

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of a hearing for the Proposed Private Plan Change  
– Nukuhau to the Taupō District Plan

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**PLANNING EVIDENCE OF HANNAH CRAVEN**  
**For the Waikato Regional Council**  
**DATED 27 OCTOBER 2021**

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## Introduction

1. My name is Hannah Craven. I am a Policy Advisor in the Strategic Policy Implementation Section at the Waikato Regional Council (WRC). I have been in this role since October 2021. Prior to this, I was a Graduate Policy Advisor in the same team at WRC, a position I held since October 2020.
2. I hold a Bachelor of Environmental Planning from the University of Waikato and am a graduate member of the New Zealand Planning Institute.
3. As a member of the Strategic and Spatial Planning team for WRC I am involved in working with the Territorial Authorities of the Waikato Region and with neighbouring regional councils to assist in the development of consistent integrated regional policy. This includes supporting and leading submissions to plans developed under the Resource Management (RMA) and Local Government Acts.
4. I confirm that I am familiar with the Code of Conduct for Expert Witnesses as set out in the Environment Court Practice Note 2014. I have read and agree to comply with the Code. Except where I state that I am relying upon the specified evidence or advice of another person, my statement is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

## Scope of evidence

5. My statement is given on behalf of WRC and its particular interest in the following:
  - The complementary responsibilities of regional and district councils to control land use and its potential effects for the purpose of:
    - Ensuring cumulative adverse effects are managed and,
    - Ensuring consistent and coordinated approaches to resource management planning.
  - The extent to which the proposed provisions and S42A recommendations give effect to the Waikato Regional Policy Statement (WRPS).
  - Adopting a precautionary approach towards a proposed activity where the effects may be significant or irreversible but are as yet uncertain, unknown, or poorly understood.

6. It is my view that by adopting a coordinated approach we will be able to achieve integrated management and promote the purpose of the RMA.
7. WRC lodged a submission to Proposed Private Plan Change 37 – Nukuhau in March 2021 which overall supported the direction of the plan change but strongly opposed the realignment of natural gully systems present in the Nukuhau Structure Plan Area. WRC's submission sought to uphold important aspects of the WRPS and avoid cumulative effects of modifying natural gully systems.
8. WRC's submission highlighted the following issues with the plan change's approach to management of the natural gully systems in Nukuhau, which enables future developers to seek gully realignment or modification through a resource consent process:
  - To recreate the same hydraulic conditions of gullies pre-modification and mitigate all effects is difficult to achieve, particularly as the pumice soils in Taupō are highly erodible and realigned gullies will be difficult to maintain on a permanent basis.
  - A conservative approach to stormwater design is required due to the highly erodible pumice soils and history of flooding in the vicinity of the structure plan area.
9. The key matter in contention can be summarised as the suitability of the pumice land for intensive residential subdivision and the need to keep gully catchments intact.
10. WRC has engaged in multiple discussions with WSP planners and engineers on behalf of the proponent (virtual meetings on 30 July and 10 September 2021 and a site visit on 4 August 2021), seeking to explain and resolve this submission point and seeking amendment to the plan provisions to protect the natural gully systems.
11. My statement reinforces the WRC submission and reflects my professional opinions as a resource management policy advisor. My evidence is supported by the technical expertise of Jon Palmer (Senior Technical Advisor, Integrated Catchment and Farming Services), and wider discussions with WRC's experts with extensive experience in hazard and land management and local knowledge of Taupō soils and the Nukuhau area.
12. I have not personally visited the site of the plan change, and rely on the opinions and experiences of other WRC staff, including Mr Palmer, who attended a site visit with WSP (for the applicant) on 4 August 2021.

13. I have read the statements of the S42A officer and relevant technical experts and the applicant's evidence.
14. I do not concur with the S42A officer's recommendation to accept the plan change as it stands (with only minor amendments).
15. I support the amendments to the plan provisions recommended by Ms Cleary (for the applicant) in her statement of evidence (20 October 2021). I seek some further minor amendments as set out in this statement of evidence.

### **Background/summary of WRC's position**

16. My position outlined in this statement is informed by the technical evidence of Jon Palmer, which, in summary, highlights the following issues with the Nukuhau gullies:
  - The Nukuhau gullies are naturally formed, having carried concentrated stormwater flows in the past, and will continue to do so in future storm events.
  - The pumice soils in the Nukuhau area are regarded as the most erodible soil types in New Zealand and surrounding areas have a strong history of erosion events.
  - The gullies appear stable at present in their modified state due to a lack of recent water flows and because they have not experienced higher flows than what naturally goes into them.
  - Increasing hard surfaces (as a result of development) and further modifying the gully system is likely to exacerbate flow levels. This creates risk of future scouring, erosion and flooding, to both the structure plan area and the existing development downstream.
17. I strongly consider that these risks should be identified in the plan change documents and mitigated through provisions that seek to protect the natural gully system, avoid gully realignment, and advocate for conservative stormwater management practices.
18. I acknowledge that any proposal for stormwater discharge will need a resource consent from WRC and will be technically reviewed at the time of the application on its merits using best management practices detailed in the WRC Stormwater Management Guidelines. However, I consider that there will be difficulties in the consenting process if developers are unaware of

the issues highlighted above and WRC consenting staff are required to consistently repeat this to applicants who expect to be able to develop their land and modify gullies due to district plan zoning. To remedy this, it would be helpful to have the issues set out at a high level in the district plan so developers are aware from the outset of the limitations and risks associated with modifying the gully systems.

