

ROTORUA DISTRICT PLAN
TE PŪRONGO WĀHANGA 42A MŌ TE
PANONITANGA MAHERE TUAWARU E
TŪTOHUTIA ANA - SECTION 42A REPORT
FOR PROPOSED PLAN CHANGE 8
(NGA WHAKARITENGA MO NGA TURARU
A-TAIAO- NATURAL HAZARDS)

March 2026

ROTORUA
LAKES COUNCIL
Te Kaunihera o ngā Mata o Roturua



Contents

Executive Summary	4
1. Introduction	7
1.1 Purpose of Report.....	7
1.2 Qualifications and Experience of Reporting Officer	7
1.3 Declaration of Authors.....	9
1.4 Expert Evidence Relied Upon.....	9
1.5 Scope of Plan Change 8	9
1.6 Key Changes Proposed.....	10
2. Purpose and Context.....	12
2.1 Purpose of the Plan Change	12
2.2 District Plan Context	12
2.3 Statutory and Planning Context.....	13
2.3.1 National Policy Statement for Natural Hazards.....	13
2.3.2 Changes relating to Detached Minor Residential Units (“Granny Flats”).....	18
2.3.3 “Plan Stop” Amendment to the RMA.....	19
2.4 The Plan Change Process	20
2.5 Natural Hazard Context	20
2.5.1 Flooding.....	21
2.5.2 Wildfire.....	22
2.5.3 Fault Rupture.....	23
2.5.4 Land Stability	24
2.5.5 Geothermal Hazards.....	26
2.6 Key Hazard Information	28
2.7 Consultation and Engagement.....	34
2.8 Overview of Submissions.....	34
3. Evaluation of Submissions.....	35
3.1 Evaluation Requirements.....	35
3.2 Lakes A Zone Alignment.....	36
3.2.1 Existing Approach to Lakes A Zone and Proposed Amendments	36
3.2.2 Evaluation of Matters Raised in Submissions	36
3.3 Strategic Direction: Issues.....	37

3.3.1	Existing Issues and Proposed Changes	37
3.3.2	Evaluation of Submissions - Issues	39
3.4	Strategic Direction: Objectives and “Acceptable Risk”	39
3.4.1	Existing Objectives and Associated Definition of ‘Acceptable Risk’ and Proposed Changes39	
3.4.2	Evaluation of Submissions – Objective SNH-O1	40
3.4.3	Evaluation of Submissions – Definition of Acceptable Risk.....	43
3.4.4	Evaluation of Submissions – Objective SDNH-O2.....	45
3.5	Strategic Direction: Policies	47
3.5.1	Existing Policies and Proposed Changes.....	47
3.5.2	Evaluation of Submissions – Policy SDNH-P1	48
3.5.3	Evaluation of Submissions - Policy SDNH-P2.....	51
3.6	Explanation and Principal Reasons	52
3.6.1	Existing Explanation and Principal Reasons and Proposed Changes.....	52
3.7	Anticipated Environmental Results.....	53
3.7.1	Existing Anticipated Environmental Results and Proposed Changes	53
3.7.2	Evaluation of Submissions – Anticipated Environmental Results.....	53
3.8	Approach to Hazard Mapping.....	53
3.8.1	Existing Approach to Hazard Mapping and Proposed Amendments	53
3.8.2	Evaluation of Matters Raised in Submissions	54
3.9	Flooding Provisions.....	59
3.9.1	Existing Flooding Provisions and Proposed Amendments	59
3.9.2	Evaluation of Matters Raised in Submissions.....	64
3.10	Wildfire Provisions.....	94
3.10.1	Existing Wildfire Provisions and Proposed Amendments	94
3.10.2	Evaluation of Matters Raised in Submissions.....	98
3.11	Fault Rupture Provisions.....	105
3.11.1	Existing Fault Rupture Provisions and Proposed Amendments	105
3.11.2	Evaluation of Matters Raised in Submissions.....	108
3.12	Land Stability Hazards Provisions – Landslides, Liquefaction & Soft Soils.....	124
3.12.1	Existing Provisions and Proposed Amendments.....	124
3.12.2	Evaluation of Matters Raised in Submissions.....	129
3.13	Geothermal Hazards Provisions.....	134
3.13.1	Existing Geothermal Provisions and Proposed Amendments.....	134

3.13.2	Evaluation of Matters Raised in Submissions.....	139
3.14	Other Changes	152
3.14.1	Matters of Control/Discretion and Assessment Criteria	152
4.	Conclusion.....	154
	Bibliography	155
	Appendices.....	156
	Appendix 1: Comparison of Proposed Building Importance Typology with other Approaches	1
	Appendix 2: Further Consideration under Section 32AA for Specific Recommendations	1
	Appendix 3: Recommended Changes to District Plan Maps.....	1
	Appendix 4: Recommended Changes to the District Plan Text.....	1
	Appendix 5a: List of Submitters and Submitter ID#	1
	Appendix 5: Recommended Decisions on Submissions.....	1

EXECUTIVE SUMMARY

Purpose and Scope of Proposed Plan Change 8 (PC 8)

Proposed Plan Change 8 (“PC 8”) reviews how the Rotorua District Plan (including the Lakes A Zone) manages natural hazard risk. Its scope includes the strategic objectives for all natural hazards but it focuses on policies and rules for flooding, wildfire, fault rupture, land instability, and geothermal hazards. The plan change:

- Updates objectives, policies, rules, definitions and hazard management methods.
- Extends natural hazard provisions to the Lakes A Zone for consistency.
- Removes hazard maps from the District Plan (except for geothermal systems).

Expressly out of scope are policies and methods to manage volcanic hazards, stormwater management requirements, vegetation clearance rules, hazardous substances storage, and dam safety provisions.

Fifty-eight submissions and thirteen further submissions were received. Below is a summary of the key issues raised and the recommended responses.

1. Lakes A Zone Alignment

Submitters broadly supported aligning Lakes A Zone hazard provisions with district-wide provisions, though some feared confusion from cross-referencing two plan structures.

Key recommendations:

- Retain alignment: extend strategic objectives, policies and rules to the Lakes A Zone.
- Reject suggestion for a standalone Lakes A natural hazards framework.

2. Approach to Hazard Mapping

Submitters were split between retaining hazard maps in the District Plan and relying on external GIS layers. Key concerns related to accuracy, natural justice, and ability to challenge updates. Others emphasised opportunities for flexibility and the use of the “best available information” from retaining maps outside the District Plan.

Key recommendations:

- Retain PC 8’s approach: most hazard mapping should *not* be in the District Plan, except for geothermal systems and a new Lake Ōkāreka resilience area, as explained below.
- Maintain Geyserview as the source of updated information, with case-by-case engagement for significant updates.

3. Strategic Direction & “Acceptable Risk”

The submitters generally supported the proposed focus on acceptable risk. Some requested a hazard “risk hierarchy” (low/medium/high) or replacement of “low risk”

with “minor risk”. Others wanted clearer links to the National Policy Statement for Natural Hazards.

Key recommendations:

- Retain SDNHO1 as “risks are acceptable” but amend the definition so acceptable risk = “minor risk”.
- Do not introduce a rigid risk hierarchy.

4. Flooding

Submitters sought changes to the proposed flooding provisions, regarding the triggers for requiring a flood risk assessment, the clarity of policy direction, and the guidance for flood risk assessment provided in the policies and matters of discretion. There was also concern about the applicability of rules to building conversions. For Lake Ōkāreka, there was strong community concern about the suitability of the 2022 Lakes Design Level Report for implementation of the District Plan.

Key recommendations:

- Retain the existing risk-based framework introduced in earlier Plan Change 9, which uses the 300 mm depth threshold in a 1%AEP event with climate change as the point at which full flood risk assessment is required for buildings, as it remains the most practical and technically supported measure.
- Introduce a clearer response to building conversions by linking requirements to changes in building importance level.
- Introduce a bespoke “High Lake Level Resilience Area” around Lake Ōkāreka within the 355.33 m elevation (Moturiki Datum). Within this area, low importance buildings, replacement buildings and additions are enabled, while intensification and new higher importance buildings require discretionary consent.

5. Wildfire Provisions

Submitters had mixed views on whether and where firefighting water supply standards should apply outside urban reticulated areas.

Key recommendations:

- Retain proposed targeted application to denser rural zones - Lakes A settlement areas and Rural 2 and 3 Zone.

6. Fault Rupture Provisions

Submitters generally supported the proposal to remove outdated fault mapping but were concerned about uncertainty in fault location and ensuring a proportional approach to risk.

Key recommendations:

- Replace mapped fault overlays with a “Fault Rupture Hazard Area” definition informed by the NZ Active Faults Database.
- Create a “Possible Fault Rupture Hazard Area” for uncertain faults.

- Refine the rule framework using fault certainty, building importance levels and recurrence interval thresholds.

7. Land Stability Hazards

Some submitters opposed stricter earthworks performance standards proposed for the Rural 1 Zone and Industrial 2 Zone.

Key recommendations:

- Further refine the earthworks performance standards for Rural 1 Zone and Industrial 2 Zone based on distance from boundary.

8. Geothermal Hazards

Some submitters questioned the geothermal hazard management approach introduced by Plan Change 9, which requires a geothermal hazard and mitigation assessment to accompany any building consent. Others sought refinements to address exemptions for small building additions, gaps in the rules for building conversions, and the treatment of minor residential units. Several submitters also requested broader recognition of Māori cultural co-existence with geothermal activity.

Key recommendations:

- Retain the Plan Change 9 framework, requiring a geothermal hazard and mitigation assessment to be submitted, but allow it to be submitted either at the same time as a building consent or Project Information Memorandum (PIM), and extend this approach to all geothermal systems across the district.
- Maintain the requirement for site-specific geothermal hazard assessments for buildings larger than 20 m², while retaining the exemption for additions ≤20 m² from this requirement.
- Amend policy wording to broaden acknowledgement of Māori cultural co-existence with geothermal activity, ensuring cultural significance is considered when assessing whether risks are acceptable.

It is recommended that the Hearing Panel adopts PC 8 with amendments, as detailed in the report's recommended tracked changes and list of planning map changes.

1. INTRODUCTION

1.1 Purpose of Report

1. This report has been prepared under section 42A of the Resource Management Act 1991 (“RMA”) to assist the Hearings Panel in considering submissions and further submissions on Proposed Plan Change 8 – Natural Hazards (PC 8) to the Rotorua District Plan.
1. The purpose of this report is to:
 - a. Identify and summarise the key issues raised in submissions and further submissions;
 - b. Assess those matters against the relevant statutory and policy framework; and
 - c. Provide recommendations to the Hearings Panel on whether submissions should be accepted, accepted in part, or rejected.

1.2 Qualifications and Experience of Reporting Officer

2. This report has been prepared by:
 - d. Kim Smith, Senior Policy Planner, Rotorua Lakes Council; and
 - e. Simon Thurston, Senior Policy Planner, Rotorua Lakes Council.
3. Kim Smith has evaluated the submissions and made recommendations with respect to flooding, fault rupture, land stability and geothermal hazards and the approach to hazard mapping. Simon Thurston has evaluated the submissions and made recommendations with respect to wildfire. Other sections and recommendations in this report were prepared jointly.
4. We have led PC 8 for Rotorua Lakes Council including scoping and consultation. We authored the Section 32 Report, with responsibilities for sections equivalent to those for this report.

Statement of Experience – Kim Smith

5. I, Kim Smith, have over twenty years’ experience in local government policy, primarily in District Plan development. I have a strong interest in natural hazard policy and have previously led work in this area, including:
 - a. Leading the natural hazard components of Plan Change 9 (“PC 9”) to the Rotorua District Plan, introducing provisions to manage flooding and geothermal hazards.
 - b. Developing District Plan changes for Gisborne District Council to introduce hazard mapping for coastal hazards and flooding.
 - c. Leading Gisborne District Council’s response to private plan change requests in areas affected by natural hazard constraints.
6. Beyond District Plan development, I have additional experience in natural hazard management, including:
 - a. Leading the development of *Identifying and Designing for Geothermal Hazards: Guidelines for Buildings and Associated Site Works in Rotorua District* (RLC, June 2024) and contributing

to guidance for building near active faults on behalf of Rotorua Lakes Council's Building Team.

- b. Supporting Rotorua Lakes Council to meet its obligations for natural hazard information on LIMs and participating in an inter-council working group on natural hazards and LIM processes.
 - c. Contributing to Rotorua Lakes Council submissions on legislative and national policy changes relating to natural hazards.
 - d. Contributing to natural hazard constraint analysis to support spatial planning.
7. I have also procured natural hazard mapping and risk assessment research to support policy development across a wide range of hazards, including fluvial and pluvial flooding, coastal flooding, tsunamis, coastal erosion, active faults, and liquefaction.

Statement of Experience – Simon Thurston

8. I, Simon Thurston, have worked in planning and resource management for more than fifteen years. My experience spans both resource consent processing and policy planning, with involvement across a wide range of statutory and strategic planning processes. I have a strong interest in urban planning and matters of importance to iwi, and I bring substantial local knowledge to my work, having been born and raised in Rotorua.
9. In the past several years, my work has included participation in Rotorua Lakes Council submissions on legislative and national policy changes and involvement in Environment Court mediation processes. I have also contributed to planning responses on national direction and regulatory reform affecting urban development, housing supply, and natural hazard management.
10. In addition to these responsibilities, I have extensive experience in the following areas:
- a. Resource consent processing for complex land use and subdivision proposals, with a particular focus on residential development.
 - b. Assessment and preparation of District Plan changes, including those intended to better enable residential development and give effect to national planning direction.
 - c. Issues of significance to Māori, including papakāinga development and recognition of cultural values in planning processes.
11. My recent work has focussed on major strategic planning projects for Rotorua, including:
- a. The Housing and Business Capacity Assessment (HBA), prepared in accordance with the National Policy Statement on Urban Development 2020.
 - b. The Draft Rotorua Future Development Strategy (FDS), where I was part of the team responsible for preparing and evaluating spatial growth options for the district.
 - c. PC 9 – Housing for Everyone, where I was one of the planners responsible for developing the Intensification Planning Instrument and led the drafting of the section 32 and section 42A evaluation relating to papakāinga.

1.3 Declaration of Authors

1. We, the authors, confirm that we have reviewed and understand the expert witness code of conduct as outlined in the Environment Court Practice Note 2023. We agree to adhere to this code of conduct.
2. Furthermore, we have taken into account any relevant facts that may affect or challenge the opinions expressed in this report. We confirm that the opinions expressed in this report are our own, unless otherwise specified that we have relied on external sources to form our opinion.
3. However, we acknowledge that, during the hearing, new evidence, information, or other matters may arise that could impact our opinion and subsequent recommendations. As such, we reserve the right to modify our opinion, in whole or in part, based on any such new developments.

1.4 Expert Evidence Relied Upon

1. The table below details the supporting technical evidence that has informed our evaluation of the submissions.

Subject	Author & Agency	Date
Flood Hazards - Lakes	Peter Cochrane, Tonkin & Taylor Ltd.	March 2026
Flood Hazard – Specific Mapping Concerns	Simon Aiken, Tonkin & Taylor Ltd.	March 2026
Geothermal and Land Stability Hazards	John Brzeski, Tonkin & Taylor Ltd.	March 2026
Flood Hazard Information for Rule Implementation	Paula Meredith, Rotorua Lakes Council.	March 2026
Fault Rupture Hazard	Kelvin Berryman, Berryman Research & Consulting Ltd.	March 2026

2. Further reports referred to in the preparation of this report are provided in the bibliography.

1.5 Scope of Plan Change 8

1. PC 8 addresses natural hazards across the whole Rotorua District. For the strategic direction, it is intended to address all natural hazards, while the hazard-specific objectives, policies and methods are limited in scope to a defined set of hazards. These are flooding, wildfire, fault rupture, land instability (ground condition hazards, including soft and compressible soils and liquefaction, and slope stability/landslides), and geothermal hazards.
2. Volcanic hazards, while recognised as significant in the Rotorua District, are not addressed through PC 8 due to the current absence of hazard mapping and risk information. Erosion is addressed only where it relates directly to slope stability; broader erosion-related matters such as sedimentation and water quality are outside the scope of the plan change.

3. Except where explicitly limited, PC 8 is intended to provide a comprehensive review of the District Plan provisions relating to the management of the hazards listed above. The plan change was informed by identified issues, but it is acknowledged that submissions may raise additional matters not anticipated at the time of notification.
4. Several matters relevant to natural hazards have been deliberately excluded from the scope of PC 8. These are stormwater management requirements for subdivisions and development, restrictions on vegetation disturbance, the management of hazardous substance storage, and dam design. These matters are addressed through other regulatory frameworks, require consideration of objectives beyond natural hazard management, or are intended to be considered through future work programmes.

1.6 Key Changes Proposed

1. Key proposals in PC 8 are summarised in the Section 32 Report as follows:

1. **Strategic objectives and policies:**

- Replacing strategic objectives and policies to focus on acceptable risk, resilience to climate change, and best practice principles for decision-making (SDNH-O1, SDNH-O2, SDNH-P1, SDNH-P2).

2. **Flooding:**

- a. Removing objectives applying only to the Waikato Region and instead relying on the amended strategic objectives for the whole district.
 - b. Retaining flood hazard mapping outside the District Plan to enable consideration of the best available information in consenting decisions.
 - c. Continued support for the two-pronged approach to manage building in flood prone areas in policy NH-PA and NH-R4, which was developed under PC 9. This involves minimum floor level standards in areas where anticipated flooding is less severe and the requirement for resource consent and a flood risk assessment for building in areas where anticipated flooding is more severe. Clarification through an amendment to Policy NH-PA, that resource consent can be declined if an acceptable level of risk is not demonstrated.
 - d. A new rule for buildings and structures, and a new earthworks performance standard, to protect neighbouring land from changes in overland flowpaths in more intensely developed zones (NH-R5 and EW-S1(g)).
 - e. Extending the existing and proposed policies and rules for managing flooding in the Natural Hazards Chapter to the Lakes A Zone.
 - f. Adding natural hazards as a matter of discretion to existing restricted discretionary activity rules that require consent for buildings near waterbodies (NATC-R3(7) and (8)).

3. **Wildfire**

- a. Inclusion of a definition of wildfire in the District Plan.
 - b. Refining firefighting water supply standards in Rural Zones so they apply at land use as well as subdivision, but limiting requirements to the more densely populated Rural 2 Zone and Rural 3 Zone, and the Lakes A Zone's Settlement Management Area and Bush Settlement Management Area (RURZ-S5A, SUB-S9(3), Rule 34.0).

- c. A new policy, which would also apply to the Lakes A Zone, to acknowledge the use of firefighting water supply to assist in mitigating the risks of wildfire; and which also seeks to encourage (rather than require) further consideration and mitigation of wildfire through subdivision design in Rural Zones and at the urban-rural fringe (NH-P6).

4. Fault Rupture:

- a. Removing the mapping of fault traces and the Fault Avoidance Overlay from the District Plan.
- b. Retaining the existing rules (NH-R1 – NH-R3) for building in a Fault Avoidance Overlay but applying them to a new 'Fault Rupture Hazard Area', which is defined rather than a mapped overlay. Identification of this area would be supported by mapping outside the District Plan.
- c. Adding a policy to the Natural Hazards chapter to acknowledge the management of fault rupture through land use rules and subdivision (NH-PAA).
- d. Extending the policy and land use rules for fault rupture in the Natural Hazards chapter to the Lakes A Zone.

5. Land Stability (Ground Condition and Slope Stability) Hazards:

- a. Removing soft soil and landslide susceptibility mapping from the District Plan.
- b. Reducing the permitted volume, cut face and fill depth thresholds in the performance standards for permitted earthworks in Industrial Zones, Business and Innovation Zones, and the Rural 1 Zone (EW-S1(1)).
- c. Reducing and clarifying the scope of the exceptions from the need to comply with earthworks performance standards for earthworks associated with subdivision and building platforms (EW-S1(4)).
- d. Replacing Policy NH-P1 with a new policy to acknowledge assessment of land stability at subdivision, and applying this policy to the whole district, including the Lakes A Zone.

6. Geothermal Hazards:

- a. Extending the requirement for assessment of geothermal hazards and mitigation options, which currently applies only to the Rotorua Geothermal System, to other geothermal systems (NH-R8).
- b. Amending Rule NH-R8 to enable assessment, as a restricted discretionary activity, of geothermal hazard risks to new buildings and large additions exempt from the requirement to obtain building consent.
- c. Amending the policy addressing the co-existence of Māori settlements with geothermal hazards so that it can apply more broadly across the district and directs consideration of this matter when considering whether risks are acceptable (NH-P3).
- d. Extending geothermal rules and policies to the Lakes A Zone.

2. PURPOSE AND CONTEXT

2.1 Purpose of the Plan Change

1. The Section 32 Report for PC 8 explains that, by progressing this plan change, Rotorua Lakes Council (“**RLC**”) seeks to improve the management of natural hazards through the District Plan to promote resilience to natural hazards, the purpose and principles of the RMA, and to give effect to higher-order planning documents that guide the District Plan. At the same time, RLC also seeks to:
 - Improve certainty for those undertaking development about how natural hazards are managed and the potential costs of management.
 - Improve efficiency, where possible, to reduce costs to developers; and
 - Promote fairness and equity by more targeted rules and costs, where possible.
2. During the preparation and notification of PC 8 new national direction and major reforms of the RMA had already been signalled by the Government. RLC decided to proceed with notification of PC 8 despite the emerging national direction and upcoming legislative reform because:
 - There was a need to address issues with the existing District Plan, including outdated fault hazard mapping.
 - Consultation material on the national direction suggested it would provide high level principles and risk assessment but District Plans would continue to provide the detailed policies and rules.

2.2 District Plan Context

1. Development in Rotorua is managed through the Rotorua District Plan, most of which became operative on 10 July 2016 following a full review. In July 2021, the District Plan was restructured in part to align with the National Planning Standards. The Plan has also been amended through a number of plan changes, most recently PC 9 – Housing for Everyone, which was notified in August 2022 and introduced the Medium Density Residential Standards (MDRS) and made a number of changes relating to natural hazards.
2. The District Plan includes the Lakes A Zone, which applies to land surrounding the Rotorua lakes, as shown in Figure 2.2.1. The Lakes A Zone provisions were developed in the late 1990s and early 2000s and made operative in 2005, earlier than much of the remainder of the District Plan, and were incorporated as a discrete planning framework. As a result, the Lakes A Zone contains its own objectives, policies and rules, and has not been comprehensively updated through subsequent plan changes or at the time of the 2021 restructuring.

otherwise covered, or from applying a more conservative approach to managing the natural hazard risks covered by the NPS-NH (Part 1.3(4)).

3. The NPS-NH has a concise set of objectives and policies, which are set out in full below.

2.1 Objective

(1) Natural hazard risk to people and property associated with subdivision use and development is managed using a risk-based proportionate approach.

2.2 Policies

Policy 1: When considering natural hazard risk associated with subdivision, use or development, the risk level must be assessed using the risk matrix.

Policy 2: Natural hazard risk associated with subdivision, use and development must be managed using an approach that is proportionate to the level of natural hazard risk.

Policy 3: Where subdivision, use or development is assessed as having very high natural hazard risk, that risk must be avoided.

Policy 4: Where subdivision, use or development, including any associated mitigation measures, will create or increase significant natural hazard risk on other sites, that risk must be avoided or mitigated using an approach that is proportionate to the level of natural hazard risk.

Policy 5: Natural hazard risk assessment and decisions must be based on the best available information and must be made even when that information is uncertain or incomplete.

Policy 6: The potential impacts of climate change to at least 100 years into the future must be considered.

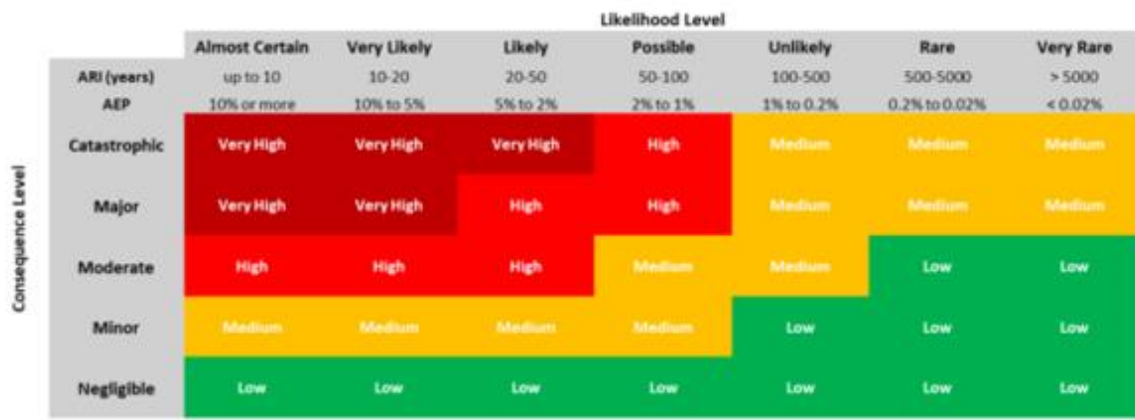
4. The objectives and policies are similar to those foreshadowed in the consultation material released by the Ministry prior to the adoption of the NPS-NH and considered in the Section 32 Report. Two key differences are:
 - The risk avoidance policy (Policy 3) tightens the language around when risk must be avoided with no qualifiers around functional need or mitigation to tolerable levels (although mitigation is required to be considered when assessing risk under the risk matrix).
 - The policy addressing exacerbation of risk on other sites (Policy 4) no longer requires avoidance of exacerbation of significant risks on other sites but instead requires that the risk is avoided or mitigated proportionate to the level of natural hazard risk.

Application to Plan Changes

5. In our view these objectives and policies apply to both plan-making and the assessment of resource consents. The RMA requires any proposed district plan or plan change to be prepared in accordance with a national policy statement (s74(1)(a)). Accordingly, Plan Change 8 must establish a framework that gives effect to the objectives and policies of the NPS-NH, while recognising that certain matters may appropriately be assessed in more detail at the development and resource consent stage.

Approach to Risk Assessment

6. The risk matrix and supporting tables referred to in Policy 1 are contained in Appendix 1 and copied below:



Note: The top end of the likelihood range includes the top end year, that is: Likely = over 20 years and up to and including 50 years.

Likelihood level	Annual exceedance probability (AEP)	Average recurrence interval (ARI) or “return period”
Almost certain	10% or more	Up to and including 10 years
Very likely	10% to 5%	Over 10 and up to and including 20 years
Likely	5% to 2%	Over 20 and up to and including 50 years
Possible	2% to 1%	Over 50 and up to and including 100 years
Unlikely	1% to 0.2%	Over 100 and up to and including 500 years
Rare	0.2% to 0.02%	Over 500 and up to and including 5,000 years
Very rare	Less than 0.02%	More than 5,000 years

Consequence Level	Damage to Property	Potential for Injury or Fatalities
Catastrophic	Severe damage to land and building(s), potential for collapse or total destruction of structures. Building(s) need to be demolished, rebuilt or relocated.	High threat to life safety, with probable fatalities and/or critical injuries.
Major	Major damage to land and building(s), including structural damage. Loss of use and substantial repair required.	Unsafe for people, with potential for many injuries, or critical injuries and/or fatalities.
Moderate	Some damage to land and non-structural damage to building(s). Limited loss of use, repairs required.	Unsafe for people, with potential for injuries, although expected to be minor.
Minor	Minor damage to land and building(s). No loss of use, minimal repairs required.	Isolated minor injuries possible.
Negligible	No loss of use, no building repairs required.	No injuries.

Figure 2.3.1.1 Risk Matrix and Supporting Tables from the NPS-NH

7. Further guidance about the risk-based assessment is found in Part 3.2, which clarifies that existing and proposed mitigation measures are to be considered as well as residual risk that arises when design thresholds of any existing and proposed mitigation measures are exceeded.
8. The NPS-NH also contains a definition of 'significant risk' (the management of which is a matter of national importance under section 6 of the RMA). This is defined as risk assessed as medium, high or very high using the risk matrix.
9. No material differences between the risk assessment approach foreshadowed in the consultation material and the final NPS-NH have been noted. Risk was considered under the NPS-NH methodology in the Section 32 Report. Section 2.5 of this report provides a further risk assessment for each hazard is, which builds upon the previous assessment. This finds that flooding in Rotorua has the potential to approach thresholds of "very high" risk in certain circumstances. Land stability hazards are more difficult to categorise due to lack of probabilistic information, but it is accepted that development on some sites might have "very high" risk.
10. The potential for very high-risk scenarios from flooding is addressed through the rule framework in PC 8 and recommended changes, which require site-specific risk assessment where hazard severity is elevated, enables refusal of consent where acceptable risk cannot be demonstrated, and incorporates hazard-specific triggers for more stringent controls (see Section 3.9). For land stability hazards, PC 8 recognises that the Building Act plays an important role in mitigating the risk to buildings and seeks to work alongside this process to avoid "very high" risk by requiring building platform standards and geotechnical investigations at subdivision and performance standards for earthworks (see Section 3.12).

Relationship to Regional Policy Statements

11. The RMA requires both that a plan change be prepared in accordance with a national policy statement (section 74(1)(a)) and that district plans are to give effect to regional policy statements (section 75(3)(a)). Inconsistent language and approaches to risk in these higher-level planning documents and guidance create a complex context for decision-making for PC 8.
12. The NPS-NH expressly recognises that decision-makers are not precluded from applying a more stringent approach to managing natural hazard risk. This signals that RPS provisions are not rendered invalid or inoperative simply because they are more specific or stringent than the proportional, risk-based approach required under the NPS-NH for hazards. Where, however, the NPS-NH requires a stricter management approach, specifically in the case of avoidance of very high risk, this should prevail over that in a regional policy statement.
13. Accordingly, PC 8 needs to give effect to the RPS, while using the NPS-NH's risk-based methodology to inform when those avoidance outcomes are triggered.

Reconciling the Approach to Risk with Regional Policy Statements

14. Under the NPS-NH, the scale at which natural hazard risk is assessed is at the individual subdivision, use or development. A detailed matrix is provided to establish the risk level. Direction as to the minimum acceptable outcome is provided only in relation to very high natural hazard risk, which the policies require to be avoided. Otherwise, risk is to be managed using a risk-based and proportionate approach.

15. By contrast, Policy NH-3B of the BOPRPS establishes management outcomes at the hazard zone scale. Under that policy, hazard zones with low risk are to be managed so that risk remains low; hazard zones with medium risk are to be managed to reduce risk to as low as reasonably practicable; and hazard zones with high risk are to be managed to reduce risk. The purpose of the risk assessment in this context is therefore to identify areas where district plan provisions must either work to reduce risk, or at least avoid increases in risk, through the management of development. This is conceptually different from the NPS-NH, which focuses on the risk outcomes associated with a specific development proposal.
16. Policy NH-4B of the BOPRPS, like the NPS-NH, is directed at the development site scale. However, the outcome sought differs: Policy NH-4B requires that a low level of risk is achieved on development sites following completion of development. The policy does not, however, prescribe a method for assessing risk at the development scale, nor does it define what constitutes “low risk”. As the BOPRPS predates the NPS-NH, it is not considered that the reference to “low risk” in Policy NH-4B equates directly to the “low risk” category in the NPS-NH risk matrix. However, in our view, the NPS-NH can provide guidance as to the matters to be considered in assessing risk at the development scale (potential damage to property and the potential for injury or fatalities), alongside factors identified for the hazard-zone scale in the regional policy statement (the criticality of building function and the time over which functionality may be compromised).
17. The WRPS (operative May 2016) adopts a conceptual risk framework, defining risk in terms of likelihood and consequence and identifying three levels of risk—intolerable, tolerable and acceptable—which broadly align with contemporary risk management practice. However, the definitions and policies do not provide a specific method for assessment of risk levels.
- *Intolerable: risk which cannot be justified and risk reduction is essential e.g. residential housing being developed in a primary hazard zone;*
 - *Tolerable: risk within a range that a community can live with so as to secure certain net benefits. It is a range of risk that is not regarded as negligible or as something to ignore, but rather as something to be kept under review and reduced if possible; and*
 - *Acceptable: risk which is minor, and the cost of further reducing risk is largely disproportionate to the benefits gained e.g. residential housing being developed beyond coastal setbacks.*
18. Policies HAZ-P1 to HAZ-P3 establish direction on levels of risk to be achieved, including avoiding the creation of new intolerable risk, reducing existing intolerable risk, and managing subdivision, use and development so that natural hazard risks do not exceed acceptable or tolerable levels.
19. The Waikato RPS also includes specific direction in relation to high-impact, low-probability natural hazard events and climate change, reinforcing the need to consider personal safety, community resilience, response and recovery, and the long-term effects of climate change when managing land use in hazard-prone areas.
20. In addition, decision-makers on PC 8 may have regard to non-statutory guidance on natural hazard risk and risk outcomes issued by agencies such as the Ministry for the Environment (in the case of Fault Rupture Hazards), provided that such guidance is applied in a manner that does not conflict with its other obligations. Section 74(2) of the RMA expressly provides that, in preparing or changing

a district plan, a territorial authority may have regard to such other matters as it considers appropriate. It is considered that such guidance is useful in providing potential direction for development-scale risk assessment.

21. In summary, PC 8 is required to consider risk at different scales. At the development scale, PC 8 needs to be designed to avoid very high risk as assessed under the NPS-NH for hazards within its scope – flooding, fault rupture, landslides and liquefaction. It must also take a risk-based proportionate approach to hazard management more generally for the hazards within the scope of the NPS-NH, while also giving effect to the BOPRPS's and WRPS's requirements to manage development to achieve low (Bay of Plenty) or acceptable/tolerable (Waikato) risk. The detail of how this is to be implemented can be informed by non-statutory guidance. The types of consequences addressed in the NPS-NH and regional policy statements also provide a guide for focus.
22. PC 8 must also consider risk at the wider 'hazard zone' scale and whether the District Plan needs to contribute to risk reduction (or at least avoid an increase) of risk in these areas to achieve compliance with the BOPRPS.

Required Standard of Hazard Information

23. As some submitters express concern about the standard of hazard information, we set out our understanding of the NPS-NH on this point.
24. Policy 5 of the NPS-NH requires that decisions be made using the *best available information* and that they must still be made even where that information is uncertain or incomplete. We consider that this makes it clear that decisions (which we consider include decisions on this plan change) are not expected to wait until perfect or fully certain information is obtained. In other words, the policy supports the position that decisions can be made even though the best type of information potentially conceivable may not be available. This makes sense for natural hazards where some degree of uncertainty is inherent and often unavoidable, and information is often improved from what was available at the time of policy development through site-specific investigations.
25. At the same time, we do not consider that Policy 5 removes the obligation on Councils to consider what level of information is reasonable to obtain before making a policy decision.

2.3.2 Changes relating to Detached Minor Residential Units (“Granny Flats”)

1. An amendment to the Building Act 2004, which introduces an exemption from the building consent process for certain small stand-alone dwellings (“granny flats”), was enacted in October 2025. Related national environmental standards (the National Environmental Standards for Detached Minor Residential Units or “NES-DMRU”) were released on 15 December 2025 and introduce a permitted activity framework for detached minor residential units. Together, these instruments provide legislative context that was foreshadowed but not known in detail at the time the plan change proposal and submissions were prepared. Both changes came into force on 15 January 2026.
2. Key aspects of these legislative changes are summarised below.

Changes to the Building Act 2004

3. From 15 January 2026, certain small stand-alone residential dwellings may be constructed without a building consent, although an owner may elect to apply for a consent (section 42B Building Act 2004).

4. To qualify for the exemption, certain criteria must be met, including that the building (section 42B and Schedule 1A Building Act 2004):
 - Is stand-alone,
 - is single storey,
 - has a floor area of no more than 70m²,
 - complies with prescribed height and lightweight material requirements, and
 - is designed and constructed by appropriately licensed professionals
5. The exemption is only available where the building work is carried out on land that is not subject to a natural hazard (within the meaning of section 71(3), which includes “inundation (including flooding, overland flow, storm surge, tidal effects, and ponding)”), or if a natural hazard is or is likely to be present, or the construction is likely to accelerate, worsen or result in a natural hazard on the land or any other property, building work is not carried out unless adequate provision is made to protect the land, building work, or other property from the natural hazard (section 42B Building Act 2004).
6. The Project Information Memorandum (PIM) process becomes a key mechanism for natural hazard management in this context. The PIM identifies whether the land is subject to natural hazards and records matters relevant to the suitability of the land for the proposed building work, including information held by the Council on natural hazards (sections 42B and 35A Building Act 2004).

National Environment Standards for Detached Minor Residential Units

7. The NES-DMRU sets out permitted activity standards for one minor residential unit per site that is detached from the principal residential unit relating to maximum floor area (70m²), minimum separation from principal residential unit, yards and site coverage. These standards prevail over more restrictive district plan provisions but a district plan may be more lenient (clauses 6 and 9, NES-DMRU).
8. However, district plan standards and rules relating to specific matters continue to apply (clause 7, NES-DMRU). Importantly for natural hazards, this clause expressly preserves:
 - rules and standards that deal with matters of national importance under section 6 (which includes the management of significant risks from natural hazards); and
 - rules and standards that manage effects relating to health and safety, including those relating to any natural hazard risk not already taken into account under subclause (2)(b) (for example, minimal floor level requirements to manage flooding effects).
9. These changes have relevance to submissions seeking use of the Building Act as an alternative to District Plan provisions, for example in relation to fault rupture, and will be considered further in that context.

2.3.3 “Plan Stop” Amendment to the RMA

1. The Resource Management (Consenting and Other System Changes) Amendment Act 2025 introduced a “Plan Stop” amendment, restricting notification and decisions on most RMA plan changes from August 2025, pending introduction of the new resource management system. However, automatic exemptions from the “plan stop” restrictions were provided for certain types of planning instruments, including those that relate to natural hazards. RLC gave public notice that PC 8

was not affected by the “plan stop” provisions with its notification for further submissions in October 2025.

2.4 The Plan Change Process

1. PC 8 is a standard district plan change prepared and processed in accordance with Schedule 1 of the RMA.
2. The development of PC 8 prior to public notification involved the following key steps:
 - Review of natural hazards literature relating to the Rotorua district.
 - Notice to iwi of the intention to develop a plan change and its potential scope, and invitation for discussion.
 - Review of iwi management plans, regional policy statements, the national adaptation plan, national guidance and the district plans of territorial authorities, including neighbouring territorial authorities.
 - Interviews with technical experts, regional councils, local planners, land-development engineers, and geo-professionals.
 - Development of an options paper to aid further discussion with and feedback from the above technical experts.
 - Workshops on flooding and wildfire with RLC staff, technical advisors and technical experts from other councils.
 - Circulation of a draft section 32 report to iwi for feedback, including an invitation for discussion, and follow up meetings with iwi authorities that responded.
3. The table below summarises the key statutory steps and associated timeframes undertaken following the public notification of PC 8.

Step	Date
Public Notification for Submissions (clause 5, Schedule 1 RMA).	19 July 2025
Submissions Period Closed (clause 6, Schedule 1, RMA).	8 September 2025
Public Notice of Submissions & Opportunity for Further Submissions and status under “Plan Stop” Amendment to the RMA (clause 7, Schedule 1, RMA).	17 October 2025
Further Submissions Period Closed (clause 8 and 8A, Schedule 1, RMA) Closed	31 October 2025

2.5 Natural Hazard Context

1. The issues and strategic objectives reviewed in this plan change address natural hazards in general. However, the detailed objectives, policies, and methods focus on six hazards: flooding, wildfire, fault rupture, ground condition hazards, slope stability, and geothermal hazards. These hazards reflect the unique physical characteristics of the Rotorua District, including its lakes, geothermal systems, and active fault lines.

2.5.1 Flooding

Flood Hazards in Rotorua

1. Flooding in the Rotorua District occurs primarily through three mechanisms: high lake levels, river and stream overtopping (fluvial flooding), and surface water accumulation during heavy rainfall (pluvial flooding). High lake levels typically follow prolonged wet periods, while fluvial flooding results when rivers exceed their channel capacity, spilling onto adjacent land. Pluvial flooding occurs when intense rainfall overwhelms drainage systems, often affecting areas far from rivers or lakes.
2. Climate change is expected to intensify fluvial and pluvial flooding due to more frequent and extreme rainfall events (Bodeker, 2002). Lake flooding may respond more slowly to climate shifts because lake levels are affected by long-duration climatic periods that may be less impacted by climate change, but some increase in hazard is expected (BOPRC, 2022).

Hazard Mapping

3. Flood hazards have been or are being mapped in various studies commissioned by RLC and BOPRC, as detailed in the Section 32 Report and Section 2.6 of this report. This work focuses on areas around Rotorua city, the catchments of Lake Rotorua and high lake levels.
4. Recently, the NZ National Flood Tool¹ published by Earth Sciences NZ (previously NIWA) has provided greater understanding of other areas also potentially exposed, such as Reporoa.
5. Waikato Regional Council (“**WRC**”) is also currently developing region-wide flood mapping.

Flooding Risk Assessment

6. As noted in the Section 32 Report, a comparison of flood modelling depth and velocity results for the 1%AEP event with climate change (focused around the urban area and Lake Rotorua) to the NPS-NH risk matrix suggests that many existing developments are at ‘medium’ or higher levels of risk from flooding. This provides a signal that future development may also be subject to a range of risks requiring at least a risk-based proportional approach in accordance with the NPS-NH.
7. Given that consequences of flooding can be potentially severe (major and catastrophic) at fairly high likelihoods (taking into account climate change as required), it is foreseeable that some development could be subject to even “very high” risk, which must be avoided for consistency with the NPS-NH.
8. An assessment at the hazard zone scale (as promoted by the BOPRPS) was commissioned by RLC for four urban catchments in Rotorua city, which found all four to be ‘high risk’ due to the potential for the functionality of social/cultural and critical buildings to be compromised (and the high weight given to this factor in the assessment methodology). High risk was potentially also triggered in two of the eastern catchments (Lynmore and Lynmore-Ōwhata) on the basis of compromise of buildings more generally. However, as there was limited information about floor level, this could not be confirmed with certainty (Popovich and Paulik, 2021).
9. A risk assessment for the Utuhina Catchment ‘hazard zone’ was also prepared by Bay of Plenty Regional Council (“**BOPRC**”) as part of the evidence presented on Plan Change 2 (Pukehāngi Heights), which also found a ‘high’ level of risk.

¹ <https://niwa.maps.arcgis.com/apps/dashboards/8c1db2b8e37841f29a57a38675388897>

10. These risk assessments confirm that development in many areas will need to be managed with a view to reducing the risk within the 'hazard zone' they are located to meet the requirements of the BOPRPS.

Focus for intervention for flooding

11. We support managing the land use activities identified in the Section 32 Report as the potential areas for focus in the District Plan, that is,
 1. Increasing exposure – placing more assets and people in areas susceptible to flooding.
 2. Changing the ground surface – changes in vegetation and/or impervious surfaces can increase stormwater runoff and reduce groundwater recharge, altering the natural hydrological cycle resulting in more frequent flooding and higher flood peak flows.
 3. Diverting flows – changing the natural flow of water over the land through earthworks or placement of structures.
 4. Reducing flood storage – filling in areas that store water in floods with structures or earthworks so that less water is stored, and flood levels increase.

2.5.2 Wildfire

Wildfire Hazard in Rotorua

1. Wildfires are uncontrolled fires in natural areas, often sparked by human activity such as pile burns, discarded cigarettes, and open flames.

Risk Assessment

2. Wildfire has the potential to cause damage to people, property, vegetation and ecosystems.
3. As noted in the Section 32 Report, it is difficult to assess the risk of fire in the Rotorua district and the priority to give to its management. The detailed frameworks for risk assessment in the BOPRPS and NPS-NH do not apply to wildfire. As also noted in the Section 32 Report, the risk of any one hectare being affected (based on historic data) is low and the hazard in the Rotorua district may be less than many other places in New Zealand (Macara and Sutherland, 2004). However, climate change is expected to increase the risk of wildfires in New Zealand (Bodeker, G, et al., 2002; Fire and Emergency New Zealand, July 2024). Some factors also raise the potential for increased fire risk in some locations such as proximity to geothermal scrublands and location of development on sunny, exposed slopes.
4. As concluded in the Section 32 Report, we consider that, while current wildfire risks in the Rotorua District do not appear high relative to other natural hazards, the risk profile is expected to worsen in the future which warrants consideration of the sufficiency of existing planning controls.

Focus for Intervention for Wildfire

5. We support the identification of land use factors that influence risk in the Section 32 Report:
 - Increasing population – as noted above, human activities cause most ignition. Examples of common ignition-causing activities in the Rotorua District identified in the recent workshop were pile burns (associated with lifestyle property owners, farming and marae activities), and fur burning associated with pig hunting.
 - Siting of vulnerable assets, including residential units – relative to the areas more susceptible to wildfire outlined above.

- Vegetation management around vulnerable assets – to reduce the risk of fire ignition and spread to the asset.
- Quality of vehicle access – whether suitable for emergency vehicles and egress in the event of an emergency.
- Access to water for firefighting – limited water sources can delay or inhibit response and increase the risk of fire spreading.
- Remoteness – wildfire can spread and intensify if there is a delay in detection or response with remote sites at greater risk.
- Characteristics of occupants and whether they can easily evacuate e.g. whether they have access to vehicles or whether they have disabilities.

2.5.3 Fault Rupture

Fault Rupture Hazards in Rotorua

1. Rotorua District contains numerous active faults, marking areas where the ground has ruptured in the past and may do so again. These faults are concentrated in rural areas south of Rotorua city, giving the district the highest fault density in New Zealand. Fault activity here is generally low to moderate compared to the country’s fastest-moving faults (Morgenstern and Villamor, 2025 and Villamor et. Al., 2010).

Fault Hazard Mapping

2. As detailed in the Section 32 Report, District-wide active fault hazard mapping by GNS (now Earth Sciences NZ) was completed in 2010, which forms the basis of District Plan maps. In 2024 GNS completed updated district-wide mapping, but this has not been incorporated into the District Plan. Site-specific studies have been ongoing and the 2024 GNS update included a review of such studies. The 2024 mapping was also incorporated into the New Zealand Active Faults Database (High-Resolution version) available at <https://data.gns.cri.nz/af/>.

