



Proposed Plan Change 120 - Housing Intensification and Resilience (PC120)

to the Auckland Unitary Plan (Operative in
Part)

**SECTION 32 AND SCHEDULE 3C OF THE RESOURCE MANAGEMENT ACT
1991 FOR QUALIFYING MATTER**

**NATURAL HAZARDS
EVALUATION REPORT**

Contents

Part 1: Background, statutory context and summary of proposed changes	5
1 Introduction	5
1.1 Scope and purpose of the report	5
1.2 Background to the proposed plan change	6
1.3 The resource management issue to be addressed	9
1.4 Objective of the proposed plan change	10
1.5 Development and evaluation of options	10
1.6 Evaluation of options	11
1.7 Risk of acting or not acting	12
2 Statutory context.....	12
2.1 Part 2 of the RMA and relevant sections of the RMA.....	12
2.2 Other relevant legislation	14
3 National and Regional Planning context.....	14
3.1 New Zealand Coastal Policy Statement 2010 (NZCPS)	14
3.2 National Policy Statement on Urban Development 2020	15
3.3 National direction on natural hazards	16
3.4 Adapt and thrive: Building a climate-resilient New Zealand – New Zealand's first national adaptation plan	17
3.5 Auckland Regional Policy Statement	17
3.6 Other relevant plans and strategies	18
4 Development of the Plan Change	22
4.1 Additional evidence gathering	22
4.2 Development of the 'Issues Summary'	24
4.3 Determining scope	25
4.4 Review of other documents and council plans	26
4.5 Developing the draft approach.....	27
4.6 Forming the draft approach	37
4.7 Defining risk categories	38
4.8 Engagement to understand risk tolerance	38
4.9 Developing the proposed draft proposals	39
4.10 Review of existing AUP provisions.....	39

4.11 Drafting of text changes and developing zoning response.....	39
5 Information used	39
6 Consultation and engagement.....	40
6.1 Overall engagement plan and Māori engagement plan	40
6.2 Internal consultation with relevant staff and subject matter experts.....	40
7 Summary of proposed changes.....	41
7.1 Overview of proposed changes for natural hazards.....	41
7.2 Overview of proposed risk assessment and management process	43
Part 2: Evaluation of proposed Regional Policy Statement (RPS) changes	45
8 Evaluation of objectives – RPS changes	45
8.1 Chapter B2 Tāhuhu whakaruruhau ā-taone - Urban growth and form	45
8.2 Chapter B9 Toitū te tuawhenua- Rural environment	50
8.3 Chapter B10 Ngā tūpono ki te taiao - Environmental risk	51
Part 3: Evaluation of proposed plan change	55
9 Evaluation approaches	55
9.1 Overview.....	55
9.2 Content and structure of the analysis	55
10 Evaluation of objectives and provisions.....	56
Theme 10.1 Managing risk associated with existing use and development.....	56
Theme 10.2 Managing risk associated with new subdivision, use and development	72
Theme 10.3 Ensuring subdivision, use and development does not create or exacerbate risk elsewhere	127
Theme 10.4 Managing natural hazard risks while providing for Māori values rights and interests	136
Theme 10.6 Managing natural hazard risks in relation to infrastructure where there is a functional or operational need	153
Theme 10.7 Maintenance and enhancement of natural hazard mitigation functions of natural features and natural buffers	159
Theme 10.8 Assessing the effects of climate change	168
Theme 10.9 Adopting a precautionary approach	176
Part 4: Evaluation of ‘the management of significant risks from natural hazards’ as a qualifying matter	181
11 Introduction	181
11.1 Statutory context	181

11.2 Statutory assessment overview	182
12 Analysis and evaluation.....	183
12.1 Description of the qualifying matter.....	183
12.2 AUP amendments to managing the qualifying matter	183
12.3 Location of the qualifying matter	184
12.4 Development of options	184

ATTACHMENTS

- Attachment 1 – Other documents, plans and reports that have informed the development of PC120
- Attachment 2 – Supporting amendments to the RPS
- Attachment 3 – Identifying and differentiating flood hazards
- Attachment 4 – Identifying and differentiating coastal hazards
- Attachment 5 – Identifying and differentiating landslide hazards
- Attachment 6 – Managing wildfire risk
- Attachment 7 – Requiring and defining safe refuge and safe egress
- Attachment 8 – Limiting development potential to manage flood and coastal hazard risk
- Attachment 9 – Defining sensitivities for activities
- Attachment 10 – Changes to the AUP in relation to natural hazards
- Attachment 11 – GNS peer review
- Attachment 12 – International Landslide Risk Management Current State Review – Overview for s32 report
- Attachment 13 – Properties down-zoned due to natural hazards

Part 1: Background, statutory context and summary of proposed changes

1 Introduction

1.1 Scope and purpose of the report

This report is prepared by Auckland Council (Council) to fulfil the statutory requirements of section 32 and Schedule 3C of the Resource Management Act 1991 (the RMA) for Proposed Plan Change 120 (PC120) to the Auckland Unitary Plan (Operative in Part) (AUP).

Proposed Plan Change 120 has two key objectives – it proposes:

- measures to better manage significant risks from natural hazards region-wide; and
- an amended approach to managing housing growth as a result of no longer incorporating the medium density residential standards (MDRS), but providing for intensification in a way that complies with clause 4 of Schedule 3C of the RMA by:
 - providing at least the same amount of housing capacity as would have been enabled if Plan Change 78: Intensification (PC78), as notified, was made operative, including by providing for additional intensification along selected Frequent Transit corridors and modifying zoning in suburban areas through an amended pattern of Residential - Mixed Housing Urban and Mixed Housing Suburban zones;
 - enabling the building heights and densities specified in clause 4(1)(b) and (c) of Schedule 3C of the RMA within at least the walkable catchments of Maungawhau (Mount Eden), Kingsland, Morningside, Baldwin Avenue and Mount Albert Stations;
 - giving effect to Policy 3(c) and (d) of the National Policy Statement on Urban Development 2020 (updated May 2022) (NPS-UD) through intensification in other walkable catchments and land within and adjacent to neighbourhood, town and local centres;
 - enabling less development than that required by clause 4(1)(b) and (c) of Schedule 3C or Policy 3 of the NPS-UD where authorised to do so by clause 8 of schedule 3C.

The primary focus of this section 32 report is to cover the former purpose of the plan change, however the report will also discuss the requirements of clause 4(1)(b), (c), (d) and (2) of Schedule 3C of the RMA as these apply to the identification of ‘the management of significant risks from natural hazards’ as a qualifying matter.

The background to and objectives of PC120 are discussed in the overview report, as is the purpose and required content of section 32 and Schedule 3C evaluations.

The AUP contains existing objectives and policies which set the direction for the management of natural hazard risk and climate change which PC120 seeks to alter. PC120 introduces amendments to the Regional Policy Statement as well as changes to Chapter E36 of the AUP. There are supporting changes to other parts of Chapter E Auckland-wide

rule, Chapter J Definitions and Chapter M Appendices of the AUP. In particular, the key amendments proposed in PC120 are to:

- introduce a new risk management framework that differentiates risk based on likelihood and consequence and applies different policy approaches that are proportionate to the level of risk present.
- update how areas that are subject to natural hazard risk are identified and ensure that the plan provisions reflect the latest information on sea level rise and climate change.
- ensure that natural hazard risks on Māori values, rights and interests are managed in accordance with te ao Māori, mātauranga and tikanga.

A more detailed summary is provided in Section 7 and the proposed amendments to the AUP in relation to natural hazards is provided as Attachment 10 – Changes to the AUP in relation to natural hazards.

Section 32 of the RMA requires that before adopting any objective, policy, rule or other method, the Council shall have regard to the extent to which the objectives are the most appropriate way to achieve the purpose of the RMA, and whether the policies and rules or other methods are the most appropriate way of achieving the objectives. A report must be prepared summarising the evaluation and giving reasons for the evaluation. In accordance with section 32(6) of the RMA and for the purposes of this report:

- the 'proposal' means PC120.
- the 'objectives' means the proposed RPS and district plan objectives (which reflect the purpose of PC120 in terms of managing significant risks from natural hazards).
- the 'provisions' means the policies, rules or other methods that implement, or give effect to the objectives of the proposal.

This evaluation will continue to be refined in relation to any consultation that occurs, and in relation to any new information that may arise, including through submissions and during hearings as per section 32AA of the RMA.

This s32 evaluation report is split into four sections:

- Part 1: Background, statutory context and summary of proposed changes
- Part 2: Evaluation of proposed Regional Policy Statement (RPS) changes
- Part 3: Evaluation of proposed plan change
- Part 4: Evaluation of 'the management of significant risks from natural hazards' as a qualifying matter.

1.2 Background to the proposed plan change

1.2.1 Auckland Unitary Plan and context

Under the RMA, Auckland Council is responsible for controlling the use, development or protection of land for the purposes of the avoidance or mitigation of natural hazards. Natural hazard risk is currently being managed by the AUP, which became operative in part on 15 November 2016. It is a unitary plan that includes the RPS as well as both regional and

district provisions. There are provisions that manage subdivision, use and development of land that may be subject to flooding, coastal inundation, coastal erosion and land instability, with other provisions that apply to wildfire risk. Other natural hazards, such as earthquakes and volcanic activity, are not directly managed by the AUP.

Use and development of land in areas subject to natural hazards increases risk to people and communities. It also exposes landowners, councils, central government and residents to increased social and economic costs.

Subdivision, use and development in areas subject to flooding, coastal inundation, coastal erosion and land instability generally requires a resource consent under the AUP. A hazard risk assessment is required to accompany a resource consent application, and each proposal is assessed on a case-by-case basis against the outlined policy settings to determine whether it is appropriate or not. For subdivision, use and development in urban areas and on rural land for rural uses, the current policy directive in the AUP is to 'not increase' risk. For subdivision, use and development outside urban areas, the current policy directive in the AUP is to 'avoid' risk.

The relevant land use provisions are found in Chapter E36 Natural hazards and flooding of the AUP, with the subdivision-related provisions located in Chapter E38 Subdivision – Urban and Chapter E39 Subdivision – Rural. The AUP also includes a range of related provisions across other chapters of the AUP. This includes managing earthworks in floodplains and overland flow paths, managing vegetation alteration and removal in coastal and riparian environments, and limiting maximum impervious areas across several of the AUP zones.

1.2.2 S35 monitoring report for Chapter B10.2 Natural hazards and climate change

Section 35(2)(b) of the RMA requires the council to monitor the efficiency and effectiveness of its policies, rules, and other methods in its policy statement or its plan. This in turn forms the starting basis for plan review process. The efficiency and effectiveness of the AUP in achieving the outcomes sought under Chapter B10.2 Natural hazards and climate change of the RPS has been assessed as part of council's overall s35 monitoring programme. Work on this monitoring report began in 2020, with the final report published online in early July 2023¹.

The report uses data and information up until November 2021 to form its conclusions and recommendations. Overall, the report broadly canvases of the key observations, trends and feedback gathered through the various data sources. A range of limitations were identified and as a result several of the recommendations advise to undertake further investigations to verify the gaps outlined and to understand the extent or scale of the issues better.

¹ Auckland Council (2022). Auckland Unitary Plan. Resource Management Act 1991, section 35 monitoring: B10.2 natural hazards and climate change. Auckland Council technical report, TR2022/16 <https://new.aucklandcouncil.govt.nz/content/dam/ac/docs/unitary-plan/monitoring/b10.2-natural-hazards-climate-change-technical-report.pdf>

1.2.3 Plan Change 78 and ‘the future coastal hazards plan change’

Plan Change 78: Intensification (PC78) proposed changes to the AUP to incorporate Medium Density Residential Standards (MDRS) under Schedule 3A of the RMA and to give effect to the NPS-UD. The RMA and NPS-UD provides for qualifying matters which are characteristics or features that can be identified to limit intensification otherwise required by the MDRS and the NPS-UD. The management of significant risk from natural hazards (hereon referred to as ‘SNH’ in this report) were identified as a qualifying matter and PC78 proposed to retain the existing provisions of the AUP and to support this with the application of the proposed new Residential – Low Density Residential zone (LDRZ) where possible. PC78 was notified on 18 August 2022.

As identified in the s35 monitoring report, there has been improved scientific knowledge on natural hazard risk, particularly in relation to the effects of climate change, since the development of the AUP provisions. Auckland’s coastline has been remapped with updated information to better understand areas that are susceptible to coastal instability and erosion. Interim guidance has been issued by the Ministry for the Environment recommending the use of sea-level rise projections that are beyond what is currently accommodated within the AUP provisions, and also recommendations in relation to various development scenarios.

