

STEM Evaluation for:

Fraxinus excelsior

Common Ash - Exotic

Location: Rangitatau East Road

STEM Score: 135

Assessed by: Marc Higgle, Consultant Arborist, 16 December 2013

History:

Planted by the Moore family.

Visual Comments:

- Impressive tree on the side of the road.
- There are numerous other ash nearby but this is the biggest and better formed tree.
- It is double-leadered from approximately 3m. The union is included but it appears sound and there is good response growth around it.
- The tree has had numerous branch failures on the northern side. This is the side most exposed to the wind and two plantation pines have fallen taking some of the ash branches with them.
- There was minimal decay observed.
- There is some sizeable deadwood in the canopy. This is fairly typical of the species.



Full Tree Evaluation Score Sheet

Fraxinus excelsior 16.12.13

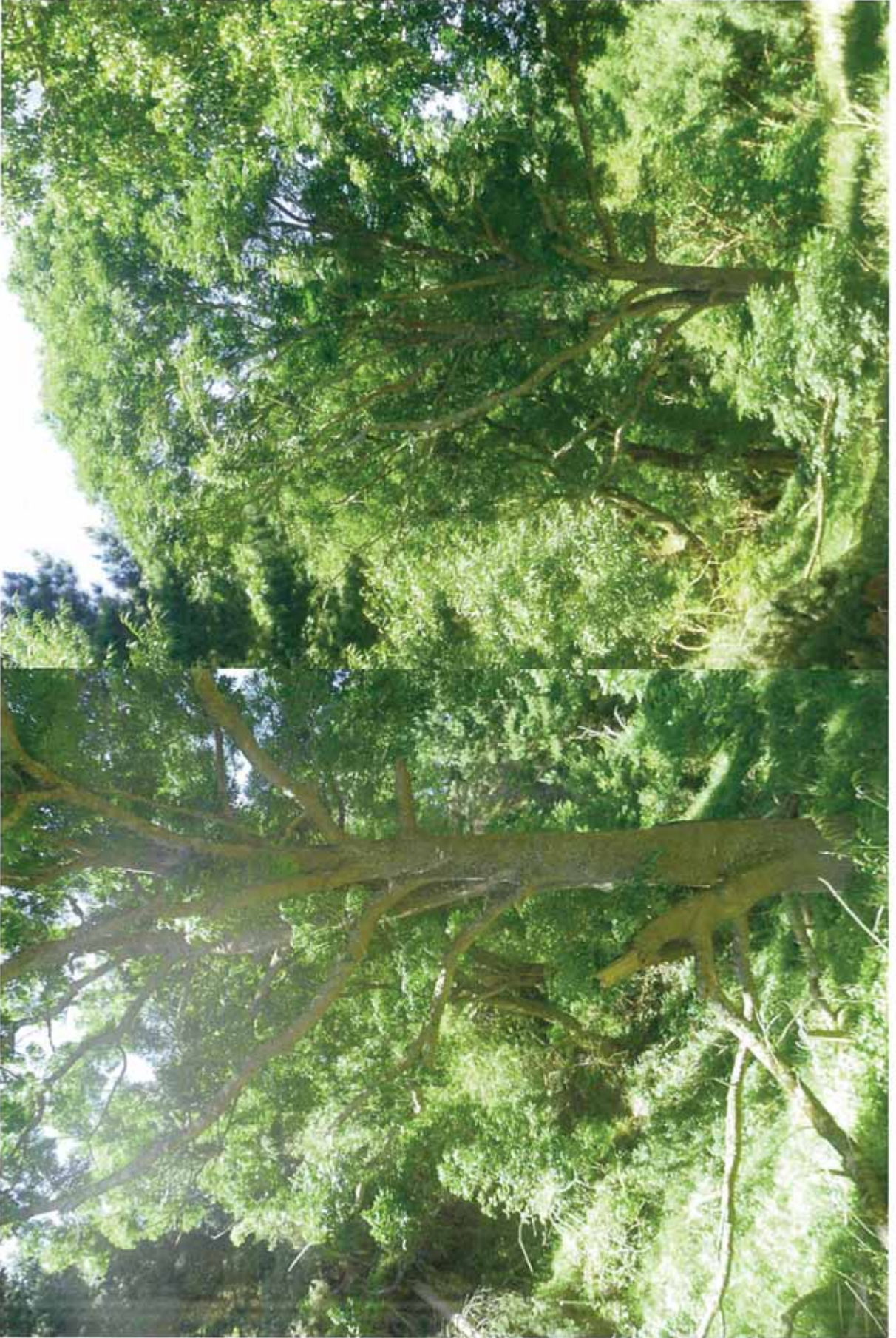
Condition Evaluation						Score
Points	3	9	15	21	27	
Form	Poor	Moderate	Good	Very good	Specimen	15
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	15
Vigour & Vitality	Poor	Some	Good	Very good	Excellent	15
Function	Minor	Useful	Important	Significant	Major	3
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	27
Subtotal Points						75