19. The position set out in WRC's submission is consistent with WRC's submission to the Taupō 2050 Growth Strategy, which sought clarification "to ensure that areas proposed for future growth are not subject to natural hazards, including flooding, erosion and liquefaction," and noted the "potential linkages between stormwater management and increased risk of tomo."
20. The submission to the plan change overall supported the ecological assessment and raised that public transport servicing options would need to be considered for the structure plan area. I support the recommended amendment of the applicant (Cheryl Cleary Statement of Evidence 20 October 2021) to add efficient routes for public transport to the matters of control for subdivision within the Nukuhau Structure Plan area. These matters are not addressed further as part of this evidence.

### **Engagement with the proponent**

21. WRC staff were involved in discussions with the developer regarding stormwater management in 2019 in which gully realignment was discouraged and a conservative stormwater approach was recommended to manage erosion and flooding risks. WRC's submission to the plan change generally supported the proposed stormwater management strategy, which incorporates the WRC Stormwater Management Guidelines<sup>1</sup> and is consistent with these discussions.
22. Since lodgement of the WRC submission, I, along with WRC engineering and consenting staff, have engaged in multiple discussions with WSP planners and engineers on behalf of the proponent (virtual meetings on 30 July and 10 September 2021, and a site visit on 4 August 2021 which I did not personally attend), seeking to explain and resolve the main submission point and seeking amendment to the plan provisions to protect the natural gully systems.

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<sup>1</sup> Waikato Stormwater Management Guideline - [TR20-07.pdf \(waikatoregion.govt.nz\)](#)

23. Initial discussions confirmed that the intent of the plan change is not to realign the natural gully systems but rather enable future subdividers to seek gully modification during a resource consent process. WRC confirmed that while, of course, each consent application would be assessed on its merits, gully modification is not encouraged or supported by WRC and the regional plan.
24. WRC drafted some proposed amendments to the plan provisions after discussing the issues relating to gully modification during the above meetings. The proposed amendments were provided to WSP and Taupō District Council (TDC) on 13 August 2021 via email (see Attachment 1).
25. At the most recent meeting with WSP on 10 September, the proposed amendments were discussed and WSP raised some potential concerns with implementation of the amended provisions. I understood after this meeting that WSP were going to consider drafting some alternative wording that aligned with the discussions had and the mutual agreements between both parties.
26. I understand that the proponent agrees with and supports the points raised by WRC relating to modification of natural gullies. Amendments to the plan provisions were recommended in Ms Cleary's statement of evidence (for the applicant, 20 October 2021). These were not shared with WRC prior to the public release of this statement.

### **Recommended Amendments to Plan Provisions**

27. I support the amendments to the plan provisions recommended by Ms Cleary. I seek some further minor amendments as set out in Appendix 1 to this statement of evidence.
28. In summary, I recommend amendment to the plan provisions as follows:
- Amendment to proposed Objective 3a.2.3 to ensure the risk of erosion of, and exacerbation of flood risk downstream from, the major gully systems within the Nukuhau Structure Plan are avoided, remedied or mitigated and the gully systems are maintained and enhanced.
  - Insertion of a new Policy 3a.2.3(vi) – 'The risks of significant erosion and flooding within the gullies shown on the Nukuhau Structure Plan is avoided, remedied or mitigated.'

- Insertion of a new anticipated environmental outcome under 3a.5 – ‘Risks of significant erosion and flooding within the gullies shown on the Nukuhau Structure Plan are avoided, remedied or mitigated.’
- Insertion of a new assessment criterion for subdivision in the Nukuhau Structure Plan area – ‘The management of stormwater in accordance with the Waikato Regional Council Stormwater Management Guideline (2020/07) to ensure stormwater is treated onsite to control the use of existing natural gully systems as stormwater reserves.’
- Minor technical wording amendments to refer to gullies as ‘natural gully systems’ instead of ‘stormwater gully reserve network’.
- Minor technical amendments to the Nukuhau Structure Plan map to reflect the shape and position of the existing natural gully system rather than the indicative realigned gully network.

29. The recommended amendments reflect WRC’s position that the Nukuhau gullies are natural gullies that need to be protected in order to prevent erosion and exacerbation of flood risk. I further explain the rationale of the proposed amendments below.

30. At present, the plan change provisions and structure plan map refer to the gullies as part of a ‘stormwater gully reserve network’. This should be amended to clarify that the existing gullies, while already modified, are still natural and subject to natural hydrological processes and do not exist for the sole purpose of stormwater disposal.

31. I support the following definition for ‘natural gully system’ which Mr Palmer covers in his evidence<sup>2</sup>. This could be included in the district plan to improve clarity for implementation of the recommended provisions, if necessary –

- Natural gully system - A gully system that was originally formed by natural geomorphic processes (erosion and/or sedimentation caused by historic stormwater overland flows creating a naturally formed channel). Regardless of any modification that has occurred, a natural gully system still provides some natural hydrological function. The sizes and geometry of gullies are a reflection of the scale of events that shaped them over the years.

