

**BEFORE INDEPENDENT HEARING COMMISSIONERS
IN CHRISTCHURCH**

TE MAHERE Ā-ROHE I TŪTOHUA MŌ TE TĀONE O ŌTAUTAHI

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the hearing of submissions on Plan Change 14 (Housing and Business Choice) to the Christchurch District Plan

**STATEMENT OF PRIMARY EVIDENCE OF TOBY CHAPMAN ON BEHALF OF
CHRISTCHURCH CITY COUNCIL**

ARBORICULTURE

**SIGNIFICANT AND OTHER (INCLUDING HERITAGE) TREES QMS
TREE CANOPY COVER AND FINANCIAL CONTRIBUTIONS**

Dated: 11 August 2023

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EXECUTIVE SUMMARY

1. My full name is **Toby Chapman**. I am employed as the City Arborist for Christchurch City Council (the **Council**). My role in preparing this evidence is that of an expert in arboriculture.
2. I have prepared this statement of evidence on behalf of the Council in respect of matters arising from the submissions and further submissions on Plan Change 14 to the Christchurch District Plan (the **District Plan; PC14**).
3. Relevant to my evidence, PC14 has:
 - (a) identified certain Significant Trees and groups of Significant Trees within Appendix 9.4.7.1 of the District Plan as Qualifying Matters (**QM**) Trees, and proposed changes to certain rules in Subchapter 9.4 that relate to the protection of trees; and
 - (b) provided for financial contributions (**FCs**) to be collected where the proposed required level of tree canopy cover is not provided for on land being subdivided.
4. I co-authored the *Significant Trees Qualifying Matters Technical Report* with my colleague **Hilary Riordan** (a landscape architect). It summarised the assessments of individual trees, and groups of trees, included in the District Plan schedule of significant trees, as possible QMs. I have provided specific feedback on individual trees proposed to be included as QMs and general feedback on the importance of retaining some of the city's oldest and most significant trees.
5. This evidence addresses submissions relating to the trees QMs, and to the tree canopy cover and FC provisions. The relevant submissions:
 - (a) Request the removal (including as QMs) of specific trees currently listed within the District Plan significant tree register.
 - (b) Address current rules relating to restrictions around working near significant trees.
 - (c) Address the tree canopy cover and FC provisions, including:
 - (i) seeking justification as to why tree canopy cover is proposed to be measured at maturity;

- (ii) matters related to structural soil, impervious surfaces under trees, the availability of species for planting, and minimum planted areas dimensions;
- (iii) clarification on the proposed FC amount payable;
- (iv) how canopy cover requirements will be monitored and enforced, and how FC payments will be utilised and reported.

INTRODUCTION

6. My full name is **Toby Chapman** and I am the City Arborist for Christchurch City Council.
7. I have been advising the Council on arboricultural matters in relation to the proposed existing Scheduled Trees QMs, and the proposed tree canopy cover and FC provisions. In particular, I co-authored (with my colleague Hilary Riordan, a landscape architect), the *Significant Trees Qualifying Matters Technical Report (Technical Report)*. The Technical Report is Appendix 24 to the Section 32 Report addressing QMs.¹
8. In preparing this evidence I have:
 - (a) Read the relevant proposed PC14 provisions (in particular sub-chapter 9.4 Significant and Other Trees; and the tree canopy cover and FCs provisions).
 - (b) Read the Section 32 Report on Tree Canopy Cover and FCs prepared by **Anita Hansbury**.
 - (c) Reviewed the relevant submissions.
 - (d) Read drafts of the Section 42A reports of **Brittany Ratka** (which address the Significant and other trees QMs) and Ms Hansbury (which addresses the tree canopy cover and FC provisions).
9. I am authorised to provide this evidence on behalf of the Council.

QUALIFICATIONS AND EXPERIENCE

10. I hold the qualification of Level 6 diploma in arboriculture from the Waikato Institute of Technology.

¹ [QM-Trees-Technical-Report- Jun2022-FINAL.PDF \(ccc.govt.nz\)](#).

11. I have been working in the Arboricultural industry for 15 years, of which four of these have been in my current role. Prior to joining Council I worked as an Arboricultural consultant for three years providing advice to landowners and tree managers throughout the country.
12. Through the Council I am a member of the New Zealand Arboricultural Association.

