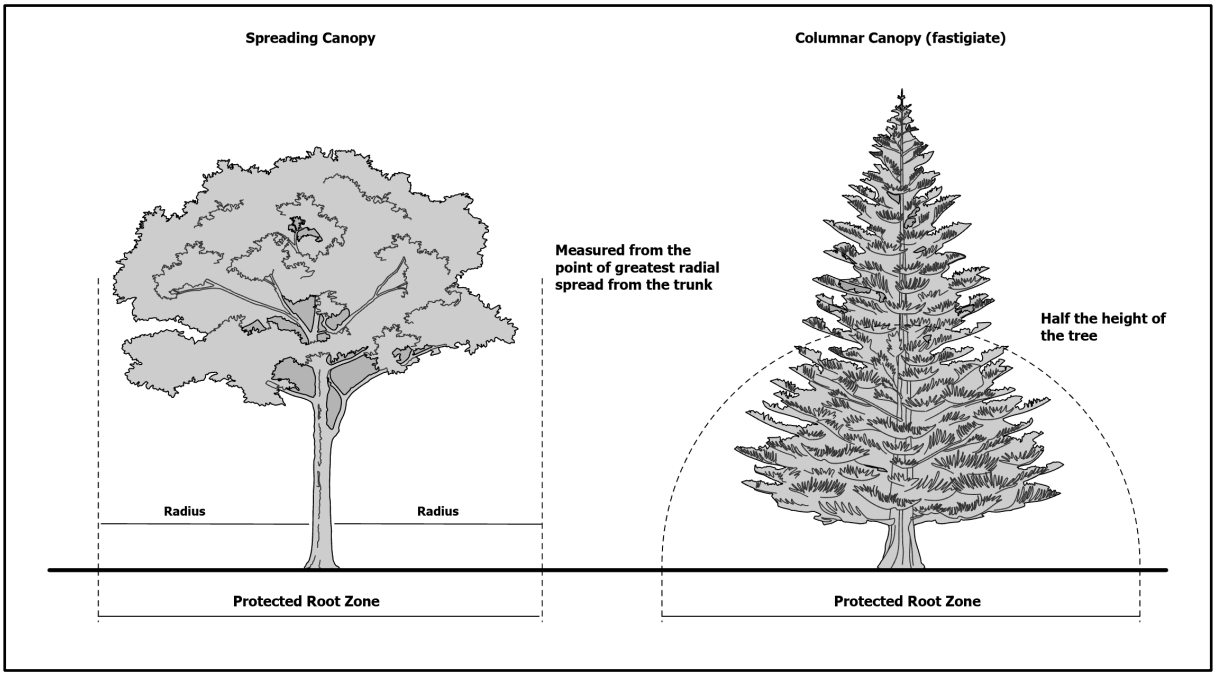


Figure 10: Protected root zone for spreading and columnar tree canopies

Tree Protection Zone - TPZ

The TPZ radius is determined by multiplication of the stem DBH measured at 1.4m by a factor of 12 in accordance with the *British Standard BS 5837:2012 Trees in relation to design, demolition and construction.*

The TPZ is the best arboricultural practice approach for all trees deemed worthy of retention including protected trees in matters of discretion. The TPZ is considered the best arboricultural practice providing the optimum environment required for sustained absorption, conduction and growth-regulating processes. As outlined by BS5837:2012 it is recommended that any new permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the TPZ. A TPZ incursion less than 10% is considered as minor, between 11% to 20% as moderate and any greater than 20% as significant, all incursions can be minimised with arborist supervision. In line with arboricultural best practice wherever a TPZ is greater than minor then arboricultural methods should always be utilised to minimise the impacts to the root zone.

Structural Root Zone - SRZ

The SRZ radius is determined by multiplication of the stem diameter above the basal stem flare by a factor of $50^{0.42}$ x 0.64 in accordance with the *Australian Standard AS4970-2009 Protection of trees on development sites.*

The SRZ is only required to be for consideration where there is likely to be an encroachment of more than 10% of the PRZ or TPZ or where activities are to occur directly within the structural root zone. Identification of the SRZ provides an indicative area within which most structural roots responsible for anchorage and stability are likely to be encountered.

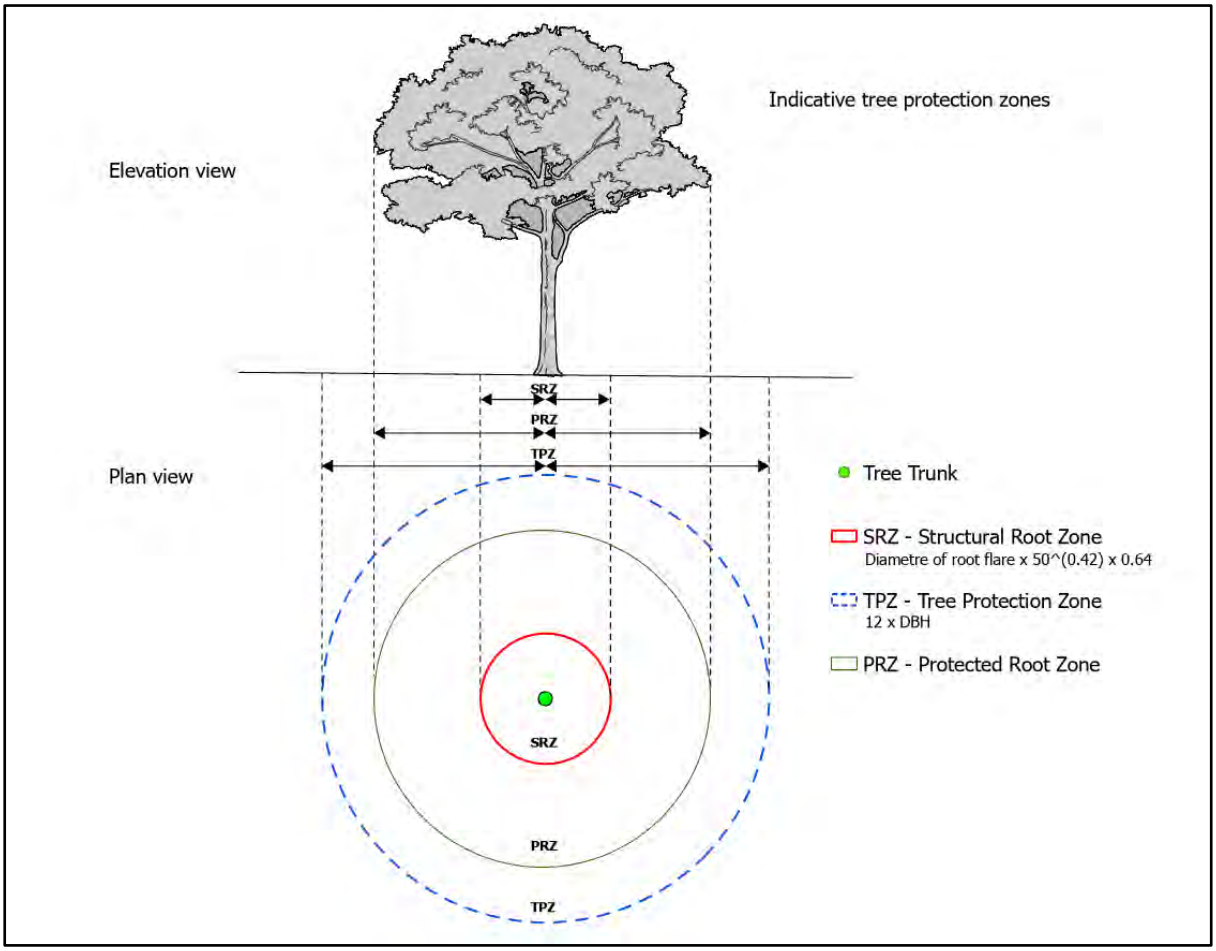
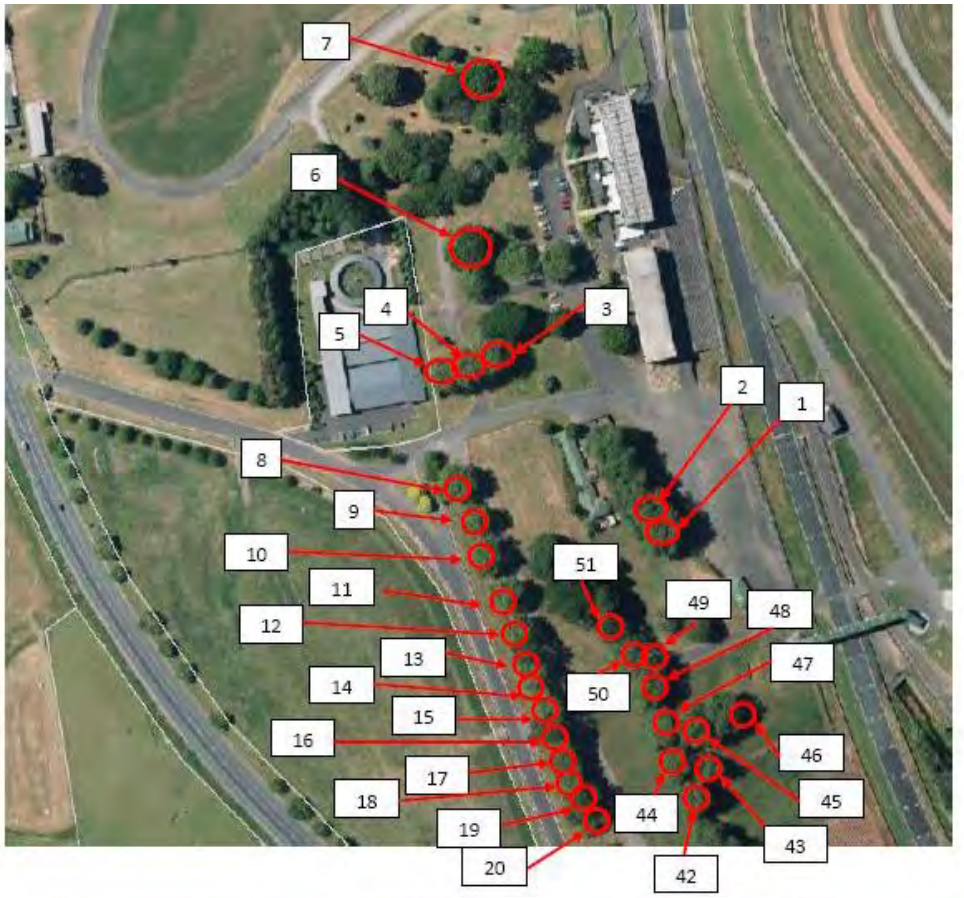


Figure 11: Tree root zones

While the *technical* protected root zone provides a nominal area within which rooting activity may be located, roots of many species may extend three times canopy spread in unrestricted growing environments. Much of that root mass (90%) occurs within 1m of the surface with most fine roots located within the first 150 -200mm.

