Before the Independent Hearing Panel

UNDER The Resource Management Act 1991 ("Act")

IN THE MATTER of Variation 3 to the Proposed Waikato District Plan

Statement of evidence of Matthew Darryl Davis on behalf of Anna Noakes and MSBCA Fruhling Trustee's Company Limited

Dated: 7 July 2023

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Introduction

1. My name is Matthew Darryl Davis. I am a sole trader operating as Aguas Engineering Environment and Planning, which was established in 2014. Recently I have undertaken work as a subcontractor to companies Project Lab NZ Limited and Awa Environmental Limited. I have over 30-years of experience in water, environment and infrastructure matters in New Zealand, the United States and Chile.

2. I hold Bachelor of Science and Master of Science degrees in Civil and Environmental Engineering from the University of California, Davis, and currently am working on a PhD with concentration in water resources and resource economics. My registration with Engineering New Zealand is currently paused while I am working on the PhD. I am a member of Hydrology New Zealand and the American Society of Civil Engineers (ASCE) Environment and Water Resource Insitute (EWRI).

3. My background and experience are directly relevant to urban stormwater and environmental management, and farming drainage and activities. My relevant experience is set out in Annexure One to my statement of evidence.

4. I possess a very good understanding of stormwater management and design fundamentals; and the technical underpinning of the content of Auckland and Waikato stormwater management regime (including what is and what is not addressed in relevant guidelines).

5. I further have a solid understanding of, and have represented the interests of farmers, in relation to the effects of urbanisation on downstream drainage and farming activities.

Code of conduct

6. I have read and am familiar with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2023, and agree to comply with it. My qualifications as an expert are set out above. Other than where I state that I am relying on the advice of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Executive Summary

7. I note the significant effort by Waikato District Council (**WDC**) and its experts to produce information for the Plan Change associated with intensification of housing (**Variation 3**) under limited time – information that was made available only recently. I note, however, that the full stormwater assessment appears incomplete, with significant implications that the latest computed floodplains are not considered under Variation 3 (Huls, 2023a,b), and important flood classifications raised (Bordero 2023) that has potentially significant implications. I was also not fully clear how full implementation of allowable intensification (some subject to consenting processes) was fully incorporated into the modelling. Furthermore, my understanding is that, limited to no, additional technical work was undertaken on chemical contaminant, sediment, and downstream erosion. My understanding is that, limited to no, additional technical work was undertaken regarding assessment of low impact design implementation, which is generally supported by experts and other parties, and how it could positively contribute to mitigating stormwater runoff within and downstream. In my opinion, the process itself and the work available to date, provides a challenge to all to achieve good stormwater management outcomes for council, community, and my client. I make the following comments in this context.

8. My comments focus on the alteration of stormwater runoff (which is largely unaddressed), while I also make rather high-level remarks with respect to potential chemical contaminant/sediment runoff, erosions/scour, and flooding effects predominantly in context to effects downstream of the urban area.

9. In my opinion, urban development (**Dines Stage 5**) currently being constructed upstream of Anna Noakes (**Ms Noakes**) property at 157 Potter Road, Tuakau (**Noakes Property**) is altering stormwater runoff and adversely affecting the economic viability of the Noakes Property farm due to limiting access and ability to undertake farming activities on the full property, and Ms Noakes has noted the beginning of damage (erosion) to farm drainage and infrastructure. There are also concerns about additional discharge of contaminants/sediment, flood flows, and additional scour on the Noakes Property.

10. My expectation is that the intensification of urban development enabled by Variation 3 to the Waikato Proposed District Plan (**PDP**) would exacerbate adverse stormwater runoff effects on the Noakes Property.

11. In my opinion, explicit amendments to the PDP are necessary so that developers and consent authorities must check and comply with downstream stormwater runoff effects, such as 'stormwater runoff shall not adversely affect downstream farm activity, drainage, and infrastructure, including via alteration of the stormwater runoff volume, frequency, and duration'. This is a matter that ought to be addressed consistently throughout the PDP including in the subdivision, zone, natural hazards, earthworks and three waters chapters.

12. There are provisions in the PDP and the Waikato Regional Council (**WRC**) regional plan (**WRCRP**) alongside the Waikato Regional Policy statement (**WRPS**) and giving effect to *Te Ture Whatimana o Te Awa o Waikato* that establish the local statutory framework and objectives, policies and rules to avoid adverse stormwater runoff effects downstream and to the waters of the Waikato (e.g., presented by Huls (2023a)). These Plans are used in conjunction with WRC's stormwater guidelines (WRC 2020a,b) and the *Regional Infrastructure Technical Specifications* (**RITS**) (Waikato Local Authorities 2018) to design and address stormwater primary and secondary pathway capacities, chemical contaminants, sediment, drainage and stream erosion, and the 100-year ARI flood event, all of which are supported. However, in my view, the PDP and the proposed stormwater revisions in the Section 42A and Section 32AA report for Variation 3 are insufficient to adequately address the issues generated by the alteration of the volume, frequency, and duration of stormwater runoff that adversely affect the farm activity and infrastructure on the Noakes Property, and more generally farms and other land uses downstream of urban development.

13. The configuration of drainage and infrastructure, and historic rainfall-runoff on the Noakes Property (and in general farms) are based on pasture land use, with response to rainfall events generally of significantly less runoff volume, less frequency and often of less duration than urban stormwater runoff. The increased stormwater discharge from a part of the first urban development block (Dines Stage 5) immediately upstream of the Noakes Property that is only partially developed (i.e., solely streets yet with few houses constructed) currently reduces access to portions of the Noakes Property due to the increased runoff. An ephemeral stream is wet more frequently and for longer duration (reducing stock crossing and access to some 20 per cent of the Noakes Property[1]). Also, increased stormwater runoff more readily can overtop the main stem stream crossing limiting its use and access to the full Noakes Property (bifurcating the Noakes Property, with some 60 per cent

[1] The exact dimensions of the split/ reduced access on the Noakes Property have not been undertaken at this time. The 20 per cent split per is a rapid approximation, which indicates a sizeable portion of the Noakes Property.

on the south side and 40 per cent on the north side of the crossing[2]). Furthermore, Ms Noakes reports erosion at the main stem stream infrastructure crossing on the Noakes Property, which in my opinion is understandable as the crossing represents in part a flow constriction susceptible to scour when confronted with more frequent and fluctuating higher urban stormwater runoff than when it was originally constructed based on runoff from pasture land use. Based on my understanding of the effects of urbanisation on stormwater systems, my expectation is that additional stormwater discharge from more intense development enabled under Variation 3 will exacerbate the current urban stormwater runoff situation on the Noakes Property.

14. The issues confronting the Noakes Property are not unique. Similar issues of urban development and adverse effects on downstream farming are present in the Waikato, which are ongoing issues for several farming drainage districts, including concern expressed about increased maintenance cost from damage to drainage channels and infrastructure due to higher volume and quicker runoff from urban areas. The WRC Catchment Directorate, a non-regulatory operational arm of council) provides planning and operational service to 84 drainage districts in the Waikato established under the Land Drainage Act 1908 and subsequently modified via other legislation. The WRC Catchment Directorate has been involved in the Waikato Expressway and urban development through consultation and consenting processes; and non-statutory catchment management planning to ensure that stormwater runoff from roadways and urban areas do not adversely affect the drainage districts. In some instances, this has involved budget transfers to the drainage districts and/or funding works downstream from the development (Russel 2019).

15. Typical stormwater practice involves mitigating effects on the environment and managing runoff so that it does harm people and property, and generally avoid, remedy, and mitigate downstream effects. In Pookeno Auckland Regional Council (ARC) stormwater guidelines (TP10 (ARC 2003; TP108 (ARC 1999)) were used, including for Dines Stage 5 development upstream of the Noakes Property. Post Auckland Council formation and border adjustment, the WRC stormwater guidelines (WRC 2020a,b) are being used for adjacent urban development stages to Dines Stage 5, and Variation 3 intensification. The guidelines are applied to mitigate urban stormwater runoff effects, including (a) chemical contaminants and (b) sediment (e.g., via removal) and (c) erosion/scour (e.g., via slowing down the

[2] The exact dimensions of the bifuraction and reduced access on the Noakes Property have not been undertaken at this time. The 40-60 per cent split per is a rapid approximation, which indicates a sizeable bifurcation of the Noakes Property.

runoff); the guidelines also provide a methodology and design to manage (d) the (rare) peak runoff from the 100-year annual recurrence interval (ARI) rainfall event (e.g., via capacity and storage). The guidelines, as well as others like the *On-site stormwater management guideline* (Mark-Brown et al. 2004), can be used to reduce the increased volume of urban stormwater runoff. However, guidance and statutory requirements often limit volume reduction to a limited amount of rainfall (e.g., 5 mm).

16. Rote application of the guideline methods and designs (i.e. (a) through (d) in the preceding paragraph) to comply with PDP and WRCRP do not fully account for alteration of runoff volume, frequency, and duration that can affect downstream farm activity, access, drainage, and infrastructure. In my opinion, the WDC/WRC assessments to date (consenting of Dines Stage 5, Section 42A, Section 32AA, and supporting stormwater technical documentation) inadequately address current and anticipated effects due to alteration of volume, frequency, and duration of stormwater runoff on the Noakes Property and more generally other downstream farms and land uses.

17. I support implementation of (a) chemical contaminant and (b)/(c) sediment/erosion stormwater control measures as per WRC stormwater guidelines (WRC 2018, 2020) to comply with the PDP and WRCRP. However, the proposed permitted activity status within certain land use/hazard categories would likely complicate the ability of the council to meet its stormwater obligations and resulting in additional contaminant discharge downstream to landowners and the waters of the Waikato. I support WDC and WRC's encouragement of low impact design (LID) and the LID calculator contained in the WRC stormwater guidelines (WRC 2020a), with focus on on-site stormwater management and reduction of total volume runoff, and frequency and duration of runoff. I note, however, that full adoption of LID within an urban development remains largely voluntary and in context of on-site stormwater control measures constructed and managed privately, can pose challenges to operating as per design and again possibly discharging contaminants and undetained stormwater runoff downstream.

18. As a general principal, I do not support infilling of the floodplain as allowed for in Variation 3, the Section 32AA report, stormwater report, and expert evidence. Huls (2023b, S.39) states that it is better to avoid intensification within identified flood hazard area, while Boldero (2023, S.17) posits that his preference is that no intensification occurs within the high-risk flood area and a consent is required in other flood areas and overland paths, with which I concur. I note that the WDC

experts stated limitations about the inclusion of the latest flood maps (Boldero 2023, S.15; Huls, 2023a, S8.3; Huls, 2023b, S.25). Knowingly being more permissive of construction in known high-risk flood hazard areas in not good stormwater practice.

19. I also support the reservations about floodplain classification (Bodero (2023, S.50), which does not seem to be in accordance with Australian guidelines - the likely origin of the depth x velocity relationship (North South Wales 2022). The implication is the recent high-risk flood mapping may be underestimated and subsequently the spatial area of high-risk is potentially underestimated. In my opinion, the flood classifications require review and that any update would require re-computation of the flood mapping.

20. While it can be demonstrated there is minimal change to flood levels in the immediate vicinity of a small infill, the cumulative effects and transfer of flow/flood levels downstream can exacerbate the Noakes Property and other farms and land use access, activity, and drainage and infrastructure erosion issues. It is unclear that the full cumulative stormwater effects of the full intensification under Variation 3 have been assessed.

21. While the PDP and WRCRP flood provisions are set at the 100-year ARI level, in my view, it remains necessary to understand the breadth of increased flooding on the Noakes Property (and immediate downstream railroad tracks) and other downstream farmers and land uses at more rare rainfall events than the 100-year ARI. In addition, the consequence of flood event needs to be assessed in more thorough/robust manner.

22. I am concerned that the requirements (technical and consenting) to allow for intensification to meet expected stormwater quality and erosion/scour are not understood. No additional technical work appears to have been undertaken. I am concerned about the possible additional discharge onto the Noakes Property as well as flows that can cause additional scour of drainage and infrastructure.

23. I note limitations on impervious surface on the Havelock North due to slope stability potential I support these Plan provision, yet they need to be coupled with Plan amendments to address the alteration of volume, duration and frequency of runoff from these slopes and the intensified urban area.

24. In summary, I consider that additional Plan amendments are required to address adverse stormwater runoff effects on the Noakes Property (and other downstream

farms and land uses) due to alteration of runoff volume, frequency and duration, impacting the Noakes Property access, activities and infrastructure. Contaminant/sediment, and erosion matters are supported via usage of Waikato stormwater and infrastructure guidelines; however, without any additional technical work undertaken, at this point in time, I do not consider that permitted activity status for the intensification enabled under Variation 3 is appropriate, as it is unclear that it enables the council to meet stormwater objectives for it community, downstream landowners like Ms Noakes nor for the waters of the Waikato. Last, the flood hazard mapping appears to be in flux, with the latest mapping not included in Variation 3, questions about the high-risk classification, lack of assessment of the consequence component of risk, and no assessment on flooding beyond 100-year ARI rainfall event.

25. In summary, I am concerned about the lack of a full stormwater technical assessment. Without an assessment, the full implications of stormwater effects and any necessary Plan amendments are not fully known. I have made specific comments with regard to ongoing and expected worsening of stormwater effects on the Noakes Property. I have also made broad comments about stormwater management in general. In terms of achieving the best stormwater outcomes, I question if postponement until the full stormwater technical work is undertaken, as per what Auckland Council has undertaken is worth consideration or whether it is better to proceed based on experience elsewhere, including overseas, based on sound stormwater management practice.

Scope of evidence

26. This evidence is presented on behalf of Anna Noakes and MSBCA Fruhling Trustee's Company Limited as trustees of the Fruhling Trust (**Ms Noakes**) being the owners of 157 Potter Road, Tuakau (**the Property**).

27. In preparing my evidence, key documents that I have reviewed:

    (a) WDC Section 42A report, V3 and Appendix 7 (2023).

    (b) WDC Section 32AA report (2023).

    (c) Te Miro stormwater report (2023).

    (d) Boldero, Huls, Martin, and Telfar expert witness evidence (2023).

28. Reference is made to ARC/AC stormwater guidelines, as the Pookeno area was within the Auckland region until 2010, and the first urban Block(s) currently under construction immediately upstream of the Noakes Property used the ARC guidelines (ARC 1999, 2003). Furthermore, the WRC stormwater guidelines (WRC 2020a,b) draw heavily from research undertaken by ARC/AC. Application of stormwater guidelines represent a manner to give effect to the statutory requirements and comply with consent requirements; they are thus referred to frequently in this evidence.

(e) Waikato Regional Council stormwater management guidelines (2020).

(f) Waikato Regional Council stormwater runoff guideline (2020).

(g) Waikato Regional Council land drainage management plan (2019).

(h) Auckland Regional Council stormwater management guideline (TP10) (2003).

(i) Auckland Regional Council stormwater runoff guidelines (TP108) (1999).

(j) Auckland Regional Council Low impact design (TP124) (2000).

(k) Auckland Council water sensitive design for stormwater (GD02) (2015).

(l) On-site stormwater management guideline (2004).

29. Several additional documents are cited in the evidence. All documentation referred to are listed at the end of this document in Annexure Two.

30. My evidence covers the following key issues

(a) Background.

(b) Stormwater management 101 and rural to urban runoff change.

(c) Assessing/implementing stormwater management via guidelines.

(d) Stormwater management issues of concern for the Noakes Property/downstream farms and other land uses.

(e) Site visit to the Noakes Property.

(f) Urban development and Waikato drainage district issues.

(m) Stormwater assessments for Variation 3 and Noakes property/downstream farms

i. Alteration of runoff volume, frequency and duration

ii. Flooding

iii. Chemical contaminant/sediment

iv. Erosion/scour

v. Low impact design

(n) Response to Section 42

(o) (I) Response to WDC experts

Background

31. Ms Noakes has lodged as submission[3] on Variation 3 to the Waikato District Council (**Council**) PDP and two further submissions on the Variation.

32. Ms Noakes submission and further submissions are primarily concerned with the management of stormwater resulting from intensification at Pookeno. The Noakes Property is zoned general rural but forms the Pookeno urban residential area immediately to the east. Ms Noakes is concerned that the cumulative effects of more intense urban development and increased impervious surface area in the district, which will be enabled by Variation 3, will generate and exacerbate adverse stormwater and run-off effects.

33. I was engaged by Ms Noakes in 2022 to assess stormwater effects on the Noakes Property from upstream urban development in Pookeno. I was retained in response to her appeal to WDC's PDP and submission to Variation 3. As part of the initial engagement, I undertook a field visit to the Noakes Property and visual inspection of upstream urbanizing land on 22 Jul 2022.

Stormwater response to rural to urban land use change

34. In this section I briefly cover the aspects of stormwater runoff when land use is changed from pasture to urban that are relevant to the Noakes Property and other farmland downstream of urban development. Urban stormwater characterisation

[3] Submission number 44.

and management issues are described more completely in local guidelines (AC 2015; AC 2020; WRC 2020a), as well as many overseas publications (ASCE/WEF 2014). Stormwater provisions in various Plans are summarized in the Huls (2023a) discussion document on stormwater and not repeated herein. I note that in many countries, stormwater management and methods to achieve it remain an area of significant research focus and continual re-assessment of how best to address urbanization and its impacts on the natural and built environment.

35. In general, when rainfall-runoff occurs for most rainfall events during the year on pasture (versus urban areas), runoff occurs slower, less frequently, for shorter duration, and with less volume. Some rainfall is intercepted and evapotranspires from the pasture and other foliage. Some rainfall may infiltrate to the subsoil, with some infiltrated runoff reaching groundwater, while runoff may be present in the subsoil and/or pool in localized subsurface depressions on the land. For rainfall events of a certain size (yet still more common rainfall event), the rainfall would produce sheet flow across the land and only over a certain threshold of rain has fallen does water begin to accumulate in small rivulets that lead to small channels that drain to ephemeral streams and subsequently to perennial streams.

36. The pasture situation is markedly different from urban stormwater runoff. In response to significantly change in impervious surface and re-contouring and compaction of the land (surface compaction and drainage of subsoil water), urban runoff occurs more frequently, is quicker, and contains more volume. Depending on the configuration of the urban development and the stormwater control measures implemented, the duration of the runoff can also increase.

37. Figure 1 (Annexure Three) shows the stream response of rainfall-runoff for two events for an urban area versus pre-urban situation. Urban stormwater rainfall-runoff from the land will incur repeated stormwater runoff that is quicker, more frequent, and with more volume. Figure 1 depicts a moderate urban response. The volume difference from pre to post-urban can be substantial, and the peak can be even more peakier that shown. In a situation without any stormwater storage, most often rainfall falling an urban area will rise to a peak quickly and then diminish quickly.

38. In a pre-development situation, the rise is slower, the peak lower, and usually the runoff lasts longer. However, when a detention pond is introduced and with repeated rainfall events occur coupled with the designed slow release from the detention pond, the effective tail end of the hydrologic response of an urban rainfall

event can extend for longer duration than pre-development or can be perceived to endure longer as the release of stormwater runoff from the pond from one storm blends with the pond storage release from the next storm. This point is particularly relevant to the Ms Noakes situation in which an upstream urban pond discharges directly the Noakes Property.

39. Figure 2 (Annexure Three) depicts stormwater runoff under a single rainfall event with and without mitigation so that the post urban development situation peak flow (and water levels) match pre-development situation. Matching peak pre and post-runoff is one objective of WDC stormwater management. However, while the post urbanization peak flow is matched, pre and post-volume discharge is not matched. There is significantly more stormwater runoff volume following urbanization (light blue in Figure 2). Again, in this figure, the post-urbanization volume could be depicted in greater volume than is shown when considering a change from pasture to 70 per cent impervious surface, for example.

Assessing/implementing stormwater management via guidelines

40. The Waikato and Auckland have developed stormwater guidelines to facilitate compliance with statutory requirements under the Local Government Act, Resource Management Act and other Acts (AC 2020a,b; ARC 1999, 2003, WRC 2020a,b).

41. Stormwater management objectives broadly are to mitigate adverse water quantity and quality runoff effects of urbanisation. These objectives can be achieved (to various degrees) through non-structural and structural means that have been termed stormwater control measures (**SCMs**[4]) (ASCE/WEF 2014).

42. The SCMs and practices contained within the Waikato (and Auckland) stormwater guidelines are predominantly focused on reducing adverse ecological effects coupled with management of flooding up to a certain level of protection.

43. The Waikato stormwater guideline (WRC 2020a) sets out principles that specifically call for giving full consideration of downstream effects, and efforts to reduce where possible, stormwater runoff volumes, flow rates, and contaminant loads to the maximum extent practicable. Moreover, the Waikato guidelines include a Low

[4] SCM is a broader term that refers to the range of intervention measures that can be used to improve stormwater management outcomes, including non-structural (e.g., education) and structural (stormwater treatment devices) and source control (e.g., not using roof material that leaches certain contaminants).

Impact Design (**LID**) calculator that also forms part of the consent applications for the regional council.

44. Typical urban stormwater management design objectives are:

(a) Provision of a primary stormwater system that can contain the 10-year Average Recurrence Interval (ARI) storm, which includes overland flowpaths, road drainage and pipe network.

(b) Provision of secondary stormwater system that includes overland flowpaths and SCPs to manage the (rare) 100-year ARI storm (termed secondary flowpaths by WDC).

(c) Implementation of stormwater control measures to address chemical contaminant and sediment runoff (e.g., zinc, copper, phosphorus, nitrogen, and sediment).

(d) Implementation of SCPs to lessen downstream scour/erosion effects.

45. S.44 (a) and (b) represent stormwater quantity issues, while S.44 (c) and (d) are predominantly related to stormwater quality and downstream ecology. The historic ARC stormwater guidelines (ARC 1999, 2003) and the Waikato guidelines (WRC 2020a,b) contain methods to compute rainfall-runoff and design SCPs to address S.44 (a) to (d), although more advanced rainfall-runoff methods can be used and coupled with hydraulic methods/models to assess and design the pipe network in S.44 (a) and to delineate floodplains in S.44 (b). S.44 (a) to (d) are typical work that is undertaken as part of an urban development.

46. There are a number of other objectives and methods/designs related to stormwater runoff and stream flow, which are not contained in the Waikato stormwater guidelines (WRC 2020a,b), including:

(a) Temperature control.

(b) Stream flow analysis.

(c) Instream/ecological flows.

(d) Stream restoration.

(e) Wider erosion/scour defences (besides detain and release of runoff) .

(f) Integration into wider urban form and community objectives (which can alter their designs), including such items as biodiversity/habitat, parkways/sports/amenity, and safety.

47. These other objectives (S.46) are not routinely undertaken in urban development but are relevant in particular cases (e.g., S.46 (a) stream restoration can be incorporated into an urban development and deliberate incorporation of stormwater management objectives can be fully integrated and part of S.46 (f) good urban form).

Stormwater issues of concern to the Noakes Property

48. In context of the lists above of stormwater management design objectives, for the Noakes Property, the following stormwater matters are of concern:

(a) Alteration to the volume, frequency and duration.

(b) Flooding.

(c) Chemical contaminant/sediment.

(d) Erosion/scour.

49. Item S.48 (a) is of concern to Ms Noakes as it produces a situation of comprising the economic viability of the farm, as the additional runoff limits access to portions of the Noakes Property. Ms Noakes also is concerned about S.48 (b) larger flood flows and S.48 (c) more chemical contaminants/sediment discharging from the urbanizing land immediately upstream of her farm, which Variation 3 will intensify and exacerbate. Ms Noakes further is concerned about damage S.48 (d) (scour/erosion) to farm drainage and infrastructure which is configured for pasture runoff. Ms Noakes has noted erosion from partial development of Dines Stage 5 of the main stem stream crossing, which is understandable.

50. The configuration of drainage and infrastructure, and historic rainfall-runoff on the Noakes Property (and in general farms) are based on pasture land use, with response to rainfall events generally of significantly less runoff volume, less frequency and often of less duration than urban stormwater runoff. The increased stormwater discharge from a part of the first urban development block (Dines Stage 5) immediately upstream of the Noakes Property that is only partially developed (i.e., solely streets yet with few houses constructed) currently reduces access to portions of the Noakes Property due to the increased runoff.

51. An ephemeral stream is wet more frequently and for longer duration (reducing stock crossing and access to some 20 per cent of the Noakes Property[5]). Also, increased stormwater runoff more readily can overtop the main stem stream crossing limiting its use and access to the full Noakes Property (bifurcating the Noakes Property, with some 60 per cent on the south side and 40 per cent on the north side of the crossing[6]). Relating this issue back to stormwater and stream stormwater work presented on the previous page would be S.46 (b) - stream flow analysis, which is technical work that is generally is not undertaken as part of typical urban development.

52. Given that urbanization of multiple stages immediately upstream of the Noakes Property and intensification of those stage, Ms Noakes is concerned about (2) larger flood flows and (3) more chemical contaminants/sediment discharging from the urbanizing land immediately upstream of her farm. These two items generally are undertaken as part of typical urban development (S.44 (b) and (c)). However, the assessments of flood hazards were not complete for full consideration as part of Variation 3, while I do not believe that any work was completed regarding chemical contaminant/sediment loads and mitigation for Variation 3.