CODE OF CONDUCT

13. While this is a Council hearing, I have read the Code of Conduct for Expert Witnesses (contained in the 2023 Practice Note) and agree to comply with it. Except where I state I rely on the evidence of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.
14. I confirm that, while I am employed by the Council, the Council has agreed to me providing this evidence in accordance with the Code of Conduct.

SCOPE OF EVIDENCE

15. My statement of evidence includes a brief discussion of the QMs relating to existing Scheduled Trees (Part A), and of the proposed tree canopy cover and FCs provisions (Part B). In my evidence I also respond to specific submissions:

Part A: Qualifying Matters on the existing Scheduled Trees

- (a) Kāinga Ora (Submission 834), seeking amendments to rule 9.4.4.1.1 P12;
- (b) Carter Group Limited (Submission 814), seeking the removal of Scheduled Trees T12 and T13;
- (c) Ceres New Zealand (submission #150), seeking that Scheduled Tree 274 not be identified as a QM; and
- (d) Blake Quartly (submission #405), considering that trees should be the responsibility of Council and protections should relate only to public land; and
- (e) The setting of an identified Heritage QM Tree at Stanmore Road. Submission by Foodstuff.

Part B: Financial Contributions for Trees.

- (f) Nikki Smetham (submission #112), which seeks that trees should be measured based on 10 years of growth instead of maturity.
- (g) Nikki Smetham (submission #112), which raises concerns about the use of structural soil and its ability to support trees through to maturity.
- (h) Nikki Smetham (submission #112), which raises concerns about the availability of a selected species to be planted within the required planting season.
- (i) The Victoria Neighbourhood Association (submission #61) and Marjorie Manthei (submission #237), which seek to restrict the level of impervious surfaces under trees.
- (j) Christchurch City Council (submission #751), which addresses minimum dimensions of tree planting areas.
- (k) David Lovell-Smith Ltd (submission #728, #914), Benrogan Estates Limited (submission #819), Knight Stream estates Limited (#820), Danne Mora Limited (submission #903), Milns Park Limited (submission #916) seek clarification on the \$2,037.00 per tree and whether GST is included.
- (l) David Lovell-Smith Ltd (submission #728, #914), Benrogan Estates Limited (submission #819), Knight Stream estates Limited (#820), Danne Mora Limited (submission #903), Milns Park Limited (submission #916) seek clarification on how tree canopy rules will be monitored and enforced and how Council will utilise the money paid to them and how that will be report to the public.
- (m) Waipuna-Halswell-Hornby-Riccarton-Community Board (submission #902) seeks that all trees planted as a result of FCs must be planted within the ward they are collected.
- (n) Waipuna-Halswell-Hornby-Riccarton-Community Board (submission #902) seek that the removal of street trees require resource consents a discretionary activity, and that there be a requirement that a replacement tree of the most mature size be planted in the same roadside.

PART A: QUALIFYING MATTERS ON THE EXISTING SCHEDULED TREES

Scheduled Significant trees as 'other' QMs

16. As discussed in the evidence of **Justin Morgenoth** and **Colin Meurk**, trees in general provide a number of benefits ranging from improving air quality to supporting flora and fauna. In addition to providing these many benefits, the trees that have been identified within the District Plan Schedule are regarded as some of the city's most notable trees.
17. The Council has recently adopted the Urban Forest Plan which further outlines the importance of trees within our urban environment and promotes the retention of trees including on private property.²
18. As the trees in the Schedule are mature, they reflect an asset that cannot be replaced within a reasonable timeframe. It is also likely that post development, the availability of space required to support large mature trees will diminish.
19. For a tree to be included in the Schedule, it must meet the requirements under the Christchurch Tree Evaluation Method (**CTEM**) methodology. Part of the assessment method is to ensure that the tree being assessed is healthy and structurally sound. If the tree is in poor health or has a structural defect that compromises the tree's structure, the tree does not meet the threshold for continued inclusion within the Schedule.
20. The proposed provisions of sub-chapter 9.4.2.2.3 identify the necessity of protecting trees from inappropriate physical works. It should be noted that many development activities if not managed correctly pose a considerable risk to existing trees. It is therefore important to ensure the rules within the sub-chapter 9.4.4.1.3 and specifically RD5 are retained to ensure trees are not lost unintentionally.