As these changes were unable to be included in PC78 at the time, a ‘future coastal hazards plan change’ was being formulated to incorporate the updated information into the AUP.

1.2.4 2023 weather events

In early 2023, the Auckland region was affected by two severe weather events – Auckland Anniversary Weekend floods in January and Cyclone Gabrielle in February. These events resulted in flooding and land instability throughout the region, particularly in specific locations where rainfall was greatest or had the most impact.

These severe weather events caused loss of life, and damage to properties, infrastructure, and the environment, as well as significant social, cultural, and economic impacts. Tragically, six people lost their lives, and a large number of households were displaced, with 7,000 rapid building assessments completed under the Building Act 2004. Over 8,500 vehicles were damaged by the floods, and over 6,000 tonnes of storm related waste had to be removed. Many people suffered trauma, and the social and wellbeing impacts will be long lasting.² The Wellbeing Recovery Plan³ related to these events also notes that approximately 40,000 households required assistance (based on MSD payments) and around 3,000 households were unable to return to their homes due to damage or land stability issues.

At the time of the weather events:

² Accelerating a Resilient Tāmaki Makaurau, June 2023

https://infocouncil.aucklandcouncil.govt.nz/Open/2023/06/20230629_PEPCC_AGN_11307_files/20230629_PEPCC_AGN_11307_Attachment_93889_1.PDF

³ Wellbeing Recovery Plan for Tāmaki Makaurau, September 2024

<https://www.aucklandcouncil.govt.nz/recovery-extreme-weather-disasters/Documents/wellbeing-recovery-plan-tamaki-makaurau.pdf>

- The s35 monitoring report on Chapter B10.2 Natural hazards and climate change was in its final draft stage.
- PC78 was in its submissions analysis and hearings phase of the plan change process.
- The ‘future coastal hazards plan change’ was in its early stages of development.

1.2.5 Political direction following 2023 weather events

As a result of these weather events, the Council’s Planning, Environment and Parks Committee (PEP Committee) passed a resolution on 9 February 2023 (PEPCC/2023/6) for staff to prepare a scope of works to investigate the regional and localised impacts of flooding, and the implications for land use planning, regulatory, current plan changes to the AUP (notably PC78), infrastructure and other policy settings.

A scope of works to investigate impacts, implications and improvements was then approved by a delegated group of the PEP Committee and noted at the 2 March 2023 Committee meeting (PEPCC/2023/25).

Strengthening the AUP had been identified as a key opportunity to improve the current regulatory and non-regulatory settings in relation to the management of natural hazard risk. The need for this was based on the findings and recommendations from the draft s35 monitoring report, the drivers behind the ‘future coastal hazards plan change’, and the initial analysis of the impacts from the 2023 weather events.

The PEP Committee passed a resolution to endorse the preparation of changes to strengthen the AUP to manage natural hazards on 29 June 2023 (PEPCC/2023/82).

1.2.6 Integrated intensification response

Due to PC78 and legislative barriers, the natural hazard component of PC120 was originally developed as a ‘stand-alone’ plan change or variation to PC78. Following changes to the RMA, this work has been re-purposed and has now been incorporated into PC120. The Strategic s32 report provides background on PC120 and its dual function of addressing natural hazards and housing intensification.

1.3 The resource management issue to be addressed

Auckland’s location and topography means that it is vulnerable to a range of natural hazards, including and not limited to earthquakes, volcanic activity, landslides, flooding, coastal inundation, coastal erosion, wildfires and tornadoes.

Some hazards, such as flooding and landslides, have a high to medium frequency of occurring with consequences varying in their severity. Other hazards, such as volcanic activity and large earthquakes, have a very low frequency of occurring but with catastrophic consequences. Impacts of natural hazards range from minor injuries, minor property damage, short-term disruption to fatalities, destruction of properties, long-term economic loss, and significant damage to the natural environment and features.

Auckland’s public and private property are at risk of being affected by natural hazards if not managed appropriately. Climate change and sea level rise will increase the risk. The 2023

weather events have highlighted the actual impacts, and potential future impacts, that natural hazards can have on the Auckland region.

While the AUP currently has operative rules that manage subdivision, use and development in natural hazard areas, there are opportunities to improve the AUP's effectiveness at managing natural hazard risk into the future. The key issues include:

- There is a lack of clear directives on how risk should be managed and a lack of differentiation between different levels of risk and corresponding responses. As a result, outcomes regarding development in natural hazard areas, as well as the methods by which risk is managed, can be inconsistent and/or inappropriate.
- The understanding and extent of risks that the AUP seeks to manage are constantly changing but the AUP as currently drafted no longer reflects best practice or requires applicants to provide the most meaningful information in their assessment of environmental effects. The AUP is also unclear how precautionary it intends to be in the face of uncertainty.
- The AUP currently does not appropriately recognise and provide for the management of natural hazard risks whilst also providing for Māori values, rights and interests.
- There are variances in quality and accuracy of information provided in resource consent assessments that inform decision-making. In some cases, there are gaps with assessment requirements, such as addressing cascading and coincidental hazards.

1.4 Objective of the proposed plan change

An evaluation under Section 32 of the RMA must examine the extent to which the objectives of PC120 are the most appropriate way to achieve the purpose of the RMA. PC120 seeks to respond to government direction on enabling further intensification while also ensuring that development in the Auckland region is more resilient to natural hazards and climate change. The objectives of PC120 are reflected in the proposed RPS and district plan objectives.

The plan change should assist the Council to carry out its functions to achieve the purpose of the RMA, being to promote the sustainable management of natural and physical resources.

The evaluation concludes that there are existing gaps within the AUP and that there are opportunities to improve how natural hazard risk is identified, assessed and managed. The lack of clear policy direction and the reliance on out-of-date information impacts on the ability of the AUP to effectively address risks associated with natural hazard and climate change into the future, particularly as the Auckland region faces increased pressure for additional housing through intensification. Amending the AUP to strengthen its ability to manage natural hazards is the most appropriate way to achieve the purpose of the RMA, as outlined in the evaluation options below.

1.5 Development and evaluation of options

Section 32 requires an examination of whether the provisions in PC120 are the most appropriate way to achieve the objectives of the proposed plan change by identifying other

reasonably practical options for achieving the objectives and assessing the efficiency and effectiveness of the provisions in achieving the objectives. In the preparation of PC120, the following options have been identified:

Option 1 – Adopt a ‘do nothing’ approach/retain the status quo

Option 2 – Undertaking non-regulatory methods to meet the objective

Option 3 – Undertaking regulatory methods i.e. a plan change

Option 4 – Other regulatory methods i.e. address as part of a full AUP review

1.6 Evaluation of options

Option 1 – Adopt a ‘do nothing’ approach/retain the status quo

The ‘do nothing’ option means that the AUP will continue to manage natural hazard risk in the same manner that it currently does.

While there are existing AUP provisions that address subdivision, use and development in natural hazard areas, analysis has identified gaps that limit the effectiveness and/or efficiency of the current provisions in achieving the intended outcomes. In some cases, the gaps result in natural hazard risk not being managed appropriately altogether. Furthermore, since the development of the AUP, there has been additional data and information on natural hazards and climate change, as well as additional guidance documents. As such, maintaining the status quo approach will mean that the AUP will continue to have gaps with its provisions and rely on out-dated information and management methods.

Option 2 – Undertaking non-regulatory methods

Ways to implement Option 2 include practice notes, guidance documents, education and interpretation notes.

While this is an alternative to undertaking a plan change, these methods do not have any statutory weight. More importantly, these methods are limited in their scope and are only practical to address certain gaps. They are unable to amend underlying policy direction or change the wording or content of the rules and standards.

Option 3 – Undertaking regulatory methods i.e. a plan change

This option would result in a plan change to amend the AUP as identified in Section 4 of this report.

This option would enable the AUP to be updated to reflect latest data, information and best practice and ensure that the provisions in the AUP are fit for purpose and more effective at managing natural hazard risk.

Option 4 – Other regulatory methods i.e. address as part of a full AUP review

This option would result in changing the AUP as part of the full plan review.

While this would also achieve the same outcome as Option 3, the full plan review is not expected to commence until new legislation is passed by the Government enabling that to occur. Although there are exemptions provided for in section 80U and 80V of the RMA, section 80P of the RMA provides that a local authority must not notify a draft planning instrument (which includes a proposed policy statement and proposed plan) in the period between 21 August 2025 until 31 December 2027. In the meantime, development will continue to be assessed under the current AUP risk management framework.

1.7 Risk of acting or not acting

Section 32(2)(c) of the RMA requires this evaluation to assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions. PC120 contains sufficient information about the improvements required to the natural hazard provisions in the AUP to proceed with the plan change.

It is acknowledged that information relating to natural hazards and climate change is always being updated so that there will never be a time where there is perfect knowledge on this matter. However, not acting means that development may be established in areas subject to natural hazards based on out-of-date information, assessment considerations and risk management frameworks. Therefore, there is a need to act even with imperfect information as the risk of not acting outweighs the risk of acting.

This evaluation will continue to be refined in relation to any new information that may arise following notification, including during hearings on PC120 as required by Section 32AA.

2 Statutory context

2.1 Part 2 of the RMA and relevant sections of the RMA

The purpose of the RMA is to promote the sustainable management of natural and physical resources, as defined in section 5(2) of the RMA.

The management of significant risk from natural hazards is identified as a matter of national importance under section 6(h) of the RMA. Section 7(i) identifies the effects of climate change as a matter that should be given particular regard to.

The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga is also identified as a matter of national importance under section 6(e).

Section 8 of the RMA states that persons exercising functions and powers under the RMA shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). In this regard, consultation with Tangata Whenua has occurred throughout the development of the natural hazard provisions for this Plan Change, as set out in Section 6 of this report.

Sections 30(1)(c)(iv) and 31(1)(b)(i) of the RMA respectively state that regional councils and territorial authorities have a function to control the use of land / any actual or potential effects of the use, development, or protection of land for the purpose of the avoidance or mitigation of natural hazards.

Sections 68(2A) and 76(2A) of the RMA provide the ability for regional plans and district plans to contain rules that manage the protection of other property from effects of surface water which are additional to, and can be more restrictive than, those provided for in the Building Act 2004.

Sections 86B to 86G of the RMA specify when a rule in a proposed plan has legal effect. With regards to the date when a rule in a plan change has legal effect, the RMA provides in section 86B(1) that 'a rule in a proposed plan has legal effect only once a decision on submissions relating to the rule is made and publicly notified'. Rules relating to natural hazards are identified as an exception under section 86B(3)(f) of the RMA. The proposed rules relating to natural hazards in PC120 will have immediate legal effect from the date of notification of PC120. Immediate legal effect means that a rule must be complied with from the day the proposed rule (or change) is notified, and this includes associated methods directly linked to a rule's function, such as standards, matters of discretion, assessment criteria, special information requirements, definitions, maps and appendices. In relation to maps, this includes the proposed re-zoning of residential properties to the Residential – Single House zone (SH) or the Residential – Mixed Housing Urban zone (MHU) where that zoning response is proposed in recognition of either the coastal or flood hazards. For the purposes of the term 'relates to natural hazards', it is considered that this relates to the performance of a function in sections 30(1)(c)(iv), (d)(v) or (g)(iv) (in the context of regional rules), and section 31(1)(b)(i) (in the context of district rules). In the context of district rules, the rule would be for the purpose of the avoidance or mitigation of natural hazards.

It is noted that the immediate legal effect of the SH or MHU zones in their roles of limiting development potential for specified properties is not a wholly effective method on its own as the lower level of intensity intended by the zones will not apply in a regulatory setting until notification of decisions on submissions, unless the operative activity rule is amended to directly relate to natural hazards. The purpose of PC120 to reduce the risk is only partially addressed by the current suite of (operative) rules and standards pertaining to these zones. With regard to the amended description, objectives and policies of these chapters to strengthen the management of natural hazards, only those activities in the PC120 SH and MHU zones that differ from equivalent activities in higher intensity zones and with a more restrictive regime are to be identified as 'relates to natural hazards'. All other activity rules (and classifications) whose equivalents continue to apply in the AUP equivalent zone cannot be considered as 'relates to natural hazards'. In other words, only zonal activities that contribute to implementing the policy cascade (relating to the exposure to risk from natural hazards) and the related purpose of PC120 are to be identified as provisions directly related to natural hazards.