Risk Assessment

3. Fault rupture can cause severe structural damage to buildings and infrastructure, leading to injuries or fatalities.
4. The Section 32 Report identifies that fault rupture is a “medium” risk for development under the NPS-NH across all active faults. This is because, although “major” or “catastrophic” consequences are expected, the probabilities are not sufficient to trigger higher risk. It is noted that building design presents an opportunity to reduce life safety consequence levels but the overall risk relating to exposed buildings is likely to remain “medium” because, realistically, life safety will be prioritised in building design over avoidance of substantial repairs.
5. The management required at the development scale is, therefore, a risk-based proportional approach under the NPS-NH; acceptable/tolerable risk under the WRPS and achievement of low risk under Policy 4B of the BOPRPS (noting acceptable/tolerable risk and low risk are not defined in the regional policy statements).
6. At the hazard zone scale under the BOPRPS, the Section 32 Report explains that active faults are unlikely to be “high risk” because:

- The long recurrence period of faults means even catastrophic consequences do not trigger high risk under the primary analysis.
 - It is unlikely that the *average* annual fatality risk in a hazard zone would be triggered under the secondary when factors such as fault recurrence interval and past performance of typical buildings are achieved.
7. The Section 32 Report also recognised that special circumstances might trigger high risk, such as a substantial proportion of buildings in the chosen “fault avoidance zone” that are not typical timber-framed buildings and that may not respond well to fault rupture.
 8. The final risk level will depend on how hazard zones are drawn and the ability to make a conclusion with confidence is limited by a lack of recurrence interval information across many faults. In my view, it is reasonable to conclude that the relevant management outcome for active faults under the BOPRPS (considered collectively as one “hazard zone”) is to reduce the risk to as low as reasonably possible (medium risk).

Focus for Intervention for Fault Rupture

9. We agree with the Section 32 Report that the key ways in which land use can influence risk—and therefore provide a useful focus for management—are:
 - **Changing exposure** - The location of vulnerable activities and assets including buildings and infrastructure determines the exposure to fault rupture hazards.
 - **Building and Infrastructure Design** - Design influences vulnerability. For example, it was found that single-story, regularly shaped, timber-framed houses fare well in response to fault rupture in the Kaikoura earthquake (Van Dissen et al., 2019).

2.5.4 Land Stability

Land stability hazards in Rotorua

1. Land stability hazards in the Rotorua district include ground condition hazards. Soft soils like peat, silts, and clays are common near lakes, floodplains, and swamps, where they can compress under load and cause uneven settlement and structural damage. Liquefaction can also occur in loose, saturated soils during strong earthquakes, temporarily reducing soil strength and causing ground deformation and lateral spreading. Areas near lakes, streams, floodplains, and reclaimed or poorly compacted land are particularly susceptible.
2. The Section 32 Report noted that of the 348 geotechnical reports in a database of geotechnical assessments for development sites in Rotorua developed by Tonkin & Taylor, 315 reported a ground condition hazard. This suggests that these hazards are prevalent in areas commonly developed in the Rotorua District.
3. Land stability hazards also include landslides, which can be triggered by earthquakes, intense rainfall, groundwater changes, or long-term weathering. The Section 32 Report explained that, while the Rotorua District is not as renowned for landslides as some other districts, landslides have nonetheless been an issue for some sites and, on occasion, earthquakes or heavy rainfall can trigger events with hundreds of landslides.
4. Climate change is expected to increase the frequency and intensity of rainfall-triggered landslides due to more extreme storm events.

Land Stability Hazard Mapping

5. In 2010 GNS mapped areas with potential for soft soils in the district using existing geological maps and a small number of site investigation reports (Dellow, 2010) and this work is included in District Plan maps (hardcopy map 209). The associated report notes that soft ground areas may still exist in all zones and recommends that further site-specific investigation (using a scala penetrometer) be carried out at development stage.
6. In 2021, Tonkin & Taylor Ltd completed a regional liquefaction vulnerability assessment for the BOPRC, mapping areas where liquefaction damage is “unlikely”, “possible”, or “undetermined” across most of the Bay of Plenty region and the part of the Rotorua district within the Waikato region (Tonkin & Taylor, 2021). The maps are publicly available through regional and district council online mapping tools but have not been incorporated into the District Plan. The assessment was undertaken in general accordance with the national liquefaction guidance to a Level A (desktop) standard (MfE and MBIE, 2017). At this level, the mapping does not define liquefaction vulnerability at a property scale and is primarily used for identifying where liquefaction is unlikely. Most of the Rotorua urban area is mapped as “undetermined”, with smaller areas identified as “possible” (including areas identified for housing growth in the Future Development Strategy). Only limited areas are mapped as “unlikely”.
7. A national liquefaction model is currently being developed for the Natural Hazards Commission by Tonkin & Taylor to support national loss modelling. While this work may provide more refined susceptibility mapping that could reduce investigation requirements for some sites, its future application for regulatory or District Plan purposes is yet to be confirmed.
8. In 2010 GNS produced landslide susceptibility mapping for the Rotorua District (Dellow, 2010b), which was adopted into the District Plan (hardcopy Map 211). The study is based on desktop information (geology and topography-slope angle) and provides relative susceptibility classes, from ‘very low’ to ‘very high’. In 2024 a similar landslide susceptibility study commissioned from WSP by BOPRC was published, which also covers the whole Rotorua District (WSP, 2024). A comparison of these studies found that, overall, the WSP study is more comprehensive and uses more up to date data (Tonkin & Taylor, 18 December 2024). Like other susceptibility maps, these studies are intended as a ‘flag’ to broadly identify where further site-specific consideration is needed. They focus on the source area for landslides and do not address the area affected by runout, slope setback or debris flows. BOPRC is currently working to develop case studies of landslide susceptibility mapping that also include runout and regression including a case study on the slopes of Mount Ngongotahā. We also understand that the WRC is pursuing landslide susceptibility mapping, which would likely cover the Waikato part of the Rotorua district.
9. As noted in the Section 32 Report, site-specific ground condition data has been, and continues to be, collected to support building and resource consent applications. This data can help inform site specific assessments of ground conditions in the vicinity. It can potentially also inform hazard susceptibility research and mapping at larger scales for city/district/regional studies, etc.

Risk Assessment for Land Stability

10. Land stability hazards can result in damage to buildings and infrastructure. There can also be substantial economic and social consequences at the community scale given that extensive damage

can be suffered in one event (e.g. a large earthquake triggering liquefaction and/or landslides or large rainfall event triggering multiple landslides).

11. As current land stability hazard information is limited to susceptibility-type information, it is difficult to confidently provide an estimate of the level of risk at the site specific or “hazard zone” scale across the Rotorua District using the matrices in the NPS-NH or BOPRPS. It is also not possible, on the information available, to provide an estimate of the potential average annual individual probability of fatality at this scale (in accordance with the BOPRC secondary analysis methodology). Risk is very site specific, and it is considered more useful to assess at development. However, it is accepted that the risk to development on some sites could approach “very high”, which requires avoidance under the NPS-NH.
12. We also note several national guidance documents are of assistance for considering risk:
 - Liquefaction guidance (MfE & MBIE, 2017): National planning and engineering guidance issued under s175 of the Building Act to support compliance with both the Building Act and the RMA. It sets out a staged liquefaction risk assessment process of increasing complexity for different development scenarios, based on the likelihood and severity of liquefaction-induced ground damage for 100-year and 500-year earthquake events, informed by mapped liquefaction vulnerability.
 - Slope stability guidance (NZGS, 2024): The New Zealand Geological Society’s Slope Stability Geotechnical Guidance Series provides best-practice guidance for assessing slope stability at the individual slope scale to support geo-professional assessments and consenting decisions. It outlines appropriate investigation levels and expertise requirements and builds on established methodologies, including the Australian Geomechanics Society (2007) landslide risk management framework.
 - Landslide risk and land use planning (GNS, 2024): GNS guidance on reducing landslide risk through land use planning sets out acceptable and tolerable individual and societal risk thresholds from the literature and promotes planning controls aligned to risk level. It describes landslide susceptibility mapping as a minimum screening tool to identify areas that do not require further assessment.

Focus for Intervention for Land Stability Hazards

13. We agree with the Section 32 Report that the focus for potential intervention is the location of buildings and how buildings and infrastructure are designed, as both can increase or reduce vulnerability. For landslides, activities such as earthworks, drainage changes, and altered runoff can also exacerbate risk and therefore require careful management. However, vegetation disturbance and stormwater management remain outside the scope of this plan change.

2.5.5 Geothermal Hazards

1. Geothermal activity in the Rotorua District is associated with a number of geothermal hazards, which are highly site-specific:
 - **Geothermal Surface Features** (mudpools, geysers, steam vents, etc.) contain hot fluids and can eject material, sometimes unpredictably, with periods of increased and reduced activity.
 - **Heated ground**, which can vary from a few degrees above ambient to boiling temperatures at shallow depths.

- **Geothermal gases and fluids** emitted from point sources or diffusely through the ground can contain noxious chemicals such as H₂S and CO₂. The gases can also be corrosive.
 - **Ground instability** due to chemical and physical processes in geothermal systems that weaken soil and rock, decrease the ability to support loads and potentially cause ground collapse.
 - **Hydrothermal eruptions** in geothermal areas can range significantly in size, ejecting material distances of only several metres to several kilometres. They are most likely to occur in areas where there are already high levels of geothermal activity (surface features)
 - **Geothermal Infrastructure** while perhaps not a 'natural' hazard, bores and geothermal infrastructure also present a potential hazard because their deterioration or failure can give rise to hazards such as the emergence of hot ground, gas emissions and surface features.
2. Cultural values associated with geothermal areas add another layer of complexity, requiring planning approaches that respect Māori connections to these landscapes.

Geothermal Hazards Risk Assessment

3. Geothermal hazards can cause injury, damage to buildings and infrastructure, corrosion of materials, and in rare cases, fatalities. Heated ground and gases can also create uncomfortable or unhealthy living environments. Geothermal hazards are not subject to the risk assessment methodologies of the BOPRPS or NPS-NH and it is difficult to quantify or qualify the risks experienced.
4. The evidence shows that geothermal gases have the potential to kill, with fourteen deaths from hydrogen sulphide (H₂S) gas recorded in Rotorua City since 1946. While alarming, the likelihood when considered across the geothermal system is still low. Site-specific risk will vary depending on land conditions and use but is not readily quantifiable. We are not aware of any documented fatalities from gas exposure in geothermal systems outside of Rotorua City.
5. In terms of chronic health impacts, little is known about the effects of long-term exposure from gases or the extent of any health effects from overly heated buildings. While we have heard anecdotal reports of difficulties associated with heated ground, we are only aware of one incident where heat has been the primary reason for abandoning a building.
6. As noted in the Section 32 Report, geothermal risk is cumulative in nature, as multiple geothermal hazards often coincide spatially. This is particularly relevant in longstanding Māori settlements such as Ōhinemutu and Whakarewarewa, where occupation has historically occurred near geothermal features.
7. We consider the risk assessment *Geothermal hazard risk review for residential dwellings and their occupants in Rotorua City* (Tonkin & Taylor, 2022) continues to provide a useful resource for this plan change, although it was written for the context of residential intensification in Rotorua city specifically.

Focus for intervention for Geothermal Hazards

8. We continue to support the activities listed in the *Geothermal hazard risk review for residential dwellings and their occupants in Rotorua City* (Tonkin & Taylor, 2022) as a focus for risk management with respect to the District Plan, that is:
- Building near geothermal features, which increases exposure by placing people and structures close to hazardous areas which may be affected by unexpected discharges from

surface features and are more likely to be subject to other hazards such as ground instability, geothermal gases, heated ground and, in rare cases, hydrothermal eruptions.

- Creation of confined spaces in geothermally active areas through building and site development, which presents risks of creating confined spaces where geothermal gases could enter.
- Expansion of impervious surfaces in geothermal areas, which can alter geothermal processes and concentrate gas emissions into confined spaces, including on neighbouring properties.
- Building on or near geothermal bores, which can deteriorate and emit damaging or noxious material/gases.
- Building on unstable ground.

9. We also note that evidence suggests other activities at risk but we consider these activities better addressed by other methods:

- The most widespread geothermal-related risk (or probably better described as ‘issue’) in the Rotorua District is accelerated corrosion and reduced durability of buildings and infrastructure. This is a well-known and pervasive issue but is primarily addressed through the Building Act rather than land use controls under the District Plan.
- While injuries associated with geothermal surface features are not comprehensively recorded, they appear sufficiently common to warrant active management in areas of high geothermal activity, particularly for visitors. This risk is generally managed through access controls, operational management and other non-plan mechanisms.
- Geothermal bathing pools were implicated in several deaths but are managed under the Rotorua Lakes Council Geothermal Bylaw 2016.

2.6 Key Hazard Information

1. The table below summarises key sources of mapped hazard information relevant to implementation of the District Plan, their status in the District Plan, and whether they are published on Council’s online mapping tool “Geyserview”.

Table 2.6.1 – Key Hazard Information

Key sources of information	Outputs	Currency and Review	Status - Existing District Plan	Status – PC 8	Geyserview
Flooding					
RLC’s urban flood models ²	Max flood depth 1%AEP incl. climate change. Some provide hazard classifications	Current – continual improvement and extension.	Not currently included in the DP but used for implementation of Rule NH-R4.	PC 8 proposes to retain current approach and not include mapping in the DP.	Yes
BOPRC’s Greater Utuhina Catchment Model. ³	Max flood depth 1%AEP incl. climate change with freeboard.	Current.	Not currently included in the DP. Assists to inform risk assessments required under Rule NH-R4.	PC 8 proposes to retain current approach and not include mapping in the DP.	Yes
BOPRC’s 2022 Rotorua Lakes Design Levels Report ⁴	Design levels for high lake levels, incl. with freeboard (levels converted into spatial polygons by RLC).	Current.	Not included in the DP but used for implementation of Rule NH-R4 Note: 2%AEP levels from earlier report were previously included but removed by PC 9.	PC 8 proposes to retain current approach and not include mapping in the DP. See however bespoke approach proposed for Lake Ōkāreka in response to submissions.	Yes
Other BOPRC hazard models with spatial mapping outputs – Waingaehe and Puarenga (Emerging)	TBC	Emerging – expected 2026.	Not included in the DP but expected to inform implementation of Rule NH-R4 once available.	PC 8 proposes to retain current approach and not include flood mapping in the DP.	Intention is to publish when available.

² Various reports, refer to <https://www.rotorualakescouncil.nz/property-building-bins/district-plan/planning-resources>. Mapping published on Geyserview.

³ [DHI, 2021](#); [DHI, 2022](#). Mapping published on Geyserview.

⁴ [BOPRC, 2022](#). RLC’s mapped polygons are published on Geyserview.

Key sources of information	Outputs	Currency and Review	Status - Existing District Plan	Status – PC 8	Geyserview
WRC's regional flood hazard model.	TBC	Emerging – expected 2026.	Not included in the DP but expected to inform implementation of Rule NH-R4 once available, once site-specific checks complete.	PC 8 proposes to retain current approach and not include flood mapping in the DP.	TBC
Earth Sciences NZ's (formerly NIWA's) National Flood Tool. ⁵	Max flood depths 1%AEP inc. climate change but in broad bands and not suitable for use at property scale.	Current.	Not included in the DP but assists to identify where flood hazard information may be needed to inform compliance and implementation of Rule NH-R4	Not suitable or proposed for inclusion in the District Plan.	No
RLC's indicative overland flowpath mapping from topographical data. ⁶	Indicative locations of overland flowpaths categorised by catchment size.	Current but highly indicative, subject to ongoing improvement.	Not included in the DP but assists with consideration of risk assessments required under Rule NH-R4 and subdivision.	PC 8 proposes to retain current approach and not to include overland flowpath maps in the District Plan. Also expected to inform implementation of new standards relating to overland flowpaths.	No due to accuracy limitations
Development-specific information	Development-scale flood models; property-specific flood level calculations.	Developed on a case-by-case basis	Not included in the DP but can supplement flood hazard mapping to help inform DP implementation.	PC 8 does not include this information in the DP.	No.

⁵ <https://niwa.co.nz/hazards/ma-te-haumaru-o-nga-puna-wai-o-rakaihautu-ka-ora-mo-ake-tonu>

⁶ Not published.

Key sources of information	Outputs	Currency and Review	Status - Existing District Plan	Status – PC 8	Geyserview
Wildfire					
None identified.					
Fault Rupture					
2010 district-wide fault mapping by GNS. ⁷	Mapping of fault traces and associated “Fault Avoidance Zone” buffers; info on fault attributes.	Out of date – considered superseded by 2025 study and the NZ High Resolution Active Faults Database	Currently included in the DP and defines where fault rules apply.	PC 8 proposes to remove fault maps from the District Plan.	Yes – but intention is to remove if decision on PC 8 supports removal from DP.
2025 district-wide fault mapping by GNS – included in NZ High Resolution Active Faults Database maintained by Earth Sciences NZ (formerly GNS). ⁸	Mapping of fault traces and associated “Fault Avoidance Zone” buffers; info on fault attributes.	Current but expected to be updated from time to time to reflect local and site-specific studies.	Not included in the DP.	PC 8 proposes not to include fault mapping in the District Plan but database is expected to inform implementation of fault rules.	Yes – links to national database to ensure currency.
Site-specific reports, often included as part of a broader geotechnical report.	Conclusions relating to fault locations and recurrence intervals of specific faults	Reports were reviewed as part of the update to the NZ Active Faults Database) but further reports expected from time-to-time.	Not included in the DP.	PC 8 proposes not to include fault mapping in the District Plan but expected to inform implementation of fault rules, supplementing the NZ Active Faults Database.	No – not in form of hazard maps.

⁷ [Villamor et al, 2010](#). Mapping published on Geyserview.

⁸ [Morgenstern and Villamor, 2025](#). Mapping published in the New Zealand Active Faults Database: <https://www.gns.cri.nz/data-and-resources/new-zealand-active-faults-database/>

Key sources of information	Outputs	Currency and Review	Status - Existing District Plan	Status – PC 8	Geyserview
Land Instability					
BOPRC’s 2021 regional liquefaction vulnerability study by Tonkin & Taylor. ⁹	Mapping of liquefaction susceptibility but only to a “level A” (basic desktop standard). Much is mapped as “undetermined” (Also covers Waikato part of the Rotorua District).	Current but only to a ‘level A’ (basic desktop) standard. Site specific studies may provide more detail.	Not included in the DP. No strongly linked to implementation of the DP as site-specific geotechnical reports more detailed.	PC 8 proposes not to have land stability mapping in the DP.	Yes
The Natural Hazard Commission’s national liquefaction modelling by Tonkin & Taylor. ¹⁰	TBC – primary purpose is to support loss modelling.	Emerging – unknown date of release.	Not included in the DP.	PC 8 proposes not to have land stability mapping in the DP. Usefulness for DP implementation TBC.	TBC
RLC’s 2010 soft soil mapping by GNS. ¹¹	Mapping of soil classes with varying degrees of risk of soft soil.	Current. No updates currently planned.	Currently included in the District Plan maps but not referred to specifically in any policy or rule.	PC 8 proposes to remove these maps. Expected that geotechnical reports are the primary source of information.	Yes
RLC’s 2010 landslide susceptibility mapping by GNS. ¹²	Mapping of landslide susceptibility classes.	Considered superseded by WSP 2024 study.	Currently included in the District Plan maps but not referred to specifically in any policy or rule.	PC 8 proposes to remove these maps.	Yes – but intention is to remove if decision on PC 8 supports removal from DP.

⁹ [Tonkin & Taylor Ltd., April 2021](#). Mapping published on Geyserview.

¹⁰ [Terms of Reference](#).

¹¹ [Dellow, 2010a](#). Mapping published on Geyserview.

¹² [Dellow, 2010b](#). Mapping published on Geyserview.

Key sources of information	Outputs	Currency and Review	Status - Existing District Plan	Status – PC 8	Geyserview
BOPRC’s 2024 landslide susceptibility mapping by WSP. ¹³	Mapping of landslide susceptibility classes for rainfall induced and earthquake induced landslides.	Current.	Not included in the DP but assists to provide a flag to where land stability may be an issue for subdivision.	PC 8 proposes not to have land stability mapping in the DP.	Yes.
Site-specific geotechnical reports	Results of site investigations, assessments of land instability hazards and potential mitigation measures.	Reports continue to be prepared to support developments.	Not included in the DP but identifies land stability issues and mitigation at subdivision.	Not proposed to be included in the DP. Current approach retained.	No – not generally in form of hazard maps.
New Zealand Geotechnical Database.	Borehole logs, cone penetration test (CPT) results, soil and rock descriptions and other subsurface test data.	Data continues to be added as site investigations uploaded and shared by engineer.	No status in existing District Plan. Info may assist in the preparation of geotech reports for subdivision.	Not proposed to be included in the DP.	No – not in form of hazard maps.
Tonkin & Taylor’s database of geotechnical information from Rotorua site investigations.	Subsurface test data.	Data continues to be added as Tonkin & Taylor review data gathered for building consent applications.	No status in existing District Plan.	Not proposed to be included in the DP.	No – not in form of hazard maps.
Geothermal					
Geothermal System mapping for the Rotorua District. ¹⁴	Mapping of the extent of geothermal systems based on geothermal aquifers.	Current. Other versions also exist.	Currently included in the District Plan maps and used to identify where Rule NH-R8 and subdivision rules apply.	PC 8 proposes to retain these maps and current approach.	Yes.

¹³ [WSP, 2024.](#)

¹⁴ [Scott, 2010.](#) Maps published on Geyserview.

2.7 Consultation and Engagement

1. Between 2023 and 2025, RLC engaged with regional councils, iwi, technical experts, and sector groups to inform the development of PC 8. Engagement with BOPRC and WRC focused on hazard scoping, emerging modelling for flooding and land subsidence, active fault mapping, geothermal systems, volcanic hazards, landslides, liquefaction, and the management of overland flowpaths.
2. Technical specialists from GNS Science, Tonkin & Taylor, BECA, Scion, EHS Support, Hail Environmental and others provided input on fault rupture, wildfire, geothermal hazards, landslides, and flooding, including discussion of updated datasets and options for mapping methodologies.
3. Workshops with internal RLC consents team, engineering and land development teams addressed practical implementation matters such as the identification of overland flowpaths, minimum floor levels, safe egress in flooding, building conversions, and the use of geotechnical information.
4. Discussions were also held with Auckland Council and neighbouring territorial authorities to understand approaches to flood management, hazard mapping, and risk-based frameworks. Engagement with those iwi that responded to offers for involvement (Ngāti Tahu-Ngāti Whaoa, Te Arawa River Iwi Trust, Te Rūnanga o Ngāti Kearoa Ngāti Tuara, and Ngāti Makino) provided feedback on natural hazard provisions and cultural considerations.
5. Consultation with local consultants and RLC’s consenting team occurred following release of the options paper to test the clarity and workability of potential approaches and to gather feedback on technical matters raised through the drafting process.

2.8 Overview of Submissions

1. Fifty-eight submissions and thirteen further submissions were received. Key issues raised are summarised in the table below.

Table 2.8.1 Summary of Key Issues Raised in Submissions.

Topic	Issue
Lakes A Zone Alignment	<ul style="list-style-type: none"> • Support for aligning Lakes A Zone hazard provisions with the rest of the District Plan to ensure consistency, equity, and clarity. • Concern that cross-referencing between two plan structures may confuse plan users; one submitter prefers a standalone Lakes A Zone hazard framework.
Approach to Hazard Mapping	<ul style="list-style-type: none"> • Both support and opposition to keeping hazard maps out of the District Plan.
Strategic Direction	<ul style="list-style-type: none"> • Broad support for shifting to a risk-based approach and the objective of achieving “acceptable risk” but with requests for clearer risk hierarchy (high/medium/low) and stronger linkage to NPS-NH. • Requests for refinement of policy to support assessment of acceptable risk.
Flooding	<ul style="list-style-type: none"> • Requests for refinement of policy direction on flood risk. • Concerns about accuracy of flood modelling in specific areas. • Requests to manage building conversions and intensification. • Strong opposition to Lake Ōkāreka 1% AEP mapping and reliance on the 2022 Lakes Design Level Report and requests for alternative modelling (water balance), map removal, or revised thresholds.

Wildfire	<ul style="list-style-type: none"> • Different views over whether firefighting water supplies should apply and where.
Fault Rupture	<ul style="list-style-type: none"> • Concerns about mapping accuracy, location uncertainty, and width of fault buffers. • Questions about recurrence intervals and whether rules are proportionate. • Requests to rely more heavily on the Building Act; others support a planning approach.
Land Stability	<ul style="list-style-type: none"> • Submissions about earthworks performance standards, exemptions, and thresholds.

3. EVALUATION OF SUBMISSIONS

3.1 Evaluation Requirements

Schedule 1 – Decision-Making on Submissions

1. PC 8 is processed under Schedule 1 of the RMA. Under Clauses 10 and 29, the Hearings Panel must consider all submissions and further submissions and make decisions confined to matters raised, with reasons provided for accepting or rejecting submissions.

Sections 32 and 32AA – Evaluation

2. PC 8 was informed by an evaluation of efficiency, effectiveness, costs and benefits under section 32 undertaken prior to notification. In considering submissions, the Hearings Panel must also have regard to section 32AA, which requires a further evaluation where changes to the notified proposal are more than minor or materially different.
3. Section 32AA matters are addressed in this report through the evaluation of submissions and recommended amendments set out below. Appendix 2 also sets out, in table format, an evaluation against section 32AA for key recommendations that differ from the proposal notified for submissions.

National and Regional Policy Direction

4. Under section 75(3), district plans must give effect to relevant National Policy Statements (NPSs) and the applicable Regional Policy Statement(s) (RPSs). Consistency with national and regional policy direction has informed the development of PC 8 and is further considered through the assessment of submissions where relevant issues are raised.

Purpose, Principles and Functions

5. All submissions must ultimately be assessed against the purpose of the RMA in section 5, with regard to sections 6, 7 and 8, and be within the scope of the Council’s functions under section 31, including the management of natural hazards. These matters are addressed, where relevant, within the evaluation of individual submission points, principally through consideration of relevant national and regional direction.

3.2 Lakes A Zone Alignment

3.2.1 Existing Approach to Lakes A Zone and Proposed Amendments

1. The Lakes A Zone is a planning area around specific lakes in the Rotorua District (including the settlements at Lake Tarawera and Lake Ōkāreka), shown in the Figure 2.2.1 above. The Lakes A Zone planning document is technically part of the Rotorua District Plan but operates as a separate district plan.
2. PC 8 aims to improve clarity and consistency in how natural hazards are managed throughout the district by better aligning natural hazard provisions in the Lakes A Zone with the rest of the district. It proposes to extend the Strategic Direction: Natural Hazards and Climate Change Resilience Chapter and Natural Hazards Chapter in the main part of the District Plan to the Lakes A Zone. This is achieved by:
 - a) Amending the ‘How the Plan Works’ section of the District Plan to state that the Natural Hazards chapter applies to the Lakes A Zone,
 - b) Amending the status box in the NH chapter to clarify that it applies to the Lakes A Zone.
 - c) Inserting an explanation into S1.1 Significant Resource Management Issues for the Lakes A Zone that the Lakes A Zone operates independently from the rest of the plan except in relation to Natural Hazards
 - d) Inserting an explanation into 1.1 of Section 8.0 – Relationship to the Rotorua District Plan - stating that rules in the Natural Hazards chapter (NH) in the Hazards and Risks section of Part 2 of the District Plan apply to the Lakes A Zone, in addition to the rules of Section 7.0 of the Lakes A Zone
3. To further improve consistency, amendments are made to issues statements, rules relating to earthworks, building platforms, water supply and subdivision, and to introduce a definition of overland flowpath in the Lakes A Zone.

3.2.2 Evaluation of Matters Raised in Submissions

Submissions

1. The proposed approach to aligning provisions in the Lakes A Zone with the rest of the District Plan was supported by most submitters on this point:
 - Fire and Emergency New Zealand (“FENZ”) supports extending existing and proposed natural hazard policies and rules to the Lakes A Zone to promote a consistent approach (S_07_02).
 - Peter and Helen Weblin support applying a consistent set of natural hazard rules across the Rotorua District, integrating the Lakes A Zone into the main framework to improve clarity, administrative efficiency, and equity in risk management (S_14_03).
 - The Natural Hazards Commission supports consistency in rules and policies for natural hazard risk management across the district, including the Lakes A Zone, as this approach reduces impacts from hazard events (S_22_01, S_22_32, S_22_34).

- BOPRC supports extending natural hazard-related chapters to the Lakes A Zone to ensure consistency across the district and seeks retention of relevant clauses and objectives as notified (S_45_33).
 - Luke Nelson also supports aligning the Lakes A Zone with the rest of the district (S_56_04).
2. However, the Rotorua Planning Consultants Group, while generally supporting alignment between the Lakes A Plan and the wider district, considered that cross-referencing the two plans would be confusing for the public and recommend the Lakes A Zone have its own distinct natural hazard rules (S_39_01).

Evaluation

3. I support the alignment of natural hazard provisions for the Lakes A Zone as proposed in PC 8 and consider this approach both appropriate and efficient. While the Lakes A Zone operates as a discrete planning framework within the wider District Plan, its separation has resulted over time in inconsistencies in how natural hazard risks are managed across the district. These inconsistencies are particularly apparent where similar natural hazard issues arise in both the Lakes A Zone and the remainder of the district, yet different provisions apply, creating potential inequities in outcomes and increased administrative complexity.
4. I acknowledge the concerns raised by the Rotorua Planning Consultants Group that cross-referencing between the two plan structures may create confusion for the public. However, in my view, the risks of confusion are outweighed by the advantages of applying a unified natural hazards framework. I would be happy to consider any further drafting suggestions about how to improve links between the documents and avoid confusion.

Recommendation

5. I recommend that:
1. Submissions supporting the proposed approach to aligning provisions in the Lakes A Zone with the rest of the District Plan Strategic Direction are supported and submission S_39_01 by the Rotorua Planning Consultants Group is partially supported insofar as it supports alignments but not with respect to favouring a distinct set of rules in the Lakes A Zone.
 2. No changes are made as a result of these submissions.

3.3 Strategic Direction: Issues

3.3.1 Existing Issues and Proposed Changes

1. The relevant issue in the main part of the District Plan, which provides the context to the identification of objectives and policies, is as follows:

SDNH-I1 Natural hazards

A secure and safe community is a healthy community and will attract growth. Our district has learned to safely take advantage of natural hazards. The oldest settlements in our district are within active geothermal systems where surface and underground features present a potential hazard to building and living. The district is subject to a number of natural hazards that can adversely affect life or property. The main natural hazards affecting the district are

earthquakes (associated with fault lines), subsidence (including liquefaction), landslides, flooding, and volcanic and geothermal activity due to the district's location within the Taupō Volcanic Zone. A lesser-known source of volcano hazard is 'Caldera Unrest'. There is uncertainty over when the activity increases from 'background' levels to 'volcanic unrest' and an eruption threat. The Bay of Plenty and Waikato Civil Defence Emergency Management Group Plans rank caldera unrest as the 4th and 3rd highest hazard respectively. Some areas known to be at risk from actual or potential hazards such as subsidence, flooding and geothermal activity have already been developed for urban purposes. In addition, some hazards such as volcanic activity and earthquakes are more difficult to identify and mitigate in advance and the potential effects of the hazards themselves are so widespread and devastating that avoidance or control through the District Plan is not always possible. The District Plan specifically manages land use affected by natural hazard risks through fault line rules and performance standards relating to flooding, geothermal activity and fault lines where appropriate mitigation measures are available, and are not sufficiently managed under other national legislation such as the Building Act 2004. All natural hazards identified on the planning maps will be addressed when considering resource consent applications, guided by the natural hazard provisions of this part of the plan

2. The issue statement in the Lakes A Zone is as follows:

S1.1.13 Natural Hazards

The lakes environment will continue to be at risk from volcanic and seismic activity and in some local areas stormwater overland flow paths.

3. PC 8 proposes to replace these issue statements in the main part of the District Plan and Lakes A Zone with the following:

The [Rotorua District/lakes environment] is exposed to a range of natural hazards due to its location within the Taupō Volcanic Centre, and its unique geography, geology, and climate. These hazards include flooding, geothermal activity, slope stability hazards, ground condition hazards (including liquefaction and soft, compressible soils), fault rupture and volcanic hazards, such as caldera unrest. These events pose risks to people, property, infrastructure, and the natural environment.

Climate change is expected to increase the frequency and severity of some natural hazards, particularly flooding, slope stability, and wildfire. Subdivision and land use activities influence the vulnerability and exposure of individuals and communities to these risks. Some areas known to be at high risk have already been intensively developed, resulting in expectations of continued development and increasing the potential consequences of hazard events.

In some cases, occupation of hazard-prone areas may reflect important cultural values, social or economic values. For example, geothermal areas have traditionally been favoured by Māori for settlement and cultural use. Similarly, lakeside areas that are susceptible to flooding are often valued for recreation, tourism and residential living, contributing to community identity.

Effective management of natural hazard risk is often challenged by limitations in available information, including uncertainty around hazard extent, frequency, and potential impacts.

3.3.2 Evaluation of Submissions - Issues

Submissions

1. The Natural Hazards Commission supports the inclusion of SDNH-I1 and the issues outlined for the Lakes A Zone in S1.1.13. They particularly endorse recognition of climate change, residual risk, and community expectations for continued development in high-risk areas. The Natural Hazards Commission considers identifying these complexities and challenges useful for developing rules and policies that reduce impacts on people and property during natural hazard events and seeks retention of SDNH-I1 (S_22_08, S_22_33). Kāinga Ora Homes and Communities (“Kāinga Ora”) supports the submission on SDNH-I1 and seeks that it be allowed (F_42_05).

Evaluation

2. These submissions in support of the proposed issue statements are supported, and no further changes are considered necessary.

Recommendation

3. We recommend that the issues are adopted as proposed.

3.4 Strategic Direction: Objectives and “Acceptable Risk”

3.4.1 Existing Objectives and Associated Definition of ‘Acceptable Risk’ and Proposed Changes

1. In the main part of the District Plan, the Objective SDNH-O1 for all natural hazards sits in the SDNH - Natural Hazards and Climate Change Resilience chapter of the Strategic Direction section of Part 1 of the District Plan. PC 8 proposes to amend the “minimise and reduce risk” language of this objective, as set out below, to embed a risk-based approach to the management of natural hazards:

SDNH-O1: ~~The risks from natural hazards to people, property and the environment associated with land use, subdivision and development are acceptable. Minimise or reduce the level of risk to life, property and the environment from the subdivision, use and development of land in areas subject to a natural hazard.~~

2. A definition of acceptable risk is also proposed as follows, which is considered also to resolve the concept of ‘tolerable risk’, which is a feature of the WRPS but not of the BOPRPS:

<i><u>acceptable risk</u></i>	<i><u>risk that is low, and the costs of further reducing risk are largely disproportionate to the benefits gained.</u></i>
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3. An additional strategic objective SDNH-O2 is also proposed, as follows, to address resilience to climate change:

SDNH-O2: Land use, subdivision and development are resilient to the current and future effects of climate change.

4. For the Lakes A Zone, Objective 18 broadly addresses natural hazards as follows:

Objective 18: *Limited risks to human occupation and activity caused by the risks posed by natural hazards including:*

(a) Flooding (river and lake fluctuations);

- (b) *Ōkātaina volcanic centre and localised volcanism;*
- (c) *Geothermal activity;*
- (d) *Seismic activity in active fault lines;*
- (e) *Fires.*

5. PC 8 proposes to extend the amended strategic objectives of the main part of the District Plan to the Lakes A Zone. This will be implemented by a note at the beginning of the SDNH Strategic Direction – Natural Hazards and Climate Change Resilience chapter and cross-references in the Lakes A Zone issues (S1.1) and introduction to the objectives, policy areas and rule management areas (S3.1).
6. PC 8 further proposes to retain Objective 18 of the Lakes A Zone only in relation to volcanic hazards, as PC 8 identifies management of volcanic hazards as outside the scope of the plan change:

Objective 18: Limited risks to human occupation and activity caused by the risks posed by natural hazards including:

- ~~a) Flooding (river and lake fluctuations);~~
- a) *Ōkātaina volcanic centre and localised volcanism;*
- ~~c) Geothermal activity;~~
- d) *Seismic activity in active fault lines;*
- ~~e) Fires.~~

7. We recommend a minor redrafting into a single sentence for the final changes to the text.

3.4.2 Evaluation of Submissions – Objective SNH-O1

Submissions

1. Most submissions on Objective SDNH-O1 were supportive of PC 8’s proposed changes to focus on acceptable risk. For example:
 2. WRC states the objective aligns with Objective HAZ-O1 in the WRPS and should be retained (S_15_07).
 3. Red Stag Investments supports embedding a risk-based approach in the objectives and considers that requiring risks from natural hazards to be acceptable aligns the plan with national guidance and appropriately focuses on the level of risk rather than the mere presence of hazards (S_20_01).
 4. The Natural Hazards Commission supports requiring risks to people, property, and the environment to be acceptable, noting that assessing tolerance to natural hazards is essential for effective management and reducing impacts. They seek retention of SDNH-O1 (S_22_09).
 5. Peter and Helen Weblin support the focus on acceptable risk, which they state represents a necessary evolution in planning practice and aligns with the BOPRPS (S_14_01).
 6. The Lake Ōkātarea Community Association (LOCA) supports a risk-based approach focused on acceptable risk and resilience and seeks retention of SDNH-O1 (S_21_01).
2. BOPRC, while supporting the intent of Objective SDNH-O1, seeks clarification on whether the objective applies only to new land use and development or also to existing activities, such as building extensions. For consistency, BOPRC recommends amending the wording from “land use, subdivision and development” to “subdivision, land use and/or development” (S_45_08). This is supported by the Natural Hazards Commission and Kāinga Ora (F_22_51, F_42_11).

3. Kāinga Ora considers the term “acceptable” too open to interpretation and seeks a tiered management approach based on high, medium, and low hazard areas and seeks an amendment to SDNH-O1 to specify different requirements for high, medium, and low hazard areas (S_42_07). The Natural Hazards Commission does not support this submission, noting that Rotorua Lakes District Council has provided a definition for “acceptable risk,” which can improve clarity and consistency when applying rules and policies (F_22_43).
4. Kāinga Ora considers that a lack of risk hierarchy approach (as expressed in the draft version of the [NPS-NH]) is a fundamental gap in PC 8. While the Strategic Directions Chapter includes objectives and policies on how to assess whether a hazard is to be avoided, it considers that there is no clear direction in the Natural Hazards Chapter objectives and policies that set out how a hazard should be assessed in terms of low to high risk and what the response should be to the level of risk. It seeks that the risk hierarchy approach in the national policy statement is adopted (S_42_01).
5. Ross Wilmoth opposes SDNH-O1, stating that striking minimisation of risk to life and the environment is inconsistent with previous engineering advice warning of “catastrophic loss of life” for a particular development. He seeks that decisions be postponed for at least a year or until these issues are addressed in the plan (S_52_03).

Evaluation

6. We agree with Kāinga Ora to the extent that the objectives and policies require review to ensure they implement the now finalised NPS-NH. However, we continue to support the framing of Objective SD-NH around acceptable risk.
7. In our view, an objective that requires risks from natural hazards to be *acceptable* is the most appropriate way to give effect to the NPS-NH, the BOPRPS, and the WRPS, all of which adopt risk-based frameworks but do so in different ways.
 - The NPS-NH does not prescribe uniform risk outcomes for all hazard categories, other than requiring avoidance of *very high* natural hazard risk. Instead, it directs local authorities to manage risk using a risk-based and proportionate framework. We understand this to be a ‘minimum’ requirement, to be further informed by the regional policy statements.
 - The BOPRPS uses a hazard-zone-based approach, differentiating outcomes for low, medium, and high-risk zones, but also requires that development sites ultimately achieve a low level of risk (Policy NH-4B), without defining a precise threshold or methodology at the site level.
 - The WRPS expressly adopts the terminology of acceptable, tolerable, and intolerable risk, aligning closely with Objective SDNH-O1 and supporting the use of “acceptable” (which is defined to also resolve the relationship to tolerable and intolerable risk) as a valid and recognised planning outcome.
8. In this context, a single objective framed around “acceptable risk” provides a common outcome that can operate coherently across these different frameworks.
9. While we agree that the supporting definition of “acceptable risk” is conceptual and does not provide a clear methodology for measuring acceptable risk, the proposed policies and rules provide policy direction on permitted activities where risk is acceptable, thresholds where risk needs to be

considered and matters to be considered when assessing risk and risk mitigation options. This is discussed further below in relation to the definition of acceptable risk.

10. Retaining a higher-level objective framed around acceptable risk also allows decision-makers to have regard to non-statutory guidance (such as MfE or other agency guidance on natural hazard risk), as anticipated by section 74(2) of the RMA, without constraining the Plan to a single rigid classification system that may become outdated.
11. In relation to the relief sought by BOPRC to amend the wording from “land use, subdivision and development” to “subdivision, land use and/or development,” while we acknowledge some may consider there is ambiguity, we consider that the term “development” is unnecessary. Both “new development” and “changes to existing development” are inherently captured by the term “land use” as it is applied under the RMA. Section 31 of the RMA specifies that territorial authorities are responsible for controlling the effects of the use of land, including for the purpose of avoiding or mitigating natural hazards. Similarly, section 75 requires district plans to state objectives, policies, and rules to manage subdivision and land use activities. The term “development” is not used in these provisions.
12. We have also reviewed the Rotorua District Plan and note that, although there are exceptions, most provisions consistently refer to “subdivision and land use” without separately referencing “development,” even where development could arguably be implied. For example:
 - HH-P1 and TREE-P1 (“enable land use activities to occur”)
 - SDUD-P9 (“compromise future land use”)
 - NFL-P13 (“when assessing land use and subdivision proposals”)
 - FC-I2 (“subdivision and land use activities may increase demand on infrastructure”)
 - SDWQ-I1 (“managing the effects of land uses”)
13. Accordingly, we recommend that the objective refer simply to “subdivision and land use,” as this is consistent with both the legislative framework and the terminology used throughout the District Plan. We do not consider the use of “and” will create any confusion in this context.
14. In relation to the concerns of Ross Wilmoth, we consider that Objective SDNH-O1 continues to enable full consideration of risks to people, including life safety, as well as risks to property and the environment. It does not preclude consideration of severe or catastrophic outcomes where these may arise. Since the earlier engineering advice referred to by the submitter, higher-order policy direction is now available through the NPS-NH, which requires a risk-based and proportionate approach and the avoidance of very high natural hazard risk. Postponing decisions on PC 8 is not considered necessary.

Recommendation

15. We recommend that:
 1. Submissions supporting the wording of proposed Objective SDNH-O1 are partially accepted, and amendments are made in response to the submission by BOPRC.

2. Submission S_45_08 by BOPRC and further submissions F_22_51 and F_42_11 are partially accepted in respect to the need to review the wording “land use, subdivision and development”.
3. Submission S_52_03 by Ross Wilmoth is rejected.
4. Objective SDNH-O1 is amended to read:

SDNH-O1: ~~The risks from natural hazards to people, property and the environment associated with land use and, subdivision and development are acceptable. Minimise or reduce the level of risk to life, property and the environment from the subdivision, use and development of land in areas subject to a natural hazard.~~

3.4.3 Evaluation of Submissions – Definition of Acceptable Risk

Submissions

1. The Natural Hazards Commission supports the inclusion of a definition for “acceptable risk” to ensure a consistent approach to applying rules and policies. They consider that the definition provided outlines expectations for acceptable risks and contributes to a risk-based planning approach. The Natural Hazards Commission seeks that the definition be retained as notified (S_22_04).
2. WRC supports the associated definition of acceptable risk but with a small change. It commends the inclusion of new definitions and objectives that support a more risk-informed and adaptive planning framework but recommends replacing the term “low” with “minor,” as “minor risk” better reflects the narrative describing the consequence of an environmental effect, whereas “low risk” could be interpreted as relating to probability. They seek an amendment to the definition of acceptable risk to read as follows, which is supported by the Natural Hazards Commission (S_15_03, F_22_02).

risk that is low-minor and the costs of further reducing risk are largely disproportionate to the benefits gained.

3. BOPRC seeks more significant changes.
 1. It recommends clarifying in the first clause that acceptable risk refers to onsite risk that is low and does not increase offsite risk to ensure alignment with BOPRPS Policy NH 4B, which is supported by the Natural Hazards Commission (S_45_04 and F_22_47).
onsite risk that is low and where risk is not increased offsite risk that is low
 2. BOPRC also opposes the inclusion of the phrase “the costs of further reducing risks are largely disproportionate to the benefits gained,” claiming that it introduces a cost-benefit approach that is difficult to implement without guidance and not consistent with national direction which is based on a risk-based approach. They request either removing this clause or providing clear guidance or rules to support its application (S_45_04).
 3. Additionally, BOPRC notes inconsistencies in terminology and seeks alignment across the plan, using either “acceptable risk” or “acceptable level of risk” consistently (S_45_04). The Natural Hazards Commission supports the submission (F_22_47).

4. Newvid Holdings Trust (NHT) opposes the PC 8 definition of “acceptable risk,” stating that it is unclear and not quantifiable (S_40_04). This is opposed by the Natural Hazards Commission and WRC, subject to WRC’s request to replace ‘low’ with ‘minor’(F_15_02, F_22_38).
5. Kāinga Ora also opposes the proposed definition of “acceptable risk,” stating that it is subjective and includes the requirement for an assessment and to enable identification of high-risk hazards requiring urgent response or complete avoidance of development they seek replacement with definitions for low, medium, and high risk, using definitions in the draft version of the NPS-NH or similar as follows (S_42_03):

high natural hazard risk – means a risk from natural hazards that is intolerable

low natural hazard risk – means a risk from natural hazards that is generally acceptable

moderate natural hazard risk – means a risk from natural hazards that is more than a low risk, but is not intolerable.

6. The Natural Hazards Commission opposes this relief, noting that while definitions for high, medium, and low risk can be useful, they consider retaining the current approach preferable for ensuring consistent application of rules and policies and supporting risk reduction (F_22_42).

Evaluation

7. We support WRC’s preference for ‘minor’ over ‘low’ for the reasons given (avoidance of confusion with probability). In addition, we consider it could be helpful to avoid confusion that acceptable risk equates necessarily to low risk defined in the NPS-NH since there may be other activity-specific considerations and scales of assessment.
8. We acknowledge BOPRC’s concerns about exacerbation of risks and acknowledge that Policy NH-4B of the BOPRPS explicitly addresses this, which reads:

Require a Low natural hazard risk be achieved on development sites after completion of the development (without increasing risk outside the development site) by controlling the form of:

- (a) Greenfield development;*
- (b) Any urban activity within the existing urban area that involves the construction of new and/or additional buildings or reconstruction of or addition to existing buildings (including subdivision associated with such activities; and*
- (c) Rural lifestyle activities*

9. However, we consider the question of whether a proposal increases risk off-site is conceptually distinct from the definition of acceptable risk. We consider that avoidance of exacerbation of off-site risk is more appropriately addressed through specific policies, rules and assessment matters.
10. We also acknowledge BOPRC’s concern regarding the inclusion of the phrase “the costs of further reducing risk are largely disproportionate to the benefits gained.” However, consideration of proportionality between the effort required to reduce risk and the benefits achieved is a well-established component of risk management practice and is consistent with a risk-based approach. This wording does not necessarily require a prescriptive or quantitative cost–benefit test but instead signals that judgements about acceptable risk should take into account whether further risk reduction is reasonable in the circumstances.