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<sup>2</sup> Statement of evidence of Jon Palmer for the Waikato Regional Council 27 October 2021, paragraph 19, page 4.

32. In his evidence for the applicant<sup>3</sup>, Mr Crawford indicates that the structure plan map shows an indicative location and size of the future stormwater reserves rather than the existing position of the gullies to pacify the public's desire to see proposed recreational reserve areas and active transport pathways. I argue that this could be satisfied by depicting the existing gully network on the map, and that the indicative aligned network may be misleading for future developers who may expect to develop the land and realign gully systems in accordance with the indicative map. I agree that the appropriate time for identifying the proposed vested area for stormwater reserves is at the time of future subdivision and land use resource consents, and therefore the map should not need to depict a possible outcome.
33. I disagree with Ms Cleary's comment that the additional wording proposed by WRC for the assessment criteria for subdivision referencing the WRC Stormwater Management and Erosion and Sediment Control Guidelines is unnecessary<sup>4</sup>. Inclusion of this wording is useful to guide development activities and demonstrate integration between regional and district council. Further, reference to the guidelines in district plans is not unprecedented, with a recent example being the Hamilton City Council Plan Change for the Peacocke Structure Plan<sup>5</sup>. Please note WRC's recommended wording of these assessment criteria has been amended slightly from that noted in Ms Cleary's evidence.
34. Overall, the amendments seek to alert future subdividers from the outset of the issues relating to gullies in the Nukuhau area, protect the gullies from excessive modification to prevent erosion and flooding, and guide stormwater management practices to control use of the gullies as stormwater treatment devices.
35. WRC is not suggesting that the gullies must remain untouched completely, but rather that they should be left in their natural state where possible and not be considered major stormwater devices in the first instance. High level district plan policy direction would be beneficial to achieve this outcome which I understand all parties agree is important (as confirmed by evidence of the applicant and the S42A report).

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<sup>3</sup> Statement of evidence of Hamish Grant Crawford (Planner and Project Manager) 20 October 2021 – paragraphs 29-30, pages 9-10.

<sup>4</sup> Statement of evidence of Cheryl Louise Cleary (Planning) 20 October 2021 – paragraph 274, page 88.

<sup>5</sup> <https://www.hamilton.govt.nz/our-council/council-publications/districtplans/ODP/Plan%20Change%205%20%20Peacocke%20Structure%20Plan/Plan%20Change%205%20-%20Peacocke%20Structure%20Plan%20-%20Proposed%20Amendments%20to%20Operative%20District%20Plan%20Provisions.PDF>



36. Further, I recognise the complementary roles and responsibilities of WRC and TDC to control land use and its potential effects and consider that inclusion of the recommended amendments demonstrates a coordinated and integrated approach to resource management planning.
37. I also wish to reiterate the recommendation of Mr Bird (for the applicant)<sup>6</sup> and Mr Palmer (for WRC)<sup>7</sup> that a Gully Management Plan would be a suitable mechanism to ensure effective management of, and positive outcomes for the natural gully systems in Nukuhau.
38. Should the recommended amendments not be accepted by the Hearings Panel, I request WRC's comments are kept on record with TDC for discussions relating to future subdivision and development at the resource consent stage.

### **Waikato Regional Policy Statement (WRPS)**

39. I consider that the plan change as notified does not give full effect to the WRPS, but that this can be achieved through the amendments outlined above.
40. The amendments proposed align with the policy direction of the WRPS which seeks that a risk-based approach is taken that ensures the risk from natural hazards does not exceed an acceptable level (Policy 13.1(a)) and that the role of natural features in avoiding or mitigating natural hazards is recognised and maintained or enhanced (Method 13.2.8(c)). I consider the proposed amended objective and new policy would work towards achieving this.
41. Further, the WRPS directs district plans to control subdivision, use and development to not exacerbate hazard risks elsewhere (Methods 13.2.6(a)(iii) and 13.2.8(a)). A key reason for the proposed amendments is to ensure that development in Nukuhau does not overwhelm the natural gully systems and cause flooding issues further downstream in existing developed areas.
42. Development principle 6A(h), specific to rural-residential development, states new rural residential development should be recognised as a potential method for protecting sensitive

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<sup>6</sup> Statement of evidence of Warren Stanley Bird (stormwater) 20 October 2021, paragraph 56-57, page 16.

<sup>7</sup> Statement of evidence of Jon Palmer for the Waikato Regional Council 27 October 2021, paragraph 35, page 7.

areas such as gully systems. Development in Nukuhau provides an opportunity to apply this principle.

43. The relevant provisions of the WRPS are set out in full in Appendix 2.

### **Waikato Regional Plan (WRP)**

44. The WRP (Chapter 5) identifies the pumice soils in and around Taupō as erosion prone, stating “the soils lack coherence, making them prone to severe gully .... erosion in situations where there is insufficient vegetative cover or water control.”