Amenity Evaluation						Score
Points	3	9	15	21	27	
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	15
Visibility (km)	0.5	1.0	2.0	4.0	8.0	3
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	21
Role	Minor	Moderate	Important	Significant	Major	3
Climate	Minor	Moderate	Important	Significant	Major	3
Subtotal Points						45

Notable Evaluation						Score
Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	
Stature						
• Feature						9
• Form						
Historic						
• Age 100+						9
• Association						3
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						15
Total Points						135







STEM Evaluation for:
***Fagus sylvatica* – 18 trees**
European Beech - Exotic
Location: Rangitatau East Road
STEM Score: 123

Assessed by: Marc Higgle, Consultant Arborist, 16 December 2013

History:

Planted by the Moore family.

Visual Comments:

- These 18 trees create a beautiful “tree tunnel” lining one side of the road. Tree ferns opposite complement and enhance the effect of driving through.
- Most of the trees have good form and structure.
- All of the canopies are healthy with little decay observed.
- Most of the trees have had road lift prunes done with mostly good pruning cuts.
- Four banana passionfruit seedlings were found and pulled but I suspect there are more in the vicinity.
- The redwoods behind the beeches further add to the effect and provide good shelter to the site.
- There is a nice horizontal elm nearby also.

Full Tree Evaluation Score Sheet

Fagus sylvatica X 18 16.12.13

Condition Evaluation

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

Amenity Evaluation

Points	3	9	15	21	27	Score
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	15
Visibility (km)	0.5	1.0	2.0	4.0	8.0	3
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	15
Role	Minor	Moderate	Important	Significant	Major	9
Climate	Minor	Moderate	Important	Significant	Major	3
Subtotal Points						45

Notable Evaluation

Recognition Points	Local	District	Regional	National	International	Score
	3	9	15	21	27	
Stature						
• Feature						
• Form						
Historic						
• Age 100+						
• Association						3
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						3
Total Points						123