11. This approach aligns with the WRPS, which directs that natural hazard risks be managed so they do not exceed acceptable or tolerable levels, and explicitly defines acceptable risk as risk that is minor and where the cost of further reducing risk is largely disproportionate to the benefits gained.
12. We also acknowledge the concerns of Newvid Holdings Trust (NHT) that the definition is not quantifiable (S_40_04) and Kāinga Ora's concerns that it is subjective. However natural hazard risk management is complex and embedding fixed quantifiable definitions runs the risk of oversimplifying this complexity and not enabling consideration of factors relevant to specific activities. While the term "acceptable" is not defined in a prescriptive or numerical way, the proposed rules and policies identify standards for permitted activities, circumstances and thresholds when assessment is required and provide a framework for decision-makers to determine acceptability on a case-by-case basis when assessment is required.

Recommendation

13. We recommend that
 1. Submission S_22_04 by the Natural Hazards Commission supporting the current wording is accepted in part, submission S_15_03 by WRC and further submission F_22_02 seeking word changes are accepted.
 2. Submission S_45_04 by BOPRC and further submission F_22_47 are partially accepted with respect to seeking alignment of terms across the plan.
 3. Submission S_40_04 by Newvid Holdings Trust (NHT) is rejected and further submissions F_15_02 and F_22_38 are accepted.
 4. Submission S_42_03 by Kāinga Ora is rejected and further submission F_22_42 by the Natural Hazards Commission is accepted.
 5. The definition of acceptable risk is amended as follows:
risk that is low-minor and the costs of further reducing risk are largely disproportionate to the benefits gained.

3.4.4 Evaluation of Submissions – Objective SDNH-O2

Submissions

1. Most submitters were supportive of PC 8's proposed new Objective SDNH-O2 relating to climate change:
 - FENZ noted that requiring land use, subdivision, and development to be resilient to the current and future effects of climate change aligns with their risk reduction and resilience strategy (S_07_06).
 - The Natural Hazards Commission noted that resilience to climate change is essential as more frequent and intense rainfall events in the Bay of Plenty region can exacerbate flooding and landslides, and climate change may also increase wildfire risk (S_22_10).
 - Kāinga Ora noted alignment with the proposed NPS-NH and Disasters (S_42_08).
 - Peter and Helen Weblin support the focus on resilience to climate change (S_14_01).
 - The Lake Ōkāreka Community Association (LOCA) supports a risk-based approach focused on acceptable risk and resilience (S_21_01).
2. BOPRC stated that the objective is consistent with RPS Policy IR 2B, which requires regard to climate change effects. For consistency, they recommend amending the wording from "land use, subdivision

and development” to “subdivision, land use and/or development” (S_45_09). This was supported by Kāinga Ora (F_42_12).

3. WRC supports the emphasis on resilience but recommends that the objective also refers to an adaptive approach to enable flexible and responsive planning for evolving climate conditions and emerging risks. They seek an amendment to read: (S_15_08):

Land use, subdivision and development are resilient and adaptive to the current and future effects of climate change.

4. The Natural Hazards Commission’s further submission supports expanding SDNH-O2 to include adaptive approaches, noting this is useful for managing uncertainties in hazard data and future climate scenarios and ensures consistency with instruments such as the National Adaptation Plan (F_22_07).
5. The Māori Trustee (Te Tumu Paeroa) supports the intent of SDNH-O2 but considers that further clarification and definition of “resilience to the current and future effects of climate change” is required in PC 8 (S_28_02).
6. Ross Wilmoth opposes SDNH-O2, stating that Council has shown little interest in mitigating or adapting to climate change and that making a blanket statement about resilience is inconsistent. He believes Council intends to subdivide and develop Ōkāreka regardless of risk and seeks that decisions be postponed for at least a year or until Council has engaged the appropriate specialists and consulted more (S_52_04).

Evaluation

7. In relation to the relief sought by BOPRC to amend the wording from “land use, subdivision and development” to “subdivision, land use and/or development,” we prefer that “development” is not used in these provisions for the same reasons given for Objective SDNH-O1.
8. We acknowledge the intent of the submission by WRC to promote flexible responses to climate change. However, the concept of resilience is sufficiently broad to encompass adaptive responses where appropriate, without requiring explicit reference to adaptation in the objective.
9. In response to the Māori Trustee (Te Tumu Paeroa), we acknowledge the importance of clearly addressing resilience to the current and future effects of climate change. However, the impacts of climate change and what constitutes “resilience” are complex and highly context-specific and are not readily captured through detailed definition at the objective or policy level. PC 8 instead addresses climate change by identifying relevant matters for consideration and by embedding future climate effects into hazard thresholds and assessments (for example, in flood modelling).
10. In relation to the concerns about consultation of Ross Wilmoth and whether the plan change should proceed, PC 8 is being progressed through a statutory plan change process that includes technical input, public notification, submissions, further submissions, and hearings. We consider that this process provides the appropriate mechanism for engagement, consideration of climate change adaptation, and testing of evidence, and postponing decisions is not necessary.

Recommendation

11. We recommend that:

1. Submissions supporting the wording of proposed Objective SDNH-O2 are partially accepted, and amendments are made in response to the submission by BOPRC.
2. Submission S_45_09 by BOPRC and further submission F_42_12 are partially accepted in respect to the need to review the wording “land use, subdivision and development” (S_45_09).
3. Submissions S_15_08 by WRC, S_28_02 by the Māori Trustee (Te Tumu Paeroa) and S_52_03 by Ross Wilmoth are rejected.
4. Objective SDNH-O2 is amended to read:

SDNH-O2: Land use, and subdivision and development are resilient to the current and future effects of climate change.

3.5 Strategic Direction: Policies

3.5.1 Existing Policies and Proposed Changes

1. In the main part of the District Plan, the strategic policies for all natural hazards sit in the SDNH - Natural Hazards and Climate Change Resilience chapter of the Strategic Direction section of Part 1 of the District Plan. PC 8 proposes to replace these two existing policies with new policies to set out best practice principles for managing natural hazards as follows:

~~*SDNH-P1: Require the design and location of activities to avoid or mitigate natural hazards to an acceptable level of risk to life, property and the environment.*~~

~~*SDNH-P2: Recognise that the risk of natural hazards will continue to influence the nature and location of urban development*~~

SDNH-P1: When assessing whether the natural hazard risks associated with subdivision or land use are acceptable, and identifying risks that must be avoided or mitigated:

1. *Assess the likelihood and potential consequences of natural hazards affecting the land and any potential to exacerbate risks beyond the site.*
2. *Use the best available information, including relevant national and regional guidance.*
3. *Take into account:*
 - a. *The predicted effects of climate change, applying a precautionary approach where the extent of the impact is uncertain.*
 - b. *Cumulative effects over time and across multiple activities.*
 - c. *Residual risk, including the potential failure of structural hazard defences.*
 - d. *For developments undertaken by tangata whenua, the cultural significance of the site or activity, which may justify acceptance of a higher level of natural hazard risk.*
4. *Promote opportunities to reduce existing natural hazard risks affecting established land uses.*

SDNH-P2: Strengthen, maintain and protect natural systems and features (such as wetlands and floodplains) that contribute to reducing the risks natural hazards and the effects of climate change.

2. PC 8 also proposes to extend these policies to the Lakes A Zone (using notes at the beginning of the SDNH Strategic Direction Natural Hazards and Climate Change Resilience chapter and cross references in S1.1 and S3.1 of the Lakes A Zone).
3. Existing Policy 13.1 in the Lakes A Zone, which broadly addresses natural hazards, is proposed to be retained only in relation to volcanic hazards:

Policy 13.1 *To recognise that hazards arise from volcanic activity, ~~seismic activity, geothermal activity, flooding, fire, erosion and sedimentation~~ and apply measures that reduce risk to people and property.*

3.5.2 Evaluation of Submissions – Policy SDNH-P1

Submissions

1. The Natural Hazards Commission supports SDNH-P1, noting that it addresses key aspects of hazard risk management such as cumulative effects, residual risk, and climate change. While these add complexity, they are essential for reducing impacts on people and property. The Natural Hazards Commission seeks retention of SDNH-P1 (S_22_11).
2. FENZ also supports proposed Policy SDNH-P1, noting that the matters in clauses (1) to (4) align with their risk reduction strategy. They specifically support assessing natural hazards beyond the site (including wildfire), using best available information (including Fire and Emergency guidance), and promoting opportunities to reduce existing risks such as wildfire in rural/urban interfaces (S_07_07).
3. Red Stag Investments supports the principle of using the “best available information” in SDNH-P1, considering it fundamental to sound resource management (S_20_02), and this was supported by the Natural Hazards Commission (F_22_12).
4. Kāinga Ora supports the inclusion of SDNH-P1 but seeks an additional clause (5) requiring avoidance of development on land assessed as being at very high natural hazard risk unless risks can be mitigated to an acceptable level (S_42_09).
5. Waikato Regional Council supports the intent of SDNH-P1 but recommends the following changes for alignment with the National Adaptation Plan and WRPS policy HAZ-M3 (S_15_09), which are supported by the Natural Hazards Commission (F_22_08):
 - adding a clause to enable short-, medium-, and long-term adaptation planning for changing climate risks “Enable and support short, medium and long term adaptation planning approaches to manage changing climate risks, ensuring that planning decisions remain responsive to evolving hazard information and future climate scenarios”;
 - clarifying the scope of “national and regional guidance” to include non-statutory sources, such as the forthcoming WRC Climate Change Adaptation Guidelines; and
 - strengthening Clause 3 by requiring assessment of climate change impacts rather than simply “taking into account.”
6. Bay of Plenty Regional Council supports SDNH-P1 in principle but requests that (S_45_10):
 - Terminology is aligned with other amendments sought so that “subdivision or land use” is replaced with “subdivision, land use and/or development”

- Feasible mitigation measures be added to the list of matters under clause 3.
7. Ngāti Mākino and Te Urunga a Kea (Te Arawa Climate Change Working Group) support SDNH-P1 in part but seek amendments to include cultural and environmental factors such as impacts on wāhi tapu and mahinga kai, intergenerational resilience, mauri restoration, cumulative multi-hazard exposure, and climate uncertainty. They also request consultation with mana whenua on risk thresholds and development of a Te Arawa mātauranga risk assessment framework (S_57_05).
 8. Other submissions specifically on clause 3 (d) (“to take into account...For developments undertaken by tangata whenua, the cultural significance of the site or activity, which may justify acceptance of a higher level of natural hazard risk”) were as follows:
 - BOPRC seeks that clause (3)(d) is amended to remove “which may justify acceptance of a higher level of natural hazard risk”, which it considers contrary to Policy NH-4B in the BOPRPS (with respect to a low level of risk to be achieved on development sites without increasing risk offsite). BOPRC also note that the BOPRPS includes Policy IW 1B that requires the enabling of development of papakāinga, marae and community facilities associated with housing but also that this policy requires active protection...from the adverse effects of subdivision, use and development, in the vicinity of a marae. If this wording is in clause 3(d) is to be retained, BOPRC seeks clarification on how this policy will be assessed through the rules and other relevant planning provisions (S_45_10).
 - Te Rūnanga o Ngāti Kearoa Ngāti Tuara supports the intent of this clause to acknowledge mana whenua aspirations and the role of mātauranga in mitigating natural hazard effects but seeks amendments to SDNH-P1(3)(b) and (3)(d) to include cumulative cultural effects and recognition of cultural significance for tangata whenua developments, which may justify acceptance of higher natural hazard risk (S_58_01).
 - This is supported by the Tūhourangi Tribal Authority, which notes the need to contemplate future Māori settlements in the plan change and that regulatory complexities have hindered papakāinga development on Māori land (F_59_10).
 - The Wāhiāo Māori Committee also supports the Runanga’s submission, reiterating similar concerns about enabling papakāinga development and accounting for cultural and geological realities in planning (F_60_09).
 - The Māori Trustee seeks changes to clause (3) to recognise Māori freehold landowners alongside tangata whenua, given papakāinga aspirations and cultural significance (S_28_03).
 9. The Māori Trustee also seeks amendments to explicitly reference mātauranga Māori in clause (2) to enable holistic hazard risk assessments and assist Māori landowners in managing hazards on their whenua (S_28_03). The Tūhourangi Tribal Authority and Wāhiāo Māori Committee, in further submissions, support the inclusion of mātauranga Māori, noting its importance for adapting to changing landscapes and supporting relocation decisions in places such as Whakarewarewa Village (F_59_04 and F_60_03).

Evaluation

10. Overall, I consider that Policy SDNH-P1 provides an appropriate high-level framework for assessing natural hazard risk and is consistent with the risk-based and proportionate approach required under

the NPS-NH. The submissions generally support the structure and intent of the policy, with most seeking refinement rather than fundamental changes.

11. I do not support Kāinga Ora’s request for an additional clause requiring avoidance of development on land assessed as being at very high risk. While the NPS-NH requires avoidance of very high risk, embedding this again in SDNH-P1 risks duplication and confusion. The detail of the provisions is intended to achieve a proportionate and risk-based approach while avoiding very high risk.
12. WRC’s request to include explicit reference to short, medium and long-term adaptation planning is acknowledged, but I consider that the concept of adaptation is already sufficiently captured within SDNH-P1(3)(a), which directs consideration of the predicted effects of climate change and the application of precaution where uncertainty exists. Adaptation planning typically relates to long-term strategic land use decisions and does not sit comfortably within a policy focused on activity-scale assessment.
13. Similarly, clarifying that national and regional guidance includes non-statutory documents is unnecessary, as the term “guidance” inherently captures both statutory and non-statutory sources. I also consider the existing “take into account” stronger than a requirement merely “to assess”.
14. I do not support BOPRC’s requested change to replace “subdivision or land use” with “subdivision, land use and/or development.” Consistent with the reasoning in Section 3.4 of this report, the term “land use” already encompasses development. I also consider that mitigation is already sufficiently captured at the beginning of the policy.
15. With respect to BOPRC’s request to remove the phrase in clause 3(d), I agree that this wording requires refinement. The intent is to recognise Māori values and the role of cultural context in hazard management while remaining within the overarching risk-based framework of the regional policy statements, Objective SDNH-O1, and (now) the NPS-NH. Explicitly referring to “higher levels of risk” risks creating confusion, given that the overarching objective—expressed through the definition of acceptable risk—focuses on “risk that is minor and where the costs of further reducing risk are largely disproportionate to the benefits gained.” However, enabling consideration of cultural significance within this context remains appropriate and is supported by multiple submitters.
16. Requests to include explicit reference to mātauranga Māori within clause 2 or clause 3 are partially supported. “Best available information” can include multiple knowledge systems, and the NPS-NH explicitly recognises that information may be uncertain or incomplete. A minor clarification that best available information may include mātauranga Māori is reasonable.
17. I do not support amendments that would expand the policy to include additional lists of cultural or environmental effects (such as effects on wāhi tapu, mahinga kai, mauri restoration). Such matters are addressed through other parts of the District Plan, including the iwi-specific and resource management value chapters. Including them here would detract from SDNH-P1’s core purpose.

Recommendation

18. I recommend that:
 1. Submissions supporting retention of SDNH-P1 (S_22_11, S_07_07, S_20_02 and F_22_12) are accepted in part, noting changes proposed in relation to other points below.

2. Submission S_42_09 by Kāinga Ora is rejected and the requirement to avoid very high risk is not included as a point in Policy SDNH-P1.
3. Submission S_15_09 by WRC and further submission F_22_08 are rejected in part, insofar as they seek explicit reference to adaptation planning and expansion of “national and regional guidance,” but accepted in part to the extent that minor wording changes can improve clarity without altering policy intent.
4. Submission S_45_10 by BOPRC seeking to replace “subdivision or land use” and include “feasible mitigation measures” in clause (3) is rejected.
5. Submissions S_45_10, S_57_05, S_58_01, F_59_10, F_60_09 and S_28_03 relating to cultural values are accepted in part and submission S_45_10 (BOPRC) seeking removal of the phrase “which may justify acceptance of a higher level of natural hazard risk” is accepted, and clause (3)(d) is amended to enable consideration of cultural significance as part of determining whether there is acceptable risk.
6. Submissions seeking explicit reference to mātauranga Māori in clause (2), including submission S_28_03 and further submissions F_59_04 and F_60_03, are accepted in part, and the reference to “best available information” be clarified to include mātauranga Māori alongside scientific and technical information.
7. Submissions seeking amendments that would expand the policy to include additional lists of cultural or environmental effects (including effects on wāhi tapu, mahinga kai, mauri restoration) are rejected.
8. Policy SDNH-P1 is amended as follows:

SDNH-P1: When assessing whether the natural hazard risks associated with subdivision or land use are acceptable, and identifying risks that must be avoided or mitigated:

1. *Assess the likelihood and potential consequences of natural hazards affecting the land, and any potential to exacerbate risks beyond the site.*
2. *Use the best available information, including scientific, technical and, where relevant, mātauranga Māori, together with applicable ~~relevant~~ national and regional guidance.*
3. *Take into account:*
 - a. *The predicted effects of climate change, applying a precautionary approach where the extent of the impact is uncertain.*
 - b. *Cumulative effects over time and across multiple activities.*
 - c. *Residual risk, including the potential failure of structural hazard defences.*
 - d. *For activities ~~developments~~ undertaken by tangata whenua, the cultural significance of the site or activity, which may justify acceptance of a higher level of natural hazard risk.*
4. *Promote opportunities to reduce existing natural hazard risks affecting established land uses.*

3.5.3 Evaluation of Submissions - Policy SDNH-P2

Submissions

1. Submissions on proposed Policy SDNH-P2 were generally supportive, but with some amendments sought:

- Kāinga Ora supports the proposed amendments to SDNH-P2, noting alignment with the (then) proposed NPS-NH (S_42_10).
- The Natural Hazards Commission supports SDNH-P2 but recommends wording changes for clarity, proposing (S_22_12):

Strengthen, maintain and protect natural systems and features (such as wetlands and floodplains) that contribute to reducing ~~the risks~~ natural hazard risks and the effects of climate change.

- BOPRC supports SDNH-P2, noting consistency with the National Adaptation Plan and the effectiveness of nature-based solutions such as wetlands for flood risk management. They seek that the typographical error is corrected differently as follows (S_45_11):

Strengthen, maintain and protect natural systems and features (such as wetlands and floodplains) that contribute to reducing the risks of natural hazards and the effects of climate change.

Evaluation

2. We agree with the Natural Hazards Commission and BOPRC that the policy requires rewording. We have no strong view on either option sought but prefer “natural hazard risks” over “the risks of natural hazards” for consistency with wording in the NPS-NH.

Recommendation

3. We recommend that:
 1. The submission of the Natural Hazards Commission is accepted and the submissions of Kāinga Ora and BOPRC are partially accepted.
 2. Policy SDNH-P2 is amended as follows:

Strengthen, maintain and protect natural systems and features (such as wetlands and floodplains) that contribute to reducing ~~the risks~~ natural hazard risks and the effects of climate change.

3.6 Explanation and Principal Reasons

3.6.1 Existing Explanation and Principal Reasons and Proposed Changes

1. As a consequence of limiting the objectives and policies in the Lakes A Zone, it is also proposed to amend the explanation and principal reasons for natural hazards in S5.13 as follows:

There is a wide range of possible natural hazards and some created hazards that constrain development. ~~The lakes area has a significantly large number of faultlines, the avoidance of which by development, would be impossible.~~ As such, Council’s approach is to keep development at a relatively low density, to apply the provisions of the Building Act 1991 and implement evacuation procedures rather than prohibit further development in the area. It is not considered practical to avoid the effects of ~~earthquake and~~ volcanic eruptions other than timely evacuation.

~~Council is managing stormwater effects and mitigating flood hazards. The risk of fire hazard from allowing built development in bush environments is acknowledged. However, those choosing to live in such vegetated environments must live with this risk in the context of a largely undeveloped landform covered in indigenous vegetation.~~

2. No submissions have been made on these provisions.

3.7 Anticipated Environmental Results

3.7.1 Existing Anticipated Environmental Results and Proposed Changes

1. The Anticipated Environmental Result in the Strategic Direction section and the equivalent Anticipated Environment Results in the Natural Hazards chapter (NH) are proposed to be amended as follows:

~~Enhanced public safety in relation to natural hazards through~~ *The design and management of land use activities and subdivision to an acceptable level of risk.*

3.7.2 Evaluation of Submissions – Anticipated Environmental Results

Submissions

1. BOPRC supports SDNH-AER1 in part but seeks amendments for clarity and consistency. They recommend changing the wording from “land use activities and subdivision” to “subdivision, land use and/or development activities” and adding “to achieve an acceptable level of risk.”
2. BOPRC also requests clarification on whether the anticipated environmental results SDNH-AER1 and NH-AER1 refer to “acceptable risk” as defined or “acceptable level of risk” as it relates to NH-MD1.2 (S_45_12, S_45_27).

Evaluation

3. We prefer that “land use and subdivision” consistent with the wording proposed elsewhere and the reasons given for Objective SDNH-O1. We also prefer the wording “achieve acceptable risk” for consistency with the definitions.

Recommendation

4. We recommend that submissions S_45_12 and S_45_27 by BOPRC are partially accepted and SDNH-AER1 and NH-AER1 are amended as follows:

~~Enhanced public safety in relation to natural hazards through~~ *The design and management of land use ~~activities~~ and subdivision to achieve an acceptable ~~level of~~ risk.*

3.8 Approach to Hazard Mapping

3.8.1 Existing Approach to Hazard Mapping and Proposed Amendments

1. Natural hazard policies and rules in the District Plan currently rely upon a mixture of mapped overlays and ‘described’ hazards written into the provisions, supported by definitions, as summarised in Table 2.6.1 above.
2. PC 8 proposes to remove, or not to include, hazard maps in the District Plan, except for the map of the Geothermal Systems Overlay. The Section 32 Report explained that, unlike the other hazard maps, the removal of the geothermal system maps from the District Plan was not a viable option because of a lack of a suitable alternative for identifying where rules should apply.

3.8.2 Evaluation of Matters Raised in Submissions

Submissions

1. Sixteen submitters addressed the issue of whether hazard maps should be included in the District Plan, either as a general approach and/or in relation to specific hazards, with a small majority in favour of hazard maps sitting outside the District Plan. Reasons given by submitters supporting maps outside the District Plan include:
 - Flexibility to use best available information: Removing static maps allows updates as new scientific data becomes available without requiring a formal plan change, ensuring decisions reflect current hazard information (for example, Kāinga Ora S_42_02, BOPRC S_45_03, and WRC S_15_02).
 - Improved efficiency: Locating maps outside the plan enables regular updates through GIS systems, avoiding delays and costs associated with Schedule 1 processes while still allowing consultation under the Local Government Act (Kāinga Ora S_42_02, BOPRC S_45_03).
 - Alignment with best practice and regional precedent: Bay of Plenty Regional Council noted that this approach is consistent with recent plan changes (e.g., Tauranga City PC27) (S_45_03, S_15_02).
2. Reasons given by those supporting hazard maps within the District Plan include:
 - Natural justice: For example, the Natural Hazards Commission is concerned about a lack of ability for people to contest information if the maps are not part of the statutory process (S_22_02). However, Kāinga Ora's further submission states that they do not consider that having maps outside the District Plan presents a natural justice issue, as natural hazards are defined in the District Plan; changes to definitions, policies and rules are subject to the RMA schedule 1 processes; and changes to information in the GIS viewer can still be consulted on by the Council in accordance with s82 of the Local Government Act 2002 (F_42_04).
 - Certainty for plan implementation: For example, The Māori Trustee states that Council has not recognised that having fault maps sitting outside the District Plan disadvantages landowners who are familiar with the District Plan as a vital first information resource for identifying natural hazards (S_28_08). The Rotorua Planning Consultants Group states that embedded maps support consistent application of rules and reduce uncertainty for consent processing (S_39_02).
 - Lack of precedent: In contrast to the submission by the BOPRC, the Rotorua Planning Consultants Group state that they do not believe that the approach of having maps outside the District Plan is being used by other authorities (S_39_02).
3. Ngāti Mākino and members of Te Urunga a Kea (Te Arawa Climate Change Working Group) note arguments both for inclusion (certainty) and against (responsiveness). They suggest a hybrid approach may be optimal, involving statutory maps for enduring spatial boundaries and GIS layers (sitting outside the District Plan) for rapidly changing or high-resolution data. They also seek metadata on published layers (on matters such as data source, update cycle, and iwi validation) and clear policy linkages for clarity about the information used (S_57_02).

4. WRC supports removing hazard mapping from the District Plan to enable regular updates but seeks that any primary hazard zones identified through updated mapping be included or explicitly referenced.
5. The Rotorua Planning Consultants Group considers that public requirements relating to incorporation by reference have not been followed (cl 34(2)(c)).
6. It is also noted that some submitters (both supporting and opposing hazard maps sitting outside the District Plan) seek more clarity on how new information is shared and on the processes for updating or requesting reviews. For example, Fonterra seeks that flooding and overland flowpath maps be located within the District Plan or, alternatively, that a clear and flexible process be introduced for property owners to request a review of hazard data for specific sites (S_40_01).

Kieran Oppat seeks a policy commitment to review and update flood models at least every five years or after any major infrastructure upgrade (S_01_02).

RLC's Approach to Updating Hazard Maps

7. Before evaluating the submissions, it is helpful to outline RLC's broader approach to publishing and updating hazard maps that support implementation of the District Plan, and the opportunities for public participation associated with that process.
8. As shown in Table 2.6.1, hazard information used for District Plan implementation comes from a variety of sources. RLC commissions some hazard assessments, but much of the information is produced by regional councils, national scientific agencies such as Crown Research Institutes or privately in the case of site-specific studies. Because of this diverse and evolving evidence base, RLC has adopted an approach that supports use of the best available information in District Plan implementation.
9. District- and subdistrict-scale hazard information considered relevant to District Plan implementation is published on the Council's online mapping platform, Geyserview, regardless of whether those maps sit within the statutory planning documents. This ensures that the public can access the most current, technically robust information, even when datasets change more frequently than is practical to update through a formal Schedule 1 RMA plan change. With respect to site-specific studies provided to Council in the context of consent applications, Council's approach is to link these to property files and flag them for inclusion on LIMs.
10. With respect to public participation, RLC has adopted a case-by-case approach to engagement because the scale, significance, and implications of updates can vary widely. This approach has involved targeted communication where changes are substantial or where hazard information interacts directly with regulatory proposals under a plan change. For example:
 - Landowners and ratepayers outside the Lakes A Zone who were affected by flood hazard mapping were advised of associated rule changes and supporting hazard mapping through the public notification of PC 9.
 - Lakes A Zone landowners and ratepayers were informed of where to access lake flood hazard information as part of the notification of PC 8, alongside an explanation of the proposed rule changes.

- Landowners affected by updated fault mapping arising from the NZ Active Faults Database review were directly notified through PC 9, which occurred soon after RLC’s receipt of the fault mapping.
11. It is acknowledged that other updates, such as refinements to flood models reflecting improved topographic data, expanded model coverage, or climate-change scenarios, were not specifically publicised at the landowner or ratepayer level. However, these updates were available for public scrutiny through the PC 9 process, which provided an open forum for submitters to challenge or comment on the use of this information.
 12. RLC intends to continue this proportional, case-by-case approach to engagement on hazard mapping. This enables the Council to prioritise communication where changes have material implications for landowners, while ensuring that hazard information can be kept accurate and up to date without imposing the significant resource burden associated with formal consultation for every technical revision. Given the scale of the district, the frequency of scientific updates, and Council’s finite resourcing, this approach is considered to strike an appropriate balance between transparency, public participation, and operational practicality.
 13. The most detailed district and sub-district studies are for flooding and faults. As explained in the evidence of Paula Meredith, site-specific concerns about flood hazard mapping are responded to on a case-by-case basis and are usually addressed by explaining modelling approaches. Any issue identified that required an update in the modelling would be carried through to the next model update. Site-specific information on faults submitted to RLC that conflicts with or provides addition detail to that available in the NZ High Resolution Database will be forwarded to Earth Sciences New Zealand periodically for consideration. In the meantime, any such reports are linked to property files.

Evaluation

14. The submissions raise a tension between certainty and participation, and responsiveness in the management of hazard information. I consider that the approach proposed in PC 8, that is to retain most hazard mapping outside the District Plan, is the most appropriate and efficient response to this issue.
15. Hazard information for Rotorua is produced by multiple agencies and is updated frequently as new data, modelling techniques, and climate-change scenarios become available. Embedding this information within the District Plan would require repeated Schedule 1 processes to maintain accuracy, which would be resource-intensive and inconsistent with the requirement under the NPS-NH to base decisions on the best available information (Policy 5). Publishing hazard information on Geyserview enables the Council to keep mapping current and accessible, while still implementing the District Plan through rules, definitions, and assessment matters that remain within the statutory framework.
16. I acknowledge the concerns raised about natural justice, certainty for plan users, and the role of the District Plan as a first point of reference for landowners. However, in practice the Geyserview platform provides a more up-to-date and transparent source of hazard information than static plan maps, and significant hazard map updates have been accompanied by opportunities for public participation. While not all technical updates have been publicised individually, the case-by-case approach is considered proportionate to the scale of changes and Council’s resourcing. This approach

still enables public scrutiny of how hazard information is applied through the RMA plan-making process and can be supplemented with site-specific information in the consent process.

17. However, some exceptions are necessary. The geothermal system maps must remain in the District Plan because they provide the only reliable spatial basis for determining the application of geothermal hazard rules. Similarly, the bespoke High Lake Level Resilience Area proposed for Lake Ōkāreka addresses unique circumstances where mapped spatial information is required to give effect to a tailored rule framework (refer to Section 3.9.2.3).
18. The suggestion of a hybrid approach, retaining statutory maps for enduring hazard information and using non-statutory layers for more dynamic datasets, has merit. However, the only hazard mapping that could reasonably be considered “enduring” at this time is the historical land instability mapping. This mapping is high-level, lacks sufficient detail, and is not directly linked to policies or rules, so retaining it in the District Plan would add little practical certainty and could instead create confusion. On that basis, a hybrid approach is not warranted for land instability hazards.
19. I am unsure of the relief sought by WRC and recommend that this submission point be rejected.
20. Overall, I consider the mixed approach proposed, which retains geothermal system maps and introduces a bespoke Lake Ōkāreka High Lake Level Resilience Area but keeps other hazard mapping outside the District Plan, to be the most effective, efficient and appropriate method for achieving the purpose of PC 8 and the objectives of the District Plan and, it is the most consistent with the NPS-NH. It enables the use of up-to-date hazard information while maintaining statutory certainty through objectives, policies, rules, and definitions within the District Plan.
21. I do not agree with the Rotorua Planning Consultants Group that public requirements relating to incorporation by reference have not been followed (cl 34(2)(c)). This provision relates to documents incorporated by reference into the District Plan, whereas the hazard information published through Geyserview is not incorporated into the Plan but instead provides supporting technical information used in its implementation.
22. I also do not agree that the approach is unique to Rotorua Lakes Council. The following local authorities have taken a similar approach:
 - a) Plan Change 14 to the Hamilton City Plan (decision issued December 2025) removed flood hazard areas from the district plan and explains that the starting point for flood hazard information is Hamilton City Council’s floodviewer but that this is not part of the plan change.
 - b) Plan Change 27 to Tauranga City Plan (operative in 13 May 2025) introduced five new flood hazard areas that are defined but not mapped in the District Plan. An example definition from the Tauranga City Plan is provided below:

flood prone area:

Means the land susceptible to flooding in the 1% annual exceedance probability (AEP) rainfall event concurrent with a 5% annual exceedance probability (AEP) storm-tide event, taking into account the effects of climate change on rainfall and sea level based on the RCP 8.5 median scenario as of the year 2130, but is not within the definition of overland flowpath or floodplain.

Note: The Council holds publicly available information showing the modelled extent of flood prone area(s) affecting specific properties as a layer within its GIS viewer (GIS layer). The GIS layer is indicative only, although Council accepts that the definition of flood prone area does not apply to land which is shown as being outside the flood prone area on the GIS layer.

The Council will consider publicly held site-specific information as well as any relevant information which may confirm that the flood prone area definition does not apply to a particular site.

Any person may provide the Council with a site-specific technical report prepared by a suitably qualified and experienced chartered professional engineer to establish the extent, depth and flow characteristics of the flood prone area. The Council will accept such a site-specific technical report as prevailing over the indicative flood prone area depicted in the GIS layer, provided the report uses the parameters in the definition above and the report (including any assumptions) is free from errors which materially affect the modelled extent, depth and flow characteristics of the flood prone area.

Where the Council's stormwater model has been updated utilising more up-to-date or site-specific information, this will prevail over the indicative flood prone area depicted in the GIS layer.

The Council will continue to update the GIS layer, including where further relevant site-specific information becomes available and to account for catchment changes as a result of infrastructure and land development.

- c) Plan Change 120 to the Auckland Unitary Plan (notified for submissions November 2025) proposes definitions of flood hazard, coastal inundation, coastal erosion and land instability areas. The plan directs users to consult a GIS viewer but does not lock in information as at a point in time. An example of the definition of floodplain is provided below:

floodplain:

The area of land that is inundated by runoff from a specified rainfall event, with an upstream catchment generating 2m³/s or greater of above ground flow, taking into account:

- any increases in impervious areas that would arise from changes in land use enabled by the policies and zonings of the Plan;*
- the effects of climate change over a 100 year timeframe in respect of the frequency and duration of rain fall events and a 1m sea level rise; and*
- assuming that primary drainage is not blocked. Excludes the following areas:*
- constructed depressions or pits within the Special Purpose - Quarry Zone PC 78 in regards to Metro Centres (see Modifications)*

Note: The Council holds publicly available information showing the modelled extent of floodplains affecting specific properties in its GIS viewer for the one per cent annual exceedance probability (AEP) rainfall event (the floodplain maps). The floodplain map is indicative only although Council accepts its accuracy with regard to land shown on the

floodplain map as being outside the floodplain. A party may provide the Council with a site specific technical report prepared by a suitably qualified and experienced person to establish the extent, depth and flow characteristics of the floodplain. When taking account of impervious areas that would arise from changes in land use enabled by the policies and zonings of the Plan, recognition should be given to any existing or planned flood attenuation works either existing or planned in an integrated catchment management plan. Council will continually update the floodplain map to reflect the best information available.

Recommendation

23. I recommend that:

1. Submissions supporting the retention of hazard maps outside the District Plan are accepted in part (noting that some maps will continue to be retained to define where rules apply). Submissions seeking the inclusion of hazard maps within the District Plan are rejected. Submission S_57_02 supporting a hybrid approach are accepted in part insofar as it is acknowledged that some hazard mapping should be retained.
2. Submissions seeking clearer processes for public involvement in updating hazard information are accepted in part, noting that Council will continue to use a case-by-case approach to engagement on mapping updates based on their significance.
3. Submission S_01_02 by Kieran Oppatt seeking a commitment to update at least every five years or after major infrastructure upgrade is also accepted in part, recognising the need for continual upgrades but that this will be programmed according to resources and the priority of issues.
4. Submission S_15_02 by WRC is rejected, as the relief is unclear.
5. No further changes to PC 8 are made beyond those proposed or recommended in response to other submissions.

3.9 Flooding Provisions

3.9.1 Existing Flooding Provisions and Proposed Amendments

Waikato Specific Objectives and Policies

1. The Natural Hazards chapter currently contains objective NH-01 specific to flooding in the Waikato River catchment. PC 8 proposes to delete this objective because it is inconsistent with the structure of the rest of the District Plan (which has strategic, hazard-generic objectives in the strategic direction section, supported by detailed policies in the Natural Hazards chapter), potentially creating confusion for plan users and a risk that the strategic objectives are missed.

~~**NH-01: Manage subdivision, use and development in areas within the Waikato River catchment that are subject to high risk flood hazard to minimise risk to people and property.**~~

2. This objective responds to methods in the WRPS, which require district plans to:
 - Identify the location of areas affected by High Risk Flood Hazard (Method 7).

- Control subdivision in these areas to avoid the demand for structures (Method 6).
 - Ensure that use and development within High Risk Flood Zones is appropriate (Method 10).
3. The Section 32 Report for PC 8 considers that this objective, which focuses only on high-risk flood hazard zones, obscures the overarching and more broadly applicable objectives of the WRPS, as expressed in Objective HAZ-O1 of the WRPS, which seeks to increase resilience, reduce risks to acceptable levels, and enable effective and efficient response and recovery. The Section 32 Report also pointed out that there is currently no hazard mapping to identify High Risk Flood Zones in the Waikato part of the district. Furthermore, it was considered that the other policies and rules provide opportunities to consider flood risk and provide an appropriate response consistent with the WRPS.
 4. The District Plan defines ‘High risk flood hazard zone’ consistently with the WRPS as “land within the Waikato river catchment that is subject to river or surface flooding during an event with an annual exceedance probability of no more than 1% and during such an event: a) The depth of flood waters exceeds one metre; b) The speed of flood water exceeds two metres per second; or c) The flood depth multiplied by the flood speed exceeds one”. The Section 32 Report proposed to delete this corresponding definition but this was not carried through to the track changes (Appendix 1).
 5. PC 8 also proposes to delete the following policy specific to the Waikato River catchment for the reason that a single set of policies applying across the whole district would be more effective and efficient:

~~*NH-P1: Manage land use and development in areas subject to high risk flood hazard within the Waikato River catchment, including avoiding the placement of habitable structures which would be vulnerable to flood events and mitigating risks for non-habitable structures through design and location measures.*~~

Flood Management Policies

6. The Natural Hazards chapter (NH) provides three flooding-specific policies, which were inserted through PC 9 and apply outside the Lakes A Zone (NH-PA, NH-PB and NH-PC). PC 8 supported the retention of these policies but proposed an amendment to NH-PA to more clearly signal that development should not proceed if the risks cannot be demonstrated to be acceptable. PC 8 also proposed to add an additional point to NH-PB to reflect the practice of considering methods of legal protection of overland flowpaths at the time of subdivision through methods such as consent notices, easements or the vesting of land in Council. These policies and the proposed changes are set out below.

Buildings in Areas Susceptible to Flooding

NH-PA Manage the risks to people, property and the environment associated with development in areas susceptible to flooding by:

1. *In areas where the anticipated flood depths are low and, therefore, the likely risks to people and property are less, requiring new buildings and larger additions to existing buildings to have floor levels above the flood level for the 1% AEP event with an allowance for climate change and freeboard.*

2. *In areas where anticipated flood depths are higher and, therefore the potential risks to people and property are greater, requiring a flood risk assessment for new buildings and larger additions to existing buildings and their associated site works and declining consent if the flood risks are not shown to be acceptable - to ensure the associated flood risks are acceptable. The assessment shall correspond to the nature and scale of the anticipated flooding on site and shall include assessment of:*
 - a) *The extent to which the flood risks (including residual risks) on site are managed to an acceptable level;*
 - b) *Whether the development will increase risks (including residual risks) to other people, property, infrastructure or the environment;*
 - c) *Safe evacuation routes and refuges; and*
 - d) *Impacts on overland flowpaths and river corridors.*
 - e) *Considering legal protection of overland flowpaths at the time of subdivision through methods such as consent notices, easements or vesting of land in Council.*

Overland flowpaths and river corridors

NH-PB *Maintain the function of overland flowpaths and river corridors to safely convey flood water and reduce risk to life, property and infrastructure by:*

1. *Maintaining the water carrying capacity of overland flowpaths and river corridors;*
2. *Maintaining the water storage capacity of major overland flowpaths and river corridors;*
3. *Restricting activities that may obstruct an overland flowpath; and*
4. *Assessing the impact of any changes to the entry or exit points of overland flowpaths on a site and the impact on other sites and infrastructure.*

Impervious surfaces

NH-PC *Restrict impervious surfaces to reduce the cumulative effect of stormwater run-off on flooding.*

Flood Management Rules

7. District Plan rules that assist to manage flooding and respond to these objectives and policies are summarised below:
 - Rule NH-R4, which was inserted by PC 9, implements the risk-based approach to managing buildings set out in policy NH-PA. NH-R4(2) provides minimum floor level performance standards for buildings in areas with anticipated flood depths of 300mm or less in the design event (1%AEP for 2130, using RCP8.5 or national or regional guidance on climate change) as a permitted activity.
 - In areas where flood depths are anticipated to be higher in the design event, NH-R4(4) requires resource consent as a restricted discretionary activity. The matters of discretion for NH-R4(4) are listed in NH-MD1 and provide the basis for a flood risk assessment. These matters include risk to the development, risk to other property, safe evacuation and maintenance of overland flowpaths.

- SUB-R43 provides a restricted discretionary activity status for subdivision of flood prone land. The matters of discretion are listed in SUB-MD2 and are similar to those provided for buildings in NH-MD1.
 - Maximum impervious surfaces standards apply to some permitted activities in some zones. Notably, PC 9 reduced these standards from 80% in Residential 1 Zone and 100% in Residential 2 Zone to 70% and 80% respectively.
 - In terms of water displacement, the building coverage standards of the zone chapters are also relevant.
 - Earthwork performance standards that provide maximum volumes of fill are also relevant to the issue of water displacement. These performance standards are not specific to flood prone areas but when the standards are exceeded the impact of natural hazards (e.g. reduced flood storage) can be considered under the matters of discretion (EW-MD3).
8. In response to feedback from Council engineers, planning staff and technical advisors about the need for clearer and more robust methods to manage overland flowpaths, PC 8 proposes the following additional rule to protect neighbouring land from changes in overland flowpaths caused by buildings and structures. The rule is proposed to apply only in more intensely developed zones, where the risks are considered higher. Works authorised under a stormwater consent granted by the regional council are also proposed to be exempt for reasons of efficiency, as the consent process provides an alternative option for considering and managing potential flooding impacts.

<u>NH-R5</u> <u>Buildings and Structures in an Overland Flowpath</u>	
<p><u>Applicable Spatial Layers</u></p> <p><u>Residential zones, City Centre Zones, Commercial Zones, Industrial Zones, Business and Innovation Zones, Lakes A Zone Settlement Management Area and Bush Settlement Management Area</u></p>	<p><u>1. Activity Status: Restricted Discretionary</u></p> <p><u>Where:</u></p> <p>a. <u>The building or structure results in a change to the entry or exit point of an overland flowpath on a site, pipes or reduces the capacity of the overland flowpath; and</u></p> <p>b. <u>The activity is not authorised by a stormwater discharge permit granted by the regional council.</u></p> <p><u>Matters of Discretion</u></p> <p>a. <u>The extent to which natural hazard risks are avoided or mitigated and the worsening of any hazard.</u></p>

9. PC 8 also proposes to amend the definition of overland flowpath to provide a 4,000m² catchment size threshold to the application of the rules and standards for overland flowpaths. This threshold was based on consideration of practice in other districts and the benefits of consistency.

<i>overland flowpath</i>	<p><i>The land overflowed by a concentrated flow of water in an intense rainfall event, as it flows towards the stormwater network, streams, rivers, or lakes. Overland flowpath includes a secondary flowpath which is activated when the primary (often piped) stormwater system gets blocked or when the capacity of the piped system is exceeded. For the purposes of this definition, an overland flowpath includes, but is not limited to, an artificially designed route using formed or hard surfaces.</i></p> <p><u>Overland flowpaths referred to in rules and performance standards</u></p>
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	<i>shall be limited to those with a catchment of 4000m² or more.</i>
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10. An additional performance standard for earthworks is also proposed in EW-S1(1) for the denser developed zones.

EW-S1 General earthworks performance standards

...

g. Residential zones, City Centre Zones, Commercial Zones, Industrial Zones, Business and Innovation Zones: it shall not result in a change to the entry or exit point on a site of an overland flowpath, or change the catchment size of an overland flowpath, except where the earthworks are for an activity authorised by a stormwater discharge permit granted by the regional council.

11. PC 8 further proposes that this standard should apply to the many activities listed in EW-S1(2) that are otherwise exempt from the requirement to meet the permitted activity performance standards in EW-S1(1) by amending the statement about exemptions in EW-S1(2):

Notwithstanding the preceding requirements, the following activities are exempt from the performance standards above, provided that the activity meets EW-S1(1)(g):

12. PC 8 also proposes to further strengthen protection of river corridors by building on existing provisions for streams and rivers directed at protection of natural values. Where buildings are already required to obtain consent near lakes, rivers, or streams, changes to rules are proposed to ensure natural hazard risks (including flooding) are also taken into account when making consent decisions under Rule NATC-R3, by inserting an additional matter of discretion: “the extent to which natural hazard risks are avoided or mitigated and the worsening of any hazard”.

Lakes A Zone

13. PC 8 proposes to extend the flooding provisions in the Natural Hazards chapter in the main part of the District Plan to the Lakes A Zone as part of a general approach to aligning natural hazard provisions across the whole district. As explained in Section 3.2, this is actioned by amendments to introductory chapters of the plans that explain how the plan works and to the introduction at the beginning of the Natural Hazards chapter.
14. Policy 13.3 of the Lakes A Zone, which relates specifically to flood hazards, is proposed to be deleted because of inconsistency with policies and NH-R4 of the Natural Hazards chapter:

~~**Policy 13.3:** *To avoid, remedy or mitigate the effects of a 2% AEP flood events arising from streams, ephemeral watercourses, and high lake levels.—*~~

15. Rule 6 (Building Platforms) and subdivision Rule 40 (General Subdivision Standards) of the Lakes A Zone respond to Policy 13.3 by requiring that building platforms are outside riparian areas, ephemeral watercourses, and the 2%AEP lake level (with discretion reserved over the extent to which a building platform intrudes into the 2%AEP lake level when this performance standard is not met); and that access is clear of the 2%AEP lake level and ephemeral watercourses.
16. PC 8 proposes to amend Rule 6 (Building Platforms) by deleting the permitted activity performance standards requiring location outside the 2%AEP lake level and the matter of discretion the extent to which the building platform intrudes into the 2%AEP lake level. These standards are inconsistent with

Rule NH-R4, which is proposed to be extended to the Lakes A Zone. PC 8 did not propose to amend the access standard in Rule 40.

17. Consistent with the approach in the main part of the District Plan, PC 8 also proposes to add an additional performance standard for Rule 5.0 (Earthworks) in the Lakes A Zone, applying to the Settlement Management Area and Bush Settlement Management Area:

The earthworks shall not result in a change to the entry or exit point on a site of an overland flowpath, or change the catchment size of an overland flowpath, except where the earthworks are for an activity authorised by a stormwater discharge permit granted by the regional council.

18. A definition of overland flowpath, consistent with that in the main part of the District Plan, is also proposed to be added to the Lakes A Zone.

3.9.2 Evaluation of Matters Raised in Submissions

3.9.2.1 Removal of Waikato-Specific Objectives and Policies

Submissions

1. FENZ supports the removal of Objective NH-O1 and Policy NH-P1 that apply only to the Waikato Region and endorses reliance on amended strategic objectives and policies for the entire district, including the Lakes A Zone. They consider this approach to be consistent and effective for managing natural hazards across the district and seek retention of the proposed changes (S_07_08).