45. Accelerated soil erosion (Issue 5.1.1) can cause:

- Land instability hazards;
- Downstream sedimentation resulting in increased risk of flooding;
- Property damage and threats to infrastructure.

46. Objective 5.1.2 of the WRP seeks a net reduction of accelerated erosion across the region so that there is no increase in the adverse effects of flooding or land instability hazards and damage to property and infrastructure is avoided.

47. The WRP acknowledges that the adoption of inappropriate land management practices, or the use of land for purposes to which it is not suited, are major contributors to erosion problems. Whilst I am not suggesting that development in this area is unsuitable, I consider the reasons making it *less* suitable should be highlighted through the district plan.

### **Taupō District Plan**

48. The intent of WRC’s recommended provisions is reflected in provisions for other areas in the Taupō District Plan, such as the Taupō Industrial Environment and Centennial Industrial Environment (section 3t). Some land in this area has been identified as sensitive due to gully systems and the plan directs through an objective and policies (see below) that extra care needs to be taken at the time of subdivision and land development to recognise landform limitations.

OBJECTIVE 3t.2.5: Provide for the subdivision and development of identified sensitive land in a manner that recognises landform limitations.

## POLICIES

- i. Manage the environmental effects of land disturbance to ensure a high level of environmental protection in the identified “Sensitive” locations.
- ii. Recognise landform limitations at the time of subdivision and development in the identified sensitive areas in the Taupō Industrial Environment.

## EXPLANATION

.... gully systems that made these locations slightly more fragile than the remaining land. These characteristics are not such that they prevent future development, but care will need to be taken when altering the landform. Carrying out earthworks, providing new services, and planning stormwater management, will need more careful attention than may be the case on the remaining industrial land.

49. I consider WRC’s recommended provisions are not unprecedented and therefore not contrary to the District Plan.

### **Taupō District Council Stormwater Strategy**

50. I consider the TDC Stormwater Strategy aligns well with the rationale of WRC around best practice management for overland flow paths and gullies.

51. The strategy notes that a key objective for TDC is to protect natural overland flowpaths and gully systems.

52. Section 6.5.6 recognises that overland flowpaths may cease to function effectively if they are blocked or obstructed, and may result in effects such as flooding, diversion of stormwater discharges into other flowpaths that have not been anticipated and where there is no stormwater management, and increased erosion along the channel profile.

53. Objective 6.2 is to maintain the functioning of overland flowpaths. Policies to support this objective include:

- Council will seek protection for overland flowpaths from development or obstructions through a range of measures such as acquisition, legal measures, maintenance agreements or other non-regulatory mechanisms.
- Council will provide education on the function hazards, importance and maintenance of overland flowpaths.

54. I consider my recommended plan amendments directly align with these policies for the Nukuhau gully system.

### **S42A Report and Recommendations**

55. My understanding of the S42A report and recommendations is that the WRC submission and reasoning is supported and accepted but that no changes to the plan provisions are considered necessary as any hazards and constraints can be addressed through further geotechnical investigation and assessment, and engineering controls and works at a subdivision stage.

56. I understand the S42A author agrees with the Geotechnical Report for the plan change that existing stormwater flow paths and gullies should be maintained where possible to avoid stormwater concentration in one area, and reduce the chance of tomo formation.

57. Mr Farquhar (for TDC) concludes that sufficient work has been undertaken to identify and assess geotechnical constraints and the range of natural hazards that may affect the land and constrain residential development and that matters can therefore be appropriately addressed at the subdivision stage<sup>8</sup>.

58. I concur that the Nukuhau structure plan area can be suitable for residential development from a geotechnical perspective and that appropriate assessments have been undertaken, but consider it is inadequate to leave areas of geotechnical concern and hazard risk to be addressed during subdivision when the knowledge of these issues is already understood at the rezoning stage.

59. I do not concur with the S42A author that the plan change gives *full* effect to the relevant provisions in the WRPS, and consider the amendments proposed in this evidence would better achieve this. Further, the amendments demonstrate a more integrated approach that will assist both regional and district council and future developers at a resource consent stage by highlighting the geotechnical issues and hazard risks that may pose constraints to future development.

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<sup>8</sup> Statement of evidence of Geoffrey Burnett Farquhar for the Taupō District Council (Geotechnical) 6 October 2021, paragraphs 9.2-9.3, page 8.

## Conclusion

60. I request that the Hearings Panel consider WRC's recommended amendments to the plan provisions should the plan change be accepted.
61. The effects and risks associated with modifying natural gully systems, particularly in Taupō, are well understood and agreed by all parties. In my opinion, the knowledge and experiences of the experts should influence the direction of high level policy through this plan change, rather than be deferred for discussions at a consent level, which are likely to be difficult and repetitive once the land has been rezoned.
62. I agree with the S42A author's statement that neither geotechnical issues nor natural hazard risk prevent rezoning.
63. I do not agree that the plan change as it currently stands gives full effect to the WRPS or that any hazards or constraints should be deferred for assessment at the resource consent stage when these are already well understood at a high level.
64. I strongly support the recommended amendments to the provisions as set out in the applicant's evidence and suggest some further amendments to better achieve the direction set out in the WRPS, WRP and Taupō District Council Stormwater Strategy and reflect a more proactive and coordinated approach to resource management planning.