Appendix 6. Auckland Council District Plan (Franklin Section) Part 8 Cultural and Natural Heritage - Map L

Map L – 222 Manukau Road, Pukekohe

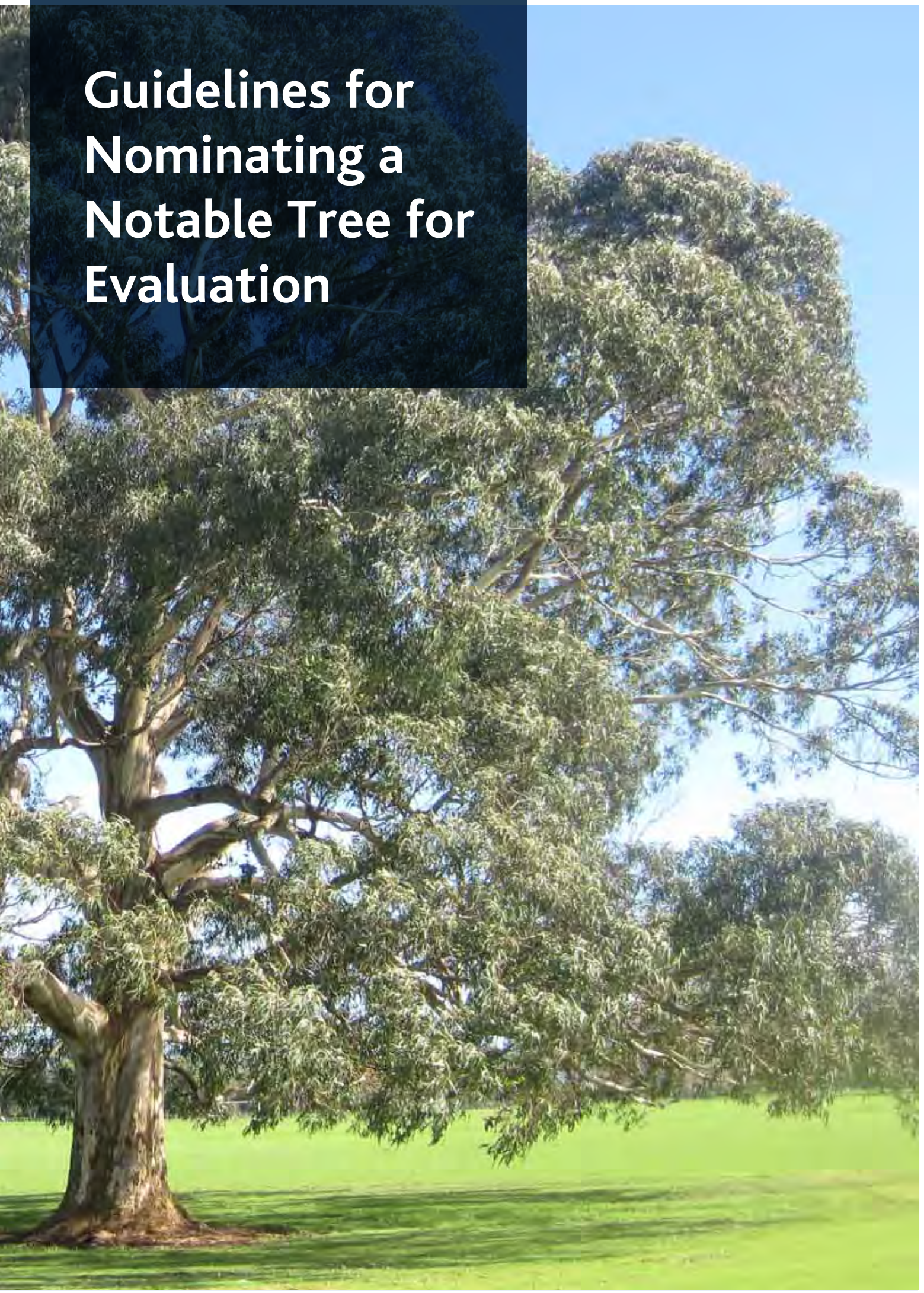


Key

Tree #	Common name	Tree #	Common name
1	London Plane	27	London Plane
2	London Plane	28	London Plane
3	London Plane	29	London Plane
4	London Plane	30	London Plane
5	London Plane	31	London Plane
6	English Oak	32	London Plane
7	English Oak	33	London Plane
8	London Plane	34	Elm
9	London Plane	35	London Plane
10	London Plane	36	London Plane
11	London Plane	37	London Plane
12	London Plane	38	London Plane
13	Elm	39	London Plane
14	London Plane	40	London Plane
15	London Plane	41	London Plane
16	Elm	42	London Plane
17	London Plane	43	London Plane
18	Elm	44	London Plane
19	London Plane	45	London Plane
20	London Plane	45	London Plane
21	London Plane	47	London Plane
22	London Plane	48	London Plane
23	Puriri	49	London Plane
24	Elm	50	London Plane
25	London Plane	51	Beech
26	London Plane		

Appendix 7. Notable Tree Evaluation Guidelines

Guidelines for Nominating a Notable Tree for Evaluation



Nomination Guidelines

These guidelines outline the requirements for nominating a notable tree for evaluation by Auckland Council for inclusion on the region's Notable Tree Schedule. This document will assist you in completing and submitting the nomination form.

Nominating a tree

Any person or organisation may nominate a tree or group of trees for evaluation by completing and submitting the nomination form.

Before you submit a nomination, please read these guidelines to check whether nomination is appropriate, and to ensure that you complete the form correctly. You should only nominate a tree or group of trees if you consider it has significant value and would be a worthy addition to Auckland's Notable Tree Schedule.

Purpose of evaluation

The purpose of this evaluation is to identify notable trees for inclusion in Auckland's Notable Tree Schedule, or for other appropriate management to protect the tree such as a legal covenant.

Nomination of a tree or group of trees does not automatically guarantee that it will be evaluated or considered for scheduling. Priority will be given to nominations for trees on the nominator's property or on public land (open space, reserves or streets) and to those that are not already scheduled as part of a Significant Ecological Area. Priority will also be given to nominations that clearly identify the values of the tree and are supported by relevant background information. Therefore you are encouraged to make a persuasive case for the significance of the tree.

What is a Notable Tree?

Practically all trees play important economic, environmental and social roles in any district of New Zealand. However, some trees are often thought of as being of greater value than others. That is, there are some specimen trees, or groups of trees, that stand out as being notable, significant or distinguished. It is those trees that, for various reasons, are selected by territorial local authorities, throughout New Zealand, for inclusion on a notable tree schedule in a district plan. Through this mechanism they gain greater legal protection.

Notable trees are generally those that a community or nation regard as being of special importance because they commemorate important events in a nation's history, are exceptional or unique examples of a species, are critical to the survival of other species or are of such age, stature, character and visibility that they are regarded as the best in the district.

What is the Notable Tree Schedule?

Auckland's Notable Tree Schedule is a list of significant trees or groups of trees in the Auckland region. Inclusion of a tree or group of trees in the Schedule means that:

- It has been officially recognised by the Auckland Council as being a Notable Tree
- It is protected by provisions in district or unitary plans to ensure it is not damaged or destroyed
- It may be eligible for grants and other incentives.

Criteria for scheduling Notable Trees

Auckland Council has proposed criteria for evaluating the importance of trees and the level of significance required to be considered for inclusion in the Notable Tree Schedule. There are three types of criteria: Special factors (stand alone), Negative factors and Tree Specific factors.

The special factor criteria are stand alone which means that if a tree or group of trees meets any one criterion then it is deemed notable. The tree-specific criteria require a cumulative assessment. That means, for a tree or group of trees to be notable, it must have a cumulative score of 20 or more out of 40 using the scoring systems described in Appendix 1.

Both the special factor and tree-specific criteria are used in combination to determine whether a tree or group of trees is notable. A tree will be notable if it meets only one of the special factors or the score threshold for tree-specific criteria.

In addition, the assessment against the Special factor and tree-specific criteria is then balanced by taking into account the potential negative effects of the tree. In situations where negative effects occur then these must be offset against the benefits of protecting a notable tree. This methodology does not provide a definitive way to make this decision but it relies on the expertise of trained arborists assessing the risk of the negative effects occurring and the overall significance of the tree. The critical part of this assessment is determining whether the hazard or negative effects are unmanageable. Most hazards and all nuisance effects can be managed but in instances where they are unmanageable a tree will not be scheduled as notable. Pest plants listed in the Regional Pest Management Strategy or Plan will not be scheduled.