The inclusion of significant trees with an age of over 100 years as a QM

21. Trees that have been identified as being over 100 years have been included as a QM per s771(a), as an RMA Section 6(f) historic heritage matter.

² <https://ccc.govt.nz/assets/Documents/Environment/Trees/Urban-Forests/CUS5882-Urban-Forest-Plan-WEBJune2023.pdf>

22. To determine if a tree was over 100 years old, Mr John Thornton (Council's Environment Consents Arborist) used the following materials:
- (a) 1994 evaluation data using the City Plan Matrix (commonly referred to as 'Walters Method'). In many cases the time period of 28 years since the 1994 evaluation was carried out provided staff with the assurance that the tree was over 100 years of age.
 - (b) 2014-2015 CTEM evaluations used for the now operative Plan.
 - (c) Historic Aerial imagery going back in many cases to 1925 or 1940. The use of historic aerial imagery was used to determine whether or not a tree was present and how well established it was during that time period. This, with the evaluation data was used to confirm whether a tree was over 100 years of age.
23. Christchurch City has a relatively young population of trees accredited to it being located in an area that was not historically covered in large trees (with the exception of Riccarton Bush and Papanui Forest).
24. As such, the trees that are over 100 years old are the oldest trees within the city. These trees provide links back to the early development of the city, in particular that of the early European settlement.
25. As trees reach maturity they become less resilient to change and are more susceptible to being adversely impacted by development. Without adequate rules in place to manage works within the vicinity of these older trees, they will be at risk of being lost unintentionally.

Kāinga Ora (Submission 834); Amend rule 9.4.4.1.1 P12 to remove the requirement for a works arborist to be employed or contracted by the Council or network utility operator.

26. Under the existing Rule 9.4.4.1.1 P12, works within 5m of the base of a tree which meets the criteria of the rule is permitted if the works are undertaken by or under the supervision of a works arborist employed or contracted by the Council or a network utility operator.
27. The requirement for the works arborist to be employed or contracted by the Council or a network utility operator provides Council with the additional assurance that the works not be conducted in a manner that would create unnecessary harm to the tree.

28. Furthermore, the pre-requisite training to be a works arborist is a Level 4 NZQA Certificate in Horticulture Services (Arboriculture) or equivalent arboriculture standards. This qualification does not include any specific training in how to manage trees during construction or how to evaluate the impact activities will have on the tree.
29. For monitoring works around trees on Council projects, Council now requires additional training to be undertaken by the Works Arborist before being approved.
30. The additional training consists of a half day workshop covering off the following topics:
 - (a) Tree roots and their function;
 - (b) Soil;
 - (c) Tree sensitive construction methods and rules for working around trees.
31. Also, as per our Tree Policy (section 3.1) and Construction Standard Specification (CSS) Part 1: 22.3.2, any project on Council land requires a Tree Protection Management Plan produced by a Technician Arborist be submitted to Council for approval. These rules will take effect when development requires any works on Council land such as the construction of a new driveway.
32. The pre-requisite for a Technician Arborist is a Level 6 NZQA Diploma in Arboriculture or equivalent. This qualification includes specific training on how to assess and mitigate the impact of construction activities around trees, something that the Level 4 National Certificate in Arboriculture does not.
33. I acknowledge that the current rule of any works within 5m of the base of the tree can lead to additional costs and delays to the developer in the form of a resource consent application when working within their property boundary (an area not covered by the Tree Policy or CSS).
34. I also acknowledge that a 5m setback is in many instances either too large or too small depending on the size of the tree that is being protected.

35. This could be addressed by altering the rule in P12 a. from imposing a 5m setback, to instead employing Tree Protection zone radius, which has been defined in Chapter 2 of proposed provisions.
36. Activity specific standard a. should then be altered to Activities shall be follow a site-specific Tree Protection Management Plan produced by a technician arborist.
37. These changes will ensure that the tree is assessed by a person who has the correct level of training and recommend the correct controls for the situation. As this condition would make the works 'Permitted' no resource consent would be required and there would be no requirement for the technician arborist to be employed or contracted by CCC.
38. Council could also provide guidelines on how to determine the Tree Protection Zone Radius to allow the project owner to determine whether or not a Tree Protection Management Plan is required.