Evaluation

2. I support the submission of FENZ for the reasons given in the Section 32 Report in relation to the removal of Objective NH-O1 and Policy NH-P1 in favour of amended strategic objectives and policies for the whole district, namely:
 - The Waikato-specific objectives create confusion for plan users and a risk that strategic objectives in another chapter of the plan are missed.
 - One set of objectives and policies would improve clarity and efficiency.
 - Objective NH-O1 is not the most appropriate mechanism to give effective to the WRPS because it focuses only on the most hazardous areas and not on the broader policy intent of increasing resilience, reducing risks to acceptable or tolerable levels and enabling effective and efficient response and recovery.

Recommendation

3. I recommend that submission S_07_08 by FENZ is accepted and no further changes be made.

3.9.2.2 Consideration Outside Rotorua City

Submissions

1. Ngāti Tahu-Ngāti Whaoa Runanga Trust is concerned about a lack of consideration for ratepayers in the Waikato region. It considers this to be demonstrated by the absence of a flood risk assessment under the WRPS, a lack of reference to the WRC in the Section 32 Report, and a lack of inclusion of flood hazard modelling and assessment of flood risk in rural areas south of the city. It considers that, without a basic understanding of the risk in the rural areas, RLC will continue to apply a blanket rule

that may or may not be appropriate and that this does not show any effort by RLC to service these areas as they would the rest of the district. While the Section 32 Report noted the emerging flood modelling by WRC, the submitter considers that a reliance on WRC is unlikely to result in prioritisation of Reporoa or other rural areas. The submitter also notes that there have been recent floods in the Reporoa catchment. It seeks modelling for the Reporoa catchment and wider rural district south of the city via the same process undertaken for the city and lakes areas (S_41_02, S_41_01).

2. WRC's further submission states that it recognises the concern regarding flood risk in rural areas but maintains that PC 8 is not the appropriate mechanism to resolve regional-scale modelling gaps. Broader hazard assessments or future policy updates would provide a more appropriate avenue (F_15_03).
3. The Māori Trustee / Te Tumu Paeroa considers that insufficient analysis has been undertaken by Council to determine flood risks outside the Western Rotorua Flood Model area and therefore finds it difficult to understand whether the proposed policies are appropriate (S_28_04).

Evaluation

4. I acknowledge the concerns raised by Ngāti Tahu–Ngāti Whaoa Runanga Trust and the Māori Trustee / Te Tumu Paeroa regarding the limited flood hazard information available for the Waikato part of the district and rural areas. RLC's current flood hazard information focuses on the Rotorua urban area and lakes, reflecting the historic prioritisation of areas with higher population and development pressure. While I consider this approach reasonable, I recognise that it can leave rural communities feeling overlooked. The regional-scale flood model currently being developed by WRC is expected to significantly improve the level of information available for these areas, and RLC has been actively engaging with WRC to support this work. In the meantime, the National Flood Tool provides an indication of areas with potential flooding issues that may require site-specific investigation, as discussed in the evidence of Paula Meredith.
5. The extensive references to the BOPRPS in the Section 32 Report are because the BOPRPS provides a detailed, prescribed methodology for risk assessment. The WRPS does not include an equivalent technical methodology. However, the methodology for the Bay of Plenty was considered across the whole district during the development of the Section 32 Report using the information available.

Recommendation

6. I recommend that:
 1. Submission S_41_02 and S_28_04 are partially accepted insofar as they acknowledge that flood hazard information is not as developed in the Waikato part of the district and rural areas, but no further changes are made.

3.9.2.3 High Lake Levels at Lake Ōkāreka

Submissions

1. Twenty-six submitters addressed the issue of high lake level mapping at Lake Ōkāreka. While PC 8 does not propose to include flood hazard maps as part of the District Plan, mapping published on Council's online viewer 'Geyserview' was a key concern of submitters, given its use to implement the rules and, perhaps more importantly for submitters, for insurance and property value considerations.

Nearly all the submitters opposed mapping based on the BOPRC's 2022 Rotorua Lakes Design Level Report (the '2022 Lakes Design Level Report').

2. The key reason given by submitters for opposing the identification of the 1%AEP level based on the 2022 Lakes Design Level Report is that the methodology for identifying the 1%AEP levels, which is based on a statistical extreme value analysis of historical lake level data from 1971-2020, does not account for the 2021 outlet upgrade that significantly increased outflow capacity (see, for example, submissions S_21_05 and S_06_01). Submitters suggest that the whole point of the upgrade was to reduce flooding risk and it does not make sense that this is not taken into account in flood hazard information (S_16_01).
3. Neil Oppatt's submission also stated that the 1%AEP flood level is inconsistent with the modelling work commissioned by BOPRC in 2017 (to support the upgrade of the outlet) (S_06_01) and several others support his submission. The Lake Ōkāreka Community Association further states that any flood assessments should not be constrained by the current consented outflow from the outlet (of 500L/s), as this would not recognise the practical reality of how a system would be operated during an extreme weather event (that is, at increased outflows) (S_21_05).
4. The Lake Ōkāreka Community Association also notes that the current level (which is mapped on Geyserview based on the 2022 Lakes Design Level Report) does not consider climate change. Furthermore, it questioned the robustness of the included freeboard (S_21_05).
5. Some of these submitters also consider that mapping based on the 2022 Lakes Design Level Report is inconsistent with Policy NH-P1 proposed by PC 8, because it is not the use of best available information (see for example, S_21_05).
6. The decisions sought by the submitters that oppose the accuracy of high lake level mapping at Lake Ōkāreka can be summarised as:
 - That the application of PC 8 in relation to Lake Ōkāreka is delayed until updated modelling is available (see, for example, S_13_02).
 - That flood levels be calculated instead using a water balance model (see, for example, S_09_01 and S_21_05).
 - That the 1%AEP flood hazard map is removed from Geyserview (S_21_05).
 - Any determination of regulatory freeboard levels is deferred until a credible base flood elevation is established (S_21_05)
 - That PC 8 be amended to permit property-specific modelling by qualified engineers where the district-wide model is known to be outdated (S_01_01).
 - BOPRC reviews the outlet's resource consent in relation to the discharge limit of 500L/s (S_21_05)
 - The provisions relating to flooding are removed from PC 8 and residential buildings be permitted (subject to geotechnical assessment) (S_46_02).
7. The Natural Hazards Commission opposes the submission of the Lake Ōkāreka Community Association, stating that the 2022 Lakes Design Level Report is a high-quality report that follows

established scientific methods. While there are still uncertainties associated with the lake outlet, it considers the information as the best available information, which aligns to SDNH-P1 (F_22_18).

8. BOPRC's further submission on multiple submissions states that it considers the 2022 flood level analysis to be the best available information to determine flood hazard at Lake Ōkāreka for the purpose of implementing the flood management provisions, while acknowledging its limitations of not including the impact of the pipeline and not including specific analysis of the impacts of climate change (see, for example, F_45_04).
9. BOPRC's further submission also refers to two reports it commissioned that use a water balance approach at Lake Ōkāreka but considers that these are not suitable for setting flood level recommendations for the purpose of setting building floor levels because these were commissioned for a different purpose (assessing the relative performance of pipeline designs and investigating the influence of management guidelines on the system) and extending the purpose would require additional consideration of assumptions, scenarios etc, as well as comprehensive peer review. BOPRC also points out that neither document endorse' its use for building floor levels and one specifically states that it is not provided for the purposes of setting building floor levels.

Evaluation

10. I acknowledge the strong level of community concern regarding the current high lake level mapping at Lake Ōkāreka. Although PC 8 does not propose to include flood hazard maps in the District Plan, the Council's Geyserview layers, based on the 2022 Rotorua Lakes Design Level Report, are important for the implementation of Rule NH-R4. I also acknowledge that hazard mapping published by the Council may have practical implications for insurance and be considered in the context of the sale of property.
11. Having reviewed the evidence and points raised in submissions, I have considered whether the 2022 Rotorua Lakes Design Level Report provides a sufficiently robust basis for implementing Rule NH-R4 in its current form. I acknowledge that BOPRC considers the 2022 Rotorua Lakes Design Level Report to be the "best available information". Furthermore, RLC's expert, Peter Cochrane, considers the design levels recommended in this report to be a reasonable basis for informing planning. However, I remain uncertain that the report can be used to identify probabilistic flood elevations with significant confidence for implementation of Rule NH-R4 in relation to Lake Ōkāreka because the levels are based on an analysis of past data prior to the pipeline upgrade and new lake management regime.
12. Indeed, with the management and future state uncertainties identified in the expert evidence, I also have concerns about the potential to confidently identify a probabilistic flood elevation in the future, even with the alternative water balance approach sought by submitters. As explained in the evidence of Peter Cochrane, while there may be alternative modelling approaches available, any approach will need to deal with uncertainties and complexities inherent in the managed system and climate change.
13. However, notwithstanding uncertainty in a mapped 1%AEP line, I consider there is still a need for planning controls to manage risks associated with development near the lake due to residual and future state risks (including climate change). The NPS-NH requires the use of the best available information, a proportionate, risk-based approach, and consideration of climate change to at least 100 years; decisions must still be made even where information is incomplete or uncertain. In my view, a bespoke planning response that delineates a High Lake Level Resilience Area for Lake Ōkāreka

and applies rules based on building importance to encourage resilience to future uncertainties and climate change is an appropriate and proportionate response at this time.

14. I agree with the evidence of Peter Cochrane that the design level with freeboard in the 2022 Rotorua Lakes Design Level Report (355.33 m – Moturiki Datum 1953) is a reasonable basis for planning. As he notes, this elevation is broadly consistent with the alternative water-balance modelling work undertaken for the 2019 outlet upgrade (354.45 m – Moturiki Datum 1953; if the same freeboard were applied, this would equate to 355.15 m), although noting submitter and expert concerns about whether this study is appropriate for use in a planning context. Approximately 18 residential units are located inside this elevation and another 19 are intersected by it.
15. However, I also support refinements to the rule framework from that provided in NH-R4. Given the active management of lake levels, I support increased certainty for property owners. I consider that the focus should be on restricting intensification and new development within this area while enabling some redevelopment of existing properties.
16. Therefore, I recommend that the bespoke rule package:
 - a) Includes in the planning maps a “High Lake Level Resilience Area” around Lake Ōkāreka, between the lake and the 355.33 m elevation (Moturiki Datum 1953), consistent with the design level recommended in the 2022 Rotorua Lakes Design Level Report with freeboard, as shown in Figure 1 of Appendix 3.
 - b) Enables buildings of low importance within this area, regardless of their elevation above the lake.
 - c) Enables replacement of existing buildings that do not increase the building importance level and that have a floor level above 355.33 m.
 - d) Also enables additions and alterations to existing buildings, provided that the floor level of any addition is at or above the existing floor level (except that this would not apply to buildings of low importance).
 - e) Treats other new buildings and changes to building importance level as discretionary activities.
17. The proposed rule package would also allow for property-specific modelling by qualified engineers where discretionary resource consent is triggered, as sought by one submitter. However, it is considered that property-specific modelling is unlikely to be a feasible option for most developments given the complexity modelling high lake levels for a managed lake.
18. Refer also to Table 1 in Appendix 2 for additional evaluation against the matters in Section 32AA.

Recommendation

19. I recommend that:
 1. Submissions seeking that implementation of PC 8 in relation to Lake Ōkāreka be delayed until updated modelling is available are rejected.
 2. Submissions seeking that flood levels be determined using a water balance modelling and that decisions on freeboard are deferred are partially accepted, insofar as acknowledging that a water balance model may provide a suitable future modelling method and freeboard

may also be revisited but also taking the position that appropriate planning provisions can and should still be developed on the information available.

3. Submissions seeking removal of the 1% AEP high lake level mapping from Geyserview are partially accepted, insofar as it is considered that the current mapped level does not provide a sufficiently robust basis for implementing Rule NH-R4 in its current form. (Noting that the removal of Geyserview layers is an operational decision rather than an RMA decision on PC 8.)
4. Submissions seeking provision for site-specific engineering assessments are accepted in part, noting that these may be considered through the resource consent process under the recommended bespoke rule framework, but should not be embedded as an alternative basis for setting district-wide flood levels.
5. Submissions seeking review of the Lake Ōkāreka outlet consent are rejected, as this matter lies outside the scope of PC 8.
6. Submissions seeking removal of the flooding provisions from PC 8 and a default permitted activity pathway for residential development are rejected.
7. Submissions supporting reliance on the 2022 Rotorua Lakes Design Level Report are accepted in part.
8. A “High Lake Level Resilience Area – Lake Ōkāreka” is added to the District Plan maps at the same elevation as the 2022 Report with an allowance for freeboard of 700mm, that is, at 355.33 m (Moturiki Datum 1953).
9. Policy NH-PBA is inserted as follows:

NH-PBA	<u>Identify an area within an elevation of 355.33 m (Moturiki 1953) around Lake Ōkāreka to guide land use and development, acknowledging that while lake levels are actively managed, planning for potential high lake levels enhances community resilience to future uncertainties associated with climate change and lake level management. Enable redevelopment and upgrading of existing residential properties within this area while avoiding new residential development and other activities that would significantly increase exposure to lake-level hazards.</u>
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6. A new Rule NH-R5A is inserted as follows:

NH-R5A Buildings located in the High Lake Level Resilience Area – Lake Ōkāreka		
Applicable Spatial Layers: High Lake Level Resilience Area – Lake Ōkāreka	1. <u>Activity Status: Permitted</u> <u>Where:</u> a. The building: <ol style="list-style-type: none"> i. <u>is a new building of Building Importance level 1 (building of low importance); or</u> ii. <u>is an addition or alteration to, or a replacement of, an existing building and there is no increase in building importance level.</u> 	2. <u>Activity Status: Restricted Discretionary</u> <u>Where:</u> <u>Compliance is not achieved with the performance standards for rule NH-R5A(1).</u> <u>Matters of Discretion:</u> <u>The extent to which natural hazard risks are avoided, remedied or mitigated and whether the activity would worsen any natural hazard.</u>

	<p><u>Performance standards</u></p> <p>a. <u>The floor level of any new building, including any replaced building, shall be above 355.33m (Moturiki 1953), subject to c).</u></p> <p>b. <u>The floor level of any addition or alteration to an existing building shall be at or above the elevation of the existing building, subject to c).</u></p> <p>c. <u>No minimum floor level shall apply to a building of Building Importance level 1 (building of low importance)</u></p>	
	<p>3 <u>Activity Status: Discretionary</u></p> <p><u>Where:</u></p> <p>a. <u>The building is a new building of building importance level 2a or higher but excluding replacement of an existing building when there is no increase in building importance level:</u></p>	

3.9.2.4 Other Flood Mapping Concerns

1. The following site-specific flood mapping concerns were raised by submitters:
 - a) Fonterra questions the accuracy of flood modelling for their site at 40 Marguerita Street, noting anomalies such as predicted “puddles” on flat concrete areas (S_43_01).
 - b) Mitch Collins and Tamson Armstrong oppose flood hazard mapping for their property at 72 Sophia Street, stating that the model relies on outdated topographic data and ignores site-specific mitigation measures, including swales, soakage systems, and raised ground levels required under existing consent conditions. They also note that adjacent stormwater soakage infrastructure was not considered and that the property lies at the fringe of the modelling area, where accuracy is lower. The submitters seek removal of the pluvial flooding hazard layer from all records, maps, and GIS systems associated with their property and confirmation that future LIM reports accurately reflect its flood-mitigated status (S_17_01).
 - c) Pukeroa Oruawhata Trust opposes flood overlays affecting its sites at Rotorua Central Mall and the Trade Central, citing potential impacts on insurance, property values, and tenant operations. They are concerned that reclassification of these areas as flood-prone could lead to financial and operational risks, including costly mitigation measures and disruption to businesses (S_55_01).
 - d) The Lake Tarawera Ratepayers Association seeks an update to high lake level information for Lake Tarawera, saying it does not account for the long term decline in lake levels (S_30_03).
 - e) Ngati Makino and members of Te Urunga a Kea questions high lake level definitions in the context of lake level management (S_57_03).

Evaluation

2. PC 8 does not propose to adopt hazard mapping as “statutory layers” in the District Plan. On this basis, there remains an opportunity to address concerns about hazard mapping at the time of development by providing alternative site-specific information, as explained in the evidence of Paula Meredith. I also note that decisions about hazard information published within LIMs are not within the scope of this plan change.
3. Nonetheless, in recognition of the importance of hazard mapping to owners, RLC asked Simon Aiken, Principal Water Resources Consultant at Tonkin & Taylor, to consider the issues raised in these submissions from fluvial and pluvial flooding; and Peter Cochrane, Principal Environmental Scientist at Tonkin& Taylor, to consider the issues raised relating to high lake levels.
4. In relation to 40 Marguerita Street, Mr Aiken found no evidence of error in the LiDAR or modelling in the Western Catchment Flood Model and mapped ponding areas (“puddles”) coincide with physical depressions and on-site catchpits where inlet capacity would likely be exceeded in a 1%AEP event.
5. In relation to 72 Sophia Street, Mr Aiken confirms that the Western Catchment Flood Model accurately reflects the existing landform and drainage characteristics affecting the site. Although subdivision consent has been granted for mitigation works, these works are not yet complete, and therefore the model appropriately represents the current hazard. He does not agree that the Cheal Consultants engineering design provides better information on the flood hazard. In relation to the concern that private soakage systems have not been incorporated in the modelling, Mr Aiken considers that these would provide negligible attenuation during a 1% AEP event because they are sized only for the 10% AEP storm and would rapidly fill before the peak. The districtwide model already accounts for infiltration using a calibrated continuing loss rate. Mr Aiken does not consider that any “edge effects” relating to the location of the property relative to the modelling boundary are relevant in this case. Future landform changes that may occur to implement the consent should be picked up in updated LiDAR and model re-runs.
6. In relation to Rotorua Central Mall and Trade Central, Mr Aiken’s evidence confirms that the mapped flood extents generated by the Greater Utuhina Catchment Model and the Western Catchment T+T model are consistent with expectations once the different flood mechanisms (fluvial breakout versus pluvial ponding) are taken into account. The Trade Central site is affected by both river breakout flows and localised surface runoff, while Rotorua Central Mall is affected only by pluvial ponding in low lying areas. On this basis, the model outputs are considered reliable and appropriately identify the relevant flood mechanisms affecting each property.
7. Based on this evidence, I consider that the Council’s flood model remains an appropriate source of hazard information for these properties. As noted by Mr Aiken, once the remaining consented earthworks and mitigation measures are complete for 72 Sophia Street, updated LiDAR and future model reviews will capture the resulting improvements in flood behaviour.
8. Peter Cochrane’s evidence explains that, while Lake Tarawera has exhibited a long-term decline in lake levels, the 2022 Lakes Design Levels Report already recognises and incorporates this trend, including evidence of a reduction in annual maximum lake levels. A broader examination of the full lake record shows a general historical decline, but with stabilisation from the mid-1990s onward and a possible recent increase in levels, meaning the long-term trend is neither linear nor consistently downward. In this context, the 1% AEP lake level used for planning remains the best available

information for establishing design flood levels. Ongoing dialogue with BOPRC to better understand lake-level drivers is supported, although this may not result in any change to the current 1% AEP level.

9. Regarding Lake Rotorua, Mr Cochrane explains that the evidence indicates that management interventions on Lake Rotorua primarily influence average and low-range levels, not peak flood levels. These measures have little effect on the magnitude of extreme lake levels relevant to hazard planning. Accordingly, the 1% AEP lake level identified in the 2022 Lakes Design Levels Report remains the most reliable and appropriate basis for setting design floor levels and assessing flood risk for planning purposes.

Recommendation

10. I recommend that:

1. Submission S_43_01 by Fonterra is partially accepted insofar as the limitations of modelling are acknowledged by no changes are made.
2. Submissions S_17_01 by Mitch Collins and Tamson Armstrong and S_55_01 by Pukeroa Oruawhata Trust are partially accepted insofar as the importance of flood hazard information for other purposes is acknowledged but no changes are made.
3. Submission S_30_03 by Lake Tarawera Ratepayers Association is partially accepted insofar as acknowledging there is some evidence of a trend but on changes are made.
4. Submission S_57_03 by Ngati Makino and members of Te Urunga a Kea seeking alternative high lake level definitions for Lake Rotorua is rejected.
5. No changes be made to the District Plan as a result of these submissions.

3.9.2.5 Management of Development in Flood Prone Areas

Submissions

1. Newvid Holdings Trust opposed the reference to “declining consent” in Policy NH-PA stating it is problematic since “acceptable risk” is vague and subjective (S_40_03). This was opposed by the Natural Hazards Commission (F_22_37).
2. BOPRC supports the proposed strengthening of Policy NH-PA addressing development in flood prone areas through the reference to declining consent, but seeks that this also refer explicitly to onsite and offsite effects (S_45_14):

...and declining consent if the flood risks onsite and offsite are not shown to be acceptable.

3. Kāinga Ora, consistent with other relief sought, seeks that the policy be reframed to include the terms “high risk”, “moderate risk” and “low risk” to clearly set out the parameters of management versus avoidance of the risk (S_42_11).

Policy NH-PA: *Manage the risks to people, property and the environment associated with development in areas susceptible to flooding by:*

1. In areas where the anticipated flooding is depths are low or medium risk-low and, therefore, the likely risks to people and property are less, requiring new buildings and larger additions to

existing buildings to have floor levels above the flood level for the 1% AEP event with an allowance for climate change and freeboard.

2. In areas where anticipated flooding ~~is depths are higher and~~ high risk, therefore the potential risks to people and property are greater, requiring a flood risk assessment for new buildings and larger additions to existing buildings and their associated site works and declining consent if the mitigated flood risks are not shown to be tolerable ~~acceptable to ensure the associated flood risks are acceptable~~. The assessment shall correspond to the nature and scale of the anticipated flooding on site and shall include assessment of:

a . The extent to which the flood risks (including residual risks) on site are managed to an acceptable level;

b. Whether the development will increase risks (including residual risks) to other people, property, infrastructure or the environment;

c. Safe evacuation routes and refuges; and

d. Impacts on overland flowpaths and river corridors.

4. WRC questions the rationale for permitted development where flood depth is less than 300mm without requiring a consent and seeks explanation used to justify this threshold (S_15_11). This is supported by Fonterra (F_43_03). WRC considers that the threshold-based approach to requiring risk assessment in Policy NH-PA risks undermining hazards in areas with lower but still significant flood impacts and creates inconsistency across the region. According to WRC, relying solely on a depth-based threshold is likely to oversimplify the hazard and underestimate potential impacts if areas are subject to fast-moving floodwaters. WRC recommends amending NH-PA to require risk assessments for all new development to ensure alignment with the WRPS. Its reasons suggest that by ‘all new development’ it means all new buildings and significant additions (S_15_10).
5. WRC also opposes Kāinga Ora’s approach using threshold-based distinctions for management and prefers a risk-informed approach for all development (F_15_04).

The Natural Hazards Commission suggests definitions corresponding to “low flood depths” and “when flood depths are higher” in to Policy NH-PA be included. Rather than the 300mm threshold used in the rules, it suggests definitions based on Plan Change 14 to the Hamilton City Plan (S_22_14):

Low - flooding up to 50cm high, and moving at speeds of up to 1m per second. Low does not mean safe.

Medium - flooding between 50cm and 1m high, or moving at speeds of 1m-2m per second.

*High - flooding more than 1m high, or moving faster than 2m per second.**

6. WRC also refinement of the matters for consideration highlighted in NH-PA to align with the [draft] NPS-NH Policy 1 (Risk assessment):

When assessing natural hazard risk for an activity in planning and consenting, local authorities must consider:

1) The likelihood of a natural hazard event occurring;

- 2) [The consequences of a natural hazard event for the activity;](#)
- 3) [Existing and proposed mitigation measures; and](#)
- 4) [Residual risk](#)

7. WRC also seeks consideration of expanding the scope of risk assessments to include more frequent flood events and to take a more holistic approach by considering the full subdivision context, including infrastructure and liveability (S_15_10).

Evaluation

8. I support the change sought by BOPRC to expressly refer to flood risks “onsite and offsite” in Policy NH-PA. While I consider that it could be assumed both onsite and offsite risks are meant due to reference ‘other people, property and infrastructure’ later in the policy, this change would help to focus attention and avoid any doubt.
9. I do not support the submission of Kāinga Ora to include the terms “high risk”, “moderate risk” and “low risk” in the flooding policy or their proposed amendments to do so. In my view, the most appropriate approach for Policy NH-PA, and for PC 8 more broadly, is to maintain a risk-based framework centred on achieving “acceptable risk”, rather than introducing fixed categories of “high”, “moderate” or “low” risk from the NPS-NH or other potential frameworks. This is considered to best give effect to the NPS-NH, which requires decisionmakers to avoid very high risk as defined using a probability-consequence matrix, but otherwise manage natural hazard risk in a proportionate and evidence-based manner, as well as the regional policy statements. Using “acceptable risk” as the common outcome enables PC 8 to operate coherently across these differing higher order documents.
10. I acknowledge Newvid Holdings Trusts concern that the definition of “acceptable risk” is not precise enough in terms of identifying which applications will be declined but the supporting policies and assessment framework provide clear guidance on the factors decision-makers must consider, to promote transparent application.
11. I am also concerned that introducing risk categories into Policy NH-PA would oversimplify what is, in practice, a hazard-specific, site-specific and context dependent assessment. Rigid criteria reduce flexibility and risk missing relevant factors that emerge at the time of assessment.
12. A further concern with Kāinga Ora’s proposed amendment to Policy NH-PA is that the wording conflates hazard and risk. While flood depth is used in Policy NH-PA as a measure of the flooding hazard and, therefore, the degree of potential risk to development, it is not itself a determination of the level of risk. I would prefer that Policy NH-PA instead reflect the approach taken in the methods and refer to ‘depth’.
13. I do not support amending the matters in Policy NH-PA to align with the [draft] NPS-NH as sought by WRC, as these matters no longer form part of the final NPS-NH. However, I do support the amendment they seek to Policy NH-PA(2) to clarify that flood risks should be considered across a range of flood frequencies, and recommend including this as follows:

...The assessment shall correspond to the nature and scale of the anticipated flooding on site and shall include assessment of:

- a. [Flooding from events of different frequencies.](#)

14. I acknowledge and support WRC’s position that flood velocity is an important factor influencing natural hazard risk and the Natural Hazard Commissions’ suggestion to use velocity and depth in their proposed definitions. Velocity is a key driver of potential impacts on both structures and life safety. I agree that over time a shift toward a combined depth velocity threshold for rules in the District Plan may be desirable. However, at the present time, I consider the current depth threshold remains the appropriate. This reflects hazard information that is consistently available across all mapped catchments. This depth-based approach was also supported by the technical evidence of Mark Pennington (Pennington, 2023) for PC 9, which illustrated good alignment between areas within the 300mm depth threshold and a low hazard classification that considers both depth and velocity.
15. RLC is also progressively moving towards producing and publishing Australian hazard classification mapping for its flood modelled catchments. As this updated information becomes available, it is routinely incorporated into site-specific risk assessments once a proposal triggers the need for a full flood risk assessment under NHR4.
16. I also consider that including an additional subpoint at the beginning of Policy NH-PA: “Using flood depths in the 1%AEP event as a signal of the potential risk to buildings and whether further risk assessment is required” may assist to address the concerns of all these submitters. It would help to clarify that depths in the 1%AEP event provides way to distinguish management approaches, but depth is not the only relevant factor for defining a flood hazard and for considering flood risk.

Recommendation

17. I recommend that:

1. Submission S_45_14 by BOPRC is accepted to expressly reference “onsite and offsite” risks in Policy NH-PA.
2. Submission S_42_11 and S_40_03 by Kāinga Ora and Newvid Holdings Trust are rejected.
3. Submission S_15_10 by WRC is partially accepted insofar as it seeks clarification that risk assessments should consider flooding from events of different flood frequencies
4. Submissions S_15_11 by WRC and submission S_22_14 by the Natural Hazards Commission is rejected are rejected, noting that the 300mm depth threshold remains the most appropriate option currently. Further submission F_43_03 is partially accepted insofar as it sought explanation for the 300mm threshold.
5. Policy NH-PA is amended as follows:

Manage the risks to people, property and the environment associated with development in areas susceptible to flooding by:

1. [Using flood depths in the 1%AEP event as a signal of the potential risk to buildings and whether further risk assessment is required.](#)
2. *In areas where the anticipated flood depths are low and, therefore, the likely risks to people and property are less, requiring new buildings and larger additions to existing buildings to have floor levels above the flood level for the 1% AEP event with an allowance for climate change and freeboard.*
3. *In areas where anticipated flood depths are higher and, therefore the potential risks to people and property are greater, requiring a flood risk assessment for new*

buildings and larger additions to existing buildings and their associated site works and declining consent if the flood risks onsite and offsite are not shown to be acceptable to ensure the associated flood risks are acceptable. The assessment shall correspond to the nature and scale of the anticipated flooding on site and shall include assessment of:

- a. Flooding from events of different frequencies;*
- b. The extent to which the flood risks (including residual risks) on site are managed to an acceptable level;*
- c. Whether the development will increase risks (including residual risks) to other people, property, infrastructure or the environment;*
- d. Safe evacuation routes and refuges; and*
- e. Impacts on overland flowpaths and river corridors.*

3.9.2.6 Building Conversions

Submissions

1. BOPRC notes that NH-R4 does not capture conversions of existing buildings from non-habitable to habitable spaces. BOPRC seeks that the heading of NH-R4 is amended as follows, or similar relief (S_45_22):
NH-R4: New buildings, ~~and~~ additions to existing buildings and conversions of existing buildings from non-habitable to habitable buildings in areas susceptible to flooding
2. This is supported by the Natural Hazards Commission and Kāinga Ora, but opposed by the Lake Ōkāreka Community Association, which is concerned about the application to Lake Ōkāreka based on invalid information (F_21_08, F_22_57, F_42_18).

Evaluation

3. The rules for building in flood-prone areas introduced by earlier PC 9 and retained by PC 8 are intended to provide a risk-based approach. This includes a permitted activity pathway for development in areas subject to lower flood hazards (subject to meeting minimum floor levels), a requirement for risk assessment in higher flood hazard areas, and the exclusion of low-importance buildings from management.
4. However, I agree with BOPRC that building conversions require further consideration in respect to Rule NH-R4. While the amended rule title wording provided by BOPRC refers to conversions from non-habitable to habitable buildings, it is preferred that the conversion issue is instead addressed through consideration of changes to building importance level. This would build on the existing risk-based framework that excludes control of low importance buildings and is consistent with the approach recommended for active faults.
5. It is also noted that consultation with the Council's consent team has further highlighted the need to address building conversions in the context of garages converted to dwellings in flood-prone areas. Our understanding is that the implications on hazard risk from such conversions cannot be considered in relation to surface water Building Code compliance or Building Act hazard notice provisions because, under the Building Act 2004, the requirements relating to "change of use" - to notify the Council and only proceed if the Council is satisfied that the building will comply with the Building Code as nearly as reasonable practicable – only apply where a building moves between different use categories set out in Schedule 2 of the Building (Specified Systems, Change the Use, and

Earthquake-prone Buildings) Regulations 2005. Detached and attached residential garages are typically classified within the same use category as household units (Use Category SH – sleeping residential / household units). Accordingly, consideration can only be given to matters within the scope of the building work itself triggering any consent (such as drainage works), rather than the broader implications of increased occupancy or vulnerability to natural hazards.

6. Building importance level is already used in NZ hazard management policy (although with some variation), such as:
 - The seismic design framework in NZ AS/NZS 1170.0:2002, which is linked to the Building Code compliance,
 - The rule framework for active faults in the Kapiti District Plan,
 - Ministry for the Environment guidelines for Planning for Development of Land on or close to Active Faults (2003).
7. Hazard sensitivity classifications used in other district plans, such as the Wellington District Plan, also use a similar concept.
8. A typology for building importance level is proposed to be based on existing building importance level approaches, but with some refinement. The importance categories represent degrees of risk from the scale of potential exposure (number of occupants, building value, building size), vulnerability (physical ability of occupants) and consequence factors (importance of continued function to the community). A table to allow comparison of the proposed typology with the approaches in other instruments is provided in Appendix 1.
9. Partial building conversions of non-habitable rooms to habitable rooms (e.g. basement garage conversions to bedrooms) could also increase risk and could be considered for management in response to BOPRC's submission. Indeed, the BOPRC submission refers to conversion of habitable 'spaces'. However, this would be difficult to monitor and enforce management of partial building conversions.
10. It is also considered that Rule NH-R4 should be redrafted to improve clarity while incorporating the extension to building conversions. While the intention (evident in the Section 32 Report for PC 9) was that a building may be permitted under either NH-R4(1) or NH-R4(2), the relationship between these rules could be clarified. As a general observation, permitted activity rules in overlay chapters (which are intended to single-out specific land use activities for regulation rather than provide a framework for management of all land use activities) can create confusion, particularly when there are multiple permitted activities. Alternative drafting techniques, such as exceptions, may improve clarity.
11. The concerns of the Lake Ōkāreka Community Association are noted but are addressed under Section 3.9.2.3 and no further changes are considered necessary.

Recommendation

12. I recommend that:
 1. Submission S_45_22 by BOPRC and related further submissions by the Natural Hazards Commission and Kāinga Ora are partially accepted insofar as recognising that building conversions need to be addressed.

2. The further submission by Lake Ōkāreka Community Association is partially accepted insofar as it is agreed that the application of flood rules to Lake Ōkāreka requires further consideration (see Section 3.9.2.3).
3. The definition of “building of low importance” is amended and definitions of building importance levels 1 to 4 are inserted into the Interpretation Chapter as follows:
 - [Building importance level: a typology of building importance levels for the purpose of NH Natural Hazards, defined by the definitions of building importance levels 1, 2, 2a, 3 and 4.](#)
 - [Building Importance Level 1 / Building of Low Importance: Buildings presenting a low degree of risk to life and property. In relation to buildings within NH Natural Hazards, means buildings posing low risk to human life and the environment, and low economic cost, should the building fail.](#) These are typically small (less than 30m²) non-habitable buildings, such as sheds, barns, and the like, that are not normally occupied, although they may have occupants from time to time.
 - [Building Importance Level 2a: Detached residential units <300m², including detached minor residential units.](#)
 - [Building Importance Level 2b: Buildings not in other building importance levels 1, 2a, 3 or 4.](#)
 - [Building Importance Level 3: Buildings that may contain people in crowds, be of high economic value or importance to the community or contain large numbers of vulnerable occupants, including:](#)
 - a. [Buildings where more than 300 people can congregate in one area](#)
 - b. [Day Care with > 150 capacity](#)
 - c. [Primary/Secondary schools with > 250 capacity](#)
 - d. [Colleges/adult education > 500 capacity](#)
 - e. [Health care facilities with potential for > 50 patients in care \(but not emergency surgery\)](#)
 - f. [Buildings with an occupancy load greater than 500](#)
 - g. [Transport terminals and buildings for power generation, water treatment or wastewater treatment that are operated by a local authority or requiring authority](#)
 - [Building Importance Level 4: Critical buildings with special post disaster functions or that provide critical community services, including major infrastructure facilities, key emergency medical/surgical facilities and emergency services facilities.](#)
4. Rule NH-R4 is redrafted into two rules – NH-R4A (low flood hazard areas) and NH-R4 (higher flood hazard areas), as set out below:

Flooding		
NH-R4A	New buildings and additions to existing Bbuildings in areas susceptible to flooding (low flood hazard areas)	
Applicable Spatial Layers All Zones	<p>1. Activity Status: Permitted</p> <p>Where:</p> <p>a. <u>The building is in a low flood hazard area, that is, taking into account climate change based on RCP8.5 to the year 2130 (or the most recent national or regional guidance), the modelled 1%AEP flood depth from rivers, overland flow or lake inundation is no greater than 300mm above ground level at the building site; and</u></p> <p>b. <u>The building:</u></p> <ul style="list-style-type: none"> i. <u>is a new building;</u> ii. <u>has an increase in the building importance level; or</u> iii. <u>is an addition to an existing building.</u> <p>Performance Standards</p> <p>a. <u>Except as provided in b), the building work has a floor level above the anticipated flood level (as relevant to the site) for the events described above and allowing for freeboard that addresses imprecision in the flood level design estimate, construction tolerances and natural phenomena (such as waves, debris, aggradations, channel transition and bend effects) not explicitly included in flood level calculation.</u></p> <p>b. <u>The minimum floor level performance standard in a) shall not apply to:</u></p> <ul style="list-style-type: none"> i. <u>Additions of less than 20m² to an existing building where there is no increase in building importance level.</u> ii. <u>Buildings of building importance level 1 (building of low importance)</u> iii. <u>Buildings within the Electricity Generation Core Site.</u> 	<p>2. Activity Status: Restricted Discretionary</p> <p>Where:</p> <p><u>Compliance is not achieved with the performance standards for rule NH-R4(1).</u></p> <p>Matters of Discretion</p> <p>a. <u>Building in areas susceptible to flooding NH-MD1.</u></p>
Applicable Spatial Layers All Zones	<p>1. Activity Status: Permitted</p> <p>Where:</p> <p>a. This activity is:</p> <ul style="list-style-type: none"> i. building within the Electricity Generation Core Site; or ii. a building of low importance; or iii. an addition of less than 20m² to an existing building. <p>Advice note:</p> <p>Additions under 20m², although they are permitted by these rules, are subject to the requirements of the Building Act and Building Code. This includes design requirements to prevent water entering a building and restrictions on when building consent can be issued in areas subject to inundation.</p>	
Applicable Spatial Layers All Zones	<p>2. Activity Status: Permitted</p> <p>Where:</p> <p>a. The activity is not permitted by NH-R4(1); and</p>	<p>3. Activity Status: Restricted Discretionary</p> <p>Where:</p>

	<p>b. Taking into account climate change based on RCP8.5 to the year 2130 (or the most recent national or regional guidance), the modelled 1%AEP flood depth from rivers, overland flow or lake inundation is no greater than 300mm above ground level at the building site.</p> <p>Performance Standards:</p> <p>a. The building or addition has a minimum floor level above the anticipated flood level (as relevant to the site) for the events described above and allowing for freeboard that addresses imprecision in the flood level design estimate, construction tolerances and natural phenomena (such as waves, debris, aggradations, channel transition and bend effects) not explicitly included in flood level calculations.</p>	<p>Compliance is not achieved with the performance standards for rule NH R4(2).</p> <p>Matters of Discretion:</p> <p>b. Building in areas susceptible to flooding NH-MD1.</p>
<p>NH-R4 Buildings in areas susceptible to flooding (higher flood hazard areas)</p>		
<p>Applicable Spatial Layers</p> <p>All Zones</p>	<p>4.1 Activity Status: Restricted Discretionary</p> <p>Where:</p> <p>b. The activity is not permitted by rule NH R4(1); and</p> <p>a. <u>The building is in a higher flood hazard area, that is, Taking into account climate change based on RCP8.5 to the year 2130 (or the most recent national or regional guidance), the modelled 1%AEP flood depth from rivers, overland flow or lake inundation is greater than 300mm above ground level at the building site.</u></p> <p>b. <u>The building:</u></p> <ul style="list-style-type: none"> i. <u>is a new building;</u> ii. <u>is an addition to an existing building of 20m² or more; or</u> iii. <u>has an increase in the building importance level.</u> <p>Exception:</p> <p><u>This rule shall not apply to buildings within the Electricity Generation Core Site.</u></p> <p>Matters of Discretion</p> <p>a. Building in areas susceptible to flooding NH-MD1.</p> <p>Advice Note: Any buildings and construction activities within Flood Protection and Drainage Applicable areas require Flood Protection and Drainage Bylaw authority from Bay of Plenty Regional Council to ensure flood protection and drainage infrastructure assets are not damaged or compromised. Regional Council’s interactive map shows which properties the Bylaws cover.</p>	

3.9.2.7 Management of Overland Flowpaths

Submissions

1. Policy NH-PB on overland flowpaths, which PC 8 does not propose to amend, was supported by Kāinga Ora and BOPRC (S_22_15 and S_45_15). However, BOPRC seeks a minor drafting change to correct the position of the ‘and’ joining the clauses.

2. The definition of overland flowpath, which is also retained by PC 8 but with an addition to clarify a catchment size threshold for application of rules and performance standards, was supported by several submitters. However, Kāinga Ora seeks that the catchment size threshold is written into the rules as well (S_42_05). BOPRC sought minor wording change in line with language used in the Tauranga City Council's recent Plan Change 27 to clarify that the catchment is the 'contributing' catchment (S_45_06).
3. BOPRC also noted that the term "major overland flowpath" is also used in the District Plan and should preferably be defined or, if not, removed (S_45_06). This is supported by Rotorua Lakes Council Water Services Department (F_62_02).
4. Proposed new Rule NH-R5 for buildings and structures, the similar performance standard EW-S1(1)(g), and the equivalent changes to earthwork standards in Rule 5.0 of the Lakes A Zone (which are all aimed at protecting neighbouring property from changes in overland flowpaths in more densely developed areas) were supported by several submitters (see for example S_56_02, S_22_27, S_22_35, S_42_12).
5. However, Rotorua Planning Consultants Group claims that performance standards should be black and white and Rule NH-R5 is open to interpretation. They consider that the Section 32 Report is incorrect that overland flowpaths can be determined from topography. In any case, they believe overland flowpaths in these more developed areas pose low risk due to stormwater reticulation (S_39_05). The Natural Hazards Commission opposes this submission, stating that overland flowpaths are where stormwater will flow when stormwater systems are overwhelmed or not functioning. These areas have higher velocities and flows, making them higher risk. While stormwater systems are important there remains residual risk if stormwater systems are overwhelmed or not functioning. Furthermore, climate change is likely to increase the frequency and intensity of rainfall events so residual risk is likely to increase (S_39_05)
6. The Māori Trustee also considers that there is insufficient information on where overland flowpaths may occur and seeks that either the rule is expressly limited to where flood hazard has been mapped, or that more information is provided to clarify where it would apply (S_28_05). It is also considered that vesting of land contemplated in NH-PB(5) is inappropriate for Māori freehold land (S_28_04).
7. BOPRC seeks to align the terminology in EW-S1(1)(g) with that in NH-R5 as follows:

it shall not result in a change to the entry or exit point on a site of an overland flowpath, or ~~the catchment size~~ reduce the capacity of an overland flowpath...
8. BOPRC also seeks that rule NH-R5 and performance standard EW-S1(1)(g) are extended to Rural Zones (S_45_23 and S_45_31). It notes that, while these are less intensely developed, Rural zones contain many overland flow paths and therefore changing the entry and exit points of overland flowpaths in the Rural zone, including lifestyle zones, which are becoming increasingly dense, could still pose a natural hazard risk to people and their property. This is opposed by Fonterra with respect to the Rural 1 Zone, where it considers the rule would be overly restrictive (F_43_05, F_43_06).
9. The exception proposed by PC 8 in NH-R5(1)(b) from the need to comply with the overland flowpath requirements in Rule NH-R5 for activities authorised by a stormwater discharge permit granted by the regional council attracted the following submissions and further submissions:

- Fonterra supported the proposed exception (S_43_02).
- BOPRC seeks that the exceptions be reworded because regional council stormwater discharge permits may not consider the overland flowpaths if they are not the reason (trigger) for the consent requirement (S_45_23 and S_45_31), which could result in unintended flood risks on neighbouring properties. BOPRC provides an example of a discharge to land soakage permit. This is supported by Kāinga Ora (F_42_19). Changes sought by BOPRC to the wording are:

(NH-R5(1)(b)): *~~The activity is not authorised by a stormwater discharge permit consent or permit granted by the regional council that specifically authorises the modification of an overland flowpath.~~*

(EW-S1(1)(g)): *~~... except where the earthworks are for an activity authorised by a stormwater discharge permit granted by the regional council are granted consent or permit by the regional council that specifically authorises the modification of an overland flowpath.~~*

(clauses A5.1.1.7 and C5.1.1.8) *~~... except where the earthworks are for an activity authorised by a stormwater discharge permit granted by the regional council are granted consent by the regional council that specifically authorises the modification of an overland flowpath.~~*

- Rotorua Lakes Council Water Services Department, however, considers that limiting the exception only to those applications where the modification of the overland flowpath is specifically authorised may lead to unnecessarily requiring additional resource consents already subject to stringent design standards to protect against flooding under the Comprehensive Stormwater Consent for Rotorua city (F_62_03, F_62_04). The submitter notes that conditions in the discharge permit require stormwater infrastructure to be designed and managed in general accordance with standards and guidelines (clause 7.1); Any overland flowpaths to be constructed to allow the passage of a 1%AEP (Q100) storm event; and that any infrastructure constructed does not increase upstream or downstream flood hazards to people and property (clause 9.1). Where it is not possible for upgrades to existing stormwater infrastructure to meet clause 9.1, that appropriate mitigations are developed elsewhere within the catchment to avoid any increase in upstream or downstream flood hazards. (clause 9.2). The Comprehensive Stormwater Consent also requires that catchment management plans be prepared and submitted to the BOPRC for certification within 6 years after commencement of the consent. These plans are required to, amongst other things, identify stormwater management issues and mitigation options (including any new infrastructure to be constructed). The submitters state that this certification process provides additional safeguards against changes to overland flowpaths causing adverse flooding effects. The submitter seeks that a permitted activity status is added to Rule NH-R5 for works on the RLC stormwater network authorised by resource consent or permit granted by Regional Council. Alternatively, the submitter seeks that the exception be amended to clearly authorise Rotorua Lake Council's urban stormwater network:

(NH-R5(1)(b)): *The activity is not authorised by a stormwater discharge permit granted consent or permit by the regional council that specifically authorises the modification of an overland flowpath or are for the maintenance, renewal or upgrade of Rotorua Lake Council's urban stormwater network where the discharge is authorised by the regional council.*

(EW-S1(1)(g)) and clauses A5.1.1.7 and C5.1.1.8): *... except where the earthworks are for an activity authorised by a stormwater discharge permit granted by the regional council are granted consent or permit by the regional council that specifically authorises the modification of an overland flowpath or are for the maintenance, renewal or upgrade of Rotorua Lake Council's urban stormwater network where the discharge is authorised by a consent by the regional council.*

10. BOPRC is also concerned about the relationship between NH-R4 (relating to building in flood prone areas – minimum floor levels and flood risk assessments) and NH-R5 (relating to overland flowpaths). It seeks that an additional performance standard needs to be added to NH-R4 to clarify that the standards relating to overland flowpaths also need to be met for a building to be a permitted activity (S_45_21). This is supported by the Natural Hazards Commission (F_22_56) but opposed by Fonterra, which states that the performance standard is unnecessary as they are separate rules (F_43_04).