Special Factors (stand alone)

A. Heritage

- Is associated with or commemorates an historic event (including Maori history or legend)
- Has strong public associations or has an historic association with a well known historic or notable figure
- Is strongly associated with a local historic feature and now forms a significant part of that feature

B. Scientific

- Is the only example of the species in Auckland or the largest known specimen of the species in Auckland (including height and lateral spread) (only applies to individual trees)
- Is a significant example of a species rare in Auckland or a native species that is nationally or regionally threatened (as assessed by the Department of Conservation (DOC) or on the regional threatened species list)
- Has outstanding value because of its scientific significance

C. Ecosystem service

- Provides critical habitat for a threatened native species population e.g., bats, chevron skinks, kiwi, yellow mistletoe etc

D. Cultural

- Demonstrates a custom, way of life or process that was common but is now rare, is in danger of being lost or has been lost
- Has an important role in defining the communal identity and distinctiveness of the community through having special symbolic, spiritual, commemorative, traditional or other cultural value or represents important aspects of collective memory, identity or remembrance, the meanings of which should not be forgotten
- Is a landmark, or marker that the community identifies with

E. Intrinsic

- Is intrinsically notable because of a combination of factors including the size, age, vigour and vitality, stature and form or visual contribution of the tree or group of trees

Negative Effects

F. Negative effects

- Are there any matters that may weigh against the tree's long term protection at this location?
- Does the tree present negative impacts upon human health and / or property?
- Are these negative effects manageable through arboricultural or property management means?
- Is the tree species listed in the Regional Pest Management Strategy as a Total Control or Containment Plant or listed under the Biosecurity Act 1993 as an Unwanted Organism?

Tree-specific factors (see below for scoring)

G. Age and health

- Is notable because of its age (e.g., the oldest of its species in Auckland) and there is something about the vigour and vitality of the tree or group of trees which makes it notable given other factors (such as its age)

H. Character and form

- Is an exceptional example of the species in character and/or form (i.e., text book shape or has a particular relationship with its environment) or attributes that makes it unique

I. Size

- It is an exceptional size for the species in this location (including height, girth or lateral spread)

J. Visual contribution

- It makes a significant contribution to the visual character of an area or to the vista from elsewhere in Auckland

Thresholds

When applying tree-specific factors to groups of trees an average assessment for all trees in the group should be used. At least one individual in a group must be scheduled independently as notable and all trees in the group must be physically close to each other or form a collective or functional unit through meeting at least one of the following criteria: 1. Canopies touch; 2. Canopies overlap; 3. Canopies are not further than 5 metres apart.

To be considered eligible for inclusion in Auckland's Notable Tree Schedule, a tree or group of trees must meet at least one of the special factor criteria or achieve a score of 20 or more for tree-specific criteria.
Other tree specific factors are also taken into account in the decision to recommend a tree for scheduling. Sometimes scheduling is not the most appropriate way of protecting an important tree. For example, it may be part of a significant indigenous plant community and it would be more appropriate to schedule as a Significant Ecological Area (SEA) or it may already be within one of this SEAs and therefore a lower priority for evaluation. The final decision over whether to schedule a notable tree or group of trees is made by the Council after assessing the information obtained from this process.

What trees can be nominated?

Any tree or groups of trees may be nominated including those in towns, streetscapes and settlements, gardens, trees and plantings or they may be naturally occurring trees in parks, reserves or covenants.
Frivolous or vexatious nominations will not be accepted including nominations for:

- Any tree or groups of trees that has been planted and is less than 20 years old, other than in exceptional circumstances
- Moveable or portable trees such as those in planter boxes.
- Any tree that cannot be accurately located or identified.

Priority will be given to trees nominated for inclusion in Auckland's schedule of Notable Trees that occur on the property of the nominee or in a public reserve. Detailed nominations supported with good information will have an increased chance of being processed quickly for acceptance into the schedule and will be peer reviewed. Nominations providing limited information, or those for trees on another person's private property will be processed as and when resources are made available.

Completing the nomination form (see Appendix 1)

Before completing the form

Before you complete the nomination form (see Appendix 1) you should check your existing Notable Tree Schedule to ensure that the tree or group of trees is not already scheduled.

Completing the form

You are encouraged to complete and submit the nomination form in electronic format. You can download an electronic copy of the form from the Auckland Council website (http://www.aucklandcouncil.govt.nz)

Section 1 (Contact details)

We need to be able to acknowledge receipt of your nomination, verify information if needed, and keep you informed. We cannot accept anonymous nominations.

Section 2 (Address)

We need to know where the tree is. If it doesn't have a street address, you can provide the legal description or grid reference (using NZ Transverse Mercator coordinates). You can access these through the council's GIS viewer: http://maps.aucklandcouncil.govt.nz/aucklandcouncilviewer/

Legal description: use the 'identify' button on the toolbars on the right of the screen Grid reference: go to Tools/capture map coordinates. Print out and attach an aerial photo of the site with the tree clearly circled. If there are multiple trees please show where each tree is located.

Section 3 (Owner/occupier)

Complete this section if you have access to this information.

Section 4 (Description)

You should include a description of the tree and its location. For example provide a description of the estimated height, age, species and context for the tree.

Section 5 (Threats)

It is useful to identify known threats to the tree, because this will assist in prioritising nominations. For example, pressure from development, risk of being removed to create views etc.

Sections 6 - 8 (Tree specific and special factors and negative effects)

You should evaluate the tree or group of trees against each of the criteria. This will be the primary means by which we will evaluate a tree.

Section 9 (Conclusions)

Summarise your conclusions about the tree or group of trees here.

Further assistance

If you need assistance with the form, please contact the Council's Heritage team by email at heritage@aucklandcouncil.govt.nz

Please complete the form in as much detail as possible.

Frequently Asked Questions

Can I provide information in confidence?

Generally not. Evaluation of Auckland's heritage is a public process. All members of the public, including the owner of a tree, are entitled to access all information held by the Council on a property. Councils are only required to restrict access to sensitive information about places of significance to tangata whenua as this is a statutory requirement under the Resource Management Act 1991. All other information relating to a property is public information, and is therefore available to members of the public upon request. If you have concerns about providing information that is, or may be sensitive or subject to copyright, you should discuss this with staff in the Council's Heritage Unit before providing the information.

What about my personal details?

The Council has a responsibility to comply with the Privacy Act 1993 and the Local Government Official Information and Meetings Act 1987. All information provided to, and held by Council as public records, is public information and is subject to disclosure upon request unless there are reasons why it should not be disclosed. If you have concerns, you should refer to the relevant Acts, and seek independent advice.

What if I don't have the time or knowledge to provide all the information you require?

The more supporting evidence you can provide the better. Nominations that lack sufficient information may be assigned a low priority for evaluation. You could approach your Local Board, botanical society or other community group to assist with the nomination or to make it on your behalf.

Why can't the Council evaluate all nominated trees?

The process of evaluating trees requires specialised personnel and resources. As well as public nominations, the council identifies potentially significant trees through its own work. All nominations receive an initial appraisal. Those that are unlikely to meet the significance thresholds or lack sufficient information will be assigned a low priority or may not proceed. In some cases nominated trees have been previously evaluated, so unless new information becomes available they will not be re-evaluated.

What is the best format for sending information to the Council?

Electronic files are preferred. Original photographs or documents should be scanned or copied. If you have large files (over 10MB) send them in parts or convert them to smaller file sizes (e.g. by converting them to PDF files) or copy them onto a CD.

Can I protect my tree even if my tree is not notable?

If you have a tree and you think it is special but is unlikely to be scheduled as notable then there are alternatives to enable it protection such as a private legal covenant.

Notable Tree Nomination Form

This nomination form is to be used for assessing trees or groups of trees. When applying tree-specific factors to groups of trees an average assessment for all trees in the group should be used. At least one individual in a group must be scheduled independently as notable and all trees in the group must be physically close to each other or form a collective or functional unit through meeting at least one of the following criteria: 1. Canopies touch; 2. Canopies overlap; 3. Canopies are not further than 5 metres apart.

Section 1: Your Contact Details

Section 2: Address of the tree

Section 3: Owner/occupier

Section 4: Description

Section 5: Threats to the tree

Section 6: Tree-specific factors (see following page for scoring)

A tree can be scheduled as Notable if it achieves a score of 20 or more

	Score (see explanatory notes)
Age and health Is notable because of its age (e.g., the oldest of its species in Auckland) and there is something about the vigour and vitality of the tree or group of trees which makes it notable given other factors (such as its age)	☐
Character and form Is an exceptional example of the species in character and/or form (i.e., text book shape or has a particular relationship with its environment) or attributes that makes it unique	☐
Size It is an exceptional size for the species in this location (including height, girth or lateral spread)	☐
Visual contribution It makes a significant contribution to the visual character of an area or to the vista from elsewhere in Auckland	☐

Comments

Section 7: Negative effects

Are there any matters that weigh against the tree's long term protection at this location?

Hazard and negative effects	YES	NO
Does the tree present negative impacts upon human health and / or property?	☐	☐
Are these negative effects manageable through arboricultural or property management means?	☐	☐
Is the tree species listed in the Regional Pest Management Strategy as a Total Control or Containment Plant or listed under the Biosecurity Act 1993 as an Unwanted Organism?	☐	☐

Scoring of tree specific factors

These scoring systems are to be used when evaluating a tree against the tree-specific factors in Section 6 (see page 10).

Age and health

Vigour and vitality	High	3	5	6	8	10
	↑	2	4	6	8	8
		2	4	6	6	7
		2	4	4	5	5
	Low	2	2	2	3	3
	Age in Years	<40	41-60	61-80	81-100	>100

This scoring system should be used when assessing the age and health of a tree. It allows for trees that are old and healthy to score much more highly than trees that are either unhealthy or young. The degree of vigour and vitality for any tree is assessed given the age of the tree. Therefore, a tree that is over 100 years old and showing high vigour and vitality, for a tree that age, will score a 10.

