

Review of District Plan Appendix 1D Notable Trees

Part 1 – Report on the Survey and Assessment of Notable Trees for Manawatu District Council



The Halcombe Wellingtonia, Kimbolton Road

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Table of Contents

Content	Page
1 Introduction	3
2 Qualifications and Experience	3
3 STEM Assessment Method	3
4 Assessment of condition and safety	4
5 Review of STEM (Council’s preferred tree evaluation method)	4
5.1 Unsafe trees & trees causing significant nuisance	4
5.2 Using STEM to determine a threshold score	4
5.3 Subjective criteria	4
5.4 Evaluation guidance	5
5.5 History and usage of STEM	5
6 Review of other Notable Tree Evaluation Methods used in NZ	6
6.1 The Auckland Notable Tree Evaluation Method	6
6.2 Hybrid STEM methods	7
7 Trees Surveyed – District Overview	8
8 Discussion of Trees Assessed	10
8.1 Age of Trees Assessed	10
8.2 Threats to Trees Assessed	10
9 Determining a Suitable STEM threshold for the Manawatu	10
9.1 Comparing the Manawatu with nearby Council thresholds	11
9.2 STEM threshold recommendation	12
10 Ongoing Care and Retention of Notable Trees	12
11 Review of District Plan Policies, Objectives, and Rules	12
11.1 Review of Policies and Objectives	13
11.2 Recommended Policies and Objectives	13
11.3 Review of Notable Tree Rules	15
11.4 Recommended Notable Tree Rules	16
11.5 Recommended definitions to be included within Definitions Chapter	17
Figure 1 – Rural Trees	5
Figure 2 - Specific Factors are scored using the Auckland methodology	7
Figure 3 - Current District Plan policies, rules and criteria relating to Notable Trees	10
Table 1 - STEM scores, age class and threats for Manawatu Notable Trees	9
Table 2 - STEM thresholds and numbers of Notable Trees for nearby Councils	12
Appendix 1 - STEM (Standard Tree Evaluation Method 1996 pub. Ron Flook) Tree Evaluation Score Sheet	18

Survey and Assessment of existing Notable Trees in Manawatu District

1 Introduction

This survey has assessed the current schedule of Notable Trees listed in the Manawatu District Plan using the Standard Tree Evaluation Methodology (STEM)(Ron Flook, 1991). 15 Notable Trees or Groups are listed in the District Plan but 5 of these are no longer present, meaning that 10 trees or groups were evaluated using STEM.

These trees are located mainly within Feilding with two trees located outside of Feilding. The survey and analysis of trees took place on the 27th and 28th September 2021. For site visits undertaken on the 27th the weather was fine and clear, and on the 28th the weather was wet and cold. The purpose of the assessment and report is to assist the Council to decide whether protection of these trees should be continued within the District Plan, to provide arboricultural advice into the Plan Change process, and to determine a suitable STEM threshold for District Plan inclusion.

2 Qualifications and Experience

Jez Partridge is the Senior Consultant Arborist and owner of Treecology Consultancy. Treecology has been operating since 2009 and provides expert arboricultural advice to a wide range of clients including Councils, Landscape Architects, developers and homeowners. Services include tree safety and risk assessments, resource consent advice, District Plan Notable Tree Chapter reviews, and disease diagnosis. Jez is recommended as Consultant Arborist by several Councils including Wellington and Palmerston North. Jez trained and worked as a Climbing Arborist in the UK and then was employed as an Arboricultural Officer by several UK Councils, before emigrating to NZ in 2007. His main qualifications are a Level 6 Diploma in Arboriculture, Level 4 Arboriculture Award, Craftsman's Certificate in Tree Surgery, and a Masters Degree in Rural Resource Management. Jez is also an International Society of Arboriculture certified Tree Risk Assessor. More information can be found at [linkedin](#) and [treecology.co.nz](#).

3 STEM Assessment Method

The New Zealand Standard Tree Evaluation Method (STEM) has been used as the assessment tool. The STEM, designed by NZ landscape architect Ron Flook, was designed to assist and encourage a consistent and objective approach to the assessment of the amenity trees. The method was introduced in 1991 and is currently used by around two thirds of NZ District Councils to assess the suitability of trees for protection in District Plans. It was partly designed with Councils in mind so that they would be able to create a hierarchy of significance for trees that could be considered for protection.

Three major aspects of a tree or group of trees' 'amenity values' are assessed, these being Condition, Amenity Value, and Notable criteria. These aspects are subdivided into the criteria for Form, Occurrence, Vigour and Vitality, Function, Age, Stature, Visibility, Proximity, Role, Climate, Historic, and Scientific values. Each criteria is separately valued against a perfect score of 27 points for each criterion. Example score sheet is in Appendix 1.

Objective and consistent scoring is required and this assessment should be undertaken by a suitably qualified arborist, with careful reference to the Ronald Flook's STEM book and guide. Consideration of the definitions laid down in the reference text need to be followed. The assessor must be objective and not follow any personal preferences.

The evaluation score given to a tree needs to be able to withstand scrutiny such as cross-examination of expert evidence, for example, to a Plan Change Commissioner or in the Environment Court. For this reason the assessments were made in conformity with the definitions of the STEM. The STEM has been used successfully to compile Notable Tree Schedules for many District Councils throughout New Zealand and although not a perfect assessment system, the STEM manages to arrive at a meaningful value that is relatively objective and repeatable.

4 Assessment of tree condition and safety

In addition to undertaking STEM assessments each tree had a basic safety and condition assessment undertaken to ensure trees are safe to retain. Any known threats to each tree were noted, and any tree management recommendations were also provided. Trees which are hazardous or dangerous should normally not be protected unless in exceptional circumstances e.g. an historic veteran tree which has been reduced to a safe height. For trees which, for example require a significant canopy reduction to keep them safe, an agreement should ideally be made with the tree owner to undertake the required safety work prior to the tree being confirmed as Notable in the District Plan.

4 Review of the Standard Tree Evaluation Methodology (Council's preferred tree evaluation method)

4.1 Unsafe trees & trees causing significant nuisance

STEM does not include any advice regarding the assessment or score for a tree which is unsafe, has hazardous parts, or is causing a significant nuisance such as damaging the foundations of a building. In theory a tree which is in imminent risk of failure could still receive a high score using STEM. For this reason it is imperative that the arborist assessor considers risk of failure and significant nuisance in addition to undertaking a STEM assessment. Trees which are hazardous or dangerous should normally not be protected unless in exceptional circumstances e.g. an historic veteran tree which has been reduced to a safe height. For trees which for example require a significant canopy reduction to keep them safe, an agreement should be made with the tree owner to undertake the required safety work prior to the tree being confirmed as Notable in the District Plan.

4.2 Using STEM to determine a threshold score

STEM was not specifically designed to determine a threshold score which if met would decide whether a tree should be protected in a District Plan, it was designed to create a hierarchy of trees in respect of their significance. There is no mention of a 'threshold score' in the STEM reference book and many Councils which used STEM in the early days used it simply to place trees in a hierarchy of significance. None the less, the use of STEM has evolved in the last 30 years and now all Councils which use STEM have determined a STEM threshold score which decides whether or not a tree can be listed as Notable. Some Councils use more than one STEM threshold, each of which confers a different protective status and/or District Plan rules for the tree in question.

Some Councils assess additional criteria which sit either within or outside STEM. The absence of any guidance on thresholds in the reference book explains why District Plan Notable Tree STEM thresholds vary so much across the country, from a low of 80 points to a high of 170 points and a great variety in between. The issue of deciding a suitable STEM threshold has the potential to become contentious if considered subjectively, and it is therefore best if the threshold is recommended by a Consultant Arborist based on factors such as the overall quality of significant trees in a District, local environmental influencing factors on trees such as wind, and the number of large significant trees in a District, and urban and rural tree cover. Councils may also have specific objectives or targets such as a desired percentage of urban tree cover which could also influence the overall number of trees protected as Councils wishing to increase urban tree cover may prefer a lower STEM threshold to enable the protection of more trees.

4.3 Subjective criteria

All tree evaluation mechanisms contain some subjectivity in the criteria they assess. Aspects such as the assessment of tree form for example can be subjective dependent upon one's experience and preference. For example, if a tree has been damaged in a storm and then regrown the decision as to whether to give the tree a lower score than an undamaged tree is a partially subjective decision.