53. Furthermore, Ms Noakes reports erosion at the main stem stream infrastructure crossing on the Noakes Property, which in my opinion is understandable as the crossing represents in part a flow constriction susceptible to scour when confronted with more frequent and fluctuating higher urban stormwater runoff than when it was originally constructed based on runoff from pasture land use. Based on my understanding of the effects of urbanisation on stormwater systems, my expectation is that additional stormwater discharge from more intense development enabled under Variation 3 will exacerbate the current urban stormwater runoff situation on the Noakes Property. Downstream scour/erosion (S.43(d) above is dealt with under stormwater management through extended detention and release (ARC 2003; WRC 2020a). This method is used for downstream on drainage and streams absent of downstream infrastructure or particular features and whose end objective is ecological. The method is insufficient to buttress locations subject the need to defend or dissipate erosive forces, such as re-enforce infrastructure, buttress stream bends with notable erosion where land needs to be protected or high energy circumstances (e.g., dissipate stormwater

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runoff from Newmarket Stream in Auckland) or situations with highly fluctuation flows or pulse flows (e.g., hydropower canals and even reservoirs). Again, for most urban development, erosion defence or energy dissipation of this nature is not typically undertaken. There are a number of separate guidance documents for their design.

54. Ms Noakes is also concerned about scour and erosion during earthworks and erosion from re-contoured pasture land that remains with a high slope draining to the Noakes Land. This issue is not related per se to the stormwater management but rather erosion and earthworks and subsequently to land use provisions for high slope areas. Additional commentary about Variation 3 plan provisions for Havelock Slope Residential area is presented later in this document.

55. Thus, Ms Noakes has general concern about stormwater runoff to the Noakes Property. I note that significant research was undertaken by ARC regarding ecological effects and stormwater intervention. The updated Auckland and Waikato stormwater guidelines represent methods to give effect to council's Plans, objectives, policies, and rules, with a predominant focus on interventions to lessen ecological effects. Stormwater runoff effects on downstream farms and other land uses can be overlooked at times, which requires rectification.

Site visit to the Noakes Property

56. On 22 July 2022, I undertook a site visit to the Noakes Property (Figure 3, Annexure Three). Photographs of the site visit are presented in Annexure Four). The photos present an overview of the property, key water features (northern stream tributary; main stem stream, Dines Stage 5 wetlands D1 and D2, main stem stream constructed crossing, and hills on Dines Stage 5 that drain to the Noakes Property.

57. Dines Stage 5 immediately upstream of the Noakes Property had established streets while houses were and are in the process of being built. Several more stages adjacent to Stage 5 are in various stages of earthworks and preparation for development.

58. I make the following key observations from the site visit in conjunction with the drawings of the Dines Stage 5 development and understanding of subsequent stages:

(a) It appeared that the Dines Stage 5 involved re-contouring rolling hills pasture land with earthworks/reshaping and equipment movement over top of most of the land that would have compacted the upper soil; from the drawings, drains

extracted water from the subsoil to provide land stability. Together these actions decrease perviousness of the land and the ability for the soil to hold water, even prior to construction of impervious surface. (Noting that I viewed Stage 5 viewed from a distance on the Noakes Property).

(b) The northern ephemeral tributary stream received water from a re-routed upper portion of the stream that ran to the eastern side of the D2 pond, while the D2 pond discharged via an outlet and some rip rap directly onto the Noakes Property. The ephemeral stream was wet, but it had been raining off and on that week. Similar to example in Figure 1, repeated rainfall events meant that the pond water level remained elevated (above the wetland plantings) and that a single rainfall event would not drain over a 24-hour period (i.e., per the discrete TP10 design criteria of the 1.5 half inch rule design to capture and release slowly over 24-hours). Rather there would be much longer discharge from the pond as it continually captured additional runoff from the partially urbanized land. Given the pond configuration and urban development, in my opinion the alteration to the stormwater runoff volume, frequency, and duration of discharge from rolling pasture to only partially urbanised Dines Stage 5 and ultimate build-out would result in access issues crossing the ephemeral stream for a larger portion of time versus prior to the development occurring.

(c) The main stem stream runs approximately southeast (upstream) to northwest (downstream). Ms Noakes informed me that the constructed crossing was built some 20+ years ago to enable stock to cross safely. The main stem receives runoff from part of Dines Stage 5 and will receive runoff from the other stages. Given the elevation level of the structure across the main stem stream (constructed for runoff from pasture) versus the runoff I observed on the day and subject to full build out at Dines Stage 5 and the other stages, in my view the alteration to the stormwater runoff volume, frequency, and duration stormwater runoff within the main stem stream, would create situations in which the stream crossing would be overtopped and unusable more often than prior to urbanization of the upstream areas, creating further access issues by bifurcating the Noakes Property.

(d) There is evidence of erosion at the main stem stream crossing. Ms Noakes stated that there was recent erosion at the crossing site. While I could see that erosion had occurred, from my site visit, I was unable to link it directly to the Dines Stage 5. It is reasonable to expect that additional flows can cause scour/erosion at the stream crossing given that in part it serves as a constriction

to flow and scour could result followed by the structure being overtopped by flow. (Ms Noakes comments are also consistent with maintenance concerns raised by farmers in the drainage district meetings about erosion caused to drainage channels and farming infrastructure (including crossings) as explained below, S.59 onward).

(e) Evidence of sediment runoff from the Dines Stage 5 land onto the Noakes Property and some sloughing of sediment on sloped land on the Dines Stage 5 land. Ms Noakes informed me that WRC informed Dines to make improvements for some of the erosion that was sloughing onto her land. I assume that adequate implementation and compliance monitoring will occur for the rest of Stage 5 and subsequent stage, and generally that standard erosion and sediment control measures should suffice. However, I noted that some of the subsequent development areas will have high sloping land that without good practice could produce sediment discharge to the Noakes Property. Also of concern is more stormwater runoff from a re-shaped and compacted high sloping hill versus rolling pasture.

Experience with Waikato Regional Council and drainage districts

59. During my experience at WRC, matters were raised repeatedly by the drainage districts and council staff representing the districts' interest regarding adverse impacts on drainage district activities due to urbanisation. Between 2014 and 2018, I was manager at WRC and had oversight of four of the eight zones (Central Waikato, Lower Waikato, Waipa and West Coast) and 72 of the 84 drainage districts. The drainage districts are self-funded by the local member farmers/property owners, while WRC provides planning, operations, and maintenance service to the districts (Russel 2019). At the time, in the territory for which I had oversight, amalgamated drainage districts sent representatives to three drainage advisory subcommittees (Central, Lower, and Aka Aka). I was the senior council staff member supporting the chairs of the Central and Lower advisory committees that met four times a year, while the Aka Aka advisory committee largely was run on its own, with other council staff members attending. A Drainage Manager that reported to me maintained day-to-day contact with the various drainage districts, while an Operations Manager that reported to me was charged with operations and maintenance and minor capital works associated with the drainage districts and flood control. These two managers were also involved with reviewing potential adverse impacts of the Waikato Expressway and urban developments on the drainage districts and drainage systems.

Drainage advisory committees

60. The drainage advisory committees repeatedly expressed concern about adverse impacts of receiving urban stormwater run-off. Their particular concern involved: (a) additional flow causing degradation and increased cost to maintain and repair drainage channels and associated infrastructure and (b) additional flow that would need to be pumped out of the drainage districts and back into the Waikato River catchment network.

Waikato Expressway and urban development

61. For several large and developments adjacent to drainage districts along the Waikato Expressway and urban expansion in the Waikato region, Waka Kotahi and developers engaged with the WRC catchment directorate Lower Waikato staff members regarding avoiding or mitigating runoff to the drainage districts. Early designs and progressive designs (e.g., concept design, 50% design etc.) were submitted to the Lower Waikato Operations Manager and the Drainage Manager who reported to me (as Manager Lower Waikato/Central Waikato/Waipa/West Coast catchments). My understanding was the WRC regulatory deemed the drainage districts as an affected party and thus the WRC catchment directorate involvement in the reviews. However, it could have been voluntary given that Waka Kotahi and the developers understood that WRC catchment directorate fulfilling regional flood control and drainage operations were a major consent holder and interested in avoiding that urban development compromised service levels that were agreed within its Annual Plan and Long Term Plan with the community and the drainage districts. My understanding, furthermore, was that this engagement occurred prior to the Waka Kotahi and developers lodged the consent applications.

Historic re-allocation of WRC catchment to drainage district budgets

62. Previously there was recognition that urban development incurred cost on drainage districts adjacent to urban development. At WRC budgets were re-allocated via an urban rate collected for the operational cost of the Ohote drainage district that receives stormwater runoff from Hamilton in 2001 and the Waiheke drainage area received funding due to urban runoff from Matamata in 1996 (Russell 2019). However, it is my understanding that it was later determined that this type of budget transfer would not be considered in other cases and that effects should be

dealt with through the consenting process and/or direct agreements between urban developments and the drainage districts effected.

Ongoing issues of urban development and drainage districts

63. The WRC catchment directorate on behalf of the drainage districts in the Waikato summarized ten key issues confronting drainage district operation. One of the ten issues is 'managing and preventing the effects of urban expansion' and stormwater runoff discharging to drainage districts. Among other matters, the *Land Drainage Management Plan* calls for:

> "Promoting preferred solutions, such as:
> - Headwater diversions
> - Detention of runoff
> - Downstream channel work
> - Downstream flood protection
> - Environmental enhancement
>
> Involvement in Catchment Management Plans that are developed for the catchments involved
>
> Involvement in the resource consent processes required for the developments
>
> - Land drainage is an affected party where discharges occur into the council's drainage network
> - Reviewing the technical aspects of the development and the modelling of changes and proposed mitigation
>
> Involvement in the implementation of mitigation requirements
>
> Agreements on future maintenance and funding of the systems that have had mitigation work implemented.
>
> All of this additional work requires resourcing and funding. As the drainage programme is an affected party within any resource consent process it cannot recover costs from the applicant so has to bear the costs within its respective drainage area. Some of these costs can be recovered through implementation project cost agreements and/or targeted funding systems for implementation or ongoing maintenance of the completed mitigation works. But in the interim, without separate agreements or established targeted rate funding systems, all of the costs are absorbed within the drainage targeted funding systems." (Russel, 2019, p. 48).

64. In summary, the WRC catchment directorate acting on behalf of the drainage districts that urban runoff affects operation in the drainage districts. It states the need for involvement in non-statutory catchment planning processes and in the consenting process due to being an affected party. However, it signals that urban development poses a cost on the drainage districts from effects of stormwater runoff and in involvement in the processes to ensure that the drainage districts are not adversely affected. Earlier arrangements involved direct monetary contribution to the two drainage districts in 1996 and 2000, while alluding to side agreements or via consent conditions to account for costs imposed by stormwater runoff on

drain district infrastructure and operation. The WRC Catchment Directorate itself is a significant consent holder and drainage districts are represented via committees with political attendees. They have substantial presence in the region and clout to ensure their interests, which individual farmers may not possess. In my opinion, more explicit Plan objectives, policies and rules around urban stormwater runoff to downstream farming activities and other land uses would have helped all parties for the drainage districts and other farmers.

Commentary on stormwater technical work undertaken for Variation 3 and plan provisions

Runoff volume, frequency and duration

65. Given that this alteration of the runoff volume, frequency, and duration is of concern to Ms Noakes, it is listed here for completeness. However, as mentioned above, this type of work is not typically undertaken as part of urban development (although can be undertaken as part of catchment planning). I am unaware of technical work of this nature for Variation 3.

Flood hazard

66. Most of the stormwater technical work undertaken for Variation 3 is in regard to flood hazard, although the latest flood hazard maps are not considered under Variation 3. I thus make general comments predominantly on the flood hazard work or lack thereof. I also make additional comment about flood management in the USA that I believe provides relevant context to better assess the flood hazard and risk by WDC.

67. I note that the full stormwater assessment appears incomplete, with significant implications that the latest computed floodplains are not considered under Variation 3 (Huls, 2023a,b), and important flood classification questioned (Bordero 2023) that has potentially significant implications. It was also not fully clear how full implementation of allowable intensification (some subject to consenting processes) was fully incorporated into the flood hazard modelling.

68. As a general principal, I do not support infilling of the floodplain as allowed for in Variation 3 and expert evidence. Huls (2023b, S39) states that it is better to avoid intensification within identified flood hazard area, while Boldero (2023, S.17) posits that his preference is that no intensification occurs within the high-risk flood area

and a consent is required in other flood areas and overland paths. I note that the WDC experts stated limitations about the inclusion of the latest flood maps (Boldero 2023, S.15; Huls, 2023b, S.8.3; Huls, 2023a, S.25). I support their general comments about avoiding intensification in flood hazard areas. I further note that knowingly being more permissive of construction in known high-risk flood hazard areas that are mapped and to be finalized at the end of July yet not part of Variation 3 in not good stormwater practice and puts more people and structures at risk.

69. I also support the reservations about floodplain classification (Bodero (2023, S.50), which does not seem to be in accordance with Australian guidelines - the likely origin of the depth x velocity relationship (North South Wales 2022). A possible implication is the recent high-risk flood mapping may be underestimated and subsequently the spatial area of high-risk is potentially underestimated. In my opinion, the flood classifications require review and that any update would require re-computation of the flood mapping.

70. While it can be demonstrated there is minimal change to flood levels in the immediate vicinity of a small infill, the cumulative effects and transfer of flow/flood levels downstream can exacerbate the Noakes Property and other farms and land use access, activity, and drainage and infrastructure erosion issues. It is unclear to me that the full cumulative effects of the full intensification under Variation 3 have been assessed.

71. While the PDP and WRCRP flood provisions are set at the 100-year ARI level, in my view, it remains necessary to understand the breadth of increased flooding in the urban areas, on the Noakes Property (and immediate downstream railroad tracks) and other downstream farmers and land uses at more rare rainfall events than the 100-year ARI. At this point in time such an assessment would be limited to the 250-year ARI given that at this time, this figure is the only rainfall return period in excess of 100-year ARI provided by the National Institute of Water and Atmospheric Research's (NIWA) High Intensity Rainfall Design System (HIRDS) Version 4 (NIWA 2023)).

72. WDC and WRC have adopted the 100-year ARI rainfall (including climate change) to determine the corresponding 100-year floodplain, with associated Planning objectives, policies and rules, as many councils have in New Zealand without fully understanding the origin of the 100-year floodplain management and risk matters. The 100-year floodplain was originally adopted as a "flood of sufficiently low frequency that no effort should be made to cope with it. With the lack of any other

figure, the concept was taken from TVA's (Tennessee Valley Authority) 'intermediate regional flood' seemed a moderately reasonable figure...the Federal Insurance Administration picked a recurrence interval of a hundred years" for its flood insurance program emanating from the Flood Insurance Act of 1968 in the United States (National Research Council 2000, p. 142).

73. The Federal Emergency Management Agency (**FEMA**) since has developed a program and oversight of mapping the 100-year floodplain for which existing structures within the floodplain must take out mandatory flood insurance and appropriate land uses are identified within the floodplain. However, for cities, this has created a situation which incentivizes protecting/removing lands from the 100-year floodplain, after which development of houses and businesses can take place that generate local tax revenue.

74. Perversely, an unintended outcome is that there has been a build-up of houses and businesses just outside of the 100-year floodplain yet susceptible to rainfall events that exceed the 100-year ARI. Experts have contended that the FEMA flood insurance program and local tax incentives to remove lands and develop them just outside of the 100-year floodplain has, in fact, put more people and structures at risk (Davis 2007). Approving houses just outside of the floodplain or even within the floodplain and 0.5 m above the flood level in New Zealand is tantamount to the unintended consequence of putting more people and structures in harms way as has happened in the United States.

75. Meanwhile, many other jurisdictions within the United States provide greater than 100-year ARI floodplain protection. The Sacramento Area Flood Control Agency formed in 1989 and later adopted the 200-year level protection for the greater Sacramento Area. In 2007 California adopted the 200-year level of protection for the state to work towards, while making available 100, 200 and 500-year ARI flood maps.

76. Flood events in New Zealand in 2023 belie the fact that rainfall events can and do exceed the 100-year ARI event. The January 2023 event in Auckland exceeded the 100-year ARI rainfall event. Similarly, the remnants of cyclone Gabrielle dropped rain in excess the 100-year ARI event that caused damage to various parts of the North Island. These events caused severe damage and deaths and raised a number of issues about managing flood risk and response during a rainfall event.

77. Flood management is based on risk. The Australia/New Zealand standard on risk is that risk = likelihood x consequence. Assessing the 100-year ARI floodplain is

only one half of the risk – that is the likelihood component of risk and at a single likelihood (i.e., 100-year ARI = 1 percent change exceedance in any given year). WDC does not appear have evaluated fully the consequence, except in a qualitative manner of possibly structures within the floodplain.

78. The US Army Corps of Engineers (USACE) assesses risk explicitly combining the likelihood of a rainfall event with its consequence. The consequence can include economic damage, crop values damaged, habitat lost, and lives lost (HEC 2014). For flood mitigation projects that receive federal funding, typically a flood damage reduction study is undertaken that computes the expected annual damage of flooding at different ARIs without a project and then with an array of options to mitigate the flood effects (USACE 1996). I undertook flood damage analysis (**FDA**) in California in the late 1980s and 1990s that included consideration of flood events up to the 500-year ARI.

79. Within New Zealand, managing the 100-year ARI rainfall event and floodplain has become the de facto standard, actually a step up from the Building Act that had listed the 50-year ARI event for setting flood levels for building.

80. The above description is not to imply that every council needs to undertake exhaustive consequence assessments in every instance, but it does need to assess risk in a more robust manner, including at likelihoods in excess of 100-year ARI rainfall events. There are a few instances of FDA undertaken in New Zealand, including WRC for its stopbanks in the Waikato and previously in the Hutt Valley. A current NIWA et al. research project is contemplating a better/probabilistic risk assessment rather than simply a 100-year ARI flood line that demarks 'risk' within the floodplain and 'no risk' outside of the 100-year floodplain.

81. For Ms Noakes, there is concern about additional flood flows emanating from the urbanized/intensified land upstream of her property. Infilling the floodplain exacerbates flood levels and transfer it downstream, which is not something that I support.

Chemical contaminants/sediment

82. I understand that no additional stormwater technical work was undertaken for chemical contaminants/sediment. I thus am unable to make comments except that this work needs to be undertaken to understand the implications of Variation 3 and in turn what SCPs are required to mitigate the runoff. With urbanization and

intensification, I anticipate more chemical contaminant/sediment runoff, which could possibly entail additional stormwater treatment.

Erosion/scour

83. Similarly, I understand that no additional stormwater technical work was undertaken for downstream erosion/scour. I thus am unable to make comments except that this work needs to be undertaken to understand the implications of Variation 3 and in turn what erosion defence may be required to mitigate the runoff.

84. There are Havelock Slope Residential provisions that restrict subdivision to a 2,000m 2 lot size to address slope stability issues. I support this from a stormwater management perspective as it will assist in managing the stormwater effects on adjacent rural productive land.. However, the earthworks and compaction that might be required to stabilise the slope could result in more stormwater runoff that is of concern. This issue may be covered under Plan amendments sought regarding volume, frequency and duration of runoff. However, it may merit additional Plan amendments to address.

Low impact design commentary

85. LID is mentioned in various reports and sometimes bandied about as a solution to stormwater issues. I thus comment generally about it, the programs run at the ARC to encourage it, and about its generally low uptake across the country.

86. In general, LID/WSUD/On-site stormwater management are methods of development and re-development in which urban form and stormwater impacts are predominantly dealt with on-site and whose stormwater development effects are minimized and not transferred downstream (AC 2015; ARC 2004; Mark-Brown 2004). LID/WSUD principles can include such items as:

(a) Working with the natural land form and contours.

(b) Limiting disturbance of land and avoidance of compacting the land

(c) Clustering houses.

(d) Limiting imperviousness.

(e) Disconnecting contiguous imperviousness surfaces (e.g., separating roof runoff from driveways and streets; separating imprevious concrete on-site from driveways and streets etc.)

(f) Managing rainfall-runoff, sediment runoff, and chemical contaminants on-site.

(g) Integrating LID with good urban form, community safety and cohesion, and urban ecological objectives (AC 2015; ARC 2004; Mark-Brown 2004).

87. Admittedly, some aspects of LID/WSUD/On-site stormwater management can be in tension with broader urban and infrastructure objectives, such as sometimes adding costs to initial development and/or ongoing maintenance cost to the council versus affordability; and preferring compact urban development adjacent to existing infrastructure and community amenities, for example versus clustering and avoiding disturbance in portions of the land. At the same time, some of these tensions are perceived rather than reality (e.g. lifecycle costs of LID can be less than conventional costs and provide other benefits (Moore et al. 2019). On-site devices can pose challenges to councils to maintain a large number of dispersed devices and/or to ensure that private property owners are maintaining them.

88. From approximately, 2005–2010, ARC offered LID grants to encourage that urban developments include LID. Auckland Council updated its *Low impact design manual* in 2015, now known as *Water sensitive design for stormwater management* (GD02) (2015). Some aspects of improved stormwater management/LID were incorporated into the *Auckland Unitary Plan*. However, GD02 remains largely voluntary. WRC incorporated an LID calculator in its stormwater guideline and in the consenting process. Nonetheless, while strongly advocated by ARC/AC and WRC, in practice there has been limited effective uptake of LID/WSUD in these two regions nor within New Zealand (Moores et al. 2019).

89. Note that sometimes LID/WSUD are conflated simply with implementation of stormwater treatment devices within a development, without understanding the full spectrum of what LID/WSUD/On-site stormwater management is attempting to achieve.

Cumulative effects

90. The I am concerned the cumulative effects on the Noakes Property and other downstream farms and land uses have not been fully assessed. The Noakes Property is already experiencing some adverse effects from partial development of the first Block. Three more Blocks are approved, while Variation 3 permits intensification plus some infill of the floodplain. In my opinion, the stormwater runoff effects from Block A were missed by WDC and WRC consent assessments. It does not appear that the technical work to fully assess downstream effects has

been undertaken for Blocks B, C and D nor to reflect what is permitted under the Variation 3.

Summary of support and key issues of concern

91. The In summary, in context of the Noakes Property and generally downstream farmland, I support the following:

    (a) Support use of WRC guidelines to meet WDC existing, PDP, and Variation 3 stormwater runoff for management of chemical contaminant, sediment, and downstream erosion (the latter for stream ecology notwithstanding additional commentary below on need for additional erosion assessment for farm drainage and infrastructure).

    (b) Support use of LID/WSD/On-site stormwater management, in particular to reduce overall runoff and to diminish discharge frequency and duration of rain events, as well as the chemical contaminant and sediment reduction objectives.

    (c) Support the use of the LID calculator within the WRC stormwater guideline to promulgate additional use of LID/WSD/On-site stormwater management.

    (d) Support mapping the entire 100-year ARI floodplain.

    (e) Support LID but which may require Plan amendments to change it from a voluntary activity to an obligation, where appropriate.

92. The I do not support and/or believe that amendments to the WDC plan that include explicit objectives provisions and rules that require

    (a) Infilling the existing floodplain, regardless of the ability to demonstrate that incremental infilling has purported infill has less than minor effects on immediate nearby flood levels. Cumulative effects of infilling the existing floodplain immediately upstream of the Noakes Property and other farm land will potentially adversely affect these properties.

    (b) Concern about the flood classification. There remains tangible flood risk in addition to what is termed 'high-risk' and that it should be reviewed and that no infilling should occur within all flood classifications, except defended (while noting the point made S.74 that enabling more people and structures to build behind stopbanks with protection to 100-year ARI puts more people and buildings at risk for rainfall events that exceed the 100-year ARI rainfall event.

(c) Assess the breadth of flood effects of the current urban development and the urban development permitted by Variation 3, including beyond the 100-year ARI event, which currently is limited to the HIRDS 4 rainfall for the 250-year ARI on the Noakes Property and including land immediately adjacent of the rail tracks and railroad bridge.

(d) Need for explicit methods and rules to assess alteration of flow volume, frequency, and duration of stormwater runoff on farm activity, access, and infrastructure, including stream crossings.

(e) Need for explicit methods and rules to assess downstream farm drainage and infrastructure that could be damaged by erosive flows.

Section 42A Report

93. The Section 42A and Section 32AA reports do not address the matters raised in context of the concerns outline above. The proposed additions to the stormwater provisions in the Section 42A report are insufficient to address the matters contained in this report. S.501 of the Section 42A report adds three additional categories under council's discretion: (c) stormwater management and the use of LID methods, (d) objectives and policies in chapter 2-20 of *Te Ture Whaimana,* and (e) the effects of any on-site stormwater retention or detention device. I support these additions yet, in my opinion, the amendments do not go far enough.

94. There are no explicit objectives, policies and rules that touch on the matters spelled out in the executive summary and supported with evidence throughout this document. These matters are relevant to the Noakes Property but equally relevant for any downstream farming and other land use.

(a) Require explicit assessment and Plan amendments to specifically address the alteration of flow, frequency, and duration of urban development stormwater runoff on downstream farm activity, access, drainage and infrastructure, including limiting access and/or bifurcating the Noakes Property due to impeding cross at the norther tributary ephemeral stream and the main stem.

(b) Require explicit assessment and Plan amendments to specifically address potential damage (erosion/scour) from urban stormwater runoff to farm drainage and infrastructure.