Character or form

Not exceptional	0
Exceptional example locally	5
Exceptional example in Auckland	10

This scoring system should be used when assessing the character or form of a tree. It allows for trees that are exceptional examples at two spatial scales (from local to Auckland-wide) to score more highly than trees that are regarded as normal.

Size

Average size for the species in this location	0
Greater than average size (up to 25% larger)	5
Substantially greater than average size (>25% larger)	10

This scoring system should be used when assessing the size of a tree (including height, girth and lateral spread). It allows for trees that are larger than would be expected (on average) for a particular location to be scored more highly than trees that are at, or close to (or below), their average height.

Visual contribution

In backyard or gully	2	e.g. fewer than 100 people see the tree daily
Local park/community/ beside minor road or feeder road/catchment	5	e.g. between 100 and 5000 people see the tree daily
Main Road/motorway or higly visible landform	10	e.g. more than 5000 people see the tree daily

This scoring system should be used when assessing the visual contribution of a tree. It allows for trees that are seen by more people on a daily basis to score more highly than trees that are rarely seen.

Section 8: Special factors (stand alone)

For a tree to be scheduled or Notable it needs to meet only one of these special factors	YES	NO	Comments
Heritage			
Is associated with or commemorates an historic event (including Maori history or legend)	☐	☐	
Has strong public associations or has an historic association with a well known historic or notable figure	☐	☐	
Is strongly associated with a local historic feature and now forms a significant part of that feature	☐	☐	
Scientific			
Is the only example of the species in Auckland or the largest known specimen of the species in Auckland (including height and lateral spread) (only applies to individual trees)	☐	☐	
Is a significant example of a species rare in Auckland or a native species that is nationally or regionally threatened (as assessed by DOC or on the regional threatened species list)	☐	☐	
Has outstanding value because of its scientific significance	☐	☐	
Ecosystem service			
Provides critical habitat for a threatened native species population e.g., bats, chevron skinks, kiwi, yellow mistletoe etc	☐	☐	
Cultural			
Demonstrates a custom, way of life or process that was common but is now rare, is in danger of being lost or has been lost	☐	☐	
Has an important role in defining the communal identity and distinctiveness of the community through having special symbolic, spiritual, commemorative, traditional or other cultural value or represents important aspects of collective memory, identity or remembrance, the meanings of which should not be forgotten	☐	☐	
Is a landmark, or marker that the community identifies with	☐	☐	
Intrinsic			
Is intrinsically notable because of a combination of factors including the size, age, vigour and vitality, stature and form or visual contribution of the tree or group of trees	☐	☐	

Section 9: Conclusions

Include your final assessment of whether or not the tree is notable and any additional comments. Note that under the Tree-Specific factors, a score of 20 or more is needed before it can be scheduled or Notable.

Appendix 8. Paper Street Tree Company Memo

EST 2013

PAPER STREET

TREE COMPANY

ARBORICULTURE CONSULTANCY

Overview of

Notable tree values

Address

222/250 Manukau Road

Pukekohe

For: Greenscene Ltd

Date: 6/12/2024

PS ref: PS24665

PS

SUPPORTS THE SUSTAINABLE DEVELOPMENT GOALS

SUSTAINABLE DEVELOPMENT GOALS

Submitted by: Richie Hill

02102291586

richie@paperstreettree.co.nz

1 Site location and report summary

I have been engaged to provide a Standard Tree Protection Methodology for 48 trees that are protected under the Auckland District Plan that stand within the subject site.

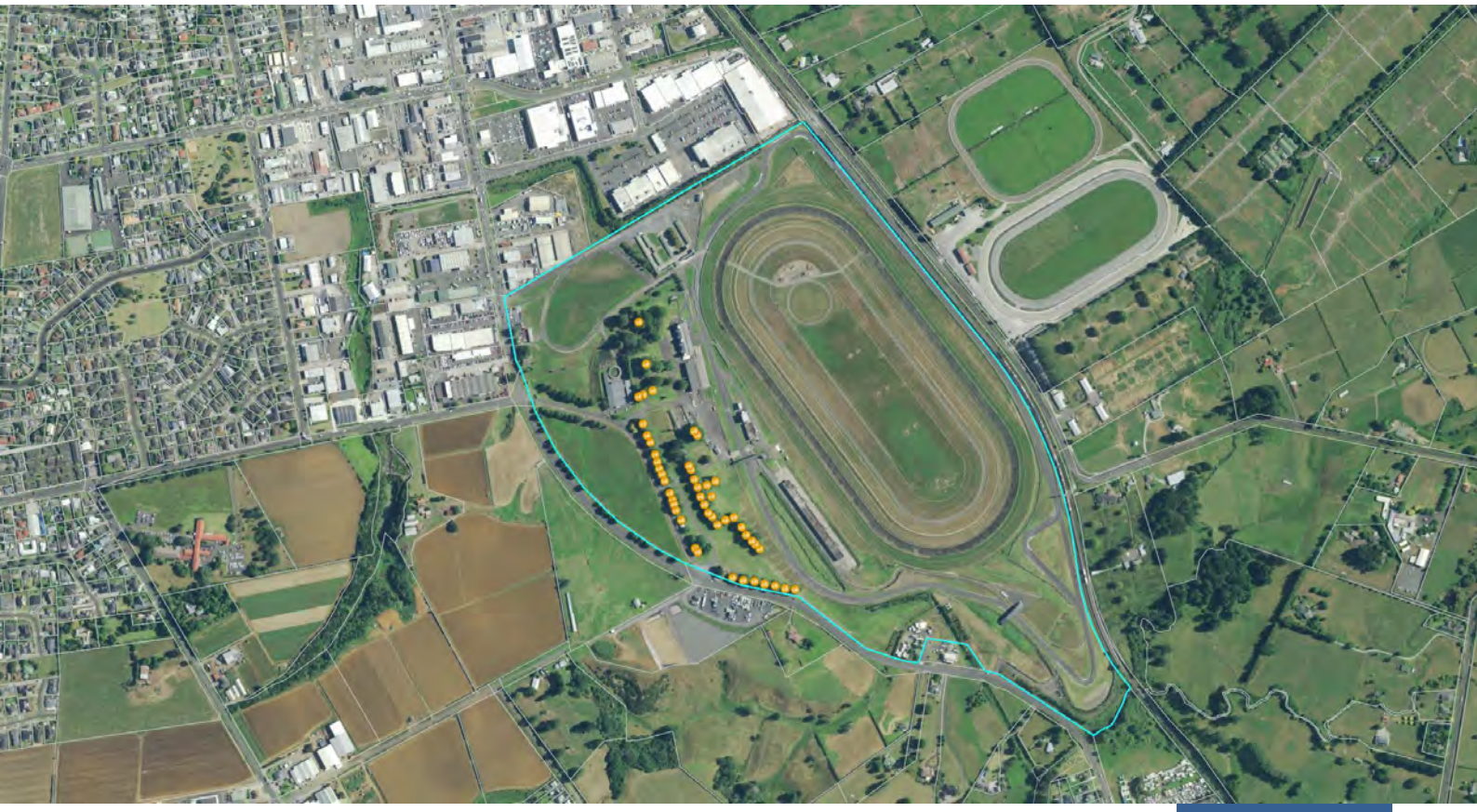


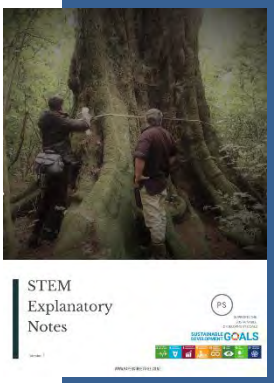
Fig.1 Image showing the site boundary and the location of the notable trees that were assessed.

1.1 This report is supplemented by additional documentation, including:

- STEM Explanatory Notes: These notes outline the process used to determine values, aiming to improve consistency within the methodology

- Excel Spreadsheet: Titled PS24665 Pukekohe Park STEM, dated 5/12/2024. This spreadsheet contains all the STEM scores and additional values for the trees assessed.

Click the icons to the right to access the explanatory notes, STEM spreadsheet and photographs collected during the site visit.



CLICK FOR TREE STEM DETAILS

CLICK TO DOWNLOAD SITE IMAGES

1.2 This report provides an overview of the assessed trees' value and offers recommendations to maximise their benefits within the site. Trees are identified by their DP number on-site, followed by the Greenscene reference number, which corresponds to a broader tree survey of the site.

1.3 Layout of the report

TREE CONDITION

An overall summary of the tree's condition.

AMENITY VALUE

A broader discussion of the tree's amenity value.

NOTABILITY VALUE

A brief discussion of the notable tree values.

RECOMMENDATIONS

A series of recommendations based on the tree analysis.

2. Tree Condition

2.1 A total of 48 notable trees are present on the site. Of these, all were assessed using STEM, and 88% (42 trees) were identified as London Plane (*Platanus* × *acerifolia*).

No significant structural weaknesses were identified. The general health of all the trees was good; however, all the plane trees showed varying degrees of impact from Plane Anthracnose (Apiognomonia veneta).

Fig. 2 Effects of anthracnose on defoliation and density reduction in Tree 17 (T17).

Fig. 3 Close-up of leaves showing infection on Tree 40 (T126).