11. WRC seeks that the matters of discretion for Rule NH-R5 expressly refer to flood depth and velocity as follows (S_15_12):

- b. *The extent to which natural hazard risks, including those arising from flood depth and velocity, are avoided or mitigated and the worsening of any hazard.*

Evaluation

12. I support the minor changes sought by BOPRC to correct the location of the “and” joining the clauses in Policy NH-PB and clarifying that the catchment size limitation relates to the “contributing” catchment. I also support the request to remove reference to major overland flowpath (replacing this with simply ‘overland flowpath’) from Policy NH-PB given that this is not defined or referred to in any rule.

13. I do not consider it necessary that the catchment size is written into Rule NH-R5, as sought by Kāinga Ora, and consider the current approach of providing the catchment size in the definition sufficient and more succinct.

14. I acknowledge the concerns raised by the Rotorua Planning Consultants Group regarding the certainty of identifying overland flowpaths and the separate submission from the Māori Trustee raising similar issues about clarity and the practical application of these provisions. While the scope of these rules may not be as straightforward as others in the plan, the evidence of Paula Meredith supports the position that the identification of overland flowpaths is an evidence-based determination informed by physical evidence, topographical information and site-specific assessment.

15. I also note that RLC is developing a tool to assist identifying overland flowpaths and the implementation of the rules. This is currently only built to a low level of accuracy and requires checks

at a site-by-site basis. However, it is hoped it will eventually assist consent staff to identify where overland flowpaths may have been missed.

16. In response to BOPRC's request to align the terminology in EW-S1(1)(g) with that in NH-R5 by replacing 'it shall not result in a change to...the catchment size of an overland flowpath' with 'it shall not...reduce the capacity of an overland flowpath' I suggest instead that both situations are included. The reference to catchment size was intended to capture earthworks that divert water from one overland flowpath to another, with resulting implications downstream and it is intended that this should be retained.
17. With respect to BOPRC's request that Rule NH-R5 and performance standard EW-S1(1)(g) are extended to Rural Zones (S_45_23 and S_45_31), while we agree that there could be issues with changes in overland flowpaths in Rural Zones, we agree with Fonterra that extending Rule NH-R5 and performance standard EW-S1(1)(1)(g) may be overly restrictive. Concerns raised about the management of overland flowpaths during consultation during the preparation of PC 8 had focused on more densely developed areas and I am not confident that there is sufficient risk to balance the costs of implementation in Rural Zones.
18. RLC's Water Services Department's further submission is supported. I agree that the Comprehensive Stormwater Consent conditions and the certification of catchment management plans provide a comprehensive framework for managing effects on overland flowpaths, meaning that restricting the district plan exception only to regional consents that explicitly authorise flowpath modification would unnecessarily trigger additional resource consents for essential public infrastructure already subject to flood-risk safeguards.
19. In relation to BOPRC's concern about the relationship between NH-R4 (relating to building in flood prone areas – minimum floor levels and flood risk assessments) and NH-R5 (relating to overland flowpaths) and the additional performance standard requested, I agree with Fonterra that the performance standard is unnecessary as they are separate rules (S_43_04).
20. I do not support the change to the matters of discretion for Rule NH-R5 sought by WRC. I consider that flood depth and velocity are clear components of assessing flood hazard, and practitioners will already assess these matters when evaluating natural hazard risk. Stating them separately is unnecessary and would disrupt the consistency of the wording used across the matters of discretion.

Recommendation

21. I recommend that:
 1. Submission S_22_15 by Kāinga Ora supporting Policy NH-PB is partially accepted and submission S_45_15 by BOPRC seeking the minor repositioning the conjunction "and" in this policy is accepted.
 2. Submission S_45_06 by BOPRC and supporting further submission F_62_02 seeking clarification of the definition that the catchment threshold refers to the "contributing" catchment and removal of the undefined term "major overland flowpath" from Policy NH-PB, NH-MD1 and SUB-MD2 be accepted, with references replaced by the defined term "overland flowpath".
 3. Submission S_42_05 by Kāinga Ora seeking to write the catchment size threshold directly into Rule NH-R5 be rejected, as the rules already provides sufficient clarity.

4. Submissions S_39_05 by Rotorua Planning Consultants Group and S_28_05 by The Māori Trustee/Te Tumu Paeroa expressing concern about uncertainty in identifying overland flowpaths be rejected, noting that identification is an evidence-based determination supported by physical and topographic information.
5. Submission S_45_06 seeking alignment of the terminology in EW-S1(1) with NH-R5 be accepted in part, with amendments made to ensure the rule captures both (a) changes that divert catchment flows between overland flowpaths, and (b) reductions in flowpath capacity.
6. Submissions S_45_23 and S_45_31 by BOPRC seeking to extend NH-R5 and EW-S1(1)(g) to Rural Zones are rejected.
7. Submissions S_45_23 and S_45_31 by BOPRC and further submission F_42_19 by Kāinga Ora are partially accepted with respect to the exceptions relating to consented stormwater management and further submissions F_62_03 and F_62_04 by RLC Water Services Department are accepted; and the exceptions relating to modifications to overland flowpaths for consented stormwater management are retained but with amendments as sought by the RLC Water Services Department.
8. Submission S_45_21 by BOPRC and further submission F_22_56 seeking an additional performance standard in NH-R4 to link minimum floor levels directly with overland flowpath requirements are rejected and further submission F_43_04 is accepted, as NH-R4 and NH-R5 serve separate purposes and already operate effectively together.
9. Submission S_15_12 by WRC seeking explicit reference to flood depth and velocity in the matters of discretion for NH-R5 is rejected, as these factors are already inherent in assessing natural hazard risk and separately listing them would reduce consistency across the matters of discretion.
10. Policy NH-PB is amended as follows:

NH-PB	<p><i>Maintain the function of overland flowpaths and river corridors to safely convey flood water and reduce risk to life, property and infrastructure by:</i></p> <ol style="list-style-type: none"> 1. <i>Maintaining the water carrying capacity of overland flowpaths and river corridors;</i> 2. <i>Maintaining the water storage capacity of major overland flowpaths and river corridors;</i> 3. <i>Restricting activities that may obstruct an overland flowpath; and</i> 4. <i>Assessing the impact of any changes to the entry or exit points of overland flowpaths on a site and the impact on other sites and infrastructure; <u>and</u></i> 5. <i><u>Considering legal protection of overland flowpaths at the time of subdivision through methods such as consent notices, easements or vesting of land in Council.</u></i>
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11. The definition of overland flowpath is amended as follows:

The land overflown by a concentrated flow of water in an intense rainfall event, as it flows towards the stormwater network, streams, rivers, or lakes.

Overland flowpath includes a secondary flowpath which is activated when the primary (often piped) stormwater system gets blocked or when the capacity of the piped system is exceeded. For the purposes of this definition, an overland flowpath includes, but is not limited to, an artificially designed route using formed or hard surfaces.

Overland flowpaths referred to in rules and performance standards shall be limited to those with a contributing catchment of 4000m² or more.

12. Matter of Discretion NH-MD1(2)(d) is amended as follows:

Effects on the carrying capacity and storage capacity of any river corridor or ~~major~~ overland flowpath.

13. Matter of Discretion SUB-MD2(3) is amended as follows:

Whether the development of the site will reduce the carrying capacity and storage capacity of any river corridor or ~~major~~ overland flowpath; and

14. Amend the new performance standard in EW-S1 as follows:

Residential zones, City Centre Zones, Commercial Zones, Industrial Zones, Business and Innovation Zones: it shall not result in a change to the entry or exit point on a site of an overland flowpath, or the catchment size of an overland flowpath, or reduce the capacity of an overland flowpath, except where the earthworks ~~are for an activity authorised by a stormwater discharge permit granted by the regional council are granted consent or permit by the regional council that specifically authorises the modification of an overland flowpath or are for the maintenance, renewal or upgrade of Rotorua Lake Council's urban stormwater network where the discharge is authorised by a consent by the regional council~~

15. Amend NH-R5(1), statement (b) as follows:

The activity is not ~~authorised by a stormwater discharge permit granted consent or permit by the regional council that specifically authorises the modification of an overland flowpath or are for the maintenance, renewal or upgrade of Rotorua Lake Council's urban stormwater network where the discharge is authorised by the regional council.~~

16. Amend clauses A5.1.1.7 and C5.1.1.8 in the Earthworks rule for the Lakes A Zone as follows:

... ~~except where the earthworks are for an activity authorised by a stormwater discharge permit granted by the regional council are granted consent or permit by the regional council that specifically authorises the modification of the overland flowpath or are for the maintenance, renewal or upgrade of Rotorua Lake Council's urban stormwater network where the discharge is authorised by a consent by the regional council; and~~

3.9.2.8 Development Adjacent to Waterways

Submissions

1. The Natural Hazards Commission supports the proposal to include natural hazard risk in matters of discretion under NATC-R3, believing this will help reduce impacts to people and property in future events (S_22_22). Kāinga Ora supports the Natural Hazards Commission's submission but wants the

wording of the assessment criteria reviewed for clarity and consistency. I am unclear as to the alternative wording sought (F_42_06).

2. Te Rūnanga o Ngāti Kearoa Ngāti Tuara is also supportive of the proposal with respect to keeping natural flow paths of awa open to provide natural flood mitigation and avoid further alteration of waterways (S_58_03).
3. BOPRC also supports the intent of the changes but seeks amendments to ensure all relevant streams are captured and to include discretions for access and maintenance to manage flood risk. The specific changes sought are as follows (S_45_28):

- Amend the ‘where’ statements in the Restricted Discretionary rules NATC-R3(7)(c)

Located within 25m from the margin of a lake, or from the bank of a river or stream shown in the Planning Maps (e.g. District Plan Map 203) as being an area identified for esplanade reserve acquisition unless otherwise specified.

- Also amend the ‘where’ statement relevant to Industrial Zones in NATC-R3(8)(c) since this zone is not NATC-R3(7):

Industrial Zones: The activity is the erection of a building, with the exception of water intake and outfall structures, within 25m of any river or stream with an average width of 3m or more, or lake of 8ha or more, or any stream identified in the Planning Maps (e.g. District Plan Map 203)...

- Amend the matters of discretion in NATC-R3(7)(f) and NATC-R3(8)(f) to state:

The extent to which natural hazard risks are avoided or remedied or mitigated and the worsening of any hazard as well as for providing for access and maintenance to the stream to manage floods.

- Alternatively, that an additional matter of discretion is added to these rules for “the extent to which access and maintenance to the stream is provided to manage flood risk”.

4. Summerset Group Holdings opposes the proposed changes to NATC-R3, claiming that the strict wording does not account for site-specific constraints and practical limitations of full avoidance. They seek amendments to NATC-R3 to allow balanced consideration of mitigation measures where full avoidance is not feasible (S_26_02).

Evaluation

5. I acknowledge Summerset Group Holdings’ concern; however, I do not agree that the proposed wording creates an expectation of full avoidance. The matter of discretion simply requires decision-makers to consider the extent to which natural hazard risks are avoided or remedied, consistent with the broader risk-based approach adopted throughout PC 8.
6. Protection of river corridors was a recurring issue raised during preparation of PC 8, and the Section 32 Report identifies this as important not only for reducing exposure to flooding but also for retaining future options for flood management. However, in relation to the relief sought by BOPRC, I do not support extending NATC-R3(7) and (8) to all streams identified on planning maps. Rule NH-R4 already provides a framework for managing flood hazards, and expanding these setbacks to all mapped streams would impose restrictions in areas where no flood hazard has been identified. I am

concerned that the costs of applying these setbacks across all streams may outweigh the benefits for flood hazard mitigation.

7. I also consider that BOPRC’s proposed extension raises natural justice concerns. The inclusion of a new setback requirement for all mapped streams was not consulted on or signalled in the notified version of PC 8. Applying setbacks to areas with no demonstrated hazard could affect landowners who would not reasonably have anticipated that such provisions might be introduced under a plan change focused on natural hazard risk.
8. For these reasons, I consider the existing proposed approach to be more appropriate and efficient, while still enabling natural hazard risks—where they exist—to be addressed through established plan mechanisms including NH-R4.
9. I do, however, support the relief sought by BOPRC to extend the matter of discretion to include access and maintenance to the stream. Incorporating this consideration does not raise the same natural justice concerns because this is directly related to effective flood management and does not alter the spatial application of the setbacks.
10. I also support the proposed inclusion of ‘mitigated’ in the wording of the matter of discretion for the reasons given in Section 3.14.

Recommendation

11. I recommend that:
 1. Submission S_26_02 by Summerset Group Holdings is rejected; and Submission S_22_22 by the Natural Hazards Commission, Submission S_58_03 by Te Rūnanga o Ngāti Kearoa Ngāti Tuara and Further Submission F_42_06 are partially accepted and the matter of discretion is retained subject to changes to address the BOPRC submission.
 2. Submission S_45_28 by BOPRC is partially accepted with respect to extending the matter of discretion to cover access and maintenance to the stream. The requested extension of the setbacks provisions to all mapped streams is rejected for the reasons outlined above.
 3. Rule NATC-R3 is amended as follows:

Buildings, Structures and Infrastructure Adjacent to Water Bodies		
NATC-R3	Buildings and structures (including lake structures and infrastructure) adjacent to water bodies	
		<i>[4.5(89), 9.5(108), 10.5(84), [7.5(92), 9.5(112), 10.5(88) 4.5(90), 6.5(80), 6.5(81), 6.5(88), 7.5(92), 9.5(109), 10.5(85)]]</i>
Applicable spatial layer: Industrial 1E Zone	1. Activity Status: Permitted	
Applicable spatial layer:	2. Activity Status: Permitted Where:	3. Activity Status: Discretionary Where:

<p>All Residential Zones All Rural Zones All Reserve Zones</p>	<p>The activity is maintenance and replacement of existing lawfully established buildings, infrastructure, or structures and any upgrade, or replacement of existing buildings or structures does not exceed the existing building envelope or footprint; or</p> <p>The activity is maintenance and replacement of existing lawfully established buildings, infrastructure or structures located within an Electricity Generation Core Site.</p> <p>Performance Standards</p> <p>a. Any external walls and roofs of any building, structure (excluding lake structures) or addition shall not exceed a reflectivity value of 37%</p> <p>b. Exception: the above performance standards shall not apply to the Electricity Generation Core Site.</p>	<p>Compliance is not achieved with the performance standards for NATC-R2(1).</p> <p>Assessment Criteria:</p> <p>a. Assessment criteria for the relevant zone.</p>
<p>Applicable spatial layer:</p> <p>All Zones except Industrial 1E Zone</p>	<p>4. Activity Status: Permitted</p> <p>Where:</p> <p>a. The activity is either:</p> <p>i. A maimai structure located in the Rural 1 Zone, Reserve 1 Zone, Reserve 2 Zone, Water Zone, Industrial 1 Zone or Industrial T Zone;</p> <p>ii. A bridge located in Business and Innovation Zones; or</p> <p>iii. A building or structure associated with infrastructure as described in EIT Energy, infrastructure and transport and not provided for as a discretionary activity under rule NATC-R3(10A).</p>	
<p>Applicable Spatial Layers</p> <p>Te Puia Site Reduced Setback Area</p>	<p>5. Activity Status: Permitted</p> <p>Where:</p> <p>a. The activity is a building located more than 10m from the bank of the Puarenga Stream in the reduced setback area shown in Figure NATC-1.</p> <p>Performance Standards:</p> <p>a. Where the building is located within 15m of the bank of the Puarenga Stream the following standards apply:</p> <p>i. Maximum height: 10m</p> <p>ii. Have exterior surfaces, including any roof, finished in reflectivity values of between 0% and 37%;</p> <p>iii. The indigenous vegetation disturbance for building must</p>	<p>6. Activity Status: Discretionary</p> <p>Where:</p> <p>Compliance is not achieved with the performance standards for NATC-R3(5).</p> <p>Matters of Discretion:</p> <p>a. Assessment criteria for the relevant zone.</p>

	<p>result in less than a 2m width clearance of indigenous vegetation from the external footprint.</p> <p>iv. The indigenous vegetation within the Outstanding Natural Feature or Landscape that is disturbed through construction will be reinstated. This requirement does not apply the area cleared for the permanent placement of the structure, track of the area required for safe operation of the activity. Planting shall be undertaken with locally sourced indigenous species, the same as existing indigenous species already present or that would have been historically present on the site.</p>	
<p>Applicable spatial layer:</p> <p>All Residential Zones</p> <p>All Rural Zones</p> <p>All Commercial Zones</p> <p>All Reserve Zones</p>	<p>7. Activity Status: Restricted Discretionary</p> <p>Where:</p> <p>The activity is:</p> <p>a. New buildings (All Commercial Zones); or</p> <p>b. New Buildings or lake structures (All Residential Zones, All Rural Zones and All Reserve Zones); and</p> <p>c. Located within 25m from the margin of a lake, or from the bank of a river or stream shown in the Planning Maps as being an area identified for esplanade reserve acquisition unless otherwise specified.</p> <p>Matters of Discretion</p> <p>a. How the location of the building or structure continues to provide for the ability to obtain an esplanade reserve or strip in accordance with the esplanade requirements</p> <p>b. How the design and location avoids, remedies or mitigates any effects on the natural character of the water body and associated natural environment;</p> <p>c. How the building or structure avoids, remedies or mitigates adverse effects on habitat of fauna, or the ecological values of the water body;</p> <p>d. Construction debris shall not be placed, or allowed to enter a water body;</p> <p>e. The extent to which the disturbance and removal of indigenous vegetation is avoided, remedied or mitigated; and</p> <p>f. <u>The extent to which natural hazard risks are avoided, or remedied, or mitigated and the worsening of any hazard.</u></p> <p>g. <u>The extent to which access and maintenance to the stream is provided to manage flood risk.</u></p>	
<p>Applicable Spatial Layers:</p>	<p>8. Activity Status: Restricted Discretionary</p> <p>Where:</p> <p>a. Residential Zones and Commercial Zones (excluding Te Puia Site): The activity is the erection of a building within 25m from the edge of any river or stream</p>	

<p>All Residential Zones</p> <p>All Commercial Zones excluding Te Puia Site,</p> <p>All Rural Zones</p> <p>All Industrial Zones</p> <p>All Business and Innovation Zones</p>	<p>identified in the Planning Maps as being an area identified for esplanade reserve acquisition, or any lake with a surface area in excess of 8 ha or within 5m of any esplanade reserve or strip.</p> <p>b. Rural Zones: The activity is erection of a building within 20m of the edge of any river or stream identified in the Planning Maps as being an area identified for esplanade reserve acquisition, or any lake with a surface area in excess of 8ha.</p> <p>c. Industrial Zones: The activity is the erection of a building, with the exception of water intake and outfall structures, within 25m of any river or stream with an average width of 3m or more, or lake of 8ha or more.</p> <p>d. Business and Innovation Zones: The activity is the erection of a building within 25m of any river or stream, or within 5m of any esplanade reserve or strip.</p> <p>Matters of Discretion</p> <p>a. How the location of the building or structure continues to provide for the ability to obtain an esplanade reserve or strip in accordance with the esplanade requirements</p> <p>b. How the design and location avoids, remedies or mitigates any effects on the natural character of the water body and associated natural environment;</p> <p>c. How the building or structure avoids, remedies or mitigates adverse effects on habitat of fauna, or the ecological values of the water body;</p> <p>d. Construction debris shall not be placed, or allowed to enter a water body;</p> <p>e. The extent to which the disturbance and removal of indigenous vegetation is avoided, remedied or mitigated; <u>and</u></p> <p>f. <u>The extent to which natural hazard risks are avoided, or remedied, or mitigated and the worsening of any hazard.</u></p> <p>g. <u>The extent to which access and maintenance to the stream is provided to manage flood risk.</u></p>
<p>Applicable Spatial Layers:</p> <p>Te Puia Site</p>	<p>9. Activity Status: Restricted Discretionary</p> <p>Where:</p> <p>a. The building or structure is located:</p> <p>i. within 10m of the bank of the Puarenga Stream in the Te Puia Site Reduced Setback Area; or</p> <p>ii. within 15m of the bank of the Puarenga Stream in the remainder of the Te Puia Site.</p> <p>Matters of Discretion</p> <p>a. How the design and location avoids, remedies or mitigates any effects on the natural character of the water body and associated natural environment;</p> <p>b. How the building or structure avoids, remedies or mitigates adverse effects on habitat of fauna, or the ecological values of the water body;</p> <p>c. Construction debris shall not be placed, or allowed to enter a water body;</p> <p>d. The extent to which the scale and location of earthworks associated with roads, tracks, building sites detract from the values and characteristics of the Outstanding Natural Feature and Landscape and Significant Natural Area; and</p> <p>e. The extent to which the disturbance and removal of indigenous vegetation is avoided, remedied or mitigated.</p>
<p>Applicable spatial layer:</p> <p>All zones</p>	<p>10A Activity Status: Discretionary</p> <p>Where:</p>

	<p>a. The activity is infrastructure activity as described in EIT – Energy, Infrastructure and Transport located within an esplanade reserve or strip; and</p> <p>b. The activity requires earthworks that are not provided for as a permitted activity in EW – Earthworks, or the removal of indigenous vegetation.</p>
<p>Applicable spatial layer: Industrial 1 Zone</p>	<p>10. Activity Status: Discretionary</p> <p>Where:</p> <p>The activity is buildings or structures located within 25m from the margin of a lake, or from a river or stream identified on the Planning Map as being an area identified for esplanade reserve acquisition.</p> <p>Matters of Discretion</p> <p>a. Assessment criteria for the relevant zone.</p>
<p>Applicable spatial layer: Industrial T Zone</p>	<p>11. Activity Status: Non-Complying</p> <p>Where:</p> <p>The activity is buildings or structures located within 25m from the margin of a lake, or from a river or stream identified on the Planning Map as being an area identified for esplanade reserve acquisition.</p>

3.9.2.9 Amendments to Rules for Lakes A Zone

Submissions

- As outlined above, the alignment of the Lakes A Zone with the rest of the District Plan has resulted in changes to the rules for flooding and the removal of the existing building platform 2%AEP design standard in favour of Rule NH-R4 in the main part of the District Plan. BOPRC supports the extension of the natural hazards chapter flooding provisions to the Lakes A Zone and the removal of references to the 2%AEP lake flood level (S_45_34). This is supported by Kāinga Ora and the Natural Hazards Commission (F_42_21 and F_22_58). The Natural Hazards Commission notes that planning to a 1%AEP is also becoming standard across the country, with many other councils adopting minimum floor levels (F_22_58).
- However, the Natural Hazards Commission is also concerned about the removal of the AEP specification in Rule 6.0 of the Lakes A Zone and recommends that building platforms be outside the 1%AEP flood level (S_22_36).
- The Lake Ōkāreka Community Association also opposes BOPRC's submission, noting concerns about the information used to implement the changed rules (F_21_06).

Evaluation

- I consider that no changes should be made in response to these submissions. Aside from the Lake Ōkāreka Community Association, submitters are supportive of the change in design standard, and it is considered that the Natural Hazards Commission may not have appreciated that this would apply to the Lakes A Zone when it originally submitted.
- I consider that a 2%AEP design level does not sufficiently mitigate risks and is not consistent with national practice. I also support the original evaluation of efficiency and effectiveness of these changes in the Section 32 Report, which noted:

- The two-pronged approach in Rule NH-R4 that enables building in flood prone areas (subject to minimum floor levels) on sites where the anticipated flood depths are lower assists in improving certainty for applicants about the compliance pathway for building on low-risk sites.
 - The alignment provides a more consistent approach to flood management across the district, which may reduce confusion and improve efficiency.
6. I acknowledge the concern of the Lake Ōkāreka Community Association and consider that this has been appropriately addressed above.

Recommendation

7. I recommend that:
1. Submission S_45_34 by BOPRC and further submissions F_42_21 Kāinga Ora and F_22_58 by the Natural Hazards Commission are supported.
 2. Submission S_22_36 by the Natural Hazards Commission is rejected.
 3. Further submission F_21_06 is partially accepted insofar as it supports the need to review the rules relating to Lake Ōkāreka.
 4. No changes are made as a result of these submissions.

3.9.2.10 Minor Residential Units

Submissions

1. RLC's submission noted that there may be issues to address through the District Plan to ensure that the management of natural hazards can continue and is appropriately integrated notwithstanding changes to the Building Act and new National Environmental Standard (the detail of which had yet to be confirmed at the time of the submission) and seeks that further amendments to Rule NH-R4 and NH-R5 be considered to ensure the efficient and effective management of natural hazards affecting minor residential units (granny flats), considering the expected legislative changes and the forthcoming National Environmental Standard (S_29_02, S_29_03). This is supported by several further submissions.

Evaluation

2. An amendment to the Building Act 2004 and the new National Environmental Standards for Detached Minor Residential Units (NES-DMRU) provide legislative context that was foreshadowed but not known in detail at the time the plan change proposal and submissions were prepared.
3. Given that the NES-DMRU confirms that district plan provisions relating to the management of natural hazard risk continue to apply to detached minor residential units notwithstanding the legislative changes described above, it is considered that the existing provisions remain appropriate and effective and no changes are needed. The requirement to obtain a PIM where no building consent is sought provides an opportunity to ensure compliance with district plan rules.

Recommendation

4. I recommend that submission S_29_02 and S_29_03 by RLC are accepted insofar as acknowledging the need to consider these matters but no changes be made to the provisions.

3.10 Wildfire Provisions

3.10.1 Existing Wildfire Provisions and Proposed Amendments

Definition

1. Wildfire is not currently defined in the District Plan or RMA and PC 8 proposes a new definition to ensure wildfire is clearly recognised as a natural hazard:

Any natural-caused or unplanned and uncontrolled human-caused fire that is burning in and consumes natural fuels: forest, brush, grass, for example.

Objectives and Policies

2. Subdivision Policy SUB-P16 currently requires subdivisions to demonstrate sufficient water supply, including firefighting capacity. Outside the Lakes A Zone, the District Plan has no wildfire-specific objectives or policies, although several rules indirectly relate to wildfire risk through water supply, setbacks and access, as detailed below.
3. PC 8 proposes to clarify how wildfire is addressed through water supply, access standards and subdivision design. Given wildfire risk in Rotorua is currently low but expected to increase with climate change, the policy encourages—rather than requires—consideration of wildfire risk at subdivision in rural and fringe areas.

Wildfire

NH-P5 Mitigate the risks of wildfire associated with development by:

1. *Requiring firefighting water supply for activities in more densely populated zones and papakāinga to reduce the risk of wildfire occurring.*
 2. *Encouraging subdivision design in rural areas and at the rural-urban fringe to consider the potential risks of wildfire and, where appropriate, include measures that may help reduce the risks. Such measures may include:*
 - a. *identifying suitable locations for building platforms and accessways that reduce exposure to wildfire hazards and facilitate egress;*
 - b. *facilitating access for emergency services; and*
 - c. *choice of plant species to reduce the risk of fire.*
4. In the Lakes A Zone, Policies 12.2, 13.1 and 13.4 address wildfire only indirectly alongside other natural hazards. Policy 13.1 and Policy 13.4 are proposed to be deleted.

Water Supply Standards for Firefighting Purposes

5. Subdivision performance standard SUB-S9 requires all subdivisions to provide adequate firefighting water supply, typically implemented through consent notices. Performance standard RESZ-S5A requires non-reticulated residential sites to provide alternative supply per the NZ Code of Practice, and papakāinga rules follow the same approach.
6. The New Zealand Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008), in turn, identifies a range of acceptable alternative water sources where reticulated hydrant systems are not feasible. These include:
 - Aboveground, buried, or partially buried water tank
 - Ponds

- Lakes
 - Dams
 - Waterways such as streams, rivers, and creeks
 - Static supply tanks or ponds formally recognised by FENZ
7. Under the Code of Practice, alternative water supplies are appropriate in circumstances where:
1. No reticulated hydrant system is available.
 2. Existing hydrants cannot achieve the required flow or volume.
 3. A district plan or resource consent condition requires a dedicated on-site firefighting water supply.
 4. A property is located more than 10 minutes' travel time from a fire station.
 5. The fire risk is elevated due to factors such as building construction type, heritage value, or high value contents.
 6. An alternative water supply is necessary to meet the storage or access requirements of SNZ PAS 4509:2008.
 7. The site is in a rural environment where reticulation is not available as a matter of course.
8. However, the requirement for firefighting water supply is not carried through to land use, as there are no equivalent standards for other activities. As a result, there are situations where, for example, a residential unit on a rural lot must provide firefighting water supply tanks due to a subdivision consent notice, while a neighbouring unit—on a lot subdivided prior to such requirements— would not be subject to the same obligation.
9. In recognition that this inconsistency is considered inequitable, PC 8 proposes to align firefighting water supply requirements more consistently between subdivision and land use stages. However, it also proposes to limit firefighting water supply standards for both subdivision and land use to papakāinga and more densely developed zones (Rural 2 Zone, Rural 3 Zone, and both the Settlement Management Areas and Bush Settlement Management Areas in the Lakes A Zone) where the risks of wildfires starting, and the consequences, are higher due to greater population. Firefighting water supply requirements are proposed not to apply to the Rural 1 Zone, the Reserve 1 Zone or other management areas in the Lakes A Zone.
10. The proposed changes involve:
- a) amending Policy SUB-P16 and updating SUB-S9(3)(b) so that firefighting water supply is required in all zones except Rural 1 and Reserve 1:

SUB – P16

Ensure applications for subdivisions demonstrate that the water supply capacity ~~including capacity for firefighting purposes fir the development~~, is sufficient for the development and includes capacity for firefighting purposes in the more densely populated zones.
 - b) Amending Subdivision Standard SUB-S9(3)(b) Site Serviceability as follows:
 - b. Water services*
 - 1. All existing available water services shall be extended wherever practically possible. Council will consider the capacity of the existing utility service to connect to each new*

site within the subdivision, to service future land use in the catchment, and the adequacy of the existing utility services available, including potential to upgrade such services to ensure adequate capacity;

- II. New water services shall be provided for within road reserves;
- III. Unless otherwise provided for by this plan, all services are expected to be entirely underground;
- IV. The services to each site shall be independent from the point of supply and to the point of discharge;
- V. All existing water services serving the sites in the subdivision and that are located on adjacent sites must be identified, including all existing and proposed easements associated with the provision of water services; and
- VI. The water supply shall be adequate for fire-fighting purposes except in the Rural 1 zone, and the Reserve 1 zone.

c) Insertion of a new performance standard 'Servicing' in Rural Zones

A water supply adequate for firefighting purposes shall be provided to the development in accordance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509: 2008.

d) Linking this performance standard to the following activities in Rural 2 and 3 Zones

- Residential Units (RURZ-R9)
- Veterinary Clinics (RURZ-R12)
- Retail Shops (RURZ-R13)
- Show Homes (RURZ-R14)
- Office Activities (RURZ-R15)
- Community Housing (RURZ-R17)

11. In the Lakes A Zone, Rule 34 requires community water supplies to include firefighting capacity, but this does not extend to individual sites.

12. PC 8 proposes to amend Lakes A Zone Rule 34 as follows so that firefighting water supply standards would apply to habitable buildings in denser developed areas, that is, the Settlement and Bush Settlement management areas:

34.1 Permitted Activities (All Management Areas)

34.1.1 Water supply systems complying with the following conditions:

1. ...

2. Settlement Management Area and Bush Settlement Management Area: Every habitable building shall be provided with a water supply adequate for firefighting purposes in accordance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509: 2008

It is further proposed to delete the firefighting requirement for community water supply systems in 34.1.2(1), as this is considered addressed by the proposed requirement for habitable buildings in the Settlement Management Area and Bush Settlement Management Area.

Setbacks from Forestry

13. Performance standard RURZ-S6 requires a 30 m setback between buildings and plantation forestry. Although intended to address reverse-sensitivity effects, it can offer some wildfire benefits, such as

improved access and a potential firebreak. There is no framework for assessing wildfire risk if this standard is breached, and forestry itself has no corresponding setback requirements.

14. No changes are proposed to these standards.

Accessway Standards

15. Accessway standards in SUB-S9 ensure access to firefighting water sources at subdivision. In Residential Zones, accessways over 50 m require a 4 m legal width for firefighting vehicles (RESZ-S5), with similar provisions for papakāinga (PK-S1). No such standards apply to land-use activities outside subdivision, and vegetation protection rules such as ECO-R4 may influence wildfire management by limiting disturbance.

16. No changes are proposed to these standards.

Planting and Vegetation Protection

17. PC 8 also proposes to include consideration of wildfire risk in the planting principles for Pukehāngi Heights Development Area so that it explicitly requires consideration of wildfire risk in developing landscaping plans.

Principles

The general principles for the Pukehāngi Heights Development Area are:

- 1. Development that responds to the landscape values of the Caldera Rim and the topography of the area;*
- 2. Development that recognises, protects and provides for the expression of the cultural and archaeological values of the area;*
- 3. Roads, walkways and cycleway connections throughout the area and connecting with adjoining sites;*
- 4. Comprehensively designed low impact stormwater management integrated with development;*
- 5. Enhancement of ecological values by including indigenous vegetation plantings **while considering the risk of wildfire**;*
- 6. Excellent urban design outcomes including for solar access and passive surveillance of public spaces; and*
- 7. Development that is designed within nutrient management limits and contributes to the reduction in nitrogen entering Lake Rotorua.*

18. No submissions were received in respect of these proposed changes.

19. Vegetation protection rules are also relevant to wildfire risk but are outside the scope of this plan change.

Impact of the National Environmental Standard for Small Detached Dwellings

20. Regulation 7(3) of the National Environmental Standards for Detached Minor Residential Units 2025 states that a detached minor residential unit must comply with district plan rules that apply to the principal dwelling and manage effects relating to health and safety, including those relating to:

- natural hazard risk
- reverse sensitivity
- site-specific- infrastructure requirements (e.g., drinking water, wastewater, stormwater)

21. Through PC 8 Wildfire is considered a natural hazard. Accordingly, relevant District Plan rules relating to firefighting water supply and access continue to apply to minor dwellings constructed under the National Environmental Standards for Detached Minor Residential Units 2025.
22. In my view setbacks from forestry may also still apply to detached minor residential units but this will be considered further when RLC undertakes the changes required to ensure alignment with the NES.

Subdivision Design

23. As outlined above, PC 8 proposes to insert a new policy in the Natural Hazards chapter (NH-P5) to clarify how wildfire is addressed through firefighting water supply and accessway standards, and to encourage mitigation options consideration at subdivision in rural zones and in the urban-rural fringe. As discussed in Section 3.14, general matters of control, discretion and assessment criteria for subdivision are also proposed to enable consideration of natural hazards at the time of subdivision (SUB-MC1, SUB-MD2, SUB AC1).

3.10.2 Evaluation of Matters Raised in Submissions

3.10.2.1 Lack of Evidence that Wildfire Poses a Significant Threat in the Rotorua District

Submissions

1. The submission from the Rotorua Planning Consultants Group questions whether wildfire is a significant enough hazard within the Rotorua district to warrant management within the District Plan. They submit that wildfire is not relevant to Rotorua at the district level and if it is deemed to be an issue it is more appropriately addressed at a regional scale. They consider that rules are being introduced for a hazard that has not previously posed a significant issue and may not be relevant (S_39_03).
2. The submitters also note that the proposed rule framework does not specifically address the hazard of 'wildfire' but rather focuses on improving access to water for the purposes of structural firefighting. The submitters also question whether the requirement for servicing in RURZ-S5A implies that Council infrastructure is no longer sufficient. They question the meaning of 'densely populated areas' in the context of SUB-P16 and ask whether urban areas are now required to install water tanks. (S_39_03)
3. The Natural Hazards Commission, in response to submission S_39_03, notes that while wildfire has not been an issue for the Rotorua Lakes District, it does not mean that it will not become an issue in the future. They note that climate change is exacerbating and changing a range of natural hazards including wildfire. The proposed provisions for managing wildfire will support reducing the impacts to people and property in the future, as wildfire risk increases for Rotorua Lakes District. (F_22_30).
4. FENZ also supports the management of wildfire through the RMA and district plans and the general approach taken as expressed in Policy NH-P5 (see, the introduction to their submission and S_07_10).
5. BOPRC also supports the general approach taken to wildfire as expressed in Policy NH-P5, stating that the policy is consistent with the Civil Defence and Emergency Management Act 2002, which identifies wildfire as a risk and has objectives relating to cost-effective reduction of risk and identifies gaps in risk reduction and, where responsible, making changes to decrease exposure. (S_45_19)

6. In support of BOPRC, the Natural Hazards Commission notes that wildfire has the potential to be an emerging hazard and risk for Rotorua. New provisions to manage wildfires can contribute to reducing the impact to people and property. They also support consistency between PC 8 and any existing policy such as the Civil Defence and Emergency Management Act 2002. (F_22_55)
7. Other submitters that support the general approach taken in PC 8 to address wildfire are Te Rūnanga o Ngāti Kearoa Ngāti Tuara (TRoNKNT) (S_58_05), Wāhiāo Māori Committee (F_60_11), and Tapuika Iwi Authority, which notes that wildfire risk threatens cultural and ecological values. Managing it aligns with the Kaituna River Document's objective to protect ecological integrity and community resilience. (F_61_04) (F_61_05)

Evaluation

8. As discussed in the Section 32 Report, over the coming years, climate change is expected to increase the risk of wildfire throughout New Zealand. It is my opinion that with the increasing impact of climate change, wildfire as a natural hazard poses a significant enough risk to the Rotorua district that the District Plan should play a role in helping to mitigate and prevent this risk. It is also easier to consider and address the potential of wildfire (current and future) at the time of providing for new land uses and subdivision rather than trying to make changes after activities have been established.
9. FENZ, in their submission on PC 8 note the following:

“Natural hazards and the impact of climate change present broad challenges to Fire and Emergency, such as the increasing frequency and severity of extreme weather events. Climate change is likely to increase the frequency of extreme weather events such as flooding, winds, fire and droughts. Across Aotearoa, states of emergency are being declared with increasing frequency, close to three times more frequently in the last decade compared to the previous ten years. 30 percent of those states of emergency were the result of extreme weather, with 48 percent the result of flooding”.

10. I do not agree with Rotorua Planning Consultants Group that the plan is not actually addressing wildfire (through water supply standards), as providing a reliable water supply isn't just about putting out the building fire, it's about stopping the fire from escaping into the surrounding environment where it can become much harder to control. Having access to a dedicated firefighting water supply directly prevents structure fires from turning into wildfires. This also provides a distributed firefighting water supply throughout the district.

Recommendation

11. I recommend that:
 1. Submission S_39_03 by the Rotorua Planning Consultants Group is rejected and submissions that support addressing wildfire in the District Plan are accepted.
 2. No changes are made in response to these submissions.

3.10.2.2 Definition for “Wildfire”

Submissions

1. FENZ generally support the proposed definition, however, they request an amendment to include the term “uncontrolled” which is a key factor that constitutes a wildfire. (S_07_04).
2. WRC supports the proposed definition of wildfire. (S_15_06).

3. BOPRC supports the proposed definition of wildfire and notes that the definition gives effect to RPS Policy IR 2B, which requires Councils to have regard to the likely effects of climate change. (S_45_07)
4. Natural Hazards Commission supports adding a definition for wildfire as it provides clarity and ensures the consistent application of rules and policies. The submitter notes that Including a definition and corresponding rules and policies to manage wildfire risk represents a precautionary approach and can contribute to reducing the impacts to people and property from wildfire events. (S_22_07). In support of submissions S_15_06 and S_45_07, the Natural Hazards Commission further added that the definition for wildfire will support clear and consistent application of rules and policies. Including a definition for wildfire is important for ensuring that all natural hazards, including emerging hazards, can have provisions to support risk reduction (F_22_30) (F_22_05)

Evaluation

5. Overall, there was general support for the inclusion of a definition of “wildfire” proposed by PC 8 and I support its inclusion in the District Plan. I agree with the submission from FENZ and recommend amending the definition as requested.

Recommendation

6. I recommend that:
 1. Submission S_07_04 by FENZ is accepted and the other submissions are partially accepted.
 2. The definition of “wildfire” is amended as follows:

Any natural-caused or unplanned and uncontrolled human-caused fire that is burning in and consumes natural fuels: forest, brush, grass, for example.

3.10.2.3 Firefighting Water Supply Requirements

Submissions

1. Several submitters oppose the firefighting water supply requirements:
 - Swindlehurst argues that Hamurana properties should be exempt because of their immediate access to Lake Rotorua, making the requirement unnecessary, costly, and unjustified. They requested either a site-specific exemption or an alternative compliance pathway that considers proximity to the lake as a reliable water source for firefighting. (S_03_01)
 - C. Gilchrist and D. Townsend do not believe there is a practical reason for the proliferation of water storage tanks in the settlement area of the Lakes A Zone. Half of the Tarawera properties have lake frontage, and another large percentage are close to the lake with water easily relayed up to them. With a substantial FENZ water tanker stationed at Lake Ōkāreka, that supply of water covers those removed from close proximity to the lake. Furthermore, they believe the nature of vegetation and predominately east facing contour limit the flammability of the Tarawera Bush and say that the lack of bushfires supports this. (S_34_02)
 - J. Edmonds lives in Hamurana and opposes the proposed requirement under PC 8 that future property developments in Rural 2 and 3 Zones provide an alternative water supply specifically for wildfire risk for the following reasons (S_47_01):

- a. An existing water supply - the lake - is readily available, which is described as easily accessible for firefighting purposes, either by ground-based firefighting crews or aerial operations (helicopters with monsoon buckets).
 - b. Unnecessary duplication (given the lake) and cost. The submitter considers that the requirement contradicts RLC's stated objective of increasing housing affordability and supply in the district and strategic directions to enable development, reduce barriers and costs for new dwellings and undermines the councils push for affordable and sustainable housing options, particularly in rural lifestyle areas where people seek more attainable housing solutions.
 - c. Practicality and efficiency of existing firefighting methods - Installing and maintaining additional water storage is inefficient when a sustainable large scale water source is already available nearby.
 - d. Management of alternative water supply - The proposed requirement raises uncertainty over who is responsible for the maintenance, and replenishment of the alternative water supply for wildfire protection.
 - e. Environmental impact - Forcing developments to create water storage systems (e.g., large tanks or dams) can have environmental impacts, including land disturbance, increased impervious surfaces, and unnecessary use of resources.
 - f. RMA -The submitter considers that requiring unnecessary infrastructure (water tanks, piping etc.) where water is readily accessible conflicts with RMA's sustainability principle and prudent resource use.
 - g. Alternative Measures should be considered - Rather than mandating additional water storage, the plan should encourage improved access points for fire services to the lake and maintain clear firefighting plans for the region.
2. FENZ requests amendments to Policy NH-P5, Subdivision Policy SUB-P16 and the performance standards so that the policy does not limit the requirement to demonstrate sufficient fighting water supply by zone, except in the case of the Water Zone (S_07_09, S_07_13, S_07_14, S_07_16). The submitter notes that because subdivision in Rural Zone 1 is no longer required to provide firefighting water supply there is a significant gap, which presents a risk to Fire and Emergency. It is noted that while the Rural Zone 1 expects a low number of buildings, the Rural Zone 1 represents a large proportion of the district and therefore should not be exempt from firefighting water supply serviceability requirements at the time of subdivision. Similarly with the Conservation Zone, while the likelihood of subdivision is low, should subdivision occur, firefighting water supply capacity should be a consideration based on the nature of the proposed activity the subdivision would enable. (S_07_14).
 3. Further, FENZ submit that the notified amendment to this policy has what is assumed to be an unintended consequence whereby it would also remove the need to demonstrate that there is sufficient firefighting water supply capacity for the purpose of fighting structural fires. (S_07_09) (S_07_13).
 4. In relation to the specific activities to which the firefighting performance standard has been applied in Rural Zones, FENZ notes that Council appears to have limited the application of the performance

standard to residential and smaller scale activities and have not included other land use activities anticipated in the rural zones such as 'agricultural production activities' which may include the development of large rural buildings. Fire and Emergency request that this new performance standard be extended to all land use activities in the rural zones where a new building/s is proposed as part of the development (S_07_15).

5. FENZ also requests that additional words are added to describe the quality of water supply in Policy SUB-P16 (S_07_13):

Ensure applications for subdivisions demonstrate that the water supply capacity, including capacity for firefighting purposes, is sufficient and reliable for the development, and includes capacity for firefighting purposes all year round in the more densely populated zones.

6. In the Lakes A Zone, FENZ supports updating Rule 34.1 being updated for consistency with the wider District Plan but notes that "habitable building" is undefined. They request that "habitable building" be defined or alternatively, in the absence of a definition, an amendment to require all buildings to be provided with a water supply adequate for firefighting purposes (S_07_17). Their amended wording also corrects an error of repeated words in the drafting in Rule 34.1
7. The Natural Hazards Commission supports requiring water capacity to be sufficient for firefighting as this can reduce the impacts to people and property in wildfire events and notes that despite current limitations in assessing wildfire risk in Rotorua the district has many characteristics that make it vulnerable and that wildfire risk is increasing across the country (S_22_17, S_22_31, S_22_37). However, the submitter recommends providing a clear definition for what is meant by "more densely populated areas" to provide clarity and ensure a consistent approach to rules and policies. (S_22_24)
8. J. Averill and C Cunningham support new rules for firefighting water supply standards but requests more detail for lakeside environments. (S_32_02, S_35_02). Similarly, Lake Ōkāreka Community Association generally supports the direction of the proposed wildfire provision but seeks clarification that requirements for on-site water storage for firefighting are practical, cost-effective and avoid adverse effects on the lakeshore environment (S_21_06). K. Dorset supports the Lake Ōkāreka Community Associations' submission in respect of seeking practical and cost-effective measures to manage wildfire risk. The submitter also questions whether lake water and swimming pools can be used for water supply where it is accessible (S_24_03). The Natural Hazards Commission, in response to the Lake Ōkāreka Community Association submission, notes that the Section 32 report outlines the requirements for firefighting and the consequences if the policies are not implemented. These requirements highlight the need for wildfire provisions to be included in the District Plan. Having water for firefighting available onsite can reduce damage to people and property and avoid severe damage to vegetation in the event of a wildfire. (F_22_19)

Evaluation

12. I support the approach taken by PC 8 to address the inconsistency between subdivision requirements and land use stage requirements for firefighting water supply.
13. I would be open to considering broader application of these requirements to additional zones, as sought by some submitters, if further information were presented. However, at present, I support the evaluation in the Section 32 Report. This highlights the opportunity to better target requirements to those parts of the district where the probability of ignition is higher due to greater population density and concentration of activities. In more densely developed zones, there is a higher likelihood

of human-caused ignitions, and emergency services are more likely to be able to utilise on-site firefighting supply effectively due to shorter response times. For these reasons, the Section 32 report concludes that applying the requirements in these higher density zones provides a more proportionate and efficient regulatory response.

14. I do not support FENZ’s request to broaden the application of the performance standard in Rule 34.1.1 of the Lakes A Zone from “habitable building” to “all buildings”. I do not agree that uncertainty exists, as “habitable building” is currently defined in the Lakes A Zone as follows:

Means a building inhabited by humans, and includes a building that is used for temporary accommodation.