Within STEM there are two major assessment criteria which are particularly subjective, these being Function and Climate. These criteria are not routinely assessed by arborists as these are relatively intrinsic environmental considerations. It would be inappropriate to assess these criteria based on tree size as tree size

is already assessed under the Stature criteria. Consequently these two criteria are relatively subjective. Subjectivity can be reduced by experience but there is always a chance that two arborists with different backgrounds and experiences may disagree, but these areas of disagreement should be minimal.

4.4 Evaluation guidance

Some of the criteria lack clear unequivocal guidance in the reference book. For instance under the Proximity criteria which evaluates whether a tree is considered to be solitary or part of a group or parkland, there is no guidance on whether tree canopies should be touching to confer the group status score, and there is no definition of the term 'parkland' either. The scoring for this criteria is therefore open to interpretation. For this assessment I have not described more than one tree as a group unless canopies are touching and Parkland is defined as an area of managed park, gardens, or countryside which contains regularly scattered medium to large trees.

Spotlight on rural Trees

The majority of existing Notable Trees are found in Feilding or in villages. Only one rural tree in a rural location in a paddock was listed as Notable and required assessment. This was a golden Totara tree growing near Kakariki Road, just visible from Halcombe Road near the Rangitikei River bridge. The tree is one of 40 or so large Totara trees scattered across several adjacent paddocks near the river, which are likely to be remnant bush. The tree obtained a low STEM score as it is in very poor condition. The listing of just one tree in this location begs the question as to why the other nearby Totara were not also protected, and indeed why other large old native remnant bush trees should not also be selectively protected across the District where appropriate.

Figure 1

4.5 History and usage of STEM

The Standard Tree Evaluation Method (STEM) is recognised by the Environment Court and is used by around two thirds of District Councils across NZ as a relatively objective and consistent evaluation method for determining whether trees should be protected as Notable by a District Plan. Councils use a threshold score to decide whether a tree should be protected and this threshold score varies from Council to Council.

STEM does a good job of recognising and scoring historic trees which are important for their age, historical association, wildlife value, scientific value, and cultural value. It recognises inherent tree values such as function and climate impacts. It scores a tree for its landscape value and size and visibility. STEM is derived from an English method called Helliwell which later was incorporated into the RNZIH tree valuation method which then morphed into STEM. It thus has a good lineage and pedigree and is held in high regard globally. Tree evaluation methods are bound to incorporate some criteria which are somewhat subjective and therefore differences may arise between assessors. However, on balance STEM is relatively objective and consistent.

The STEM can also be used to determine the monetary value of a tree for compensation or remediation purposes and has been used in the Environment Court. The assessment form is straightforward, and the directions and instructions are reasonably clear although guidance sometimes lacks clarity. The requirement that the assessment is completed by experts in the fields of arboriculture or landscape ensures that, in the majority of cases, there is reasonable scoring consistency.

5 Consideration of other Notable Tree Evaluation Methods used in NZ

5.1 The Auckland Notable Tree Evaluation Method

The Auckland methodology was developed around 2015 and was formulated in large part due to dissatisfaction with the use of STEM which was previously used. One of the principal issues with STEM in Auckland was tree owners' being frustrated with the lack of any proper consideration of negative and nuisance problems caused by trees. Thus the new Auckland method includes a category solely dedicated to problems potentially caused by a Notable Tree such as hazard or property damage. The Auckland method has the following major criteria: Special Factors which include Heritage, Scientific, Ecosystem Services, Cultural, and Intrinsic; Negative Factors; and Intrinsic Factors which include Age and Health, Character and Form, Size, and Visual Contribution.

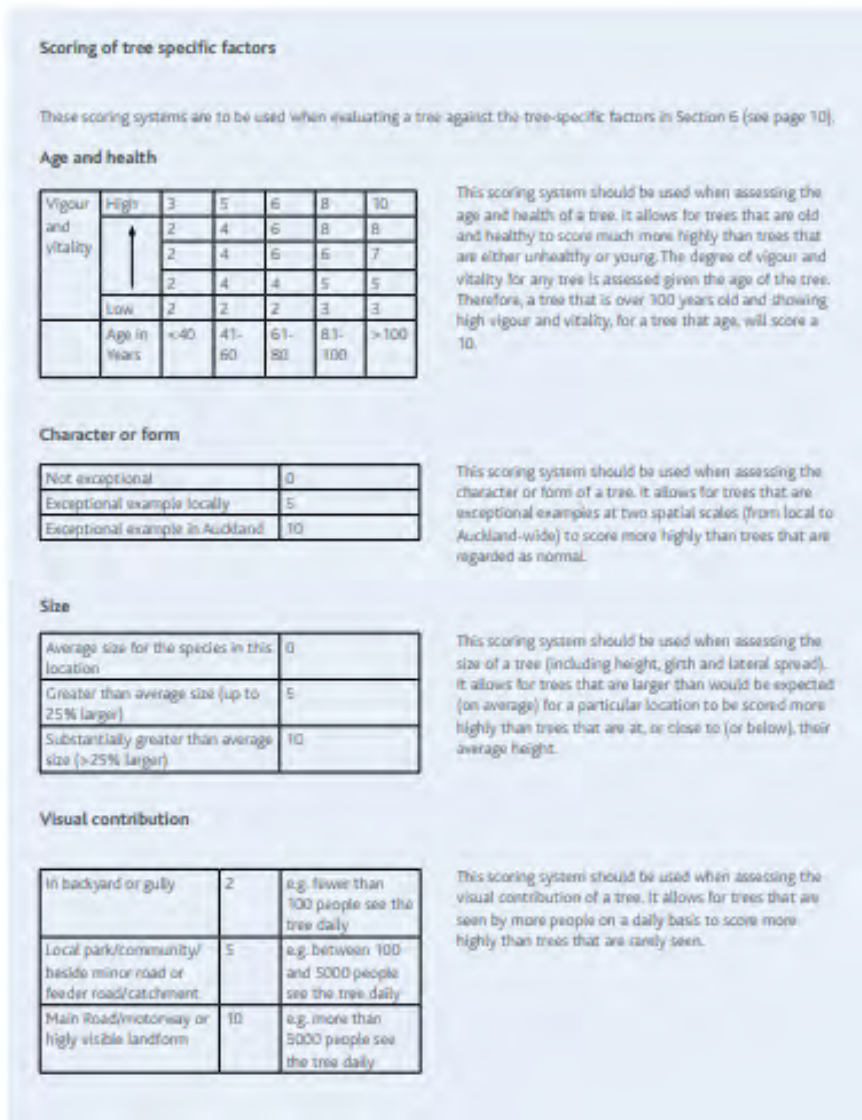
The special factor criteria are stand-alone which means that if a tree or group of trees meets any one criterion then it is deemed notable. The tree-specific criteria require a cumulative assessment. That means, for a tree or group of trees to be notable, it must have a cumulative score of 20 or more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

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 manageable. 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 are also not be scheduled.

The Auckland method is very clear and concise and has good accompanying guidance notes. For example there is specific guidance on what constitutes a group of trees where canopies need to be touching. Negative factors are logically assessed and determined using a well-defined and arb specific approach, and visual contribution is assessed in a more sophisticated way using a three factor method related to how many people see the tree and not just from how far away a tree can be seen as in STEM. The Auckland method assesses many of the criteria assessed using STEM such as age, heritage, cultural and inherent, but does not include criteria from STEM such as Climate and Function which are anyway difficult to assess objectively. In my view the Auckland method is therefore more refined, accurate, objective, and arboriculturally sound than STEM and is overall a superior Notable Tree Evaluation Method.

Specific Factors are scored using the Auckland methodology shown below in Figure 2

Figure 2 – Auckland Notable Tree Evaluation Method



5.2 Hybrid STEM methods

Several District Councils have adapted STEM by adding criteria to STEM. Palmerston North has an additional visibility criteria where a tree can receive up to 27 additional points if it can be seen by a large number of people. Using this approach a tree's visual prominence may be considered to be given more weight as part of the scoring process. There is nothing to stop Councils adapting STEM as they see fit to reflect better assessment of the values they consider to be most important.

Other Councils such as Nelson and Taupo have more than one STEM threshold which trigger different rules in the District Plan. Taupo Council has a STEM score of 110 for 'Amenity' Trees and 160 points for 'Notable Trees'. The different categories trigger slightly different rules pertaining to pruning of branches and roots, and Matters of Discretion. Nelson has two types of protected tree listed in its District Plan which are Notable and Landscape with Notable being the highest quality trees. Both categories have some form of protection in the plan with Notable Trees having the most exacting rules.