2.2 Stem cankering to varying degrees is also present on a number of the trees.

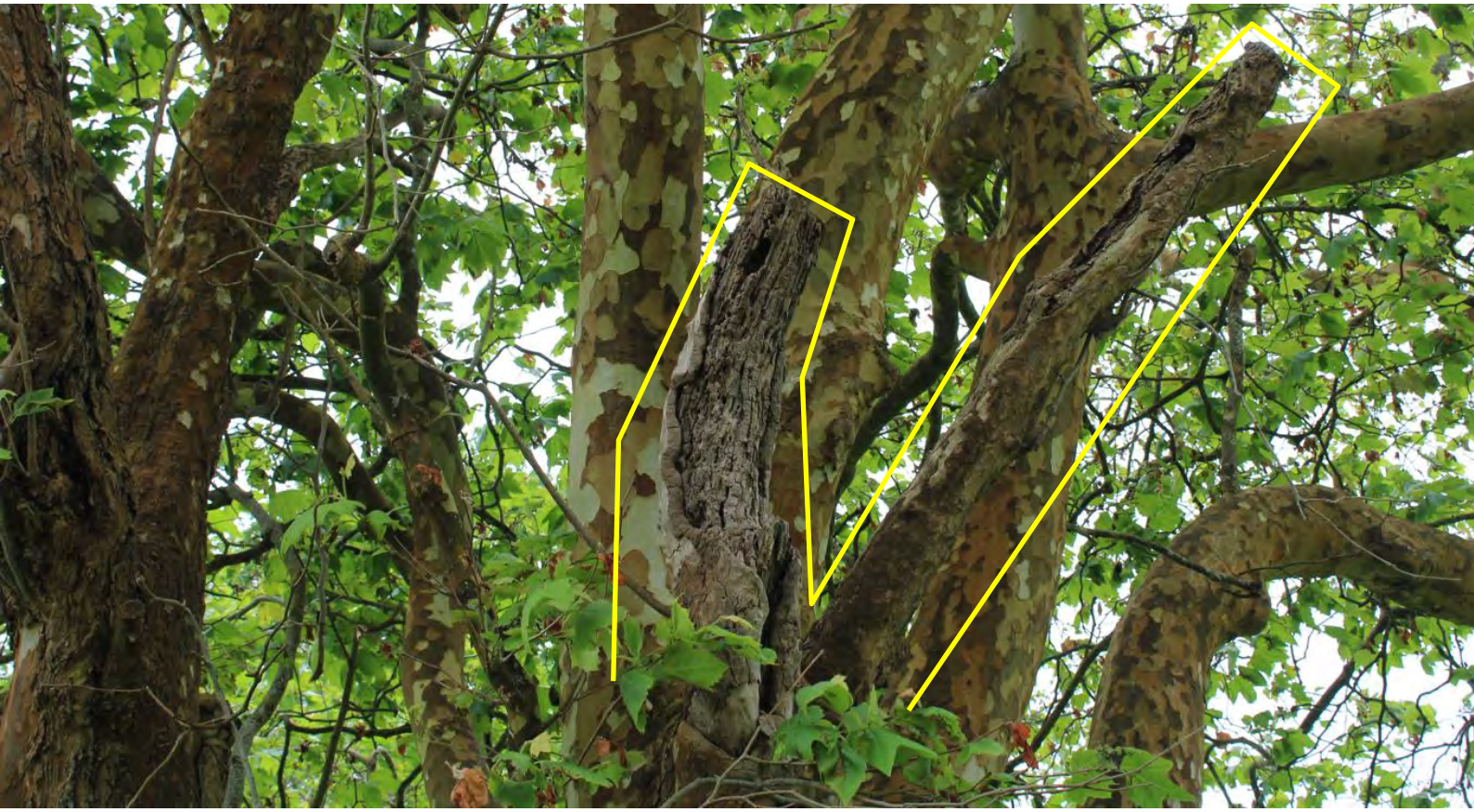


Fig. 4 Shows truncated limbs, likely a result of dieback caused by cankering, in Tree 21 (T124).

Fig. 5 Decay cavity resulting from cankering on Tree 37 (T125).

Click image to find the left to left to view the tree's base

2.3 There was no history of failure associated with the cankering. However, dead limbs and truncated, cankered limbs were present, likely pruned back due to dieback. Once established, cankers become permanent and, like any infection, typically grow slowly beyond the initial infection season, particularly if the tree experiences stress.

2.3.1 Healthy trees with good vitality can remain largely unaffected and resist the progression of cankers. This resilience is evident in the bulging of stems as the tree adapts to infected areas. However, if the trees become more stressed, they may lose their ability to respond effectively, allowing infections to cause more significant impacts.

2.3.2 The activity of *A. veneta* is linked to wet and cool conditions, typically occurring in spring and early summer. During this time, the pathogen produces spores that infect newly emerging leaves, shoots, and sometimes young stems. Prolonged wet periods can lead to repeated infection cycles, exacerbating cankering, particularly in susceptible trees or weakened stems.

2.3.3 When *A. veneta* infects young, actively growing stems, it can cause necrotic lesions that expand into cankers. If these infections occur early in the growing season, they may become perennial.

2.3.4 If conditions conducive to the pathogen (cool, wet weather) recur year after year continuous canker expansion is likely, which could be what we are seeing on more susceptible trees (8 trees where cankering is very noticeable; Trees 21, 22, 25, 32, 37, 38, 39, 43. Conversely, drier, warmer conditions may limit new infections and slow canker development.

2.4 WHAT IS PLANE ANTHRACNOSE?

Plane Tree Anthracnose (also known as sycamore anthracnose) is a fungal disease caused by the pathogen *Apiognomonia veneta* (syn. *Discula platani*). This disease primarily affects species of plane trees (*Platanus spp.*), such as the London plane (*Platanus* × *acerifolia*), American sycamore (*Platanus occidentalis*), and Oriental plane (*Platanus orientalis*).

Plane tree anthracnose typically manifests in the following ways, depending on the stage of infection:

- Twig and shoot dieback:
- Young shoots and twigs die back, often in spring when the tree is actively growing.

Leaves develop brown to black spots, often along the veins. Infected leaves may curl, wilt, and prematurely fall, creating a sparse canopy.

Fig.6 Image taken from Tree 8 (T132), showing the dieback of new shoots

The fungus causes cankers, as previously discussed (sunken, dead areas) on larger twigs and branches. These cankers can girdle branches, leading to dieback.

Severe infections can result in defoliation early in the growing season. This is what we are seeing on site currently. Affected trees often produce a second flush of leaves, but if the tree is regularly defoliated, this is likely to place considerable stress on the tree and deplete its energy reserves.

2.4.1 Disease Cycle

- The fungus overwinters in cankers, dead leaves, or twigs.
- In spring, spores are spread by rain and wind, infecting young leaves and shoots during cool, wet weather.
- The infection can progress rapidly under optimal conditions (cool temperatures and high humidity).

2.4.2 Potential Impacts

Largely Plane Tree Anthracnose causes aesthetic damage and stress is generally within the tree's tolerances to withstand. However, what role the unpredictability in climate changes may play is unclear, as is the concern for how changing climates will impact fungal behaviour, and infection rates.

2.5 CLIMATE FACTORS

Climate change is a critical consideration, as is the need to improve tree resilience during periods of stress, particularly when the purpose of designating these trees is to conserve their values over the long term.

It also appears that errors have been made in identifying notable trees. Several smaller specimens have been plotted, while adjacent, larger, and more significant specimens have been missed. Larger trees generally offer greater landscape value and provide more ecosystem benefits.

Fig.7 The image highlights trees recorded as notable (highlighted in yellow) and trees that are not (pictured in the centre of the image). These larger plane trees are not designated as notable, despite having greater landscape value than the surrounding trees. It is worth noting that the primary notable value of these trees lies in their landscape contribution, making size an important factor.

2.5.1 Additionally, larger trees, or those with growth rates more closely aligned with champion specimens, are likely better adapted to the site and possess greater reserves to cope with periods of stress, such as those observed on-site. The largest trees exhibit fewer effects from infection compared to smaller specimens, which is supported by the site data. Therefore, revising which trees are listed, and ensuring the larger trees are considered will lead to greater long-term retention and preservation of notable landscape values.

2.5.2 As noted above, climate factors significantly influence the prevalence and severity of Plane Tree Anthracnose. An increase in cool, wet conditions during spring and early summer would likely promote the development of this disease. However, current climate projections for the region suggest warmer and drier conditions, particularly in spring, which could reduce the prevalence of infections. A decrease in favourable conditions for the fungus implies that the disease may become less significant in the future.

2.5.3 However, aside from these predictions, what is occurring under current climate trends is cankering appears to be increasing within the site, particularly among trees showing significant infection. This increase has occurred within the current changing environment. The infected

trees are generally located near each other, which may indicate either trees that are more susceptible to infection or there are greater site-specific stresses in those areas. A tree health assessment was not conducted as part of this review (e.g., testing for starch levels). Such an assessment could provide insight into the current energy reserves of the trees and could then inform intervention strategies to improve asset resilience.

3 Amenity Value

3.1 Trees that qualify for notable status require a notable value. These trees may lack historical, cultural, or scientific significance, but their primary appeal lies in their landscape value. If a tree has landscape value, that value can only increase with the number of people who can access and benefit from the services provided by the tree.

3.2 Assessing the number of people who could benefit from such trees can further emphasise their value. Assessing amenity value is challenging due to the difficulty of quantifying the intangible benefits that trees provide. However, the points below offer further analysis beyond the STEM assessment of how significant these amenity values could be.

3.3 **The 3-30-300 Rule**

The 3-30-300 rule (Konijnendijk, 2023) offers a framework for urban greening, promoting equitable access to trees, green spaces, and their associated benefits providing a basis to assess value. It recommends the following thresholds:

- Community Exposure: At least 3 well-established trees should be visible from every home, school, and workplace.
- Canopy Cover: Maintain a minimum of 30% tree canopy cover over a designated area.
- Community Accessibility to Green Spaces: Every residence should be within 300 metres of the nearest public green space.