Carter Group Limited (Submission 814); Scheduled Trees T12 and T13

39. Carter Group seeks removal of protection for two scheduled significant trees at 32 Armagh Street. The submission states that:
 - (a) Retaining those trees would "*significantly constrain the development capacity of the site*".
 - (b) The associated costs "*outweigh any benefits of scheduling*"; and
 - (c) "*Qualifying matters, given their restrictions on development rights of private property, should be thoroughly tested and assessed*".
40. These trees are listed as T12 and T13 within Appendix 9.4.7.1 of the District Plan.
41. T12 was assessed using CTEM on the 12 April 2022, the summary of results (for this and all other trees assessed) were included as an attachment to the Technical Report.³
42. Due to time constraints T13 was not assessed in time to inform the Technical Report. I assessed the T13 on the 20th of July 2023 using CTEM with the results showing the tree also met the threshold to be protected as a

³ [QM-Trees-Attachment-B1_Significant-Individual-Trees-T0-500s_June2022.PDF \(ccc.govt.nz\)](#).

QM. Ms Riordan also assessed T13, from a landscape architect's perspective.

43. In my opinion, both trees are worthy of protection, they are in good health and are structurally sound. Both trees are mature and do not show any signs that would indicate they are coming to the end of their life or would require removal.
44. Based on my Arboricultural knowledge, the placement of the trees within the site does not exclude development as both trees are near the boundary of the section. It will, however, require that a tailored approach is taken to the development of the site with additional guidance and input from a qualified and experienced arborist.

Ceres New Zealand (submission #150) Scheduled Tree 274 as a QM.

45. The Ceres New Zealand, LLC submission seeks to remove the protection of T274 scheduled significant trees at 34 Peterborough Street:

“Ceres seek the following decision:

- a. Remove the Horizontal Elm (Ulmus glabra Horizontalis) tree located on 25 Peterborough Street (Significant Tree #274) from Appendix 9.4.7.1 Schedules of significant trees (Christchurch City and Banks Peninsula).*
- b. Remove the Significant and other Trees overlay applied to 25 Peterborough Street and update Planning Map 32C and H10 accordingly.”*

46. T274 is not proposed to be a QM tree.
47. Aerial imagery taken in December 2021 show the tree has a full canopy and does not indicate any signs that the tree is dead or in severe decline. The submission does not draw any attention to the tree's condition.
48. The Ceres submission has stated that the protection of the Horizontal Elm will “highly likely restrict/impede the reconstruction/redevelopment of the building and property by limiting layout and design options” as the primary reason for their request.
49. Due to time constraints and difficulties in accessing the site, an assessment was not able to be undertaken on T274. As such I cannot comment on any specifics relating to the tree other than what can be seen in aerial imagery.

I note also that I have not been able to visit the site and assess the tree in person.

50. I can comment that there are many examples of sites with existing trees that have been able to be restored or developed without requiring the loss of the tree. A local example of this would be the Christchurch Cathedral and the mature plane trees within the site.
51. In my professional opinion, there is no clear evidence that the site could not be restored or developed without the being removed. I therefore recommend the tree should be retained on the schedule until evidence is provided showing that its removal is required.

Blake Quartly (submission #405) Trees should be the responsibility of Council.

52. I take Mr Blake Quartly's comments to suggest that no trees should be protected on private land and that Council should only have an interest in trees on public land.
53. While I acknowledge that trees on public land provide a number of additional benefits such as direct access for all people, trees on private land also contribute in a number of other ways that benefit the people of the city.
54. Trees on private land will continue to help reduce heat buildup through shading and transpiration, they reduce pressure on our stormwater system and improve our air quality through the removal of harmful particles which are harmful to humans.
55. **Justin Morgenroth** and **Colin Meurk** discuss the benefits of trees and tree canopy cover in their evidence. **Dr Meurk** discusses the level of canopy cover in Christchurch. The most recent Canopy Cover report⁴ showed that our canopy cover is 13%, much lower than Auckland (18%) and Wellington (30%). It also showed that over 50% of the city's urban forest is located on private land further highlighting the importance of privately owned trees.
56. Council has since adopted an Urban Forest Plan⁵ which includes a number of canopy cover targets which results in a city-wide target of +20%. The Plan also includes a 20% target for residential property.