Hannah Craven

**Policy Advisor, Strategic and Spatial Planning**

**Strategic Policy Implementation**

**Waikato Regional Council**

**27 October 2021**

APPENDIX 1: WRC recommended amendments to the Nukuhau Proposed Private Plan Change provisions October 2021

Black text: Operative plan wording

Blue text: Notified plan change wording

Red text: WRC recommended amendments

Green text: Applicant's recommended amendments, supported by WRC.

NUKUHAU STRUCTURE PLAN AREA

The Nukuhau Structure Plan Area is identified on the Planning maps and in Appendix 9. The intent of the Nukuhau Structure Plan is reflected in the Structure plan map contained in Appendix 9 of this plan which provides guidance as to what density and form of subdivision and development is appropriate within parts of the structure plan area.

As at November 2020, the existing wastewater network does not have capacity to service the development of this land. Therefore development can only occur when the wastewater infrastructure has been upgraded to the satisfaction of Council.

The Nukuhau Structure Plan area is characterised by gully systems and natural flow paths, as such development of the land should protect and enhance these features. The future development of the land should respect and take advantage of the amenity, legibility and identity opportunities offered by existing topography and long-view opportunities. Key amongst these opportunities are the relationships between residential properties and the gully-open space network, and the long views towards the Lake and volcanic cones, views of the Punatekahi hills and the gully network within the western area of the Structure Plan area. Through the structure planning exercise it has been identified that given the proximity of the land to the CBD and ability to provide convenient access to open space, this location is suitable for areas of general and medium density residential zoning to enable development of a variety of housing in Taupō.

OBJECTIVE

3a.2.3 To enable residential development of the Nukuhau Structure Plan Area as envisaged by the Plan while maintaining and enhancing the local network of gullies and stormwater flow paths in a manner that contributes positively to residential amenity and character and minimises offsite effects.

To enable residential development of the Nukuhau Structure Plan Area as envisaged by the plan, in a manner that contributes positively to residential amenity and character and minimises offsite effects, while:

- a. Ensuring the risk of erosion of, and exacerbation of flood risk downstream from, the major gully systems within the Nukuhau Structure Plan are avoided, remedied or mitigated; and,
- b. maintaining and enhancing the major gullies as stormwater flow paths as far as practicable.

POLICIES

- i. Encourage development in the Nukuhau Structure Plan area to be carried out in a manner which reflects the intent of the Nukuhau Structure Plan.
- ii. Achieve an appropriate level of residential amenity and character.

- iii. [Enable the development of a range of housing types, to provide a choice of living environments.](#)
- iv. [Achieve a connected open space and walking-cycling network centered on stormwater reserves, \*\*natural\*\* gullies, and street corridors with a high amenity interface with the residential uses](#)
- v. [Subdivision in the Nukuhau Structure Plan Area should only occur where the resulting lots will be connected to Council's wastewater network infrastructure.](#)
- vi. [The risks of significant erosion and flooding within the gullies shown on the Nukuhau Structure Plan is avoided, remedied or mitigated.](#)

### 3a.3 Methods

- i. **Performance standards** for permitted activities which protect the character, amenity and functioning of the Residential Environment [and take into account the density of development.](#)
- ii. **Environmental assessment** of activities which do not comply with performance standards through the resource consent process.
- iii. **Conditions** on resource consents such as consent notices and covenants on titles.
- iv. **Education** and information on the existing environmental levels, values, and amenity associated with the Residential Environment.
- v. Payment of **Financial Contributions** for reserves and roading. Refer to [Section 5](#) of the Plan.
- vi. **Council Policy** such as through Structure Plans to guide the growth of the District.
- vii. Compliance with Council's **Development Guidelines** to ensure a suitable standard of infrastructure.
- viii. Allocation of funds through the **Strategic and Annual Plan** processes.
- ix. Rules and policies within any relevant **Regional Plan or Policy Statement**.
- x. **Other legislation** and Council **Bylaws**.
- xi. The implementation of any Joint Management Agreement between Council and Iwi.
- xii. [Subdivision design guidance for the development of the Nukuhau Structure Plan area to enhance character and amenity and access to open space for a mixture of general and medium density residential development](#)

### 3a.5 Anticipated Environmental Outcomes

- i. Whilst predominantly consisting of Residential activities, a variety of activities and development compatible in scale, amenity and character with development within the Residential Environment.
- ii. New development does not create adverse impacts in terms of overshadowing, excessive building scale, vehicle movements or lack of privacy.
- iii. Protection of the wider environment and community from nuisances such as excessive dust, noise, glare, odour and stormwater.
- iv. The recognition and protection of the different types of character and levels of development within the Residential Environment.
- v. [A range of choice in housing types and densities in appropriate locations able to be adequately serviced by utilities and open space infrastructure.](#)
- vi. The development of the Lake Ohakuri Development Zone occurs in a manner consistent with [Appendix 4](#).
- vii. [The development of the Nukuhau Structure Plan area occurs in a manner consistent with Appendix 9](#)

- viii. Risks of significant erosion and flooding within the gullies shown on the Nukuhau Structure Plan are avoided, remedied or mitigated.