The outcome is that relevant operative activities (with a new purpose statement) will immediately apply to sites proposed to be downzoned to SH or MHU. This meets the purpose of the plan change, ensures an effective policy cascade to connect down to land use activities, and ensures the immediate legal effect of the proposed down-zoning of higher intensity residential zones to the SH or MHU zone is a more effective method immediately, in line with the recent amendments to the RMA that enable natural hazards rules to have immediate legal effect. This is also consistent with the broader statutory framework and the

identification of the management of significant natural hazard risk as a matter of national importance at section 6 RMA, associated functions of the council under section 31, and the Part 5 provisions relating to district plan methods and duties.

Section 106 of the RMA enables consent authorities to refuse to grant subdivision consent, or grant a subdivision consent subject to conditions, where there is significant risk from natural hazards. Section 106A of the RMA provides authorities the same power for land use consents.

Clause 8(1)(a) of Schedule 3C of the RMA provides for matters of national importance (which as already noted, includes the management of significant risk from natural hazards) as qualifying matters that may modify the requirements of clause (4)(1)(b) and (c) and policy 3 in any zone in an urban environment to be less enabling of development.

Natural hazards are identified as a matter that must be addressed through an assessment of environment effects for resource consent applications under Schedule 4 of the RMA.

2.2 Other relevant legislation

2.2.1 Local Government Act 2002 (LGA)

The purpose of the local government under s10(1)(b) of the LGA is “to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future”. Managing the impacts of natural hazards to people and property through the management of subdivision, use and development in areas subject to natural hazards is aligned with this purpose.

2.2.2 Building Act 2004

Sections 71-74 of the Building Act 2004 seek to manage building on land where land is subject to a natural hazard. Sections 71 and 72 outline the circumstances under which a building consent authority must grant or must refuse to grant a building consent due to natural hazards. Sections 73 and 74 provide for a notice to be registered on a property title where a building consent has been granted, identifying the natural hazard concerned.

2.2.3 Civil Defence Emergency Management Act 2002

The purpose of the Civil Defence Emergency Management Act 2002 (CDEM) is to improve and promote the sustainable management of hazards in a way that contributes to the social, economic, cultural and environmental well-being and safety of the public and the protection of property. Section 48 of the CDEM require Group Plans to be developed. These Group Plans outline the strategies for planning and preparing for emergencies, and for response and recovery in the event of an emergency. The Tāmaki Makaurau Auckland Civil Defence and Emergency Management Group Plan 2024 – 2029 is covered in Section 3.6.4.

3 National and Regional Planning context

3.1 New Zealand Coastal Policy Statement 2010 (NZCPS)

The NZCPS guides councils in their day-to-day management of the coastal environment. Regional policy statements, regional plans and district plans must give effect to the NZCPS

(Sections 62(3), 67(3)(b), 75(3)(b) of the RMA). Resource consent processes must also have regard to the NZCPS.

Objective 5 seeks to manage risk from natural hazards as outlined below:

Objective 5

To ensure that coastal hazard risks taking account of climate change, are managed by:

- *locating new development away from areas prone to such risks;*
- *considering responses, including managed retreat, for existing development in this situation; and*
- *protecting or restoring natural defences to coastal hazards*

This objective is supported by a number of policies. Those that are particularly relevant to coastal hazards include:

- Policy 3 Precautionary approach
- Policy 4(c)(iii) Integration
- Policy 7 Strategic planning
- Policy 24 Identification of coastal hazards
- Policy 25 Subdivision, use and development in areas of coastal hazard risk
- Policy 26 Natural defences against coastal hazards
- Policy 27 Strategies for protecting significant existing development from coastal hazard risk.

3.2 National Policy Statement on Urban Development 2020

The NPS-UD provides direction to decision-makers under the RMA on planning for urban environments. The NPS-UD sets out objectives and policies that apply to all decision-makers when making planning decisions that affect an urban environment.

In the context of this plan change on natural hazards the relevant parts of the NPS-UD relate to creating well-functioning urban environments and that urban environments are resilient to climate change. The NPS-UD includes the following objectives:

Objective 1: New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future.

Objective 8: New Zealand's urban environments: support reductions in greenhouse gas emissions; and are resilient to the current and future effects of climate change.

The relevant policy is:

Policy 1: Planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum:

- (a) *have or enable a variety of homes that:*

- (i) meet the needs, in terms of type, price, and location, of different households; and*
- (ii) enable Māori to express their cultural traditions and norms; and*
- (b) have or enable a variety of sites that are suitable for different business sectors in terms of location and site size; and*
- (c) have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; and*
- (d) support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and*
- (e) support reductions in greenhouse gas emissions; and*
- (f) are resilient to the likely current and future effects of climate change.*

Well-functioning urban environment is defined as having the meaning in Policy 1.

Natural hazards are relevant to a well-functioning urban environment. A well-functioning urban environment would be one that is not impacted by natural hazards, or the hazard risk is managed to minimise the risk to people, property and the environment now, and in future to recognise the effects of climate change.

3.3 National direction on natural hazards

In 2023, central government announced a phased work programme to improve the management of natural hazard risks under the RMA. This includes:

- Introducing a proposed National Policy Statement for Natural Hazard Decision-making (NPS-NHD), which was open for submissions in September 2023.
- Consulting on an indicative policy approach for a proposed National Policy Statement for Natural Hazards (NPS-NH), which was open for submissions in May 2025. This was part of Package 1: Infrastructure and development within the package of proposed changes to national direction under the RMA.
- Development of a comprehensive National Direction for Natural Hazards over the subsequent 1-2 years.

The proposed NPS-NH has not been finalised and consultation has only been undertaken on an indicative policy approach. Based on the discussion document, the proposed NPS-NH seeks to introduce a framework emphasising proportionate risk management to natural hazards based on their likelihood of occurring and severity of their consequences. It does not specify how to respond to a specific level of risk but includes a proposed matrix to help determine the level of risk – councils will continue to hold broad discretion to manage those hazards. There is a proposal to define what ‘significant risk’ is, noting that this term currently is not defined in the RMA.

Key policies addressed in the NPS-NH discussion document cover:

- What should be considered as part of risk assessments

- Consideration of potential impacts of climate change for at least 100 years into the future
- Proportionate management of natural hazard risk
- Using best information available
- Ensuring significant risk from natural hazards should not be exacerbated on other sites
- The need to continue with risk assessment processes where information is limited.

3.4 Adapt and thrive: Building a climate-resilient New Zealand – New Zealand's first national adaptation plan

Adapt and thrive: Building a climate-resilient New Zealand – New Zealand's first national adaptation plan sets out the government's long-term strategy for adaptation. This first plan contains Government-led strategies, policies and proposals that will help New Zealanders adapt to the changing climate and its effects.

Councils are required to 'have regard to' this plan when making or changing regional policy statements or regional or district plans under sections 61(2)(e) 66(2)(g) and 74(2)(e) of the RMA.

3.5 Auckland Regional Policy Statement

The Auckland Regional Policy Statement (RPS) sets out the objectives and policies for the management of the natural and physical resources of the region and for the management of growth within the region.

The relevant sections of the RPS relating to natural hazards are:

- B2 Tāhuhu whakaruruhau ā-taone - Urban growth and form
- B6 Mana Whenua
- B9 Toitū te tuawhenua - Rural environment
- B10 Ngā tūpono ki te taiao - Environmental risk

Chapter B2 Tāhuhu whakaruruhau ā-taone - Urban growth and form sets out the objectives and policies for managing the growth of Auckland. It currently includes objectives and policies on a well-functioning urban environment and on resilience to the effects of climate change. Chapter B2 does not currently explicitly address natural hazards. Amendments to the objectives and policies are therefore proposed to address natural hazards, and these are covered in Section 8 below.

Chapter B10 Ngā tūpono ki te taiao - Environmental risk sets out objectives and policies relating to, amongst other things, natural hazards. The objectives and policies are comprehensive however they do not reflect the revised approach to natural hazards that is set out elsewhere in this report. The objectives and policies are therefore amended and new objectives and policies added where necessary to reflect the revised approach to natural hazards. These are addressed in Section 8 below.

Chapter B6 Mana Whenua addresses mana whenua issues but is silent on the relationship between Mana Whenua and natural hazards. The relationship between Mana Whenua, and

in particular marae and papakāinga on Māori land, and natural hazards is complex and requires a specific response. To support the policy framework in Chapter B6, amendments are necessary to Chapter B10 Ngā tūpono ki te taiao - Environmental risk and to Chapter B9 Toitū te tuawhenua - Rural environment to reflect the proposed approach to Māori land and natural hazards.

3.6 Other relevant plans and strategies

3.6.1 Auckland Plan 2050

The Auckland Plan 2050 is Auckland's long term spatial plan that was adopted in 2018. The Auckland Plan 2050 recognises that Auckland is exposed to a range of climate change impacts, and that global and local records for rainfall and temperature are already being surpassed on a regular basis. While there is strong focus to reduce emissions, it recognises the increasing hazard risk associated with climate change and that this requires flexibility and adaptability in decisions.

3.6.2 Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan

Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, adopted in December 2020, provides an overarching response to climate change with a focus on:

- Greenhouse gas emissions reduction targets of:
 - halving emissions by 2030 and reaching net zero emissions by 2050
- Preparing Auckland for the impacts of climate change:
 - How we will adapt to climate change
 - Taking a precautionary approach
 - Preparing for current emissions pathway and the prospect of a 3.5 degrees warmer climate

Te Ora ō Tāmaki Makaurau is a well-being framework developed by the Mana Whenua Kaitiaki Forum in response to Te Tāruke-ā-Tāwhiri, Auckland's Climate Plan. Te Ora ō Tāmaki Makaurau provides guidance on relevant considerations from a te ao Māori lens for assessing the impacts of natural hazards on the wellbeing of whakapapa, whenua, wai, marae and whānau.

Having regard to this framework helps ensure that where mana whenua values, rights and interests are associated with areas subject to natural hazards, the AUP supports tailored adaptation responses that preserve the relationships of Māori with their ancestral land and taonga so that they are sustainably managed for future generations.

The Te Ora ō Tāmaki Makaurau, Chapter B6 and engagement with mana whenua have been considered alongside the proposed risk management framework to determine the appropriate provisions for the AUP.

3.6.3 Auckland Future Development Strategy (FDS)

The Auckland Future Development Strategy 2023-2053 (FDS) has been developed under the NPS-UD to promote the integrated, long-term strategic planning of urban growth within

Tāmaki Makaurau over the next 30 years. It aims to achieve well-functioning urban environments and also seeks to ensure there is enough development capacity in the region and integrate land use planning and infrastructure planning and funding.

The Future Development Strategy provides strategic direction to remove future urban areas, or parts of future urban areas, that are the most constrained by natural hazards. This is to ensure these areas are not developed in a manner that would otherwise place more people and property in harm's way. This results in strategic direction for the partial or entire removal of four future urban areas (being Hatfields Beach stage 2, parts of Kumeū-Huapai-Riverhead, southern part of Takaanini, and parts of Drury-Ōpaheke) from being identified as areas suitable for urban development.

3.6.4 Tāmaki Makaurau Auckland Civil Defence and Emergency Management Group Plan 2024-2029 and the Natural Hazard Risk Management Action Plan

Natural hazard risk in Auckland, like the rest of New Zealand, is managed through multiple methods beyond land use planning under the RMA. Auckland Council uses both statutory and non-statutory methods. These include plans, strategies and initiatives that provide strategic direction, seek to coordinate the management of risks and effects of natural hazards, to enhance public awareness, and to support funding for natural hazard related projects.

The Tāmaki Makaurau Auckland Civil Defence and Emergency Management Group Plan 2024-2029, developed under the Civil Defence Emergency Management Act 2002, sets out a coordinated approach for preparing for and managing emergencies in the Auckland region. The Plan outlines the objectives and actions targeting the four aspects of civil defence emergency management – reduction, readiness, response and recovery. Reviewing the current regulatory frameworks for managing natural hazard risk, and subsequently undertaking changes to the AUP through PC120, is one of the actions in the 'reduction' category.