⁴ <https://ccc.govt.nz/assets/Documents/Environment/Trees/Urban-Forests/Christchurch-City-Canopy-Cover-report-2018-2019.pdf>

⁵ <https://ccc.govt.nz/assets/Documents/Environment/Trees/Urban-Forests/CUS5882-Urban-Forest-Plan-WEBJune2023.pdf>

57. As a majority of land is within the private ownership, for Christchurch City to reach a future canopy cover of 20% private land must play a significant role.

Foodstuffs (Submission 705): Heritage Tree located on Stanmore Road

58. The relief sought by this submission is to “*Amend to exclude the protected tree on Stanmore Road frontage*”, with their reasoning being that “*Removal of the protected tree better represents the existing environment.*”

59. This tree is listed as T1118 within Appendix 9.4.7.1 of the District Plan. The tree was also identified by Mr Thornton to be at or over 100 years old and warranting protection under section 6(f) of the RMA.

60. The tree has a plaque which reads:

"This tree was planted on eight acres of land purchased by Joseph Hadfield in 1865. Hadfield and his family, of Derbyshire, England, arrived on board the Mersey in Canterbury on 25 September 1862. The Hadfield Homestead originally stood on this site. This plaque was erected in 1998 by Hadfield's great-grandsons, Errol, Anthony, Martin and Roger Hadfield".

61. Based on the text on the plaque, the tree is currently 158 years old. There are also a number of photographs dating back to 1988 which clearly show the tree in the background.

62. This tree is also listed on the New Zealand Tree Register⁶ as being a Notable tree of national interest. For a tree to be awarded this status it must meet one of the following:

- Trees rare in New Zealand; of the earliest known plantings or of large diameter, height or canopy spread (in the top ten minus the top 5 which would be international)
- Remnant of an original native forest tract
- Trees considered nationally as outstanding specimens

The site does not go on to specify how the tree has met the above criteria, however it is likely due to the tree's age.

⁶ <https://register.notabletrees.org.nz/tree/view/1344>

63. Evidence provided by Hilary Riordan discusses the visual amenity of the tree and the contributions it makes to its surroundings.
64. Based on the age and historical significance of the tree, I consider it should be protected via QM status.

PART B: TREE CANOPY COVER AND FINANCIAL CONTRIBUTIONS FOR TREES

Financial Contributions for trees

65. Trees are now widely recognised for many of the social, economic, and environmental benefits that they provide. Many of the benefits they provide directly offset some of the negative impacts that come from urban living and development.
66. In acknowledgement of the importance of trees to our city, the Council developed and adopted an Urban Forest Plan which has a key focus on increasing canopy cover across our city. In order to do this, we need to ensure that as our city grows and develops so does our urban forest.
67. The proposed FCs are a tool to facilitate this. Through this proposal, Council will be providing developers with a choice to either plant trees or provide Council with the finances to undertake this activity on their behalf.
68. The preferred option should always be for planting to occur on the land being developed. The FC provisions provide an alternative, if that is required.

Nikki Smetham (submission #112) Trees should be measured based on 10 years instead of maturity.

69. The submission addresses the point in time at which the potential canopy cover of a tree, to be planted in order to meet the Plan requirements, should be calculated. Council considered having a timeframe for canopy size such as 10 or 20 years however, when this was modelled we found that this resulted in a bias towards fast growing exotic trees.
70. In order to avoid this bias Council chose to base the projections on mature canopy sizes.

71. The submitter has also raised concerns with the CCC tree classification guide on the website⁷, citing that a number of tree heights do not reflect the reality of that species within the urban environment. I agree with this observation however I disagree that the solution is to reduce the projections to 10 years.
72. I recommend that the Council should commit to continuously updating and maintaining the website to ensure the species tree heights reflect the urban environment.

Nikki Smetham (submission #112) The use of structural soil and its ability to support trees through to maturity.

73. The submitter is concerned that structural soil (an engineering solution recommended by the Council) would not be suitable to support a tree through to maturity.
74. Council lists structural soil on its website as an example of an engineering solution which may be used to extend a tree's access to soil. Structural soil is a product that is made up of a mixture of stone aggregates and nutrient rich soil. Due to the stone aggregates, even as the soil is compacted down it is able to maintain voids that allow tree roots to penetrate the area and draw nutrients and water.
75. While primarily the purpose of structural soil is to allow tree roots to migrate through an area (such as under a pathway) to gain access to soil on the opposite side, it can also be used as the sole soil medium for supporting a tree. Overall, I do not think the potential use of structural soil makes a 20% canopy cover target too ambitious.

