

# **In the matter of the Resource Management Act 1991**

## **Proposed Plan Change 36 of the Taupō District Plan**

### **Rebuttal evidence relating to:**

**Drinking water  
Wastewater  
Stormwater  
Reserves**

Prepared by

**Thomas Swindells**

**Michael Cordell**

**Roger Stokes**

**Nathan Mourie**

**15 May 2020**

# **DRINKING WATER**

## **Introduction – Drinking Water**

1. My full name is Thomas Arthur Swindells. I am currently employed by the Taupō District Council as Asset Manager Water.
2. My evidence is specific to the matters of Water Engineering based on my 15 years' experience in the field and Bachelor of Technology (Chemistry) degree with Honours qualification.
3. I have read and I am familiar with the Environment Court's Code of Conduct 2014 for Expert Witnesses. For the purpose of this hearing, I agree to be bound by that Code of Conduct and have familiarized myself with the requirements as set out in the Code.
4. I provided evidence to accompany the section42a report which concluded:
  - a) There is capacity within the existing Whareroa water take consent to accommodate the proposed development, however this may not leave much headroom for any further growth (i.e. infill). Accordingly, a restraint on development beyond 160 dwellings is supported.
  - b) Significant upgrades to the water supply system will be required, and at this stage are not quantified by the application.
  - c) No legal mechanism and associated approval by the Tūwharetoa Maori Trust Board for services to cross the Whareroa Stream has been included within the application.
5. My rebuttal evidence is based on a review of:
  - a) The Statement of Evidence by Michael Keys on behalf of the Proprietors of Hauhungaroa No. 6.
6. There appears to remain two unresolved issues within the water evidence:
  - a) The timing of determining the costs of the necessary water supply upgrades.
  - b) The extension of water reticulation across the Whareroa Stream.

## **Costs of Water Service Upgrades**

7. With respect to point a) above, I outlined within my evidence (points 22 and 23):

- *The TDC Water Asset Management Plan 2018, states that the current Whareroa water supply system is not capable of catering for additional development or infill.*
  - *The application has not quantified what infrastructure upgrades are required should the development proceed. I note however, that to service the proposed development, plant capacity would need to increase by 80%. From an engineering perspective, this is a significant capacity increase and therefore is likely to require significant infrastructure upgrades (and cost) to achieve.*
8. Mr. Keys outlines the proposal within his evidence (8.3) that this is anticipated to be done through a Deed of Arrangement.
  9. I have identified that the necessary upgrades and infrastructure provision in relation to water are not insurmountable, and the costs for such would need to be met by the developer. However, I understand from Mr. Bonis that as a Plan Change it would be reasonable for estimated costs to be advanced so that a complete picture of the Plan Change is established. It is considered that the Council, if advancing such a Plan Change itself would provide such costings, such that the efficiency of funding such growth areas is part of the decision-making process.

### **Whareroa Stream Crossing**

10. In relation to the bridge crossing I understand based on correspondence to the Tūwharetoa Maori Trust Board (TMTB) provided by Harkness Henry (dated 20 April), that the Incorporation proposes an agreement between Tūwharetoa, TDC and the Incorporation whereby a bridge would be built by the Incorporation and owned by TDC while Tūwharetoa would retain legal ownership of the Streambed.
11. I understand from the Incorporations Evidence that in order to provide legal status for the bridge, MG (Michael Grayson, Grayson Clements Ltd) suggested that the road over the bridge could be declared a Maori Roadway. This would follow a joint application to the Maori Land Court by the Incorporation, TDC and Tūwharetoa.
12. Based on my understanding from the Memorandum from James Winchester, Simpson Grierson 15 May 2020, a Maori Roadway provides for road access only and that the provision of utilities would have to be agreed by some other mechanism. This leaves matters of securing access, potential costs of access, maintenance arrangements of services all unresolved.
13. Even if these issues are initially resolved through some sort of agreement, I am unsure of a mechanism (apart from legal title) that allows these details to be set out in perpetuity.

## **Conclusion**

14. As stated by Mr. Bonis, it is considered reasonable that the estimated costs to upgrade the water infrastructure are advanced as part of the Plan Change.
15. Based on the current lack of clarity I consider that the matter of getting water services across the Whareroa Stream remains unresolved. The uncertainty of securing necessary legal arrangements is a fundamental problem in terms of ensuring supporting infrastructure to efficiently and effectively service the Plan Change area.
16. Accordingly, I do not support the Plan Change as no certainty has been provided by the Incorporation that services can be provided across the Whareroa Stream in perpetuity.