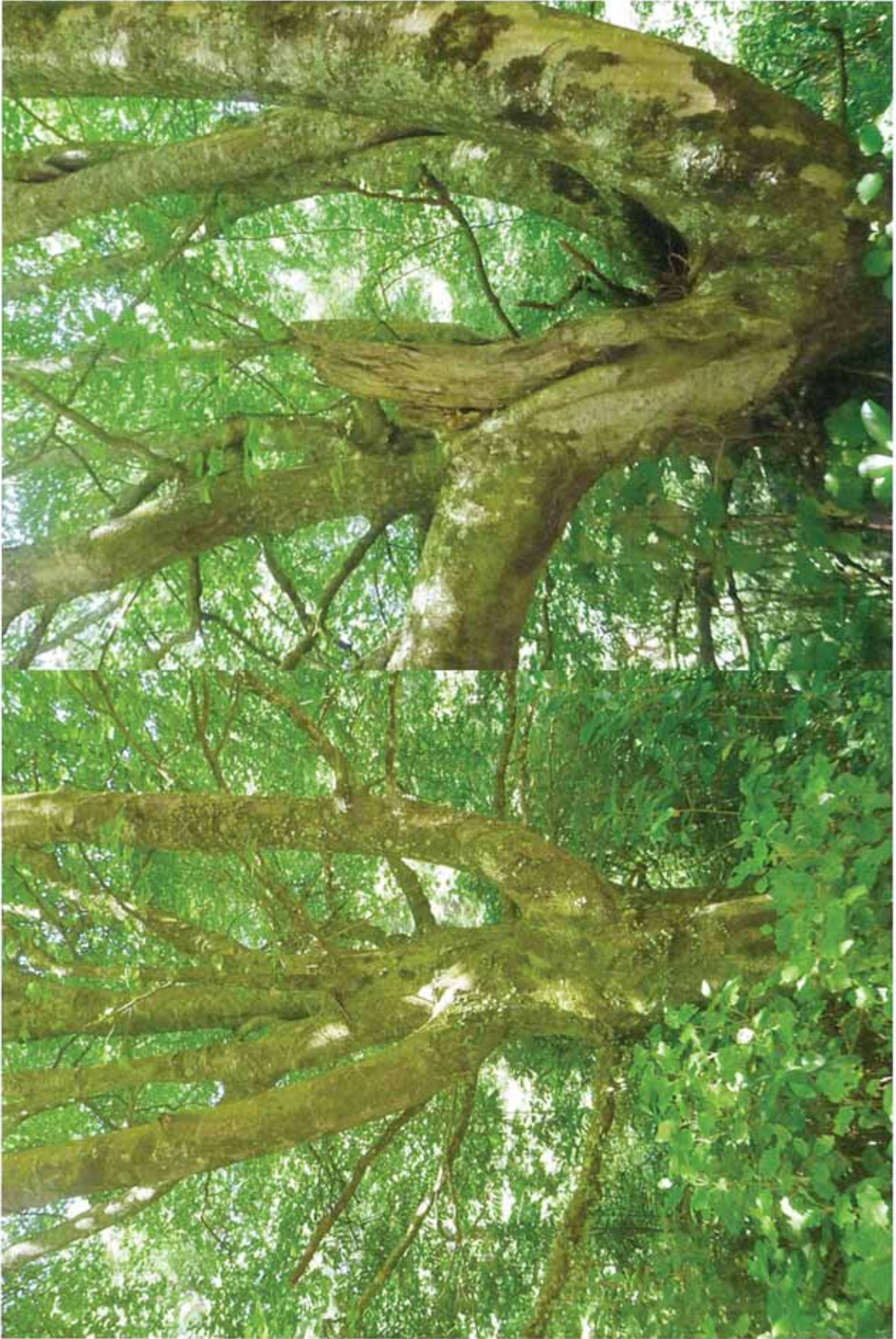














STEM Evaluation for:

Cercis siliquastrum

Judas Tree - Exotic

Location: Bushy Park

STEM Score: 81

Assessed by: Marc Higgie, Consultant Arborist, 16 December 2013

History:

Planted in 1925 by Frank Moore, the original owner of Bushy Park.

This tree is also on the New Zealand Notable Trees Register.

Visual Comments:

- This tree would have once been spectacular but is now very much on its last legs and.
- There is only ones small branch and an epicormic growth which remain alive.
- The remaining stump is extremely decayed and fragile.
- There are *Colospermum sp.*, native orchids and epiphytic ferns cover the decaying stump.
- There are also seedling *Fraxinus sp.* (Ash) and a *Coprosma sp.* growing from the stump.
- Some mahoe grow around the stump.
- There has been a *Muehlenbeckia sp.* vine growing through the canopy but this has been cut, leaving the dead vine in the canopy.
- A fungal fruiting bracket from a *Ganoderma sp.* is growing at the base of the stump and signifies the demise of the tree. It will continue to decline and die.