The Victoria Neighbourhood Association (submission #61) and Marjorie Manthei (submission #237) Restricting the level of Impervious surfaces under trees.

76. The submitters have requested that impervious/impermeable surfaces be discouraged below trees. And highlight the importance of landscaping at ground level. I appreciate the submitters' concern generally and agree with their sentiment, however there are also benefits to having canopy cover over hard surfaces such as cooling and intercepting water.

⁷ <https://ccc.govt.nz/environment/trees-and-vegetation/urbanforest/tree-planting-guide>

77. From a tree health perspective, as long as the impervious surface is constructed on a base that does not restrict root movement (see my evidence above detailing the properties of structural soil) then the impact will be minimal.
78. I believe that 6.10A.4.2.1a(..)viii of the proposed provisions which states “*No more than 20% of the land area required for tree roots, as per Table 1 above, may be covered with any impervious surfaces*” sufficiently covers this concern.

Nikki Smetham (submission #112) The availability of a selected species to be planted within the required planting season.

79. The submitter has raised concerns around the availability of a selected tree species and what would occur if it could not be sourced in time for planting.
80. In my opinion this is an issue that could apply to any product or requirement on a project. I believe it would be up to the person responsible for the project to ensure that the necessary tree(s) are sourced ahead of time to avoid this becoming an issue.
81. However, if a particular scenario arose where a species was not available, the project owner should have the opportunity to provide a substitute species.

Christchurch City Council (submission #751) Minimum dimensions of planting area

82. The table provided by Christchurch City Council in its submission affords a minimum width required for a tree planting site in alignment with the proposed species being planted.
83. This reflects that overtime as a tree grows, so does its trunk diameter and basal root system. The minimal widths will help to ensure that as this growth occurs, the site is adequate to support the tree without compromising adjacent infrastructure.
84. The minimal width also considers a trees root system and the extent it is able to extend out from its trunk. Without a minimum width, a planting space could be very narrow and long and extend beyond the distance that a trees roots could grow out to. For example, if there were no restrictions on planting pit width, a large tree could be planted in a space that is only 0.5m

wide and 190m wide. This would meet the required soil volume, however much of this area would be beyond what the tree would be able to reasonably access.

85. Based on the above, it is my opinion that the minimal dimensions should be included in the tree canopy cover provisions of PC14.

David Lovell-Smith Ltd (submission #728, #914), Benrogan Estates Limited (submission #819), Knight Stream estates Limited (#820), Danne Mora Limited (submission #903), Milns Park Limited (submission #916) seek clarification on the \$2,037.00 per tree and whether GST is included.

86. The rates reflect a reasonable cost for Council to purchase and plant a tree. The cost for this varies bases on different areas with the lowest cost being in a park environment (\$623.00 excl GST) and the highest within a street (\$700.00 excl GST and no engineered tree pit).
87. These prices are based on the following estimates (all excl GST):
- (a) Tree Cost \$95 (25ltr for Parks), \$150 (45ltr Streets);
 - (b) Planting \$70-\$150;
 - (c) Watering \$430 (based on Councils current practice of 3 year); and
 - (d) First prune and establishment visit \$35.
88. As well as the above pricing, when planting within a street environment it is likely that in certain circumstances an engineered tree pit will be required. An engineered tree pit is a planting space that has been specifically engineered to support a tree to grow through to maturity. It will often include materials or a solution that allows infrastructure such as footpaths and roads to be installed around the tree without impacting on its rooting environment.
89. The cost of an engineered tree pit can vary greatly depending on the works required to install the engineered solution. For example, in some instances there will be a requirement to simply alter the construction of the footpath near the tree. In other instance there may be a requirement for kerb lines to be shift or underground services to be realigned.