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https://doi.org/10.1007/s11676-022-01523-z

ORIGINAL PAPER

Evidence-based guidelines for greener, healthier, more resilient neighbourhoods: Introducing the 3–30–300 rule

Cecil C. Konijnendijk[1]

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Abstract The important contributions of urban trees and green spaces to for example, climate moderation and public health have been recognized. This paper discusses guidelines and norms that promote the benefits of viewing green, living amongst green, and having easy access to green spaces for recreational use. Having trees and other vegetation in sight from one's home, place of work, or school has important mental health and performance benefits. Local tree canopy cover is positively associated with cooling and other aspects of climate moderation. With public green spaces in proximity to one's home stimulates regular use of these areas and results in positive impacts on mental, physical, and social health. After analyzing existing guidelines and rules for urban green space planning and provision, a new, comprehensive guideline is presented, known as the '3–30–300 rule' for urban forestry. This guideline aims to provide equitable access to trees and green spaces and their benefits by setting the thresholds of having at least 3 well-established trees in view from every home, school, and place of work, no less than a 30% tree canopy in every neighbourhood; and no more than 300 m to the nearest public green space from every residence. Current implementation of this new guideline is discussed, as well as the advantages and disadvantages of using this evidence-based but also clear and simple rules.

Keywords Climate adaptation · Guidelines · Public health · Trees · Urban forestry

Introduction

With most of the world's population living in urban areas, there is an increasing focus on making these healthier, more attractive, and more liveable. Although urban areas provide opportunities such as employment, education, recreation, and social interactions, they also face specific challenges. Cities are often hardest hit by climate changes through the urban heat island effect and by extreme weather events such as major heat waves (Devisscher et al. 2019). The European Union (EU) recorded more than a third heat-related mortality in the elderly, with 104,000 out of 296,000 global deaths in 2018, a year when northern Scandinavia experienced temperatures over 5 °C warmer than in 1981–2010 (Taylor 2020).

Air pollution is a major threat to urban areas. In 2018, 34% of urban populations of the 27 EU countries (then including the United Kingdom) were exposed to ground-level ozone particles at concentrations above EU health target levels, while 15% were subjected to hazardous PM_{10} particles at levels above the EU daily limit (EEA 2020). With 84% of the population in Europe exposed to $PM_{2.5}$ levels above the maximum suggested by the World Health Organization, up to 123,000 lives could be saved annually if $PM_{2.5}$ concentrations were reduced to safe levels (IS Global 2021).

Public health challenges faced by urban populations can also be linked to risk factors and lifestyle diseases such as stress, cardiovascular diseases, and obesity (WHO 2016, 2017). The COVID-19 pandemic has created an immediate and often devastating public health challenge to cities, with

The online version is available at http://www.springerlink.com.

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Click document for futher information on purpose of the 3-30-300 Rule

3.4 TREE SUMMARY WITH THE 3-30-300 RULE

3 Community exposure

- The primary public benefit of the trees is passive exposure from the road, where an estimated 6,000 to 7,999 people could benefit daily from the trees along the boundary.
- The trees are located in an area within the 90th percentile for social deprivation.
- Only 14% of the notable trees are fully visible from the main public viewing point.

30 30% canopy cover

- The site has only 5% canopy coverage.
- Trends indicate that canopy coverage within the site has declined. Current growth is largely static and is likely to decline further without the implementation of a management plan.
- 91% of the trees recorded on the site, including notable trees, are mature, with few successive trees being established. This further suggests that canopy growth will decrease over time.

300 Community access to green spaces within 300m

- Decreasing public access is reducing the benefits of notable assets.

3.5 RULE 3 OF 30-300 IN DETAIL

This rule essentially highlights the importance of making high-quality trees (healthy, reasonably sized mature trees) visible to the public. The number '3' complements the numbers 30 and 300, making the rule memorable. Therefore, it's not just about having 3 trees visible; the emphasis is on the potential benefits of viewing trees and green spaces. Exposure to nature improves well-being and occupational performance (Lottrup et al., 2015). Economically, high-quality tree canopies are linked to higher property values and greater consumer spending, as people spend more time and money in well-canopied areas (Wilson, 2020).

3.5.1 How many people could benefit from the trees

Population densities are used to estimate the number of people who could potentially benefit from the trees. For this analysis, we use Statistical Area 2 (SA2) boundaries, as defined by Stats NZ. These areas are chosen because they are designed to represent communities that interact socially and economically. In New Zealand, there are 2,143 recorded SA2 areas.

To provide context, we apply the ranges described in the Capital Asset Value of Amenity Trees (CAVAT) to illustrate the potential significance of these benefits across New Zealand. The table to the right shows the CTI (Community Tree Index) bands, the number of SA2 areas in New Zealand that fall within each band, and the corresponding population density ranges for each band.

3.5.2 Modifications to population bands

SA2 areas are based on census data, which may not fully capture the actual number of people who could benefit from the trees, especially in areas with high public movement. For instance, the SA2 area for Sylvia Park in Auckland falls within the lowest population density band. However, the retail park is reported to employ approximately 2,500 people and attracts around 11 million visitors annually, which would place it within the highest band (Band 7). Therefore, where applicable, additional data such as people counts, traffic data and other relevant information are used to more accurately reflect the number of people who could benefit from the trees.

SA2 Area	Pukekohe Central
Population density of SA2/km^2	125.51

Population density band (CTI)	Count of SA2 areas in NZ within the band	Population density range (people/km^2)
1	1382	<2,000
2	626	2,000-3,999
3	113	4,000-5,999
4	8	6,000-7,999
5	4	8,000-9,999
6	7	10,000-11,999
7	3	>12,000

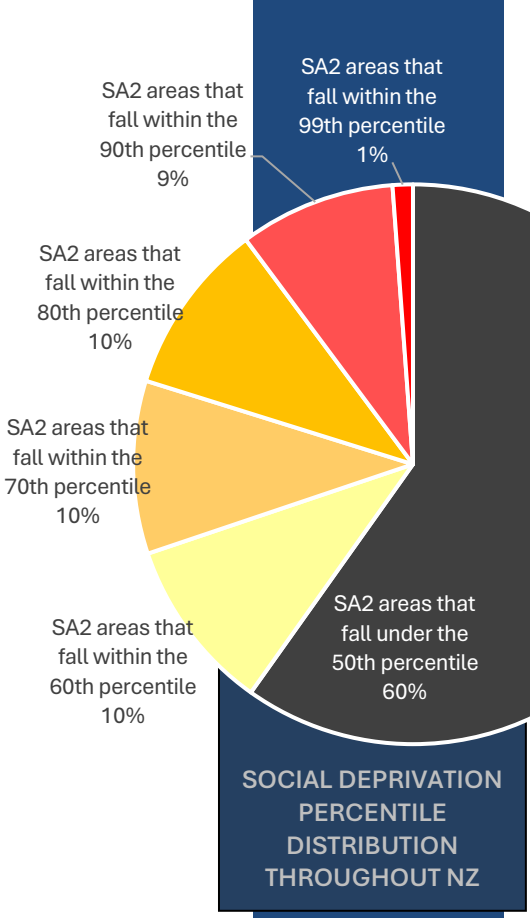
Modifications to Population bands	
Public site generator	Buckland Rd
Population density potential increase (people/km^2)	Average Daily travel estimate 7,739 (30.06.2024)
Source of information	Mobileroad.org.nz
CTI band adjustment	5

Applicable population density band for assessed trees
5
6,000-7,999 people who could benefit from the trees daily

3.5.3 Social deprivation

Often, areas with higher levels of socio-economic deprivation have lower canopy coverage due to the many challenges in establishing and maintaining trees within these areas. Higher levels of socio-economic deprivation are also associated with worse health, which can exacerbate socio-demographic health inequalities. Therefore, trees within these areas have the potential to provide more significant community benefits.

To put this into context, the adjacent chart shows the distribution of these areas throughout NZ using SA2 areas as a metric and summarising the data as percentiles. Therefore, a tree that stands within an area within the 99th percentile should be given more consideration to its value than a tree which stands in an area that falls within the <50% percentile.



The social deprivation percentile for where the trees assessed stand

90th percentile

3.5.4 Public accessibility of trees assessed

One of the key underlying factors for tree benefits to be realised is access. A tree on public land that is fully accessible to the community will deliver more community benefits than the same tree hidden from public view with no access.

	Accessibility of the trees assessed	Percentage of the trees assessed which it relates to
	Fully visible from at least one direction, on or immediately adjacent to public land.	14%
	Clearly visible from a publicly accessible location, but with some reduced visual contribution to public amenity.	31%
	Visible from a publicly accessible location, but with a significantly reduced visual contribution to public amenity.	53%
	Effectively invisible from any publicly accessible place.	2%

MARSELLE (2020)

"Small-scale, publicly accessible urban greenspace—could contribute to an "equigenic environment", i.e. nature-based solutions that can help close the gap in health inequalities between individuals with low and high socio-economic status. Incorporating unintentional nature experience into everyday life around the home could be important for mental health. As such, street trees should be planted equally throughout a city to ensure those who are socially disadvantaged have equal access to nearby nature, thereby safeguarding urban health equity and preventing green gentrifcation"

3.5.5 Rule 2 in detail 30% canopy coverage

As shown in the previous plan tree canopy cover is a meaningful measure to identify the extent of tree presence across the demarcated area. Tree canopy cover can serve as an effective indicator of the overall presence of trees across a given area. Its assessment can be straightforward, rapid, and highly reproducible. Regular monitoring of canopy cover can provide a cost-effective approach for tracking tree populations, setting targets, and evaluating the success of planting programmes This can further highlight the significance of a tree's benefits (i.e., if the area is high-use and has little canopy coverage, the higher the tree value).

184	Trees recorded within the site
91%	Of trees being assessed as mature: Canopy growth slows and incremental growth reduces

The data above suggests that canopy growth is largely static. Consequently, natural losses resulting from storms or other stressors, combined with a lack of succession, will likely lead to a continued decline in canopy cover within the site..