(c) Note my inability to comment on increased chemical contaminant/sediment runoff due to the intensification and any Plan amendments as the work has not completed and that Bodero (2023) notes space challenges.

(d) Require explicit assessment of the breadth of flood effects from urban stormwater runoff on farm activities, access, and infrastructure, in particular for storms in excess of the 100-year ARI event, re-visit of the high-risk flood classification in accordance with the latest depth x velocity relationships from Australia (North South Wales 2022), and more thorough/robust assessment of consequence. Plan amendments may be required to update the depth x velocity relationship and other flood hazard matters.

95. I do support impervious coverage restrictions on Havelock Slope Residential area due to slope stability issues. I have similar concerns about stormwater runoff volume, frequency and duration that discharges to the Noakes Property.

96. Attached as **Annexure 5** to my statement of evidence is a marked up version of Variation 3 showing stormwater amendments sought by Ms Noakes to Variation 3. Annexure 5 uses the Council's s 42A Report Appendix 2 where this addressed relevant provisions (as I generally support those amendments but consider that they need to go further. The Natural Hazards, WWS and Earthworks Chapters were not included in Council's mark up in 42A Report Appendix 2 so the notified version of Variation 3 was used as a base.

Evidence on behalf of other parties

97. I reviewed expert evidence on the topics of stormwater and infrastructure of Boldero, Martin, Telfar, and Huls (2023).

98. I note that the challenges to three water infrastructure provision commented upon by Martin (2023) and Telfar (2023) regarding Variation 3 without understanding the timing and location of the intensification, particularly in the case of permitted activities. I acknowledge this particular challenge.

99. I note that Pookeno's basic primary stormwater network falls woefully short of today's standard of containing 10-year ARI storms within the pipe network within town. Thus, a significant quantum of rainfall is flowing outside of the pipe network presumably via overland flowpaths, roadways and floodways. My understanding from the stormwater report (Te Miro 2023) is that not all of the pipework was modelled. It is unclear what the effects of simplifying the pipe network and whether the rainfall from say 5-year through 100-year ARI are managed in a controlled

manner and how it discharges downstream from the urban boundary to downstream farms and other land uses.

100. I note that Boldero (2023) and Huls (2023a,b) refer to broader stormwater matters and are in general agreement with Ms Noakes submission made in an appeal to the PDP about standardizing stormwater provisions across the district. I understand that Huls m that the Ms Noakes appeal to the PDP may be a pathway to resolve some stormwater matters. I support standardization of stormwater provisions across the district and encourage incorporation of Plan amendments within the PDP that Variation 3 could pick up, if that is possible and helpful to resolving stormwater matters.

101. Boldero (2023, S.50) expresses concern about the flood classification and that 'flooding' of concern is not limited to high risk, citing a classification up to 0.9 m that is not deemed a 'high risk'. I agree with this concern. As a corollary to this concern, I do not support permitting infill/intensification of any flood areas, whereas Variation 3 permits classifications other than high-risk to be infilled/intensified even while current work shows that additional areas are in the high-risk flood classification. For the council to knowingly consent structures in areas that will be identified as high risk due to the timing of information availability and Plan change process is not good stormwater practice. An underestimate of high-risk floodplain can result in more infill/intensification, reduction of flood capacity that can be transferred downstream and discharging downstream and affecting the Noakes Property.

102. Huls (2023a, b) provides an explanation of the flood classification and status of floodplain mapping versus Plans (PDP, Variation, and possibly other Plan change requirements). She further describes Plan permission to infill/intensify the floodplain under certain conditions and/or because of status of floodplain work and Plan changes. The high-risk flood classification needs to be revisited. Furthermore, I oppose, as a general principal, infilling/intensification within floodplains. Infilling material and intensification within floodplains have cumulative effects, exacerbates flooding, and puts more people and structures at risk. Placing structure within the floodplain with freeboard of 0.5 m reduces floodway capacity and puts the people and structures at risk for rainfall events in excess of the 100-year ARI rainfall. No consideration of flood levels at frequencies higher than 100-year ARI has been undertaken. Nor has the consequence component of risk been undertaken (risk = likelihood x consequence), except for possibly the count of structures within floodplain classifications, presumably. Encroaching on the floodplain potentially

exacerbates flooding and discharges it to downstream landowners, including the Noakes Property.

103. Bodero (2023) expresses concern about the ability to incorporate stormwater treatment and flow capacity within the area and about meeting objectives of *Te Ture Whatimana o Te Awa o Waikato*. I share this concern and cannot make an assessment as technical work regarding chemical contaminant/sediment and their mitigation has not been undertaken. I oppose discharge of additional chemical contaminant/sediment from the intensified urbanised area to downstream landowners, including the Noakes property.

Conclusion

104. I am concerned that the full stormwater technical work to support Variation 3 is in flux and/or has not been completed, which makes it difficult to assess or support the suitability of the stormwater provisions for Variation 3.

105. Effects on the Noakes Property from the alteration of stormwater volume, frequency, and discharge are currently occurring on the property from partial development of Dines Stage 3 and as enabled Variation 3 is anticipated to exacerbate the situation. In my opinion, explicit amendments to Variation 3 (and the PDP) are necessary so that developers and consent authorities must check and comply with downstream stormwater runoff effects, such as 'stormwater runoff shall not adversely affect downstream farm activity, drainage, and infrastructure, including via alteration of the stormwater runoff volume, frequency, and duration'.

106. I am also concerned about incomplete flood hazard mapping and proposed provisions to allow infilling/intensification of the known and recently mapped, as well as the high-risk flood classification. I am concerned that because of timing issues of Plan Change processes Variation 3 will enable construction in the floodplain, which can increase flooding and discharge immediately downstream to the Noakes Property and other farms and land uses.

107. I am further concerned about increased chemical contaminant/sediment, downstream scour/erosion, and implementation aspects of LID, technical work which has not been undertaken and unable to be assessed. Intensification exacerbates these matters; it is unclear from Variation 3 how these matters are adequately dealt with, which can adversely affect the Noakes Property/other farms and land uses, as well as the waters of the Waikato.

108. I am concerned that no potential downstream erosion/scour assessment has been undertaken. Without any proposed change, WDC is relying on existing provisions in the PDP, which do not anticipate the level of intensification enabled under Variation 3 in general nor do they contemplate that such intensification would be enabled immediately adjacent to rural areas. I refer back to my comment regarding alteration of the runoff volume, frequency, and duration that requires Plan amendments that may need to consider downstream erosion/scour.

109. In sum, I am concerned about the lack of a full stormwater technical assessment. Without an assessment, the full implications of stormwater effects and any necessary Plan amendments are not fully known. I have made specific comments with regard to ongoing and expected worsening of stormwater effects on the Noakes Property. I have also made broad comments about stormwater management in general, with additional commentary on some aspects. I wonder if postponement until the stormwater technical work is undertaken, as per what Auckland Council has undertaken, is worth consideration or whether it is better to proceed based on experience elsewhere, including overseas, based on sound stormwater management practice.

Matthew Darryl Davis

7 July 2023

Annexure One: Relevant experience

Stormwater guidelines and standards

a. From 2007-14, oversight of stormwater research to update Auckland's stormwater management (*TP10), Low impact design, and Erosion and sediment management guidelines that underpin Auckland's new suite of stormwater and sediment management guidelines (GD01, GD04, and GD05).*

b. From 2010-14, sponsored the stormwater technical work that underpins Auckland's *Unitary Plan* and the *Stormwater Code of Practice*.

c. From 2014-18, sponsored publication of Waikato's stormwater best practice guidelines.

USA/International stormwater best practice committee membership

a. From 2001, member of the ASCE EWRI's Sustainable Stormwater Infrastructure committee (and Laws and institutions committee) and was a member of the Sustainable Groundwater and Land Subsidence sub/committees.

b. In 2023 joined the ASCE EWRI Manual of Practice (MOP) 77 update (stormwater infrastructure design and construction).

University teaching and research supervision

a. Between 2014 and 2015, taught the final year/Master's course in urban stormwater management at the University of Auckland.

b. Supervised five final year projects that examined water sensitive cities, and the relationship of use of rubber crumb, zinc, and sustainability criteria.

c. Supervised Master's project investigating rehabilitation of stormwater pond in an industrialized sub-catchment and options and cost effectiveness of Auckland Regional Council (ARC) requirements versus Auckland Council (AC) requirements for greenfields versus brownfields.

d. Supervised Unitec final year project examining stormwater infrastructure and flooding in Upland catchment in Auckland.

Catchment studies and consents

a. Over 2000-1, co-author of 2001 Auckland/City and Metrowater's network discharge assessment of environmental effects.

b. From 2001-6, technical manager of Auckland City/Metrowater's $20M integrated urban catchment study that included assessment of flooding, water quality, combine/wastewater overflows, groundwater, streams, and estuaries/harbours.

c. At ARC from 2007-10, oversight of integrated catchment management plan grant and progress by city/district councils.

d. At AC from 2010-14, responsibility for the Stormwater Unit's network discharge consent function via one team and via another team provided expert input to regulatory on impacts of private development on the stormwater network and environment.

e. At WRC from 2014-18, oversight of updates to four zone (catchment intervention) plans and the Lake Waikare and Whangamarino catchment management plan.

f. At WRC oversight of the Lake Waikare flood control gate re-consenting.

Drainage districts and farming

a. At WRC from 2014-18, oversight of drainage planning and operations for 72 drainage districts in the Waikato, which also involved assessing impacts of urban development on the ability to provide service to these drainage districts.

b. At WRC from 2014-18, senior staff member supporting the chairs of four catchment committees and three drainage district advisory committees (representing the interests of the 72 drainage districts).

Additional relevant overseas experience

a. Between 1987 and 1999, flood assessment, flood damage analysis, and flood mitigation and projects in California.

b. Between 1997-9 environmental flow assessments and water allocation for ecology in Chile.

c. In 1998, sustainable groundwater modelling and use in catchment near Santiago, Chile.

d. In 1998, environmental impact assessment of mining operations in Polpaico, Chile.

e. Between 1999-2001, economic-water rights-water allocation and water reliability assessment of the intertied water system in California.

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Annexture Three: Figures

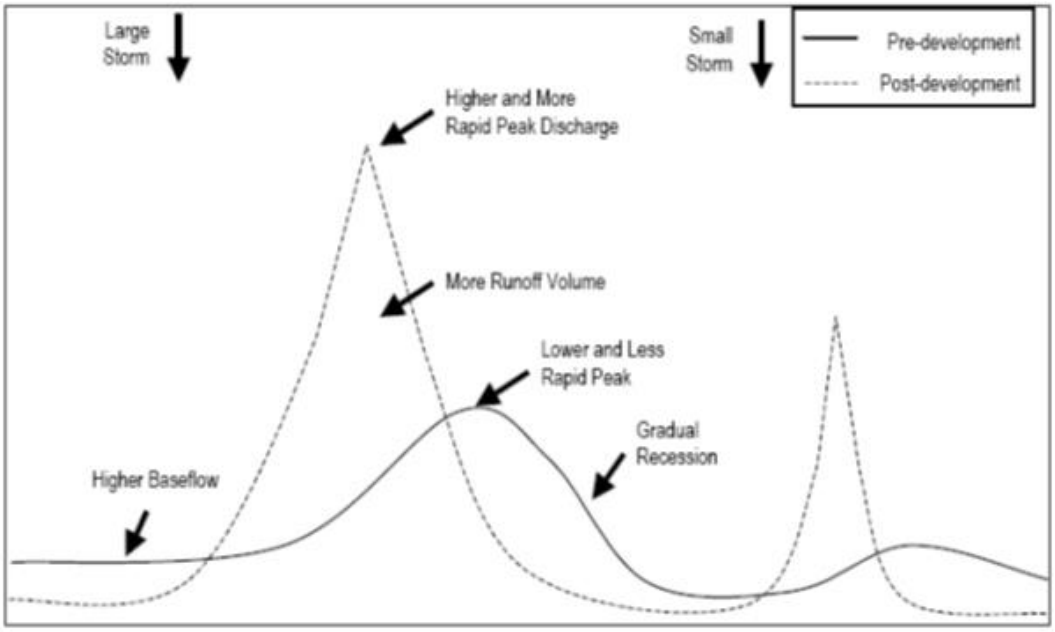


Figure 0.5: Changes in stream flow hydrograph as a result of urbanization (Schueler, 1987).

Figure 1. Changes in stream flow hydrograph as a result of urbanization

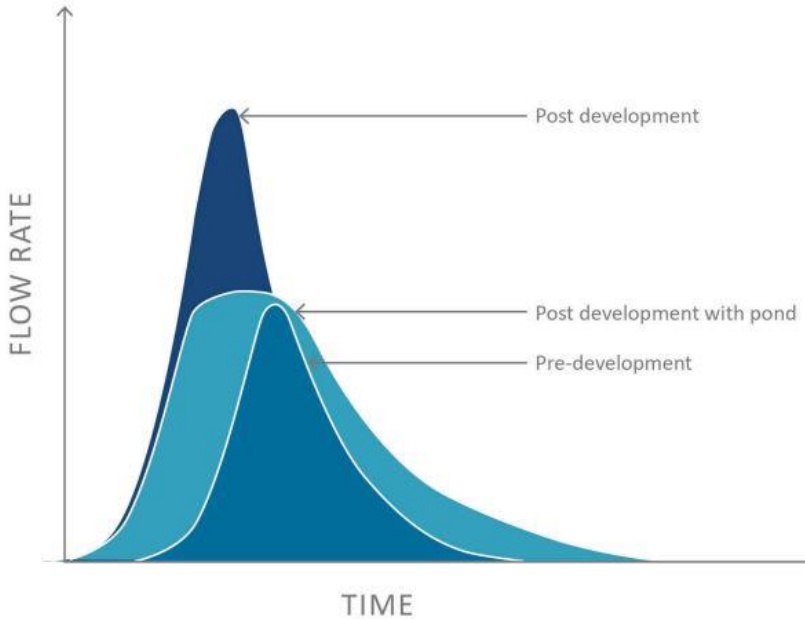


Figure 2. Pre and post-development with and without a pond (AC 2020a)

Figure 3. Noakes Property and water features

Annexure Four. Site visit photos

Note on the property layout and drainage layout.

The Noakes Property has a southeast to northwest drainage orientation, with the sub-catchment headwaters in the southeast part of the property. The Dines Stage 5 and adjacent stages are located to the north of the Noakes Property.

Note on terminology

The term stream is used for the tributary stream that originates on the Dines Stage 5 property and joins the Noakes Property at the northern boundary. The term main stem stream is used to describe the stream that runs along the Noakes property and adjoining property from southeast to northwest. The use of the term stream is used colloquially and does not imply any legal definition in the figures.

Photo 1. Noakes property and sub=catchment (looking northwest)

Photo 2. Wetland D1 (looking northwest)

Photo 3. Wetland D2 (looking northeast)

Photo 4. North boundary and base of Wetland D2 (looking southeast)

Photo 5. North boundary, Wetland D2 base, and northern stream tributary (looking north)

Photo 6. North stream tributary and Wetland D2 discharge (looking north)

Photo 7. North tributary and base of Wetland D2 riprap (looking west)

Photo 8. North stream tributary (looking south)

Photo 9. Constructed crossing over Noakes main stem stream (left) and railroad tracks (right)(looking south)

Photo 10. Constructed crossing (looking south)

Photo 11. Constructed crossing downstream (looking north)

Photo 12. Constructed crossing over main stem stream (looking downstream/west)

Photo 13. Constructed crossing (looking upstream/east)

Photo 14. Constructed crossing culvert (looking upstream/east)

Photo 15. Erosion mitigation middle on Dines Stage 5 property/sub-catchment (looking northwest)

Photo 16. Erosion mitigation middle Dines Stage 5 property (looking north)

Photo 17. Erosion on Dines Stage 5 property discharging to northern tributary stream upstream of re-routed stream around Wetland D2 that merges with D2 discharge at Noakes Property boundary line (looking northeast)

Annexure 5: Amendments to Variation 3

MRZ2 ð Medium density residential zone 2

Explanatory note for the purpose of the IPI and to be removed upon completion of the process:

The provisions in this chapter are based on the provisions of the MRZ ð Medium density residential zone of the proposed Waikato District Plan.

Standard text is used for existing provisions contained in the proposed Waikato District Plan.

Green underline text is used for new provisions.

~~Black Strikethrough~~ is used to show the deletion of existing provisions.

The provisions in this chapter incorporate the density standards in Part 2 of Schedule 3A of the Resource Management Act 1991 (the Act) and the objectives and policies in Clause 3 of Schedule 3A of the Act. In accordance with Section 80H of the Act these provisions are shown shaded grey.

Provisions that have legal effect are marked in this chapter with a gavel (as shown in the margin of this paragraph).

Rules providing for residential units in the Medium density residential zone 2 as a permitted activity in accordance with the density standards in Schedule 3A of the Act have immediate legal effect under Section 86BA of the Act unless the site is within a qualifying matter area or a new residential zone. A new residential zone means an area that was not shown as a residential zone in the Operative Waikato District Plan. Applicable qualifying matters include the rules set out in the table below:

Qualifying matter	Topic	District wide rules	Zone rules
Matter of national importance under s6 (s77I(a))	Natural character of the lakes and rivers and their margins s6(a) Maintenance and enhancement of public access to and along lakes and rivers s6(d)		GRZ-S22 Building setbacks ð water bodies MRZ2ðS13 Building setbacks ð water bodies GRZ-R15 Building within the Huntly North Wetland specific control
	Outstanding natural features and landscapes s6(b)	NFL-R2 Earthworks within an ONF or ONL NFL-R3 Subdivision	GRZ-S22 Building setbacks ð water bodies MRZ2ðS13 Building Setbacks ð water bodies
	Significant indigenous vegetation and significant habitats of indigenous fauna s6(c)	ECOðR3 Earthworks in an SNA ECOðR8 Vegetation clearance within an SNA ECO-R11 Vegetation clearance outside an SNA	
	Relationship of Maaori and their culture and	SASMðR4 Earthworks	

	traditions with their ancestral lands, water, sites, waahi tapu and other taonga s6(e)	SASMðR5 Title boundaries	
	Protection of historic heritage from inappropriate subdivision, use and development s6(f)	HH-R2 All site development HH-R4 Additions and alterations to a historic heritage item HH-R5 Construction or alteration to a building in the Huntly heritage area HH-R7 Demolition, removal or relocation of any B ranked historic heritage item HH-R8 Demolition, removal or relocation of any A ranked historic heritage item HH-R9 Subdivision of land containing a historic heritage item	
	Management of significant risks from natural hazards s6(h)	Flood plain management area NH-R10 High risk flood area NH-R20, NH-R19 Defended area NH-R25, NH-R24 Mine subsidence risk area NH-R72, NH-R73, NH-R74	
Matter required to give effect to a national policy statement (s77I(b))	National Policy Statement for Electricity Transmission	EW-R2 Earthworks activities within the National Grid Yard	GRZ-R14 New sensitive land use within National Grid Yard MRZ2-R10 Buildings, structures and sensitive land uses within the National Grid Yard MRZ2-R10 New sensitive land use within the National Grid Yard SUB-R26 Subdivision within the National Grid Corridor

			SUB-R162 Subdivision within National Grid Corridor
Matter required to give effect to Te Ture Whaimana (s77I(c))			GRZ-S22 Building setbacks ð water bodies MRZ2 ð S13 Building setbacks ð water bodies
Matter required for the purpose of ensuring the safe or efficient operation of nationally significant infrastructure (s77I(e)	State Highways North Island Main Trunk rail Gas transmission line		GRZ-S20 Building setback ð sensitive land use MRZ2-R14 Building setback ð sensitive land use
Any other matter that makes higher density inappropriate in an area (s77I(j))	Urban fringe		MDRS not proposed to apply to the GRZ
	Reverse sensitivity		GRZ-S20 Building setback ð sensitive land use GRZ-S21 Building setback ð sensitive land use located outside Amenity Setback PREC4-S2 Building setback ð sensitive land use within Havelock Precinct MRZ2-S14 Building setback ð sensitive land use
	Notable trees	TREE-R1 Removal or destruction TREE-R3 Activities within the dripline TREE-R4 Subdivision of land containing a notable tree	

The relevant district-wide chapter provisions apply in addition to this chapter.

Purpose

The purpose of the MRZ2 – Medium density residential zone 2 is to enable the most efficient use of residentially zoned land and infrastructure within the suite of Waikato District Plan residential zones without compromising the rural productive capacity of adjacent rural land.. The MRZ2 – Medium ~~density residential zone 2 provides for this~~ form of development within a ~~walkable~~ catchment of the town centres of Huntly, Ngaaruawaahia, Pookeno and Tuakau. The zone will:

- Provide housing at increased densities with three residential units per lot and buildings up to three storeys in height being permitted;
- Provide for the development of more than three residential units per lot, albeit subject to a more intensive design assessment process with matters of discretion to provide for appropriate design outcomes;
- Encourage a variety of housing types and sizes that respond to housing needs and demands of the district and its planned urban built character;
- Accommodate the highest level of residential growth within the district;
- ~~Reduce pressure for residential development on the urban fringe and beyond;~~
- ~~Relieve anticipated pressures on the road transport network (which are exacerbated by adopting sprawl to accommodate urban growth) by enabling greater development capacity in town centres where the use of both public and active modes of transport to access places of employment, retail and entertainment is readily achievable and/or viable;~~
- Provide the highest capacity, diversity and choice of housing; and
- Coordinate delivery of infrastructure and services.

The capacity to accommodate medium density residential development may be limited to provide for and/or protect one or more of the following qualifying matters:

- Matter of national importance under s6 (s77I(a)) of the RMA
- Matter required to give effect to a national policy statement (s77I(b))
- Matter required to give effect to Te Ture Whaimana (s77I(c))
- Matter required for the purpose of ensuring the safe or efficient operation of nationally significant infrastructure (s77I(e)
- Reverse sensitivity

Provisions to provide for and/or protect the above qualifying matter are incorporated into the district wide matters and the rules and standards of this zone.

Objectives

MRZ2-O1 Housing typology.

Provide for a variety of housing types and sizes that respond to:

(a) Housing needs and demand; and

(b) The neighbourhood's planned urban built character, including three-storey buildings.

MRZ2-O2 Efficient use of land and infrastructure.

Land and infrastructure near the TCZ – Town Centre Zone, LCZ – Local centre zone and COMZ – Commercial zone-and close to public transport networks, strategic

transport corridors and community facilities is efficiently used for medium density residential living, resulting in a compact urban settlement pattern.

MRZ2-O3 Residential amenity.

Achieve a level of residential amenity commensurate with a medium density environment comprised of primarily three-storey buildings, including semi-detached and terraced housing, townhouses and low-rise apartments.

MRZ2-O4 Activities.

An appropriate mix of complementary and compatible activities is enabled to support residential growth.

MRZ2-O5 Qualifying matters.

The capacity to accommodate medium density residential development may be limited to provide for ~~recognise~~ and/or protect one or more qualifying matters.

MRZ2-O6 Reverse sensitivity.

(1) ~~Avoid or m~~Minimise the potential for reverse sensitivity by managing the location and design of sensitive activities through:

(a) The use of building setbacks; and

(b) The design of subdivisions and development.

Policies

MRZ2-P1 Housing Typology.

Enable a variety of housing typologies with a mix of densities within the zone, including three-storey attached and detached dwellings, and low-rise apartments.

MRZ2-P2 Residential Amenity.

Encourage development to achieve attractive and safe streets and public open spaces, including by providing for passive surveillance.

MRZ2-P3 Housing Design.

Enable housing to be designed to meet the day-to-day needs of residents.

MRZ2-P4 Enabling Housing Development.

Provide for developments not meeting permitted activity status, while encouraging high-quality developments.

MRZ2-P5 Streetscape, yards and outdoor living spaces.

(1) Enable residential development that contributes to attractive and safe streets and public open spaces by:

(a) Providing for passive surveillance to public open spaces and streets through the siting of dwellings and rooms, fa-ade design and fencing / landscaping;

(b) Incorporating front yard landscaping that will enhance streetscape amenity; and

(c) Minimising the prevalence of garage doors, carparking and driveways fronting the street.

(2) Require development to have sufficient side yard setbacks to provide for:

(a) Landscaping and permeable surfaces;

(b) Privacy to adjoining sites;

(c) Sunlight and daylight; and

(d) Driveways and accessways.

(3) Require the provision of outdoor living spaces that:

(a) Are attractive, functional and accessible; and

(b) Provide a reasonable standard of privacy for residents and to adjoining sites.

(4) Enable flexibility and innovation in the provision of outdoor living spaces by recognising the varying means by which suitable spaces can be provided for a particular form of development; including shared outdoor spaces, roof terraces or other communal outdoor living spaces.

MRZ2-P6 Qualifying Matters

Restrict residential development to an appropriate level to provide for and protect any relevant qualifying matters.

MRZ2-P7 Efficient use of land and infrastructure.

(1) Enable land to be used for higher intensity residential living where such land is:

(a) Adjacent to the TCZ – Town centre zone, LCZ – Local centre zone, COMZ –Commercial zone and within a walkable catchment of transport networks; or

(b) Integrated into master-planned growth areas in close proximity to neighbourhood centres or publicly accessible open space.

(c) Not located adjacent to rural areas that do not have stormwater infrastructure designed to cope with urban stormwater runnoff.