As an example of additional criteria which sit outside of STEM, Marlborough Council has six criteria which if met would allow a tree to be made Notable in the District Plan, and STEM is one of these criteria. The criteria are (a) any tree commemorating an important local event in Marlborough's history, settlement and development; (b) any tree regarded as an important landmark and acknowledged as such for a significant period of time; (c) any tree that has historic association with a well-known public figure or has had strong public association for some reason; (d) any rare or important species; (e) any tree that reaches the Council's

STEM threshold; and (f) a stand of trees conforming to any of the above.

Tauranaga Council and a number of other Councils protect two types of trees in their District Plan: Notable Trees in a District Wide Chapter; and Heritage Trees within the Heritage Chapter of the plan. Notable Trees are assessed using STEM whilst Heritage Trees are assessed using a range of bespoke heritage criteria designed by Council for that purpose. In some cases the District Plan rules regarding Heritage Trees are more exacting. A number of Councils e.g. New Plymouth require trees to be hazard assessed to an International standard if they are determined by an arborist to contain significant defects.

The Royal New Zealand Institute of Horticulture (RNZIH) tree evaluation method was formerly used to assess the amenity value of trees in NZ prior to the development of STEM. It has now largely fallen out of use across NZ with only a few Councils now using the method. This is mainly because it uses a multiplication method to score trees which can lead to very large or low score variations which makes it unreliable.

When STEM was initially introduced it was a ground breaking NZ based method which was then widely taken up to replace the RNZIH method. As STEM has been utilised and practiced over the last 20 years its weaknesses have come more into focus and so when District Councils review their District Plan tree protection chapters it has become common for Councils to apply greater scrutiny to the method, and to adapt it or change it if required. This is a sensible approach to ensuring that STEM remains fit for purpose, is as objective as possible, and that it is relevant to the particular aspirations and objectives of each Council.

6 Trees Surveyed – District Overview

The majority of surveyed trees are located in Feilding township with two trees located outside Feilding with one near Halcombe and one other in Waituna West. There is a cluster of four Notable Trees within Feilding in the area of Pines Court. The current Notable Tree protection in the Manawatu District is therefore sporadic. As can be seen in Table 2 below the average number of trees protected by 8 nearby Councils is 122 trees per District. It is therefore apparent that with only 10 Notable Trees at present, the Manawatu has a relatively low number of protected trees as compared to other nearby Councils.

There are no Notable Trees on Council owned land which is unusual as most District Councils do protect selected significant trees on their own land by scheduling them as Notable e.g. Palmerston North City Council. Auckland and Christchurch Councils protect all trees in Council Parks and Reserves over a certain height. Whilst one could argue that trees within parks and reserves are protected to some extent either by reserve status or by a Council tree management policies, these protections are not as strong as Notable Tree status. Notable Tree status often allows for some degree of public consultation which can be important in terms of involving the community in decisions regarding removal of treasured trees. If a Council is prepared to protect trees on its own land and work through the resultant RMA legislative hoops, this can encourage private owners to accept Notable Tree protection on their own land. If Council is prepared to protect its own trees, this sets an example to the public.

The trees on the existing schedule in the operative Manawatu District Plan were re-evaluated using STEM (see Table 1 below). In addition to the STEM evaluation, photographs of the trees have been included, together with brief notes on care and maintenance, an assessment of the potential for nearby development and threats to the health of the trees. STEM assessments and photos are found in Part 2 of this Report.

STEM scores, age class, and threats for the Manawatu's 10 trees Notable Trees (Table 1)

Existing Notable Tree	STEM score	Age class	Threat identified
(T9) Golden Totara, Kakariki Rd near Halcombe	72	Senescent	No
(T11) Magnolia Campbelii, Waituna West	198	Mature	Yes
(T8) Two common oaks (group) 19 Pharazyn Street	174	Senescent	Yes
(T2) Wellingtonia, 28 Kimbolton Road	204	Semi mature	Yes
(T10) Magnolia Grandiflora, 28 Kimbolton Road	149	Senescent	Yes
(T1) Titoki, 5 Pines Court	117	Senescent	Yes
(T7) Australian Blackwood, 2 Pines Court	183	Mature	No
(T4) Red Oak, 3 Ranfurly Road	189	Mature	Yes
(T13) Coast Redwood, 11 South Street	204	Semi mature	Yes
(T14) Common oak, Manfeild Park	240	Mature	No

7 Discussion of Trees Assessed

7.1 Age of Trees Assessed

Most of the trees assessed are mature or older, that is to say that they are more than halfway through their expected lifespan and have reached their expected ultimate height and spread. For the two redwoods, these are longer lived trees and can be expected to grow larger. Four of the trees are senescent, that is to say that they are exhibiting signs of decline and retrenchment which is a natural for older trees. In this sense the stock of current Notable Trees is predominantly mature or older and there is a lack of young mature and semi mature Notable Trees coming through which will one day have the opportunity to take the place of older trees which have completed their lifespans. Without younger notable trees on the register, the current stock of notable trees will inevitably reduce in the future.

7.2 Threats to Trees Assessed

During this assessment the owners of the Wellingtonia and Coast Redwood voiced concerns regarding the size and safety of each of the trees and indicated that they may object to their rescheduling as Notable Trees. I did not observe any significant defects in the structure or stability of these trees which would lead me to the conclusion that these trees are unsafe, but none the less if the tree owners' object to their listing Council may decide not to maintain their protective status and consequently they might be removed.

The Titoki is in very poor and declining condition and has large pockets of decay and has lost large limbs and branches as a result of this decline. It would therefore not be justifiable to retain this tree on the Notable Tree register due to its poor condition. The golden totara is similarly in very poor and declining condition with extensive dead wood and it would not be justifiable to retain this tree on the Notable Tree register either.

The two oaks at 19 Pharazyn Street are in declining condition with canopy dieback and large amounts of deadwood. Although I could not see any fungal fruiting bodies or fungal decay on the trees. Removal of thick ivy around the trees, and dead wood removal, and a crown reduction may stimulate regrowth and some regeneration of the trees, but this is not a certainty.

The Magnolia Campbellii, although in reasonably good condition, is showing some signs of stress and should be monitored and be assisted if possible with regenerative pruning to ensure its continuing health and survival. Ideally Council would assist with the diagnosis of ill health and mitigation of issues.

The Magnolia Grandiflora is reaching an old age and is showing some signs of age related decline. Additionally it has some root damage which is affecting its form and structure. The tree owner discussed the option of potentially removing the tree to allow a house extension. For these reasons it is also considered to be under threat.

The Red Oak at Ranfurly road is in good condition but is regularly reduced back to the boundary line of the adjacent property. Whilst this regular pruning has been undertaken to a good standard and does not threaten the tree's stability, this is a costly exercise. Going forward this issue has the potential to result in the owner of the tree objecting to its listing as a result of the costs of ongoing management being high.

In summary there are credible threats to 9 Notable Trees of the 11 the trees assessed. If these trees were to be removed or lost from the Notable Tree schedule there would be very few Notable Trees left in the Manawatu.

8 Determining a Suitable STEM threshold for the Manawatu

There is no record at Council of the previous STEM threshold used, if indeed one was used. In the early days of STEM Councils did not always select a defined threshold for inclusion but simply protected STEM assessed trees as considered appropriate, so it is quite possible that the Manawatu did not previously have a defined STEM threshold. To ensure a more rigorous process and conformity with Section 32 requirements Councils now routinely determine a threshold and include a record of that threshold in the District Plan.

It is worth bearing in mind that just because a tree attains the Council threshold Council may choose not to protect the tree if it so wishes, for instance in a case where the tree is damaging a nearby property. Many Councils require a formal safety assessment when deciding whether to protect a tree. For example whether the tree is unsafe, costly to manage, causing nuisance, or is classed as a weed species.

STEM thresholds vary greatly across the country from a high of 170 to a low of 87 points. The average STEM score across New Zealand is 123 Points (Jez Partridge investigation of national STEM thresholds across NZ 2018/21). For many Councils when they look to decide a threshold they analyse the scores across all assessed trees as a range and consider the importance of criteria such as public visibility, age classes, nominations, and condition in deciding which trees should be worthy of protection.