#### 4a.7 Nukuhau Structure Plan Area Rules

4a.7.2 Any subdivision within the Nukuhau Structure Plan that complies with Rule 4a.7.1 and is in accordance with the Structure Plan in Appendix 9 is a **controlled activity**.

For the purposes of Rule 4a.7.2 the matters over which the Council reserves control for the purpose of assessment are:

- i. The design and layout of the subdivision to ensure safe and efficient access onto existing and/or proposed roads, suitable building platforms to accommodate future complying buildings, and adequate management of stormwater.
- ii. The management of stormwater in accordance with the Waikato Regional Council Stormwater Management Guideline (2020/07) and to ensure that stormwater is treated onsite to control the use of the existing natural gully systems as stormwater reserves.
- iii. The identification of any natural hazards or contaminated sites and how these may affect the stability of the land and suitability of any future building sites, including any information provided by a suitably qualified person whose investigations are supplied with the subdivision application. The Waikato Regional Council Erosion and Sediment Control Guidelines for Soil Disturbing Activities (TR2009/02) should be followed.
- iv. Whether the desired environmental outcome with a consistent and appropriate standard of infrastructure is achieved such as through compliance with the Council's Development Guidelines and Structure Plans.
- v. Any actual or potential effects on areas or features of cultural, ecological, historic, landscape or natural value.
- vi. The imposition of conditions in accordance with Sections 108 and 220 of the Resource Management Act 1991.
- vii. A Landscape Planting Plan for the ~~stormwater~~ **natural gully system** reserve network and areas of open space along Wairakei Drive and Poihipi Road
- viii. The creation of a safe network of walking and cycle pathways that provide or improve linkages to and through reserves and the roading network.
- ix. Any natural, ephemeral water course, drainage gullies and overland flow path through the subdivision, and the effect that development may have on them, their character and value for amenity, and of the effects of any changes in the catchment flow or water quality characteristics on the downstream catchment and landowners.
- x. Any requirements of Rule 4a.7.4, Rule 4a.7.5 and 4a.7.6 and/or the ability for such requirements to be achieved by subsequent development.

4a.7.3 Any subdivision within the Nukuhau Structure Plan that complies with Rule 4a.7.1 and is not in accordance with the Structure Plan in Appendix 9 is a **discretionary activity**.

4a.7.4 Any subdivision within the Nukuhau Structure Plan Area, whereby the newly created lots are unable to be connected to Council wastewater network is a **non-complying activity**.

The following rules apply to development within the Nukuhau Structure Plan Area.

#### 4a.7.6 Fencing, Walls and Hedges



Front boundary fences, walls and/or hedge plantings between buildings on the site and any Stormwater or Recreation Reserve, or gully shall be no higher than 1.2m in height. Fence design and materials shall retain a level of transparency (visually permeable) so as not to provide a blank façade adjacent to the public walkway or reserve. To be deemed transparent any fence must meet the following requirements:

- i. Uses materials with continuous vertical gaps of at least 50mm width to create 50% or more see through visibility; or
- ii. Uses any materials for the lower half of the fence, wall or hedge, and materials with continuous vertical or horizontal gaps of at least 50mm width to create 75% or more see through visibility on the upper half.

In addition all fences on boundaries between residential zoned sites and any Stormwater or Recreation Reserve, gully, or any road, cycleway or pathway must contain a gate of not less than 1m in width, not less than 50% visual permeability and not greater than 1.5m in height.