Recommendations:

- There is nothing that can be done to save or prolong the life of this tree, monitoring it for its eventual collapse is all that is necessary.
- If the stump becomes too unstable and dangerous it may become necessary to remove it before it falls. However, there is so little canopy that it does not pose much threat.

Full Tree Evaluation Score Sheet

Cercis siliquastrum

16.12.13

Condition Evaluation

Points	3	9	15	21	27	Score
Form	Poor	Moderate	Good	Very good	Specimen	3
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	15
Vigour & Vitality	Poor	Some	Good	Very good	Excellent	3
Function	Minor	Useful	Important	Significant	Major	3
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	21
Subtotal Points						45

Amenity Evaluation

Points	3	9	15	21	27	Score
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	3
Visibility (km)	0.5	1.0	2.0	4.0	8.0	3
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	15
Role	Minor	Moderate	Important	Significant	Major	3
Climate	Minor	Moderate	Important	Significant	Major	3
Subtotal Points						27

Notable Evaluation

Recognition Points	Local	District	Regional	National	International	Score
Points	3	9	15	21	27	
Stature						
• Feature						
• Form						
Historic						
• Age 100+						9
• Association						39
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						9
Total Points						81



Gandoderma sp. fungal fruiting bracket.





STEM Evaluation for:
Metrosideros excelsa
(Pohutukawa) - Native
Location: 27 Riverbank Road
STEM Score: 171

Assessed by: Marc Higgle, Consultant Arborist, 12 November 2013

History:

None known at this stage.

Visual Comments:

- Impressive tree growing close to a holm oak (*Quercus ilex*).
- Because of this, the tree is one sided but together the two trees form a well-shaped, two-tone canopy.
- Great branch/stem network.
- There is one large cavity/split that would need closer inspection to determine the risk of failure. Removal of the affected branch would leave a hole but not a noticeable one.
- One large limb was recently removed to allow light to a neighbours property.
- There is an old tree hut at approximately 3m. It is crowing into some of the leaders and possibly constricting growth.
- There are mature aerial roots snaking down the leaders to the ground.

Recommendations:

- Monitor and/or climb to inspect split branch union.



Full Tree Evaluation Score Sheet

Metrosideros excelsa
Condition Evaluation

12.11.13

Points	3	9	15	21	27	Score
Form	Poor	Moderate	Good	Very good	Specimen	21
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	9
Vigour & Vitality	Poor	Some	Good	Very good	Excellent	21
Function	Minor	Useful	Important	Significant	Major	15
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	27
Subtotal Points						93

Amenity Evaluation

Points	3	9	15	21	27	Score
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	21
Visibility (km)	0.5	1.0	2.0	4.0	8.0	3
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	15
Role	Minor	Moderate	Important	Significant	Major	15
Climate	Minor	Moderate	Important	Significant	Major	15
Subtotal Points						69

Notable Evaluation

Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
• Feature						3
• Form						3
Historic						
• Age 100+						3
• Association						
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						9
Total Points						171





Split union.



Pohutukawa on left, holm oak on right.

STEM Evaluation for:

Quercus ilex

(Holm Oak) - Exotic

Location: 27 Riverbank Road

STEM Score: 156

Assessed by: Marc Higgle, Consultant Arborist, 12 November 2013

History:

Planted in early 1880's by W. Parnell for the owner J. Paul.

Visual Comments:

- Lovely big holm oak growing close by a big pohutukawa and resulting in a beautiful, two-tone canopy.
- One large leader recently removed at ground to allow more light for a neighbour. This has unbalanced the tree somewhat. The leader hasn't had its finishing cut to leave a tidy and clean cut.
- There are two remaining main leaders from approximately 2m.
- The tree is well branched and spreading.
- Two old failures have left cavities but response growth is good and decay appears minimal. The rest of the canopy is healthy.
- There are copious seedlings at the base of the tree.
- The tree may have been topped at an earlier age and has now grown out. Some resulting stems are a little lions tailed.
- There are numerous other mature specimen trees on the property, including: *Magnolia grandiflora*, *Araucaria heterophylla* (Norfolk pine), *Quercus robur*, *Metrosideros excelsa* (pohutukawa), *Sequoia sempervirens* (redwood).