Other objectives and actions in this Group Plan include:

- Identifying information gaps that affect Auckland's understanding of natural hazard risks and making hazard information accessible
- Improving community awareness of natural hazards so that they know how to take action to reduce local hazard risks and are prepared for emergency events
- Working with central government to design a clearer process for implementing adaptation options, including managed retreat.
- Developing emergency management plans that are clear and robust
- Ensuring people involved in Auckland's emergency management system have the appropriate capabilities
- Ensuring that there are the right partnerships, equipment, assets and supporting systems are in place to support response and recovery efforts
- Having clear operational processes, systems and support for Aucklanders at the time of an emergency event

- Having procedures in place to help Auckland’s communities recover from emergency events

Sitting alongside the Group Plan is Auckland Council’s Natural Hazard Risk Management Action Plan (NHRMAP). This Plan largely relates to council’s own activities and seeks to coordinate council’s response in natural hazard management and is a strategic deliverable of Te Taruke-a-Tawhiri: Auckland’s Climate Plan. Strengthening the AUP as proposed under PC120 is also identified as an action under the NHRMAP.

An overview of some other key actions within Auckland Council’s programme of activity to achieve the outcomes sought under the Group Plan and the NHRMAP is provided below.

Shoreline Adaptation Plans

Auckland Council began developing a series of Shoreline Adaptation Plans (SAPs) in 2021. SAPs relate to the future management of Auckland Council owned land and assets on the coast and set out an integrated, sustainable approach to coastal management over the next 100 years. These plans consider the potential impacts of coastal erosion, coastal inundation, rainfall flooding, and climate-change impacts (including sea-level rise) and seek to provide an adaptive planning approach that responds to the changing nature of Auckland’s coastal environment, asset and infrastructure owners’ requirements and needs and values of local iwi and local communities.

Te ara urutau (adaptation foundations) and speed up community adaptation⁴

Central government is currently developing a National Adaptation Framework, which will set out government’s approach to sharing the costs of adapting to climate change. While the legislation to support this framework is yet to be introduced, Auckland Council has been working on its ability to support community planning for climate disruption. A pilot planning project in the Papakura Local Board area is currently underway to test the most effective methods of empowering local communities for making climate adaptation decisions. This will then be used to inform work in other local board areas.

Community resilience building

Auckland Emergency Management has been working with local boards to improve the readiness of communities to emergencies. Local Board Readiness and Response plans have been prepared for each of the 21 local boards in the Auckland region. These response plans are tailored to the geographical, social and hazard profile of each local board and seek to empower communities to take responsibility for their own emergency preparedness.

Natural hazard identification

Understanding current and future natural hazard risks is critical in effective risk management. It is also needed to inform decisions about assets and investments and land

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https://infocouncil.aucklandcouncil.govt.nz/RedirectToDoc.aspx?URL=Open/2025/03/20250312_PEP_CW_AGN_13346_AT.PDF

use planning. There are a range of programmes within Council that seek to ensure that the best information is available to identify natural hazard risk. For example, the Healthy Waters and Flood Resilience department maintains a rolling programme of hydraulic modelling, which collects, verifies and analyses data to define flood risks and provide up-to date information on storm-related hazards. Flood hazard mapping is updated as models are refreshed, as there is new information available (e.g. updated climate change scenarios or rainfall data) and/or as there are advances in technology.

Supporting public awareness

The Council adopts a range of different methods to improve public awareness of natural hazard risk and to support people's ability to know what natural hazards are, and how to reduce the risk they may face. This includes establishment of digital tools (e.g. the Flood Viewer), public awareness and education campaigns (both seasonal and on-going), and direct engagement with communities through events and workshops.

3.6.5 Tāmaki Makaurau Auckland Recovery Plan

The Tāmaki Makaurau Recovery Plan sets out the principles, aims and funding approach for Auckland's recovery from the 2023 weather events. The recovery plan focuses on four areas:

- community and social recovery
- Māori partnership and participation
- natural and built environment
- economic recovery.

An overview of some of the key components of the Recovery Plan is provided below.

Categorisation and buy-out process

The Voluntary Buy-out Support Scheme provides the opportunity for homeowners of affected properties to opt in to be assessed and categorised based on risk to life. Those that are classified as Category 3 have the option of being bought out. Those that are classified as Category 2P have the option of obtaining financial support to undertake mitigation to their property so that risk to life can be reduced.

Making Space for Water

The Making Space for Water programme is a series of projects that seek to reduce the impact of future flooding events and build resilience into the stormwater network. The programme enhances and expands on existing initiatives and seeks to prepare Auckland for more intense rainfall and flooding; reduce existing flood risks; enhance and maintain stormwater systems; raise awareness of flood risks; and be prepared for flood events. Examples of enhanced/expanded initiatives include delivering blue-green projects by using land, including properties purchased through the Recovery Plan, to give floodwater space to flow and to help reduce flooding in populated areas, and increased maintenance of both pipe and stream stormwater networks to improve drainage capacity and prevent blockages.

Community and social well-being

The Recovery Plan also includes a range of actions that seek to support individuals and communities to rebuild their lives following the devastating impacts of the 2023 weather events. These include the Recovery Navigation service for individualised mental well-being support, and financial help to assist with temporary accommodation needs.

4 Development of the Plan Change

4.1 Additional evidence gathering

Data from the 2023 weather events

The s35 monitoring report on Chapter B10.2 Natural hazards and climate change (in its final draft stage at the time the Plan Change work was initiated) provided a broad overview of the identified successes, gaps, and opportunities associated with natural hazard risk management under the AUP and its ability to achieve the outcomes sought in the RPS. However, there were some key caveats noted as part of this analysis (outlined in Sections 3.1 and 3.2 of the report):

- The natural hazard provisions in the current AUP were developed based on the best information available at the time. New information and data have emerged since then and the AUP does not always reflect this. As such, the conclusions in the report focused on how effective and efficient the AUP was at achieving what was intended at the time, rather than against what is known now.
- The current AUP provisions are intended to manage natural hazard risk for 1 per cent AEP event and over the 100-year timeframe. However, the AUP had been only operative for five years with limited hazard events of that scale occurring in the Auckland region to definitively assess against. Therefore, the analysis focused on the implementation of the AUP provisions, rather than assessing their effectiveness in terms of the outcome from a 1 per cent AEP hazard event.
- Given the complexity of the topic, resourcing limitations and timing constraints, the findings and conclusions provided only a snapshot of the overall picture, with recommendations prompting further investigation to fully understand the scale of the some of the issues identified.

The 2023 weather events provided an opportunity to undertake further investigation into gaps outlined in the s35 monitoring report and to ground-truth some of the observations using real-life examples, noting however that the scale of what was experienced in Auckland during the Auckland Anniversary floods and Cyclone Gabrielle was not consistent across the entire region. The key focus was to identify how developments consented under the AUP fared during the weather events, and what additional gaps or issues can be picked up through the analysis.

Methodology

The first step was to identify all the datasets that were available to determine whether a property was affected during the 2023 weather events. Several datasets were identified and collated including:

- service requests to Auckland Council’s Healthy Waters department in relation to flooded properties during the late January to mid-February period.
- incidents that requested assistance from Fire Emergency New Zealand during the Auckland Anniversary floods and Cyclone Gabrielle
- properties affected by Auckland Anniversary floods and/or Cyclone Gabrielle, as well as those affected by a later weather event in May 2023, that underwent a Rapid Building Assessment (and subsequently invited to be categorised through the categorisation process) – the Rapid Building Assessment process involved issuing stickers (red, yellow or white) to affected properties, based on the usability of the building and whether the building is safe to use.
- requests to Auckland Emergency Management from the public who required help to stay in the current accommodation and/or required alternative accommodation due to the Auckland Anniversary floods and/or Cyclone Gabrielle.

Each dataset was reviewed in terms of their accuracy and usefulness. The Rapid Building Assessment dataset was determined to be the most reliable data source, with the other datasets identified as secondary sources. This was mainly because these other datasets either had limited detail or information on what occurred on a property, inaccurate or unverifiable addresses and/or included information that was not relevant to the AUP.

The second step was to identify all the datasets that were available to determine whether a property had been developed under provisions of the AUP. Several datasets were identified and collated including:

- consent information from the resource consents database developed for the s35 monitoring programme, with consents lodged between November 2016 and November 2022
- Council’s record of resource consent pre-application meetings between November 2016 and March 2023
- Council’s record of resource consents lodged between November 2016 and March 2023
- Council’s record of building consents lodged between November 2016 and March 2023

The third step was to identify all the datasets that were available to determine whether a property may be subject to the natural hazards managed by the AUP. Several datasets were identified and collated including:

- Land with an elevation less than 7m above mean high water springs where that land is within 40m of mean high water springs along the inner harbours and inner Hauraki Gulf (relating to (b)(i) of the definition of ‘coastal erosion hazard area’ under the AUP)
- Land with an elevation less than 7m above mean high water springs where that land is within 50m of mean high water springs along the open west, outer and mid Hauraki Gulf (relating to (b)(ii) of the definition of ‘coastal erosion hazard area’ under the AUP)
- Coastal inundation 1 per cent AEP, 1 per cent AEP + 1m sea level rise, and 1per cent AEP + 2m sea level rise layers from Geomaps

- Flood prone area layer from Geomaps
- Flood plains layer from Geomaps
- Overland flow paths layer from Geomaps, with a 10m buffer added around the indicative mapping
- Areas susceptible to coastal instability and erosion layer from Geomaps
- GNS Geological Units layer (relating to type of soil defined in (a) to (d) of the definition of 'land which may be subject to land instability' under the AUP) from Geomaps

The fourth step was to identify sites that were affected by the 2023 weather events that had undergone development after the AUP became operative in part. This mainly involved matching sites that had a Rapid Building Assessment (any sticker colour) undertaken against whether the site had a building consent and/or a resource consent lodged after November 2016.

The fifth step was to validate the relevance of the building consent and/or resource consent in relation to what occurred on the property during the 2023 weather events. This included reviewing the information provided as part of the Rapid Building Assessment, any information provided as part of categorisation process (if available at the time), and any other relevant source of information e.g. requests from public to Auckland Emergency Management and crowd-sourced photos of the weather events. In some cases, it was not possible to determine what exactly happened on site due to the lack of information. At the end of this step, properties that had a building consent and/or resource consent lodged post-November 2016 that were relevant to the impacts of the 2023 weather events were identified.

The final step was to analyse the relationship between the building consent and/or resource consent, what occurred on the property during the 2023 weather events, and the natural hazard areas that the AUP manages. This involved reviewing resource consent and building consent documentation, with further input from technical specialists where required. The findings provided enhanced understanding of the gaps raised in the s35 monitoring report on B10.2 Natural hazards and climate change.

4.2 Development of the 'Issues Summary'

The purpose of developing an 'Issues Summary' was to provide a natural hazard gap analysis, in one document. This informed the scope and focus of the plan change, as well as identify supporting actions or methods that could strengthen the AUP but may not require direct changes to the Plan itself.

The primary sources that fed into the issues summary were the findings from the s35 monitoring report and the additional data analysis from the 2023 weather events. Additional information sources included:

- s35 monitoring reports on B2.3 A Quality Built Environment and on B7.3 Freshwater Systems & B7.4 Coastal Water, Freshwater, and Geothermal Water
- Feedback and submissions received from previous consultation and hui, including from PC78

- Auckland Council plans and strategies
- Auckland Council's feedback on the proposed NPS-NHD
- Technical publications and guidance documents
- Feedback and findings from other departments across the Auckland Council family
- Feedback from the Technical Reference Group
- Cultural Values Assessments and feedback from mana whenua and marae

The Issues Summary collated a range of issues that were grouped into two broad categories:

1. Overall risk management framework and cross-hazard issues

This category covered those that related to the general approach by which natural hazard risk is being managed by the AUP, how the AUP future-proofs development, and the overall process by which risk is assessed under the Plan.

2. Hazard-specific and other relevant issues

This category covered those that related specifically to individual hazards (e.g. how the hazard is identified, corresponding standards and assessment requirements) as well as the AUP's relationship with other council initiatives and relevant legislation.

4.3 Determining scope

Using the Issues Summary, the next exercise was to determine how issues should be prioritised, and which issues should be within scope of the plan change. Some issues were not resource management issues. Feedback was also sought from across the council family and from the Technical Reference Group.

Several issues that were determined to be fully or partly out of scope, and these are discussed in further detail below.

Implementing the zoning directives from the Future Development Strategy

As discussed in Section 3.6.3, several parts of the Future Urban zone land identified in the AUP are subject to natural hazards and the Future Development Strategy 2023-2053 had directed that the Future Urban zone for some of these areas should be removed. This should be addressed through a separate plan change process as it will require more detailed analysis than the region-wide improvements proposed as part of this plan change.