Thomas Swindells

**Taupō District Council Asset Manager Water**

## **WASTEWATER**

### **Introduction**

17. My full name is Michael John Cordell. I am currently employed by the Taupō District Council as Asset Manager Wastewater.
18. My evidence is specific to the matters of Wastewater Engineering based on over 15 years' experience in the field and a Bachelor of Technology (Chemistry) qualification.
19. In addition, I am familiar with the site and surrounds.
20. I have read and I am familiar with the Environment Court's Code of Conduct 2014 for Expert Witnesses. For the purpose of this hearing, I agree to be bound by that Code of Conduct and have familiarized myself with the requirements as set out in the Code.
21. My rebuttal evidence is based on a review of:
  - b) The Statement of Evidence by Michael Keys on behalf of the Proprietors of Hauhungaroa No. 6.
22. I provided evidence to accompany the section42a report which concluded:

- a) The wastewater discharge consent held by Council has enough consented discharge volumes to accommodate the plan change and Council has enough land on which to dispose of this wastewater.
- b) The discharge consent also imposes a nitrogen limit and the Plan Change once fully developed would likely exceed this nitrogen limit. However, the mass of nitrogen that would need to be discharged, over the consented limit can be offset by removing nitrogen elsewhere in the Lake Taupō Catchment, or through infrastructure improvements.–This can be managed and is not a critical impediment.
- c) I recommend that the upgrades to the wastewater network are quantified in the Proponent’s evidence due 29th April in order to review and fully understand the costs and benefits of the proposed plan change.
- d) That certainty be provided by the Proponent that wastewater pipes and access to those services in perpetuity can be provided across the Whareroa stream.

23. After reading the evidence of the Incorporation I wish to respond to the following issues:

- Nitrogen Discharge Compliance
- Wastewater Infrastructure Upgrade Costs
- Whareroa Stream Crossing.

### **Nitrogen Discharge Compliance**

24. Within Mr. Keys evidence he states that he disagrees with my conclusions that the current annual nitrogen discharge will be threatened. This is based on the Consent Compliance report dated October 2019 which states that the current application of nitrogen is 70ka/year.
25. I understand how Mr. Keys formed his opinion based on the last years compliance report however we cannot assume too much from a single data set when fuller information is available.
26. The 2019 Report referred to by Mr. Keys has reported an unusually low result, we have a much longer set of data to consider. Over the past 13 years for which Nitrogen Load discharge information is available the mass load has ranged from 70 to 213 kgN/yr.
27. We also need to consider changes to pond performance as loading increases as is already evidenced as summer discharge concentrations are higher in nitrogen than off

peak. As more houses are connected and the wastewater volume goes up the nitrogen level discharged from the WWTP is also likely to rise.

28. I believe it is highly likely the consenting limit would be exceeded. However as outlined within my Evidence in Chief this is not an insurmountable problem. This is an area where a discussion through the Joint Witness Statement may be of value.

### **Upgrade Costs**

29. Mr. Keys notes my request to quantify costs anticipated by the wastewater upgrades. He states (8.11) that these would be more appropriately addressed once the Plan Change has been approved.
30. I have identified that the necessary upgrades and infrastructure provision are not insurmountable, and the costs for such would need to be met by the developer. To avoid repetition, I have read and come to the same conclusion as Mr. Swindells (Para 9 above).

### **Whareroa Stream Crossing**

31. To avoid repetition, my understanding and conclusions on this issue are consistent with Mr. Swindells paragraphs 10-13 above.

### **Conclusion**

32. As stated by Mr. Bonis, it is considered reasonable that the estimated costs to upgrade the Wastewater Treatment Plant are advanced as part of the Plan Change.
33. Based on the current lack of clarity I consider that the crossing of Whareroa Stream matter remains unresolved. The uncertainty of securing necessary legal arrangements is a fundamental problem in terms of ensuring supporting infrastructure to efficiently and effectively service the Plan Change area.
34. Accordingly, I do not support the Plan Change as no certainty has been provided by the Incorporation that wastewater services can be provided across the Whareroa Stream in perpetuity.



Michael Cordell

**Taupō District Council Asset Manager Wastewater**

# STORMWATER

## Introduction

35. My name is Roger Stokes. I am Development Engineer with Taupō District Council (TDC), a position I've held since February 2008.
36. My evidence is specific to the matters of stormwater based on over 30 years' experience in the field and a Bachelor of Engineering (1st Class Hons) (Civil) qualification.
37. In addition, I am familiar with the site and surrounds.
38. My rebuttal evidence is based on a review of:
  - c) The Statement of Evidence by Michael Keys on behalf of the Proprietors of Hauhungaroa No. 6.
  - d) Statement of Evidence by Tony Kelly on behalf of The Proprietors of Hauhungaroa No.6, 29 April 2020
39. I have read and I am familiar with the Environment Court's Code of Conduct 2014 for Expert Witnesses. For the purpose of this hearing, I agree to be bound by that Code of Conduct and have familiarized myself with the requirements as set out in the Code.
40. My main evidence concluded that, in terms of stormwater:
  - a) That the proposed stormwater management regime is accepted in principle, being based on typical land development practices used throughout the Taupō district.
  - b) That this be approval be subject to the geotechnical engineers also being satisfied with the methodology proposed.
  - c) I support the plan change based on the comments above.

## Proponent Evidence

41. Mr. Keys states (para 8.15) that he concurs with my findings and conclusions.
42. I note the new Stormwater report by Mr. Tony Kelly which has been lodged by the proponent as part of the evidence lodged on 29 April 2020.
43. My evidence in main stated said I supported the stormwater management and collection/treatment methodology but qualified this on the basis of the Geotech

professionals needing to be satisfied about what happens under the ground in relation to the stormwater disposal within the bowl erosion feature.