(2) Recognise the social, economic and environmental benefits arising from higher density development being situated closer to community facilities and the TCZ – Town centre zone, LCZ – Local centre zone and COMZ – Commercial zone when considering development proposals.

(3) Recognise the economic and environmental benefits of higher density development that efficiently utlises existing and planned , investment in both transport and three water nfrastructure.

MRZ2-P8 Changes to amenity values

Recognise that the planned urban built form may result in changes to the amenity values and characteristics of the urban character over time.

MRZ2-P9 Home businesses.

(1) Provide for home businesses to allow flexibility for people to work from their homes.

(2) Manage adverse effects on residential amenity through limiting home occupations to a scale that is compatible with the primary residential purpose of the zone.

MRZ2-P10 Non-residential activities.

(1) Maintain the zone primarily for residential activities while also:

(a) Ensuring community facilities:

(i) Are suitably located;

(ii) Are of a limited scale and intensity that is compatible with the zone;

(iii) Contribute to the amenity of the neighbourhood; and

(iv) Support the social and economic well-being of the residential community.

(b) Avoiding the establishment of new non-residential activities (except home occupations) on rear sites, or sites located on cul-de-sacs; and

(c) Ensuring that the design and scale of non-residential activities and associated buildings mitigates adverse effects related to traffic generation, access, noise, vibration, outdoor storage of materials and light spill.

(2) Enabling existing non-residential activities to continue and support their redevelopment and expansion, provided they do not have a significant adverse effect on character and amenity.

MRZ2-P11 Reverse Sensitivity.

Maintain appropriate setback distances between new sensitive land uses and existing lawfully established activities that may result in reverse sensitivity effects.

MRZ2-P12 Building form, massing and coverage

(1) Enable medium density residential development that:

(a) Is of a height and bulk that manages daylight access and a reasonable standard of privacy for residents; and

(b) Manages unreasonable visual dominance effects on adjoining properties.

Rules

Land use – activities

In addition to the activity-specific standards listed below, permitted activities must also comply with all relevant Land-use building standards in this chapter, as well as the standards in Part 2 / District-wide matters / General district-wide matters.

MRZ2-R1	Residential activity, unless specified below This includes occupation of a single residential unit for short term rental.
(1) Activity status: PER **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**

MRZ2-R2	A new retirement village or alterations to an existing retirement village
(1) Activity status: PER **Activity-specific standards:** (a) The site is connected to public water and wastewater infrastructure; (b) The site is connected to stormwater infrastructure that is adequate to ensure that the adverse effects on downstream properties, including the adverse effects of erosion / scour and alteration to run-off frequency, volume or duration are avoided, remedied or mitigated. (c) The minimum living space or balcony area and dimensions are: (i) Apartment – 10m² area with a minimum dimension horizontal and vertical of 2.5m; (ii) Studio unit or 1 bedroom unit – 12.5m² area with minimum dimension horizontal and vertical of 2.5m; or (iii) 2 or more bedroomed unit – 15m² area with minimum dimension horizontal and vertical of 2.5m. (ci) The minimum service court is either: (i) Apartment – Communal outdoor space (i.e. no individual service courts required); or (ii) All other units – 10m² for each unit. (cii) The following land use – effects standard does not apply: (i) SIGN-R1, SIGN-R8 – SIGN-R10 (Signs). (ciii) The following Land Use – Building standards do not apply: (i) MRZ2-S1 (Residential unit (per unit)); (ii) MRZ2-S6 (Outdoor living space); and (g) The following infrastructure and energy rule does not apply: (i) Rule TRPT-R4(1)(a) (Traffic generation).	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Consideration of the effects of the activity-specific standard not met; (b) Measures to avoid, remedy or mitigate adverse effects; and (c) Cumulative effects. (d) The extent to which the adverse effects on downstream properties, including the adverse effects of erosion / scour and alteration to run-off frequency, volume or duration are avoided, remedied or mitigated.
MRZ2-R3	Home business
(1) Activity status: PER **Activity-specific standards:** (a) The home business is wholly contained within a building; (b) The storage of materials or machinery associated with the home business are wholly contained within a building or are screened so as not to be visible from a public road or neighbouring residential property; (c) No more than 2 people who are not permanent residents of the site are employed at any one time; (d) Unloading and loading of vehicles, the receiving of customers or deliveries only occur between 7:30am and 7:00pm on any day; and	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Consideration of the effects of the activity-specific standard not met; (b) Measures to avoid, remedy or mitigate adverse effects; and (c) Cumulative effects.

(e) Machinery may only be operated between 7:30am and 9pm on any day.		
MRZ2-R4	Community facilities	
(1) Activity status: PER **Activity-specific standards:** (a) No more than 200m² GFA.		**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Consideration of the effects of the activity-specific standard not met; (b) Measures to avoid, remedy or mitigate adverse effects; and (c) Cumulative effects.
MRZ2-R5	Neighbourhood park	
(1) Activity status: PER **Activity-specific standards:** Nil.		**(2) Activity status where compliance not achieved: n/a**
MRZ2-R6	Home stay	
(1) Activity status: PER **Activity-specific standards:** (a) No more than 4 temporary residents.		**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Consideration of the effects of the activity-specific standard not met; (b) Measures to avoid, remedy or mitigate adverse effects; and (c) Cumulative effects.
MRZ2-R7	Boarding houses/boarding establishments	
(1) Activity status: PER **Activity-specific standards:** (a) No more than 10 people per site inclusive of staff and residents.		**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Consideration of the effects of the activity-specific standard not met; (b) Measures to avoid, remedy or mitigate adverse effects; and (c) Cumulative effects.
~~**MRZ2-R8**~~	~~Construction or alteration of a building for a sensitive land use~~	

~~**(1) Activity status: PER**~~ ~~**Activity-specific standards:**~~ ~~(a) The construction or alteration of a building for a sensitive land use that complies with all of the following standards:~~ ~~(i) It is set back a minimum of 10m from the centre of line of any electrical distribution or transmission lines, not associated with the National Grid, that operate at a voltage of up to 110kV; or~~ ~~(ii) It is set back a minimum of 12m from the centre of line of any electrical distribution or transmission lines, not associated with the National Grid, that operate at a voltage of 110kV or more.~~	~~**(2) Activity status where compliance not achieved: RDIS**~~ ~~**Council's discretion is restricted to the following matters:**~~ ~~(a) Effects on the amenity values of the site;~~ ~~(b) The risk of electrical hazards affecting the safety of people;~~ ~~(c) The risk of damage to property; and~~ ~~(d) Effects on the operation, maintenance and upgrading of the electrical distribution or transmission lines.~~
MRZ2-R9	Construction, demolition, addition, and alteration of a building or structure
(1) Activity status: PER **Activity-specific standards:** **Nil.**	**(2) Activity status where compliance not achieved: n/a**
MRZ2-R10	Buildings, structures and sensitive land uses within the National Grid Yard in sites existing as of 18 July 2018
(1) Activity status: PER **Activity-specific standards:** (a) Within the National Grid Yard: (i) Building alterations and additions to an existing building or structure for a sensitive land use that does not involve an increase in the building height or footprint (ii) New, or additions to existing buildings or structures that are not for a sensitive land use; (iii) Infrastructure (other than for the reticulation and storage of water for irrigation purposes) undertaken by a network utility operator as defined in the Resource Management Act 1991 (iv) Fences less than 2.5m in height, measured from the natural ground level immediately below. (b) All buildings or structures permitted by Rule GRZ2-R10(1)(a) must: (i) Comply with the New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663 under all National Grid transmission line operating conditions; and (ii) Locate a minimum of 12m from the outer visible foundation of any National Grid support structure and associated	**(2) Activity status where compliance not achieved: NC**

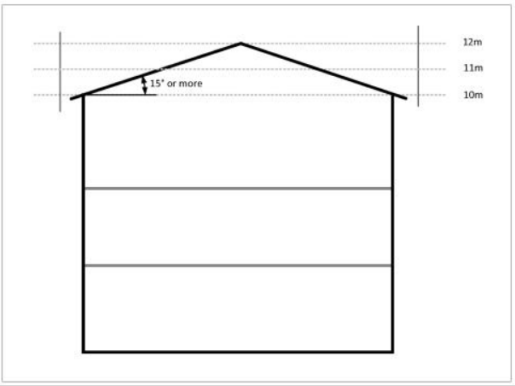
stay wire, unless it is one of the following: (c) A building or structure where Transpower has given written approval in accordance with clause 2.4.1 of the NZECP34:2001 ISSN 0114-0663; (d) Fences less than 2.5m in height, measured from the natural ground level immediately below, and located a minimum of 5m from the nearest National Grid support structure foundation; (e) Network utilities (other than for the reticulation and storage of water for irrigation purposes) or any part of electricity infrastructure undertaken by a network utility operator as defined in the Resource Management Act 1991, that connects to the National Grid; and (f) Not permanently physically impede existing vehicular access to a National Grid support structure.	
MRZ2-R11	The establishment of any new sensitive land use within the National Grid Yard
Activity status: NC	
MRZ2-R12	Any activity that is not listed as permitted, restricted discretionary or prohibited,
Activity status: DIS	
~~**MRZ-R13**~~	~~Any building, structure, objects or vegetation that obscures the sight line of the Raglan navigation beacons for vessels entering Whaingaroa (Raglan Harbour) (APP8 – Raglan navigation beacon).~~
~~**Activity status: PR**~~	
MRZ2-RX	**Any new building within the Huntly North Wetland specific control identified on the planning maps**
(1) Activity status: NC	

MRZ2 ARX new activity that would discharge urban stormwater runoff into rural areas that do not have urban standard stormwater infrastructure or that would result in adverse stormwater effects including erosion / scour or alteration of runoff frequency, volume and duration.

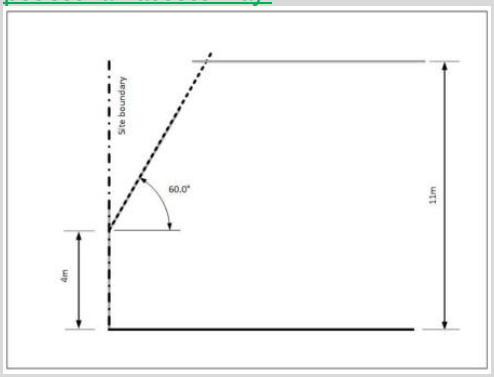
Activity Staus: Non-complying

MRZ2-S1	Residential unit
(1) Activity status: PER **Where:** (a) The site is outside the Stormwater Constraints and Flood Hazard Overlay and the QM for 5851 Great South Road~~U~~up to three residential units per site. (b) The site is within the Stormwater Constraints Overlay - Medium Risk one residential unit per site, and one minor dwelling per site provided that the minor residential unit contained within a site	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Intensity of the development; and (b) Design, scale and layout of buildings and outdoor living spaces in relation to the planned urban character of the zone; (c) The relationship of the development with adjoining streets or public open

must comply with all of the following standards: (i) The net site area is 600m² or more; and (ii) The gross floor area shall not exceed 70m² (c) Within the QM for 5851 Great South Road 1 residential unit per site (d) The site is not located in an area where stormwater would discharge to rural areas that do not have urban standard stormwater infrastructure designed to manage urban stormwater runnoff.	spaces, including the provision of landscaping; and (d) Privacy and overlooking within the development and on adjoining sites, including the orientation of habitable rooms and outdoor living spaces; and (e) Provision of 3-waters infrastructure to individual units; and (f) The provision of adequate waste and recycling bin storage including the management of amenity effects of these on streets or public open spaces; and (g) Where on-site car parking is provided, the design and location of car parking (including garaging) as viewed from streets or public open spaces. (h) The objectives and policies in Chapter 2-20 Te Ture Whaimana - Vision and Strategy (i) Where located within the catchment of the Waikato River the extent to which ~~the application enhances or benefits~~ the Waikato River and its tributaries (j) Flooding effects including safe access and egress (k) Stormwater Management and Low Impact Design methods and avoiding adverse stormwater effects on downstream properties, including erosion / scour and alteration of run-off frequencey, volume and duration (l) ...
MRZ2-S1a Residential Unit	
(1) Activity status: NC **Where:** a. The site is within the Stormwater Constraints Overlay – High Risk Area; and b. There are more than two residential units per site	
MRZ2-S2	Height – building general
(1) Activity status: PER **Where:**	**(2) Activity status where compliance not achieved: RDIS**

(a) Except in the Tuurangawaewae Marae surrounds QM Buildings must not exceed 11 metres in height, except that 50% of a building's roof in elevation, measured vertically from the junction between wall and roof, may exceed this height by 1m, where the entire roof slopes 15° or more, as shown on the following diagram (enlarged as Figure 1 at the conclusion of this Chapter).  **In the Tuurangawewae Marae surrounds QM:** (b) ~~The permitted height of any building or structure is 11m measured from the natural ground level immediately below that part of the structure;~~ (c) ~~Chimneys not exceeding 1m in width and finials shall not exceed a maximum height of 13m measured from the natural~~ ground ~~level immediately below the structure;~~ (d) ~~In Raglan, the permitted height of any building or structure is 7.5m measured from the natural ground level immediately below that part of the structure.~~ (e) ~~In Raglan, chimneys not exceeding 1m in width and finials shall not exceed a maximum height of 9.5m measured from the natural ground level immediately below the structure;~~	**Council's discretion is restricted to the following matters:** (a) Height of the building or structure; (b) Design, scale and location of the building; (c) Extent of shading on adjacent sites; ~~and~~ (d) Privacy and overlooking on adjoining sites; ~~and~~ (e) The visual dominance effects on adjoining sites; and (f) The relationship of the development with adjoining streets or public open spaces, including the provision of landscaping; and (g) In addition, within the Tuurangawaewae Marae surrounds QM: The effect on cultural viewshafts from Tuurangawaewae Marae to Hakarimata Range and Taupiri Maunga . **Notification** Any application for resource consent for one to three dwellings that does not meet the standard of MRZ2-S2 will be considered without public notification. The notification provision does not apply to the Tuurangawaewae Marae surrounds QM
MRZ2-S3	Height in relation to boundary
(1) Activity status: PER **Where:** (a) Except in the Tuurangawaewae Marae surrounds QM: Buildings must not project beyond a 60° recession plane measured from a point 4 metres vertically above ground level along all boundaries, as shown on the following diagram (enlarged as Figure 2 at the conclusion of this Chapter). Where the boundary forms part of a legal right of way, entrance strip,	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Height of the building; (b) Design and location of the building; (c) Extent of shading on adjacent sites; ~~and~~ (d) Privacy on adjoining sites.

access site, or pedestrian access way, the height in relation to boundary applies from the farthest boundary of that legal right of way, entrance strip, access site, or pedestrian access way.



(b) Standard (a) above does not apply to:

(i) a boundary with a road

(ii) existing or proposed internal boundaries within a site:

(iii) site boundaries where there is an existing common wall between 2 buildings on adjacent sites or where a common wall is proposed.

Within the Tuurangawaewae Marae Surrounds QM:

(c) Buildings and structures must not protrude through a height control plane rising at an angle of 45 degrees commencing at an elevation of 3m above natural ground level at every point of the site boundary, except

(i) Where the boundary forms part of a legal right of way, entrance strip or access site; the standard applies from the farthest boundary of that legal right of way, entrance strip or access site;

(ii) This standard does not apply to existing or proposed internal boundaries within a site;

(iii) Where a site in the MRZ ð Medium density residential zone adjoins a site in the GRZ ð General residential zone, LLRZ ð Large lot residential or SETZ ð Settlement zone, then buildings must not protrude through a height control plane rising at an angle of 45 degrees commencing at an elevation of 2.5m above natural ground level at every point of the site boundary abutting that GRZ ð General residential zone, LLRZ

(e) The visual dominance effects on adjoining sites; and

(f) The relationship of the development with adjoining streets or public open spaces, including the provision of landscaping; and

(g) In addition, within the Tuurangawaewae Marae surrounds QM: The effect on cultural viewshafts from Tuurangawaewae Marae to Hakarimata Range and Taupiri Maunga

Notification

Any application for resource consent for one to three dwellings that does not meet the standard of MRZ2-S3 will be considered without public notification. The notification provision does not apply to the Tuurangawaewae Marae surrounds QM

ð Large lot residential zone or SETZ ð Settlement zone; (iv) Where the boundary adjoins a legal road.	
MRZ2-S4	Setbacks

(1) Activity status: PER

Where:

(a) The site is outside of the Flood Hazards Overlay and outside of the Stormwater Constraints Overlay ~~B~~buildings must be set back from the relevant boundary by the minimum depth listed in the yards table below:

Yard	Minimum depth
Front	1.5m
Side	1m
Rear	1m (excluded on corner sites)

(b) This standard does not apply to site boundaries where there is an existing common wall between 2 buildings on adjacent sites or where a common wall is proposed.

(c) The site is within the Stormwater Constraints Overlay and within the Flood Hazards Overlay buildings must be set back from the relevant boundary by the minimum depth listed in the yards table below:

Yard	Minimum depth
Front	3m
Side	1.5m
Rear	1.5m (excluded on corner sites)

(d) ~~The finished external walls (excluding eaves) of a building must be set back a minimum of:~~

(i) ~~3m from the road boundary;~~

(ii) ~~3m from the edge of an indicative road (as demonstrated on a structure plan or planning maps);~~

(2) Activity status where compliance not achieved: RDIS

Council's discretion is restricted to the following matters:

(a) Road network safety and efficiency;

(b) Potential to mitigate adverse effects on the streetscape through use of other design features;

(c) Daylight admission to adjoining properties; and

(d) Privacy overlooking on adjoining sites; and

(e) The visual dominance effects on adjoining sites.

(f) Flooding effects including safe access and egress

(g) Stormwater Management and the use of Low Impact Design methods and avoiding adverse stormwater effects on downstream properties including erosion / scour and alteration of run-off frequency, volume and duration.

(h) The objectives and policies in Chapter 2-20 Te Ture Whaimana ð Vision and Strategy

Notification

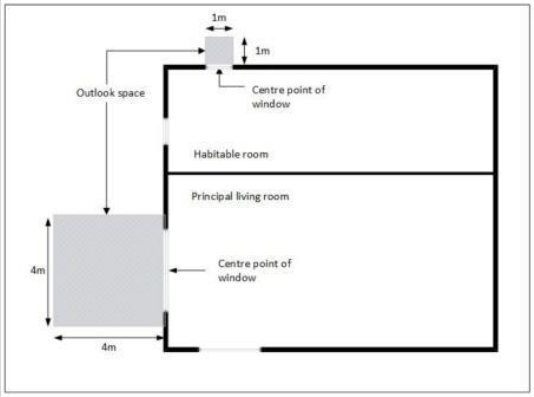
Any application for resource consent for one to three dwellings that does not meet the standard of MRZ2-S4 will be considered without public notification.

Advice note

Compliance with the Code of Practice for Electrical Safe Distances (NZECP 34:2001) may require increased setbacks to electrical infrastructure.

(iii) ~~1m from every boundary other than a road boundary; and~~ (e) ~~Balconies greater than 1.5m above ground level shall be set back a minimum of 4m from every boundary other than a boundary to a road or public open space;~~ (f) ~~MRZ-S10(1)(a) and (b) do not apply to structures that are not buildings.~~	
MRZ2-S5	Building coverage
(1) Activity status: PER **Where:** (a) Except in the Tuurangawaewae Marae surrounds QM and in the Stormwater Constraints Overlay and Flood Hazards Overlay ~~T~~the maximum building coverage must not exceed 50% of the net site area. (b) The site is within the Tuurangawaewae Marae surrounds QM ~~T~~the maximum building coverage must not exceed 45% of the net site area. (c) The site is within the Stormwater Constraints Overlay or the Flood Hazards Overlay the building coverage must not exceed 40% of the net site area. (d) MRZ-S6(1)(a) does not apply: (i) To a structure that is not a building; or (ii) Eaves of a building that project less than 750mm horizontally from the exterior wall of the building. (d) The site is located where stormwater discharge from the site would discharge into rural areas that do not have urban standard stormwater infrastructure designed to manage urban stormwater runoff.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Design, scale and location of the building; (b) Provision for outdoor living space and service courts; and (c) Effects on the ~~planned~~ urban built character and any qualifying matter on of the surrounding residential area ; and (d) ~~T~~The visual dominance effects on adjoining sites; (e) In addition, within the Tuurangawaewae Marae surrounds QM: The effect on cultural viewshafts from Tuurangawaewae Marae to Hakarimata Range and Taupiri Maunga (f) Flooding effects including safe access and egress (g) Stormwater Management and the use of Low Impact Design methods and avoiding adverse stormwater effects on downstream properties including erosion / scour and alteration of run-off frequency, volume or duration. (h) The objectives and policies in Chapter 2-20 Te Ture Whaimana – Vision and Strategy **Notification** Any application for resource consent for one to three dwellings that does not meet the standard of MRZ2-S5 will be considered without public notification. The notification provision does not apply to the Tuurangawaewae Marae surrounds QM
MRZ2-S6	Outdoor living space (per unit)
(1) Activity status: PER **Where:** (a) A residential unit at ground floor level must have an outdoor living space that is at least 20m² and that comprises ground	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Design and location of the building;

floor, balcony, patio, or roof terrace space that meets all of the following standards: (i) where located at ground level, has no dimension less than 3m; and (ii) where provided in the form of a balcony, patio, or roof terrace, is at least 8m² and has a minimum dimension of 1.8m; and (iii) is accessible from the residential unit; and (iv) may be ñ (1) grouped cumulatively by area in one communally accessible location; or (2) located directly adjacent to the unit; and (v) is free of buildings, parking spaces, and servicing and manoeuvring areas. (b) A residential unit located above ground floor level must have an outdoor living space in the form of a balcony, patio, or roof terrace that ñ (i) is at least 8m² and has a minimum dimension of 1.8m; and (ii) is accessible from the residential unit; and (iii) may be ñ (1) grouped cumulatively by area in one communally accessible location, in which case it may be located at ground level; or (2) located directly adjacent to the unit. (c) ~~An outdoor living space must be provided for each residential unit that meets all of the following standards:~~ ~~(i) It is for the exclusive use of the occupants of the residential unit;~~ ~~(ii) It is readily accessible from a living area of the residential unit;~~ ~~(iii) Where the residential unit contains an internal habitable space (excluding garages, bathrooms, laundries, and hall or stairways) on the ground floor, an outdoor living court shall be provided and shall have a minimum area of 20m² and a minimum dimension of 4m in any direction; and~~	(b) Provision for outdoor living space including access to sunlight and open space and the usability and accessibility of the outdoor living space proposed; (c) Privacy and overlooking on adjoining sites; and (d) The proximity of the site to communal or public open space that has the potential to mitigate any lack of private outdoor living space. **Notification** Any application for resource consent for one to three dwellings that does not meet the standard of MRZ2-S6 will be considered without public notification.

(iv) ~~Where the residential unit has its principal living area at first floor level or above, a balcony shall be provided and shall have a minimum area of 5m² for studio and one-bedroom dwellings, or 8m² for two or more bedroom dwellings and a minimum dimension of 1.5m.~~	
MRZ2-S7	Outlook space (per unit)
(1) Activity status: PER **Where:** (a) An outlook space must be provided for each residential unit as outlined below. (b) An outlook space must be provided from habitable room windows as shown in the diagram below (enlarged as Figure 3 at the conclusion of this Chapter):  (c) The minimum dimensions for a required outlook space are as follows: (i) a principal living room must have an outlook space with a minimum dimension of 4m in depth and 4m in width; and (ii) all other habitable rooms must have an outlook space with a minimum dimension of 1m in depth and 1m in width. (d) The width of the outlook space is measured from the centre point of the largest window on the building face to which it applies. (e) Outlook spaces may be over driveways and footpaths within the site or over a public street or other public open space. (f) Outlook spaces may overlap where they are on the same wall plane in the case of a multi-storey building. (g) Outlook spaces may be under or over a balcony.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Measures to ensure that outlook spaces shall remain unobstructed, while providing an open outlook with access to daylight from the windows of habitable rooms; (b) The nature of the occupation of the room without the required outlook; (c) The effects on amenity of future occupants from a reduced outlook; and (d) Any privacy benefits from providing a reduced outlook. **Notification** Any application for resource consent for one to three dwellings that does not meet the standard of MRZ2-S7 will be considered without public notification.