Making changes to the Auckland Council District Plan – Hauraki Gulf Islands Section

Currently the Auckland Council District Plan – Hauraki Gulf Islands Section (ACDP:HGI) is separate to the Auckland Unitary Plan and has its own natural hazard provisions. The s35 monitoring for this plan had not yet commenced so there was limited understanding of how well it has been performing or whether there are any gaps that need addressing. Furthermore, the ACDP:HGI will be reviewed as part of the full review of the AUP. As such, it was determined that amendments to the ACDP:HGI would be out of scope for this plan change.

Improving stormwater management, catchment dynamics and riparian yards

Issues relating to the management of stormwater and impervious areas, requiring setbacks from riparian yards, maintaining compliance with stormwater requirements, and the appropriate consideration of downstream impacts of development, are all relevant to the management of flood risk. However, these matters also relate to water quality and quantity, as well as riparian dynamics and ecosystem health. There are clear overlaps with the work that was being undertaken to give effect to the National Policy Statement on Freshwater Management 2020 (NPS-FM). As such, it was determined that while some select improvements could be included within scope as part of this plan change, the remainder of it would be covered through the plan change that gives effect to NPS-FM.

Supporting operational activity

Some of the issues identified relate to the barriers that the AUP poses to enable certain operational works to take place. These include carrying out maintenance or other works in rivers, in the Significant Ecological Area overlay and in other areas with high environmental values. It was determined that these issues would be out of scope as enabling works in these areas extends beyond just considerations of benefits associated with alleviating natural hazard risk. These issues would be better addressed through the plan change that gives effect to NPS-FM and/or the full review of the AUP.

Addressing esplanade reserves and strip requirements

Some issues relate to the function of esplanade reserves and strips in managing natural hazard risk and the assessment considerations of when the width of these reserves or strips could be reduced or waived entirely. On reflection, these issues would be better addressed through the full review of the AUP as esplanade reserves and strips play other roles beyond just natural hazard risk management and the re-alignment of these provisions would require a more holistic response.

Addressing inconsistencies with Building Act 2004

As discussed in Section 2.2.2, the Building Act 2004 also plays a role in natural hazard risk management, albeit with a focus on building effects rather than environmental effects. There are parts of this legislation that do not integrate well with the AUP, notably the difference in what timeframe is considered when assessing development. It was determined that addressing this issue would be out of scope for this plan change as changes to the AUP will not resolve this issue. Instead, Auckland Council will continue to advocate for change to ensure better alignment between the RMA and the Building Act 2004.

4.4 Review of other documents and council plans

To ensure that the best and most up to date information available was being used for the development of this plan change, a review was undertaken of the district, regional and unitary plans around New Zealand.

The initial review focused on what other councils were proposing in response to NPS-UD and how providing for the management of natural hazards interacted with the requirement to

incorporate the Medium Density Residential Standards into their various plans. The review then was broadened to look at how natural hazards were being managed under existing and proposed plans, including how hazard areas were being identified, how different types of activities were being differentiated, and how risk management frameworks were structured. The review also looked at other methods engaged by the councils, such as Civil Defence Emergency Management (CDEM) Plans, Climate Adaptation Plans, community education programmes etc. These learnings were used to help inform the plan change and the drafting of the provisions.

4.5 Developing the draft approach

The purpose of this step was to develop an overall risk management approach for the AUP that achieves the objective of the plan change. This involved a series of internal workshops, with supporting sessions to obtain feedback and input from technical specialists.

Focusing on the highest priority (i.e. over-arching) issues, this exercise involved stepping through a series of key questions to re-evaluate how the AUP currently manages natural hazard risk and to inform what an updated risk management approach in the AUP should encompass. The key questions and considerations are summarised below.

4.5.1 What is the likelihood of natural hazard events that the AUP should be managing?

Currently the AUP focuses on managing risk from natural hazards for the 1 per cent AEP event or over the 100-year timeframe. However, there are also risks associated with natural hazard events of other scales that may be managed. In this regard, four options were identified:

Option 1 – status quo

Option 2 – manage impacts from more frequent events e.g. nuisance flooding

Option 3 – manage impacts of less frequent events e.g. 0.5 per cent AEP event

Option 4 – manage long term impacts from events e.g. health impacts from occupying frequently flooded homes or businesses

The preferred option was Option 1 as managing the 1 per cent event is aligned best with existing policy and best practice, as well as the directive to address ‘significant risk’ under the RMA. Option 4 was also identified to be potentially appropriate where adverse cumulative effects from natural hazards could be determined to reach a ‘significant risk’ threshold. However, this would be subject to further investigation as to whether this cumulative risk could be consistently identified to be assessed under the AUP.

Options 2 and 3 were not considered to be appropriate as the AUP cannot, and is not intended to, manage the impacts of every possible natural hazard event. Furthermore, there are information gaps for these more frequent and less frequent events to enable a robust assessment to take place.

4.5.2 What risk settings should the AUP address?

The primary focus for the current AUP is the management of risk to life, with a secondary focus on property, infrastructure and the environment. Given the impacts of the 2023 weather events and the widespread impact on a range of different land uses, there was an opportunity to consider whether existing risk settings in the AUP are appropriate or whether they need adjusting. Three options were identified:

Option 1 – status quo

Option 2 – add new risk settings

Option 3 – adjust existing risk settings

The preferred option was a combination of the three options. Research indicated that there was nothing inherently wrong with the current risk settings – risk to life should continue to be the primary focus. However, it was identified that there was potential to strengthen the existing risk settings. For example, the current AUP provisions are less restrictive for commercial and industrial uses in natural hazard areas even though there is still a risk to life as people occupy these spaces.

4.5.3 Which part of the risk equation should the AUP be targeting?

The management of natural hazard risk is complex. There are three components that form the risk equation (exposure, hazard and vulnerability), and adjusting any of them can have impacts on reducing overall risk. The AUP currently refers to risk in a generic sense, so there was an opportunity to be more specific about how risk is being managed. Three options were identified:

Option 1 – focus on reducing exposure

Option 2 – focus on reducing the hazard

Option 3 – focus on reducing vulnerability

The preferred option was Option 1 as the AUP is most effective at managing where development takes place in relation to natural hazards, and therefore the number of people and property that are exposed to natural hazard risk.

Options 2 and 3 were not considered to be fully appropriate to be the primary focus for the plan change. For Option 2, there are other methods or processes independent of the AUP to reduce hazards and enabling such works would likely overlap, and potentially conflict, with the management of other matters under the AUP. For Option 3, it was noted that this is not necessarily something that can be addressed through the AUP process. However, it was determined that the plan change could include improvements to reducing hazards and vulnerability where possible e.g. vulnerability could be reduced by improving awareness of natural hazard risk through the imposition of consent conditions and notices for development.

4.5.4 Which natural hazards should the AUP manage?

Although there are many natural hazards that may pose a threat to the Auckland region, the AUP currently only has provisions that directly manage five of these. The background of Chapter E36 acknowledges that these other hazards have not been included as they may be better addressed through mechanisms outside of the AUP, such as measures put in place by emergency management groups. Two options were identified in this respect:

Option 1 – status quo (e.g. flooding, coastal erosion, coastal inundation, land instability and wildfires)

Option 2 – incorporate other hazards not currently managed (e.g. earthquakes, volcanic activity and drought) if appropriate

The preferred option was Option 2 as it was acknowledged that this plan change was an opportunity to review the scope of the hazard provisions and accommodate any new information or land use planning management approaches to these other natural hazards.

An exercise was then undertaken to determine whether it was appropriate for the AUP to address these other hazards by incorporating hazard-specific provisions. It was determined that it was not appropriate in most cases for various reasons:

- for hazards such as volcanic activity, the effects of such a hazard event would be so widespread that AUP regulatory tools like zoning, overlays and rules would not be able to be meaningfully used to discriminate between different levels of hazard susceptibility and/or risk at a local scale.
- for hazards such as seismic shaking from earthquakes, these are already adequately covered by other management methods e.g. building legislation.
- for hazards such as drought and extreme heat events, the nature of these hazards means that they cannot be managed by hazard-specific rules in the AUP. However, they can be supported through the retention of, or improvements to, existing AUP provisions e.g. continued protection of significant ecological areas and proposed deep soil and canopy tree standards in medium and higher density residential zones.
- for hazards such as tsunamis, there are potential ways to manage these via regulatory methods. These events are low probability with high potential impact. Areas subject to tsunami risk have been identified in Council's Geomaps as Tsunami Evacuation Zones and are supported by CDEM warning zones that have been reviewed since the 2023 weather events, as well as civil defence and evacuation procedures.

Only liquefaction was identified as a hazard that could potentially be added into the AUP with specific provisions.

Auckland Council completed a region-wide assessment of liquefaction susceptibility in 2021⁵ in accordance with the 2017 guidelines. Most of the Auckland region is indicated as 'Very Low Liquefaction Vulnerability', as shown in Figure 31 of that report (as per image below). There are however parts of urban Auckland that are in the 'undetermined' category and some of it is in the 'possible' category. For example, there is about 17,531ha of urban zoned land in the 'undetermined' and 'possible categories' and about 3564ha of Future Urban zoned land is in those areas.

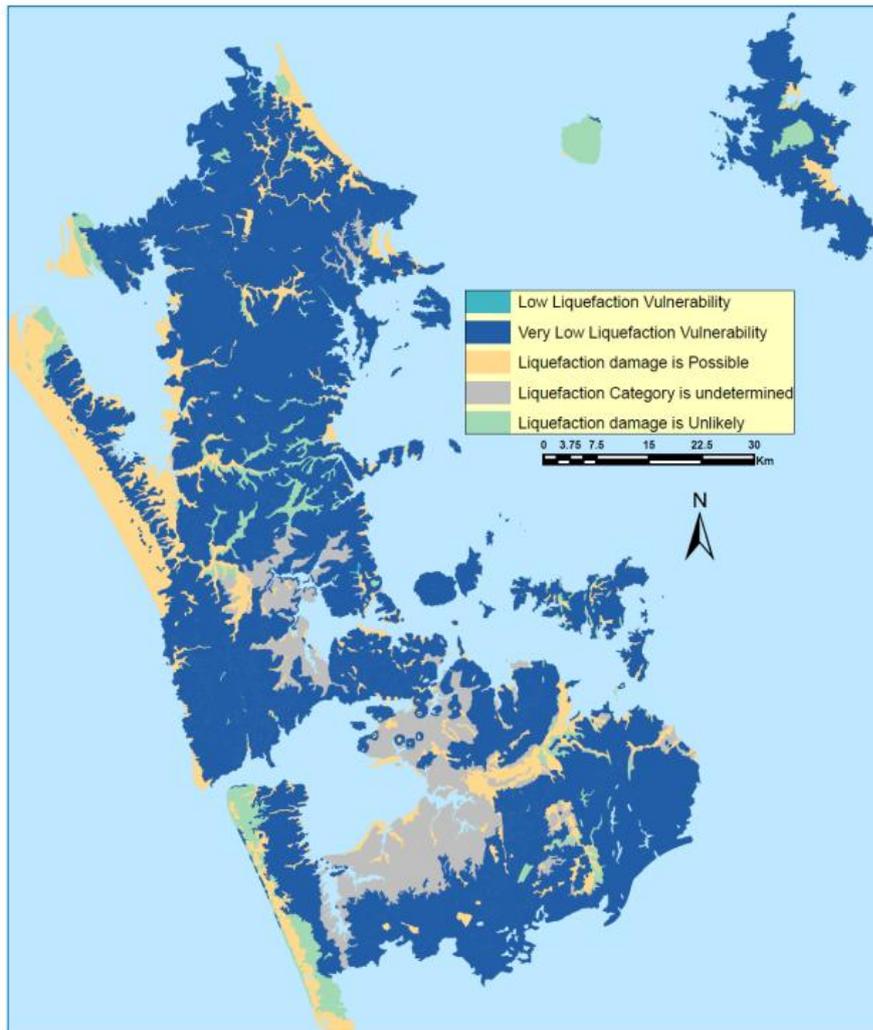


Figure 31: Summary of Level B assessment categories for the Greater Auckland region

While there are building code provisions that address foundation design in liquefaction prone areas, it does not address the wider suitability of liquefaction prone land for urban land use. Therefore, there is a potential gap that exists between what the building code does not

⁵ Auckland Liquefaction Assessment, Technical Report TR2021/19 November 2021, Auckland Council
<https://knowledgeauckland.org.nz/media/hcgdrqni/tr2021-19-auckland-liquefaction-assessment-and-liquefaction-vulnerability-maps.pdf>

address and what the AUP could address but does not. However, it was determined that this should be investigated further and revisited as part of the full review of the AUP.