Some Councils set the STEM threshold just below their preferred threshold. This is because due to the subjective nature of some STEM criteria scores can sometimes be challenged at appeal. If there is an appeal it can be useful to have a buffer against a challenge. So if the preferred threshold was 130 for example, a Council may decide to set the threshold at 120 or 110 as a buffer.

In this assessment there are so few trees assessed that it is difficult to analyse the data in a statistically meaningful way. However, the Titoki which was in very poor and heavily decayed condition scored 117 points. Council would be unlikely to want to protect this tree due to its very poor condition and therefore 117 would appear to be a threshold which is too low.

With the Magnolia Grandiflora at Pines Court/Kimbolton Road, this tree scored 140 points. The tree is mature, and over 100 years old, and visually prominent. It has some health issues and is in decline due to its old age. It has historic association and is not unsafe. This is therefore a tree which should retain its Notable Tree status, although it has some health issues and requires some management. In terms of determining a suitable STEM threshold, Council would likely want to have the ability to protect this type of historic tree. So a STEM score of 130 points is close to where a reasonable threshold should be set.

8.1 Comparing the Manawatu with nearby Council thresholds

As can be seen from the Table 2 below the average number of Notable Trees protected by nearby District Councils is 122. The number of Notable Trees protected by Manawatu could potentially fall to as few as 3 trees given the current threats to Notable Trees and this would be the lowest number of Notable Trees protected by any District Plan in New Zealand. This is not an ideal situation given the national focus on tree planting and carbon storage, and the local importance of trees for their landscaping, ecological, environmental, cultural, and historic value, especially in towns.

The average STEM score of nearby Councils using STEM shown in Table 2 is 134 points, and the national STEM average is 123. However adjacent Councils have higher thresholds in the range of 140 to 150. The number of trees protected by a Council is partly the result of that Council's support for tree protection as a policy, and partly the result of the availability and nomination of suitable trees to protect. Councils which aspire to protect trees often set lower thresholds, but this does not always result in more trees being protected. For example Porirua has a threshold of 120 points and protects 30 trees where as Whanganui with a threshold of 150 points and protects 139 trees.

Having an understanding of the STEM thresholds of nearby Councils is a useful way to temper and compare a preferred threshold, but it should not be the deciding factor. The optimum way to make a decision is by analysing the scores, merits, prominence and condition of trees assessed, and then deciding which trees are appropriate to protect based on the objective recommendation of an arborist and Council and community preferences and opinions. However, given there are so few trees currently protected by Council, analysis of Notable Trees attributes and scores is a difficult task.

STEM thresholds and tree numbers of Notable Trees for nearby Councils (Table 2)

Council	STEM threshold	Number of protected trees and tree groups
Rangitikei	150	21
Whanganui	150	139
Palmerston North	140*	144
Horowhenua	150	89
Hastings	145	164
Wellington	110	156
Porirua	120	30
Taupo	110	239
Average	134	122
*Palmerston North (PN) STEM threshold is 160 but STEM method was modified to add an extra visual prominence category worth up to 27 points. So for the purpose of comparing thresholds the threshold has been reduced to 140.		

8.2 STEM threshold recommendation

On the basis of all the above considerations and evidence I would recommend that the Manawatu STEM threshold be set at 130 or 135 points. Trees with a score of 130 points are generally in reasonable health and condition, are not unsafe, have some significance in the landscape or locality, and are capable of contributing to the character and identity of the District for a reasonable length of time. Trees with the higher scores have increasingly higher district importance in terms of their age, history, size or rarity.

Wellington and South Wairarapa Councils have STEM thresholds of 110 points and Porirua 120 points, and so a threshold of 130 points for the Manawatu is a more conservative than these thresholds. Whilst closer Councils have higher thresholds of around 140 or 150, these Councils have many more protected trees. The Manawatu has very few protected trees and most of these trees are mature or senescent. By adopting a lower threshold than adjacent Councils more trees could potentially be protected at some point in the future to create a more sustainable Notable Tree population. A threshold of 130 could allow for semi mature significant trees to be added to the register, and allow for trees which have some non-hazardous faults to be protected as long as these faults can be managed safely.

It is considered that a threshold of 130 to 135 points is appropriate for the Manawatu. Those that reach this score are recognisable features of the District's landscape that most people would appreciate as having some significance and therefore warrant protection under the District Plan.

9 Ongoing Care and Retention of Notable Trees

Trees can benefit from care and maintenance on occasions. Current tree surgery techniques and arboricultural practices can slow the rate of decline and prevent some damage occurring. Correct pruning techniques can help prolong a tree's useful life by many years.

Some local authorities such as Palmerston North provide owners of notable trees on private land with discretionary grants for maintenance and advice. These can be partial or full grants based on Council's discretion such as disease investigation and emergency tree works. However, it is important that the owners are ultimately responsible for the maintenance and care of their trees.

Many local authorities waive land use consent fees for carrying out work on protected trees. This practice encourages landowners to accept notable trees on their property as they know that the consenting process to apply for tree works will not add additional costs to this process.

It is therefore recommended that Manawatu Council allocates funding towards a discretionary fund to assist

with the management and retention of Notable Trees. This fund would not be used for works such as ongoing reduction of trees from a neighbour's property, but would be used for matters such as investigation and remediation of disease, removal of ivy, and emergency remediation works if a tree is damaged. It is also recommended that the cost of a Resource Consent to undertake works to a Notable Tree is free.

10 Review of District Plan Policies, Objectives, and Rules

Current District Plan policies, rules and criteria relating to Notable Trees (Figure 3)

Tree Policy:

To protect listed notable trees in such a way that their significance as a heritage resource and the values for which they were listed are not permanently diminished or damaged.

Historic Heritage introduction:

Feilding has a number of large specimen trees which are part of the town's history. Large trees add considerably to the appearance and character of urban areas, and some of the trees which have heritage value are listed in the Plan

Permitted activities:

Pruning and removing branches from the trees listed in Appendix 1D, provided that the pruning is under Council supervision.

Discretionary activities:

Felling, damaging or cutting branches or roots of trees listed in Appendix 1D (other than pruning permitted by Rule A2.3.1 a. iv)).

Assessment of Discretionary activities:

In determining whether to grant a resource consent and what conditions to impose, the Council will, in addition to the objectives and policies of Chapter 4 – Historic Heritage, assess any application in terms of the following assessment criteria: a. Whether the application demonstrates compliance with any relevant design guidelines. b. Whether the application will result in any adverse effects on streetscape character.

10.1 Review of Policies and Objectives

Notable Tree policies and objectives within the District Plan are currently light and lack detail and rigour. These should ideally be updated to explain Council's aspirations in regards to protected trees, and encourage tree management and retention in accordance with best arboricultural practice. It is necessary for Notable Trees to have their own Chapter within the District Plan where their role and value is well recognised through well-conceived policies and objectives, which support Council decision making in respect of guiding applications to undertake works to trees or their roots. The Policies and Objectives recommended below represent a reasonable best practice approach based on the approach of several Councils which have well formulated Notable Tree protection policies and objectives.

10.2 Suggested Policies and Objectives

Notable Trees

Introduction

Increasingly, trees are being recognised for their intrinsic role in enhancing urban and rural environments. They may be of a particular size, form, age, or rarity, or important historical or cultural significance which makes them significant. Trees also contribute to amenity and may have important intrinsic value. Such trees that may be recognised through listing in the Plan as notable trees.

Manawatu's notable trees are those that are recognised and protected for one or more of their historic heritage, amenity, ecological and or landscape values. These trees may be prominent natural features and landmarks, add character and identity to the neighbourhood, be rare species, good specimens or have an association with special sites or events. Trees may be identified as an individual or groups and include both exotic and indigenous species.

Notable trees have been assessed using the Standard Tree Evaluation Method (STEM) from the publication Flook, R.R. (1996) *STEM A Standard Tree Evaluation Method*. Nelson, New Zealand. STEM assesses trees based on condition (health) and amenity (community benefit) as well as notability (distinction). Trees that score 130 or higher on the STEM are scheduled as a notable trees.

Issue

The loss or degradation of significant and important trees.

EXPLANATION

Notable trees are those specimens which meet the STEM threshold determined by Council. Typically they are medium or large trees, have some public visibility and are valued by the community. Some historic, rare, or large trees may be listed as Notable even if they have no public visibility. It is important to protect developing semi mature trees as well as older trees in order to ensure a balanced age range so that there are replacement specimen trees for older trees which eventually will be removed as they reach the end of their lifespan.