15. I do not support FENZ’s request to extend performance standard RURZ-S5A Servicing to apply to all land use activities in the rural zones that propose a new building, for example agricultural buildings. The extension is not justified on the evidence available.
16. I do not agree that Policy NH-P5 needs to further define denser developed areas, as this is already clear from the zones to which the rules apply.
17. I acknowledge the questions and concerns about how the requirements apply to buildings near water sources, such as lakes. As outlined above, alternative water sources can include open water such as lakes. However, access requirements would also have to be met in accordance with the New Zealand Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008).
18. I also acknowledge the concerns of some submitters about the costs and whether the costs are justified in the context of risk of wildfire in the Rotorua district. A typical water supply tank to meet the requirements for a standard detached residential unit is in the order of approximately \$15,000 (Rotorua Lakes Council Land Development Team). Whether the costs outweigh the benefits is difficult to quantify but I consider that PC 8 addresses this concern by focusing on denser developed areas, where ignition is most likely and fires can spread more easily from property to property.
19. I do not support the relief sought by FENZ to amend Policy NH-P5 to refer to reducing the “impact” of wildfire rather than the “risk”. I consider that firefighting water supplies reduce both the likelihood that a fire becomes a wildfire and the potential consequences (by contributing to extinguishing the fire). I consider “risk” better captures both these likelihood and consequence elements.

Recommendation

20. I recommend that the submissions seeking wider application of firefighting water supply requirements be rejected, submissions supporting or seeking retention of the notified approach be accepted, and those expressing concern about firefighting water supply be accepted in part. The original proposal to apply these requirements only within the more densely developed zones, through amendments to Policy SUBP16 and related provisions, should be retained.
21. I recommend that submission point S_07_13 be accepted in part as follows:

SUB-P16

*Ensure applications for subdivisions demonstrate that the water supply capacity, **including capacity for firefighting purposes**, is sufficient **and reliable** for the development, **and includes capacity for firefighting purposes all year round in the more densely populated zones.***

22. I recommend that submission point S_07_15 be rejected and the requirement to provide water supply in the rural zones remains restricted to residential units, veterinary clinics, retail shops, show homes, office activities and community housing.
23. I recommend that submission S_07_17 be accepted in part with respect to correcting the error in drafting, but that the reference to every habitable building remain.

34.1 PERMITTED ACTIVITIES

34.1.1 Water supply systems complying with the following conditions:

...

3. Settlement Management Area and Bush Settlement Management Area: Every habitable building shall be provided with a water supply adequate for firefighting purposes with a water supply adequate for firefighting purposes in accordance with the New Zealand Fire Service Water Supplies Code of Practice SNZ PAS 4509: 2008.

3.10.2.4 Encourage Safer Subdivision Design

Submissions

24. Fire and Emergency New Zealand supports the identification of the “potential for wildfire as a site suitability issue for subdivision in Rotorua (S_07_12)
25. FENZ supports Policy NH-P5(2) to the extent that it acknowledges the importance of considerations relating to subdivision design in reducing wildfire risk and risks to future occupants. While this policy seeks to encourage (rather than require) further consideration and mitigation of wildfire through subdivision design in Rural Zones and at the urban-rural fringe, if wildfire risk is identified, Council should be able to consider such mitigation measures in its decision-making. (S_07_10) FENZ, however, requests an amendment to Policy NH-P5(2)(c) to better capture the intent of the mitigation option, namely, the choice and location of plant species in relation to buildings and accessways to reduce the risk of fire spread. The proposed wording is as follows:

Encouraging subdivision design in rural areas and at the rural-urban fringe to consider the potential risks of wildfire and, where appropriate, include measures that may help reduce the risks. Such measures may include:

- a. identifying suitable locations for building platforms and accessways that reduce exposure to wildfire hazards and facilitate egress;
- b. facilitating access for emergency services; and
- c. choice and location of plant species in relation to buildings and accessways to reduce the risk of fire spread.

26. FENZ also supports introducing matters of control / discretion to the subdivision and various land use rule frameworks that require the assessment of the extent to which natural hazard risks are avoided or remedied and the worsening of any hazard (or to similar effect). This includes the consideration of wildfire as an unmapped natural hazard. (S_07_03)
27. Other submitters that support encouraging safer subdivision design as expressed in Policy NH-P5 are Te Rūnanga o Ngāti Kearoa Ngāti Tuara (TRoNKNT) (S_58_06), Wāhiāo Māori Committee (F_60_11). (F_60_12) and Tapuika Iwi Authority (F_61_04).
28. However, it is also noted that Rotorua Planning Consultants Group questions whether wildfire is a significant enough hazard within the Rotorua district to warrant management within the District Plan as outlined above (S_39_03).

Evaluation

29. As discussed above, I consider that wildfire risk is sufficient to warrant management through the District Plan. I support the approach to encouraging safer subdivision design through Policy NH-P5(2) and the proposed changes to matters of control and discretion in the subdivision chapter, noting that most submitters were also supportive of these provisions. For consistency with Section 3.10.2.3, I accept in part FENZ's requested refinement to Policy NH-P5(2)(c) to clarify "choice and location of plant species in relation to buildings and accessways to reduce the risk of fire spread."
30. I also recommend a minor wording change in Policy NH-P5 to refer to "land use and subdivision" instead of "development" for consistency with other recommendations in this report.

Recommendation

31. I recommend that submissions supporting the encouragement of safer subdivision design through Policy NH-P5 and the inclusion of natural hazards as matters of control and discretion for subdivision be supported.
32. I recommend that the proposed changes to policy NH-P5(2)(c) as proposed by FENZ are accepted in part as follows:

Mitigate the risks of wildfire associated with land use and subdivision development by:

1. Requiring firefighting water supply for new buildings and other land use activities in more densely populated zones and papakāinga to reduce the risk of wildfire occurring.
2. Encouraging subdivision design in rural areas and at the rural urban fringe to consider the potential risks of wildfire and, where appropriate, include measures that may help reduce the risks. Such measures may include:
 - a. identifying suitable locations for building platforms and accessways that reduce exposure to wildfire hazards and facilitate egress;
 - b. facilitating access for emergency services; and
 - c. choice and location of plant species in relation to buildings and accessways to reduce the risk of fire spread.

3.11 Fault Rupture Provisions

3.11.1 Existing Fault Rupture Provisions and Proposed Amendments

Fault Hazard Overlay

1. The District Plan currently includes mapping of active faults, which is based on GNS's 2010 district-wide study (Villamor et al, 2010). This mapping shows buffer areas around faults to account for the potential zone of deformation, which was originally called the 'Fault Avoidance Zone' consistent with national guidance terminology but was renamed the 'Fault Avoidance Overlay' during the restructuring of the District Plan in 2021 for consistency with National Planning Standards terminology. In the hardcopy/static maps, fault mapping over the Lakes A Zone is shown differently, with high transparency, which creates ambiguity about the status of the mapping.

2. This mapping has since been superseded by a significant update to the New Zealand Active Fault Database (NZAFD) based on new topographic information and a review of site-specific studies (Morgenstern and Villamor, 2025).
3. PC 8 proposes to remove the fault mapping from the District Plan and instead apply rules to a “Fault Rupture Hazard Area”, defined as follows:

Fault Rupture Hazard Area the area around an active fault trace that includes the likely area of fault rupture plus an additional width of at least 20m on either side to allow for secondary ruptures and uncertainty in the location of future deformation.

4. The Section 32 Report stated that it was anticipated that the NZAFD would provide the primary information to locate the fault rupture hazard area and the definition is intended to align with its fault avoidance zones. The Section 32 Report suggested that this information could, however, be supplemented with site-specific information, such as the results of trenching. Therefore, the following note was proposed for inclusion under the definition but was missed from the annotated text provided in the appendix to the Section 32 Report:

Note: The Fault Avoidance Zones identified in the New Zealand Active Faults Database assist to identify the Fault Rupture Hazard Area but may be supplemented with other information.

Management at Subdivision

5. Fault rupture hazards are addressed at subdivision through a general performance standard SUB-S9(1)(a), which requires that ‘All sites within the subdivision have an area with a foundation suitable for the intended future use, which will be free from erosion, subsidence and slippage’. Consideration at subdivision provides the opportunity to identify issues early and ensure reasonable expectations for future development. The area of application of these standards is not restricted to the mapped overlay. However, discussions with those involved in consenting suggests that the mapped fault avoidance area provides the usual trigger for consideration.

Management of Buildings Exposed to Fault Rupture

6. Rules NH-R1 to NH-R3 provide a regime for managing buildings in the Fault Avoidance Overlay. Additions and buildings of low importance are permitted, while new buildings and replacement buildings that extend the building footprint require resource consent.
7. PC 8 proposes to retain this regime but apply it to the described Fault Rupture Hazard Area with the following amendments. This is intended to allow reference to the most up-to-date information in determining where the rules apply.

Fault LinesRupture		
NH-R1 <i>Additions to existing buildings or replacement buildings in the Fault Avoidance Area Overlay Fault Rupture Hazard Area</i>		
Applicable Spatial Layers <i>Fault Avoidance Area</i> <i>Fault</i>	1. Activity Status: Permitted Performance Standards: <i>a. Replacement buildings within the fault avoidance</i>	2. Activity Status: Restricted Discretionary Where:

<p><u>Rupture Hazard Area in:</u> <u>Residential Zones</u> <u>Industrial Zones</u> <u>Business and Innovation-1 Zone</u> <u>All Rural Zones</u> <u>Reserve-1 Zone</u></p>	<p>area<u>Fault Rupture Hazard Area</u> shall be within the existing building footprint.</p>	<p>Compliance is not achieved with the performance standards for NH-R1(1). Matters of Discretion:</p> <p>a. <u>The extent to which natural hazard risks are avoided or mitigated and Adverse effects from natural hazards</u> or the worsening of any hazard identified on the planning maps are managed.</p> <p>b. In order to assess the risk arising from locating a habitable building within a fault avoidance area<u>Fault Rupture Hazard Area</u>, a natural hazard assessment report from a suitably qualified geotechnical engineer shall be provided for new buildings located within the fault avoidance area<u>Fault Rupture Hazard Area</u> with this identifying the potential location of the fault line, its recurrence interval and any subsequent building design and location requirements or restrictions on use.</p>
<p>NH-R2 Low importance buildings in the Fault Avoidance Area Overlay <u>Fault Rupture Hazard Area</u></p>		
<p>Applicable Spatial Layers <u>Fault Avoidance Area</u>Fault Rupture Hazard Area in: <u>Residential Zones</u> <u>Industrial Zones</u> <u>Business and Innovation-2 Zone</u> <u>All Rural Zones</u> <u>Reserve-1 Zone</u></p>	<p>1. Activity Status: Permitted</p>	
<p>NH-R3 New buildings in the Fault Avoidance Area Overlay <u>Fault Rupture Hazard Area</u></p>		
<p>Applicable Spatial Layers <u>Fault Avoidance Area Overlay (2010)</u> <u>Fault Rupture Hazard</u></p>	<p>1. Activity Status: Restricted Discretionary Matters of Discretion:</p> <p>a. <u>The extent to which natural hazard risks are avoided or mitigated and Adverse effects from natural hazards</u> or the worsening of any hazard identified on the planning maps are managed; and</p>	

<p>Area in:</p> <p>Residential Zones</p> <p>Industrial Zones</p> <p>Business and Innovation 23 Zone</p> <p>All Rural Zones</p> <p>Reserve 1 Zone</p>	<p>b. In order to assess the risk arising from locating a habitable building within a fault avoidance area<u>Fault Rupture Hazard Area</u>, a natural hazard assessment report from a suitably qualified geotechnical engineer shall be provided for new buildings located within the fault avoidance area<u>Fault Rupture Hazard Area</u> with this identifying the potential location of the fault line, its recurrence interval and any subsequent building design and location requirements or restrictions on use.</p>
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Policy to Clarify Management

8. The main part of the District Plan (outside of the Lakes A Zone) has no specific objectives or policies for faults. PC 8 proposes to add a policy in the Natural Hazards chapter as follows to clarify, rather than change, existing practice.

Fault Rupture

Policy NH-PAA

Manage the risks to people and property associated with fault rupture by requiring an assessment of fault rupture risk and mitigation options for:

1. **Subdivision to facilitate building on land susceptible to fault rupture.**
2. **New buildings in areas susceptible to fault rupture.**

Lakes A Zone

9. PC 8 proposes to extend the proposed active fault policy (NH-PAA) and existing land-use rules in the main part of the District Plan (NH-R1 to NH-R3) to the Lakes A Zone. This would be implemented by stating, in relevant parts of the District Plan including in the Lakes A Zone, that the whole Natural Hazards (NH) chapter applies to the Lakes A Zone, as explained above.
10. It is also proposed to retain building performance standards for building platforms in Rule 6 of the Lakes A Zone that require them to be located ‘clear of any areas of instability or known natural or artificial hazard’. This is considered to include active faults.
11. Fault rupture hazard areas can be considered at subdivision through the link in Rule 38 to the performance provisions for building platforms in Rule 6. Where this condition cannot be met, the subdivision would be a discretionary or non-complying activity, depending on the zone.

3.11.2 Evaluation of Matters Raised in Submissions

3.11.2.1 Alternative Approaches – Reliance on the Building Act at Land Use Submissions

1. Before responding to submissions that address the detail of the provisions for land use in areas affected by active faults, it is noted that there was also concern about whether the District Plan should manage land use with respect to fault hazards or whether this should be left to the Building Act.

2. For example, the Rotorua Planning Consultants Group supports consideration of faults at subdivision but considers that resource consent for land use is unnecessary given evaluation is required at the time of building consent and should be deleted. They note this approach was recently taken by Taupō District Council (S_39_11). Simon and Megumi Ward also seek reconsideration of the section 32 assessment and suggest there are more appropriate methods to manage the risk under the Building Act (S_50_01).

Evaluation

3. As explained in the Section 32 Report, active fault risk is relevant to compliance with the Building Code's structural stability requirements, and a building must still demonstrate compliance where a fault hazard is credible. While this creates a degree of overlap with District Plan controls, I consider that land-use rules continue to serve an important function for two main reasons:

1. **Exceptions to the requirement for building consent.**

Some types of buildings, now including minor residential units (granny flats), do not need a building consent. The exemption for granny flats is limited where there are natural hazards but faults are not defined as a natural hazard under the Building Act. While exempt buildings must also meet the Building Code (including relevant structural stability requirements), compliance relies on the judgement of those undertaking the work, without the safeguard of technical review by a consent authority. The recent legislative changes for minor residential units implicitly acknowledge these limitations by retaining the requirement to comply with District Plan natural hazard rules, thereby acknowledging the continued role of the District Plan for development exempt from the need to obtain building consent.

2. **Lack of compliance pathways and clear guidance under the Building Act.**

Where active fault rupture is a potential hazard, the Building Code provides no clear or standardised compliance pathway. With no Acceptable Solutions or Verification Methods for structural stability, applicants must rely on specific engineering design without any formally endorsed methodology; while the Ministry for the Environment's guideline (Kerr et al., 2003) is often referenced, it has no regulatory status. District Plan provisions cannot resolve this gap, but they can reduce uncertainty by establishing a risk-based framework at the land-use stage—signalling appropriate building importance levels, recurrence intervals, and expected levels of assessment. This does not remove Building Code obligations, but it gives developers and engineers earlier, more predictable guidance, reducing the likelihood of high-risk proposals or redesign at the building-consent stage. Given Rotorua's unusually high number of active, and often poorly characterised, faults, the District Plan also provides an important opportunity to shape a coherent approach to managing these hazards and to contribute, over time, to wider discussions about how planning and Building Act processes interact in complex fault environments.

Recommendation

4. I recommend that:
 1. Submissions seeking reliance on the Building Act rather than District Plan provisions are rejected for the reasons given above.
 2. No changes are made to PC 8 in response to these submissions.

3.11.2.2 Subdivision Issue Statement

Submissions

1. The Natural Hazards Commission notes an omission in the subdivision issue statement that provides the context to the subdivision provisions in relation to the fault rupture hazard and seeks that this is added to the list of hazards in SUB-I2 (S_22_23).

Evaluation

2. I agree that active faults should be added to the list for consistency.

Recommendation

3. I recommend that submission S_22_23 by the Natural Hazards Commission is accepted and “active faults” is added to the list of hazards in issue SUB-I2.

3.11.2.3 Definition of Fault Rupture Hazard Area

Submissions

1. Several submitters supported the proposed definition of Fault Rupture Hazard Area (see for example S_15_04 and S_22_05))
2. The Section 32 Report indicated an intention to include a note in the definition of Fault Rupture Hazard Area clarifying that the New Zealand Active Faults Database provides information to identify the Fault Rupture Hazard Area, but that this information may be supplemented by other sources. BOPRC submits that this explanatory note was omitted from the notified plan text and seeks an amendment to the definition to clarify that the mapped area corresponds to the Fault Avoidance Zone and, where relevant, Fault Awareness Areas as identified in the New Zealand Active Faults Database (S_45_05). This submission is supported by further submissions from WRC and the Natural Hazards Commission (F_15_08 and F_22_48).
3. R & K Mason also identify the omission of the explanatory note and seek that the definition be amended to include the wording foreshadowed in the Section 32 Report (S_51_02).
4. Rotorua Planning Consultants Group more generally considers that clarification is required for the definition (S_39_13).

Evaluation

5. As discussed above in Section 3.8 “Approach to Hazard Mapping”, we continue to support the removal of static hazard mapping from the District Plan in favour of a defined “Fault Rupture Hazard Area” where the rules apply because this allows for use of the most up-to-date information in determining where rules apply, such as site-specific trenching to establish the location of a fault.
6. I support clarification about the role of the New Zealand Active Faults Database in determining where the Fault Rupture Hazard Area applies. However, reference to the New Zealand Active Faults Database in the definition would constitute “incorporation by reference” in terms of the RMA and would mean that a version of the database as at a specific date would need to be provided, effectively replacing one static map with another. Therefore, I favour the original wording of the note that clarifies that the active faults database provides information for assessing the location of the fault rupture hazard area, but this may be supplemented by other sources.

7. I also consider that the proposed definition lacks certainty as to whether it would encompass faults identified by experts as only “possible” faults or where the tectonic origin is “unknown”. I recommend that this ambiguity be addressed by confining the Fault Rupture Hazard Areas to “likely” active faults traces and adding a separate definition for “Possible Fault Rupture Hazard Area”, which is discussed in Section 3.11.2.6.

Recommendation

8. I recommend that:
 1. Submissions seeking the proposed definition are partially accepted.
 2. Submission S_45_05 by BOPRC, supporting further submissions by WRC and the Natural Hazards Commission (F_15_08 and F_22_48), submission S_51_02 by R & K Mason and submission S_39_13 by the Rotorua Planning Consultants Group are partially accepted insofar as identifying a need to clarify the definition of Fault Rupture Hazard Area and the relationship with the New Zealand Active Faults Database.
 3. The definition of Fault Rupture Hazard Area proposed by PC 8 is amended as follows:

Fault Rupture Hazard Area: the area around a likely active fault trace that includes the likely area of fault rupture plus an additional width of at least 20m on either side to allow for secondary ruptures and uncertainty in the location of future deformation.

Note: the New Zealand Active Fault Database provides information to identify the fault avoidance area but may be supplemented by other information.

3.11.2.4 Building Conversions and Additions

Submissions

1. BOPRC considers that it is unclear whether Policy NH-PAA also relates to existing development, such as building extensions and/or other sensitive activities, including Low Impact Buildings, which are subsequently converted to residential use, and which may not be captured by the term ‘new buildings’. It suggests that Rule NH-R2 indicates that building extensions (that are not replacement buildings) are relevant to this policy and therefore NH-PAA should be amended to include building extensions (that are not replacement buildings), as well as Low Impact Buildings, which are subsequently converted to residential use, for example (S_45_13).
2. The further submission by the Natural Hazards Commission supports amendments to NH-PAA that can improve clarity and consistency and considers that building extensions should be addressed under Rule NH-R2 as extensions to buildings can increase the overall level of exposure to natural hazards (F_22_52).

Evaluation

3. The existing rules for Fault Avoidance Zones, which PC 8 proposes to redirect to a defined Fault Rupture Hazard Area, require resource consent only for new buildings (excluding buildings of low importance and including replacement buildings that extend outside the original footprint). Building extensions are expressly identified as a permitted activity. I agree that the status of extensions and conversions requires further consideration, as such changes could increase risk.

4. It is considered that the most likely type of change in use that would increase risk from fault rupture is that highlighted by BOPRC - the conversion of a building of low importance (shed or garage) to a residential building. As noted for flooding, it is my understanding that the hazard risk implications from such conversions cannot be considered in relation to the Building Code and consideration can only be given to matters within the scope of the building work that triggers any consent (such as drainage works), rather than the broader implications of increased occupancy or vulnerability to the fault hazard.
5. It is possible that other conversions that increase risk could also occur, although they may not be common. For example, the conversion of a large shed to an office or event venue. These may not require building extensions or, indeed, any building work at all. While some conversions may also trigger 'change in use' allowing consideration under the Building Act in relation to compliance with structural stability requirements, it is considered that the rule framework should address conversions to provide a consistent framework for addressing the hazard, given the lack of guidance in the Building Act, Building Code and associated compliance documents regarding faults.
6. It is preferred that the conversion issue is addressed in the same way as that proposed for flooding – by developing a typology of building importance levels and requiring resource consent when there is an increase in the building importance level. The recommended typology is intended to reflect potential exposure (number of occupants, building value, building size), vulnerability (physical ability of occupants) and consequence factors (importance of continued function to the community) and is based on approaches used in other New Zealand hazard management policy, but with some variation. Refer to Appendix 1 for a comparison of the recommended typology with other approaches.
7. I do not consider that extensions without a change in building importance level should require resource consent. While there may be some change in exposure in terms of the value of the building asset, I consider changes in exposure will be adequately addressed through the building importance level approach.
8. I agree with BOPRC that Policy NH-PAA requires clarification and suggest that, rather than referring specifically to 'new buildings', the wording is broadened to 'building on land' and captures changes in importance level as well.

Recommendation

9. I recommend that:
 1. Submission S_45_13 by BOPRC and Further Submission F_22_52 by the Natural Hazards Commission are partially accepted.
 2. Rule NH-R1 to NH-R3 for the Fault Rupture Hazard Area are amended, as set out in the next section "Ensuring the Approach Reflects the Level of Risk", to include a requirement for resource consent where building work within a Fault Rupture Hazard area is for an increase in the building importance level.
 3. The definition of "building of low importance" is amended and definitions of building importance levels 1 to 4 are inserted into the Interpretation Chapter as follows (consistent with the recommendations for flooding):

- [Building importance level: a typology of building importance levels for the purpose of NH Natural Hazards, defined by the definitions of building importance levels 1, 2, 2a, 3 and 4.](#)
 - [Building Importance Level 1 / Building of Low Importance: buildings presenting a low degree of risk to life and property. In relation to buildings within NH Natural Hazards, means buildings posing low risk to human life and the environment, and low economic cost, should the building fail.](#) These are typically small (less than 30m²) non-habitable buildings, such as sheds, barns, and the like, that are not normally occupied, although they may have occupants from time to time.
 - [Building Importance Level 2a: detached residential units < 300m², including detached minor residential units.](#)
 - [Building Importance Level 2b: buildings not in building importance levels 1, 2a, 3 or 4.](#)
 - [Building Importance Level 3: buildings that may contain people in crowds, be of high economic value or importance to the community or contain large numbers of vulnerable occupants, including:](#)
 - a. [Buildings where more than 300 people can congregate in one area](#)
 - b. [Day Care with > 150 capacity](#)
 - c. [Primary/Secondary schools with > 250 capacity](#)
 - d. [Colleges/adult education > 500 capacity](#)
 - e. [Health care facilities with potential for > 50 patients in care \(but not emergency surgery\)](#)
 - f. [Buildings with an occupancy load greater than 500](#)
 - g. [Transport terminals and buildings for power generation, water treatment or wastewater treatment that are operated by a local authority or requiring authority](#)
 - [Building Importance Level 4: critical buildings with special post disaster functions or that provide critical community services, including major infrastructure facilities, key emergency medical/surgical facilities and emergency services facilities.](#)
4. The wording of Policy NH-PAA is broadened to ‘building on land’ rather than ‘new building’, as set out in the next section.

3.11.2.5 Ensuring the Approach is Proportionate to the Level of Risk

Submissions

1. Several submitters also questioned whether the rule framework for active faults was a reasonable response to the level of risk. For example:
 - Roelof Corver opposed the proposed rule framework for fault avoidance zones in the Ngākuru area, stating that the assessments and resource consent process adds significantly to costs. He sought that the Fault Avoidance Zone buffers be not applied, or that exemptions be provided to allow for the replacement of buildings, parts of buildings, simple new buildings and granny flats/single storey buildings if they are not “directly over a fault” (S_11_01).

- Martin Caughey seeks that all the Fault Rupture Hazard provisions are removed from the plan and one of the reasons given is overregulation (S_19_01).
 - The Rotorua Planning Consultants Group states that there is no differentiation between high and low recurrence interval faults and that the management framework is too conservative (S_39_12). The Rotorua Planning Consultants is also concerned about regulating minor buildings that do not require building consent. It states that the risks to such structures is likely to be minor and management should be left to the Building Act process (S_39_12).
2. Pamela Robyn Lyons-Montgomery seeks that no rules are applied for faults and instead a ‘no blame’ approach be taken at the owners’ risk. They live in Ngākuru and note that the whole area is defined by faults (including additional ones not identified in the report) so there is almost no ‘safe’ place to build (S_37_01).
 3. PC 8 proposes to retain the existing risk-based approach of permitting buildings of low importance, which is supported by the Natural Hazards Commission. However, it seeks that a definition is added (S_22_18).
 4. The Natural Hazards Commission also seeks that the matters of discretion in rule NH-R5 explicitly refer to the risk-based approach in the Ministry for the Environment’s 2003 guidelines as follows (S_22_19):

Building Importance Categories and Recurrence Intervals (as per MfE guidance) will be used to assess whether a new building will be permitted in a Fault Rupture Hazard Area.

5. In addition, the Natural Hazards Commission seeks that reference to guidance on fault rupture hazards be included in Policy NH-PAA as follows (S_22_13):

Manage the risks to people and property associated with fault rupture by requiring an assessment of fault rupture risk and mitigation options in line with the best available guidelines for land use planning near active faults, for:

1. *Subdivision to facilitate building on land susceptible to fault rupture.*
2. *New buildings on land susceptible to fault rupture.*

6. BOPRC supports the Natural Hazard Commission’s request to reference the guidance in the matter of discretion but prefers that the matter of discretion refer to ‘best available national guidelines’ in line with the policy rather than reference specific guidance that may be updated or superseded (F_45_33).
7. These submission points are also opposed by the Lake Ōkāreka Community Association and Simon and Megumi Ward (F_21_02, F_21_04 and F_50_02) on the grounds of the GNS data being uncertain and incomplete and costs of regulation are disproportionate to the risk.

Evaluation

8. I continue to support the need for management of fault rupture hazards through the District Plan. As noted in the evidence of Kelvin Berryman, the Rotorua District has many active geological faults, and if buildings are located where the fault rupture occurs there is high likelihood of serious damage and potential collapse.

9. I am sympathetic to the concerns of Pamela Robyn Lyons-Montgomery. I agree that areas affected by faults are extensive in some parts of the district. Even so, as explained in Section 2.5.3, fault rupture presents a significant risk in terms of the matrix in the NPS-NH and the management of this risk is a matter of national importance regardless of the extent to which parts of the district are affected.
10. The risk assessment also clarifies that, while fault rupture is a serious hazard, it does not constitute a “very high risk” that must be avoided under the NPS-NH. Instead, it requires a management response proportionate to the level of natural hazard risk.
11. The regional policy statements reinforce this approach, seeking acceptable/tolerable risk (Waikato) and achievement of low risk (BOPRPS, Policy 4B) at the development scale but these acceptable/tolerable and low levels of risk are not defined, which necessitates development of a risk-based planning framework.
12. I support the submission of the Natural Hazards Commission insofar as I consider that the risk-based approach in the Ministry for the Environment 2003 guidelines (Kerr et al., 2003) is an important approach to defining acceptable/tolerable or low levels of risk in the absence of other national practice or guidance. The 2003 guidelines also reflect established risk management principles, which are discussed in the evidence of Kelvin Berryman:
 - Risk is a function of likelihood and consequence, which is reflected in the risk-based approach based on fault recurrence interval (RI) and building importance category.
 - Building collapse thresholds for Building Importance Category 2 buildings (including detached residential buildings) used for seismic design are about 1 in 2,500 years, which compares well to the guidance’s acceptable RI of 2,000 years for existing developed areas.
 - Risk management should consider exposure, meaning risk increases with the number of people or buildings, or the value of the buildings located across or near a fault. This is reflected in higher RI thresholds for higher building importance categories. This is also reflected in the higher RI thresholds for greenfield compared with existing developed areas, since greenfield development may expose more people.
13. However, like BOPRC, I am hesitant about the requests by the Natural Hazards Commission to embed the guidelines directly in the policy and matters of discretion. I also have reservations that specifically referencing the guidelines may limit the future ability to incorporate evolving best practice. The guidelines are now over twenty years old and, while I do not know of any plans for review, I understand there is interest amongst practitioners and experts.
14. I also consider that it would be misleading to insert the policy wording proposed by the Natural Hazards Commission, which suggests information on risk mitigation can be found in the guidelines. Rather, these guidelines provide a framework for identifying areas potentially affected by fault rupture and determining what types of buildings are and are not acceptable within these areas. In other words, they are more about avoidance than mitigation.
15. Furthermore, I consider that the approach requires refinement in response to faults that are only identified as “possible” or of “unknown” tectonic origin as explained in the next section.
16. However, I do support changes to improve certainty about when a building will be permitted in a Fault Rupture Hazard Area. The rule framework already enables low risk developments sought by the submitters – minor buildings that do not require building consent and additions to existing buildings.

However, I consider that the risk-based approach based on recurrence interval and building importance level promoted by the 2003 guidelines provides a basis for extending the categories of permitted building in existing developed areas to reduce unnecessary costs for applicants.

17. To improve certainty about what constitutes an 'existing developed area' I suggest this exception be limited to existing lots in specific zones intended for more intense development. I also prefer that building importance level definitions and acceptable recurrence intervals be included directly in the District Plan (rather than through a reference to the 2003 guidelines) to enable refinement of the building importance levels (see Appendix 1).
18. Alongside these changes, I suggest restructuring the rules to avoid the need for a permitted activity because, in my experience, permitted activity rules in District-Wide overlays tend to cause confusion and interpretation issues; and rewording the matters of discretion to reflect the widened scope of the rule.
19. The Natural Hazards Commission's support for permitting buildings of low importance and their request for a definition are noted. A definition is already included in the District Plan but is proposed to be amended in response to other submissions. It is understandable that this definition was missed by the submitter, as it was not initially proposed to be amended and was, therefore, not included in the track changes published with PC 8.
20. I recommend retaining the matter of discretion from the existing provisions for when higher risk activities are proposed. This requires an assessment report identifying the potential location of the fault line, its recurrence interval and any subsequent building design and location requirements or restrictions on use. However, I recommend amending the requirement that this be prepared by a suitably qualified "geotechnical expert" to a "suitably qualified expert" as there may be different disciplines involved including a geologist for fault assessment and structural engineers for building design.
21. The redrafting I recommend does not include a permitted activity, with activities permitted under the fault rule instead being defined by what is not regulated. I consider this a better approach for District-Wide 'overlay'-type chapters as permitted activities can cause confusion.
22. Refer also to Table 2 in Appendix 2 for additional evaluation against the matters in Section 32AA.

Recommendation

23. I recommend that:
 1. Submissions opposing the current rules are partially accepted, insofar as it is agreed that there is a need to consider further refinement to ensure an approach proportionate to the level of risk.
 2. Submission S_22_19 by the Natural Hazards Commission and further submissions F_21_02, F_21_04, F_50_02 and F_45_33 are partially accepted, recognising that the categories of permitted activities can be increased to reduce costs. Submission S_22_18 is partially accepted, recognising that a definition for building importance level is already included in the District Plan but is amended as part of a larger set of changes to extend the categories of permitted activities.

3. Submission S_22_18 by the Natural Hazards Commission is partially supported insofar as it recognises the need for a definition and supports a distinction in approach to buildings of low importance.
4. Definitions of “building importance level” and for building importance levels 1, 2, 2a, 3 and 4 are included in the interpretation section as set out above in Section 3.11.2.4 “Building Conversions and Additions”.
5. Rule NH-R1 to Rule NH-R3 are replaced with a restructured Rule NH-R1 that provides an exception from the need for resource consent for building in the Fault Rupture Hazard Area where the building importance level is consistent with a specified minimum recurrence interval in specific zones and Lakes A Management Areas that provide a proxy for existing developed areas. This redrafting also avoids a permitted activity, which can cause interpretation issues, and includes minor rewording to the matters of discretion.

Fault Rupture Lines

NH-R1 Buildings in the Fault Rupture Hazard Area

Applicable Spatial Layers
Fault Rupture Hazard Area

2 Activity Status: Restricted Discretionary

Where:

- a. Except as provided in b), the building is:
 - i. a new building; or
 - ii. has a change in building importance level.
- b. This rule shall not apply if the building is:
 - i. a building of low importance (Building importance Level 1); or
 - ii. a replacement building within the existing footprint that does not increase the building importance level; or
 - iii. on existing lots in Residential Zones, Commercial Zones, Business and Innovation Zones or the Lakes A Zone Settlement Management Area or Bush Settlement Management Area where active fault affecting the site has a recurrence interval that meets the minimum recurrence interval for existing developed areas set out for the relevant building importance category in the table below:

<u>Building Importance Category</u>	<u>Minimum Recurrence Interval – Existing Developed Areas</u>
<u>2a and 2b</u>	<u>>2,000 years</u>
<u>3</u>	<u>>5,000 years</u>
<u>4</u>	<u>>20,000 years</u>

Matters of Discretion:

- a. The extent to which natural hazard risks are avoided, remedied or mitigated and the worsening of any hazard identified.
- b. In order to assess the risk arising from locating a building within a Fault Rupture Hazard Area, a natural hazard assessment report from a suitably qualified expert shall be provided, identifying the potential location of the fault line, its recurrence interval and any subsequent building design and location requirements or restrictions on use.

3.11.2.6 Responding to Uncertainty in Fault Hazard Information

Submissions

1. Many submitters, mainly but not only from the Lake Ōkāreka, were concerned about imposing restrictions on property based on what they consider to be uncertain fault hazard information. For example:
 - The Lake Ōkāreka Community Association considers it inequitable to impose definitive rules based on uncertain evidence and that the onus should be on Council to provide definitive evidence, not the community. While it supports the removal of static maps from the District Plan, it does not support defining the area based on the 2025 GNS study because of the uncertainty of this information and the need for site-specific assessment. It seeks that the Fault Rupture Hazard Area rules are not applied to the [Acacia Road] fault and instead the area is identified as an area of investigation until the rules are warranted by conclusive scientific evidence (S_21_04, S_21_03). Several other submitters and further submitters support this approach but others do not.
 - BOPRC's further submission to the Lake Ōkāreka Community Association acknowledges the difficulty of applying a rule framework where some of the underlying mapping is uncertain and expresses its willingness to be involved in further workshops to resolve the issue (F_45_41).
 - Christine Caughey seeks that fault mapping and provisions are not applied to the fault trace at Acacia Road, Lake Ōkāreka for various reasons, including that there is inadequate scientific evidence about the fault, its probability of rupture and risk to support the provisions (S_46_01).
 - Euan and Joanne Campbell state that the limited evidence on the Acacia Road fault is unacceptable and further investigation is required to establish if there is any risk to properties (S_12_01).
 - Ann Hood states that it is premature to change the District Plan for the peninsula based on incomplete and inadequate data (S_13_01).
 - Simon and Megumi Ward consider imposing restrictive rules to the Acacia Road and Pryce Road fault trace in the context of the lack of certainty of information to be inappropriate and disproportionate. They seek that the Section 32 analysis be revisited (S_50_01).
 - Newvid Holdings Trust notes that LiDAR used to map the faults in urban areas has limitations due to interference from buildings and infrastructure, that anthropogenic features can mimic or mask faults and create a risk of misinterpretation. The trust seeks that fault lines and fault avoidance zones applicable to urban areas is removed due to inaccuracies and limitations (S_40_05). This is opposed by the Natural Hazards Commission (F_22_39).
 - Rumaki Whata opposes PC 8 as an administrator of an affected Māori land block, stating concern about the accuracy of fault mapping and lack of further investigations to support the mapping (S_04_01).
2. Red Stag Investments Limited provided a detailed submission on the issue of uncertainty in relation to their site at the entrance of the Waipa Valley (S_20_04). The company opposes the application of

the Fault Rupture Hazard Area to their property on several grounds, including that the fault is classified as having an uncertain location, standard investigations for fault location are likely to be impractical and inconclusive on the site (due to the geology). The company suggests that the proposed provisions are 'blunt', treating definite fault traces the same as uncertain and inferred fault traces where site conditions may exclude effective on-the-ground verification. To distinguish between these scenarios, the company suggests an amendment to the definition of Fault Rupture Hazard Area as follows:

Fault Rupture Hazard Area: *The area around an active fault trace that includes the likely area of fault rupture plus an additional width of at least 20m on either side to allow for secondary ruptures and uncertainty in the location of future deformation.*

Note: The Fault Avoidance Zones identified in the New Zealand Active Faults Database assist to identify the Fault Rupture Hazard Area but may be supplemented with other information. This definition shall not apply to a property where a site-specific geotechnical assessment prepared by a suitably qualified and experienced geo-professional demonstrates to the satisfaction of Council that: (a) the fault trace is classified as 'uncertain' or 'inferred' in the New Zealand Active Faults Database; and (b) there is no surface expression of the fault on the property; and (c) the geological and hydrogeological nature of the site, such as deep alluvial or organic deposits, renders standard intrusive investigation techniques (such as trenching) scientifically impractical or inconclusive for the purpose of verifying the location and activity of the fault trace.

3. Red Stag Investments Limited also seeks an amendment to the scope of rules NH-R1 and NH-R3 through the addition of the following note:

This rule does not apply to a property where the definition of 'Fault Rupture Hazard Area' is determined not to apply in accordance with the exception provided in that definition.

4. This submission is supported by Tūhourangi Tribal Authority and Wāhiāo Māori Committee, which are concerned about how the same fault trace affects the Peka land block across the road, which is being developed for industrial activity (F_59_09 and F_60_08).
5. The Natural Hazards Commission, however, opposes the submission of Red Stag Investments Limited, stating that uncertainty should not be used as a reason to amend the provisions and that the proposed provisions effectively manage uncertainties in the data (F_22_14).

Evaluation

6. Three types of uncertainty relevant to the fault rupture hazard information can be identified for the purpose of considering these submissions:
 1. Uncertainty as to whether there is indeed a fault (or whether the surface expressions identified as suggesting an active fault could have been formed by other processes).
 2. Uncertainty as to the exact location of the fault and the width of the affected area.
 3. Uncertainty as to the recurrence interval (RI) of the fault rupture, which is used in the national guidance and by experts to assess risk.
7. I agree that refinement of the rules to address the first type of uncertainty (whether an active fault exists or the surface expressions identified are due to other processes) should be given further

consideration. As explained in the evidence of Kelvin Berryman, this type of uncertainty is expressed in the 'tectonic origin' attribute of the NZ Active Faults Database with a 4-fold ranking of definite, likely, possible and unknown.

8. Given the quality of topographic information now available to support identification of active faults, Mr Berryman considers that continued land use planning with respect to buildings of lower importance for possible and unknown fault traces could be considered overly precautionary. I consider his suggestion consistent with the proportional approach sought by the NPS-NH and support refinement of the rule framework to limit the requirement for resource consent for lower importance buildings to faults identified as definite and likely.
9. I recommend that a distinction is made in the definitions of Fault Rupture Hazard Area and Possible Fault Rupture Hazard Area with the former limited to areas around likely active faults and the latter to possibly active faults.
10. I further recommend limiting land use rules in the Possible Fault Rupture Hazard Area to building work associated with buildings of higher importance levels (levels 2b+), consistent with Mr Berryman's advice.
11. This approach would also address potential ambiguity around whether the existing rules do apply to faults that have only been identified as "possible" or with tectonic origin "unknown" (as discussed above).
12. It is intended that both "possible" and "unknown" faults would continue to be considered at subdivision under the proposed matters of control/discretion for natural hazards and this should be clarified in the policy.
13. In relation to the Waipa site, the suggested refinement would clarify that lower importance buildings (up to and including category 2a) are not restricted in the "Possible Fault Rupture Hazard Area". It is hoped that the proposed exception from the need to obtain resource consent where the building importance level is consistent with the recurrence interval (refer to Section 3.11.2.5) will also go some way to address the submitters' concerns, given that the recurrence interval identified for this possible fault is long.
14. This refinement will not satisfy those submitters objecting to the management of the fault affecting Acacia Road and Pryce Road at Ōkāreka, as the evidence of Kelvin Berryman shows that there is a high degree of certainty that this fault exists. The uncertainty for the peninsula is rather around the exact location and complexity of the fault and its recurrence interval. I acknowledge that this is not ideal and creates issues for management. In other locations, uncertainty in district level information has been reduced through site-specific analysis and investigation. However, this may not be feasible for the peninsula. A report commissioned by RLC to investigate the feasibility of site investigations to improve information for the peninsula and several other fault traces found no suitable location for investigation within the control of Council or landowners on the peninsula. While a potential site for investigation was identified on a neighbouring rural property, it would require nonstandard analysis due to lake sediments, with less confidence of success, and would still require landowner approval (Berryman, 2025b).
15. However, I do not agree with the position of some submitters that there is an obligation to further improve the certainty of information for the peninsula before implementing provisions to manage

the fault rupture hazard. As explained in Section 2.3 “Statutory and Planning Context – National Policy Statement for Natural Hazards”, in my view Policy 5 makes it clear that decisions on plan changes are not expected to wait until perfect or fully certain information is obtained. While I do not consider that Policy 5 removes the obligation on Councils to consider what level of information is reasonable to obtain before making a policy decision, I consider the Council has fulfilled this obligation by:

- Commissioning district-wide information to support the update to the NZ Active Faults Database
- Commissioning further desktop assessment of the faults traces that affect clusters of development at the Lake Ōkāreka peninsula and other locations (Berryman, 2025a).
- Commissioning a report on the feasibility of site investigation at Lake Ōkāreka peninsula and other locations (Berryman, 2025b).

16. I acknowledge the remaining uncertainty around the recurrence interval and exact location / fault complexity of the fault at the Ōkāreka peninsula and other locations and I suggest no further changes in this regard.

17. Refer also to Table 2 in Appendix 2 for additional evaluation against the matters in Section 32AA.

Recommendation

18. I recommend that:

1. Submissions expressing concern about imposing restrictions due to uncertain fault hazard information; and the further submission from Natural Hazards Commission F_22_14 supporting the current rule framework are supported in part.

2. The definition of Fault Rupture Hazard Area is refined and a new definition is added for Possible Fault Rupture Hazard Area:

Fault Rupture Hazard Area: the area around a likely active fault trace that includes the likely area of fault rupture plus an additional width of at least 20m on either side to allow for secondary ruptures and uncertainty in the location of future deformation.

Note: the New Zealand Active Fault Database provides information to identify the fault avoidance area but may be supplemented by other information.

Possible Fault Rupture Hazard Area: the area around a possible active fault trace that includes the likely area of fault rupture (assuming an active fault trace is confirmed) plus an additional width of at least 20m on either side to allow for secondary ruptures and uncertainty in the location of future deformation.

Note: the New Zealand Active Fault Database provides information to identify possible faults and the corresponding Possible Fault Rupture Hazard Area, but this may be supplemented by other information.

3. Policy NH-PAA is amended as follows to distinguish the approaches for areas likely and possibly subject to fault rupture:

NH-PAA

Manage the risks to people and property associated with fault rupture by requiring an assessment of fault rupture and risk mitigation options for:

	<ol style="list-style-type: none"> 1. requiring an assessment of fault rupture and risk mitigation options for subdivision that facilitates building on land that is likely or possibly susceptible to fault rupture. 2. New buildings on land susceptible to fault rupture, identifying where the risks associated with buildings on land that is likely or possibly susceptible to fault rupture warrants further consideration and requiring an assessment of fault rupture and risk mitigation options for those buildings.
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2. An additional rule (replacing NH-R2) is inserted for the Possible Fault Rupture Hazard Area

NH-R2 <u>Buildings in the Possible Fault Rupture Hazard Area</u>									
<p><u>Applicable Spatial Layers</u></p> <p><u>Possible Fault Rupture Hazard Area</u></p>	<p><u>2 Activity Status: Restricted Discretionary</u></p> <p><u>Where:</u></p> <p><u>a. Except as provided in b), the building is:</u></p> <ol style="list-style-type: none"> i. <u>a new building; or</u> ii. <u>has a change in building importance level.</u> <p><u>b. This rule shall not apply if the building is:</u></p> <ol style="list-style-type: none"> i. <u>building importance Level 1 or 2a; or</u> ii. <u>a replacement building within the existing footprint that does not increase the building importance level; or</u> iii. <u>on existing lots in Residential Zones, Commercial Zones, Business and Innovation Zones or the Lakes A Zone Settlement Management Area or Bush Settlement Management Area where active fault affecting the site has a recurrence interval that meets the minimum recurrence interval set out for the relevant building importance category for existing developed areas in the table below:</u> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Building Importance Category</u></th> <th style="text-align: left;"><u>Minimum Recurrence Interval – Existing Developed Areas</u></th> </tr> </thead> <tbody> <tr> <td><u>2b</u></td> <td><u>>2,000 years</u></td> </tr> <tr> <td><u>3</u></td> <td><u>>5,000 years</u></td> </tr> <tr> <td><u>4</u></td> <td><u>>20,000 years</u></td> </tr> </tbody> </table> <p><u>Matters of Discretion:</u></p> <ol style="list-style-type: none"> a. <u>The extent to which natural hazard risks are avoided, remedied or mitigated and the worsening of any hazard identified.</u> b. <u>In order to assess the risk arising from locating a building within a Fault Rupture Hazard Area, a natural hazard assessment report from a suitably qualified expert shall be provided, identifying the potential location of the fault line, its recurrence interval and any subsequent building design and location requirements or restrictions on use.</u> 	<u>Building Importance Category</u>	<u>Minimum Recurrence Interval – Existing Developed Areas</u>	<u>2b</u>	<u>>2,000 years</u>	<u>3</u>	<u>>5,000 years</u>	<u>4</u>	<u>>20,000 years</u>
<u>Building Importance Category</u>	<u>Minimum Recurrence Interval – Existing Developed Areas</u>								
<u>2b</u>	<u>>2,000 years</u>								
<u>3</u>	<u>>5,000 years</u>								
<u>4</u>	<u>>20,000 years</u>								

3.11.2.7 Minor Residential Units

Submissions

1. RLC’s submission notes that changes to the Building Act and the new National Environmental Standard have been proposed to enable minor residential units to be constructed without building consent or resource consent, but that, at the time of its submission, the detail of these changes had yet to be confirmed. It seeks further consideration of whether any changes are needed given the expected changes for minor residential units (S_29_01).