The following plan illustrates the site's canopy coverage and highlights trends. Where available, data provides further insights into the current and potential future benefits of the trees.

SHANAHAN (2019)	"Adults with 30% or more of their neighbourhoods covered in some form of tree canopy had 31% lower odds of developing psychological distress. The same amount of tree cover was linked to 33% lower odds of developing fair to poor general health"
KONIJNENDIJK (2023)	"A 30% canopy cover should be a minimum, and cities should strive for even higher canopy percentage when possible. Note that the 30% is not at the city level, as this can result, for example, in tree inequity. Studies have shown the importance of proximity and tree canopy in providing cooling and health benefits, primarily at the local level"

PUKEKOHE PARK

5%
Canopy cover within the site 2024

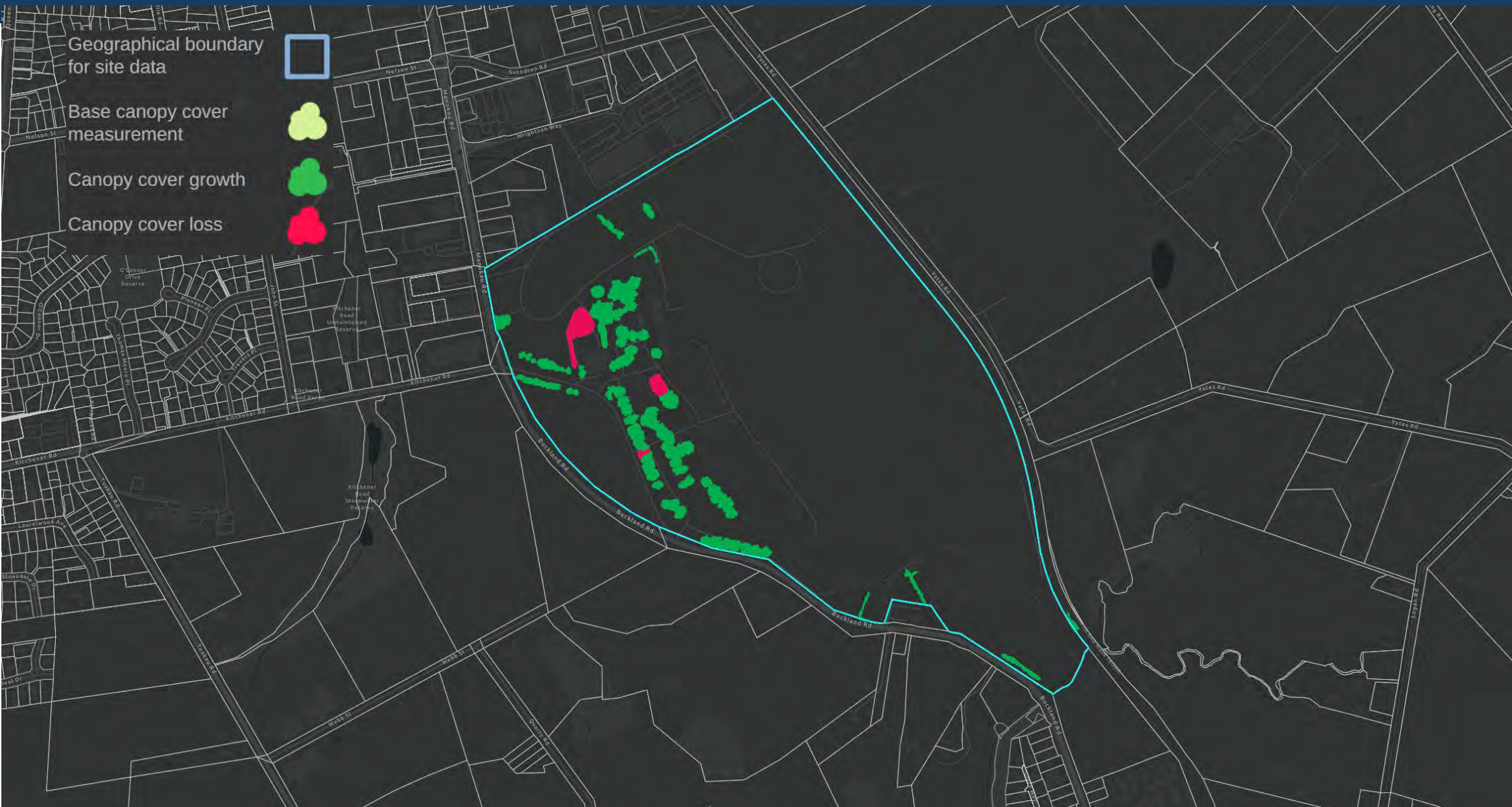
6%
Canopy cover within the site in 2017

2%
Canopy cover form Notable Trees

1.8%
Canopy cover from Notable Plane Trees

-1%
Loss in canopy cover between 2017-2024

184 trees have been recorded in the site. 94% of these trees are recorded as mature; canopy growth slows or palteuas. The remaing 9% were recorded as still being in a maturing life phase, where canopy gains could be reasobably expeted. Therefore it is assesed that canopy cover is likley to be static to slowly decresing over time, through naturally losses.



3.5.6 Community access to green spaces within 300m

In line with research and World Health Organization (WHO) recommendations, every citizen should have access to a large public green space within 300 metres, approximately a 5-minute walk, from their home. The WHO suggests a public green space of at least 1 hectare; however, updated research indicates that such classification can be limiting when measuring the social benefits of canopy cover in urban areas (Przewoźna. 2024). The "300" in the 300-metre rule is more of a guiding principle rather than a strict measure.

One approach instead of being constrained by the number is to focus on the ethos behind the rule: ensuring access to inviting green spaces where people feel encouraged to spend time.

The subject site significantly exceeds the 1-hectare threshold, covering 75 hectares. However, as noted, the site is private and primarily used for events, meaning that the public benefits fluctuate. Updated research highlights more nuanced approaches to understanding the social benefits of large green spaces, going beyond size alone.

In previous sections, it was noted that the trees on-site provide passive benefits, such as aesthetic value from being viewable from the road. Within the site, these trees also represent the value and environmental benefits associated with mature canopy cover within a large green space. At 75 hectares, the site comfortably meets spatial requirements, but there is room to explore how it can be better utilised to enhance the benefits provided by its trees, particularly if these trees are designated as high public amenity items.

As previously mentioned, the accessibility of these trees for public enjoyment has diminished due to the loss of running particular events, likely reducing the number of people who can benefit from them. Considering strategies to increase accessibility, even land change use change could improve the integration of how the public could further benefit from these trees.

4 Notability Value

There is no historical documentation linking the trees to any specific events or prominent individuals. The raceway was established in the early 1920s, and a review of historical images suggests the trees were planted around the 1940s.

Fig.8 Aerial image taken in 1942 (Retrolens.co.nz)

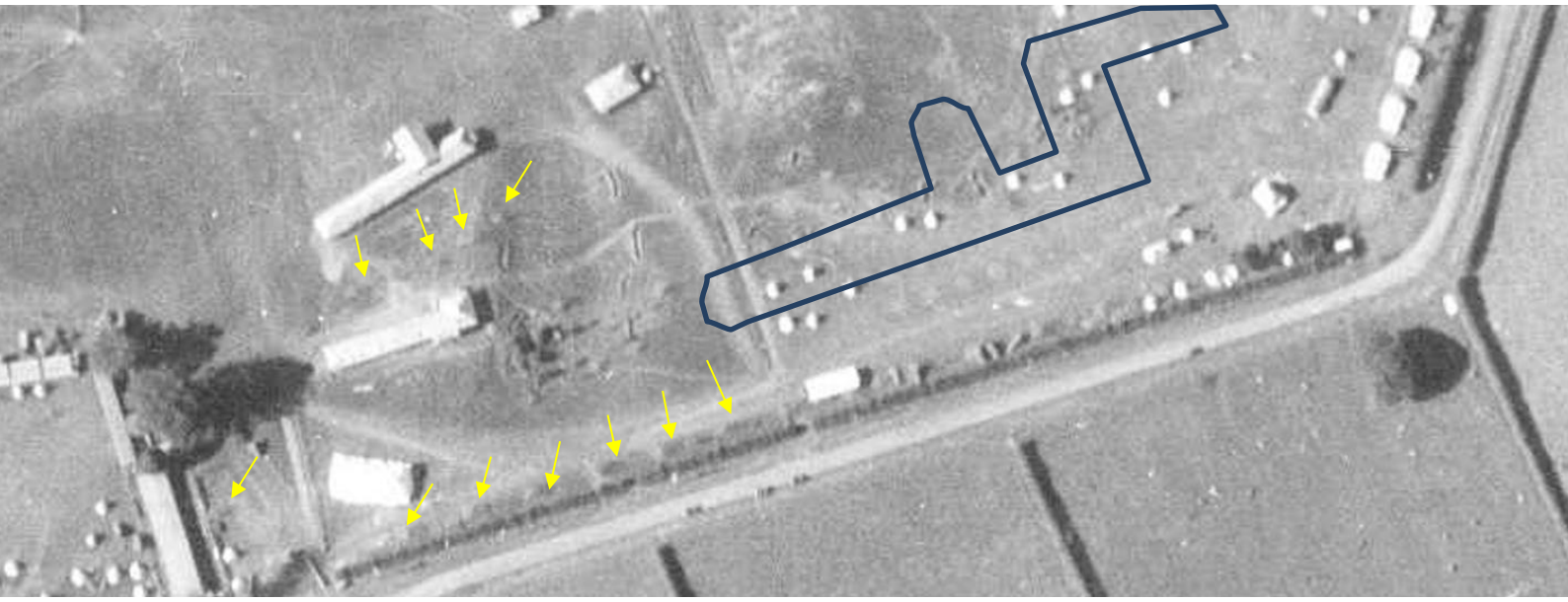


Fig.9 Close-up of the above image showing young trees within the image. The outlined area suggests that the trees that are present here now were planted after this image was taken.