4.5.5 How should the AUP identify when interventions are required to manage natural hazard risk?

Under the current AUP, the identification of areas which may be subject to flooding and to coastal inundation rely on definitions with supporting publicly available mapping information. However, the identification of areas which may be subject to coastal erosion and to land instability rely on definitions only. For wildfire, there is also currently no definition or mapping to support the identification of wildfire risk. Two options were identified:

Option 1 – status quo

Option 2 – use a combination of definitions and mapping to identify where natural hazard risk may be present

The preferred option was Option 2 as evidence from the s35 monitoring shows that reliance on a definition only based approach means that identification of natural hazards can be missed since there are no visual cues to assist plan users. Furthermore, definition-only approaches can be problematic, where describing them via criteria means that some areas which may be at risk from these hazards are not appropriately identified.

The reason that a definition-only approach was taken for coastal erosion and for land instability was because suitable mapping was not available at the time the AUP was being developed and the definitions served as a ‘catch-all’ method to identify areas that may be subject to these hazards. Since then, mapping has been undertaken at a regional level for areas which may be subject to coastal instability and erosion (ASCIE). Mapping work has also been undertaken to identify landslide susceptibility across the region as well. As such, there is now the option to rely on both a definition and mapping approach for these hazards.

The exception to this is for wildfire. Further investigation was undertaken to determine whether the management of wildfire risk could be improved, including defining or mapping vegetation that may be susceptible to wildfires. However, this was not able to be achieved as part of this plan change. This is discussed in more detail in Section 10.2.3.

4.5.6 Where mapping is available, how should it be incorporated to identify natural hazard risk?

Under the current AUP, the mapping associated for mapping for flooding and for coastal inundation sits outside of the AUP and in Council’s GIS viewer. The only exception to this is the mapping layer titled ‘coastal inundation 1 per cent AEP Plus 1m Control’, which has been retained in the AUP as a statutory layer.

Two options were identified. The issue of whether natural hazard mapping sits within or outside of their respective plans has been a subject of debate, with differing views from across the country on which is the more appropriate option.

Option 1 – incorporate natural hazard mapping layers into the AUP

Option 2 – keep natural hazard mapping layers outside of the AUP

The key benefit of Option 1 is that the extent of the hazard and where the relevant rules that would apply can be easily identified in the AUP maps. It provides statutory weight to the mapping layers and provides certainty to plan users on whether the relevant rules apply to their site or not. The key drawback of Option 1 is that the mapping layers become static and that a plan change is required to make amendments to these mapping layers since they are part of the statutory document.

Option 2 is the reverse of Option 1 – keeping the mapping outside of the plan means that they can be updated without a plan change, but the extent of these hazards may not be easily identifiable by plan users if relying solely on the definitions in the AUP. This method does not provide certainty to plan users as they may not be within a mapped hazard area at the time of the plan change (and therefore may assume that the relevant rules do not apply to them) but may be included later in the future.

Taking into considering the benefits and costs associated with both options, the preferred option was Option 2. There were two key reasons as to why this was preferred to Option 1.

Firstly, there is an already established mechanism under the AUP that provides for this out-of-plan approach. Using flooding as an example, the definition describes what a ‘floodplain’ is and the current rules in Chapter E36 relate to this definition. The note attached to the definition of ‘floodplain’ then explains the modelled extent can be found on council’s GIS, providing the plan user clear direction on where to find this information. The note also explains that this mapping is indicative only and that there is the ability for a party to provide site-specific assessment to verify the extent, depth and flow characteristics of the floodplain. As such, there is flexibility to verify or challenge the outputs of the modelling, particularly where they have been derived from region-wide modelling techniques which are not accurate at an individual site level. Based on the monitoring of the AUP, this mechanism has been working well to date and could be easily replicated for other natural hazards.

Secondly, information relating to natural hazards is constantly changing. This could be a result of changes in climate change projections, changes in the environment (e.g. major infrastructure upgrades) and/or improvements in the methodology by which the modelling is undertaken. The AUP needs a level of robustness built into it to be responsive to these inevitable changes and to be effective at managing natural hazard risk into the future. There are already existing challenges in keeping natural hazard mapping consistent with the best available information so requiring a Schedule 1 process (a plan change) to update these datasets would impose further cost and time efficiency barriers. While it is acknowledged that enabling changes to these datasets over time will affect the visual identification of when and where the relevant rules would apply and the overall transparency for plan users, it does reflect the reality that the environment is constantly changing. The ability to update the mapping more easily reduces the opportunities for further subdivision, use and development to occur in areas that may become exposed to natural hazards in the future without appropriate consideration of natural hazard risk.

4.5.7 What interventions are appropriate to manage natural hazard risk under the AUP?

The AUP currently manages subdivision, use and development in areas subject to natural hazards by generally requiring resource consent for such activities and assessing each proposal on a case-by-case basis against the relevant objectives and policies.

It was agreed that the continued management of these activities are necessary to minimise the number of people and properties being exposed to natural hazard risks. However, it was identified that any intervention should be proportionate to the level of risk, and that the proportional response should be clearly articulated and integrated into the AUP. For example, the use of zoning to limit development potential may be appropriate where the level of risk is so high that it warrants such an approach. In other circumstances, it may be more appropriate for applicants to provide a technical specialist report that identifies the level of risk and measures that can be incorporated into a design such as locating buildings outside hazard areas or raising finished floor levels. Furthermore, it was identified that existing development is at also at risk to natural hazards and more targeted approaches may be necessary to ensure that these developments are also more resilient in the future.

4.5.8 How can the AUP be as robust as possible to change?

As discussed above, information relating to natural hazards is constantly changing and our understanding of natural hazards and climate change improves over time. However, because the AUP is a statutory document, a formal plan change process is required to update it, which can be costly both in terms of time and resourcing.

The ideal solution would be if there was national direction to address this gap. However, in the absence of this direction, different mechanisms had to be identified as possible ways to overcome the statutory barriers to regularly update the AUP:

Option 1 – keep natural hazard mapping outside of the AUP

Option 2 – make amendments to existing provisions to align with latest information

Option 3 – incorporate a stronger dynamic adaptive policy pathways approach (DAPP) within the AUP

Option 4 – moving away from static technical references

Options 1 and 2 were clear preferred options that were straight-forward to implement and would have significant impact. The reasons for Option 1 are discussed in Section 4.5.8 above and Option 2 is necessary to ensure that natural hazard risk is being assessed based on the best information available.

Option 3 was considered to be a possible solution. An example of how this would work would be that certain activities may trigger a different activity status and/or a different consenting pathway when a certain trigger point or criteria had been met. However, there were identified challenges that made this option unfeasible during the investigation phase. This included the ability to craft multiple scenarios and multiple sets of planning provisions, along with being able to provide the evidential requirements to support these. Furthermore, it

proved difficult to be able to identify clear trigger points or criteria that could be measured and verified as part of the consenting process to identify which sets of provisions would apply.

Option 4 would involve replacing with references to static technical references (e.g. sea level rise of 1m) to latest technical documents or name the agency/source of technical data. This would mean that the AUP would always refer to the latest available information. However, this option does not account for multiple sources of information, issued at different times, with no clear direction nationally on which to rely on. However, it is proposed to refer to Auckland Council's Guideline Document 15 Climate Change Scenarios as part of the special information requirements under E36.9 (and subsequently E38.9 and E39.9) to ensure that appropriate climate change scenarios are being considered.

4.5.9 How could the AUP incorporate a precautionary approach?

With regards to natural hazards and climate change, there is always uncertainty and incomplete information. Therefore, there is a need to accommodate this somehow in the AUP. The following principles were formed as part of this exercise:

- A precautionary approach should apply where the risk is significant and/or irreversible, or for the purpose of avoiding making decisions that might need to be undone later.
- A precautionary approach should guide the plan change drafting process and should also be incorporated into risk assessments under the AUP.
- Precautionary approach responses should be reasonable and practical.

It was agreed that how a precautionary approach is applied would vary from hazard to hazard, depending on the information available, and informed the drafting of the plan change. How a precautionary approach has been incorporated into the AUP provisions is discussed in Section 10.

4.5.10 How should the AUP recognise and provide for the management of natural hazard risks whilst also providing for Māori values, rights and interests?

The AUP includes a reasonably comprehensive framework for recognising and providing for matters relevant to Māori under Part 2 of the RMA. Core objectives and policies are included in the Regional Policy statement, especially Chapter B6 (Mana Whenua), and cascade throughout the AUP via a range of provisions in Auckland-wide, Overlay, Zone, and Precinct chapters. This sets up a range of triggers to require assessment of effects on mana whenua cultural heritage and values, as well as provision for development of Māori land, Treaty settlement land, marae, papakāinga and urupā.

The AUP does not explicitly provide for consideration of Māori values, rights and interests when managing natural hazard risks. This leaves a gap in policy that fails to address the following issues:

- Subdivision, use and development could create or exacerbate natural hazard risks for mana whenua cultural heritage and values, of which the majority is located in areas that are vulnerable to natural hazards

Mana whenua cultural heritage and other areas with cultural value are frequently located along waterways, coastlines and maunga. This makes them particularly vulnerable to flooding, coastal inundation, erosion, and landslides. Subdivision, use and development (including measures to mitigate risks on other properties) can exacerbate these risks. Conversely, such activities can also be designed in a way that improves the resilience of culturally significant areas.

- Management of natural hazard risks has distinct implications for the development of Māori land, Treaty settlement land, marae, papakāinga and urupā

Risks from natural hazards can affect access to land and hinder customary uses and the ability to exercise kaitiakitanga. Māori require support and flexibility to manage these risks, whether this is enabling development on the balance of the land that avoids natural hazard risks, supporting mitigation that enables use and development to occur, or facilitating retreat from high-risk areas to land acquired for the purpose.

The following options were considered to address these issues:

Option 1: do nothing

Option 2: introduce specific policy interventions to address natural hazard issues

Option 3: introduce specific policy intervention to address natural hazard issues and introduce additional provisions to protect mana whenua cultural values and heritage and enable development of Māori land and Treaty settlement land

Option 1 would have ignored the costs to Māori of managing natural hazards without considering their mātauranga and tikanga, which would have been contrary to the wider intention of the plan as articulated in Chapter B6. It would also fail to address the values, rights and interests of Māori as set out in Part 2 of the RMA and thus not achieve sustainable management of the environment. There are a number of examples from cultural values assessments (CVAs) and engagement with mana whenua of significant sites (including Treaty settlement redress land) sustaining damage from natural hazards.

Option 3 might have provided further benefit to Māori in multiple ways. For example, further changes to other parts of the plan such as Chapters E20 (Māori Land) and E21 (Treaty Settlement Land) could create more opportunities for papakāinga and other socially and economically valuable development and support mana motuhake (self-determination). Moreover, the AUP could also better provide for the protection of mana whenua cultural heritage, beyond the small fraction of sites included in the Sites and Places of Significance to Mana Whenua Overlay. These improvements were identified as being more appropriate to be considered as part of a broader review of the AUP, which will have a broader scope for change. Further to this, central government has proposed a new National Environmental Standard for Papakāinga, which if adopted, will override less enabling provisions in the AUP.

Introducing specific policy interventions under Option 2 provided benefits for Māori while containing costs for other plan users, as it offered an opportunity to establish a clear framework setting out when to assess for cultural effects within a wider risk assessment and targets those activities with the most potential for effects.