Evaluation

2. As discussed for flooding, the recent amendment to the Building Act 2004 and the introduction of the *Resource Management (National Environmental Standards for Detached Minor Residential Units) Regulations 2025* (NES-DMRU) provide legislative context that was not available at the time the plan change proposal and submissions were prepared.
3. The NES-DMRU expressly preserves district plan rules and standards that manage natural hazard risk. Accordingly, Rule NH-R1 (and the related policies) will continue to apply to detached minor residential units notwithstanding the NES-DMRU. The requirement to obtain a PIM before construction provides an important mechanism for identifying faults and checking for compliance with the rule. On this basis, no changes are considered necessary.
4. It is also important to consider the interaction between the District Plan and the building consenting framework. While fault rupture hazard may raise matters relevant to compliance with Building Code provisions for structural stability, fault rupture is not included within the definition of natural hazard in section 71(3) of the Building Act. As a result, building consent exemption for small stand-alone dwellings may still apply on sites affected by fault rupture hazard. This reinforces the importance of retaining district plan provisions that specifically manage fault rupture hazards, as discussed in Section 3.11.2.1.

Recommendation

5. I recommend that Submission S_29_01 by RLC be supported in part, to the extent that it highlights the importance of retaining district plan rules to manage fault rupture risk. However, no specific amendments to the provisions are recommended.

3.11.2.8 Fault Mapping Concerns

Submissions

1. The accuracy of fault mapping and the width of the Fault Avoidance Zones (used to define the Fault Rupture Hazard Area in the proposed rules) was questioned by submitters at several specific locations:

The peninsula in Lake Ōkāreka - Acacia Road and Pryce Road.

Many submitters are concerned that the location of the fault is difficult to determine. See, for example, such as K. Huston (S_09_02), Euan and Joanne Campbell, who state that the existing reports are inconclusive (S_12_01), and R & B Property Group, which states that the justification for extending the fault through Acacia Road is neither transparent nor scientifically substantiated (S_54_01).

The intersection of Alexander Road and Spencer Road, Lake Tarawera

The Tarawera Ratepayers Association and Carol Gilchrist and Dave Townsend question why the Fault Avoidance Zone that crosses this intersection is substantially larger than most of the others on the map and asks about the evidence for this. They want the Fault Avoidance Zone reduced in size (S_30_02, S_34_01).

Waipa Valley

Red Stag Investments consider the mapping of the fault at the entrance to the valley to be of low confidence or high uncertainty and comment that there is no surface expression (S_20_04).

Evaluation

2. RLC asked Kelvin Berryman to consider these specific mapping issues. In summary:
 - There is high certainty of a continuous fault feature along the length of Acacia Road. While there is uncertainty in the fault complexity, relating to the width of the mapped Fault Avoidance Zone, this is not uncertainty as to the fault's existence.
 - The wide width of the Fault Avoidance Zone at the intersection of Alexander Road and Spencer Road is due to the fault being less well defined as to its exact location than at other points. Therefore, the buffer zone is drawn wider to accommodate the uncertainty in fault complexity.
 - The fault that crosses the entrance to the Waipa Valley has indeed been mapped based on surface expression, although where it crosses the entrance to the Valley the land has been modified and the buffer zone is drawn wider to accommodate the uncertainty in fault complexity and the fault is marked as 'possible'.
3. I do not recommend any changes to the approach in the District Plan in relation to these faults that have larger buffers due to uncertainty in their exact location. It is considered that wide buffers are an unavoidable consequence of the inherent limitations in current fault-mapping techniques.
4. Changes in relation to "possible" faults are provided in Section 3.11.2.6 above – Responding to Uncertainty in Fault Hazard Information.

Recommendation

5. I recommend that:
 1. Submissions that express concern about uncertainty in the mapping of the faults in these areas are partially accepted insofar as acknowledging that these faults have been mapped with wider Fault Avoidance Zones due to less certainty about their exact location / fault complexity.

3.12 Land Stability Hazards Provisions – Landslides, Liquefaction & Soft Soils

3.12.1 Existing Provisions and Proposed Amendments

1. Summarised below are the existing provisions in the District Plan to manage the risks of land stability hazards and the changes proposed through PC 8.

Hazard mapping

2. As noted in section 2.5.4 of this report, in 2010 GNS produced landslide susceptibility mapping for the Rotorua District (Dellow, 2010b), which was adopted into the District Plan (hardcopy Map 211) but is not referenced directly in any provision. The study is based on desktop information (geology and topography-slope angle) and provides relative susceptibility classes, from 'very low' to 'very

high'. This study also explains the landslide record according to three general 'terrains' based on geology and slope:

- A Caldera terrain covering much of the Lakes A Zone, as well as other features, which has common landslide types of small rock-falls and hillside debris flows.
 - The ignimbrite terrain, which covers extensive parts of the district, and is dominated by low-relief surfaces dissected by narrow gorges of increased susceptibility.
 - The Quaternary sediment terrain formed by river terraces and floodplains, with riverbanks the most susceptible locations.
3. As also noted, this is considered superseded by a more recent study by WSP based on updated and more detailed topographical data (Tonkin & Taylor Ltd, December 2024).
 4. GNS also mapped areas with potential for soft soils in the Rotorua district in 2010 using existing geological maps and a small number of site investigation reports (Dellow, 2010) and this work is also included in District Plan maps (hardcopy map 209) but is not referenced directly in any provision.
 5. Four zones were mapped:
 - Zone A – Areas of volcanic-derived rocks and soils.
 - Zone B – Older sediments formed in a range of environments. Sediments with soft and very soft strengths at the time of formation are likely to have consolidated over time.
 - Zone C – Undifferentiated Holocene alluvium (<10,000 years old). Sites from a range of environmental conditions are present and small areas of soft to very soft ground may be present as surficial layer in some places.
 - Zone D – Holocene (<10,000 years) swamp deposits, lake or delta sediments.
 6. The associated report notes that soft ground areas may still exist in all zones, although in Zones A, B and C these should be small in extent and at the surface. It therefore recommends that site-specific investigation at development stage across all zones, including use of a scala penetrometer.
 7. Liquefaction susceptibility maps have been produced at a regional scale but are not included in the District Plan maps.
 8. PC 8 proposes to remove the landslide susceptibility and soft soil maps from the District Plan (see Section 3.8 "Approach to Hazard Mapping").

Management at Subdivision

9. The key way that land stability hazards are managed in the main part of the District Plan is through consideration at subdivision. Subdivision performance standard SUB-S8 requires that, as part of a subdivision application for "ground subject to slippage and subsidence", information be provided to establish whether the site is or is likely to be subject to slippage or subsidence and that it is suitable for the intended future use and it will not worsen the effects of potential slippage or subsidence. This performance standard is proposed to be amended as follows to clarify the hazards addressed:

SUB-S8 Site Suitability

...

3. Land Stability Subdivision of land or buildings on ground subject to slippage and subsidence (including liquefaction)

As part of a subdivision consent application information will be required to establish whether the site is or is likely to be subject to damage through land stability hazards (including landslides, liquefaction and soft, compressible soils) ~~slippage or~~ subsidence. It shall be demonstrated that the site is suitable for subdivision and for the intended future use, and that it will not worsen the effects on other property of any land stability hazard ~~potential slippage or subsidence~~.

10. Subdivision performance standard SUB-S9 provides further requirements in relation to foundations, earthworks and expert assessment. PC 8 proposes to amend this performance standard as follows because 'freedom' from subsidence and slippage was considered too onerous; and because it is the 'building platform' rather than the 'foundation' that needs to be assessed (as foundations have yet to be constructed at the time of assessment):

SUB-S9 Site Serviceability

1. Site development and earthworks

a. For the subdivision of any land or buildings the following shall apply in relation to earthworks, ~~foundations~~ building platforms and land stability:

- i. All sites within the subdivision shall have an area with a building platform foundation suitable for the intended future use ~~which will be free from erosion, subsidence and slippage~~;*
- ii. All earthworks shall be carried out in a manner that does not disturb riparian margins, adversely affect Significant Natural Areas, indigenous vegetation or significant habitats or Significant Geothermal Features. Where the site is within a feature identified in the schedules for Historical and Cultural Values or Natural Environmental Values, or is a Significant Geothermal Feature, then the provisions of these chapters of the plan shall apply; iii. Modifications to the natural environment resulting from earthworks shall be minimised, avoided or mitigated in order to preserve existing landscape and habitat features;*
- iii. Bulk earthworks, slope stability ~~or~~ and the suitability of natural and made ground for the foundations of buildings, road, services or other works, shall be evaluated, investigated, controlled and certified by a Chartered Professional Engineer specialising in Geotechnical works or an Engineering Geologist; and*
- iv. Where the volume of filling exceeds 50m³ and the depth exceeds 450mm, the filling shall be tested and certified by a Chartered Professional Engineer*

11. General matters of control at subdivision in SUB-MC1 also provide control over the extent to which vegetation is retained or enhanced.

12. The hazard susceptibility mapping (both in and out of the District Plan) provides an indication to applicants and RLC of where landslide hazards should be considered, but consulting geo-professionals may also rely on additional site-specific information.

13. Compliance with these performance standards is checked through submission of geotech reports at subdivision. Generally, these are detailed reports, assessing the suitability of identified building platforms, appropriate foundation design and other conditions. However, for subdivision of larger lots where there is less certainty about the location of future buildings, these reports may be more

high-level, providing confidence that a feasible building platform exists but noting an expectation for further work at building stage.

14. To assist and provide clarity around implications for future development and further investigation expectations at building stage, RLC's practice is to prepare consent notices to condition the recommendations of the geotech reports but also allow for alternative reports and recommendations.

Earthwork Performance Standards

15. Earthwork performance standards (Rule EW-R1 and Performance Standard EW-S1) are also relevant as these provide thresholds for earthworks that may affect land stability, including maximum volume, maximum depth of fill, maximum height of cut face and retaining structures, and setbacks from water bodies. When thresholds are exceeded, all relevant objectives and policies of the plan, including those relating to natural hazards, can be considered as well as a matter of discretion relating specifically to natural hazards. Specific activities are exempt from the need to comply with these standards.
16. PC 8 proposes to amend the performance standards for volume, fill depth and height of any cut face in Industrial Zones, Business and Innovation Zones and the Rural 1 Zone to better manage slope stability risks. PC 8 proposes to align volume, fill depth and height standards across all zones but retain the higher volume for the Rural 1 Zone.

EW-S1 General earthworks performance standards

~~a. Industrial Zones, Business and Innovation Zones and Rural 1 Zone:~~

- ~~i. The volume shall not exceed 1000m³ in any 12 month period;~~
- ~~ii. Any fill shall be cleanfill and shall not exceed 5m in depth; and~~
- ~~iii. The cut face of any excavation shall not exceed a vertical dimension of 3m.~~

~~b. In all other zones other than those listed in 1 above:~~

~~i.a. The volume shall not exceed the following 100m³ in any 12 month period:~~

- ~~i. Rural 1 Zone: 1000m³~~
- ~~ii. Other Clarify Zones: 100m³.~~

~~ii.b. Any fill shall be clean fill and shall not exceed 450mm in depth; and~~

~~iii.c. The cut face of any excavation shall not exceed a vertical dimension of 1.5m.~~

All Zones:

~~a.d. It shall not require retaining structures that are either in excess of 1.5m in height (measured from the finished ground level) at any point or in excess of 20m in total length;~~

~~b.e. It shall not result in the modification of a Mamaku Tor; and~~

~~c.f. It shall not be carried out within 20m of the Waikato River Operating Easement boundary (as identified on map 213 and the Planning Maps).~~

17. Extensive exemptions are provided from these performance standards, which PC 8 does not propose to amend apart from the exemption for earthworks incidental to an approved subdivision. This

standard was considered ambiguous and potentially too broad, leaving open the possibility of significant earthworks without scrutiny for natural hazards and other issues. The Section 32 Report also explained that, in any case, current practice is to assess earthworks as a land use activity (with consent needed if necessary) rather than as part of a subdivision. The following changes to EW-S1(3)(a)(i) are proposed:

3. Exceptions

- a. *Notwithstanding the preceding requirements, the following activities are exempt from the performance standards above, provided that the activity meets EW-S1(g).*
 - i. *Earthworks ~~incidental to either an approved subdivision, or for the~~ construction of a building platform for a building for which building consent has been issued, or installation of utility services or to provide access to an activity which is a permitted activity or authorised by a resource consent.*

Policy to clarify management

18. Policy NH-P2 addresses land instability specifically in Rural Zones, stating:

Land instability in Rural Zones

NH-P2 Ensure buildings and activities do not increase land instability by requiring stabilisation measures where necessary.

19. However, this policy is not reflected well in the methods, with District Plan methods limited to earthworks and subdivision. The risks relating to building are, instead, managed through the Building Act. PC 8 proposes, therefore, to replace Policy NH-P2 with the following to clarify existing practice at subdivision and align terminology:

Land Stability

NH-P2 Require an assessment of slope stability and ground condition hazards (including landslides, liquefaction and soft, compressible soils), associated risks and mitigation options, for sites proposed to be subdivided for development. The assessment shall be undertaken by a suitably qualified and experienced person and appropriate to the site's hazard susceptibility and risks.

Lakes A Zone

20. This plan change seeks to align the Lakes A Zone provisions as much as possible with the rest of the District Plan to improve clarity, efficiency, and equity. It is proposed to extend new Policy NH-P2 to the Lakes A Zone as part of the broader extension of the Natural Hazards chapter to the Lakes A Zone. The extension of Policy NH-P2 to the Lakes A Zone clarifies expectations but does not change consent triggers or technical requirements.

21. In the Lakes A Zone, land stability is addressed at both subdivision and building. Rule 6 includes a permitted activity performance standard to require building platforms to be located clear of any areas of instability. This performance standard is also linked to subdivision rules. In some management areas in the Lakes A Zone, a further performance standard applies so that building platforms on slopes that exceed 24 degrees require consent. These standards and rules are proposed to be retained and are considered consistent with new Policy NH-P2.

22. The Lakes A Zone also has its own rules and performance standards for earthworks as a permitted activity (Rule 5). Notably, in addition to volume fill depth and height of cut face, there are also standards relating to slope angle. The standards also require location outside of ephemeral watercourses. These are not proposed to be amended.
23. Vegetation disturbance rules (Rule 4) also influence slope stability but are outside the scope of PC 8.

3.12.2 Evaluation of Matters Raised in Submissions

3.12.2.1 Assessment of Land Instability at Subdivision

Submissions

1. The Natural Hazards Commission supports proposed policy NH-P2, which requires assessing slope stability and ground conditions for subdivision sites, associated risks and mitigation options, and that this assessment is done by a suitably qualified and experienced person and is appropriate to the site's hazard susceptibility and risks (S_22_16).
2. BOPRC also supports NH-P2 in principle but seeks an amendment to broaden its scope from "sites proposed to be subdivided for development" to "subdivision, land use and/or development." It states that this will ensure consistency with terminology used throughout PC 8 and the District Plan (S_45_16).
3. The Māori Trustee / Te Tumu Paeroa opposes the wording of policy NH-P2, expressing concern that it implies costly specialist assessments may be required to assess slope stability risks, which could create financial barriers for Māori landowners and hinder development of whenua Māori. They request clarification of the term "suitably qualified and experienced person" to avoid ambiguity and recommend that Council provide accessible information or an enquiry service to help landowners gauge potential risks before engaging experts (S_28_06).
4. Te Rūnanga o Ngāti Kearoa Ngāti Tuara more broadly seek that assessments avoid undue burdens on Māori landowners, involve iwi in guideline development, and allow flexibility for papakāinga, marae, and hapū-led development (S_41_04, S_58_09).
5. With respect to the corresponding performance standard SUB-S8(3)(a), which requires subdivision consent applications to demonstrate site suitability for development:
 4. The Natural Hazards Commission supports the performance standard but recommends that it is strengthened by explicitly referencing two key guidance documents: GNS Science (2024) *Landslide Planning Guidance: Reducing Landslide Risk through Land Use Planning* and MBIE & MfE (2017) *Planning and Engineering Guidance for Potentially Liquefaction-Prone Land*, to ensure robust risk-based planning and mitigation (S_22_25).
 5. Kāinga Ora supports the intent of providing guidance but seeks that references to these documents be included as advice notes only, rather than mandatory requirements, to avoid creating unnecessary compliance burdens (F_42_07).
 6. BOPRC also supports referencing best practice guidance but prefers a general reference to "best available national guidelines for land use planning for landslides and liquefaction" instead of naming specific documents, to maintain flexibility if documents are updated or replaced (F_45_34).

7. BOPRC considers that the last five words of the proposed clause are incorrectly ordered and should be amended from “...and that it will not worsen the effects on other property of any land stability hazard” to “...and that it will not worsen the effects of any land stability hazard on other property.” (S_45_30).

Evaluation

6. I do not support the relief sought by BOPRC to broaden its scope from “sites proposed to be subdivided for development” to “subdivision, land use and/or development.” This policy is intended to reflect the performance standards that apply at subdivision. No equivalent performance standards apply at land use. Rather, assessment under the Building Act and earthworks standards is the key means by which land stability hazards are managed. It is noted that s106A now also provides a consent authority the power to refuse a land use consent, or impose conditions, if it considers that there is a significant risk from natural hazards including from land instability. However, this does not need to be reflected in the policies as the power sits outside the District Plan.
7. I do not support inclusion of reference to national guidance, even as advice notes because national guidance is subject to change. The suggestion to refer generically to national guidance would avoid this issue. However, I consider that the practice of using national guidance by practitioners when providing these assessments is already well established and an advice note would add little value.
8. I support the minor change in wording sought by BOPRC to Performance Standard SUB-S8(3).
9. I acknowledge the concerns raised by the Māori Trustee and Te Rūnanga regarding the implications of land stability requirements for development on whenua Māori. However, Policy NH-P2 appropriately directs a proportionate approach to assessing natural hazard risk, recognising that land stability can present significant consequences on some sites and therefore warrants careful consideration. On this basis, I consider the proposed framework remains appropriate and does not require amendment.

Recommendation

10. I recommend that:
 1. Submission S_22_16 by the Natural Hazards Commission is accepted and submissions S_45_16 by BOPRC are rejected.
 2. Submission S_41_04 by Te Rūnanga o Ngāti Kearoa Ngāti Tuara and submission and S_28_06 by The Māori Trustee (Te Tumu Paeroa) are partially accepted insofar as seeking flexibility in approach to avoid undue burdens, which is acknowledged in Policy NH-P2.
 3. Submission S_22_25 and related further submissions F_42_07 and F_45_34 are rejected.
 4. Submission S_45_30 is accepted.
 5. No changes are made to proposed Policy NH-P2:

NH-P2 Require an assessment of slope stability and ground condition hazards (including landslides, liquefaction and soft, compressible soils), associated risks and mitigation options, for sites proposed to be subdivided for development. The assessment shall be undertaken by a suitably qualified and experienced person and appropriate to the site's hazard susceptibility and risks.

6. Subdivision Performance Standard SUB-S8 is amended as follows:

SUB-S8 Site Suitability

...

~~3. Land Stability Subdivision of land or buildings on ground subject to slippage and subsidence (including liquefaction)~~

~~As part of a subdivision consent application information will be required to establish whether the site is or is likely to be subject to damage through land stability hazards (including landslides, liquefaction and soft, compressible soils) ~~slippage or subsidence~~. It shall be demonstrated that the site is suitable for subdivision and for the intended future use, and that it will not worsen the effects of any land stability hazard on other property ~~of any land stability hazard potential slippage or subsidence~~.~~

3.12.2.2 Earthwork Performance Standards

Submissions

1. Several submitters oppose the changes to permitted earthworks cut and fill standards:
 8. The Rotorua Planning Consultants Group opposes the proposed reduction for permitted earthworks cut and fill standards in rural zones, stating they are overly restrictive and fail to enable typical rural and farming activities anticipated in the Rural 1 Zone. They note the absence of evidence linking rural earthworks to increased land instability and consider a zone-specific approach based on slope and boundary proximity more appropriate than blanket restrictions. They also note that the format of the rules, which relies on extensive exceptions to the performance standards, leads to inefficiencies and confusion. The group considers that a more comprehensive review of earthworks provisions is required and seeks that, if this is beyond the scope of the plan change, the changes be withdrawn until a full District Plan update occurs (S_39_08). Fonterra supports this submission, agreeing that the proposed standards are too restrictive for the Rural 1 Zone environment (F_43_07).
 9. Fonterra's own submission opposes the proposed reduction of the permitted earthworks volume in Industrial Zones as it applies to its site at Reporoa, citing that this would trigger unnecessary resource consents for minor works, creating added costs and delays. They note the site is largely flat and classified as very low landslide risk, and that existing District Plan rules for earthworks near waterbodies and regional rules to manage erosion already apply. Fonterra highlights the unique rural context of the site compared to typical industrial zones and seeks an amendment to extend the Rural 1 Zone 1,000m³ volume limit to this site (S_43_03).

Evaluation

2. The submissions raise two key issues: whether the proposed reductions to earthworks thresholds are too restrictive in the Rural 1 Zone, and whether the Industrial 2 Zone at Reporoa should retain higher earthworks limits due to its rural character and low landslide risk.
3. I accept that the Rural 1 Zone commonly requires larger earthworks for typical farming and rural activities, and that the reduced thresholds in PC 8 may unnecessarily constrain these activities (although noting that there are a wide range of exemptions in the existing provisions to the need to meet earthwork standards). I refer to the evidence of John Brzeski, which supports retaining the

existing higher thresholds where earthworks can be set back a safe distance from property boundaries. I support his recommendation to introduce a boundary-based control for cut and fill standards, which requires earthworks to be located at least three times the height of the cut or fill from the boundary, otherwise the reduced cut and fill standards proposed by PC 8 will apply.

4. For the Industrial 2 Zone, I agree that its setting, development pattern and landform closely align with the Rural 1 Zone. Applying the same cut and fill depth thresholds to both zones is therefore efficient, proportionate, and would avoid unnecessary resource consent requirements for minor works.
5. For all other zones, I consider that the reduced thresholds proposed in PC 8 remain appropriate, as earthworks of this scale typically occur in more constrained environments where the risks to neighbouring properties are greater.

Recommendation

6. Submissions S_39_08, F_43_07 and S_43_03 by Rotorua Planning Consultants Group and Fonterra are partially accepted.
7. Earthworks Performance Standard EW-S1 is amended as follows:

EW-S1 General earthworks performance standards

1. ~~Industrial Zones, Business and Innovation Zones and Rural 1 Zone~~ Rural 1 Zone and Rural Industrial 2 Zone where the earthworks are located at least three times the height of the cut or fill from the property boundary:
 - a. ~~The volume shall not exceed 1000m³ in any 12-month period;~~
 - b. ~~Any fill shall be cleanfill and shall not exceed 5m in depth; and~~
 - c. ~~The cut face of any excavation shall not exceed a vertical dimension of 3m.~~
 - a. Any fill shall be cleanfill and shall not exceed 5m in depth; and
 - b. The cut face of any excavation shall not exceed a vertical dimension of 3m.
2. ~~In all other zones other than those listed in 1 above:~~ In all other zones, and in the Rural 1 Zone and Industrial 2 Zone where the earthworks are located closer than three times the height of the cut or fill from the property boundary:
 - a. ~~The volume shall not exceed the following in any 12-month period:~~
 - i. ~~Rural 1 Zone: 1000m³~~
 - ii. ~~Other Zones: 100m³~~
 - b. ~~Any fill shall be clean fill and shall not exceed 450mm in depth; and~~
 - c. ~~The cut face of any excavation shall not exceed a vertical dimension of 1.5m.~~
3. ~~All Zones:~~ All Zones:
 - a. The volume shall not exceed the following in any 12-month period:
 - i. Rural 1 Zone: 1000m³
 - ii. Other Zones: 100m³

...

3.12.2.3 Exemptions to Earthwork Performance Standards

Submissions

1. Submitters also oppose the amendments intended to clarify exemptions from earthwork standards for building platforms and subdivision (EW-S1(2)(a)(i)):
 10. The Rotorua Planning Consultants Group argues that linking exemptions to the building consent process under the Building Act 2004 introduces uncertainty and reliance on external legislation. They consider exemptions should operate independently of building consent requirements. As noted above, they seek a withdrawal of the proposed changes until a full District Plan update occurs (S_39_09).
 11. Luke Nelson opposes removing the earthworks exemption for subdivision, stating that the 100 m³ limit is too restrictive and would unnecessarily require land use consents alongside subdivision applications, increasing costs and administrative burden (S_56_03). The submitter considers earthworks effects can be addressed through subdivision consent matters of control or discretion. BOPRC partially opposes this relief, noting earthworks are not always assessed at subdivision stage and recommends wording that limits the exemption to approved subdivisions where earthworks have been considered (S_45_29).
 12. Fonterra, however, supports the proposed changes to provide clarity (S_43_04)
2. Fonterra also sought an additional exception for minor earthworks related to maintenance, renewal, and upgrade of existing underground infrastructure (S_43_04). They consider this consistent with other exceptions. However, BOPRC raises concerns that the proposed wording could lead to unintended environmental impacts, such as floodplain displacement, and recommends that any amendments to exceptions retain the need to comply with EW-S1(2) and do not displace floodplain storage (F_45_02).
3. Ngāti Māhino and members of Te Urunga a Kea (Te Arawa Climate Change working Group) note that broad exemptions remain for the earthwork performance standards and seek tighter controls on exemptions for access, mahinga kai restoration, and agricultural works within identified catchments, along with requirements for erosion and sediment control plans co-designed with iwi for earthworks exceeding 100 m² or 0.2 m depth in sensitive areas. They also request advice notes referencing iwi-endorsed restoration and planting standards (S_57_08).

Evaluation

4. I do not accept Rotorua Planning Consultants Group's submission that linking the exemption for building platforms to the issue of a building consent introduces inappropriate uncertainty or reliance on external legislation. As set out in the evidence of John Brzeski, the building consent process provides an established and effective mechanism for Council to assess the effects of associated earthworks and to impose conditions where necessary to manage impacts on people, property, and the environment. Narrowing the exemption to building platforms for buildings that have been granted building consent ensures an appropriate level of scrutiny while avoiding the need for additional resource consents.
5. I am of the view that the existing exemption from earthworks standards for earthworks "incidental to an approved subdivision" is too open to interpretation. However, to avoid duplication with the

subdivision process I support reinstating the exemption but with more specific wording “earthworks considered and approved as part of a subdivision”.

6. I acknowledge the concerns raised by Ngāti Mākino and members of Te Urunga a Kea (Te Arawa Climate Change working Group) regarding the breadth of existing exemptions from the earthworks performance standards and Fonterra’s request for an additional exemption. However, PC 8 is specifically scoped to address the management of natural hazard risk while earthwork standards and exemptions are intended to address multiple objectives. A more comprehensive review of earthworks exemptions, including the addition or tightening of exemptions and the introduction of new procedural requirements (such as erosion and sediment control plans or iwi co-designed standards), would extend beyond the intended scope of PC 8 and risk unintended implications for the broader earthworks framework. I also note that earthworks for the installation of utility services are already exempt under EW-S1(3)(a)(i), which assists to address Fonterra’s concerns.

Recommendation

7. I recommend that:
 1. Submission S_39_09 by the Rotorua Planning Consultants Group is rejected and the exemption relating to earthworks for building platforms is retained with the amended wording proposed in the Section 32 Report to clarify that a building consent must have been issued.
 2. Submission S_56_03 by Luke Nelson and further submission S_45_29 by BOPRC are partially accepted and the exemption for earthworks related to subdivision is reinstated but with alternative wording as set out below.
 3. Submissions S_43_04 by BOPRC and S_57_08 by Ngāti Mākino and members of Te Urunga a Kea (Te Arawa Climate Change Working Group) are rejected and further submission F_45_02 by BOPRC is partially accepted insofar as not supporting an additional exemption from the need to comply with earthwork performance standards.
 4. The exemption (a)(i) is amended as follows:

Earthworks considered and approved as part of a subdivision ~~incidental to either an approved subdivision, or for the construction of a building platform for a building for which building consent has been issued~~, or installation of utility services, or to provide access to an activity which is a permitted activity or authorised by a resource consent;

3.13 Geothermal Hazards Provisions

3.13.1 Existing Geothermal Provisions and Proposed Amendments

1. The existing provisions in the District Plan to manage the risks of geothermal hazards and changes proposed by PC 8 to these provisions are as follows:

Mapping of Geothermal Systems in the District Plan

2. The District Plan relies on geothermal system mapping (Figure 10, Map 212 in the hardcopy version of the District Plan maps) to identify areas where geothermal rules apply.

3. As discussed in Section 3.8, PC 8 proposes to retain the current maps in the District Plan, in contrast to the approach proposed for other hazards, because no suitable alternative for targeting management of geothermal hazards was identified.
4. In developing PC 8, consideration was also given to whether mapping could be improved to better target the rules for management but no viable alternative was identified.

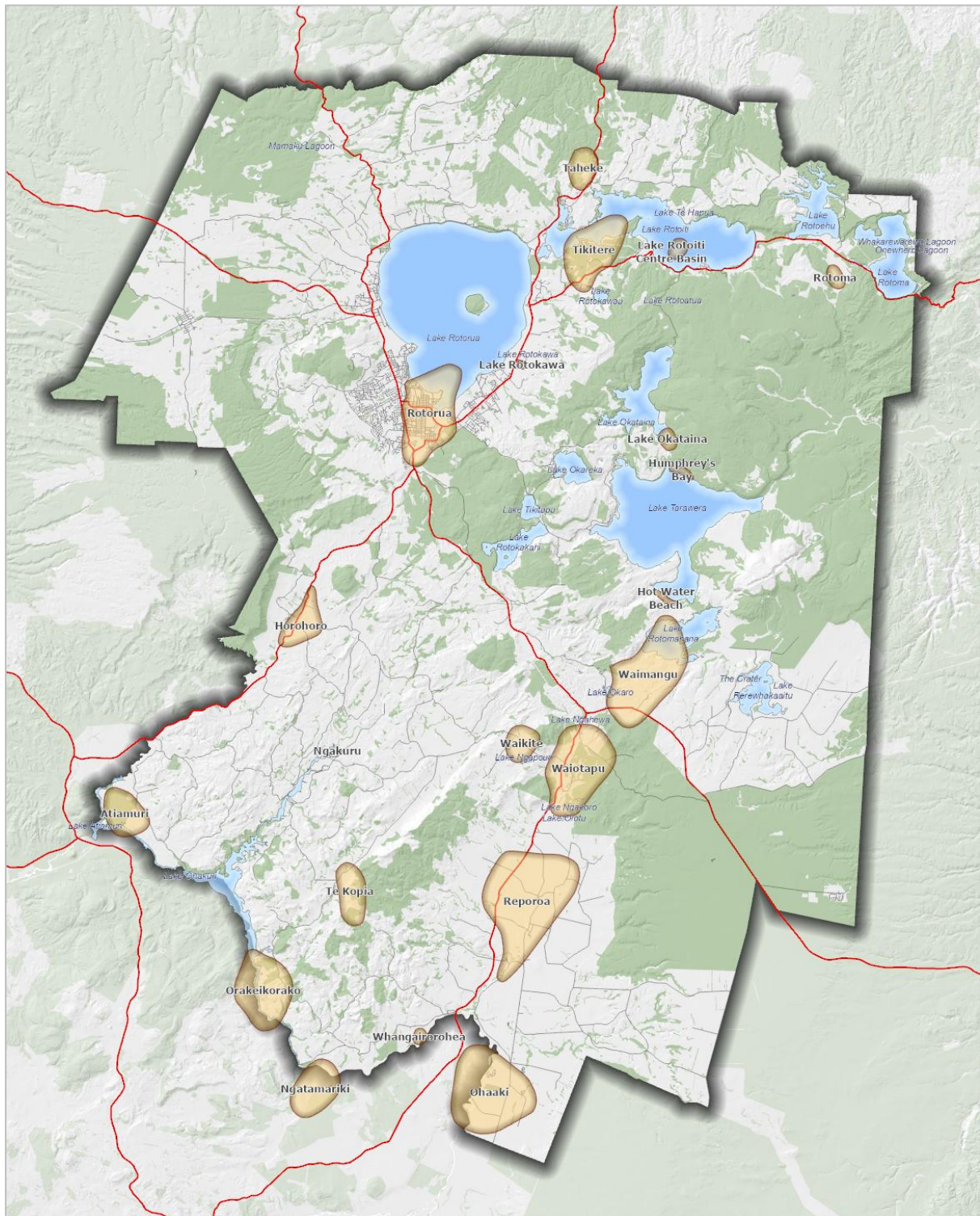


Figure 3.13.1.1 Geothermal Systems in the Rotorua District (As Shown in Geyserview)

Requirements to assess geothermal hazards and mitigation at subdivision

5. Subdivision policy SUB-P7 is relevant to the management of geothermal hazards at subdivision and states:

SUB-P7: Restrict development subject to specific natural hazards, including

...

3. *geothermal activity*

...

such that the site would be unusable or unsafe or that the natural hazard risk exceeds acceptable levels.

6. Under Rule SUB-R42, subdivision of buildings or land within the Rotorua Geothermal Systems Overlay, or affected by a geothermal feature, geothermal activity or bore is a discretionary activity.
7. Subdivision performance standard SUB-S8(2) requires applications for subdivision of land in the Rotorua Geothermal System Overlay or affected by geothermal activity, geothermal features or bores to identify the geothermal bores and features and include an assessment of risks and proposed measures to avoid, remedy or mitigate them.
8. The reference specifically and only to the Rotorua Geothermal System Overlay (under Rotorua city) in Rule SUB-R42 and Performance Standard SUB-S8(2) is the result of PC 9, which sought to clarify where subdivision rules apply but focused on the Rotorua Geothermal System due to the limitations in scope of that plan change.
9. Subdivision performance standard SUB-S9 is also relevant, as it requires a subdivision to provide an area with a foundation suitable for intended future use free from subsidence. Technical advice from a qualified geo-professional is expected to ensure this standard is met.
10. Geothermal activity is defined in the interpretation section as:

Geothermal and hydrothermal processes or discharges, actively altering or depositing rocks, minerals, soils and waters (including steam) at or near to the ground surface. It includes geothermal gas, hot ground and acid ground.

11. Geothermal feature is defined as:

Any natural landform, heated or chemically altered waters, rocks and soils created by a geothermal system. Features may be cold and inactive, extinct or dormant, actively altering or depositing rocks, minerals soils and waters at or near to the ground surface. Features are created by hot water or steam and/or gases given off from an underlying geothermal system or tectonic fault zone.

12. PC 8 proposes to extend subdivision rule SUB-R42 and performance standard SUB-P8(2) so that they apply to all the geothermal systems within the overlay, not just the Rotorua Geothermal System. This is intended to improve certainty and efficiency regarding where the provisions apply. It also proposes to delete the reference to geothermal activity on the basis that the mapped overlay provides greater certainty regarding where the rules apply.

Building Setbacks

13. As explained in the Section 32 Report and supporting reports (Tonkin & Taylor Ltd, 2022; B Scott, 2010), exposure to geothermal hazards is increased by constructing structures near geothermal surface features because these features can have unpredictable increases in activity and eject material unexpectedly and are also sources of harmful geothermal gases. Geothermal bores, in turn, can fail causing uncontrolled emissions of gas and steam.
14. Buildings located within 5 metres of a geothermal surface feature or bore require resource consent as a restricted discretionary activity under rule NH-R6. PC 8 proposes no changes to this rule, aside from general rewording of the matters of discretion in line with other hazard rules (see Section 3.14 of this report).

Impervious surface limits

15. As also explained in the Section 32 report, impervious surfaces can influence risks associated with geothermal hazards by reducing the cooling effect of rainwater percolation, creating a barrier that reduces heat radiation to the air and gas emissions, and causing gas emissions to concentrate within gaps.
16. In many zones, rules limit the percentage of a site that can be covered by impervious surfaces as a permitted activity. For example, RESZ-S3 in Residential Zones limits impervious surfaces for permitted activities to 70% in Residential 1 Zone and 80% in Residential 2 Zone.
17. Where these limits are exceeded and resource consent is required (e.g. RESZ-R3(2)), RLC has discretion to consider natural hazards, including geothermal hazards. PC 8 proposed no changes to these standards.

Assessment of Hazards and Mitigation at the time of Building

18. For the Rotorua Geothermal System, an earlier plan change (PC 9) introduced Rule NH-R8, which requires an assessment of geothermal hazards and associated mitigation measures when applying for building consent for new buildings or building additions exceeding 20 m². This approach was adopted in recognition that, while the Building Act 2004 and the Building Code provide mechanisms to manage geothermal hazards, there was limited clarity regarding the consideration of non-structural matters, such as site layout, and the extent to which risks to neighbouring land could be addressed through the building consent process alone.
19. Rule NH-R8 was therefore intended to complement existing legislative requirements by promoting early, integrated consideration of geothermal risk in site and building design. It also sought to minimise the administrative burden and promote efficiency by aligning with established Building Act processes and the preparation of geotechnical assessments commonly required to support building consent applications.
20. Given the limited scope of PC 9, Rule NH-R8 was applied only to the Rotorua Geothermal System underlying Rotorua city. PC 8 now proposes to extend application of Rule NH-R8 to all areas within the Geothermal Systems Overlay, thereby providing a consistent framework for the assessment and management of geothermal hazards across the Rotorua District.
21. In anticipation of recent changes to the Building Act 2004, PC 8 also proposes the introduction of Rule NH-R8(4) to address situations where new residential units, or additions to residential units,

increase a building footprint by more than 20 m² but do not require a building consent. In these circumstances, the activity is proposed to be classified as a restricted discretionary activity.

22. PC 8 further proposes to separate and clarify the existing exemption for building additions of 20 m² or less, and to clarify how activities are treated where a building consent is not required and the activity is not captured by Rule NH-R8(4) (that is, where the development does not involve a residential unit or an addition to a residential unit).

Policies to clarify the risk management approach

23. Policy NH-P4 (inserted by PC 9) sets out the risk management approach reflected in the rules above. No changes are proposed to this policy.

Policy NH-P4: *Manage the risks to people and property from geothermal hazards, including by:*

1. *Requiring building setbacks from geothermal surface features and bores;*
2. *Requiring site-specific geothermal assessments to be submitted for subdivision detailing the effects of the geothermal activity on the subdivision and subsequent use of the land or buildings, the effects on surface geothermal surface features, risks and proposed mitigation measures to ensure the suitability of the land for subdivision and the intended use;*
3. *Requiring site-specific geothermal assessments to be submitted at the time of application for building consent to identify the hazards and how risks are being mitigated; and*
4. *Assessing the impact on geothermal hazards and risk when zone standards for impervious surfaces are exceeded within geothermal systems.*

Policy relating to co-existence of Māori development with geothermal hazards

24. Policy NH-P3 addresses geothermal hazards in the context of co-existence with Māori villages:

NH-P3: Enable the continued co-existence of residential activities in the Te Arawa villages of Ōhinemutu and Whakarewarewa with the geothermal features throughout each village, whilst ensuring future development is undertaken with an acknowledgement of risks.

25. PC 8 proposes to replace this policy with the following:

NH-P3: Take into account the cultural significance of co-existing with geothermal activity in any assessment of geothermal hazard risk associated with development in papakāinga and traditional Māori settlements, such as the Te Arawa villages of Ōhinemutu and Whakarewarewa.

26. As explained in the Section 32 Report, the intention of this change is to widen its potential scope beyond Ōhinemutu and Whakarewarewa because traditional settlements have historically been in geothermal areas throughout the district (although some have now been lost) and to respond to mana whenua aspirations to foster further connections with geothermal resources, for example, through papakāinga in geothermal areas
27. Additionally, the existing policy was considered to lack specificity on how such co-existence should be enabled in a practical sense within the District Plan framework, and it was considered that a stronger connection to the proposed objectives could be achieved by amending the policy to explicitly acknowledge the need to take these cultural connections into account when assessing whether geothermal risks are acceptable. This would provide clearer guidance in situations where discretion

over natural hazard management is exercised – for example, when the proposed building does not meet the standards for setbacks from geothermal features.

Lakes A Zone

28. The Lakes A Zone has a policy directed specifically at geothermal hazards (Policy 13.2):

Policy 13.2 To avoid use and development over and by geothermal hazards.

29. Currently, the Lakes A Zone does not include specific provisions to implement Policy 13.2. However, the building platform performance standard in Rule 6.0, which requires location clear of any areas of instability or known natural or artificial hazard, is relevant.

30. The rules for subdivision also allow for natural hazard considerations in certain management areas (Rule 3):

- In the Bush Settlement Management Area and Protection Management Area, subdivision is a discretionary activity.
- In the Sensitive Rural Management Area, restricted discretionary subdivision reserves discretion over natural hazards.
- In the Settlement Management Area, discretion is not reserved over natural hazards where the building platform standard is met, but this is not an area known to contain geothermal hazards.
- In the Less Sensitive Rural Management Area discretion is not reserved over natural hazards, though some parts of this area lie within identified geothermal systems.

Rotorua Geothermal Guidelines

31. In June 2024 RLC adopted the first version of its guidance document *Identifying and Designing for Geothermal Hazards: Guidelines for Buildings and Associated Site Works in Rotorua District* (Rotorua Lakes Council, June 2024), which has been amended several times since.

32. The impetus for this guidance was the commitment RLC made during the PC 9 process to provide guidance to assist with the assessments required by Rule NH-R8. RLC also had a broader recognition about the need to provide tools to assist the development community to understand and address geothermal hazards.

33. The guidelines provide a framework for identifying geothermal hazards and identifying the appropriate level of skills required in proportionate to the risks associated with the site.

3.13.2 Evaluation of Matters Raised in Submissions

3.13.2.1 Targeting of Management to Geothermal Systems

Submissions

1. The Rotorua Planning Consultants Group considers that the rule framework for geothermal activity that seeks to manage development within affected sites should be refined. They note that geothermal fields were incorporated into the plan in 2016 as a result of the [Bay of Plenty] Regional Policy Statement, which mapped and classified the field based on their values, characteristics and heat to inform development potential and inform allocation; they were not mapped as a tool to manage geothermal hazards and are not of a scale to be mapped at a property level. They also note that a large part of the Rotorua geothermal field, which underlies the urban area, does not have bores, surface features, hot ground or geothermal gas (S_39_06).

2. BOPRC opposes this submission point. They state that geothermal system boundaries are always only ever indicative, as the systems are alive and can change over time. While not created for the purposes of a hazard map, they consider the geothermal system maps the most appropriate proxy given that geothermal hazards are most likely to occur within geothermal systems. The statement that there is "a large part of the Rotorua field which does not have bores, surface features, hot ground or geothermal gas" is at odds with our knowledge of the system and previous risk assessments undertaken. While BOPRC is supportive of improved mapping over time, it notes the difficulty in mapping the system at the level proposed due to the dynamic nature of the resource. BOPRC also acknowledges that some parts of the system are at higher risk but notes that NH-R8 already provides for site-specific assessments as a permitted activity, so that there are no consenting requirements and the necessary checks to ensure the safety of people and property can be done at the appropriate time and scale. BOPRC considers that RLC's supporting Geothermal Development Guidelines also provide a simple pathway where the site is low risk to further ensure that the process is as straightforward as possible (F_45_44).

Evaluation

3. It is acknowledged that the geothermal system boundaries were not originally prepared as detailed hazard maps. However, I do not agree with the Rotorua Planning Consultants Group that fundamental refinement of the rule framework is required.
4. I agree with BOPRC that the system maps provide an appropriate proxy for further consideration of geothermal hazards. The boundaries are used as a screening mechanism to identify areas where there is a known geological context within which geothermal hazards may occur, and where a site-specific assessment is an appropriate and proportionate response.
5. The assertion of the Rotorua Planning Consultants Group that large parts of the Rotorua geothermal system do not exhibit observable geothermal features is consistent with my understanding. In my view, the rule framework and associated guidance *Identifying and Designing for Geothermal Hazard – Guidelines for Buildings and Associated Site Works in the Rotorua District* provide an efficient response that recognises this variability by:
 - Not requiring resource consent and avoiding resource consent fees;
 - Relying on site-specific assessments to confirm whether hazards are present and, if so, how they can be appropriately managed.
 - A proportionate level of investigation based on the level of risk signalled by historic information and site visit (consistent with the approach promoted in the recent NPS-NH, Policy 2)

Recommendation

6. I recommend that submission S_39_06 by the Rotorua Planning Consultants Group is rejected and further submission F_45_44 is accepted and that no changes are made to the District Plan in response to these submissions.

3.13.2.2 Setbacks from Bores and Geothermal Surface Features

Submissions

1. BOPRC seeks an amendment to matters of discretion in setback rule NH-R6(2)(a) for when the performance standards for setbacks from geothermal surface features and bores are not met. It notes that the current matter of discretion wording refers to “natural hazard risks” but, since this rule also applies when setbacks from bores are not met, they request removing the word “natural” so the provision applies to both natural and man-made hazard risks (S_45_24).
2. Ngāti Mākinō and members of Te Urunga a Kea (Te Arawa Climate Change Working Group) propose introducing performance-based setbacks and a monitoring framework that includes pre-construction certification and regular reviews by a hydrogeologist and iwi expert or representative to ensure culturally and scientifically robust outcomes (S_57_07).

Evaluation

3. It is agreed with BOPRC that risks relating to bores may not be considered ‘natural’ and, therefore, the matter of discretion should be amended.
4. I support the need for flexibility in decision making around setbacks from bores and strengthening cultural robustness, particularly given the large number of bores that exist in historic parts of the city. However, I consider that the existing rule framework already provides flexibility through the matters of discretion, which enable consideration of site-specific risks, appropriate technical input, and cultural factors where relevant. In particular, Policy NH-P3 allows the cultural significance of co-existing with geothermal activity to be taken into account when determining whether risks are acceptable. Applicants may also choose to provide cultural or additional technical information where the level of risk warrants it.

Recommendation

5. It is recommended that:
 1. Submission S_45_24 by BOPRC is accepted and submission S_57_07 is partially accepted.
 2. Matter of discretion (a) in Rule NH-R6(2) is amended to remove “natural”:

The extent to which ~~natural~~ hazard risks...