Objectives and Policies

OBJECTIVE

To identify and provide for the retention and protection of notable trees.

POLICIES

- i. Ensure that **notable trees** are removed only under exceptional circumstances, and where all other alternative options for the retention of the tree have been exhausted.
- ii. Ensure that the health, vigour and function of notable trees are not compromised by any development or other activity.
- iii. Provide for the ongoing care and maintenance of notable trees through best practice arboricultural techniques.

EXPLANATION

By their nature, notable trees are irreplaceable. Some have been standing for over 100 years, and are part of the history of settlement in this District. A level of protection is therefore appropriate. Development aspirations, protection of view shafts, or nuisance values will not be considered viable reasons to justify the removal or significant pruning of a notable tree unless Council supports the proposed development or justification. Any new development proposed nearby to a Notable Tree should be located at least 2 metres from the edge of the mature canopy, in addition to root protection considerations. Should a notable tree become damaged or diseased, removal will only be considered where remedial works have been attempted and failed, and there is no uncertainty as to the fate of the tree.

OBJECTIVE

To identify and provide a level of protection for notable trees.

POLICIES

- i. Maintain the level of amenity provided by **notable trees** by ensuring that the effects of any necessary alteration or removal can be mitigated.
- ii. Ensure that the health, vigour and function of notable trees are not compromised by any development or other activity.
- iii. Provide for the ongoing care and maintenance of notable trees.

EXPLANATION

Notable trees are protected for the important amenity and intrinsic values they provide for the District.

Methods

- i. Identification of **notable trees** as a schedule to the plan and on planning maps.
- ii. Provide for the protection of notable trees by regulating activities that may damage or destroy them through rules in the Plan.
- iii. Develop an application process for landowners to seek assistance from Council to undertake work to a notable tree for the purpose of improving or monitoring tree health.
- iv. Develop a Strategy to implement long term assistance for the repair, maintenance or enhancement of notable trees where required and to implement an education and advocacy programme to raise awareness of the existence and location of notable trees, the regulations that apply to them, and the value that trees in urban environments provide.
- v. Install plaques on all notable trees to identify them as protected.
- vi. The implementation of any Joint Management Agreement between Council and Iwi.

10.3 Review of Notable Tree Rules

Generally speaking Notable Trees should not need to be pruned unless there is an overriding arboricultural justification, or compelling reason such as a branches or roots causing damage to a building. Reduction works to trees can cause structural problems or ruin their appearance. Many other Councils' recent District Plan Tree Chapter reviews (e.g. Wellington) have made any proposed pruning a Restricted Discretionary or Discretionary activity.

Tree work applications should be considered on their merits, with a Consultant Arborist (minimum Level 6 qualification) peer review if necessary, and appropriate conditions added to the consent as required.

Routine tree works Resource Consent condition examples:

- Undertake tree works to best practice (NZ Minimum Industry Pruning Standard 308)
- Work to be undertaken by a minimum Level 4 Qualified Arborist

Occasional tree work Resource Consent condition examples:

- Tree Works to be overseen by a Consultant Arborist with a minimum Level 6 qualification
- A Tree Survey and Tree Impact Assessment report to be undertaken in accordance with NZ Minimum Industry Trees and Development Standard (or AS4970) and undertaken in accordance with the recommendations of that report

My view is that a requirement for pruning works to be overseen by a Council Officer or another arborist is overly onerous, and such monitoring can be required by a resource consent condition if needed.

On occasions a resource consent application may need to be peer reviewed by a Level 6 qualified Consultant Arborist to ensure that tree works are required and follow best practice. For instance when a Notable Tree is proposed to be removed or when a building proposal is located within a Notable Tree's Root Protection Area.

Dead wood should be able to be removed as a permitted activity. Diseased, grafted, or decayed wood may be structural or not a serious problem and so any other tree work proposals should be considered on their merits. Unnecessary or poorly undertaken tree work has the capacity to damage a tree or ruin its appearance. Tree pruning should be a Restricted Discretionary activity. In all cases a minimum Level 4 qualified arborist should be undertaking consented or permitted works, and if there is any contention regarding the proposal a Level 6 qualified arborist should peer review the application. Proposals to remove trees should be considered on their merits but in general should not be allowed unless the tree is unsafe, has a short estimated safe lifespan of less than 10 years, or if a development proposal which requires the tree's removal is supported by Council.

A minimum area of the Notable Tree's roots should also be protected to ensure that the structural stability of the tree is not compromised or reduced and that the tree has a sufficient amount of feeding roots to support its size and structure. Within this area earthworks, excavations, root pruning, and hard surfacing should be a Restricted Discretionary or Discretionary Activity. The minimum area of protected roots (Root Protection Area) are located within a circular area with a radius equal to 12 times the tree's trunk diameter measured at 1.4 metres high. This method of determining a critical area of roots which should be protected is recommended by the NZ Arboricultural Association and found in the Australian, American, and British Trees and Development National Standards. Methods which utilise the dripline or half height of a tree to determine the Root Protection Area have been found to be unreliable and often fail to protect an adequate area of roots particularly for mature and post mature trees (Benson, 2020,?)

When explaining root protection rules to planning professionals and Councillors it is useful to point out that the RPA is a precautionary area where activities that may damage roots need to be carefully considered and justified, but that such activities may be allowed where there is sufficient arboricultural justification. For instance development may be allowed within the Root Protection Area of a Notable Tree if the arborist's report accompanying the application can demonstrate that the loss of roots or branches will not harm the tree and/or will be mitigated, that no roots are present in a particular location e.g under a road, or where special engineering solutions avoid significant root damage are feasible such as mini plies. Applications to undertake works to the roots of Notable Trees should be in accordance with the NZ Tree and Development Minimum

Industry Standard or the Australian Trees and Development Standard 4970. Such rules are designed to prevent unwarranted damage to tree roots and not to prevent justifiable tree works.

10.4 Suggested Notable Tree Rules

Notable Trees

NOTABLE TREES RULES

*Removal of dead wood, and the minimal pruning of trees to prevent damage to structures or obstruction of a path, driveway or road is a **permitted activity**, as long as the work is undertaken by a Level 4 qualified arborist and three weeks' notice is provided to Council of the proposed works.*

*Any works to a notable tree required for mitigating damage or to prevent further damage caused by disease or a natural event or process is a **restricted discretionary activity**.*

The matters over which the Council reserves discretion for the purposes of assessment are:

- a. Whether the work is required to ensure the ongoing health and function of the tree*
- b. The extent of work required to ensure effective mitigation of damage, and the resulting effect on tree form and amenity.*

*Any **earthworks** (see definition below), root pruning, construction, soil compaction, or laying of hard surfaces occurring in the **root protection area (RPA)** (see definition below) of a notable tree is a **restricted discretionary activity***

The matters over which the Council reserves discretion for the purposes of assessment are:

- a. The extent to which the proposed works will effect the root system or canopy of the tree*
- b. The extent to which the proposed works will effect the longevity, health, vigour and stability of the tree,*
- c. Whether the proposed works can occur in an alternative location that will reduce any actual or potential effect on the tree.*

*The removal or any other alteration, pruning or works to a notable tree is a **discretionary activity**.*

NB: Under Section 330 of the Resource Management Act 1991, Council may undertake immediate emergency, preventative or remedial works to a notable tree without a resource consent, where a sudden event has meant the tree is causing or is likely to cause loss of life or injury, or serious damage to property. These works can be initiated at the request of the landowner and where Council is satisfied that the circumstances required to initiate Section 330 exist.