#### 4a.7.7 Streetscape, Walking and Cycling Access

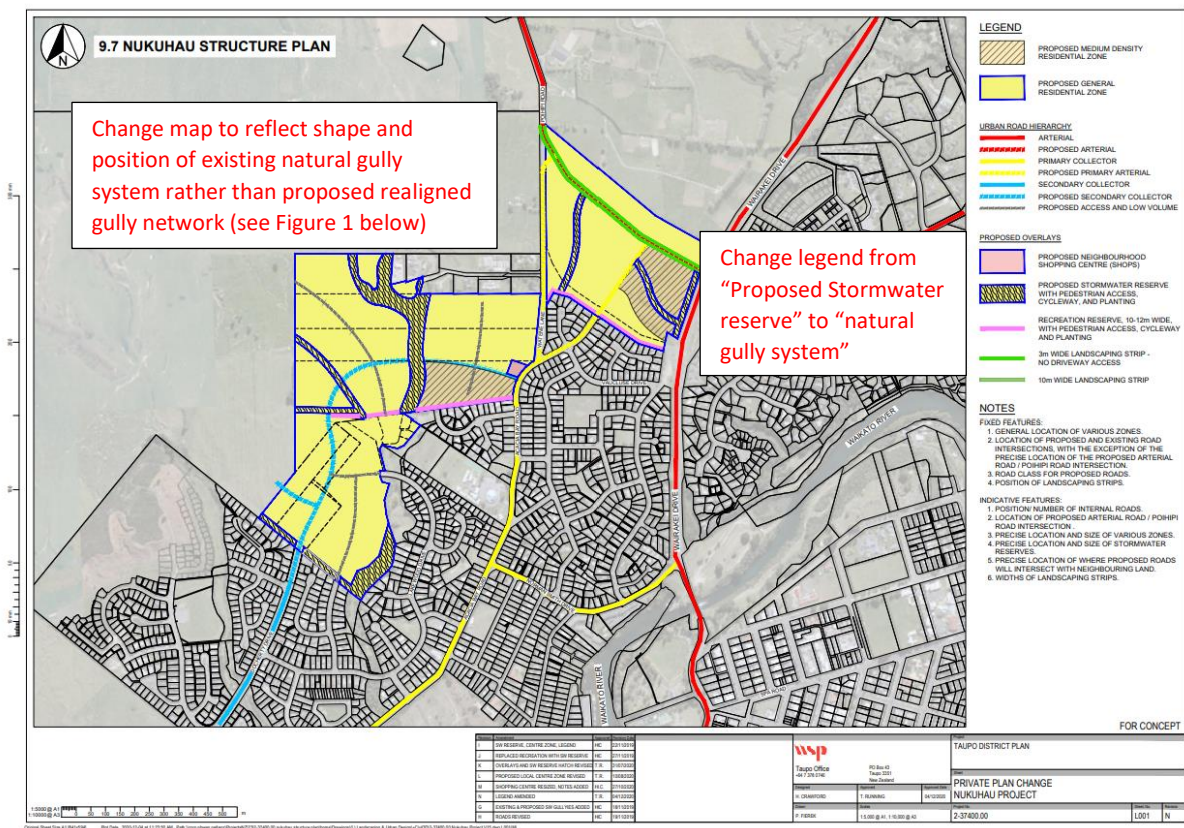
- (i) The design and layout of the subdivision shall provide a connected network of roads, streets and walking and cycling pathways in accordance with the Nukuhau Structure Plan in Appendix 9 and Crime Prevention through Environmental Design.
- (ii) The design and layout of the subdivision shall provide a shared walkway and cycleway along at least 75% of the full length and on at least one side the length of the stormwater gully network natural gully system as shown in Appendix 9.

4a.7.8 Any activity that does not comply with Rules 4a.7.5, 4a.7.6 and 4a.7.7 is a **non-complying activity**.

#### 4a.87.17 SUBDIVISION

- a. Any immediate adverse or potentially adverse cumulative effects of the subdivision or subsequent land use on the quality of Taupō District's lakes, waterways and aquifers, and the methods by which such effects can be avoided, remedied or mitigated.
- b. Whether the design and layout of the subdivision avoids, remedies or mitigates any adverse effects resulting from identified natural hazards or land contamination, including an assessment of any information provided by a suitably qualified person whose investigations are supplied with the subdivision application.
- c. The clearance or planting of vegetation, including its location, species and maintenance.
- d. The potential for financial contributions to avoid, remedy or mitigate any adverse effects on the environment.
- e. The imposition of conditions in accordance with Sections 108 and 220 of the Resource Management Act 1991.
- f. Any actual or potential effects on areas or features of cultural, historical, landscape or ecological value as identified in the plan.
- g. In respect to the New Residential Environment the appropriateness of the design, layout and density of the subdivision, having particular regard to any:
  - i. flood risk (Kuratau New Residential Environment only),
  - ii. setback from any water body or river appropriate to mitigate any risk from erosion (Kuratau New Residential Environment only).
  - iii. relevant stormwater catchment management plan,

- iv. geotechnical and topographical considerations, (including potential liquefaction effects for subdivision within the Kuratau New Residential Environment),
  - v. landscape issues (particularly as they relate to any Amenity Landscape Area),
  - vi. natural values and any infrastructural servicing issues.
- h. The densities and proposed landuses shown in the Kinloch Community Structure Plan (refer [appendix 1](#))
- i. Whether infrastructure can sustainably service the actual or cumulative increase in the density of dwellings above that which is anticipated through the Permitted and Controlled activity status in the District Plan.
- j. The effect of the proposed subdivision on the utilisation of geothermal energy resources of Development and Limited Development Geothermal Systems.
- k. Whether there is suitable and appropriate physical and legal access to allotments based on the number of new allotments created and any necessary title security of ownership and maintenance.
- l. [Landscape planting, stormwater infrastructure and walking and cycling pathways network, including \(but not restricted to\) the integrated use and provision of the stormwater gully network natural gully system to address all three matters as indicated in the Nukuhau Structure Plan \(Appendix 9\).](#)
- m. [Provision for a new urban gateway at Wairakei Drive \(Nukuhau Structure Plan only\)](#)





APPENDIX 2: Relevant provisions of the Waikato Regional Policy Statement (WRPS)