Under Option 2, the plan change includes a range of policy interventions to address these issues, including:

- Provisions at the RPS level in Chapters B9 (Rural Environment) and B10 (Environmental Risk) to ensure natural hazard risks on Māori values, rights and interests are managed in accordance with te ao Māori, mātauranga and tikanga through:
 - active participation and consideration in natural hazard risk identification and assessment, and
 - supporting Māori to manage natural hazard risks, including managed retreat using a range of enabling methods
- Provisions in Chapter E36 (Natural Hazards) that ensure natural hazard risks on Māori land, Treaty settlement land, marae, urupā, mana whenua cultural heritage and values are reduced over time and not made worse by subdivision, use and development, including through:
 - Requiring natural hazard risk assessments to consider the cultural impacts of natural hazards and to assess whether natural hazard risks can be reduced for Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values
 - A policy that supports use and development of marae while managing natural hazard risks affecting them
 - A policy requiring the location and design of infrastructure to consider the potential to reduce natural hazard risks for Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values
 - Matters of control and matters of discretion for key activities managed in Chapter E36 that include effects on mana whenua cultural heritage and values, and effects on Māori land and Treaty Settlement Land, marae and urupā
- Provisions in Chapter E39 (Rural Subdivision) that provide for specified rural subdivision to provide for the managed retreat of specific marae and urupā
- A new definition in Chapter J (definitions) to define Te Wāhi Hunuku boundary adjustments and Te Wāhi Hunuku site, specific terms that refer to specific areas where rural subdivision is enabled for managed retreat

Further details and evaluation on the policies and provisions developed in response to this matter are discussed throughout Section 10.

4.5.11 How should the AUP provide greater direction on how risk should be managed?

The current AUP consists of a simple risk management framework where the policy directives are based on whether land is within the urban area ('not increase'), rural land used for rural uses ('not increase'), or outside the urban area ('avoid'). While the policy directive for outside urban areas is clear, the key gap arises with the lack of direction and specificity for the management of risk associated with the development of urban land. Four options were identified with regards to establishing a suitable risk management framework under the AUP:

Option 1 – status quo

Option 2 – strengthen existing policies e.g. move from ‘not increase’ to ‘minimise’ in urban areas

Option 3 – introduce new risk management framework with policy directives differentiated based on hazard information e.g. development is avoided in high hazard areas

Option 4 – introduce new risk management framework with policy directives differentiated based on risk-tolerance e.g. development is avoided where risk exceeds certain levels of tolerance

Options 3 and 4 were identified as the preferred options as a differentiated risk management framework reflects latest planning best practice and supports the desired outcome of establishing a proportionate approach to managing risk. It was considered that Options 1 and 2 were not as effective or efficient in comparison. Option 1 would be least effective as even if the rest of the AUP was strengthened to provide greater direction, the overall policy settings would remain the same and therefore not addressing the core of the issue. Similarly for Option 2, even if the existing policies were strengthened, the existing risk management framework would not be able to provide the level of detail required to direct when and how risk should be managed.

Out of the two, Option 4 was the first preference as it is an outcomes-based approach and provides clearer direction on what the AUP is trying to achieve. The key uncertainty was whether the risk tolerance thresholds to enable differentiated policies were able to be determined in a way that could be implemented in the AUP. Option 3, which is more of an effects-based approach, was identified as a back-up option in case Option 4 could not be fully implemented.

4.6 Forming the draft approach

Using the brainstorming and discussion from the previous exercise, the next step was to then formulate what this draft approach would entail. This again involved re-visiting examples from other district and regional plans, guidance documents, internal discussions, and feedback and input from technical specialists.

Utilising the existing policy directives under the AUP and following the preferred option to incorporate risk tolerance into how risk is managed, the key structure of the draft approach was formed. This involved introducing a risk management framework that differentiates risk based on likelihood and consequence, and applying policy directions and interventions corresponding to the level of risk:

- Where there is significant/intolerable risk:
 - Avoid development (outside urbanised areas)
 - Limit further development and reduce risk (within existing urbanised areas)
- Where there is medium/tolerable risk:
 - Limit further exposure where appropriate
 - Manage risk so that a tolerable level is not exceeded

- Where there is low/acceptable risk:
 - Enable further development
 - Ensure risk is kept at an acceptable level

4.7 Defining risk categories

There were two key gaps associated with differentiating levels of risk as part of the proposed risk management framework.

Firstly, the AUP is only able to accommodate one risk tolerance setting that applies to everyone.

Secondly, the parameters of the different risk thresholds needed to be defined so that the corresponding policy directives could be applied e.g. what is the method by which the AUP identifies that consequences have resulted in risk reaching the significant/intolerable threshold? The process by which this is done needs to be clear so risk levels can be determined for each type of natural hazard.

There are plans around the country that differentiate risk using likelihood and consequence as part of their risk management framework, namely the Bay of Plenty Regional Policy Statement and Proposed Otago Regional Policy Statement. There are also guidance documents (e.g. Preparing for Future Flooding by Ministry for the Environment) that provide examples of how this could be done. The challenge however is that none of these examples could be directly translated into the AUP.

The main issue is that the context and scale are different. In the case of the two regional policy statements, these were prepared in the context of a regional authority providing policy direction to guide respective district authorities. As such, the scale at which the consequences were expressed were based on large scale impacts suitable to be assessed at the district plan development level. The likelihood and consequence example table provided in the Ministry for the Environment guidance document was also focussed on a region-wide assessment. Therefore, the consequences used in these examples included loss of hundreds of lives or systematic failure of lifeline utilities. These were not appropriate measures of consequence that could be included in the AUP as they were not suitable or assessable at an individual site scale.

4.8 Engagement to understand risk tolerance

Given these gaps, it was determined that a manner of public engagement was required to get feedback from the community on their views on risk tolerance. A similar exercise was done for the development of the Bay of Plenty Regional Policy Statement, which served as a starting point for the development of the material used during this risk tolerance engagement process. The overall outcome sought was to understand what consequences and what metrics should be used to determine different levels of risk, and where the thresholds between the different risk levels should be set.

This engagement process and the analysis undertaken to consolidate the two sets of risk tolerance feedback into one set of risk tolerance thresholds is discussed in more detail in the s32 reports titled 'Strengthening the Auckland Unitary Plan for Natural Hazards –

Consultation and Engagement from 2023 to 2025 Summary Report' and 'Māori Engagement and Consultation Summary Report'.

4.9 Developing the proposed draft proposals

The combined set of risk tolerance thresholds served as the starting point for the development of the draft proposals for the plan change. Evaluation was undertaken on how this risk tolerance feedback could be incorporated into the AUP and what the overall consenting process would look like, including how risk tolerance thresholds are expressed for each natural hazard. The 'Issues Summary' was also revisited to identify what other improvements may be required to address any remaining issues that are not fully resolved by the proposed risk management framework. This step resulted in a package of draft proposals for the overall plan change.

4.10 Review of existing AUP provisions

Another exercise that was undertaken was reviewing the current AUP objectives and policies and evaluating them against the proposed draft proposals. This involved identifying the relevant objectives and policies that related to natural hazards in the Regional Policy Statement and in the other relevant chapters of the AUP and assessing them individually.

The relevant objectives and policies were grouped in the four broad themes, with some fitting in more than one theme:

- No action required
- Amendments required to align with the proposed risk management framework
- Amendments required to clarify policy direction (e.g. some existing objectives and policies had two or more policy directives but no hierarchy of which directive takes precedence)
- Other amendments required (e.g. change wording to ensure consistency or removing/consolidating redundant policies)

It was confirmed through this exercise that changes to the Regional Policy Statement would be required to enable the proposed risk management framework to be fully incorporated into the AUP.

4.11 Drafting of text changes and developing zoning response

The final step was further testing and evaluating the proposed draft proposals and converting these into text and zoning changes to the AUP.

The evaluation of the proposed provisions and zoning changes that have been developed is covered in Sections 8 and 10.

5 Information used

Where appropriate, references to technical reports and documents have been included as footnotes throughout this report. Attachment 1 includes a list of plans, reports and documents that have also informed the development of this plan change.

6 Consultation and engagement

6.1 Overall engagement plan and Māori engagement plan

Following the endorsement from the Planning, Environment and Parks Committee to strengthen the AUP to manage natural hazards on 29 June 2023 (PEPCC/2023/82), options were presented to the Committee on the level of engagement that could be undertaken (on the basis that this project was going ahead as a 'stand-alone' plan change). The Committee expressed preference for the 'enhanced' approach. An overall project engagement plan and a separate but related Māori engagement plan were prepared through September and October and approved on 2 November 2023.

The project engagement plan consisted of the following main elements, being engagement with:

- A Technical Reference Group of independent natural hazards experts and specialists
- 'Key stakeholders' or institutional groups and bodies with responsibility or interest in the area of natural hazards management and development
- 'Targeted' communities i.e. storm-affected communities in priority locations
- Mana whenua and mataawaka
- Aucklanders on pre-notification draft plan change proposals.

Engagement activities were then undertaken throughout 2023 to 2025 to support the development of this 'stand-alone' plan change.

Following changes to the RMA, this was incorporated into PC120. The Streamlined Planning Process under which this plan change is promulgated retains the requirement for PC120 to be developed in accordance with clauses 1A to 3C of Schedule 1 of the RMA.

The engagement plans and activities undertaken to support the natural hazard component of PC120 and to support the overall PC120 are discussed in more detail in the s32 reports titled 'Strengthening the Auckland Unitary Plan for Natural Hazards – Consultation and Engagement from 2023 to 2025 Summary Report' and 'Māori Engagement and Consultation Summary Report'.

6.2 Internal consultation with relevant staff and subject matter experts

The natural hazard component of PC120 has been developed with input from staff and subject matter experts across the council family. These include:

- Engineering, Assets and Technical Advisory
- Healthy Waters and Flood Resilience
- Resource Consents and Regulatory Engineering
- Chief Sustainability Office
- Recovery Office
- Auckland Emergency Management
- Policy
- Regulatory Compliance
- Chief Economist

- Risk and Assurance
- Auckland Transport
- Watercare

7 Summary of proposed changes

7.1 Overview of proposed changes for natural hazards

The key change proposed in PC120 is to introduce a new risk management framework that differentiates natural hazard risk based on likelihood and consequence and applies different policy approaches that are proportionate to the level of risk present. For example, where there is significant risk, the corresponding policy response is to generally avoid.

This is reflected in new and amended objectives and policies within the Regional Policy Statement, as well as in Chapter E36 Natural hazards and flooding of the AUP. The rest of the provisions in Chapter 36 Natural hazards and flooding and Chapters E38 Subdivision – urban and E39 Subdivision – rural have also been updated to reflect this new framework.

Other key changes proposed include:

- Updates to how areas that are subject to natural hazard risk are identified and updates to plan provisions so that they reflect the latest information on sea level rise and climate change.
- Amendments to ensure that natural hazard risks on Māori values, rights and interests are managed in accordance with te ao Māori, mātauranga and tikanga, with strengthened assessment requirements to consider cultural impacts of natural hazards.

A description of what is proposed to change within the relevant chapters are provided in Sections 7.1.1 - 7.1.9 below.

7.1.1 Changes to Regional Policy Statement – Chapters B2, B9 and B10

The objectives and policies within these three chapters are being amended to incorporate the new risk management framework and to strengthen the consideration of natural hazard risks on Māori values, rights and interests. This is also supported by amendments to the issues and explanation sections.

7.1.2 Changes to E36 Natural hazards and flooding

The entire chapter is being amended to reflect the new risk management framework. The main components of amended Chapter E36 Natural hazards and flooding are:

- Updated background section to provide context to the chapter, the proposed risk management framework and particular concepts (e.g. risk categories)
- A new set of objectives and policies that align with the proposed risk management framework. This includes setting out how natural hazard risk is identified and assessed and what the corresponding policy directions are depending on the level of risk.

- Separate activity tables that cover activities in flood and coastal hazard areas, activities in landslide hazard risk areas, infrastructure in landslide susceptibility assessment areas and defences against coastal hazards.
- Updated standards and supporting provisions to reflect the activities in the various activity tables.

7.1.3 Changes to E38 Subdivision – urban and E39 Subdivision – rural

The provisions relating to subdivision in areas subject to natural hazards in these chapters are being amended so that they reflect the terminology used in the new risk management framework and align with the changes to Chapter E36. There are also rural subdivision provisions to provide for the managed retreat of specific marae and urupā being added into Chapter E39.

7.1.4 Changes to E12 Earthworks – district

The general standards relating to earthworks in floodplains are being updated to also apply to flood prone areas. A new permitted standard is being added to apply to earthworks within medium and high landslide susceptibility assessment areas.

7.1.5 Changes to E15 Vegetation management and biodiversity

A new permitted standard is being introduced to apply to vegetation alteration or removal within medium and high landslide susceptibility assessment areas.

7.1.6 Changes to the Residential Zone Chapters

New objectives and policies have been introduced into the urban residential zones of the AUP (Residential – Single House zone (SH), Residential – Mixed Housing Suburban zone (MHS), Residential – Mixed Housing Urban zone (MHU) and Residential – Terrace Housing and Apartment Buildings zone (THAB)) to align with and strengthen the natural hazards risk framework and to respond to significant risks from natural hazards in a timely manner. These provisions also enable the use of the SH and MHU zones as a method to limit the development potential of properties that are subject to the highest level of risk from natural hazards. This approach is expanded on in sections 10.2.5 and 10.2.6 and in Attachment 8 – Limiting development potential to manage flood and coastal hazard risk.