(h) Outlook spaces required from different rooms within the same building may overlap. (i) Outlook spaces must ñ (i) be clear and unobstructed by buildings; and (ii) not extend over an outlook space or outdoor living space required by another dwelling.	
MRZ2-S8	Windows to the street
(1) Activity status: PER **Where:** (a) Any residential unit facing the street must have a minimum of 20% of the street-facing fa-ade in glazing. This can be in the form of windows or doors.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The extent to which front facing glazing is provided from ground floor living areas that is visible and prominent from the street; (b) Whether the majority of the glazing provided on the street facing fa-ade of the unit is clear glazing to habitable spaces within the unit; (c) The level of passive surveillance from the residential unit to the street; and (d) Any other building features such as porches or gables that will add visual interest. **Notification** Any application for resource consent for one to three dwellings that does not meet the standard of MRZ2-S8 will be considered without public notification.
MRZ2-S9	Landscaped area
(1) Activity status: PER **Where:** (a) A residential unit at ground floor level must have a landscaped area of a minimum of 20% of a developed site with grass or plants and can include the canopy of trees regardless of the ground treatment below them. (b) The landscaped area may be located on any part of the development site, and does not need to be associated with each residential unit.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The on-site and/or neighbouring amenity provided by the proposed landscaping; (b) The extent of landscaping between the buildings and road boundary to soften and integrate the development into the surrounding area; (c) The extent to which the breach is necessary to enable more efficient, cost effective and/or practical use of the remainder of the site;

	(d) The additional accessibility and safety benefits of providing less landscaped area; and (e) The effect of any reduction in landscaping on adjoining properties, including the street or other public open spaces. **Notification** Any application for resource consent for one to three dwellings that does not meet the standard of MRZ2-S9 will be considered without public notification.
~~**MRZ-S2**~~	~~Minimum residential unit size~~
~~**(3) Activity status: PER**~~ ~~**Where:**~~ (a) ~~Residential units must have a minimum net internal floor area of:~~ (i) ~~35m² for studio dwellings; and~~ (ii) ~~45m² for one or more bedroom dwellings.~~	~~**(4) Activity status where compliance not achieved: RDIS**~~ ~~**Council's discretion is restricted to the following matters:**~~ (a) ~~The functionality of the residential unit; and~~ ~~**Internal residential amenity.**~~
MRZ2-S10	Impervious surfaces
(1) Activity status: PER **Where:** (a) The impervious surfaces of a site must not exceed 70%. (b) Stormwater discharge from the site would not dicharge to rural areas that do not have urban standard stormwater infrastructure designed to manage urban stormwater runoff.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Site design, layout and amenity; and (b) The risk of flooding, nuisance or damage to the site or other buildings and sites. (c) Stormwater Management and the use of Low Impact Design methods and avoiding adverse stormwater effects on downstream properties, including erosion / scourand lateration of run-off frequency, volume and duration. The objectives and polices in Chapter 2-20 Te Ture Whaimana
MRZ2-S11	Ground floor internal habitable space
(1) Activity status: PER **Where:** (a) Garages shall occupy less than 50% of the ground floor space internal to buildings on the site.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The visual dominance of garaging, parking, and vehicle manoeuvring areas and the balance across the site of internal habitable space, outdoor living courts, and landscaping at ground level; and (b) The design and location of garaging as viewed from streets or public open spaces.

MRZ2-S12	Fences or walls – road boundaries and OSZ – Open space zone boundaries
(1) Activity status: PER **Where:** (a) Boundary fences and walls adjacent to ~~between properties and~~ any road boundaries or OSZ - open space zone, must comply with all of the following standards: (i) Be no higher than 1.5m if solid; (ii) Be no higher than 1.8m if: (1) Visually permeable for the full 1.8m height of the fence or wall; or (2) Solid up to 1.5m and visually permeable between 1.5 and 1.8m.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Building materials and design; (b) Effects on streetscape amenity; and (c) Public space visibility.
MRZ2-S13	Building setbacks – water bodies
(1) Activity status: PER **Where:** (a) Within the Stormwater Constraints Overlay a building must be set back a minimum of: (i) 23m from the margin of any lake; (ii) 23m from the margin of any wetland; (iii) 23m from the bank of any river (other than the Waikato and the Waipa River); (iv) 28m from the margin of either the Waikato or the Waipa River. (b) Outside the Stormwater Constraints Overlay and the Flood Hazards Overlay A building must be set back a minimum of: (i) 20m from the margin of any lake; (ii) 20m from the margin of any wetland; (iii) 21.5m~~23m~~ from the bank of any river (other than the Waikato River and Waipa River); (iv) 26~~5~~.5m ~~38m~~ from the margin of either the Waikato River and the Waipa River (v) ~~23m from mean high water springs~~ (c) A public amenity of up to 25m^2 or pump shed within any building setback identified in MRZ2-S13(1)(a); (d) This standard does not apply to a structure which is not a building.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Effects on the landscape, ecological, cultural and recreational values of the adjacent water body; (b) Adequacy of erosion and sediment control measures; (c) The functional or operational need for the building to be located close to the waterbody; (d) Effects on public access to the waterbody; (e) Effects on the amenity of the locality; and (f) Effects on natural character values including hydrology and flooding. (g) Where located within the catchment of the Waikato River the extent to which the application enhances or benefits the Waikato River and its tributaries (h) Effects on cultural values identified in Maaori Values and Maatauranga Maaori Chapter. (i) The objectives and policies in Chapter 2-20 Te Ture Whaimana -Vision and Strategy
MRZ2-S14	Building setback – sensitive land use
(1) Activity status: PER **Where:**	**(2) Activity status where compliance not achieved: RDIS**

(a) Any new building or alteration to an existing building for a sensitive land use shall be set back a minimum of: (i) 5m from the designated boundary of the railway corridor; (ii) 15m from the boundary of a national route or regional arterial; (iii) 25m from the designated boundary of the Waikato Expressway; (iv) 300m from the edge of oxidation ponds that are part of a municipal wastewater treatment facility on another site; (v) 30m from a municipal wastewater treatment facility where the treatment process is fully enclosed; and (vi) 300m from the boundary of the Alstra Poultry intensive farming activities located on River Road and Great South Road, Ngaaruawaahia. (vii) ~~6m from the centre of a gas transmission line identified on the planning maps~~	**Council's discretion is restricted to the following matters:** (a) Road network safety and efficiency; (b) On-site amenity values; (c) Odour, dust and noise levels received at the notional boundary of the building; (d) Mitigation measures; and (e) Potential for reverse sensitivity effects.
MRZ2-S15	Building setback – Environmental Protection Area
(3) Activity status: PER **Where:** (a) A building shall be set back a minimum of 3m from an Environmental Protection Area.	**(4) Activity status where compliance not achieved: DIS**

Additional provisions applying to the Havelock Precinct

PREC4-SX	Residential unit within the Slope Residential Area
(5) Activity status: PER **Where:** (a) One residential unit per site.	**(6) Activity status where compliance not achieved: DIS**
PREC4-SX	Building coverage within the Slope Residential Area
(7) Where: (a) The maximum building coverage must not exceed 40% of the net site area.	**(8) Activity status where compliance not achieved: DIS**
PREC4-SX	Height – buildings or structures adjoining Hilltop parks within PREC4 – Havelock precinct
(9) Activity status: PER **Where:** (a) A building or structure with a maximum height not exceeding 5m, measured from the natural ground level immediately	**(10) Activity status where compliance not achieved: DIS**

below that part of the structure, where it is located within 50m (horizontal distance) of the Hilltop parks identified on the Havelock precinct plan in APP14 – Havelock precinct plan.	
PREC4-SX	Height – Havelock industry buffer height restriction area
(1) Activity status: PER **Where:** (a) A building or structure with a maximum height not exceeding 5m, measured from the natural ground level, where it is located within the Havelock industry buffer height restriction area	**(2) Activity status where compliance not achieved: DIS**
PREC4-SX	Building setback – sensitive land use within PREC4 – Havelock precinct
(3) Activity status: PER **Where:** (a) Any new building or alteration to an existing building for a sensitive land use within the PREC4 – Havelock precinct that is located outside the Pōkeno Industry Buffer identified on the planning maps.	**Activity status where compliance not achieved: NC**
(4) PREC4-SX	Building design – sensitive land use with PREC4 – Havelock precinct
(5) Activity status: PER **Where:** (a) Any new building or alteration to an existing building for a sensitive land use located outside the Pōkeno Industry Buffer but within the 40 dB LAeq noise contour shown on the planning maps that is designed and constructed so that internal noise levels do not exceed 25 dB LAeq in all habitable rooms. (b) Provided that if compliance with clause (a) above requires all external doors of the building and all windows of these rooms to be closed, the building design and construction as a minimum: (i) Is mechanically ventilated and/or cooled to achieve an internal temperature no greater than 25˚C based on external design conditions of dry bulb 25.1 ˚C and wet bulb 20.1 ˚C. (ii) Includes either of the following for all habitable rooms on each level of a dwelling: (1) Mechanical cooling installed; or	**(6) Activity status where compliance not achieved: DIS**

(2) A volume of outdoor air supply to all habitable rooms with an outdoor air supply rate of no less than: (i) 6 air changes per hour for rooms with less than 30% of the façade area glazed; (ii) 15 air changes per hour for rooms with greater than 30% of the façade area glazed; (iii) 3 air changes per hour for rooms with facades only facing south (between 120 degrees and 240 degrees) or where the glazing in the façade is not subject to any direct sunlight. (iii) Provides relief for equivalent volumes of spill air. All is certified by a suitably qualified and experienced person.	

TETW – Te Ture Whaimana – Vision and Strategy

Overview

(1) The relationship of Waikato-Tainui with the Waikato River cannot be underestimated as it lies at the heart of their identity as well being a major influence on their spiritual, cultural, historic and physical wellbeing. To Waikato-Tainui, the Waikato River is their Tuupuna Awa, an ancestor.

(2) The Waikato River Claim was filed with the Waitangi Tribunal by Sir Robert Mahuta on 16 March 1987 on behalf of Waikato-Tainui, the Tainui Trust Board and Ngaa Marae Toopu but was excluded from the 1995 Raupatu Land Settlement for future negotiation.

(3) The 2009 Deed of Settlement between the Crown and Waikato-Tainui acknowledges the deterioration of the health of the Waikato River while the Crown had authority over the river. The Deed of Settlement has an overarching purpose of restoring and protecting the health and wellbeing of the Waikato River for future generations. This district plan aims to restore the river's health in conjunction with other agencies. The Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 gave effect to the 2009 Deed of Settlement in respect of the raupatu claims of Waikato-Tainui over the Waikato River.

(4) Te Ture Whaimana o Te Awa o Waikato (Te Ture Whaimana) is the Vision and Strategy and is the primary direction-setting document for the Waikato River and activities within its catchment.

(5) This District Plan reflects the new era of co-management between Waikato District Council and iwi. The Settlement Act requires that a district plan shall give effect to Te Ture Whaimana.

(6) Te Ture Whaimana responds to four fundamental issues:

- (a) The degradation of the Waikato River and the ability of Waikato River iwi to exercise kaitiakitanga or conduct their tikanga and kawa;
- (b) The relationships and aspirations of communities with the Waikato River;
- (c) The cumulative effects of physical intervention, land use and subsurface hydrological changes on the natural processes of the Waikato River;
- (d) The time and commitment required to restore and protect the health and well-being of the Waikato River.

(7) Section 13 of the Waikato River Act requires that district plans be reviewed and where necessary updated following an RMA Schedule 1 process no later than 12 months after the completion of a review of Vision and Strategy.

Definition of Waikato River and its catchment area

(8) The body of water known as the Waikato River flowing continuously or intermittently from the Huka Falls to the mouth of the Waikato River shown as located within the areas marked "A" and "B" on SO plan 409144, and

(9) All tributaries, streams and watercourses flowing into the part of the Waikato River, including the Waipaa River, described in paragraph (8), to the extent to which they are within the areas marked "A" and "B" on SO plan 409144, and

(10) Lakes and wetlands within the areas marked "A" and "B" on SO plan 409144, and

(11) The beds and banks of the water bodies described in paragraphs (8) to (10).

(12) For the avoidance of doubt, this definition is an excerpt from the interpretation of 'Waikato River' in Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010. The area contained within SO plan 409144 is administered by a number of territorial authorities. Waikato District Council only administers that part of SO plan 409144 that is within the Waikato District.

Issue – Health and wellbeing of the Waikato River

(13) Land use and development activities can adversely affect the ability of the Waikato River to sustainably support the economic, social, cultural and environmental aspirations of Waikato-Tainui and the community.

Objectives

TETW-O1 Achieving Te Ture Whaimana (Vision and Strategy for the Waikato River).

The health and well-being of the Waikato River is restored and protected and Te Ture Whaimana o Te Awa o Waikato (the Vision and Strategy for the Waikato River) is achieved.

Policies

TETW-P1 Implementing Te Ture Whaimana (Vision and Strategy for the Waikato River). **[000036]** **{000051, 000063, 000073}**

(1) To restore and protect the health and wellbeing of the Waikato River including by;

- (a) Identifying and recognising the Waikato River as an Outstanding Natural Cultural Landscape;
- (b) Acquiring appropriate public access to and along the Waikato River at time of subdivision;
- (c) Protecting and restoring significant natural areas, riparian margins and wetlands within the catchment;
- (d) Providing for conservation activities;
- (e) Protecting waahi tapu, sites and areas of significance to Maaori;
- (f) Recognising and providing for application of maatauranga Maaori; and
- (g) Managing the effects of subdivision, use and development including those associated with:
  - (i) Building in river setbacks;
  - (ii) Intensive farming;
  - (iii) Earthworks and land disturbance; and
  - (iv) Subdivision.

(v) Residential development

(vi) Discharge of stormwater runnoff from urban areas to rural areas that do not have urban standard stormwater infrastructure designed to manage urban stormwater runnoff.

SD – Strategic directions

Explanatory note for the purpose of the IPI and to be removed upon completion of the process:

Standard text is used for existing provisions contained in the proposed Waikato District Plan.

Green underline text is used for new provisions.

Provisions in this chapter incorporate the objectives and policies in Clause 6 of Schedule 3A of the Resource Management Act 1991 (the Act). In accordance with Section 80H of the Act these provisions are shown shaded grey.

Introduction

This chapter:

(a) Provides the overarching direction for the District Plan, including for developing the other chapters within the Plan, and its subsequent implementation and interpretation; and
(b) Has primacy over the objectives and policies in the other chapters of the Plan, which must be consistent with the strategic objectives in this chapter.

The strategic objectives in this chapter are provided in no order of priority.

Objectives

SD-O1 Socio-economic advancement.

The District has a thriving economy.

SD-O2 Tangata whenua.

Tangata whenua's relationships, interests, including commercial interests, and associations with their culture, traditions, ancestral lands, waterbodies, sites, areas and landscapes, and other taonga are recognised and provided for.

SD-O3 Growth targets.

The following growth targets are planned for:

	Minimum targets (number of dwellings)		
	2017-2026	2027-2046	Total
Waikato District	7,100	12,300	19,400

SD-O4 Housing variety.

A variety of housing types are available to meet the community's housing needs.

SD-O5 Integration of infrastructure and land use.

New development is integrated with the provision of infrastructure.

SD-O6 Hamilton's urban expansion area.

Land uses within Hamilton's Urban Expansion Area do not compromise its future urban development.

SD-O7	Regionally significant infrastructure and industry. Recognise the importance of regionally significant infrastructure and regionally significant industry.
SD-O8	Highly productive soils. High quality soils are protected from urban development, except in areas identified for future growth in the District Plan.
SD-O9	Rural activities. The rural environment provides for a range of rural activities, including primary production and food supply and the productive capacity of the rural environment is protected from the adverse effects of adjacent urban activities.
SD-O10	Reverse sensitivity. Existing activities are protected from reverse sensitivity effects.
SD-O11	Historic heritage. Historic heritage contributes to the district's sense of place and identity.
SD-O12	Natural environment. Outstanding natural features and landscapes, and significant indigenous terrestrial flora and fauna are protected.
SD-O13	Climate change. Land use is planned to recognise, and avoid, remedy or mitigate the potential adverse effects of climate change induced weather variability and sea level rise.
SD-O14	Well-functioning urban environment. A well-functioning urban environment that enables all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future.

Policy

SD-P1	Activities within Hamilton's urban expansion area. Avoid subdivision, use and development within Hamilton's urban expansion area to ensure that future urban development is not compromised.
SD-P2	Medium Density Residential Standards Apply the MDRS across all relevant residential zones in the district plan except in circumstances where a ~~the~~ qualifying matter is relevant (including matters of significance such as historic heritage and the relationship of Maaori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga).

SUB – Subdivision

Explanatory note for the purpose of the IPI and to be removed upon completion of the process:

Standard text is used for existing provisions contained in the proposed Waikato District Plan.

Green underline text is used for new provisions.

~~Black Strikethrough~~ is used to show the deletion of existing provisions that applied to the MRZ.

Only the subdivision rules pertaining to the MRZ2 – Medium density residential zone 2 and the consequential amendments to MRZ1 – Medium density residential zone 1 are included for the purpose of the IPI.

The relevant area specific zone chapter provisions apply in addition to this chapter.

Objective

SUB-O1 Subdivision.

Subdivision layout and design promotes the land use outcomes sought for the residential, business, industrial, open space and special purpose zones.

SUB-O2 Subdivision and development in the MTZ – Matangi zone.

Subdivision, layout and design maximises efficient use of the land and minimises any adverse effects.

Policies

SUB-P1 Subdivision location and design.

(1) Ensure subdivision, is located and designed to:

- (a) Be sympathetic to the natural and physical qualities and characteristics of the surrounding environment;
- (b) Establish boundaries that minimises, to the extent practicable, buildings and structures dominating adjoining land or public places, the coast, or fresh waterbodies;
  - (i) Arrange allotments to promote view sharing
  - (ii) Promote safe communities through quality urban design;
  - (iii) Accommodate safe and stable building platforms and vehicle accesses; and
  - (iv) Promote consistent grid layout.

SUB-P2 Residential subdivision.

(1) Promote residential subdivision and development that:

- (a) Integrates staging to ensure multi-modal connectivity;
- (b) Limits the number and length of cul-de-sacs;

(c) Ensures pedestrian access is consistent with the Crime Prevention through Environmental Design (CPTED) principles;

(i) Discourages the creation of rear lots;

(ii) Includes adequate lighting levels in publicly accessible spaces;

(iii) Reflects local characteristics;

(iv) Orientates lots are orientated in a way that:

(1) Maximizes solar access; and

(2) Addresses the street frontage and public places.

(v) Creates lots that can accommodate a variety of density with a mix of usable lot types; and

(vi) Designs infrastructure to manage stormwater in a sustainable manner by:

(1) Minimising environmental impacts and maintenance costs, and reducing stormwater discharging to existing reticulated networks or adjacent rural areas that do not have urban standard stormwater infrastructure designed to cope with urban runoff; and

(2) Promoting and maintaining riparian margins.

SUB-P3 Lot sizes.

(1) Except for residential subdivision within the MRZ2 – Medium density residential zone 2, mMinimum lot size and dimension of lots enable the achievement of the character and density outcomes of each zone; and

(2) Prevent undersized lots in the SETZ – Settlement zone and LLRZ – Large lot residential zone.

(3) Within the MRZ2 – Medium density residential zone 2, subdivision enables medium density residential outcomes except where there is a relevant qualifying matter.

SUB-P4 Servicing requirements.

(1) Require subdivision and development in all zones except for GRUZ – General rural zone and RLZ – Rural lifestyle zone to be serviced to a level that will provide for the anticipated activities in a structure plan, or otherwise anticipated within the zone, including through the provision of:

(a) Reserves for community, active and passive recreation;

(b) Pedestrian and cycle connections;

(c) Roads;

(d) Public transport infrastructure, e.g. bus stops;

(e) Telecommunications;

(f) Electricity;

(g) Stormwater collection, attenuation, treatment and disposal that maintains pre-development hydrological conditions, including run-off volume, frequency and duration;

(h) Wastewater treatment and reticulation, water provision for domestic and fire fighting purposes; and

(i) Connections to identified adjacent future growth areas.

SUB-P5 Co-ordination between servicing and development and subdivision

(1) Ensure development and subdivision:

(a) Is located in areas where infrastructure capacity has been planned and able to be funded;

(b) Is not located in areas where urban stormwater would discharge to rural areas that do not have urban standard stormwater infrastructure designed to cope with urban run-off.

(c) Where located in areas subject to an approved structure plan, provides sufficient infrastructure capacity to meet the demand identified in the structure plan;

(d) Achieves the lot yield anticipated in an approved structure plan; and

(e) Includes infrastructure provision for both the strategic infrastructure network and local infrastructure connections.

SUB-P6 Achieving sufficient development density to support the provision of infrastructure services in areas without a structure plan.

In areas where there is no structure plan, ensure that the land is developed efficiently to support the provision of infrastructure services.

SUB-P7 Staging of subdivision.

Require any staging of subdivision to be undertaken in a manner that promotes efficient development and integration of infrastructure and community facilities.

SUB-P8 Connected neighbourhoods.

(1) Design subdivision to support the creation of a liveable, walkable and connected neighbourhood by having:

(a) A road network that achieves all of the following:

(i) Easy and safe to use for pedestrians and cyclists;

(ii) Accessible for emergency and other services;

(b) Connected with a variety of routes within the immediate neighbourhood and between adjacent land areas; and

(c) Connected to public transport, shops, schools, employment, open spaces and other amenities; and

(2) Vehicle crossings and associated access are designed and located to provide for safe and efficient movement to and from sites and minimising potential conflict between vehicles, pedestrians, and cyclists on the adjacent road network.

SUB-P9 Recreation and access.

(1) Provide for the recreation and amenity needs of residents by:

(a) Encouraging open spaces which are prominent and accessible by pedestrians;

(b) Requiring the location, number and size of open spaces to be in proportion to the future density of the neighbourhood and provide for a range of different activities and users; and

(c) Enabling pedestrian and/or cycle linkages.

SUB-P10 Reverse sensitivity

(1) Other than in the GIZ – General industrial zone and HIZ – Heavy industrial zone, development and subdivision design minimises the potential for reverse sensitivity effects on adjacent sites, adjacent activities, or the wider environment; and

(2) Avoid, to the extent possible, and otherwise minimise, potential reverse sensitivity effects of locating new sensitive land uses in the vicinity of an intensive farming, extraction industry or industrial activity and regionally significant infrastructure.

SUB-P11 Boundary adjustments and relocations.

Boundary adjustments and boundary relocations are designed to provide for more the efficient use of land.

SUB-P12 GRZ – General residential zone Te Kauwhata Ecological Area.

(1) Subdivision in the Te Kauwhata Ecological Residential Area is designed and located to:

(a) Promote the natural features and landscapes of the Whangamarino Wetland and Lake Waikare; and

(b) Achieve the minimum lot size.

SUB-P13 Structure and master planning.

Ensure that development and subdivision within approved structure or master plan areas is consistent with the development pattern and infrastructure provisions in the approved structure or master plan.

SUB-P14 Future development – Tuakau, Pokeno, and Te Kowhai within the LLRZ – Large lot residential zone.

In Tuakau, Pokeno, and Te Kowhai, buildings, access, and lot boundaries are located to enable future subdivision and development in the event that reticulated water, stormwater, and wastewater infrastructure become available and a plan change to rezone to a higher density is in place.

SUB-P15 Effects of subdivision and development on soils in the GRUZ – General rural zone.

Subdivision, use and development minimises the fragmentation of productive rural land, particularly where high class soils are located.

SUB-P16 Rural subdivision in the GRUZ – General rural zone.

(1) Protect the productive capacity of land and soils.

(2) Maintain an open and spacious rural character.

(3) Minimise adverse effects on the safe and efficient operation of infrastructure; by:

(a) Avoiding subdivision that creates lots smaller than 0.8ha;

(b) Avoiding the creation of new lots that are wholly located on high class soils. For sites that are partially located on high class soils, new lots are to be located primarily on that part of the site that does not include high class soils;

(c) Limiting potential reverse sensitivity effects on productive rural activities, intensive farming, rural industry, infrastructure, or extractive activities by ensuring new lots provide adequate setbacks from potential sensitive activities;

(d) Ensuring that the subdivision does not compromise public access to rivers and water bodies or the quality of these environments; and

(4) Make only limited provision for small rural lifestyle lots, where in addition to the matters set out in (1), (2), and (3), the subdivision:

(a) Provides public parks and reserves, located in accordance with a Council Parks Strategy; or

(b) Provides a balance lot greater than 40ha; or

(c) Involves a boundary relocation to create the same number of lots formed as a large balance lot greater than 40ha and a number of small rural lifestyle lots that are clustered to form a hamlet; and

(d) Where (4)(b) and (c) applies, avoids ribbon development and the cumulative effects of multiple small rural residential lots locating on the same road frontage.

SUB-P17 Subdivision in the RLZ – Rural lifestyle zone.

(1) Subdivision within the zone ensures that:

(a) The creation of undersized lots is avoided;

(b) New lots are of a size and shape to enable sufficient building setbacks from any boundary;

(c) Building platforms are sited to maintain the character of the zone and are appropriately positioned to enable future development;

(d) Existing infrastructure is not compromised;

(e) Character and amenity are not compromised.

SUB-P18 Subdivision in the BTZ – Business Tamahere zone.

Subdivision of leasable units provides for the ongoing management and use of common facilities.

SUB-P19 Manage subdivision and activities within the FUZ – Future urban zone.

(1) Manage activities to ensure that the ability to develop the area for urban purposes is not compromised; and

(2) Manage subdivision to ensure that future urban development is not compromised. This can include:

(a) Avoiding the creation of additional lots that are smaller than 40ha, except where directly associated with utilities, network infrastructure, or a development consolidation lot;

(b) Enabling subdivision boundary adjustments and relocations; and

(c) Encouraging the consolidation of landholdings into single ownership to facilitate long-term comprehensive urban development by enabling the subdivision of an existing Record of Title to create one new title around an existing dwelling where the balance of the existing lot is subject to a consent notice on the Record of Title preventing further dwellings until such time as the FUZ – Future urban zone is rezoned to a long-term urban zoning.

SUB-P20 Structure plans in the FUZ – Future urban zone.