<b>Chapter 6A Development Principles</b>	
Principles specific to rural-residential development	As well as being subject to the general development principles, new rural-residential development should: h) be recognised as a potential method for protecting sensitive areas such as small water bodies, gully-systems and areas of indigenous biodiversity.
<b>Chapter 13 Natural Hazards</b>	
Policy 13.1: Natural hazard risk management approach	Natural hazard risks are managed using an integrated and holistic approach that: a) ensures the risk from natural hazards does not exceed an acceptable level; ... c) avoids the creation of new intolerable risk; and ... h) recognises natural systems and takes a 'whole of system' approach.
Method 13.1.1: Risk management framework	Regional and district plans shall incorporate a risk-based approach into the management of subdivision, use and development in relation to natural hazards. This should be in accordance with relevant standards, strategies and plans, and ensure that: a) new development is managed so that natural hazard risks do not exceed acceptable levels; ... c) the creation of new intolerable risk is avoided;
Policy 13.2: Manage activities to reduce the risks from natural hazards	Subdivision, use and development are managed to reduce the risks from natural hazards to an acceptable or tolerable level including by: a) ensuring risk is assessed for proposed activities on land subject to natural hazards; ... c) avoiding intolerable risk in any new use or development in areas subject to natural hazards;
Method 13.2.6: Control of development within a floodplain or coastal hazard area	Regional and district plans shall ensure that: a) Subdivision, use and development can only occur in a floodplain with an annual exceedance probability of 1% (where the floodplain does not match the definition of being a High Risk Flood Zone) or in an identified potential coastal hazard area (not being a High Risk Coastal Hazard) area where: i. appropriate assessment of the risks has been undertaken and these risks will not exceed acceptable levels; ii. appropriate assessment of the likely effects has been undertaken, including the effects of any new structure or fill on the diversion of overland flows or any consequential increased runoff volumes; iii. the creation of a new, or exacerbation of an existing hazard, including those off site, and any adverse effects are avoided, remedied or mitigated

<p>Method 13.2.8: Control of subdivision, use and development for other natural hazards and associated risk</p>	<p>Regional and district plans shall control subdivision, use and development outside primary hazard zones, high risk flood zones, floodplains and residual risk zones to ensure:</p> <ul style="list-style-type: none"><li>a) they do not create or exacerbate natural hazard risks elsewhere;</li><li>b) they are appropriate by considering:<ul style="list-style-type: none"><li>i. the likelihood that defensive structures or works will be required to protect the activity from the effects of natural hazards;</li><li>ii. the vulnerability of the activity to the effects of natural hazards;</li><li>iii. the potential for adverse effects on the wider local and/or regional community; and</li><li>iv. whether or not the development is consistent with a growth strategy or structure plan; and c) the role of natural features to avoid or mitigate natural hazards should be recognised and maintained or enhanced.</li></ul></li></ul>
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## Attachment 1: *Email communication with applicant*

### RE: Nukuhau private plan change

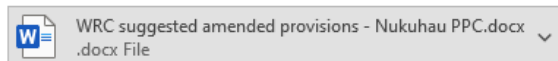


Hannah Craven

To  Cleary, Cheryl;  Crawford, Hamish  
Cc  Hilary Samuel;  Carrie Robinson

[↩ Reply](#) [↩ Reply All](#) [→ Forward](#) [⋮](#)

Fri 13/08/2021 11:53 am



Hi Cheryl and Hamish,

Thank you for providing the word version of the proposed plan provisions.

WRC continues to appreciate the opportunity to discuss our submission with WSP and the work being done to understand and attempt to resolve the outstanding issues relating to gully protection.

After some WRC staff were taken on a site visit with WSP on 4 August, our position stands as follows:

- **The gullies should be considered natural gullies and this should be reflected in the plan change document.**
  - We note that the gullies in the Nukuhau structure plan area have been largely modified over time and no longer resemble the natural gullies they once were. However, regardless of their presently modified state and lack of recent water flows, the gullies are naturally formed and have carried water flows in the past and will also do so in future storm events.
  - The plan change provisions and structure plan map currently refer to the gullies as part of a "stormwater gully reserve network". This should be amended to clarify that the existing gullies are natural and should not automatically be considered part of the stormwater network.
- **The gullies should be protected to prevent erosion and exacerbation of flood risk.**
  - The gullies are only stable at present because they haven't experienced higher flows than what naturally goes into them. With an increase in hard surfaces as a result of development, the flow level is likely to be exacerbated, particularly in instances where on-site water retention and other stormwater mitigation measures are compromised. This highly increases the risk of flooding and erosion.
  - The pumice soils in the area are regarded as the most erodible soil types in New Zealand and surrounding areas have a strong history of erosion events in the past.
  - Increasing development and hard surfaces upstream also poses risk to the existing development downstream. The WRPS directs district plans to control subdivision, use and development to not exacerbate hazard risks elsewhere (methods 13.2.6(a)(iii) and 13.2.8(a)).
  - These risks should be identified in the plan change and mitigated through provisions that seek to protect the natural gully system and avoid gully realignment.
  - This aligns with the WRPS which seeks that a risk-based approach is taken and that the role of natural features in avoiding or mitigating natural hazards is recognised and maintained or enhanced (method 13.2.8(c)).
- **Plan rules should ensure that future development is consistent with WRC stormwater and erosion and sediment control guidelines.**
  - We consider it important that future developers are alerted to the issues relating to gullies in this area and seek to ensure that stormwater is treated onsite so that gully systems are not used as treatment devices.

WRC's position as set out above is reflected in our suggested amendments to the plan provisions in the attached document.

We are happy to continue discussions on these requested amendments, either via email or in another meeting.

Kind regards,  
Hannah