Fig.10 Tree 23 (T85)

Figure 9 shows outlines of trees that were very recently planted at the time the aerial imagery was taken. Considering that the trees were likely around four years old prior to planting, this would place their current age at approximately 86 years. One tree from that era, an elm (Ulmus sp.), has since been removed. A count of 88 tree rings was conducted, but some may be false rings. Therefore, the initial estimate of the trees being around 86 years old is likely very close to their actual age.

An exception to this is observed in the group of trees shown in Figure 8 (Trees 32–50), which are likely to have been planted a few years after the initial plantings.

One tree, assessed to have exceeded the 100-year mark, is Tree 23, a Puriri (Vitex lucens)

Fig.11 Image showing aerial images of the site, current image and in 1942 showing tree location

Fig. 12 A 1942 aerial image, with the current aerial image overlaid, using the remaining sheds as a reference point to approximate Tree 23 location (outlined in green).

4.1 Two elms are present within the stand. Accurately identifying elms is challenging, but given their age these trees are likely *Ulmus procera* (commonly known as English elm), although there is ongoing debate among botanists regarding its classification. This species is no longer commercially available, other than a cultivar largely due to pests and pathogens that have caused significant declines worldwide.

The uncertainty in classification arises from our experiences in identifying elms for notable assessments, through our correspondence with Peter Bourne, a UK-based leading expert in elm identification, who highlighted the challenges associated with identifying this species with accuracy. However, based on my experience, the tree is unlikely to be a rare elm and is more likely one of the common species planted during that era.

Peter's research has noted that New Zealand possesses a highly diverse and rare collection of elm species, which holds significant value for research and conservation, particularly given the threats elms face both internationally and locally.

5 Recommendations

5.1 Discussion with the council is recommended to ensure that the best trees on-site; those that are largest and most resilient, are appropriately protected under the designation. Given that the primary notable attribute of these trees is likely their landscape value, priority should be given to trees visible from the road, as they contribute the most to public amenity.

5.2 The majority of the notbale trees are plane trees which show varying significance of infection for plane tree anthracnose. Current infection rates are quite high; however, given the time of year and the nature of the infection, this assessment only represents a snapshot in time. Further monitoring would be needed to assess the potential long-term impact on the plane trees, which would be beneficial as these trees represent the majority of the site's canopy cover.

5.3 Given the current canopy trends, combined with the fungal impacts and the age of the tree stock, a tree management plan would be beneficial to improve the site's amenity value. While the future plans for the site are unclear, it is reasonable to assume that it will continue to attract significant public activity for events and recreational use. Therefore, planning to enhance amenity and increase human comfort (e.g., providing tree shade) will add value to the site's character as a destination.

5.4 The management plan does not need to be overly complex. The existing mapping work highlights significant opportunities for improvement, including setting canopy targets to measure success, identifying areas requiring intervention, and enhancing the resilience of existing trees to secure long-term outcomes.

5.5 Improving species resilience is particularly relevant given the site's conditions. Many trees are located in areas previously used for parking, where soil compaction likely exacerbates stress. Implementing soil decompaction measures and other best practices could improve tree health and longevity.

5.6 The site has significant potential to enhance its canopy cover and sustain the long-term amenity value of its notable trees. However, without proper guidance, there is a risk of continual canopy decline due to inadequate succession planning and tree care. This could place additional pressure on older trees, especially if any land use changes occur.

Therefore, any land-use changes should include strategies to maximise the existing benefits of the trees, ensuring they align with long-term plans for the site. Expert guidance can help identify opportunities to leverage tree value for economic advantages, enhancing the site's appeal.

Careful planning and collaboration are therefore essential to address potential conflicts and mitigate risks to both current and future amenity, and value creation that the trees can contribute towards.

Please get in touch should any additional information be required for the outputs discussed within this assessment.

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EST 2013
PAPER STREET
TREE COMPANY
ARBORICULTURE CONSULTANCY

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Appendix 1 Background, administrative information and data collection

A1.1 Additional information on PS caperbilites in Notable tree reviews

Please refer to Paper Street Tree Company's (PS) Capability Statement, which outlines the company's expertise and capabilities in conducting notable tree assessments.

A1.2 Background and administration information

Report reference & date	Report reference PS24665. Report completed on 6/12/2024
Instructing client	Greenscene Ltd
Instructions	Provide STEM assessments for 48 Notable trees
Report author and credentials	Richie Hill has been practising as an arborist for 22 years, with 13 of those years in consultancy working with trees in a development context and holds a Diploma in Arboriculture.
Report limitations	**Ecology:** While trees can serve as valuable ecological habitat, it's important to note that we do not possess specialist expertise in this discipline, and thus, this report does not address that aspect. **Checking frequency:** Our tree survey primarily aims to assess notable qualities, with recommendations provided at a more strategic level rather than focusing on specific work requirements, unless a cause for concern is identified. However, It is expected that trees should be inspected around every two years, with a margin of plus or minus six months. In the absence of formal guidance specific to New Zealand, the UK Health & Safety Executive advises implementing a system for reporting damage to trees, such as vehicle collisions. This system should also include checks following potentially damaging activities, such as utility work near trees or severe weather events.In practical terms, this involves identifying and addressing hazards posed by storms or activities that may compromise tree stability. The specifics of inspection timing and responsibility, however, depend on the unique circumstances and ultimately rest with the duty holder.

Appendix 1 Background, administrative information and data collection

A1.2 Data collection

Dates of site visits	28/11/2024
People present during site visit	Richie Hill, Christy Reynolds and Allan Holmes
Weather & visibility	Clear with good visibility.
Tree survey method	In the areas identified for checking shown on the aerial image at the start of the report (figure 1), Trees were checked. This included looking at the trunk and crown from a distance for any obvious signs of poor health and structural weakness. Where access allowed, we also looked at the base of the trunk for obvious signs of structural defects and/or instability. We did not closely check every small tree where we assessed that they did not present a significant risk. For the larger trees, if necessary, we scanned the upper canopy with binoculars or a zoom camera.. Inspection routes are GPS tracked, or where equipment failure occurs, a digital image of all trees is taken as a record to demonstrate all trees have been visited and inspected.
Captured data	The data is captured within ArcGIS and processed through the PS survey platform ProMa. This platform employs various equations to calculate environmental and amenity values, helping to mitigate the inherent subjectivity associated with survey work and promoting consistent decision-making. The survey platform is linked to a tree database, which expands with each surveyed tree, allowing the creation of species profiles and enabling predictive analysis.
Assessment of intervention work	If intervention works are specified based on a checking frequency of about two years, and an assessment of the following failure factors: tree health, structural defects, history of failure, predisposition of the species to failure, recent changes or disturbance, prevailing ground conditions affecting stability, and exposure to weather. The priority and the detail of work interventions were based on the level of occupancy observed at the time of the visit. NOTE: If the level of occupancy changes following our visit, e.g., a new footpath is created near trees that were previously more distant from occupied areas, then we must be advised because this could affect the management advice.
Limitations to observations	• The survey of the trees to assess their condition and any work requirements was made on the basis that they will be re-inspected about every two years to identify any changes in condition and review the original recommendations.

Appendix 1 Background, administrative information and data collection

- All observations were of a preliminary nature and did not involve any climbing or detailed investigation beyond what was visible from accessible points at ground level.
- Where there was restricted access or viewing access (e.g. dense canopy structure) to the base of a tree, its attributes were assessed from the nearest point of access.
- The dimensions used were sourced from Greenscene survey data, as it provides a robust and reliable dataset. Additional measurements were taken where necessary to supplement any data not included within the dataset for analysis.

Appendix 9. Heritage Site Pack

Item 227

Area: Franklin
Address: Pukekohe Park (222 Manukau Road), Pukekohe **Tree No:** 214

Common Name: Elm, Plane, Puriri, English Oak, Pin Oak, Beech, Totara
Botanical Name: *Ulmus sp. Platanus x acerifolia, Quercus palustris, Quercus robur, Podocarpus totara, Vitex lucens, Fagus sylvatica*

Condition Evaluation

Points		3	9	15	21	27	Score
Form		Poor	Moderate	Good	Very Good	Specimen	15
Occurrence		Predominant	Common	Infrequent	Rare	Very Rare	9
Vigour / Vitality		Poor	Some	Good	Very Good	Excellent	15
Function		Minor	Useful	Important	Significant	Major	15
Age (yrs)		10yrs +	20yrs +	40yrs +	80yrs+	100yrs +	21
					SUB TOTAL		75

Amenity Evaluation

Points		3	9	15	21	27	Score
Stature (9)		3 to 8	9 to 14	15 to 20	21 to 26	27+	21
Visibility (km)		0.5	1	2	4	8	9
Proximity		Forest	Parkland	Group 10+	Group 3+	Solitary	9
Role		Minor	Moderate	Important	Significant	Major	21
Climate		Minor	Moderate	Important	Significant	Major	9
					SUB TOTAL		69

Notable Evaluation

Points		3	9	15	21	27	Score
Stature	Feature						
	Form						
Historic	Age 100+						
	Association						
	Commemoration						
	Remnant						
	Relict						
Scientific	Source						
	Rarity						
	Endangered						
					SUB TOTAL		0
					GRAND TOTAL		144

Notes: Elm, Plane, Puriri, English Oak, Pin Oak, Beech, Totara


Yates Road
Wrightson Way
Various - Puke Raceway
Scale @ A4 1:8000
Auckland Council
Created: Monday, 25 July 2011,10:34:10 a.m.