3.13.2.3 Status of Small Additions under Rule NH-R6 and NH-R8

1. BOPRC is also concerned that the redrafting of the ‘exception’ in Rule NH-R8 relating to requirement to submit an assessment of geothermal hazards and mitigation options for small building additions into a permitted activity rule causes confusion around the application of setbacks in Rule NH-R6 – potentially implying that building additions can be a permitted activity despite breaching the setback (S_45_25).
2. BOPRC also considers that the exception for additions of 20m² or less in Rule NH-R8 can create a perverse outcome, whereby an addition is a permitted activity, with no geothermal hazard assessment required, but a standalone 20m² sleepout would either require a site-specific assessment under NH-R8(2) if it needed building consent, or would instead need resource consent under NH-R8(4) if it did not need building consent. BOPRC considers that the level of risk between those two scenarios is unlikely to be different. BOPRC understands that the intention of the 20m² addition

exception was to address those additions which were unlikely to require a geotechnical report (which the geothermal hazards assessment could be addressed in). However, now that the geothermal development guidelines *Identifying and Designing for Geothermal Hazards, Guidelines for Buildings and Associated Site Works in Rotorua District* (RLC, 2024) exist, which provide a permitted pathway for lower risk areas/development, BOPRC considers that such additions can be included in NH-R8(2), otherwise risks may not be avoided, remedied or mitigated. BOPRC gives the following example (S_45_25):

New dwelling, site-specific assessment undertaken under NH-R8(2). Then a year later, add another room (5m x 4m) which, as proposed, does not require a geothermal hazard assessment under NH-R8(1). If the first assessment had stated that a lower site coverage was necessary to ensure geothermal hazard mitigation, there would then be no catch for this for a permitted addition 20m² or under.

3. BOPRC seeks that the title of NH-R8 be amended to include additions to buildings, that NH-R8(1) be deleted, and additions 20m² or less be included under NH-R8(2) (S_45_25).
4. The Natural Hazards Commission, in contrast, supports additions to buildings being a permitted activity provided they do not increase the building footprint by more than 20m². The submitter states that a limited increase in the building footprint would still be able to ensure that the risk to people and property is unlikely to be increased to an intolerable level (S_22_21).

Evaluation

5. The substantive issue is whether the exception for small building additions from the requirement to submit an assessment of geothermal hazards and mitigation options at the time of building consent should remain. I consider that this remains the most appropriate option because:
 - Additions exempt from building consent are undertaken on existing buildings, where there is likely to be a greater understanding of site conditions and hazard behaviour.
 - The increase in impervious surfaces areas is small, reducing the potential to cause gas to concentrate into unwanted locations elsewhere.
6. In relation to the issue of drafting, I recognise that some plan readers may be confused about the relationship between rules NH-R6 and NH-R8 and whether a permitted activity status under only one rule is needed. In my view, the rules address different matters and are clearly intended to be read separately, with consent potentially able to be triggered under either (or both) rules. Nonetheless, I agree that recombining the exemption for small building additions in Rule NH-R8 into the broader rule requiring geothermal assessment in Rule NH-R8 may improve clarity.

Recommendation

7. I recommend that:
 1. Submission S_45_25 by BOPRC is partially accepted and Submission S_22_21 by the Natural Hazards Commission is accepted; the exemption from the need to submit a geothermal assessment in Rule NH-R8 is reintegrated as an exemption and not as a specific permitted activity; and additions to buildings that do not increase the building footprint by more than 20m² remain a permitted activity.

2. Rule NH-R8 is redrafted as set out in Section 3.13.2.5.

3.13.2.4 Building Conversions

Submissions

1. BOPRC is concerned that Rule NH-R8 does not capture conversion of non-habitable buildings to habitable spaces. It seeks that the heading of NH-R8 is amended to include conversions from non-habitable buildings and, if NH-R8(4) is retained, that the 'where' statement include a non-habitable building which is being converted to a residential use (S_45_26).

Evaluation

2. It is agreed that whether a space is habitable is a relevant factor for targeting management of geothermal hazards. Habitable spaces are more likely to be insulated and sealed, allowing geothermal gases to accumulate. In addition, occupants of habitable spaces are more likely to experience adverse health effects from uncomfortable temperatures when spending extended periods of time in those spaces, particularly when sleeping.
3. Aside from risks to life and health, habitable spaces are typically associated with higher value structures, contents, and activities, meaning the potential consequences of damage or loss of function may be greater.
4. The focus on habitable spaces is consistent with RLC's *Guidelines for Identifying and Designing for Geothermal Hazards* (2024, last updated November 2025), which seeks to target, amongst other things:
 - enclosing previously open spaces (for example, enclosing a porch to form a room)
 - converting spaces into habitable spaces (for example, converting a garage to a sleepout)
 - constructing or converting a basement.
5. However, many building conversions may involve little physical work to trigger regulatory processes that enable the consideration of natural hazard risks. In some circumstances, conversions may not require a building consent at all, limiting the ability to apply Rule NH-R8 in its current form. For example, the use of a detached/attached garage or basement may change from storage to bedroom without physical alterations and without triggering "change of use" under the Building Act that would require notification to Council, upgrading of the building or an application for building consent.
6. I also consider that, while there are potential risks associated with conversions of existing non-habitable buildings or spaces, these are likely to be relatively low. As the building or space already exists, any geothermal hazards are likely to have already affected the building or occupants and to be understood over time.
7. Accordingly, I consider that no further changes should be made to the District Plan in response to this submission. If, however, the Hearings Panel considers that the risks associated with building conversions warrant further management through Rule NH-R8, it is recommended, for efficiency and effectiveness, that any extension of the rule should be limited to circumstances where a building consent or a Project Information Memorandum (PIM) is required as part of this conversion (this is discussed further in the next section).

Recommendation

8. I recommend that:
 1. Submission S_45_26 by BOPRC is rejected for the reasons set out above and no changes made (preferred); or
 2. Submission S_45_26 is accepted in part, with Rule NH-R8 extended to cover conversions to habitable spaces but only where a building consent or PIM is required, as set out in the following section “ Minor Residential Units and other building work not requiring building consent”.

3.13.2.5 Minor Residential Units and other building work not requiring building consent

Submissions

1. Submissions from RLC, FENZ, BOPRC, Kāinga Ora, and the Rotorua Planning Consultants Group raise issues relating to minor residential units and other types of building work that may not require building consent, and the implications of these activities for Rule NH-R8, including matters of drafting and clarity.
2. As noted above, in anticipation of changes relating to minor residential units (“granny flats”), PC 8 proposes an additional rule (Rule NH-R8(4)) to provide for a restricted discretionary activity status for new residential units and building additions within geothermal systems where no building consent is sought. FENZ supports this amendment (S_07_11).
3. The Natural Hazards Commission supported PC 8’s restricted discretionary activity status for minor residential units in geothermal systems constructed without a building consent. It noted that approximately twenty EQCover claims had been settled for hydrothermal activity (F_22_27).
4. However, RLC’s submission seeks further consideration of how minor residential units are addressed in the natural hazard rules, including Rule NH-R6 (setbacks) and Rule NH-R8 (building in geothermal systems), to ensure effective and efficient hazard management following the Building Act amendments (S_29_04, S_29_05). Several submitters support this request (F_59_08, F_60_07, F_22_26). RLC suggests there may be opportunities to refine the approach used in Rule NH-R8 (S_29_05), a position supported by the Natural Hazards Commission (F_22_07).
5. BOPRC supports the intent of proposed Rule NH-R8(4) but considers it may result in an unintended outcome whereby minor residential units are subject to more onerous consenting requirements than larger residential buildings permitted under Rule NH-R8(2). It suggests instead that a permitted activity status remain and the geothermal assessment is required to be submitted at the time of the application for PIM for residential units exempt from the requirement for building consent (S_45_26). BOPRC also considers the use of the word “sought” in the where statement of Rule NH-R8 to be unclear, as it makes the application of the rule dependent on whether a building consent is voluntarily sought rather than whether one is required. It recommends replacing the first reference to “sought” with “required” and the second reference with “lodged for processing by Council” (S_45_26).
6. BOPRC also raises concerns about other buildings that do not require building consent, such as small buildings and additions under 30 m², noting that geothermal gas can accumulate in confined spaces and that reduced setbacks may increase risk on some sites. BOPRC recommends drafting options that

requires site-specific assessment for all buildings to be checked through either the Project Information Memorandum (PIM) process or building consent (S_45_26).

7. Consistent with this relief, BOPRC also seeks that Policy NH-P4(3) is amended to cover scenarios where building consent is not required (S_45_18):

Requiring site-specific geothermal assessments to be submitted at the time of application for building consent [or project information memorandum \(PIM\)](#) to identify the hazards and how risks are being mitigated [for the development of the site](#); and...

8. Kāinga Ora opposes reliance on the PIM process, noting that its purpose is advisory rather than regulatory, and seeks that the relevant submissions be disallowed (F_42_15).
9. The Rotorua Planning Consultants Group states that it is unclear which buildings that increase the risk of a natural hazard may be constructed onsite without a building consent other than a granny flat, and considers that there are many areas [inside geothermal systems] that are not subject to geothermal hazards and should have the ability to construct a granny flat onsite without the need for a consent. They consider that PC 8 is not addressing the actual risk associated with the hazard (S_39_07).

Evaluation

10. I agree with RLC and the Natural Hazards Commission that refinement of the approach to minor residential units is appropriate now that amendments to the Building Act 2004 and the National Environmental Standards for Detached Residential Units have been finalised. I also agree with BOPRC that it would be inappropriate for minor residential units located within mapped geothermal systems to be subject to more onerous planning controls than larger residential buildings. I support the approach proposed by BOPRC to use the PIM process as an alternative trigger to a building consent for requiring site-specific geothermal hazard assessments and mitigation measures. PIMs are now mandatory for minor residential units seeking to rely on the new building consent exemption and therefore provide a clear and reliable point in the development process at which Council can become aware of the proposal and require appropriate consideration of geothermal hazards.
11. While Kāinga Ora raises concerns regarding the advisory nature of the PIM process, I do not agree that its use in this context is inappropriate. The PIM provides a defined point in time at which performance standards must be met, in a manner analogous to the existing reliance on building consent applications.
12. I consider that the most streamlined approach would be to delete proposed Rule NH-R8(4) and instead amend Rule NH-R8(2) (renumbered as NH-R8(1)) to apply performance standards requiring a hazard and mitigation assessment only where a building consent or a PIM is required. Correspondingly, the trigger for submission of geothermal hazard assessments should be amended to require submission “at the time of application for a building consent or Project Information Memorandum”.
13. Broader redrafting of the rule is also proposed to avoid confusion around the interplay of permitted activities, the “where” statement and performance standards. For brevity, this redrafting also combines the performance standards dealing with reporting on hazard assessment and mitigation measures.

14. I do not recommend extending Rule NH-R8 to capture other building work that does not require a building consent. I acknowledge that building work that does not require a building consent could potentially increase risks from geothermal hazards. For example, the following types of risks can be contemplated and are consistent with the types of risks identified in *Geothermal hazard risk review for residential dwellings and their occupants in Rotorua City* (Tonkin & Taylor, 2022):

- Dangerous gases could potentially enter exempt buildings and accumulate.
- Exempt building work could potentially create confined spaces between buildings and between buildings and boundary treatments where gases could potentially accumulate.
- Exempt building work could also create additional impervious surfaces that hinder the release of gas from the earth, potentially increasing the risk of gas concentrating in nearby confined spaces and buildings.
- Exempt sleepouts or conversions of spaces for sleeping could be subject to excessive heat, disrupting sleep and potentially causing health impacts.

15. However, I consider that the overall level of risk is likely to be low and, in this regard, I agree with the Rotorua Planning Consultants Group. Reasons for my view are:

- Buildings exempt from building consent are typically small, used for storage, and are often poorly insulated and sealed.
- Plumbed buildings present a higher risk due to the potential for gas ingress via plumbing systems and trenching. Details were found for thirteen deaths in Rotorua relating to H₂S exposure and two of these deaths (one incident) were caused by gas ingress through a water trap in a shower tray, one related to sewer pipe maintenance, and one related to a sump for an unknown purpose. However, plumbed buildings generally require building consent.
- No deaths are known to have occurred in confined outdoor spaces, other than in relation to pools or trenches.
- Additions exempt from building consent are undertaken on existing buildings, where there is likely to be a greater understanding of site conditions and hazard behaviour.
- Exempt building work typically involves small floor areas and therefore small changes to impervious surfaces, reducing the potential for gas accumulation.

16. Given the complexity of district plan requirements, compliance is often effectively achieved through more widely known Building Act processes, which provide opportunities for Council review and monitoring. Extending Rule NH-R8 to building work that does not trigger any Building Act process would present practical challenges for monitoring and enforcement.

Recommendation

17. I recommend that:

1. Submissions by RLC (S_29_04, S_29_05), BOPRC (S_45_26), FENZ (S_07_11), and the Natural Hazards Commission (F_22_07) are accepted with respect to seeking refinement of the approach to managing minor residential units and other building work not requiring building consent;

2. Submissions and further submissions by Kāinga Ora (F_42_15, F_45_15) opposing the use of the Project Information Memorandum (PIM) process as a trigger for the assessment of geothermal hazards and mitigation are rejected;
3. Submission S_45_26 by BOPRC is partially accepted insofar as it seeks use of the PIM process as an alternative trigger for requiring site-specific geothermal assessments for minor residential units, but not with respect to extending Rule NH-R8 to capture other building work that does not require a building consent;
4. Submission S_45_18 by BOPRC seeking changes to the wording of Policy NH-P4(3) is accepted.
5. Submission S_39_07 by the Rotorua Planning Consultants Group is partially accepted insofar as it is agreed that the risk varies within geothermal systems and a proportionate approach is needed.
6. Amend Policy NH-P4(3) to read as follows:

Requiring site-specific geothermal assessments to be submitted at the time of application for building consent or project information memorandum (PIM) to identify the hazards and how risks are being mitigated for the development of the site; and...

7. Amend Rule NH-R8 as set out below:

NH-R8 New Buildings, and Additions to Buildings in the Rotorua Geothermal Systems Overlay		
<p>Applicable Spatial Layers</p> <p>Geothermal Systems Overlay: All Zones</p>	<p>1. <u>Activity Status: Permitted</u></p> <p><u>Where:</u></p> <p><u>The activity is an addition to an existing building that does not increase the building footprint by more than 20m².</u></p>	
<p>Applicable Spatial Layers</p> <p>Rotorua Geothermal Systems Overlay: All Zones</p>	<p>2. Activity Status: Permitted</p> <p>1. <u>Where:</u></p> <p><u>A building consent can be sought for the activity and is sought.</u></p> <p>Performance Standards:</p> <p>a. <u>Subject to b),</u> aA report by a suitably qualified and experienced person <u>or persons</u> shall be submitted at the time of application for <u>a Project Information Memorandum</u> or building consent, which identifies</p> <p>1. the extent of geothermal hazards on the site, including:</p> <ol style="list-style-type: none"> 1. Geothermal surface features; 2. Geothermal gas; 3. Heated ground; 4. Corrosive ground, 5. Ground collapse; and 	<p>3. Activity Status: Restricted Discretionary</p> <p>2. Where:</p> <p>Compliance is not achieved with the performance standards for NH-R8(1)</p> <p>Matters of Discretion:</p> <p>a. Measures to manage the risks to people and property on and off site from geothermal hazards.</p>

	<p><u>6.</u> Bores and other geothermal infrastructure.</p> <p><u>ii.</u> A report or reports by a suitably qualified and experienced person shall also be submitted at the time of application for building consent detailing how measures to mitigate geothermal risks to people and property on the site and surrounding sites have been incorporated into the design of the development, such as:</p> <ol style="list-style-type: none"> <u>1.</u> Building design; <u>2.</u> Site layout and design, for example locations of venting structures, yards and outdoor living space; separation between buildings; surface treatment; fencing materials; and maintenance of access to bores; <u>3.</u> Limits on impervious surface site coverage; and <u>4.</u> Stormwater management <p><u>b.</u> Performance standard a) shall apply if the building is:</p> <ol style="list-style-type: none"> <u>i.</u> a new building; or <u>ii.</u> an addition to footprint of an existing building more than 20 m²; and <u>iii.</u> a building consent or project information memorandum is required in association with the building work. <p>Exception:</p> <p>This rule does not apply to alterations that do not increase the building footprint by more than 20m².</p>	
<p><u>Applicable Spatial Layers</u></p> <p><u>Geothermal Systems Overlay: All Zones</u></p>	<p><u>4</u> Activity Status: Restricted Discretionary</p> <p>Where:</p> <ol style="list-style-type: none"> e) The activity is a new or residential unit or an addition to a residential unit that increases the building footprint by more than 20m²; and f) No building consent is sought for the activity <p>Matters of Discretion:</p> <ol style="list-style-type: none"> a. Measures to manage the risks to people and property on and off site from geothermal hazards. 	

3.13.2.6 Assessment at Subdivision

Submissions

1. BOPRC supports broadening subdivision Rule SUB-R42 to apply to all geothermal systems but opposes removing “geothermal activity” from the scope of the rule. BOPRC notes that geothermal system boundaries are only ever indicative, so it would be appropriate to retain the wording to ensure that potential geothermal hazards are avoided, remedied or mitigated. BOPRC also notes that geothermal activity is used in other provisions of the plan, including performance standard SUB-S87(2) and is defined in the interpretation section of the District Plan (S_45_29).
2. BOPRC also seeks clarity as to whether SUB-S8(2) applies when assessing SUB-R42, as the Assessment Criteria only list SUB-AC1, and BOPRC seeks a linkage in SUB-S8(2) to SUB-R42 (S_45_29).

Evaluation

3. I support the return of “geothermal activity” to the title of SUB-R42 for the reasons given by BOPRC.
4. I agree that the matters of discretion for Rule SUB-R42 and the link to Performance Standard SUB-S8(2) require further consideration. As part of this refinement, I recommend:
 - a) removing reference to section 106 of the RMA in Rule SUB-R42, which is confusing since there is a specific discretionary rule for subdivision in areas prone to geothermal activity; and
 - b) adding assessment criteria to SUB-R42 based on the performance standard wording, as set out below.

Recommendation

5. I recommend that:
 1. Submission S_45_29 is accepted.
 2. “Geothermal activity” is returned to the title of Rule SUB-R42 as follows:

SUB-R42 The subdivision of sites or buildings on land within the ~~Rotorua~~ Geothermal Systems Overlay or affected by a geothermal feature, geothermal activity ~~geothermal activity~~, or bore

3. Additional assessment criteria are added to SUB-R42 as set out below:

Assessment Criteria:

- a. *General SUB-AC1.*
 - b. *The effects of and risks from geothermal activity on the subdivision and any subsequent use of the land or buildings and how the risks are avoided, remedied or mitigated. This includes consideration of the location of geothermal surface features and bores and the location and use of habitable or non-habitable buildings.*
 - c. *The effects of subdivision on geothermal surface features.*
4. Performance Standard SUB-S8(2)(a)(ii) is amended as follows:

The assessment of effects on the environment (AEE) submitted with any subdivision application shall cover the effects of the geothermal activity on the subdivision and any subsequent use of the land or buildings. It shall also assess any effects the subdivision may have on the geothermal surface features. The assessment shall include an assessment of risk, ~~cover relevant matters contained in section 106 RMA~~ and recommend how the issue can be avoided, remedied or mitigated.

3.13.2.7 Formatting and Spatial Application of Provisions

Submissions

1. Two submissions raise concerns about the spatial application of geothermal rules and the need to clarify drafting:
 13. Lake Ōkāreka Community Association seeks exclusion of Lake Ōkāreka from geothermal provisions, although no geothermal system is identified over the settlement management areas in the Lakes A Zone and the rules are not intended to apply to these areas. The submitter notes that geothermal activity is not a primary hazard for the residential area (S_21_08).
 14. Ngāti Tahu-Ngāti Whaoa Rūnanga Trust states they oppose the current approach, noting that it relies heavily on PC 9, which only addresses the Rotorua geothermal system. They request that geothermal policies and rules be divided into two sections: one for the Rotorua geothermal system and another for all other geothermal systems within the district. They are concerned that an assessment for areas outside the Rotorua system has not been completed and seek clarity on which rules apply where (S_41_05).
2. BOPRC's further submission on these points acknowledges confusion regarding where these rules apply. To resolve this issue, BOPRC seeks that RLC, either (F_45_03, F_45_37):
 - a) specify the relevant zones that the rules apply to in the 'Applicable Spatial Layers' column (rather than a 'catch all' applicable spatial layer), or alternatively;
 - b) refer to District Plan Map 212 in all relevant provisions, including NH-P4, NH-R6 & NH-R8 (not just NH-R8) to reduce ambiguity about where these rules apply to across the district.

Evaluation

3. I do not consider it necessary to split the rules into two sections given that the intention is to align the rules across all geothermal systems.
4. To address the apparent confusion regarding rules applying outside the geothermal system it is considered that the best option is to limit the description of the applicable spatial layers in the first column of Rule NH-R8 to 'Geothermal Systems Overlay', omitting the ':All Zones'. However, it is not considered that this needs to be duplicated in Rule NH-R6 as some bores and geothermal surface features are known to be located outside geothermal systems.

Recommendation

5. I recommend that:
 1. Submissions S_41_05 and further submissions F_45_03 and F_45_37 are partially accepted.

2. The description of the applicable spatial layers in the first column of Rule NH-R8 is amended as follows:

Applicable Spatial Layers

Geothermal Systems Overlay: All Zones

3.13.2.8 Co-existence with Geothermal Hazards

Submissions

1. Proposed Policy NH-P3 is supported in principle by the Māori Trustee (Te Tumu Paeroa) and Te Rūnanga o Ngāti Kearoa Ngāti Tuara (S_28_07 and S_58_10). Te Rūnanga o Ngāti Kearoa Ngāti Tuara notes their strong cultural connection to geothermal features within their rohe, noting generations of knowledge in mitigating risks and caring for ngāwhā. Proposed Policy NH-P3 reads:

Take into account the cultural significance of co-existing with geothermal activity in any assessment of geothermal hazard risk associated with development in papakāinga and traditional Māori settlements, such as the Te Arawa villages of Ōhinemutu and Whakarewarewa.

2. However, the Māori Trustee (Te Tumu Paeroa) considers the wording “development in papakāinga” too narrow, as it appears to apply only to existing papakāinga and not adequately provide for the aspirations of Māori freehold landowners to establish new papakāinga across the district. Te Rūnanga o Ngāti Kearoa Ngāti Tuara also seeks an amendment to strengthen the policy by explicitly including papakāinga and both traditional and modern Māori settlements, including future settlements. Wāhiāo Māori Committee supports this submission, emphasising the importance of provisions that reflect mana whenua perspectives and mātauranga Māori, and calls for continued engagement with Council to ensure effective implementation (F_60_13).
3. Ngāti Māikino and Te Urunga a Kea (Te Arawa Climate Change Working Group) also seek clarification of NH-P3 to explicitly enable future Māori housing, marae facilities, and small-scale geothermal bores for domestic and cultural use, and recommend incorporating tikanga-based design principles such as protecting tapu areas and maintaining natural flow regimes (S_57_06). Wāhiāo Māori Committee and Tapuika Iwi Authority support this submission (F_60_10, F_61_02). BOPRC supports clarification of the policy intent regarding existing and proposed development but notes that geothermal bores are regulated under the Rotorua Geothermal Regional Plan for drilling, modification, or use (F_45_36).
4. BOPRC supports broadening policy NH-P3 to apply beyond Ōhinemutu and Whakarewarewa but considers that, as currently worded, it only applies to assessments of risk associated with new development, not existing development. BOPRC seeks that its application to existing development is made explicit with an amendment to wording (S_45_17):

Take into account the cultural significance of co-existing with geothermal activity in any assessment of geothermal hazard risk associated with existing and proposed development...

5. The Natural Hazards Commission also supports this approach, emphasizing that policies should address both new and existing development to manage legacy planning issues and reduce future impacts on people and property (F_22_54).

Evaluation

6. The submissions generally support the intent of NH-P3 to recognise the cultural significance of Māori relationships with geothermal areas, and I agree that the policy performs an important function in acknowledging the values of connection with geothermal landscapes when assessing risk.
7. However, I agree that the current wording could unintentionally exclude new or emerging Māori settlements. In my view, broadening the policy to refer to both existing and future Māori housing and settlements would more appropriately reflect the cultural and historical context of geothermal areas and better align with broader policy direction elsewhere in the District Plan that supports papakāinga development. I prefer a reference to “existing and future Māori housing and settlements, including papakāinga and traditional Māori villages” for clarity.
8. Requests to incorporate tikanga based design principles raise important considerations. However, I consider that the policy should continue to focus on recognising cultural significance and enabling culturally aligned development, while more detailed tikanga based considerations should be addressed through applicant-driven design responses.
9. In relation to geothermal bores, I agree with BOPRC that their operation is regulated under the Regional Plan, and that the District Plan policies should avoid duplicating regional functions.

Recommendation

10. I recommend that:
 1. Submissions seeking to broaden Policy NH-P3 to apply to existing and future Māori housing and settlements are accepted in part, and that the wording be amended accordingly. Submissions seeking incorporation of tikanga based design requirements or reference to geothermal bores are rejected, as these matters are more appropriately addressed through site specific processes or under the Regional Plan.
 2. Policy NH-P3 is amended as follows:

Take into account the cultural significance of co-existing with geothermal activity in any assessment of geothermal hazard risk associated with ~~development in existing and future Māori housing and settlements, including papakāinga and traditional Māori settlements, such as the Te Arawa villages of Ōhinemutu and Whakarewarewa.~~

3.14 Other Changes

3.14.1 Matters of Control/Discretion and Assessment Criteria

Proposed Changes

1. PC 8 proposes to amend and align wording of matters of control and discretion and assessment criteria for natural hazards throughout the District Plan. The wording of most of the current matters of discretion is “Adverse effects from natural hazards or the worsening of any hazard identified on the planning maps are managed”. The proposed wording in the changes notified for submission was most often “the extent to which natural hazard risks are avoided or mitigated and the worsening of any hazard identified” but in several instances “remedied” was substituted with “mitigated”.

2. Some existing matters of discretion, matters of control and assessment criteria in the zone chapters also have an additional clause identifying that a flood risk assessment may be required. PC 8 proposes to delete these clauses in favour of the specific flood management policies and rules in NH-R4 and the hazard-generic clauses in the matters of control, matters of discretion and assessment criteria remaining in the zone chapters. However, the track changes appended to the Section 32 Report did not delete the clauses from the Rural Zone.
3. PC 8 also proposes to introduce natural hazards matters of control / discretion for subdivision.

Submissions

4. Submitters were broadly supportive of matters of discretion being included or remaining to address natural hazards across zone chapters and subdivision (see for example, S_07_03, S_22_26).
5. The alignment in wording was supported by the Natural Hazards Commission (S_22_28, S_22_29,) but BOPRC seeks that “mitigated” be inserted in specific rules. BOPRC also questions why there is a need to identify the worsening of any hazard if natural hazard risks are required to be avoided, remedied or mitigated (S_45_20). This is supported by Kāinga Ora and WRC (F_42_16, F_15_10). Luke Nelson seeks that the wording be changed to “the worsening of any such natural hazard” (S_56_01).
6. With respect to the deletion of the flood risk assessment clauses, BOPRC is concerned about unintended consequences and states that Rule NH-R4 only pertains to buildings and not other activities such as utilities and construction of access. It also seeks clarification of why the clauses were retained for the Rural Zone (S_45_32). This was supported by WRC and Kāinga Ora (F_15_11, F_42_20).

Evaluation

7. I support PC 8’s intent to align the natural hazard matters of discretion/control and assessment criteria across the District Plan, noting that submitters correctly identified inconsistencies in the proposed wording—particularly the variable use of “avoided or mitigated” versus “avoided or remedied,” and cases where only one of these terms was used. A single, consistent formulation is preferred. I agree with BOPRC, Kāinga Ora and WRC that including “mitigated” is necessary to reflect the full range of responses. However, I consider it is appropriate to retain reference to whether the activity would worsen any natural hazard, as this remains essential for addressing offsite and cumulative effects, but with some rewording. The alternative wording suggested by Luke Nelson (“any such natural hazard”) does not materially change the meaning and is therefore not required.
8. The retention of the flood assessment clauses in the Rural Zone was an oversight and I do not believe these clauses need to be retained. While I agree that Rule NH-R4 does not cover all activities where consideration of flood risk may be needed, this is captured by the hazard-generic clause discussed above.
9. I support the introduction of corresponding natural hazard matters of control and discretion for subdivision, as these provide a consistent assessment pathway across both land-use and subdivision provisions

Recommendation

10. I recommend that:

1. Submissions supporting natural hazard matters of control/discretion for subdivision are accepted.
2. Submissions supporting alignment of natural hazard matters of discretion are accepted.
3. Submission S_45_20 by BOPRC and further submissions F_42_16 and F_15_10 are accepted in part with respect to seeking consistent inclusion of the term “mitigated”, and the wording is standardised accordingly but the reference to the worsening of any hazard is retained, although with rewording as set out below.
4. Submission S_56_01 by Luke Nelson seeking alternative wording is rejected, as it does not materially improve clarity.
5. Submission S_45_32 by BOPRC and related further submissions are partially accepted with respect to the need to clarify why the flood assessment clause was not removed from the Rural Zone.
6. The following consistent wording is adopted across all natural hazard matters of discretion and matters of control unless specifically wording is recommended in other sections of this report “the extent to which natural hazard risks are avoided, remedied or mitigated, and whether the activity would worsen any natural hazard” and the flood assessment clauses are deleted from the matters of control and matters of discretion and assessment criteria for the Rural Zone.

4. CONCLUSION

1. PC 8 seeks to strengthen the management of natural hazard risks within the district and proposes targeted amendments to relevant issues, objectives, policies, and hazard-related rules.
2. Fifty-eight submissions and thirteen further submissions were received.
3. Having considered all the submissions and reviewed relevant statutory and non-statutory documents, we recommend that the independent hearings panel adopt PC 8 with the amendments as set out in Appendix 3 and Appendix 4 of this report and that submissions (and associated further submissions) be accepted, accepted in part or rejected as set out in this report and Appendix 5.

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APPENDICES

- Appendix 1: Comparison of Proposed Building Importance Typology with other Approaches.
- Appendix 2: Further Consideration under Section 32AA for Specific Recommendations
- Appendix 3: Recommended Changes to the District Plan Maps.
- Appendix 4: Recommended Changes to the District Plan Text (Annotated Changes).
- Appendix 5a: List of Submitters and Submitter ID#
- Appendix 5: Recommended Decisions on Submissions

ECM: 22602896

Appendix 1: Comparison of Proposed Building Importance Typology with other Approaches

MfE Guidelines for Planning for Development of land on or close to Active Faults (2003) Building Importance Categories	Kapiti District Plan Building Importance Category (used for Fault Rupture Rules)	NZ Seismic Design Framework Importance Level Categories (AS/NZS 1170.0: 2002)	Proposed Rotorua District Plan Building Importance Typology (for use in Flooding and Fault Rupture Rules)
<p>(Cat 1) Structures presenting a low degree of hazard to life and other property.</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> Structures with a total floor area of less than 30m² Farm buildings, isolated structures, towers in rural situations Fences, masts, walls, in-ground swimming pools 	<p>(Cat 1) Temporary and/or non-habitable structures and additions to existing dwellings with low hazard to life and other properties (provided those additions do not increase the number of dwellings on the site).</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> Non-habitable stand-alone structures Accessory Buildings (excluding minor buildings) Farm buildings, fences Towers in rural situations Additions to any dwelling type, including additions to existing two-storey dwellings 	<p>(IL1) Structures presenting a low degree of hazard to life or other property.</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> Small structures with floor area < 30 m² Farm buildings Isolated rural structures / towers- Fences, masts, walls, in-ground pools. 	<p>(Cat 1) Buildings presenting a low degree of risk to life and property. These are typically small (less than 30m²) non-habitable buildings, such as sheds, barns and the like, that are not normally occupied, although they may have occupants from time to time.</p> <p><u>Comments</u></p> <p><i>A focus on buildings in the everyday sense of the word (a roofed structure), consistent with the existing definition of building for the purpose of chapter NHZ Natural Hazards, is preferred for certainty and to better target the focus on structures presenting the most risk.</i></p> <p><i>“Farm Buildings” is considered ambiguous as to whether it includes residential units on a farm and is better avoided.</i></p>

<p>(Cat 2a) Residential timber framed construction</p> <p><u>Examples:</u> Timber framed single-story dwellings (Cat 2b) Normal structures and structures not in other categories</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> • Timber framed houses of plan area of more than 300 m² • Houses outside the scope of NZS 3604 “Timber Framed Buildings” • Multi-occupancy residential, commercial (including shops), industrial, office and retailing buildings designed to accommodate less than 5000 people and those less than 10,000 m² gross area. Public assembly buildings, theatres and cinemas of less than 1000 m² • Car parking buildings 	<p>(Cat 2a) Timber-Framed single-storey residential construction <300m².</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> • Timber framed single-storey dwellings <300m² • Minor residential units <p>(Cat 2b) Other Residential Buildings including timber-framed residential construction with a floor area greater than 300m² and/or with multiple storeys, and specific other residential construction.</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> • Timber framed with multiple storeys • Timber framed houses with area > 300m² • Houses outside the scope of NZS 3604 “Timber Framed Buildings” <p>(Cat 2c) Normal Structures (including structures not in other categories).</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> • Multi-occupancy residential, commercial and industrial buildings 	<p>(IL 2) Normal structures and those not in other importance levels</p> <p>Examples:</p> <ul style="list-style-type: none"> • Single family dwellings • Car parking buildings • Ordinary commercial/industrial buildings not otherwise classified. 	<p>(Cat 2a): Detached residential units < 300m², including detached minor residential units.</p> <p>(Cat 2b): Buildings not in other categories</p> <p><u>Comments</u></p> <p><i>A distinction between single storey and multiple storey buildings is not supported for the purpose of faults (Refer to the evidence of Kelvin Berryman), nor is it considered necessary for flooding</i></p> <p><i>Building construction type (lightweight timber construction) is not recommended to be included because the importance varies by hazard and is considered better addressed through risk assessments for specific hazards.</i></p>
<p>(Cat 3) Structures that, as a whole, may contain people in crowds or contents of high value to the</p>	<p>(Cat 3) Important Structures that may contain people in crowds or contents of</p>	<p>(IL 3) Structures that may contain people in crowds, have high-value contents or pose crowd risk</p>	<p>(Cat 3) Buildings that may contain people in crowds, be of high economic value or importance to</p>

<p>community or pose risks to people in crowds</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> • Emergency medical and other emergency facilities not designated as post disaster facilities • Buildings where more than 300 people can congregate in one area • Buildings and facilities with primary school, secondary school or day care facilities with capacity greater than 250 • Buildings and facilities with capacity greater than 500 for colleges or adult education facilities • Health care facilities with a capacity of 50 or more residents but not having surgery or emergency treatment facilities • Airport terminals, principal railway stations, with a capacity of more than 250 people • Any occupancy with an occupancy load greater than 5000 • Power generating facilities, water treatment and waste water 	<p>high value to the community or pose risks to people in crowds.</p> <p><u>Examples:</u></p> <ul style="list-style-type: none"> • Public assembly buildings. • Theatres and cinemas <1000m2 • Car parking buildings • Emergency medical and other emergency facilities not designated as critical post disaster facilities • Airport terminals, railway stations, schools • Museums and art galleries • Municipal buildings • Grandstands • Service Stations • Hazardous facilities 	<p><u>Examples:</u></p> <ul style="list-style-type: none"> • Assembly buildings where > 300 people can congregate • Day care with > 150 capacity • Primary/secondary schools with > 250 capacity • Colleges/adult education > 500 capacity • Health care facilities with ≥ 50 resident patients (but not emergency surgery) • Airport terminals / principal railway stations > 250 capacity • Correctional institutions- • Large multi-occupancy residential / commercial / industrial / office / retail buildings • Public assembly buildings, theatres, cinemas, etc. 	<p>the community or contain large numbers of vulnerable occupants, including:</p> <ol style="list-style-type: none"> a. Buildings where more than 300 people can congregate in one area b. Day Care with > 150 capacity c. Primary/Secondary schools with > 250 capacity d. Colleges/adult education > 500 capacity e. Health care facilities with potential for > 50 patients in care (but not emergency surgery) f. Buildings with an occupancy load greater than 500 g. Transport terminals and buildings for power generation, water treatment or wastewater treatment that are operated by a local authority or requiring authority.
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<p>treatment facilities and other public utilities not included in Importance Category 4 Buildings and facilities not included in Importance Category 4 containing hazardous materials capable of causing hazardous conditions that do not extend beyond the property boundaries</p>			
<p>(Cat 4) Structures with special post disaster functions <u>Examples:</u></p> <ul style="list-style-type: none"> • Buildings and facilities designated as essential facilities • Buildings and facilities with special post-disaster function • Medical emergency or surgical facilities • Emergency service facilities such as fire, police stations and emergency vehicle garages • Utilities required as backup for buildings and facilities of importance level 4 • Designated emergency shelters • Designated emergency centres and ancillary facilities • Buildings and facilities containing hazardous materials capable of 	<p>(Cat 4) Critical Structures with special post disaster functions. <u>Examples:</u></p> <ul style="list-style-type: none"> • Major infrastructure facilities • Air traffic control installations • Designated civilian emergency centres, medical emergency facilities, emergency vehicle garages, fire and police stations 	<p>(IL 4) Structures with special post-disaster functions <u>Examples:</u></p> <p>Buildings designated essential or with critical post-disaster roles (e.g., key emergency medical/surgical facilities, emergency operations centres, public safety facilities)</p>	<p>(Cat 4) Critical buildings with special post disaster functions or that provide critical community services, including major infrastructure facilities, key emergency medical/surgical facilities and emergency services facilities.</p> <p><u>Comment</u> <i>Increased risks due to hazardous materials are not addressed in the recommended typology given that this is out of scope of the plan change.</i></p>

<p>causing hazardous conditions that extend beyond the property boundaries.</p>			
		<p>(IL5) Exceptional buildings whose failure would have catastrophic consequences</p> <p><u>Examples:</u> Typically, not covered directly in NZS 1170.0 for ordinary buildings and requires a special study (e.g., major dams, nuclear facilities).</p>	

Appendix 2: Further Consideration under Section 32AA for Specific Recommendations

Table 1: Evaluation of Approaches to High Lake Levels at Lake Ōkāreka

	Option 1 – Approach Notified Risks relating to high lake levels are managed under the standard district-wide Rule NH-R4.	Option 2 – Bespoke Lake Ōkāreka Overlay and Rules Introduce tailored overlay and rules for Lake Ōkāreka that: <ul style="list-style-type: none"> • establish a mapped High Lake Level Resilience Area at 355.33 m Moturiki Datum (2022 Design Level + freeboard); • enable low-importance buildings and replacement buildings; • allow additions/alterations where floor levels are maintained or raised; • require discretionary consent for intensification or higher-importance buildings;
Efficiency and Effectiveness in Achieving Objectives	Applying NH-R4 provides consistency across the district but cannot be implemented with confidence in its existing form due to difficulties identifying a probabilistic lake level in the context of lake management.	The bespoke rules provide a technically defensible response that can be implemented with confidence.
Costs and Benefits	Benefits: Minimal administrative change; uses an established rule framework. Costs: <ul style="list-style-type: none"> • Does not resolve submitter concerns about the applicability of the 2022 Design Levels Report. • May be ongoing conflict about interpretation of Rule NH-R4 in the context of Lake Ōkāreka. • Leaves existing property owners with a lack of certainty about whether they can redevelop their properties. 	Benefits: <ul style="list-style-type: none"> • Provides existing property owners greater certainty about whether they can redevelop their properties. • Reduces cost and complexity for low-importance and replacement buildings. • Focuses consenting effort on activities that make a more important contribution to risk (e.g., intensification or higher-importance buildings). • Renaming the overlay may help to address submitter concerns that a “probabilistic” hazard overlay (and its implications for insurance etc.) is not substantiated. Costs: <ul style="list-style-type: none"> • Still limits development potential - policy seeks to avoid new

		residential development and other activities that would significantly increase exposure to lake-level hazards.
Risks of Acting or Not Acting if Uncertain or Insufficient Information	<p>The 1% AEP lake level for Lake Ōkāreka is subject to uncertainty due to:</p> <ul style="list-style-type: none"> • changes in lake-level behaviour following the 2021 outlet upgrade; • uncertainty about future management regimes; • the impact of climate change. <p>Continuing to rely solely on NH-R4 risks potential issues with future implementation.</p> <p>Option 2 explicitly responds to uncertainty by adopting an area-based resilience approach, consistent with NPS-NH Policy 5 (decisions must be made using best available information, even when incomplete) that seeks to avoid significant increases in exposure to high lake levels but also seeks to avoid unnecessary regulation and enables continuing use and some redevelopment of existing properties.</p>	
Conclusion	Option 2 is the preferred option.	

Table 2: Evaluation of Approaches to Fault Rupture Hazard – Ensuring a Proportionate Approach to Risk and Responding to Uncertainty

	Option 1 – Approach Notified Retain the existing rules but apply them to a defined Fault Rupture Hazard Area	Option 2 – Refined Framework (Preferred) Refocus rules to a defined Fault Rupture Hazard Area and refine rules by: <ul style="list-style-type: none"> • aligning activity status with fault certainty for construction of buildings of lower importance. • providing permitted pathways for construction of buildings where recurrence interval thresholds are met • clarifying exemptions (e.g., replacements within footprint, low-importance buildings)
Efficiency and Effectiveness in Achieving Objectives	Provides some improvement by replacing outdated fault overlays, but rules remain broad-brush and do not reflect varying fault certainty and risk. Less effective in giving effect to the NPS-NH’s proportional, risk-based approach.	Strongly aligned with a proportionate, risk-based approach. Differentiates between levels of fault certainty and incorporates building importance and recurrence intervals in defining activity status to reduce requirements for resource consent.
Costs and Benefits	Benefits: Simple to implement; minimal change for users. Costs: Potential for unnecessary compliance in low-certainty areas.	Benefits: More nuanced to address differences in risk and uncertainty which assists to reduce unnecessary compliance costs; Costs: Slightly higher initial familiarisation burden
Risks of Acting or Not Acting if Uncertain or Insufficient Information	Option 1 does not respond to uncertainty in fault location or recurrence intervals and risks being overly restrictive in areas that may not be subject to fault rupture. Option 2 better addresses uncertainty appropriately.	
Conclusion	Option 2 is the preferred option. It is more efficient, more proportionate to risk, and better aligned with national and regional direction while incorporating updated scientific information.	

Appendix 3: Recommended Changes to District Plan Maps

The following changes proposed by PC 8 are recommended for adoption:

- Removal of the mapping of soft ground potential (map 209 in the hardcopy/static pdf series)
- Removal of the mapping of fault traces and the Fault Avoidance Overlay (map 210 in the hardcopy/static pdf series)
- Removal of the mapping of landslide susceptibility (map 211 in the hardcopy/static pdf series)

The following additional changes are recommended:

- Inclusion of a “High Lake Level Resilience Area – Lake Ōkāreka” around the lake at 355.33 m (Moturiki Datum 1953) as illustrated in the following figures:

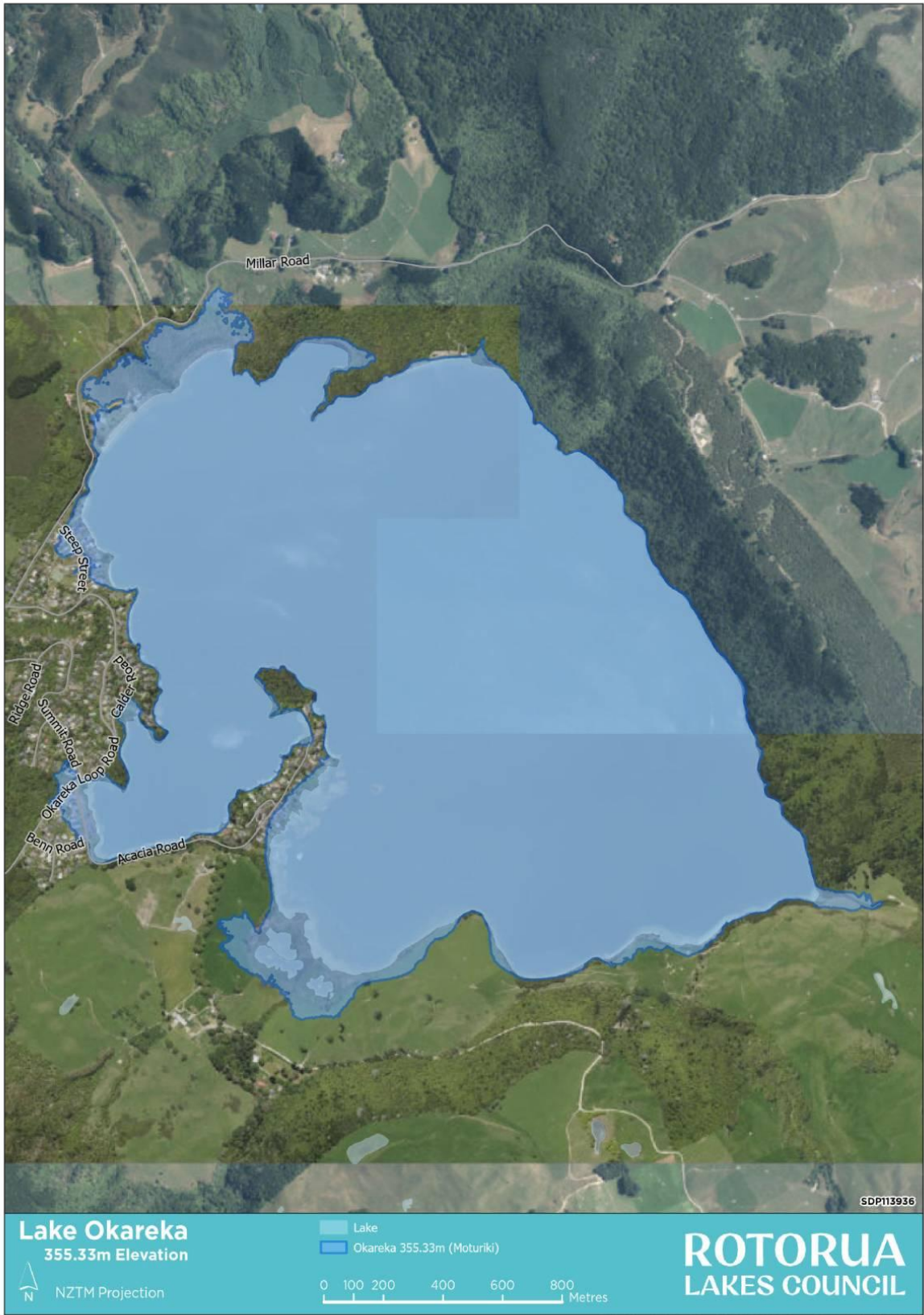


Figure 1 Recommended High Lake Level Resilience Area - Lake Ōkāreka



Figure 2 Recommended High Lake Level Resilience Area - Lake Ōkāreka (Close Up Over Settlement Area)

Appendix 4: Recommended Changes to the District Plan Text

(Saved in separate document)

Appendix 5a: List of Submitters and Submitter ID#

(Saved in separate document)

Appendix 5: Recommended Decisions on Submissions

(Saved in separate document)