ASSESSMENT CRITERIA

- a. Whether the activity is likely to damage any part of the tree, including its roots, or endanger its health or stability.*
- b. Whether the applicant has the ability to undertake a complying development without work affecting the tree.*
- c. The visual impact of the tree on its surrounds and the extent to which the tree contributes to the amenity of the neighbourhood and the extent to which the works will adversely affect this.*
- d. Whether the tree is currently causing, or likely to cause, significant damage to buildings, services or property, whether public or privately owned*
- e. The effect of any building on the visibility of the tree from a road or public place*
- f. The extent of nuisance the untrimmed tree is causing.*
- g. The extent to which the proposed works are necessary to preserve or maintain the operating efficiency of any public work, network utilities or the safety and efficiency of a road.*
- h. The extent to which any proposed substitute or compensating tree planting or landscaping will mitigate the loss of amenity or character.*
- i. Whether a tree to be removed is capable of being successfully transplanted*
- j. Whether the tree inhibits the growth of a more desirable specimen nearby.*
- k. The extent to which the removal of one or more species from a group of trees will effect the ecological and/or visual impact of the group.*
- l. In addition to the general criteria above, where the removal or destruction of a tree is proposed, the Council must be satisfied that exceptional circumstances exist which may include:*

- i. *Diseased or significantly damaged conditions, except that where any element of uncertainty exists as to the likely fate of the tree and where remedial works may prevent the loss of the tree, the benefit of doubt will be given to the tree's survival, until such time as irreparable or irreversible decline is obvious*
- ii. *Compliance with any statutory or legal obligation*
- iii. *Significant or unusual hardship which cannot be otherwise remedied or avoided*
- iv. *A proposed development which has the support of Council cannot proceed unless the tree is removed. In this case transplantation of the tree will be preferred if that option is feasible.*
- v. *Any other compelling reason.*

10.5 Suggested definitions to be included within Definitions Chapter

***Root Protection Area** – *All roots within a circle surrounding a tree with a radius equal to 12 times the tree trunk/s (main stems) diameter measured at 1.4 metres above ground level*

***Earthworks** - *Means the alteration or disturbance of land, including by excavation, compaction, blading, cutting, contouring, filling (or any matter constituting the land including soil, concrete, clay, sand and rock); but excludes gardening and installation of fence posts without concrete.*

Appendix 1 - STEM (Standard Tree Evaluation Method 1996 pub. Ron Flook) Tree Evaluation Score Sheet
 Site Details

Date:
 Address:
 Botanical name:
 Common name:
 Height m:
 Crown Spread:
 Girth cm:
 Age:
 Evaluator:

Condition Evaluation

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

Condition Subtotal

Amenity Evaluation

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

Amenity Subtotal

Notable/Historic Evaluation

Recognition		Local	District	Regional	National	International	Score
Points		3	9	15	20	27	
Stature	Feature						
	Form						
Historic	Age 100+						
	Association						
	Commemoration						
	Remnant						
	Relict						
Scientific	Source						
	Rarity						
	Endangered						

Notable/Historic Subtotal

Total Combined Score

Review of District Plan Appendix 1D Notable Trees

Part 2 – STEM Assessments of Notable Trees, Manawatu District Council



Report Date – 4th February 2022

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Contents

Content	Page	STEM score
(T8) Two common oaks (group) 19 Pharazyn Street	3	174
(T13) Coast Redwood, 11 South Street	6	204
(T14) Common oak, Manfeild Park	15	240
(T4) Red Oak, 3 Ranfurly Road	20	189
(T7) Australian Blackwood, 2 Pines Court	26	183
(T1) Titoki, 5 Pines Court	32	117
(T2) Wellingtonia, 28 Kimbolton Road	38	204
(T10) Magnolia Grandiflora, 28 Kimbolton Road	45	149
(T11) Magnolia Campbelii, Waituna West	52	198
(T9) Totara, Kakariki Rd near Halcombe	59	72

STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: 19 Pharazyn Street, Feilding.

Tree Name: Two European oaks (Quercus robur) (group assessment)

GPS: -40.2148, 175.58412

Size: Height: 19.4 (easterly tree) & 17.2 (westerly tree) **DBH:**185 (westerly) &101 (easterly) **Crown Spread:** 22 (both trees combined)

Date:27/9/21

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 and Vitality	Poor	Some	Good	Very Good	Excellent	9
Function	Minor	Useful	Important	Significant	Major	15
Age (years)	10+	20+	40+	80+	100+	21
Subtotal Points						69

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	21
Visibility (km)	0.5	1.0	2.0	4.0	8.0	21
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
Role	Minor	Moderate	Important	Significant	Major	21
Effect on Climate	Minor	Moderate	Important	Significant	Major	9
Subtotal Points						99

Notable Evaluation						
Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
Feature						0
Form						0
Historic						
Age 100+	3					3
Association	3					3
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						0
Total Points						174

Location of Tree(s) on site: Front garden next to footpath.
District Plan Zoning: Residential

Date of Inspection:27/9/21

Tree proposed by: existing

Assessor's notes: Canopy over footpath. Die back from tips evident and extensive dead wood. Multi budding on tips and thin internal growth indicates trees are under stress. 2019 photo shows tree in good condition so decline likely to be rapid. Tree owner said that he had been trying to kill ivy around tree by spraying with Round Up. This could be cause of tree's decline and stress if it has entered tree vascular system. It is also possible that dieback could have been caused by root damage caused by upgrade of footpath and resultant root damage. Large pieces of deadwood and thinning crown. Ivy is so thick not possible to inspect condition of roots or trunks. Ivy needs removing. Dead wooding and removal of ivy may cause tree to recover. 1995 assessment indicated decay but this does not mean the tree is unsafe. Recommend crown reduction and remove deadwood and monitoring annually in case disease spreads.

Potential for new development nearby: Unlikely

Nuisance/negative factors: Overhanging path. No significant nuisance or negative factors such as damage to structures.

Suggested care and maintenance: Crown reduce 15 to 20%, deadwood, remove ivy. Trees unlikely to fail given size and weight.

Historical Notes: Likely to have been planted by Mr W Sandilands, Mayor of Feilding in 1890s. Some damage/dysfunction to larger tree was noted by Daryl Judd in 1995 and the tree had some restorative pruning undertaken at that time.



STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: 11 South Street

Tree Name: Coast Redwood (*Sequoia sempervirens*)

GPS: -40.22904, 175.55735

Location: Front garden close to footpath

Size: Height: 30.3 Crown Spread 10.7 DBH 179

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

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	27
Visibility (km)	0.5	1.0	2.0	4.0	8.0	27
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
Role	Minor	Moderate	Important	Significant	Major	21
Effect on Climate	Minor	Moderate	Important	Significant	Major	15
Subtotal Points						117

Notable Evaluation						
Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
Feature						3
Form						0
Historic						
Age 100+						3
Association						
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						6
Total Points						204

Date of Inspection:27/9/21

Tree proposed by: Existing

Zone: Residential

Assessor's notes: An adjacent Notable oak tree failed and fell into redwood in 2019/20 damaging the southern side of redwood and damaging branches. Google street view photos below show that the proximity of the oak had already caused few branches to develop on this side and forced the tree into a slight lean. So there are few branches up to 15m on South side. The oak tree was close to the redwood before it came down and the canopies touched with the oak outcompeting the redwood and likely causing it to have few branches on its south west side and causing the redwood to lean due to phototropic effect.

The tree has a lean to the north west of approximately 70 degrees. In my opinion the lean is not as a result of the impact of the oak or any root plate lift but was caused by the proximity of the oak. There are no signs of root plate lifting on the tree's south west side and in the lawn. It is therefore likely that the tree is stable in this position with a slight lean. The loss of the oak may have increased wind forces on the tree from the west which is an issue to monitor. I have compared Google Street View photos from 2008 to 2019 against the photos I took when I inspected the tree and I can see no change in the lean of the tree from then to now. This further evidences the case that the current lean is pre-existing phototropic and not caused by either the collapse of the oak into the tree or any more recent tree movement.