Recommendations:

- Remove final portion of felled leader leaving a clean cut.

Full Tree Evaluation Score Sheet

Quercus ilex 12.11.13

Condition Evaluation						Score
Points	3	9	15	21	27	
Form	Poor	Moderate	Good	Very good	Specimen	15
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	15
Vigour & Vitality	Poor	Some	Good	Very good	Excellent	15
Function	Minor	Useful	Important	Significant	Major	9
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	27
Subtotal Points						81

Amenity Evaluation						Score
Points	3	9	15	21	27	
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	21
Visibility (km)	0.5	1.0	2.0	4.0	8.0	3
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	15
Role	Minor	Moderate	Important	Significant	Major	9
Climate	Minor	Moderate	Important	Significant	Major	15
Subtotal Points						63

Notable Evaluation						Score
Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	
Stature						
• Feature						3
• Form						3
Historic						
• Age 100+						3
• Association						3
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						12
Total Points						153 156





STEM Evaluation for:

Quercus ilex

Holm Oak - Exotic

Location: Fordell Preschool

STEM Score: 189

Assessed by: Marc Higgle, Consultant Arborist, 16 December 2013

History:

None known at this stage.

Visual Comments:

- A massive and stunning tree.
- It is multi leadered from 1m and has a very busy network of spreading branches in the canopy.
- It had a significant crown lift some years ago when the preschool took over the grounds. This pruning has misshapen the tree leaving it with a pom pom like appearance.
- Wound response has been good.
- A new sealed carpark with concrete curbing was installed approximately four – five years ago. The curb is 1m away from the base of the trunk on one side. The tree hasn't shown sign of decline or stress although it is certain that some root pruning would have taken place.
- Ivy has been removed from the trunks but it is still alive at the base.
- There are some small basal suckers.
- The canopy is very healthy.
- There are some heavy, over extended branches over the preschool buildings. Unions and structures are good and strong but monitoring is recommended.
- Last year the fungus, *Scleroderma sp.* was identified to be growing on the roots of the tree. It is a poisonous ectomycorrhizal fungus that cannot be controlled without removing the tree. It is lifting the newly sealed carpark and causing concern for the preschool through this and it's management around children.

Recommendations:

- Monitor and if deemed necessary, consider an end weight reduction over the preschool buildings.
- Develop a management plan for dealing with the fungus during the time when fruiting bodies are present.

Full Tree Evaluation Score Sheet

Quercus ilex 16.12.13

Condition Evaluation

Points	3	9	15	21	27	Score
Form	Poor	Moderate	Good	Very good	Specimen	21
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	15
Vigour & Vitality	Poor	Some	Good	Very good	Excellent	21
Function	Minor	Useful	Important	Significant	Major	7
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	27
Subtotal Points						93

Amenity Evaluation

Points	3	9	15	21	27	Score
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	27
Visibility (km)	0.5	1.0	2.0	4.0	8.0	3
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	21
Role	Minor	Moderate	Important	Significant	Major	15
Climate	Minor	Moderate	Important	Significant	Major	7
Subtotal Points						75