44. Mr. Kelly proposes (5.2 and 5.3) based on Mr. Phadnis's evidence that this could be addressed through sheet-flow methodology. All geotechnical investigation is proposed to occur at the subdivision stage (5.10).
45. I am concerned if the ground surface soaks up the water, and the impermeable layers are 'dished' to match the ground bowl profile and it ends up being diverted back to the scar, we could still end up with the scar remaining active.
46. The bowl with associated active erosion scar and potential for impermeable layers under the ground directing groundwater towards it and out the face of the scar remains of concern. If this carries on a slow fretting of the bank will continue, back into the reserve being vested to Council (although there is now some uncertainty around this as it I understand that Ms Lewis considers that this may instead be deemed Maori Reservation).
47. In the worse-case the Council may end up being forced to pump the accumulated water from the pond back up into another less-sensitive catchment for soakage. While this is a potentially feasible final option it's not the most desirable.

### **Conclusion**

48. I am in support of Ms. Phillips evidence (Para 7e.) that this geotechnical investigation needs to be occur upfront so that the Council has an understanding of the proposed solution and certainty that it is not going to inherit an ongoing erosion problem.

Roger Stokes

**Taupō District Council Development Engineer**

## **RESERVE PROVISION**

### **Introduction**

49. My full name is Nathan Mourie. I am a Senior Reserves Planner at Taupō District Council. I have held this position since July 2016.



50. My evidence is specific to the matters of reserve provision based on my 8 years' experience in the field and my Masters Degree in Landscape Architecture qualification.
51. In addition, I am familiar with the site and surrounds.
52. My rebuttal evidence is based on a review of:
- a) Statement of Evidence of **Joanne Patricia Lewis** for The Proprietors of Hauhungaroa No 6.
53. I have read and I am familiar with the Environment Court's Code of Conduct 2014 for Expert Witnesses. For the purpose of this hearing, I agree to be bound by that Code of Conduct and have familiarized myself with the requirements as set out in the Code.
54. My main evidence concluded that, in terms of Reserves:
- a) The provision of reserve space in the Whareroa North concept plan appears to be adequate based on the values attributed to the reserves in this area, and on current practice of reserve provision in the District.
  - b) Measures need to be set out within the Plan Change to ensure appropriate design and layout of linkages and stormwater reserves, to ensure these are appropriate and do not lead to ongoing maintenance costs.

### **Design and Layout of Reserves**

55. In relation to 37 (b) above, I note the Incorporation has set out within the evidence of Ms. Joanne Lewis (7.22) that the details about the materials and widths are matters appropriate to the subdivision and design stage.
56. I still lack certainty over the provision of cycling and walking access within the subdivision. Mr. Keys states within his evidence (para 5.9) that pedestrian and cyclist access will now be provided via the separated path shown on "Appendix 8" Concept Plan. I assume from this comment, and the comment about the narrowed carriage roadway that this is planned as a substitute for walking and cycling access along the roadway. This is a change from the original application.
57. No detail has been provided on design of the proposed pedestrian and cycling path. There remain questions as to whether it is suitable to be used as a shared path, if the

slope is appropriate for cyclists (especially in combination with walkers) and how CPTED principles apply to the accessway.

58. As discussed further below (paras 60-63) I now understand that the area that the proposed pathway is within is now to be Maori Reservation. No information has been provided about who would be responsible for the ongoing maintenance of the pathway or how legal public access would be provided.
59. At this stage I do not have the necessary information to be confident that cycling and walking can be provided for in an adequate and safe manner. I am also not clear on potential arrangements for maintenance or access of the proposed pathway.

### **Maori Reservation**

60. Ms. Lewis also states (7.22):

*The owners intend that the SNA land and the large area of new indigenous vegetation between and below the two cul de sac heads will be held as Maori Reservation with legal provision for public access.*

61. According to the Te Puna Korkiri website:

- *Māori reservations are suitable for non-commercial purposes such as marae, meeting places and urupa.*
- *A Māori reservation can be set-up and used for a number of purposes. For instance, part of a reservation can be set-aside for a marae, part for a sports ground and part for an urupa.*
- *A major advantage is the ability for marae and meeting places to obtain an exemption from paying rates.*

62. I have concerns about this proposal given:

- It has been introduced at the last minute (29 April 2020) with no previous discussion.
- No detail has been provided on how this proposal would work in practice including access and maintenance.
- I am unaware of any other significant Maori Reservations within the District and any further operational or administration implications.

63. In terms of minimizing potential issues over ownership and ongoing management and administration of the land, I would be more comfortable if all land identified as reserve or for Council administration was to become land which was owned by Council.

## **Conclusion**

64. Due to the last-minute change in the reserve plan and proposal, in that the main reserve area is now planned to be a Maori Reservation, I can no longer lend my support to the Plan Change. This is due to uncertainties on how this would work in practice, and the potential unknown implications for maintenance, administration and access.
65. I also remain unclear as to the details around walking and cycling access and if this can be provided effectively and safely.

Nathan Mourie

**Taupō District Council Senior Reserves Planner**