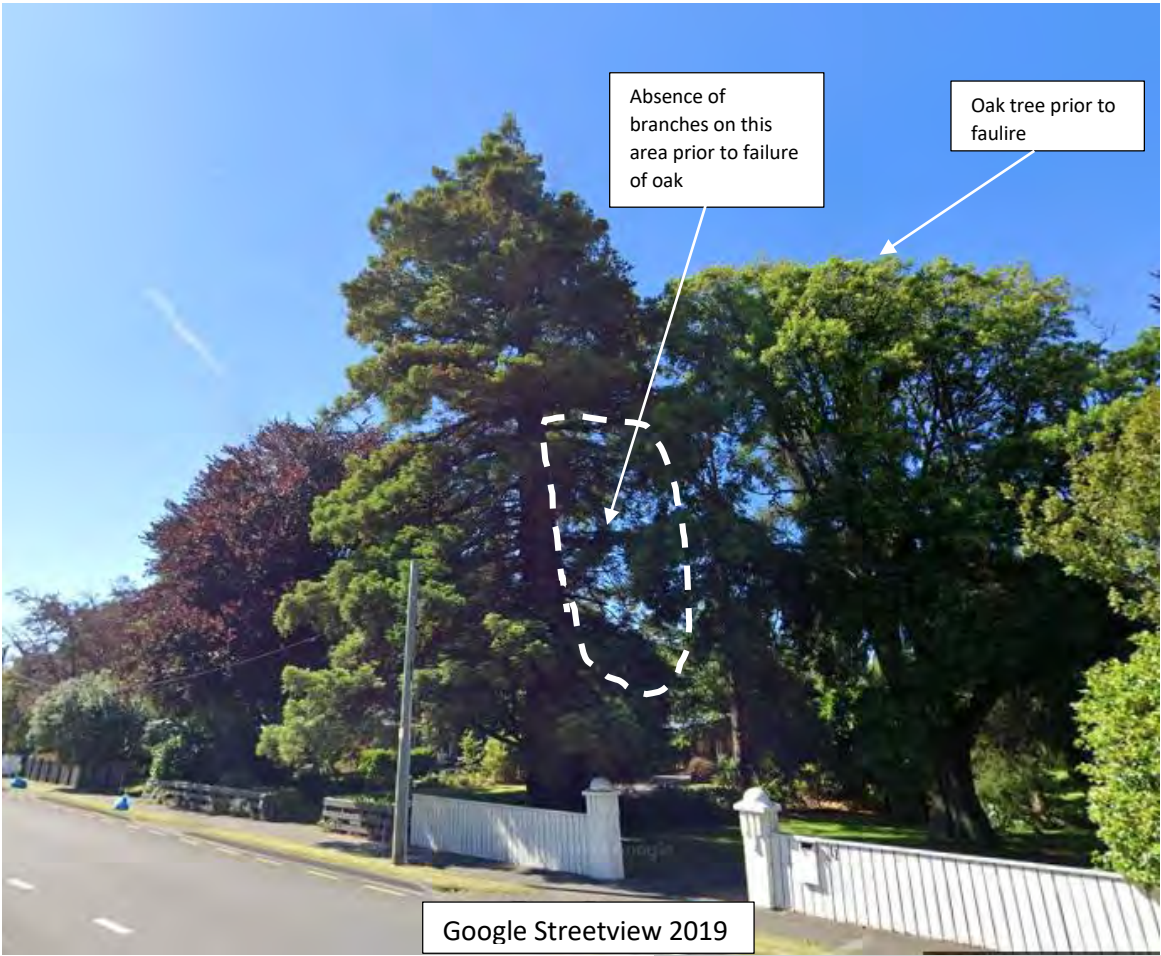
As a result of the proximity of the oak the tree has an imbalanced canopy structure with longer branches and more growth to the north west, especially lower down the tree. I would recommend that the north west side of the tree is trimmed to create a better balanced canopy.

Threats to the future of the tree: Owner and neighbor feel it is unsafe and may want to oppose Notable Listing and remove tree.

Nuisance/negative factors: Overhanging path. No significant nuisance or negative factors such as damage to structures.

Potential for new development nearby: Unknown

Suggested care and maintenance: Remove lowest limb south, reduce length of lower branches south by 2 to 3 metres. Reduce weight on lean by balanced crown reduction north side as required. Monitor tree annually for 3 years to determine if tree is under any wind stress.















STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: Manfeild park

Tree Name: Common Oak (Quercus robur)

GPS: -40.23407, 175.55786

Zone: Manfeild Park

Location: Landscaped open area next to sports centre created for tree

Size: Height: 18 Crown Spread:21.7 DBH 90

Date: 27/9/21

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

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	21
Visibility (km)	0.5	1.0	2.0	4.0	8.0	27
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
Role	Minor	Moderate	Important	Significant	Major	27
Effect on Climate	Minor	Moderate	Important	Significant	Major	21
Subtotal Points						123

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					3	
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						12
Total Points						240

Date of Inspection:27/9/21

Tree proposed by: Existing

Assessor's notes: Large wide spreading attractive highly visible tree. Lowest west limb hollow at base of tree so recommend reduce by 3 to 4 metres. Numerous decay sockets and medium failures visible. These may be symptomatic of early onset disease or possibly reaction to root pruning during construction of hard surfaces around tree. Otherwise excellent condition and form.

Past and current management: Well managed, some minor dead wood and hangers.

Nuisance/negative factors: Overhanging paths. No significant nuisance or negative factors such as damage to structures

Threats to the future of the tree: Unknown

Potential for new development nearby: Unknown

Suggested care and maintenance:

Reduce lowest limb west by 3 to 4 metres as decayed. Numerous decay sockets and medium failures visible. May have some kind of active decay. Recommend biennial condition and safety inspection and potentially ultrasound to map decay.

Historic Notes: This is Manfeild Park's oldest tree and is around 110 years old. The tree is likely to have been planted to provide shade over a blacksmith's workshop as part of the horse racing course that subsumed into the general property.







STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: 3 Ranfurly road

Tree Name: Red Oak (*Quercus rubra*)

Zone: Residential

GPS: -40.22624, 175.55563

Location: Rear garden east side, close to neighbour's fence.

Size: Height:21.9 DBH:124 Crown Spread: 18.7

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 and Vitality	Poor	Some	Good	Very Good	Excellent	21
Function	Minor	Useful	Important	Significant	Major	3
Age (years)	10+	20+	40+	80+	100+	21
Subtotal Points						81

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	27
Visibility (km)	0.5	1.0	2.0	4.0	8.0	15
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
Role	Minor	Moderate	Important	Significant	Major	21
Effect on Climate	Minor	Moderate	Important	Significant	Major	15
Subtotal Points						105

Notable Evaluation						
Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
Feature						3
Form						0
Historic						
Age 100+						
Association						
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						3
Total Points						189

Date of Inspection:27/9/21

Tree proposed by: Existing

Assessor's notes: Large specimen, wide spread. Heavily managed as is regularly reduced to boundary line of neighbouring property. Has been reduced with limb removal, thinning and clear vertical cut to neighbor boundary. However, work has been done sensitively and tree is in overall good condition. Misidentified as Quercus robur on previous plan.

Threats to the future of the tree: Size increase causing further concern to neighbor

Nuisance/negative factors: Tree is pruned to boundary line on east side and this regular works obviates any perceived nuisance caused by overhanging branches. Branches overhanging a neighbouring property would not necessarily constitute a nuisance to justify not protecting a tree regardless. Overhanging path. No significant nuisance or negative factors such as damage to structures

Potential for new development nearby: Unknown

Suggested care and maintenance:

Ongoing regime sufficient









STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: 2b Pines Court, Feilding

Tree Name: Australian blackwood (Acacia melanoxylon)

Zone: Residential

GPS: -40.22718, 175.56069

Location: Front of garden adjacent and close to public footpath

Size: Height: 17.9 DBH:116 Crown Spread: 17.4

Condition Evaluation						
Points	3	9	15	21	27	Score
Form	Poor	Moderate	Good	Very good	Specimen	9
Occurrence	Predominant	Common	Infrequent	Rare	Very rare	21
Vigour and Vitality	Poor	Some	Good	Very Good	Excellent	15
Function	Minor	Useful	Important	Significant	Major	15
Age (years)	10+	20+	40+	80+	100+	27
Subtotal Points						87

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	15
Visibility (km)	0.5	1.0	2.0	4.0	8.0	15
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
Role	Minor	Moderate	Important	Significant	Major	21
Effect on Climate	Minor	Moderate	Important	Significant	Major	9
Subtotal Points						87

Notable Evaluation						
Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
Feature						0
Form						0
Historic						
Age 100+						9
Association						
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						9
Total Points						183

Date of Inspection:27/9/21

Tree proposed by: Existing

Assessor's notes: Wide spreading tree, unusual form as thin inner crown structure. Roots visible above lawn are mostly damaged but this is not significant to structural safety. Roots against pavement girdled so likely one sided but not significant defect. Some damage to footpath, potentially roots on pavement side damaged.

Past and current management: Overly thinned creating less than ideal crown structure.

Threats to the future of the tree: Pavement repairs, spraying lawn and cutting grass will detract from root condition.

Potential for new development nearby: Unknown

Nuisance/negative factors: Overhanging path. Roots damaging public path, these could be repaired or roots bridged.

Suggested care and maintenance: Repairs to footpath under tree should be undertaken sensitive to not damage roots and allow permeability. Possible raised footpath to protect roots. When undertaken, a consultant arborist should help design new footpath under canopy and be present when old footpath removed to advise and assist.









STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: 7 Pines Court

Tree Name: Titoki (*Alectryon excelsus*)

Zone: Residential

GPS: -40.22688, 175.56107

Location: Rear garden against fence

Size: Height: 10.2 Crown Spread: 8.4

Date: 27/9/21

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 and Vitality	Poor	Some	Good	Very Good	Excellent	3
Function	Minor	Useful	Important	Significant	Major	15
Age (years)	10+	20+	40+	80+	100+	27
Subtotal Points						63

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	9
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
Effect on Climate	Minor	Moderate	Important	Significant	Major	9
Subtotal Points						45

Notable Evaluation						
Recognition	Local	District	Regional	National	International	Score
Points	3	9	15	21	27	
Stature						
Feature						0
Form						0
Historic						
Age 100+						
Association						9
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						9
Total Points						117

Date of Inspection:27/9/21

Tree species: Titoki

Tree proposed by: Existing

Assessor's notes: Has extensive major central stem decay cavity and root decay. Lost major limbs and part of stem and is unsafe and in rapid decline.

Past and current management: Minor lower branch removal

Threats to the future of the tree: Advancing decay and failure

Potential for new development nearby: Unknown

Suggested care and maintenance: Remove or crown reduce

Notable Tree listing recommendation: The tree is unsafe and in rapid decline, it is therefore not appropriate for this tree to remain listed as Notable.

Nuisance/negative factors: No significant nuisance or negative factors such as damage to structures









STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: 28 Kimbolton road

Tree Name: Wellingtonia – Sequoiadendron giganteum

Zone: Residential

GPS: -40.22734, 175.56079

Location: Separate plot at rear of 28 Kimbolton Road, although owned by 28 Kimbolton Road.

Size: Height: 28.2 DBH:202 Crown Spread:13.8

Date:27/9/215)9

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

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	27
Visibility (km)	0.5	1.0	2.0	4.0	8.0	21
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	21
Role	Minor	Moderate	Important	Significant	Major	21
Effect on Climate	Minor	Moderate	Important	Significant	Major	15
Subtotal Points						105

Notable Evaluation						
Recognition	Local	District	Regional	National	International	Score
Points	3	9	15	21	27	
Stature						
Feature						
Form						
Historic						
Age 100+						3
Association						15
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						18
Total Points						204

Owner's Name: Unknown

Date of Inspection: 27/9/21

Tree proposed by: Existing

Assessor's notes: Reasonable form but has lost a number of branches on its north side. Some of the end branch structure is poor with tight bends and poor taper but this is not a structural safety issue and is more of an aesthetic issue. A large girth and relatively low height to girth ratio is likely caused by winds. No roots present to examine but stem is free of defects or cavities. No root damage to any nearby structures observed. Roads, kerbs and a garage within likely rooting area but no surface roots or damage to structures caused by roots observed. In good condition overall slight lean north west.

Past and current management:

Appears to have had northern branches removed and tidied, otherwise little other work.

Threats to the future of the tree:

Development potentially nearby.

Nuisance/negative factors: Overhanging path. No significant nuisance or negative factors such as damage to structures observed.

Suggested care and maintenance: none

Historic Notes: Planted by Colonel Halcombe or family around 1870's, early founder of Feilding.











STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: 28 Kimbolton road

Tree Name: Magnolia grandiflora

Zone: Residential

GPS: -40.2274, 175.56094

Location: Rear garden of 28 Kimbolton Road close to fence and overhanging drive.

Size: Height:14.6 DBH:77 Crown Spread: N8 S3 E5 W8

Date: 27/9/21

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

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	9
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	21
Effect on Climate	Minor	Moderate	Important	Significant	Major	9
Subtotal Points						63

Notable Evaluation						
Recognition	Local	District	Regional	National	International	Score
Points	3	9	15	21	27	
Stature						
Feature						0
Form						0
Historic						
Age 100+						3
Association						15
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						18
Total Points						149

Date of Inspection:27/9/21

Tree proposed by: Existing

Assessor's notes: One sided canopy mostly to north, numerous decay pockets, showing signs of senescent aging decline, veteran and retrenching.

Past and current management: Root severance for path within garden may have damaged roots and now leaning as a result.

Threats to the future of the tree:

Potential development to extend rear of house by property owner.

Suggested care and maintenance: Reduce limb over road as hollow and could fail. Reduce end weight by 2 to 3 m

Nuisance/negative factors: Overhanging path. Roots are causing some damage to garden path but damage is minor.

Historical Notes: Likely to have been planted by Halcombe family in late 1800's, early founders of Feilding.











STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: 1759 Cheltenham Hunterville Road, Waituna West (former Waituna West Hall site).

Tree Name: Magnolia campbellii

GPS: -40.04023, 175.63804

Zone: Residential

Location: Section rear against fence adjacent McClaren Road

Size: Height: 20.7 DBH:187 Crown Spread: S8 N10 E10 W9

Date:27/9/21

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

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	21
Visibility (km)	0.5	1.0	2.0	4.0	8.0	21
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	21
Role	Minor	Moderate	Important	Significant	Major	9
Effect on Climate	Minor	Moderate	Important	Significant	Major	15
Subtotal Points						87

Notable Evaluation						
Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
Feature						15
Form						0
Historic						
Age 100+						15
Association						
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						30
Total Points						198

Date of Inspection:27/9/21

Tree proposed by: existing

Assessor's notes:

Large infrequently found tree. Good specimen.

Past and current management: Appears to have been thinned and dormant buds now emerging as water shoots. On steep slope (45 to 70 degrees). Stability of tree on slope is good despite incline. Large holding roots and buttresses upper slope side. Some major stems hollow north side but no signs of decay fungi. Maybe under disease stress.

Threats to the future of the tree: slope stability, disease.

Nuisance/negative factors: Overhanging path. No significant nuisance or negative factors such as damage to structures

Potential for new development nearby: possible

Suggested care and maintenance: Recommend annual inspection to determine if diseased, and to recommend any suitable mitigation based on that finding.











STEM ASSESSMENTS MANAWATU DISTRICT COUNCIL

Address: Kakariki Road, Manawatu

Tree Name: Golden Totara (Podocarpus totara 'aurea')

GPS - -40.12433, 175.4483

Location: Halcombe/ kakariki Road paddock Road near bridge

Size: Height: 9m DBH: 50cm Crown Spread: 3m x 4m

Condition Evaluation						
Points	3	9	15	21	27	Score
Form	Poor	Moderate	Good	Very good	Specimen	3
Occurrence	Predominant	Common	Infrequent	Rare	Very rare	9
Vigour and Vitality	Poor	Some	Good	Very Good	Excellent	3
Function	Minor	Useful	Important	Significant	Major	3
Age (years)	10+	20+	40+	80+	100+	15
Subtotal Points						33

Amenity Evaluation						
Points	3	9	15	21	27	Score
Stature (m)	3 - 8	9 to 14	15 to 20	21 to 26	27+	9
Visibility (km)	0.5	1.0	2.0	4.0	8.0	15
Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	9
Role	Minor	Moderate	Important	Significant	Major	3
Effect on Climate	Minor	Moderate	Important	Significant	Major	3
Subtotal Points						39

Notable Evaluation						
Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
Feature						
Form						
Historic						
Age 100+						
Association						
Commemoration						
Remnant						
Relict						
Scientific						
Source						
Rarity						
Endangered						
Subtotal Points						
Total Points						72

Location of Tree(s) on site: In field, visible from road but a small declining tree which would be barely discernable from the public road. Many other totara nearby in a parkland like setting but this specimen is in very poor and declining condition and 'golden' needle colour is hardly discernable.

District Plan Zoning: Rural

Date of Inspection: 27/9/21

Tree proposed by: existing

Comments/reason for proposal: NA

Nuisance/negative factors: No significant nuisance or negative factors such as damage to structures

Assessor's notes:

Past and current management: Unmanaged, appears to have not been managed or pruned, has lost many branches naturally as a result of decline and dysfunction.

Threats to the future of the tree: Compaction of soil and damage to roots caused by grazing pressure.

Potential for new development nearby: not known, probably not

Suggested care and maintenance: In very poor condition and falling apart, management to remove dead wood may help but is unlikely to arrest decline. Not recommended to be listed as a Notable Tree as condition is very poor and dying.

Photos below taken January 2022





Photos below taken from 1995. Tree is now in poorer conditions than shown in these old photos.