(1) Urban subdivision and development is to be in accordance with a structure plan that has been incorporated into the District Plan through a plan change process. The structure plan must include the following elements:

(a) Key roading connections, collector road alignment, and public transport facilities;

(b) Key pedestrian / cycle linkages where these routes are separate from road or open space corridors;

(c) Land to be set aside for stormwater basins;

(d) The measures necessary to mitigate natural hazards, geotechnical issues, or soil contamination;

(e) Land to be set aside for public open space;

(f) How any existing natural, ecological, or landscape values will be maintained or enhanced;

(g) How any significant historic or cultural values will be maintained or enhanced;

(h) The general location of local commercial / community hubs and schools (if proposed);

(i) The general location of more intensive pockets of medium density residential development (if any);

(j) For residential developments, demonstrate the minimum yield to be achieved;

(k) How potential conflicts between new residential areas and existing industry, regional infrastructure, mineral extraction, or intensive farming operations will be mitigated including by the use of setbacks, open space, or large lots to create a buffer area; and

(l) Any staging necessary to ensure development achieves a good urban form and is able to be serviced.

SUB-P21 Subdivision in the HOPZ – Hopuhopu zone.

Avoid subdivision except where it is necessary for infrastructure, utilities, reserves, or road vesting.

SUB-P22 Subdivision development and design in the MTZ – Matangi zone.

(1) Avoid subdivision that does not connect to public reticulated services;

(2) Ensure subdivision and development provides integrated three waters infrastructure and services to each allotment;

(3) Ensure subdivision and development maintains the setting of heritage items; and

(4) Adverse effects of subdivision, use and development activities on the transport network are minimised with particular regard to:

(a) Reverse sensitivity effects of land uses sensitive to adverse transport effects (e.g. noise);

(b) Protecting strategic and arterial transport networks, rail crossings and associated intersections; and

(c) Maintaining the safety of pedestrians and cyclists.

SUB-P23 Subdivision in the MRZ2 – Medium density residential zone 2

(1) Provide for subdivision that supports the development of medium density residential development as a controlled activity within the MRZ2 – Medium density residential zone 2, except where:

(a) There is a relevant qualifying matter; or

(b) The proposed subdivision does not comply with the relevant subdivision standards.

(c) The location of the proposed subdivision would result in urban stormwater run-off discharging into rural land that does not have urban standard stormwater infrastructure designed to cope with urban run-off.

(2) Require subdivision within the MRZ2 – Medium density residential zone 2 to not compromise any qualifying matters applied to the site.

Rules

All applications for subdivision consent, including controlled activities, are subject to section 106 of the Resource Management Act 1991.

Subdivision (zone specified in first column)

MRZ1 – Medium density residential zone 1

SUB-R30	Subdivision – general	
MRZ1 – Medium density residential zone 1	**(1) Activity status: CON** **Activity specific standards:** (a) Any subdivision in accordance with an approved land use resource consent must comply with that resource consent. **Council's control is reserved over the following matters:** (b) Subdivision layout; (c) Compliance with the approved land use consent; and (d) Provision of infrastructure.	**(2) Activity status where compliance not achieved: n/a**
SUB-R31	Subdivision – general	
MRZ1 – Medium density residential zone 1	**(1) Activity status: RDIS** **Activity specific standards:** (a) Subdivision must comply with all of the following standards: (i) Proposed vacant lots must have a minimum net site area (excluding access legs) of 200m², except where the proposed lot is an access allotment, utility allotment or reserve to vest; and (ii) Proposed vacant lots must be able to connect to public-reticulated water supply and wastewater.	**(2) Activity status where compliance not achieved: DIS**

	Council's discretion is restricted to the following matters: (a) Subdivision layout; (b) Shape of lots and variation in lot sizes; (c) Ability of lots to accommodate a practical building platform including geotechnical stability for building; (d) Likely location of future buildings and their potential effects on the environment; (e) Avoidance or mitigation of natural hazards; (f) Opportunities for streetscape landscaping; (g) Vehicle and pedestrian networks; (h) Consistency with any relevant structure plan or master plan including the provision of neighbourhood parks, reserves and neighbourhood centres; and (i) Provision of infrastructure.	
SUB-R32	Subdivision – general	
MRZ<u>l</u> – Medium density residential zone <u>l</u>	**(1) Activity status: RDIS** **Activity specific standards:** (a) Every proposed vacant lot, other than one designed specifically for access or a utility allotment, must be capable of containing a building platform upon which a dwelling and living court could be sited as a permitted activity, with the building platform being contained within the following dimension: (i) A rectangle of at least 100m2 with a minimum dimension of 6m, exclusive of yards. **Council's discretion is restricted to the following matters:** (b) Subdivision layout; (c) Shape of allotments; (d) Ability of allotments to accommodate a practical building platform; (e) Likely location of future buildings and their potential effects on the environment; (f) Avoidance or mitigation of natural hazards; (g) Geotechnical suitability for building; and (h) Ponding areas and primary overland flow paths.	**(2) Activity status where compliance not achieved: DIS**
SUB-R33	Subdivision – boundary adjustments	
MRZ<u>l</u> – Medium density residential zone <u>l</u>	**(1) Activity status: CON** **Activity specific standards:** (a) Boundary adjustments must comply with all of the following standards:	**(2) Activity status where compliance not achieved: RDIS**

	(b) The standards specified in: (i) Rules SUB-R31 to SUB-R32 Subdivision - General; (c) Proposed lots must not generate any additional building infringements to those which legally existed prior to the boundary adjustment. **Council's control is reserved over the following matters:** (d) Subdivision layout; and (e) Shape of titles and variation in lot sizes.	**Council's discretion is restricted to the following matters:** (a) Subdivision layout; and (b) Shape of titles and variation in lot sizes.
SUB-R34	Subdivision – amendments and updates to Cross Lease Flats Plans and Conversion to Freehold	
MRZ[1] – Medium density residential zone [1]	**(1) Activity status: CON** **Activity specific standards:** (a) Conversion of a cross lease flats plan to a fee simple title. **Council's control is reserved over the following matters:** (b) Effects on existing buildings; (c) Site layout and design; and (d) Compliance with permitted building rules.	**(2) Activity status where compliance not achieved: n/a**
SUB-R35	Subdivision – amendments and updates to Cross Lease Flats Plans and Conversion to Freehold	
MRZ[1] – Medium density residential zone [1]	**(1) Activity status: CON** **Activity specific standards:** (a) Amendment or update of a cross lease flats plan. **Council's control is reserved over the following matters:** (b) Effects on existing buildings; (c) Site layout and design of cross lease or flats plan; and (d) Compliance with permitted building rules.	**(2) Activity status where compliance not achieved: n/a**
SUB-R36	Title Boundaries – contaminated land	
MRZ[1] – Medium density residential zone [1]	**(1) Activity status: RDIS** **Activity specific standards:** (a) Subdivision of land containing contaminated land (other than where the contaminated land has been confirmed as not being contaminated land for its intended use) must comply with all of the following standards: (i) Where an existing building is to be contained within the boundaries of any proposed lot (other than where any non-compliance existed lawfully prior to the	**(2) Activity status where compliance not achieved: DIS**

	subdivision), compliance is required with the following building rules relating to: (1) Height in relation to boundary (MRZ-S4); (2) Building coverage (MRZ-S6 – MRZ-S7); and (3) Building setbacks (MRZ-S11 – MRZ-S12). (b) Where any proposed subdivision contains one or more of the features listed in 1 – 2, the subdivision must not divide the following: (1) A natural hazard area; (2) Contaminated land (other than where the contaminated land has been confirmed as not being contaminated land for its intended use); and (ii) The boundaries of every proposed lot containing, adjoining or adjacent to the activities listed in 1 – 3 below, must provide the following setbacks: (1) 300m from any intensive farming activity; (2) 550m from the boundary of an Aggregate Extraction Area for rock extraction; and (3) 200m from the boundary of an Aggregate Extraction Area for sand excavation. **Council's discretion is restricted to the following matters:** (c) Landscape values; (d) Amenity values and character; (e) Reverse sensitivity effects; (f) Effects on existing buildings; (g) Effects on natural hazard areas; (h) Effects on contaminated land; (i) Effects on an intensive farming activity.	
SUB-R37	Subdivision – road frontage	
MRZ1 – Medium density residential zone 1	**(1) Activity status: RDIS** **Activity specific standards:** (a) Every proposed vacant lot with a road boundary, other than an access allotment, utility allotment, or a proposed vacant lot containing a ROW or access leg, must have a width along the road boundary of at least 10m.	**(2) Activity status where compliance not achieved: DIS**

	Council's discretion is restricted to the following matters: (b) Safety and efficiency of vehicle access and road network.	
SUB-R38	Subdivision creating reserves	
MRZ<u>I</u> – Medium density residential zone <u>I</u>	**(1) Activity status: RDIS** **Activity specific standards:** (a) Every reserve, including where a reserve is identified within a structure plan or master plan (other than an esplanade reserve), proposed for vesting as part of the subdivision, must be bordered by roads along at least 50% of its boundaries. **Council's discretion is restricted to the following matters:** (b) The extent to which the proposed reserve aligns with the principles of Council's Parks Strategy, Playground Strategy, Public Toilets Strategy and Trails Strategy; (c) Consistency with any relevant structure plan or master plan; (d) Reserve size and location; (e) Proximity to other reserves; (f) The existing reserve supply in the surrounding area; (g) Whether the reserve is of suitable topography for future use and development; (h) Measures required to bring the reserve up to Council standard prior to vesting; and (i) The type and standard of boundary fencing.	**(2) Activity status where compliance not achieved: DIS**
SUB-R39	Subdivision of Esplanade Reserves and Esplanade Strips	
MRZ<u>I</u> – Medium density residential zone <u>I</u>	**(1) Activity status: RDIS** **Activity specific standards:** (a) Subdivision of an esplanade reserve or strip at least 20m wide (or other width stated in APP7 – Esplanade priority areas) that is required to be created shall vest in Council where the following situations apply: (i) The proposed lot is less than 4ha and within 20m of: (ii) mean high water springs; (iii) the bank of any river whose bed has an average width of 3m or more; or (iv) a lake whose bed has an area of 8ha or more; or (v) The proposed lot is more than 4ha or more than 20m from mean high water springs or a water body identified in APP7 – Esplanade priority areas.	**(2) Activity status where compliance not achieved: DIS**

	Council's discretion is restricted to the following matters: (b) The type of esplanade provided - reserve or strip; (c) Width of the esplanade reserve or strip; (d) Provision of legal access to the esplanade reserve or strip; (e) Matters provided for in an instrument creating an esplanade strip or access strip; and (f) Works required prior to vesting any reserve in the Council, including pest plant control, boundary fencing and the removal of structures and debris.	

MRZ2 – Medium density residential zone 2

SUB-R152	Subdivision – general	
MRZ2 – Medium density residential zone 2	**(1) Activity status: CON** **Activity specific standards:** (a) Any subdivision in accordance with an approved land use resource consent must comply with that resource consent. **Council's control is reserved over the following matters:** (b) Subdivision layout; (c) Compliance with the approved land use consent; and (d) Provision of infrastructure.	**(2) Activity status where compliance not achieved: n/a**
SUB-R153	Subdivision – general	
MRZ2 – Medium density residential zone 2	**(1) Activity status: RDIS** **Activity specific standards:** (a) Except where the site is within the Stormwater Constraints Overlay or within the Flood Hazard Overlay; and (b) Except where SUB-R154 (Subdivision – residential) applies, sSubdivision must comply with all of the following standards: (i) Except in the minimum vacant lot sie restriction area, pProposed vacant lots must have a minimum net site area (excluding access legs) of 200m², except where the proposed lot is an access allotment, utility allotment or reserve to vest; and (ii) In the minimum vacant lot size restriction area proposed vacant lots must have a minimum net site area (excluding access	**(2) Activity status where compliance not achieved: DIS**

	legs) of 450m², except where the proposed lot is an access lot, utility allotment, or reserve to vest; and (iii) Proposed vacant lots must be able to connect to public-reticulated water supply and wastewater. (c) Where the site is within the Stormwater Constraints Overlay, the minimum site size is 450m² **Council's discretion is restricted to the following matters:** (a) Subdivision layout; (b) Shape of lots and variation in lot sizes; (c) Ability of lots to accommodate a practical building platform including geotechnical stability for building; (d) Likely location of future buildings and their potential ~~effects on the environment;~~ (e) Avoidance or mitigation of natural hazards; (f) Opportunities for streetscape landscaping; (g) Vehicle and pedestrian networks; (h) Consistency with any relevant structure plan or master plan including the provision of neighbourhood parks, reserves and neighbourhood centres; and (i) Provision of infrastructure. (j) Flooding effects including safe access and egress (k) Stormwater Management and the use of Low Impact Design methods including avoiding adverse stormwater effects on downstream properties, including erosion / scour and alteration of run-off frequency, volume and duration. (l) The objectives and policies in Chapter 2-20 Te Ture Whaimana – Vision and Strategy	
SUB-R154	Subdivision - residential	
MRZ2 – Medium density residential zone 2	**(1) Activity status: CON** **Activity specific standards:** (a) Any subdivision around either existing (constructed or approved) residential units or proposed residential units where the subdivision application is accompanied by a land use application that will be determined concurrently. (b) Any allotments created under SUB-R152 (1a) must have a minimum net site area (excluding access legs) of 200m² except where: (i) The subdivision does not increase the degree of non compliance of the residential units with the standards in	**Activity status where compliance not achieved: n/a**

	MRZ2-S2 to S9, or land use consent has been granted, or a concurrent land use application shows that it is practicable to construct on every allotment within the proposed subdivision a residential unit which complies with the standards in MRZ2-S2 to S9; and (ii) No vacant allotments are created. (c) For the purpose of SUB-R152(1b)(i), if a subdivision is proposed between residential units that share a common wall, the standard in MRZ2-S3 does not apply along the length of the common wall. **Council's control is reserved over the following matters:** (d) Subdivision layout; ~~and~~ (e) Provision of infrastructure and; (f) Vehicles and pedestrian networks. **Notification** Any application for a subdivision consent for a controlled activity under this rule will be considered without public or limited notification in the following circumstances: (a) A subdivision associated with the construction of no more than three residential units that do not comply with the standards in MRZ2-S2 to S9; or (b) A subdivision associated with the construction of four or more residential units that comply with the standards in MRZ2-S2 to S9; and (c) provided that other standards in the district plan are met.	
~~**SUB-R155**~~	~~Subdivision – general~~	
~~MRZ – Medium density residential zone~~	~~**(1) Activity status: RDIS**~~ ~~**Activity specific standards:**~~ ~~(a) Every proposed vacant lot, other than one designed specifically for access or a utility allotment, must be capable of containing a building platform upon which a dwelling and living court could be sited as a permitted activity, with the building platform being contained within the following dimension:~~ ~~(i) A rectangle of at least 100m2 with a minimum dimension of 6m, exclusive of yards.~~ ~~**Council's discretion is restricted to the following matters:**~~	~~**(2) Activity status where compliance not achieved: DIS**~~

	~~(b) Subdivision layout;~~ ~~(c) Shape of allotments;~~ ~~(d) Ability of allotments to accommodate a practical building platform;~~ ~~(e) Likely location of future buildings and their potential effects on the environment;~~ ~~(f) Avoidance or mitigation of natural hazards;~~ ~~(g) Geotechnical suitability for building; and~~ ~~(h) Ponding areas and primary overland flow paths.~~	
SUB-R156	Subdivision – boundary adjustments	
MRZ2 – Medium density residential zone 2	**(1) Activity status: CON** **Activity specific standards:** (a) Boundary adjustments must comply with all of the following standards: (b) The standards specified in: (i) Rule~~s~~ in ~~SUB-R31 to SUB-R32~~ SUB-R153 (c) Proposed lots must not generate any additional building infringements to those which legally existed prior to the boundary adjustment. **Council's control is reserved over the following matters:** (a) Subdivision layout; and (b) Shape of titles and variation in lot sizes.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Subdivision layout; and (b) Shape of titles and variation in lot sizes.
SUB-R157	Subdivision – amendments and updates to Cross Lease Flats Plans and Conversion to Freehold	
MRZ2 – Medium density residential zone 2	**(1) Activity status: CON** **Activity specific standards:** (a) Conversion of a cross lease flats plan to a fee simple title. **Council's control is reserved over the following matters:** (a) Effects on existing buildings; (b) Site layout and design; and (c) Compliance with permitted building rules.	**(2) Activity status where compliance not achieved: n/a**
SUB-R158	Subdivision – amendments and updates to Cross Lease Flats Plans and Conversion to Freehold	
MRZ2 – Medium density residential zone 2	**(1) Activity status: CON** **Activity specific standards:** (a) Amendment or update of a cross lease flats plan. **Council's control is reserved over the following matters:** (a) Effects on existing buildings;	**(2) Activity status where compliance not achieved: n/a**

	(b) Site layout and design of cross lease or flats plan; and (c) Compliance with permitted building rules.	
~~SUB-R159~~	~~Title Boundaries – contaminated land~~	
~~MRZ2 – Medium density residential zone 2~~	**~~(3) Activity status: RDIS~~** **~~Activity specific standards:~~** ~~(a) Subdivision of land containing contaminated land (other than where the contaminated land has been confirmed as not being contaminated land for its intended use) must comply with all of the following standards:~~ ~~(i) Where an existing building is to be contained within the boundaries of any proposed lot (other than where any non-compliance existed lawfully prior to the subdivision), compliance is required with the following building rules relating to:~~ ~~(1) Height in relation to boundary (MRZ-S4);~~ ~~(2) Building coverage (MRZ-S6-S7); and~~ ~~(3) Setbacks (MRZ-S10).~~ ~~(b) Where any proposed subdivision contains one or more of the features listed in 1 – 2, the subdivision must not divide the following:~~ ~~(1) A natural hazard area;~~ ~~(2) Contaminated land (other than where the contaminated land has been confirmed as not being contaminated land for its intended use); and~~ ~~(ii) The boundaries of every proposed lot containing, adjoining or adjacent to the activities listed in 1 – 3 below, must provide the following setbacks:~~ ~~(1) 300m from any intensive farming activity;~~ ~~(2) 550m from the boundary of an Aggregate Extraction Area for rock extraction; and~~ ~~(3) 200m from the boundary of an Aggregate Extraction Area for sand excavation.~~ **~~Council's discretion is restricted to the following matters:~~** ~~(a) Landscape values;~~ ~~(b) Amenity values and character;~~ ~~(c) Reverse sensitivity effects;~~ ~~(d) Effects on existing buildings;~~	**~~(4) Activity status where compliance not achieved: DIS~~**

	~~(e) Effects on natural hazard areas;~~ ~~(f) Effects on contaminated land;~~ ~~(g) Effects on an intensive farming activity.~~	
SUB-R159	Subdivision – road frontage	
MRZ2 – Medium density residential zone 2	**(1) Activity status: RDIS** **Activity specific standards:** (a) Every proposed vacant lot with a road boundary, other than an access allotment, utility allotment, or a proposed vacant lot containing a ROW or access leg, must have a width along the road boundary of at least 10m. **Council's discretion is restricted to the following matters:** (b) Safety and efficiency of vehicle access and road network.	**(2) Activity status where compliance not achieved: DIS**
SUB-R160	Subdivision creating reserves	
MRZ2 – Medium density residential zone 2	**(1) Activity status: RDIS** **Activity specific standards:** (a) Every reserve, including where a reserve is identified within a structure plan or master plan (other than an esplanade reserve), proposed for vesting as part of the subdivision, must be bordered by roads along at least 50% of its boundaries. **Council's discretion is restricted to the following matters:** (a) The extent to which the proposed reserve aligns with the principles of Council's Parks Strategy, Playground Strategy, Public Toilets Strategy and Trails Strategy; (b) Consistency with any relevant structure plan or master plan; (c) Reserve size and location; (d) Proximity to other reserves; (e) The existing reserve supply in the surrounding area; (f) Whether the reserve is of suitable topography for future use and development; (g) Measures required to bring the reserve up to Council standard prior to vesting; and (h) The type and standard of boundary fencing.	**(2) Activity status where compliance not achieved: DIS**
SUB-R161	Subdivision of Esplanade Reserves and Esplanade Strips	
MRZ2 – Medium density residential zone 2	**(1) Activity status: RDIS** **Activity specific standards:** (a) Subdivision of an esplanade reserve or strip at least 20m wide (or other width stated in APP7 – Esplanade priority areas) that is	**(2) <u>Activity status where compliance not achieved: DIS</u>**

	required to be created shall vest in Council where the following situations apply: (i) The proposed lot is less than 4ha and within 20m of: (ii) mean high water springs; (iii) the bank of any river whose bed has an average width of 3m or more; or (iv) a lake whose bed has an area of 8ha or more; or (v) The proposed lot is more than 4ha or more than 20m from mean high water springs or a water body identified in APP7 – Esplanade priority areas. **Council's discretion is restricted to the following matters:** (a) The type of esplanade provided - reserve or strip; (b) Width of the esplanade reserve or strip; (c) Provision of legal access to the esplanade reserve or strip; (d) Matters provided for in an instrument creating an esplanade strip or access strip; and (e) Works required prior to vesting any reserve in the Council, including pest plant control, boundary fencing and the removal of structures and debris.	
SUB-R162	Subdivision within the National Grid Corridor	
MRZ2 – Medium density residential zone 2	**(1) Activity status: RDIS** **Activity specific standards:** (a) The subdivision of land in any zone within the National Grid Subdivision Corridor that complies with all of the following standards: (i) All resulting allotments must be able to demonstrate that they are capable of accommodating a building platform for the likely principal building(s) and any building(s) for a sensitive land use outside of the National Grid Yard, other than where the allotments are for roads, access ways or infrastructure; and (ii) The layout of allotments and any enabling earthworks must ensure that physical access is maintained to any National Grid support structures located on the allotments, including any balance area. **Council's discretion is restricted to the following matters:**	**(2) Activity status where compliance not achieved: NC**

	(a) The subdivision layout and design in regard to how this may impact on the operation, maintenance, upgrading and development of, including access to, the National Grid; (b) The ability to provide a complying building platform outside of the National Grid Yard; (c) The risk of electrical hazards affecting public or individual safety, and the risk of property damage; (d) The nature and location of any vegetation to be planted in the vicinity of National Grid transmission lines, and how such landscaping will impact on the operation, maintenance, upgrade and development (including access) of the National Grid; (e) The risk to the structural integrity of the National Grid; (f) The extent to which the subdivision design and consequential development will minimise the potential reverse sensitivity on and amenity and nuisance effects of the National Grid asset.	

Interpretation

Definitions

Explanatory note for the purpose of the IPI and to be removed upon completion of the process: Proposed additional definitions are shown in green underline. No modifications are proposed to any existing definitions within the proposed Waikato District Plan and are therefore not shown as part of the IPI.

Term	Definition
Active transport	Has the same meaning as in the National Policy Statement on Urban Development 2020 (as set out in the box below). Means forms of transport that involve physical exercise, such as walking or cycling, and includes transport that may use a mobility aid such as a wheelchair.
Landscaped area	Means any part of the site that ~~is~~ has grass~~ed~~ and/or plant~~sed~~ and can include the canopy of ~~in~~ trees, regardless of the ground treatment below them. ~~shrubs, or ground cover and may include ancillary water, rocks, paved areas or amenity features~~
MDRS	Has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below). Means the requirements, conditions, and permissions set out in Schedule 3A.
Qualifying matters	Has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below). Means a matter referred to in section 77I or 77O of the Resource Management Act 1991
Servicing area	Means the use of land for services, storage or waste management to serve a dwelling or residential activity.

Impervious surface Means a surface ~~that is not vegetated, and~~ which prevents or significantly ~~retards~~ reduces the soakage of water into the ground. It includes...