90. In 2014 Christchurch City Council produced a detailed report on Stormwater Tree Pit design⁸. This provided an estimate of \$9,400 excl GST which did not cover the realignment of services. A more recent project in which six new tree pits were installed within a street cost \$11,600 ea.
91. The final figure of \$2,037 excl GST was based on 75% of trees being planted in park environment (\$623.00 excl GST), 10% in a street environment with no engineered tree pit, and 15% in the street environment requiring an engineered tree pit.
92. The split was determined by assuming that a majority of the time, trees planted to offset loss on private land would require purchasing of new land which would generally be open space. In some instances, there may be opportunities to purchase land along a road reserve in which case an engineered tree pit was likely.
93. The submitters have highlighted the Council's current bonding schedule and the current cost only equating to \$1,460 excluding GST. What this cost does not include is the additional year the Council waters and maintains the tree or the formative prune undertaken prior to the tree being classed as established and entered into our regular maintenance cycle. Once these costs are included, the total cost is \$2020.00 excl GST.
94. These prices also fail to acknowledge the risk Council will be taking on to replace trees that may die or be vandalised or price fluctuations that may occur over time.
95. Based on the above evidence, in my opinion Council has understated the true cost of the tree planting and ideally would be able to ensure sufficient clauses are in place to allow the cost to be increased based on sufficient evidence being provided.

⁸ <https://ccc.govt.nz/assets/Documents/Environment/Water/waterways-guide/Christchurch-Stormwater-Tree-Pit-Design-Criteria-Detailed-Report-prepared-for-Avon-SMP-Blueprint.pdf>

David Lovell-Smith Ltd (submission #728, #914), Benrogan Estates Limited (submission #819), Knight Stream estates Limited (#820), Danne Mora Limited (submission #903), Milns Park Limited (submission #916) seek clarification on how tree canopy rules will be monitored and enforced and how Council will utilise the money paid to them and how that will be report to the public.

96. Council has been developing tools to present projected tree canopy cover for new tree planting. This tool will be specific to the species planted and whether it has the required soil volume for it to meet its full canopy potential. It is expected that this tool will be functioning and publicly available before the beginning of the next planting season (April 2024).
97. The tool will also be used to track any planting that is funded through FCs. We are currently investigating the most efficient way to track which property or subdivision a particular planting or land purchase relates to. Once we have a system in place the information captured will be publicly available.
98. Council has also committed through the Urban Forest Plan to track and monitor its canopy cover which will include canopy cover surveys. These documents will be publicly available and allow people to see if the cities canopy is increasing or decreasing overtime, particularly in areas of development.
99. With regards to how Council will ensure compliance with the rules, Council is aware for the potential need for further enforcement and monitoring. Council will be exploring options for self-monitoring such as landowners or developers being required to provide evidence that a tree has been planted.
100. The consent notice will be used to ensure that trees are to be maintained in perpetuity including, where necessary, by the requirement to replace any diseased or dead trees with a tree of equivalent canopy size at maturity.

Waipuna-Halswell-Hornby-Riccarton-Community Board (submission #902) seek to that all trees planted as a result of the financial contribution must be planted within the ward they are collected.

101. The Community Board have raised concerns that if an FC to offset canopy cover form a sub-division is collected, those funds may not go towards planting trees within the ward that the development occurred.

102. In my opinion the current proposed provisions, specifically 6.10A.2.1.2(..)b. which states:

...the tree planting by the Council will be as close to the development site as practicable;

should be sufficient to address these concerns.

Waipuna-Halswell-Hornby-Riccarton-Community Board (submission #902) seek to require the removal of street trees to be a discretionary activity and that there be a requirement that a new tree of the most mature size be planted in the same roadside.

103. Based on my reading of the operative District Plan, the removal of any street tree over 6 meters (not in the central city area or on a state highway) would currently be a restricted discretionary activity. Based on this, no change is required.
104. Furthermore, as the tree would be on Council land, removal of the tree would require asset owner approval (in this case Council) regardless of whether the tree is protected under the district plan or not.
105. While I understand the Community Boards desire to have replacement trees as mature as possible to maximise its impact immediately, in my professional opinion, I would not support this.
106. The term 'as mature as possible' would be difficult to interpret and enforce as maturity of a tree is not a distinct phase in a tree's life cycle. Furthermore, when mature trees are planted they will often have difficulties establishing in a new site and tree loss becomes more common.
107. I would recommend that the current practice of planting a 45ltr tree would be a more appropriate requirement.

Date: 11 August 2023

Toby Chapman