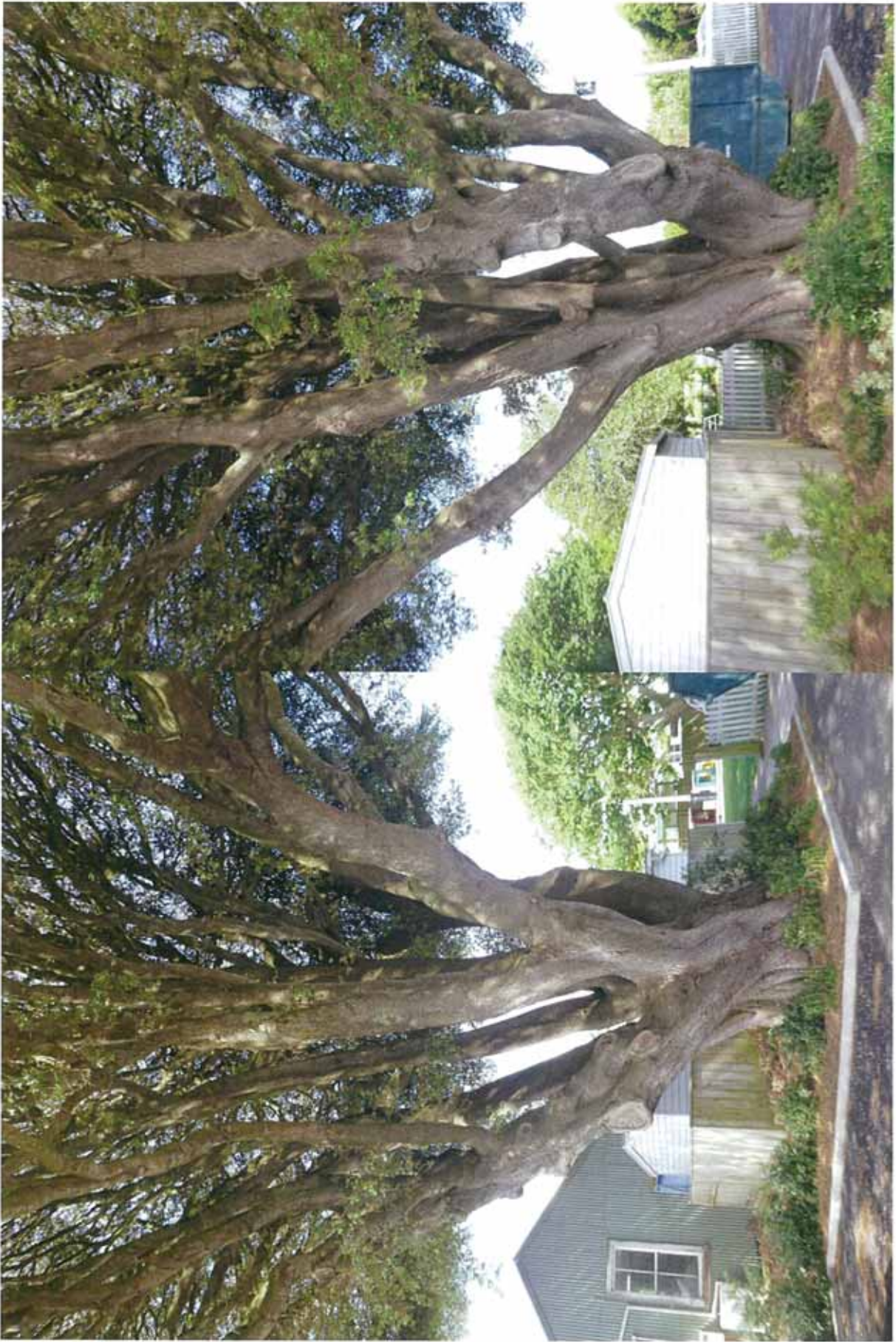
Notable Evaluation

Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
• Feature						9
• Form						3
Historic						
• Age 100+						7
• Association						
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						21
Total Points						189











STEM Evaluation for:
***Eucalyptus globulus* – approx. 50 trees**
Tasmanian Blue Gum - Exotic
Location: SH3, opposite WDC water reservoirs.
STEM Score: 138

Assessed by: Marc Higgie, Consultant Arborist, 18 December 2013

History:

A row of trees planted by early colonialists.