WWS – Water, wastewater and stormwater

Rules

WWS-R1	Stormwater systems for new development or subdivision	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) New development or subdivision must have a stormwater system that complies with all of the following standards: (i) Operates by gravity; (ii) Manages stormwater through a Stormwater Management Plan in the following manner: (1) Primary systems detain or retain runoff from all impervious surfaces during a 10% Annual Exceedance Probability storm event to ensure that the rate of any stormwater discharge, and the runoff frequency, volume and duration off-site is at or below pre-development rates; and (2) Secondary overflows are conveyed to a system or drainage path designed to collect concentrated stormwater during events up to and including a 1% Annual Exceedance Probability; or (3) A controlled discharge to a reticulated network or ~~receiving environment~~ an urban waterbody designed to manage urban runnoff that will have equivalent capacity (as in (i) and (ii) above) once the catchment is fully developed. (iii) Stormwater management measures must be in place and operational upon the completion of subdivision and/or development; (iv) Systems must be designed using rainfall data specific to the area in which the property is located and be adjusted for a climate change	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The likely effectiveness of the system to avoid flooding, nuisance or damage to other buildings and sites; (b) The capacity of the system and suitability to manage stormwater; (c) The potential for adverse effects to the environment in terms of stormwater quantity and stormwater quality effects; and (d) Extent to which low impact design principles and approaches are used.

	temperature increase of 2.1°C; (v) Stormwater management measures, including low impact design measures to avoid adverse stormwater effects on downstream properties, including erosion, / scour and alateration of run-off frequency, must be implemented as appropriate in accordance with the following drainage hierarchy: (1) Retention of rainwater/stormwater for reuse; (2) Soakage techniques; (3) Infiltration rate of a minimum of 7mm/ hour; (4) Treatment, detention and gradual release to a perennial watercourse in a manner that does not increase the volume, frequency or duration for flow on downstream sites ; (5) Treatment, detention and gradual release to a piped stormwater system. (6) Stormwater treatment shall ~~address~~ ensure that water quality; downstream erosion and scour effects; and cumulative frequency, volume and duration effects are managed to pre development levels. (vi) Where land is subject to instability, stormwater discharges directly to ground occurs only where the ground conditions have been identified as being suitable to absorb such discharges without causing, accelerating or contributing to land instability and downstream effects either on the site or on neighbouring properties; (vii) Connection of new development to any existing stormwater drainage system must not result in the minimum level of service not being met or the minimum level of capacity being exceeded or the volume, frequency or duration of flow on downstream sites exceeding pre development levels. Alteration of the existing receiving stormwater network drainage system to achieve minimum level of service or additional onsite detention volume to ensure existing capacity will be required.	

	existing capacity will be required. Advice notes: Acceptable means of compliance for the provision, design and construction of stormwater infrastructure, including low impact design features, are contained within the Regional Infrastructure Technical Specifications (RITS). Refer also to Waikato Stormwater Management Guideline and Waikato Stormwater Run-off Modelling Guideline. A stormwater discharge consent may also be required from the Waikato Regional Council.	
WWS-R2	Wastewater servicing for new development or subdivision	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) New development or subdivision must have a wastewater system that complies with the following standards: (i) Is connected to public, reticulated wastewater network; or (ii) Is connected to a community-scale wastewater system; or (iii) Is provided with a site-contained, alternative method of wastewater disposal that complies with AS/NZS 1547:2012.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Health and safety of the occupants; (b) Capacity of the system; (c) Infiltration capacity of the soil; (d) Location, including proximity to waterways and effects on habitats; and (e) Contamination of downstream properties by wastewater.
WWS-R3	Below ground pipelines for the conveyance of water, wastewater and stormwater	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Pipelines for the conveyance of water, wastewater and stormwater that comply with all of the following: (i) Any aboveground section of a pipeline must comply with the following: (1) Not exceed 25m in length, and	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The functional need and operational need of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects; (c) Road network safety and efficiency;

	(2) Not exceed 300mm in diameter. (3) Is not located within an Identified Area and . (b) The maximum dimensions in Rule WWS-R3(1)(a)(i) do not apply to any above-ground section of pipeline which is attached to or contained within the superstructure of a bridge.	(d) The risk of hazards to public or individual safety, and risk of property damage; and (e) Effects on the specific values, qualities and characteristics of any Identified Area.
WWS-R4	Below ground pipelines for the conveyance of water, wastewater and stormwater located within an Identified Area	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Below ground pipelines for the conveyance of water, wastewater and stormwater located within an Identified Area that comply with all of the following: (i) There are no aboveground sections of pipeline within an Identified Area; and (ii) Are not within a site or area in SCHED1 – Historic heritage items or SCHED3 – Sites and areas of significance to Maaori.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The functional need and operational need of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects; (c) Road network safety and efficiency; (d) The risk of hazards to public or individual safety, and risk of property damage; and (e) Effects on the specific values, qualities and characteristics of any Identified Area.
WWS-R5	Pump stations for the conveyance of water, wastewater and stormwater	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Pump stations for the conveyance of water, wastewater and stormwater that complies with the following standards : (i) Is not located within an Identified Area. (ii) Not exceed 10m^2 in area above-ground; and (iii) Not exceed 3m in height measured from the natural ground level immediately below the structure.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The functional need and operational need of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects; (c) Road network safety and efficiency; (d) The risk of hazards to public or individual safety, and risk of property damage; and (e) Effects on the specific values, qualities and characteristics of any Identified Area.
WWS-R6	Stormwater treatment, detention and retention facilities or devices	
All zones	**(1) Activity status: PER** **Activity-specific standards:**	**(2) Activity status where compliance not achieved: n/a**

	(a) Stormwater treatment, detention and retention facilities or devices, excluding stormwater wetlands or ponds.	
WWS-R7	Stormwater ponds or wetlands	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Stormwater ponds or wetlands that comply with the following: (i) The area of the pond or wetland does not exceed the equivalent site building coverage standards applicable to the zone.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The functional need and operational need of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects; (c) Road network safety and efficiency; (d) The risk of hazards to public or individual safety, and risk of property damage; and (e) Effects on the specific values, qualities and characteristics of any Identified Area.
WWS-R8	Ventilation facilities, drop shafts and manholes	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Ventilation facilities, drop shafts and manholes that comply with the following: (i) Are not located within an Identified Area.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The functional need and operational need of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects; (c) Road network safety and efficiency; (d) The risk of hazards to public or individual safety, and risk of property damage; and (e) Effects on the specific values, qualities and characteristics of any Identified Area.
WWS-R9	Below ground reservoirs	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Below ground reservoirs that comply with all of the following: (i) Are not located within an Identified Area; or (ii) Are not located within road or unformed road.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The functional need and operational need of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects;

		(c) Road network safety and efficiency; (d) The risk of hazards to public or individual safety, and risk of property damage; and (e) Effects on the specific values, qualities and characteristics of any Identified Area.
WWS-R10	Water supply servicing for new development or subdivision	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) New development or subdivision must have a water supply system that complies with the following standards: (i) For the GRUZ – General rural zone, RLZ – Rural lifestyle zone, LLRZ – Large lot residential zone and SETZ – Settlement zone, potable water supply must be provided; (b) For all other zones: (i) Be connected to any available public, reticulated water supply system nearby; and (ii) In addition to connection to reticulated supply for potable water, may also use rainwater harvesting (installation of rain storage tanks for water conservation) to supplement water supply, but not for potable uses.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Health and safety of the occupants; and (b) Sufficiency of supply for fire-fighting.
WWS-R11	The construction of new regional flood management infrastructure in close proximity to existing flood management infrastructure, undertaken by or on behalf of the public authority responsible for the regional flood management infrastructure	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) All activities must comply with the following standards: (i) Activities are carried out: (ii) Within 20m of the landward toe of a stopbank (See Figure 5 below); (iii) On a stopbank; (iv) Within the flood channel (between a stopbank and river bank); and	**(2) Activity status where compliance not achieved: DIS**

	(v) Within a 20m radius of a pump station or floodgate.	

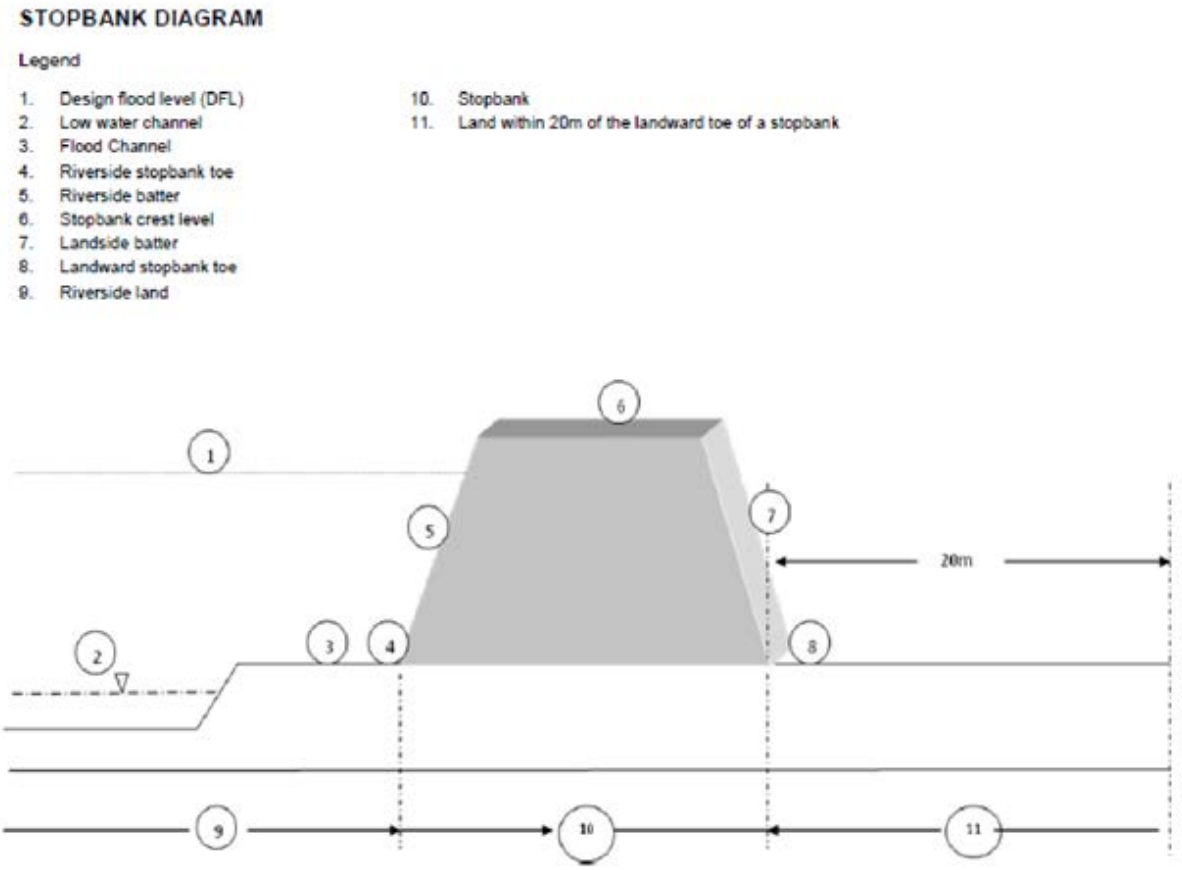


Figure 5 – Stopbank diagram

WWS-R12	Flood control, renewal, maintenance, unscheduled, and storm response works undertaken by or on behalf of the public authority responsible for the regional flood management infrastructure	
All zones	**(1) Activity status: PER** **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**
WWS-R13	In close proximity to existing flood management infrastructure: (a) The maintenance of existing stock-proof fences; (b) Grazing of animals; (c) Any farming activity other than the grazing of animals; (d) Planting of trees; (e) The construction of any road or race for the passage of stock or vehicles; (f) The erection of any new fence, shelter, building or structure; (g) The excavation or the digging of any drain; and (h) A network utility or private infrastructure including underground pipes and cables with written approval from the public authority responsible for the regional flood management infrastructure.	

All zones	**(1) Activity status: PER** **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**
WWS-R14	Stormwater ponds or wetlands or alterations to stormwater ponds or wetlands, that serve more than one site, located within: (a) GRZ – General residential zone; (b) MRZ1 – Medium density residential zone 1; (c) RPZ – Rangitahi Peninsula zone; SETZ – Settlement zone; LLRZ – Large lot residential zone; RLZ – Rural lifestyle zone; Road and unformed road; and Identified Areas; and MRZ2 – Medium density residential zone 2.	
All specified in rule	**(1) Activity status: RDIS** **Activity-specific standards:** Nil.**Council's discretion is restricted to the following matters:** (a) The functional need and operational need of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects; (c) Road network safety and efficiency; (d) The risk of hazards to public or individual safety, and risk of property damage; and (e) The effects on downstream properties resulting from any changes for predevelopment hydrological conditions (including alteration of run-off frequency, volume and duration) (f) Effects on the specific values, qualities and characteristics of any Identified Area.	**(2) Activity status where compliance not achieved: n/a**
WWS-R15	Outfall structures located within an Identified Area	
All zones	**(1) Activity status: RDIS** **Activity-specific standards:** Nil. **Council's discretion is restricted to the following matters:** (a) The functional need and operational need of, and benefits derived from, the infrastructure; (b) Visual, streetscape and amenity effects; (c) Road network safety and efficiency;	**(2) Activity status where compliance not achieved: n/a**

	(d) The risk of hazards to public or individual safety, and risk of property damage; and (e) Effects on the specific values, qualities and characteristics of any Identified Area.	
WWS-R16	New capital works relating to regional flood management infrastructure, including but not limited to flood control dams, flood gates, stopbanks, channels, and culverting of waterways	
All zones	**(1) Activity status: RDIS** **Activity-specific standards:** Nil. **Council's discretion is restricted to the following matters:** (a) The extent to which adverse effects are avoided, remedied or mitigated.	**(2) Activity status where compliance not achieved: n/a**
WWS-R17	Any other activity that is not permitted under Rules WWS-R11 – WWS-R13 but complies with the activity specific standards in Rule WWS-R11(1)	
All zones	**(1) Activity status: RDIS** **Activity-specific standards:** Nil. **Council's discretion is restricted to the following matters:** (a) The extent to which the activity will affect the integrity of the flood control asset; (b) The extent to which the activity will impede maintenance access; (c) Methods to avoid, remedy, or mitigate adverse effects on the integrity of the flood control assets; and the effects on downstream properties resulting from any chagnes for pre-development hydrological conditions (inlcuding adverse alteration of runoff frequency volume and duration). (d) Methods to avoid, remedy, or mitigate adverse effects on maintenance access. Non-notification: Applications utilising Rule WWS-R17 that do not simultaneously trigger other consent requirements shall not be publicly notified and shall not be served on any party other than Council and the public authority responsible for the regional flood management infrastructure.	**(2) Activity status where compliance not achieved: n/a**
WWS-R18	Water treatment plants not located within road or unformed road	

All zones	**(1) Activity status: DIS**
WWS-R19	Wastewater treatment plants located within the following: (a) GIZ – General industrial zone; (b) HIZ – Heavy industrial zone; (c) MSRZ – Motor sport and recreation zone; (d) GRUZ – General rural zone; (e) RLZ – Rural lifestyle zone; (f) OSZ – Open space zone
As specified in rule	**(1) Activity status: DIS**
WWS-R20	Above ground reservoirs
All zones	**(1) Activity status: DIS**
WWS-R21	Water treatment plants located within the road and or unformed road
All zones	**(1) Activity status: NC**
WWS-R22	Wastewater treatment plants located within the following: (a) GRZ – General residential zone; (b) MRZ1 – Medium density residential zone 1; (c) RPZ – Rangitahi Peninsula zone; (d) LLRZ – Large lot residential zone; (e) SETZ – Settlement zone; (f) COMZ – Commercial zone; (g) TCZ – Town centre zone; (h) LCZ – Local centre zone; (i) BTZ – Business Tamahere zone; (j) Road and unformed road; ~~or~~ (k) Identified Area; or (l) MRZ2 – Medium density residential zone 2
As specified in rule	**(1) Activity status: NC**

NH – Natural hazards and climate change

The relevant area specific zone chapter provisions apply in addition to this chapter.

Overview

(1) The NH – Natural hazards and climate change chapter identifies risks associated with natural hazards and manages land use in areas subject to risk from natural hazards. It identifies areas where certain types of new development will be avoided because of the natural hazards present, but also recognises that there is existing development, including infrastructure, already located on land subject to natural hazards. These areas will require management through mitigation and adaptation to ensure that the risk of damage to property, or injury or loss of lives is not increased.

(2) This chapter sets out a two-tiered approach where natural hazard risk from subdivision, use and development is to be avoided within the following identified high risk natural hazard areas:

(a) High Risk Flood Area;

(b) High Risk Coastal Inundation Area; and

(c) High Risk Coastal Erosion Area.

(3) Outside of these areas, subdivision, use and development is provided for where natural hazard risk can be adequately avoided, remedied or mitigated and the risk is not exacerbated or transferred to adjoining sites and the management of natural hazard risk does not result in adverse stormwater effects on downstream properties, including erosion / scour and alteration of run-off frequency, volume and duration.

(4) ~~The following natural hazards areas have been identified and mapped in the District Plan~~

Overlay	Description
Flood hazards	
High flood risk area	Identifies areas within the floodplain where the depth of flood water in a 1% AEP flood event exceeds 1 metre and the speed of flood water exceeds 2 metres per second, or the flood depth multiplied by the flood speed exceeds one.
Flood plain management area	Identifies the 1% Annual Exceedance Probability (AEP) floodplain and has been developed through both 1D and 2D modelling, depending on the level of information available.
Flood ponding area	Identifies areas that experience floodwater ponding in a 1% AEP rainfall event.
Residual risk areas / Defended areas	Identifies areas of land that would be at risk from a natural hazard event if it were not for a structural defence such as a stop bank.
Coastal hazards	
High risk coastal inundation area / High risk coastal erosion area	Identify land where there is significant risk from either coastal inundation or coastal erosion with existing sea level and coastal processes.
Coastal sensitivity area (Erosion) / Coastal sensitivity area (Inundation)	Identify land that is potentially vulnerable to either coastal erosion or coastal inundation over a 100 year period to 2120, assuming a sea level rise of 1.0 metre.

Subsidence risk	
Mine subsidence risk area	Identifies an area where subsidence has occurred at Huntly due to former underground coal mining.

Objectives

NH-O1 High risk natural hazards areas.

In an identified high risk natural hazards area, the risks associated with natural hazards on people, property and infrastructure from subdivision, use and development of land are avoided.

NH-O2 Areas at risk from natural hazards.

Subdivision, use and development within areas at risk from natural hazards are managed so that natural hazard risks on people, property and infrastructure are avoided, remedied or mitigated.

NH-O3 Awareness of natural hazard risks.

Ensure communities respond effectively and efficiently to natural hazards.

NH-O4 Climate change.

Communities are well-prepared to adapt to the effects of climate change.

Policies

NH-P1 New development in areas at high risk from natural hazards.

(1) Avoid subdivision, use and new development in the following high risk natural hazard areas:

(a) High risk flood area;

(b) High risk coastal inundation area;

(c) High risk coastal erosion area,

where there is an increase in risk to people and property.

NH-P2 Changes to existing land use activities and development in areas at high risk from natural hazards.

In areas of High risk flood, High risk coastal erosion and High risk coastal inundation, ensure that when changes to existing land use activities and development occur, a range of risk reduction options are assessed, and development that would increase risk to people's safety, well-being and property is avoided.

NH-P3 Small scale non-habitable structures in areas subject to high risk from natural hazards.

Enable small scale accessory and farm buildings to be located within areas at high risk from natural hazards, including High risk flood, High risk coastal inundation and High risk coastal erosion, provided the risks to people, property and the environment beyond the site are managed to acceptable levels.

NH-P4 New emergency services and hospitals in areas at significant high risk from natural hazards.

Avoid locating new emergency service facilities and hospitals in areas which are at high risk from natural hazards, including High risk flood, High risk coastal inundation and High risk coastal erosion, unless, considering engineering and technical constraints or functional and operational requirements, they cannot be reasonably located elsewhere and will not increase the risk to or vulnerability of people or communities.

NH-P5 New and upgrading of infrastructure and utilities in areas subject to high risk from natural hazards.

(1) Enable the construction of new infrastructure, utilities and ancillary activities and upgrading of existing infrastructure and utilities, in areas at high risk from natural hazards, including High risk flood, High risk coastal inundation and High risk coastal erosion areas only where:

(a) The infrastructure and utilities are technically, functionally or operationally required to locate in areas subject to natural hazards, or it is not reasonably practicable to be located elsewhere; and

(b) Any increased risks to people, property and the environment are mitigated to the extent practicable; and

(c) The infrastructure and utilities are designed, maintained and managed, including provision of hazard mitigation works where appropriate, to function to the extent practicable during and after natural hazard events.

NH-P6 Existing infrastructure and utilities in all areas subject to natural hazards.

Provide for the operation, maintenance and minor upgrading of existing infrastructure and utilities in all areas subject to natural hazards.

NH-P7 Managing natural hazard risk generally.

(1) Outside of high risk natural hazard areas, provide for subdivision, use and development where:

(a) Natural hazard risk has been appropriately identified and assessed;

(b) The risk can be adequately avoided, remedied or mitigated;

(c) The risk does not transfer to adjoining or downstream sites and the management of risk does not result in increase erosion / scour and alteration of run-off frequency, volume and duration on downstream sites; and

(d) The risk is not exacerbated.

NH-P8 Protection from risks of coastal hazards. (e)

Recognise the importance of natural features and buffers, and soft hazard protection works, and prefer them wherever practicable over hard protection structures, where new hazard mitigation measures and/or works are required to protect people, property infrastructure and the environment from the risks of coastal hazards.

NH-P9 Limitations on hard protection works for coastal hazard mitigation.

(1) Ensure that where hard protection structures and works are proposed to protect existing development on public or privately−owned land from coastal hazards that the following is achieved:

(a) The structures have primarily a public and/or environmental benefit when located on public land;

(b) The structures are effective considering a range of coastal hazard events including the effects of climate change and the activities or development they are designed to protect;

(c) The economic, social and environmental benefits outweigh costs;

(d) Risk to people, property, infrastructure, the natural environment, historic heritage or Sites and Areas of Significance to Maaori is not transferred or increased;

(e) Structures are located as far landward as practicable; and

(f) Public access both to and along the coastal area and to the coastal marine area are provided for where the structure is located on public land

(2) Ensure that when new hard protection structures are to be located in an area where an adaptive management strategy has been prepared to manage coastal hazards, they are consistent with that strategy.

(3) Where adaptive management strategies have been prepared, plan change or resource consent processes should have regard to these strategies.

NH-P10 Natural features and buffers providing natural hazard protection.

(1) Protect, maintain and, where appropriate, enhance the integrity of natural features and buffers which provide a natural defence against the effects of natural hazards and sea level rise, including natural ponding areas, coastal dunes, intertidal areas, wetlands, waterbody margins, riparian/coastal vegetation and floodways.

(2) Enable natural systems to adapt and respond to natural coastal processes including the effects of climate change.

NH-P11 Areas defended by stopbanks adjacent to the Waikato River.

(1) Control subdivision, use and development in areas identified as Defended Areas adjacent to the Waikato River by:

(a) Assessing the potential risk of overtopping or structural failure of the stopbanks, and overwhelming of associated flood protection structures, before subdivision, use and development occurs; and

(b) Requiring that consideration be given to appropriate mitigation to reduce any residual risk identified to acceptable levels; and

(c) Ensuring that any residual risk is not transferred to neighbouring sites; and

(d) Recognising the functional needs and operational needs of the National Grid.

(2) Specify minimum setbacks for buildings and earthworks from stopbanks to:

(a) Protect the structural integrity of the stopbanks; and

(b) Provide a buffer to reduce the potential risk to life and damage to property from deep and fast-flowing flood waters in the event of a breach.

NH-P12 New development that creates demand for new protection structures and works.

Avoid locating new subdivision, use and development in High risk flood, High risk coastal inundation and High risk coastal erosion areas where a demand or need for new structural protection works will be required to reduce the risk from natural hazards to acceptable levels.

NH-P13 Reduce potential for flood damage to buildings located on the floodplains and flood ponding areas.

(1) Reduce the potential for flood damage to buildings located on floodplains and flood ponding areas by ensuring that the minimum floor level of building development is above the design flood levels/ponding levels in a 1% AEP flood event, plus an allowance for freeboard, unless:

(a) The building is of a type that is not likely to suffer material damage during a flood; or

(b) The building is a small-scale addition to an existing building; or

(c) The risk from flooding is otherwise avoided, remedied or mitigated.

NH-P14 Control filling of land within the 1% AEP floodplain and flood ponding areas.

Control filling of land within the 1% AEP floodplain and flood ponding areas to ensure that the potential adverse effects on flood storage capacity, overland flows, run-off frequency, volumes, and duration on surrounding or downstream properties or infrastructure, are avoided or mitigated.

NH-P15 Managing flood hazards through integrated catchment management.

(1) Manage flood hazards by requiring new subdivision and development within floodplains, flood ponding areas and overland flow paths to adopt integrated catchment plan-based management methods which:

(a) Maintain the function of natural floodplains, wetlands and ponding areas including flood storage capacity; and

(b) Retain the function and capacity of overland flow paths to convey stormwater run-off; and

(c) Do not transfer or increase risk or result in increased erosion / scour or run-off frequency, volume or duration elsewhere within the catchment; and

(d) Promote best practice stormwater management with reference to the Waikato Stormwater Management Guideline and the Regional Infrastructure Technical Specifications (RITS); and

(e) Minimise impervious surfaces.

NH-P16 Development in the coastal sensitivity areas.

(1) In coastal sensitive areas, control subdivision, use and development by ensuring that the subdivision, use and development is:

(a) Supported by a detailed site specific risk assessment, which includes measures to address the effects of climate change; and

(b) Designed, constructed and located to minimise the level or risk to people, property and the environment.

NH-P17 Setbacks from the coast.

Avoid increasing the risk from coastal hazards by requiring new built development to be set back from the coastal edge, unless there is a functional or operational need for facilities to be located at or near the coast.

NH-P18 Residential development and subdivision potentially subject to fire risk.

(1) In areas assessed or identified as being potentially subject to elevated fire risk, ensure that an appropriate design and layout, including a buffer area or setback, is provided around for new residential subdivision and development, and the following matters are considered:

(a) Access for emergency service vehicles;

(b) Provision of and access to emergency firefighting water supply;

(c) Separation and management of vegetation (with regard to slope, aspect, management regimes and use of less flammable vegetation); and

(d) The design and materials of any buildings.

NH-P19 Development on land subject to instability or subsidence.

Avoid locating new subdivision, use and development, including rezoning, on land assessed as being subject to, or likely to be subject to, instability or subsidence, unless appropriate mitigation is provided and the activity does not increase the risk to people, property or infrastructure.