Visual Comments:

- A long row of trees fairly irregular in spacing, form and structure. Some windswept trees.
- There is stag heading present in many of the trees. This is typical of mature trees of this species.
- The row is a good food source for birds and bees and it is a good “green” corridor for other wildlife also.



Full Tree Evaluation Score Sheet

Eucalyptus globulus
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	9
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	27
Subtotal Points						75

Amenity Evaluation

Points	3	9	15	21	27	Score
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	15
Visibility (km)	0.5	1.0	2.0	4.0	8.0	9
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	15
Role	Minor	Moderate	Important	Significant	Major	9
Climate	Minor	Moderate	Important	Significant	Major	9
Subtotal Points						57

Notable Evaluation

Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
• Feature						
• Form						
Historic						
• Age 100+						3
• Association						3
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						6
Total Points						138









STEM Evaluation for:
Agathis robusta
(Queensland Kauri) - Exotic
Location: Arles, SH4
STEM Score: 261

Assessed by: Marc Higgle, Consultant Arborist, 12 November 2013

History:

None known at this stage.

Visual Comments:

- Stunning specimen in excellent health.
- Southern most mature species known and one of the biggest in New Zealand.
- A massive trunk with good root flare and garden around it protecting roots.
- Lawn approximately 3m away.
- Tree is a little windswept with upriver branches tending to be larger and longer.
- Some branches are turning apical.
- It was difficult to observe the main growth tip but it appears healthy.
- Trunk diameter reduces significantly at approximately 13m where there are some large diameter branches.
- SH4 is approximately 4m away.
- There is a large exposed root on the roadside of the tree. It has had some damage but there is minimal decay.
- The removal of a nearby oak has made the kauri a great focal point from the house.



Full Tree Evaluation Score Sheet

Agathis robusta

12.11.13

Condition Evaluation

Points	3	9	15	21	27	Score
Form	Poor	Moderate	Good	Very good	Specimen	27
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	27
Vigour & Vitality	Poor	Some	Good	Very good	Excellent	21
Function	Minor	Useful	Important	Significant	Major	15
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	27
Subtotal Points						117

Amenity Evaluation

Points	3	9	15	21	27	Score
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	27
Visibility (km)	0.5	1.0	2.0	4.0	8.0	9
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	15
Role	Minor	Moderate	Important	Significant	Major	21
Climate	Minor	Moderate	Important	Significant	Major	9
Subtotal Points						81

Notable Evaluation

Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
• Feature						21
• Form						21
Historic						
• Age 100+						21
• Association						
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						63
Total Points						261







STEM Evaluation for:

Platanus X hispanica

London Plane - Exotic

Location: Atene

STEM Score: 195

Assessed by: Marc Higgle, Consultant Arborist, 18 December 2013

History:

Planted by Reverend Richard Taylor in 1843. It grows at the Atene Urupa but is unknown if it was an urupa when the tree was planted.

Visual Comments:

- This massive tree would have possibly been amongst the best examples of London plane in the country but it was cut down to a 4m stump in the winter of 2013.
- There is no sign of any rot or decay whatsoever in the trunk, basal area, root flares or on either side of the cut timber (remaining stump and felled logs).
- Although not all the tree was there, I could find no evidence of natural branch failures or other defects.
- Some of the felled timber was swept away by the river in a flood but some still remains on site.
- The remaining stump has poorly cut stumps left which should be re-cut to leave a smooth, clean cut.
- There is a lot of epicormic growth from the cuts and at points below on the trunk. These could be thinned out eventually to form a "new" tree.
- There is an older, more established epicormic, at the base of the tree which could also be left to grow into a new trunk of the tree.
- Very good root flare and a very interesting lower trunk.
- The timber is tapu and cannot be used for anything but I understand that it may be used within the urupa. If it were treated it could be used to re-fence the urupa, a bench seat within the urupa and untreated it could be used for coffins.
- A cutting could be taken from the epicormic growth to grow and once established, plant in a different site to ensure the longevity of the tree and its history.
- Though the tree has been cut down and scored low on form, size and visibility attributes, it still scored high on the assessment.
- Given the lack of decay present, I would have expected the tree to live, in its un-felled condition, for another hundred or more years and there is no reason why it still won't be able to.