NH-P20 Development of land in the Mine subsidence risk area

(1) On land identified within the Mine subsidence risk area, ensure that:

(a) An assessment by an appropriately qualified engineer occurs before subdivision, use or development takes place to confirm that the land is suitable for development; and

(b) Buildings are designed and constructed, and uses appropriate materials, to effectively minimise the risk of damage to the buildings from ground subsidence.

NH-P21 Stormwater management in areas subject to risk of land instability or subsidence.

(1) Avoid discharge of stormwater directly to ground on land that is potentially at risk of land instability or subsidence unless:

(a) An assessment has been undertaken by an appropriately qualified geotechnical specialist, indicating that the site is suitable for the proposed discharges; and

(b) Any adverse effects on the site and receiving environment can be appropriately mitigated.

(c) It would not divert or change the nature of natural water flows, water bodes or stabilised drainage paths including on downstream sites.

NH-P22 Liquefaction susceptible land risk assessment.

(1) On land assessed as potentially susceptible to liquefaction, ensure that:

(a) An assessment by a geotechnical specialist occurs before new subdivision, use or development takes place; and

(b) The level of assessment reflects the type and scale of the subdivision, use or development and the overall vulnerability of the activity to the effects of liquefaction; and

(c) The assessment confirms that the land is suitable for the proposed development.

NH-P23 Control activities on land susceptible to damage from liquefaction

Control subdivision, use and development on land assessed as being susceptible to liquefaction induced ground damage, to ensure that appropriate mitigation is provided so that the level of risk to people, property, infrastructure.

NH-P24 Natural hazard risk information.

(1) Enable people to be informed and have access to information on the natural hazards affecting their properties and surrounding area, including through:

(a) Provision of Land Information Memoranda;

(b) Natural hazard technical information, including the projected effects of climate change, risk registers and mapping on the Council's website, the Waikato Regional Council Hazards Portal, this district plan and accompanying planning maps;

(c) Education, provision of information and community engagement; and

(d) Alignment with the work of other agencies including iwi and the Waikato Regional Council.

NH-P25 Awareness of Community Response Plans.

Improve response to and recovery from natural hazard events by encouraging community awareness and use of information and methods contained in Community Response Plans.

NH-P26 Effects of climate change on new subdivision and development.

(1) Ensure that adequate allowances are made for the projected effects of climate change in the design and location of new subdivision and development including new urban zoning throughout the District, including undertaking assessments where relevant that provide for:

(a) The projected increase in rainfall intensity, as determined by national guidance, assuming a temperature increase of not less than 2.3°C by 2120;

(b) The projected increase in sea level, where relevant, as determined by national guidance and the best available information, but being not less than 1m by 2120;

(c) In respect to new urban zoning, stress testing under the RCP 8.5 scenario for rainfall[1] and RCP 8.5H+ for sea level rise[2];

[1] Stress testing under the RCP 8.5 scenario for rainfall, see Ministry for the Environment, 2018: Climate Change Projections for New Zealand. September 2018. Publication No. MFE 1385.
[2] Stress testing under the RCP 8.5H+ scenario for sea level rise, see Ministry for the Environment, 2017: Coastal Hazards and Climate Change – Guidance for Local Government. December 2017. Publication No. ME 1341.

(d) In respect to the coastal environment, increases in storm surge, waves and wind; and

(e) The ability for natural systems to respond and adapt to the projected changes included in (a) to (d) above.

NH-P27 Future land use planning and climate change.

(1) Increase the ability of the community to adapt to the effects of climate change when undertaking future land use planning by:

(a) Ensuring the potential environmental and social costs of climate change, including effects on indigenous biodiversity (inland migration), historic heritage, Sites and areas of Significance to Maaori, mahinga kai, public health and safety, public access to the coast and waterway margins, and the built environment are addressed;

(b) Encouraging the incorporation of sustainable design measures within new subdivision, land use and development, including:

(i) Low impact, stormwater management, urban design and green infrastructure;

(ii) Of relocatable buildings and structures in areas potentially at risk due to sea level rise or increased flood levels;

(iii) Efficient water storage;

(iv) Provision of renewable energy generation; and

(v) Transferring to activities with lower greenhouse gas emissions.

(c) Providing ongoing monitoring of changes to the environment due to climate change; and

(d) Facilitating community discussion on adaptive pathways to manage the risks associated with climate change and incorporating them, where appropriate, into the district plan through plan changes.

NH-P28 Precautionary approach for dealing with uncertainty.

In areas throughout the district likely to be affected by climate change over the next 100 years, adopt a precautionary approach towards new subdivision, use and development which may have potentially significant or irreversible adverse effects, but for which there is incomplete or uncertain information.

NH-P29 Provide sufficient setbacks for new development.

(1) Protect people, property and the environment from the projected adverse effects of climate change, including sea level rise, by providing sufficient setbacks from water bodies and the coast when assessing new development.

(2) Ensure that, in establishing development setbacks for new development, adequate consideration is given to:

(a) The protection of natural ecosystems, including opportunities for the inland migration of coastal habitats;

(b) The vulnerability of the community;

(c) The maintenance and enhancement of public access to the coast and public open space;

(d) The requirements of infrastructure; and

(e) Natural hazard mitigation provision, including the protection of natural defences.

NH-P30 Assess the impact of climate change on the level of natural hazard risks.

(1) For all new subdivision, use and development requiring rezoning or a resource consent, ensure that account is taken of the projected effects of climate change over the next 100 years when assessing any identified risks from natural hazards, and their effects on people, property, infrastructure and the environment.

(2) Ensure that, when assessing the effects of climate change on the level of natural hazard risk in accordance with Policy NH-P30(1) above, the allowances in Policy NH-26(1)(a)-(d) are applied.

(3) Where the assessment required by Policy NH-P30(1) indicates that natural hazards are likely to be exacerbated by climate change, ensure that subdivision and development are designed and located so that any increased and cumulative risk from natural hazards is managed to acceptable levels and any intolerable risks are avoided or reduced to tolerable or acceptable levels.

Rules

(1) The rules in this chapter apply alongside the National Environmental Standards for Electricity Transmission 2010 (NESETA).

(2) The rules in this chapter do not apply to:

(a) Any activity which is a regulated activity under the National Environmental Standards for Telecommunication Facilities 2016 (NESTF);

(b) Plantation forestry activities regulated under the National Environmental Standards for Plantation Forestry (NESPF).

Flood plain management area and Flood ponding area

NH-R1	Construction of a new building, or reconstruction of or an addition to an existing building, unless specified in Rules NH-R2 – NH-R6	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** (a) The minimum floor level is at least 0.5m above the 1% AEP flood level; and (b) Compliance with Standard NH-R1(1)(a) shall be demonstrated by a suitably qualified engineer with experience in hydrology.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Assessment of risk from the 1% AEP flood event; (b) Alternative locations within the site outside of the 1% AEP floodplain or flood ponding area; (c) The type of building development proposed and whether it is likely to suffer material damage during a flood;

		(d) Ability to manage risk through building materials, structural or design work, engineering solutions or other appropriate measures; and (e) Other mitigation measures to reduce the potential for flood damage to buildings.
NH-R2	Additions to an existing building that does not increase the ground floor area of the building by more than 15m²	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil	**(2) Activity status where compliance not achieved: n/a**
NH-R3	Standalone garage with a gross floor area not exceeding 40m²	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil	**(2) Activity status where compliance not achieved: n/a**
NH-R4	Construction of an accessory building without a floor	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil	**(2) Activity status where compliance not achieved: n/a**
NH-R5	Construction of a farm building without a floor	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil	**(2) Activity status where compliance not achieved: n/a**
NH-R6	Construction, replacement, repair, maintenance, minor upgrading or upgrading of utilities	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil	**(2) Activity status where compliance not achieved: n/a**
NH-R7	Earthworks associated with construction, replacement, repair, maintenance, minor upgrading or upgrading of utilities, including the formation and maintenance of access tracks.	

Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil	**(2) Activity status where compliance not achieved: n/a**
NH-R8	Earthworks to create a building platform for residential purposes	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Filling height is only to the extent necessary to achieve compliance with Rule NH-R1(1)(a).	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Timing, location and scale of earthworks; (b) Adverse effects on: (i) Existing overland flow paths and surface drainage patterns; (ii) Flood storage capacity; (iii) Runoff volumes; (iv) Adjoining properties, including the transfer of risk; (v) Infrastructure and flood protection works; (vi) Consideration of soil types and potential for erosion; and (c) Mitigation including compensatory storage, or other flood management measures proposed.
NH-R9	Earthworks not provided for under Rules NH-R7 or NH-R8	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: PER** **Activity-specific standards:** (a) In the GRZ – General residential zone, MRZ1 – Medium density residential zone 1, MRZ2 – Medium density residential zone 2, LLRZ – Large lot residential zone, SETZ – Settlement zone and RLZ – Rural lifestyle zone, a maximum volume of filling above natural ground level of 10m³ per site, and a maximum cumulative volume of filling and excavation of 20m³; or (b) In the GRUZ – General rural zone – a maximum volume of filling above natural ground level of 100m³ per site, and a	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Timing, location and scale of earthworks; (b) Adverse effects on: (i) Existing overland flow paths and surface drainage patterns; (ii) Flood storage capacity; (iii) Runoff volumes; (iv) Adjoining properties, including the transfer of risk; (v) Infrastructure and flood protection works;

	maximum cumulative volume of filling and excavation of 200m³ per site; or (c) All other zones – a maximum volume of filling above natural ground level of 20m³ per site, and a maximum cumulative volume of filling and excavation of 50m³ per site; and (d) Height and depth of earthworks in all zones: (i) A maximum height of 0.2m of filling above natural ground level; and (ii) a maximum depth of excavation of 0.5m below natural ground level. Advice note: where a site is located partly within the flood plain management area or flood ponding area this rule only applies to that part of the site within the flood plain management area or flood ponding area.	(vi) Consideration of soil types and potential for erosion; and (c) Mitigation including compensatory storage, or other flood management measures proposed.
NH-R10	Subdivision to create one or more additional vacant lot(s) other than a utility allotment, access allotment or subdivision to create a reserve allotment.	
Flood plain management area and Flood ponding area across all zones	**(1) Activity status: DIS**	

High risk flood area

NH-R11	Repair, maintenance or minor upgrading of existing utilities	
High risk flood area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**
NH-R12	Construction, replacement or upgrading of telecommunication lines, poles, cabinets and masts/poles supporting antennas	
High risk flood area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**
NH-R13	Construction, replacement or upgrading of electricity lines, poles, cabinets, and supporting structures	
High risk flood area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**

NH-R14	Construction of an accessory building without a floor;	
High risk flood area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**
NH-R15	Construction of a farm building without a floor.	
High risk flood area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**
NH-R16	New utilities not provided for in Rules NH-R12 or NH-R13	
High risk flood area across all zones	**(1) Activity status: RDIS** **Activity-specific standards:** Nil. **Council's discretion is restricted to the following matters:** (a) Functional and operational requirements to be located in the High risk flood area; (b) The adverse effects on people and property from establishing or upgrading the utility in the High risk flood area; (c) The potential for the development to transfer/increase flood risk to neighbouring properties; (d) Consideration of alternative locations; (e) Consideration of the projected effects of climate change; (f) Any mitigation measures to reduce the risk to people's safety, well-being and property.	**(2) Activity status where compliance not achieved: n/a**
NH-R17	Upgrading of existing utilities not provided for in Rule NH-R11	
High risk flood area across all zones	**(1) Activity status: RDIS** **Activity-specific standards:** Nil. **Council's discretion is restricted to the following matters:** (a) Functional and operational requirements to be located in the High risk flood area; (b) The adverse effects on people and property from establishing or upgrading the utility in the High risk flood area; (c) The potential for the development to	**(2) Activity status where compliance not achieved: n/a**

	transfer/increase flood risk to neighbouring properties; (d) Consideration of alternative locations; (e) Consideration of the projected effects of climate change; (f) Any mitigation measures to reduce the risk to people's safety, well-being and property.	
NH-R18	One addition to a lawfully established building existing at 17 January 2022, where the addition does not increase the ground floor area of the existing building by more than 15m^2, unless provided for in Rules NH-R17 or NH-R18	
High risk flood area across all zones	**(1) Activity status: RDIS** **Activity-specific standards:** Nil. **Council's discretion is restricted to the following matters:** (a) The ability to manage flood risk through appropriate building materials, structural or design work or other engineering solutions; (b) The setting of an appropriate floor level for the addition, taking into consideration the location of the addition and the floor level of the existing building; (c) Any mitigation measures to reduce the risk to people's safety, well-being and property.	**(2) Activity status where compliance not achieved: n/a**
NH-R19	Subdivision that creates one or more additional vacant lot(s) where: (a) The additional lot(s) are located entirely outside the High risk flood area; or (b) The additional lot(s) are partially within the High risk flood area and each additional lot(s) contains an area capable of containing a complying building platform entirely outside the High risk flood area. This rule does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.	
High risk flood area across all zones	**(1) Activity status: DIS**	
NH-R20	Construction of a new building or additions to an existing building, not provided for in Rules NH-R11 – NH-R18	
High risk flood area across all zones	**(1) Activity status: NC**	
NH-R21	Subdivision that does not comply with Rule NH-R19	

	This rule does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.
High risk flood area across all zones	**(1) Activity status: NC**
NH-R22	Emergency service facilities and hospitals
High risk flood area across all zones	**(1) Activity status: NC**

Defended area (Residual risk)

NH-R23	Activities are permitted activities within the Defended area identified on the planning maps, unless specified in Rules NH-R24 to NH-R26 below, or as otherwise specified in the relevant zone chapter or the Part 2 – District-wide matters chapters	
Defended area across all zones	**(1) Activity status: PER** **Activity-specific standards:** Nil.	**(2) Activity status where compliance not achieved: n/a**
NH-R24	Subdivision that creates one or more additional vacant lot(s). This rule does not apply to subdivision for a utility allotment, an access allotment or subdivision to create a reserve allotment.	
Defended area across all zones	**(1) Activity status: RDIS** **Activity-specific standards:** Nil. **Council's discretion is restricted to the following matters:** (a) The actual level of service provided by the structural defence and associated flood protection works, including any change in the level of service anticipated due to climate change and sea level rise; (b) The impact of any planned improvements, maintenance or upgrading on the residual risk; (c) The effect of groundwater levels and variability in ground conditions on stop-bank security at and adjacent to the site to be subdivided; (d) The likely depth and duration of flooding as a result of a breach or overtopping event or flood ponding; (e) The location of the subdivision, including services such as wastewater, water supply and roading/access (including escape	**(2) Activity status where compliance not achieved: n/a**

EW – Earthworks

The relevant area specific zone chapter provisions apply in addition to this chapter.

Objectives

EW-O1 Earthworks in all zones except the MRZ1 – Medium density residential zone 1.

Earthworks facilitate subdivision, use and development.

EW-O2 Earthworks in the MRZ1 – Medium density residential zone 1 and MRZ2 – Medium density residential zone 2.

Earthworks facilitate subdivision, use and development while avoiding, mitigating or remedying potential adverse effects.

Policies

EW-P1 Earthworks in the GRZ – General residential zone, M MRZ1 – Medium density residential zone 1, MRZ2 – Medium density residential zone 2, LLRZ – Large lot residential zone, SETZ – Settlement zone or OSZ – Open space zone.

(1) Manage the effects of earthworks to ensure that:

- (a) Erosion and sediment loss is avoided or mitigated;
- (b) Changes to natural water flows and established drainage paths are avoided, remedied or mitigated;
- (c) Adjoining properties and public services are protected;
- (d) The importation of cleanfill is avoided in the zone; and
- (e) Adverse effects on historic heritage are avoided.

(2) Earthworks are designed and undertaken in a manner that ensures the stability and safety of surrounding land, buildings and structures.

(3) Manage the amount of land being disturbed at any one time to avoid, remedy or mitigate adverse construction noise, vibration, dust, lighting and traffic effects.

(4) Subdivision and development occur in a manner that maintains fundamental shape, contour and landscape characteristics.

(5) Manage the geotechnical risks to ensure the ground remains sound, safe and stable for the intended land use.

EW-P2 Earthworks in the GRUZ – General rural zone, FUZ – Future urban zone, CORZ – Corrections zone or TTZ – TaTa Valley zone.

(1) Enable earthworks associated with rural or conservation activities including:

- (a) Ancillary rural earthworks;
- (b) Farm quarries;
- (c) The importation of controlled cleanfill material to a site; and
- (d) Indigenous biodiversity restoration.

(2) Manage earthworks to ensure that:

(a) Erosion and sediment loss is avoided or mitigated;

(b) The ground is geotechnically sound and remains safe and stable for the duration of the intended land use;

(c) Changes to natural water flows and established drainage paths are avoided or mitigated;

(d) Adjoining properties and infrastructure are protected;

(e) Historic heritage and cultural values are recognised and protected; and

(f) Ecosystem protection, restoration, rehabilitation or enhancement works are encouraged.

EW-P3 Earthworks in the RLZ – Rural lifestyle zone.

(1) Manage the effects of earthworks to ensure that:

(a) Erosion and sediment loss is avoided or mitigated;

(b) The ground is geotechnically sound and remains safe and stable for the duration of the intended land use;

(c) Changes to natural water flows and established drainage paths is avoided or mitigated.

(2) Manage the importation of fill material to a site.

(3) Appropriately manage the importation of cleanfill to a site.

(4) Manage the amount of land being disturbed at any one time to avoid, remedy or mitigate adverse construction noise, vibration, odour, dust, lighting and traffic effects.

(5) Subdivision and development occur in a manner that maintains shape, contour and landscape characteristics.

EW-P4 Earthworks in the LCZ – Local centre zone, COM – Commercial zone or TCZ – Town centre zone.

(1) Manage earthworks in the zone to minimise:

(a) The adverse effects and of sediment, of dust and stormwater runoff; and

(b) Adverse effects on heritage.

EW-P5 Earthworks in the MAZ – Mercer Airport zone.

Provide for the unique operational requirements of an airport whilst at the same time achieving appropriate levels of amenity for surrounding properties.

Rules

Land use – effects (zones specified in the first column)

EW-R1	Gardening or disturbance of land for the installation of fence posts	
All zones	**(1) Activity status: PER** **Activity specific conditions:** Nil.	**(2) Activity status where compliance not achieved: n/a**
EW-R2	Earthworks activities within the National Grid Yard	

	(iv) Where traffic associated with the work uses public roads, is managed in accordance with an approved Construction Traffic Management Plan or authorised in writing by Waikato District Council as the road controlling authority; and (v) Provided they are not within a kauri root zone. (b) Rules EW-R7 – EW-R10 and SASM-R4 do not apply to earthworks within PREC31-Lakeside Te Kauwhata precinct. Advice note: The Waikato Pest Management Plan addresses the management of identified pest species, including alligator weed. It includes enforceable controls relating to subdivision and land development in infected areas.	

MRZ1 – Medium density residential zone 1 and MRZ2 – Medium density residential zone 2

EW-R13	Earthworks – general	
MRZ1 – Medium density residential zone 1 and MRZ2 – Medium density residential zone 2	**(1) Activity status: PER** **Where:** (a) Earthworks (excluding the importation of fill material) within a site must meet all of the following standards: (i) Be located more than 1.5 m horizontally from any waterway, open drain or overland flow path; (ii) Not exceed a volume of 1000m³; (iii) Not exceed an area of 1ha over any consecutive 12 month period; (iv) The total depth of any excavation or filling does not exceed 1.5m above or below ground level; (v) The slope of the resulting cut, filled areas or fill batter face in stable ground, does not exceed a maximum of 1:2 (1 vertical to 2 horizontal);	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Amenity values and landscape effects; (b) Volume, extent and depth of earthworks; (c) Nature of fill material; (d) Contamination of fill material; (e) Location of the earthworks in relation to waterways, significant indigenous vegetation and habitats; (f) Compaction of the fill material; (g) Volume and depth of fill material; (h) Geotechnical stability; (i) Flood risk, including natural water flows and established drainage paths; (j) Land instability, erosion and sedimentation; and

	(vi) Earthworks must not result in any instability of land or structures at, or beyond, the boundary of the site where the land disturbance occurs; (vii) Areas exposed by earthworks are revegetated to achieve 80% ground cover within 2 months of the completion of the earthworks; (viii) Sediment resulting from the earthworks is retained on the site through implementation and maintenance of erosion and sediment controls and does not enter waterways, open drains or overland flow paths; and (ix) Do not divert or change the nature of natural water flows, water bodies or stablished drainage paths including on downstream sites; and (x) Provided they are not within a kauri root zone	(k) The risk of earthworks exacerbating Kauri dieback disease. (l) Storm water Management and Low Impact Design methods and avoiding adverse effects on downstream properties, including erosion / scour and alteration of run-off frequency, volume and duration.
EW-R14	Earthworks – general	
MRZ1 – Medium density residential zone 1 and MRZ2 – Medium density residential zone 2	**(1) Activity status: PER** **Where:** (a) Earthworks for the purpose of creating a building platform for residential purposes within a site, including the use of imported cleanfill material and imported fill material, must meet the following standards: (i) Be carried out in accordance with NZS 4431:1989 Code of Practice for Earth Fill for Residential Development; and (ii) Provided they are not within a kauri root zone	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (i) Amenity values and landscape effects; (ii) Volume, extent and depth of earthworks; (iii) Nature of fill material; (iv) Contamination of fill material; (v) Location of the earthworks in relation to waterways, significant indigenous vegetation and habitats; (vi) Compaction of the fill material; (vii) Volume and depth of fill material; (viii) Geotechnical stability; (ix) Flood risk, including natural water flows and established drainage paths; (x) Stormwater management and Low Impact Design methods and avoiding adverse stormwater effects on downstream properties, including erosion / scour and alteration of run-off frequence, volume and duration. (xi) Land instability, erosion and sedimentation; and

		(xi) The risk of earthworks exacerbating Kauri dieback disease
EW-R15	Earthworks – general	
MRZ1 – Medium density residential zone 1 and MRZ2 – Medium density residential zone 2	**(1) Activity status: PER** **Where:** (a) Earthworks for purposes other than creating a building platform for residential purposes within a site, using imported fill material must meet all of the following standards: (i) Not exceed a total volume of 50m³; (ii) Not exceed a depth of 1.5m; (iii) The slope of the resulting filled area in stable ground must not exceed a maximum slope of 1:2 (1 vertical to 2 horizontal); (iv) Earthworks must not result in any instability of land or structures at or beyond the boundary of the site where the land disturbance occurs; (v) Areas exposed by filling are revegetated to achieve 80% ground cover within 2 months of the completion of the earthworks; (vi) Sediment resulting from the filling is retained on the site through implementation and maintenance of erosion and sediment controls and does not enter waterways, open drains or overland flow paths; (vii) Do not divert or change the nature of natural water flows, water bodies or established drainage paths including on downstream sites; and (viii) Provided they are not within a kauri root zone	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Amenity values and landscape effects; (b) Volume, extent and depth of earthworks; (c) Nature of fill material; (d) Contamination of fill material; (e) Location of the earthworks in relation to waterways, significant indigenous vegetation and habitats; (f) Compaction of the fill material; (g) Volume and depth of fill material; (h) Geotechnical stability; (i) Flood risk, including natural water flows and established drainage paths; (j) Stormwater Management and Low Impact Design methods and avoiding adverse stormwater effects on downstream properties, including erosion / scour an alteration of run-off frequency, volume and duration. (k) Land instability, erosion and sedimentation; and (l) The risk of earthworks exacerbating Kauri dieback disease
EW-R16	Earthworks – general	
MRZ1 – Medium density residential zone 1 and MRZ2 – Medium	**(1) Activity status: NC** **Where:** (a) Earthworks involving the importation of controlled fill material to a site.	

density residential zone 2	

GRUZ – General rural zone

Advice note: the National Environmental Standards for Freshwater 2020 also contain rules relating to earthworks and apply in addition to the District Plan rules.

EW-R17	Ancillary rural earthworks	
GRUZ – General rural zone; CORZ – Corrections Zone; FUZ – Future urban zone; and TTZ – TaTa Valley zone	**(1) Activity status: PER** **Activity specific conditions:** (a) Provided they are not within a kauri root zone	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The risk of earthworks exacerbating Kauri dieback disease
EW-R18	A farm quarry	
GRUZ – General rural zone; CORZ – Corrections Zone; FUZ – Future urban zone; and TTZ – TaTa Valley zone	**(1) Activity status: PER** **Activity specific conditions:** (a) Where the volume of aggregate extracted does not exceed 1000m³ in any single consecutive 12 month period; (b) Earthworks are setback 5m horizontally from any waterway, open drain or overland flow path; and (c) Provided they are not within a kauri root zone.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Amenity values and landscape effects; (b) Volume, extent and depth of earthworks; (c) Nature of fill material; (d) Contamination of fill material or cleanfill; (e) Location of the earthworks to waterways, significant indigenous vegetation and habitat; (f) Compaction of the fill material; (g) Volume and depth of fill material; (h) Protection of the Hauraki Gulf Catchment Area; (i) Geotechnical stability; (j) Flood risk, including natural water flows and established drainage paths; (k) Land instability, erosion and sedimentation; and (l) Effects on the safe, effective and efficient operation, maintenance and upgrade of infrastructure, including access; and