Recommendations:

After leaf fall in 2014:

- Re-cut the stumps to leave a clean cut.
- Begin thinning out epicormic growths but leaving approximately 60% to continue to support the tree.
- Leave already established basal epicormic growth to grow into a new leader of the tree.
- Take cuttings from the pruned epicormic growths.

2015 and onwards:

- Continue gradually thinning out epicormic growths, leaving the stronger, more apical shoots to grow into a new tree. In around 10 years, aim to have around five leaders growing on.
- Maintain these leaders and the already established basal epicormic growth as if a young tree.
- Plant out the established cutting(s) in a suitable site.

Full Tree Evaluation Score Sheet

Platanus x hispanica 18.12.15

Condition Evaluation						Score
Points	3	9	15	21	27	
Form	Poor	Moderate	Good	Very good	Specimen	3
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	9
Vigour & Vitality	Poor	Some	Good	Very good	Excellent	21
Function	Minor	Useful	Important	Significant	Major	9
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	27
Subtotal Points						69

Amenity Evaluation						Score
Points	3	9	15	21	27	
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	3
Visibility (km)	0.5	1.0	2.0	4.0	8.0	3
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
Role	Minor	Moderate	Important	Significant	Major	27
Climate	Minor	Moderate	Important	Significant	Major	9
Subtotal Points						69

Notable Evaluation						Score
Recognition Points	Local	District	Regional	National	International	
	3	9	15	21	27	
Stature						
• Feature						21
• Form						
Historic						
• Age 100+						15
• Association						21
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						57
Total Points						195





Sap stain (no decay) due to felled leader.









No decay in any of the felled pieces.

STEM Evaluation for:

Juglans regia

English Walnut, Persian Walnut - Exotic

Location: Atene

STEM Score: 264

Assessed by: Marc Higgle, Consultant Arborist, 18 December 2013

History:

Planted by Reverend Richard Taylor in 1843.

Visual Comments:

- A massive and stunning tree set beside the road and below the marae.
- The biggest walnut I have seen and probably amongst the biggest in New Zealand.
- The huge butt log supports multiple, very large leaders.
- It is a well formed and spreading tree.
- There are no major failures and the canopy is very healthy.
- There is some deadwood and stubs present but this is minimal.
- There are some cavities in the canopy.
- Some exposed roots are visible with a cavity and other minor damage. It does not appear to be affecting the health of the tree.
- There is some wire grown in around branches in at least two locations. Presumably they were to suspend objects.

Recommendations:

- Only lightly stock pasture around the tree to prevent damage to lower trunk and exposed roots and lessen soil compaction.

Full Tree Evaluation Score Sheet

Juglans regia

18.12.13

Condition Evaluation

Points	3	9	15	21	27	Score
Form	Poor	Moderate	Good	Very good	Specimen	27
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	15
Vigour & Vitality	Poor	Some	Good	Very good	Excellent	21
Function	Minor	Useful	Important	Significant	Major	15
Age (yr)	10yrs. +	20yrs. +	40yrs. +	80yrs. +	100yrs. +	27
Subtotal Points						105

Amenity Evaluation

Points	3	9	15	21	27	Score
Stature (m)	3 to 8	9 to 14	15 to 20	21 to 26	27+	27
Visibility (km)	0.5	1.0	2.0	4.0	8.0	3
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
Role	Minor	Moderate	Important	Significant	Major	15
Climate	Minor	Moderate	Important	Significant	Major	9
Subtotal Points						81

Notable Evaluation

Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
• Feature						21
• Form						21
Historic						
• Age 100+						15
• Association						21
• Commemoration						
• Remnant						
• Relict						
Scientific						
• Source						
• Rarity						
• Endangered						
Subtotal Points						78
Total Points						264