7.1.7 Changes to Chapter J – Definitions

There are substantial changes to definitions that relate to natural hazards. This includes both amendments and new definitions as well as complete deletion of existing definitions. A new table is also added to clarify what is covered by ‘natural hazard areas’.

7.1.8 Changes to Appendix 15 Subdivision information and process

Amendments to Appendix 15 include strengthening the consideration of wildfire risk mitigation and adding new clauses to support the proposed rural subdivision provisions in Chapter E39.

7.1.9 Changes to Appendix 16 Guideline for native revegetation plantings

Additional wildfire risk assessment considerations are being added into Appendix 16.

7.1.10 Maps

A zoning response has been applied to manage risks associated with flooding and with coastal hazards. This is discussed in greater detail in Sections 10.2.5 and 10.2.6 and in Attachment 8 - Limiting development potential to manage flood and coastal hazard risk. The existing AUP mapping layer titled 'coastal inundation 1 per cent AEP Plus 1m Control' is being removed.

7.2 Overview of proposed risk assessment and management process

The proposed process under the new risk management framework is similar to that currently under the AUP. However, PC120 proposes to add greater specificity and detail into each step of the process. A comparison of the general steps at a high level is outlined in the table below:

Current AUP	PC120
<p>Step 1</p> <p>Determine whether land proposed for subdivision, use or development is subject to natural hazards.</p> <p>Site-specific assessment required determine actual extent and characteristics of hazard(s) on site and needed to support any resource consent application.</p>	<p>Step 1</p> <p>Same as current AUP except improvements to identification of natural hazard areas, including new/updated definitions and referring to non-statutory mapping</p>
<p>Step 2</p> <p>If proposal is within a natural hazard area, consent may be required – likely to be a restricted discretionary activity.</p>	<p>Step 2</p> <p>Same as current AUP except activity status dependent on the hazard, the location of the activity and sensitivity of use to natural hazards – could be a controlled, restricted discretionary, discretionary or non-complying activity.</p>
<p>Step 3</p> <p>Undertake an assessment, with supporting technical reports, of the proposal and determine appropriateness based on current policy directions, being:</p> <ul style="list-style-type: none"> • Subdivision, use and development does not occur unless significant 	<p>Step 3</p> <p>Same as current AUP except more specific risk assessment requirements and clearer policy directives proportionate to the level of risk, being:</p> <ul style="list-style-type: none"> • Generally avoid for significant risk • Manage for tolerable risk

<p>adverse effects are avoided outside urban areas</p> <ul style="list-style-type: none">• Subdivision, use and development does not occur unless risk of adverse effects is not increased overall inside urban areas	<ul style="list-style-type: none">• Enable for acceptable risk
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Part 2: Evaluation of proposed Regional Policy Statement (RPS) changes

8 Evaluation of objectives – RPS changes

Under section 32(1)(a) the extent to which the objectives of the proposal are the most appropriate way to achieve the purpose of the RMA must be examined.

PC120 proposes to amend and add objectives to address natural hazards at appropriate places in the RPS. Amendments are proposed to chapters:

- B2 Tāhuhu whakaruruhau ā-taone - Urban growth and form
- B9 Toitū te tuawhenua - Rural environment
- B10 Ngā tūpono ki te taiao - Environmental risk

The proposed changes to the RPS objectives are set out in the tables below where additions are shown underlined, and deletions are shown struck through. Supporting amendments are also proposed to the issues, policies and explanation and principal reasons section which are set out in Attachment 2 – Supporting amendments to the RPS.

8.1 Chapter B2 Tāhuhu whakaruruhau ā-taone - Urban growth and form

Chapter B2 Tāhuhu whakaruruhau ā-taone - Urban growth and form, sets out the objectives and policies related to managing growth within Auckland.

The proposed amendments to the objectives in B2 are:

RPS B2.2 Urban growth and form	
Proposed Objectives B2.2.1(1) and B2.2.1(5)	(1) A well-functioning urban environment with a quality compact urban form that enables all of the following: <ul style="list-style-type: none"> (a) a higher-quality urban environment; (b) greater productivity and economic growth; (c) better use of existing infrastructure and efficient provision of new infrastructure; (d) good accessibility for all people, including by improved and more efficient public or active transport; (e) greater social and cultural vitality; (f) better maintenance of rural character and rural productivity; (g) reduced adverse environmental effects; and (h) improved resilience to the effects of climate change; <u>and</u> (i) <u>avoiding natural hazard risks where the risks are significant or managing natural hazard risks where the risks are tolerable or acceptable.</u>

	<p>(5) The development of land within the Rural Urban Boundary, towns, and rural and coastal towns and villages:</p> <p>(a) is integrated with the provision of appropriate infrastructure; and</p> <p>(b) improves resilience to the effects of climate change; <u>and</u></p> <p><u>(c) avoids natural hazard risks where the risks are significant or manages natural hazard risks where the risks are tolerable or acceptable.</u></p>
<p>Evaluation</p>	<p>The amendment to these objectives sets the framework for managing natural hazards in the context of managing growth. The approach is to avoid natural hazard risk where the risk is significant and to manage the effects of natural hazards where the risk is tolerable or acceptable.</p> <p>Natural hazards are relevant to a well-functioning urban environment. A well-functioning urban environment would be one that is not impacted by natural hazards, or the hazard risk is managed to minimise the risk to people, property and the environment now, and in the future to recognise the effects of climate change.</p> <p>Land within the RUB and rural and coastal towns and villages is the land identified for future growth, and it is important that this land is not subject to natural hazards or the hazard risk is managed.</p> <p>The objectives achieve the purpose of the RMA in section 5 in that they enable people and communities to provide for their economic well-being and their health and safety by avoiding significant risks from natural hazards and managing risks where these are tolerable or acceptable. Section 5(2) refers to people and communities' health and safety and states:</p> <p><i>In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while...</i></p> <p>The objectives also recognise and provide for the matter of national importance in section 6(h) which states:</p> <p><i>In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:...</i></p> <p><i>(h) the management of significant risks from natural hazards.</i></p>

	It is therefore considered that the amendments to these objectives are the most appropriate way to achieve the purpose of the RMA.
RPS B2.3. A quality built environment	
Proposed Objective B2.3.1 (1)	<p>(1) A well-functioning urban environment with a quality built environment where subdivision, use and development do all of the following:</p> <p>(a) respond to the intrinsic qualities and physical characteristics of the site and area, including its setting;</p> <p>(b) reinforce the hierarchy of centres and corridors;</p> <p>(c) contribute to a diverse mix of choice and opportunity for people and communities;</p> <p>(d) maximise resource and infrastructure efficiency;</p> <p>(e) are capable of adapting to changing needs; and</p> <p>(f) has improved resilience to the effects of climate change; <u>and</u></p> <p><u>(g) avoid natural hazard risks where the risks are significant or manage natural hazard risks where the risks are tolerable or acceptable.</u></p>
Evaluation	<p>The amendment to this objective is to ensure that well-functioning urban environments and quality built environments are ones that are not impacted by natural hazards, or the hazard risk is managed to minimise the risk to people, property and the environment now, and in the future to recognise the effects of climate change.</p> <p>The amendment to this objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>
RPS B2.4. Residential growth	
Proposed Objective B2.4.1 (1A)	<p>(1A) Residential intensification is limited in some areas to the extent necessary to give effect to identified qualifying matters <u>and the risk from natural hazards.</u></p>
Evaluation	<p>The amendment to this objective is to ensure that when residential intensification is proposed that it does not occur or is appropriately managed in areas where there are risks from natural hazards.</p> <p>The amendment to this objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>

RPS B2.5. Commercial and industrial growth	
Proposed Objective B2.5.1 (2A)	(2A) Commercial and industrial activities are resilient to <u>natural hazards and the effects of climate change</u> .
Evaluation	<p>The amendment to this objective is to ensure that commercial and industrial development does not occur or is appropriately managed in areas where there are risks form natural hazards.</p> <p>The amendment to this objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>
RPS B2.6. Rural and coastal towns and villages	
Proposed Objective B2.6.1 (1)	<p>(1) Growth and development of existing or new rural and coastal towns and villages is enabled in ways that:</p> <p>(a) avoid natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage or special character unless growth and development protects or enhances such values; and</p> <p>(b) avoid elite soils and avoid where practicable prime soils which are significant for their ability to sustain food production; and</p> <p>(c) avoid areas with significant natural hazard risks <u>or manage the natural hazard risks where the risks are tolerable or acceptable; and</u></p> <p>(ca) are resilient to the effects of climate change;...</p>
Evaluation	<p>The amendment to this objective is to recognise that the approach is to manage natural hazard risk where it is tolerable or acceptable when considering the growth of rural and coastal towns and villages.</p> <p>The amendment to this objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>
RPS B2.7. Open space and recreation facilities	
Proposed Objective B2.7.1 (4)	(4) Open space and recreation are resilient to <u>natural hazards and the effects of climate change</u> .

Evaluation	<p>The rationale for this amendment is to ensure that open space and recreation, and particularly facilities which may locate on open space, are resilient to the effects of natural hazards as well as the effects of climate change.</p> <p>The amendment to this objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>
RPS B2.8. Social facilities	
Proposed Objective B2.8.1 (4)	(4) Social facilities are resilient to <u>natural hazards</u> and the effects of climate change.
Evaluation	<p>The rationale for this amendment is to ensure that the effects of natural hazards are taken into account when locating social facilities and ensuring the safety of users of the facilities and resilience of the facilities themselves to the effects of natural hazards.</p> <p>The amendment to this objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>
Overall Evaluation	<p>The rationale for these changes to the RPS B2 Urban growth and form, is to set the framework for managing hazards in the context of managing growth and the development and expansion of urban areas. The approach is to avoid natural hazard risk where the risk is significant and to manage the effects of natural hazards where the risk is tolerable or acceptable. natural hazard risk where the risk is significant and to manage the effects of natural hazards where the risk is tolerable or acceptable.</p> <p>The objectives seek to avoid areas of natural hazard where the risk is significant and manage the effects of the hazard where the risk is tolerable or acceptable.</p> <p>The objectives give effect to the purpose of the Act in section 5(2) which refers to people and communities' cultural well-being and health and safety and states:</p> <p><i>In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while...</i></p> <p>The objectives also recognise and provide for matters of national importance in section 6 which states:</p>

	<p><i>In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:...</i></p> <p><i>(h) the management of significant risks from natural hazards.</i></p> <p>The objectives also give effect to matters set out in section 7 which states:</p> <p><i>In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—</i></p> <p><i>(i) the effects of climate change:</i></p> <p>It is therefore considered that the amendments to these objectives are the most appropriate way to achieve the purposes of the Act.</p>
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8.2 Chapter B9 Toitū te tuawhenua- Rural environment

Chapter B9 Toitū te tuawhenua - Rural environment sets out objectives and policies relating to the management of rural areas, including the subdivision of rural land.

The proposed amendments to the objectives in B9 are:

RPS B9.4 Rural subdivision	
Proposed Objective B2.9.1 (3A)	<u>(3A) Te Wāhi Hunuku subdivision of rural land for the relocation of identified marae and urupā avoids or minimises adverse effects on the character, amenity, natural character, landscape and biodiversity values of rural areas (including within the coastal environment).</u>
Evaluation	<p>The rationale for this amendment is that cultural associations with the whenua (land) mean that many marae and urupā are currently located in coastal environments or near rivers in the rural environment. Where these cultural sites may be subject to significant natural hazard risks, very limited provision is made for the expansion or creation of new rural sites to relocate these taonga and remain in close proximity to the original whenua.</p> <p>The objective gives effect to the purpose of the Act in section 5(2) which refers to people and communities' health and safety and states:</p> <p><i>In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while...</i></p>

	<p>They also recognise and provide for matters of national importance in section 6(h) which states:</p> <p><i>In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:...</i></p> <p><i>(e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:..</i></p> <p><i>(h) the management of significant risks from natural hazards.</i></p> <p>It is therefore considered that this objective is the most appropriate way to achieve the purposes of the Act.</p>
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8.3 Chapter B10 Ngā tūpono ki te taiao - Environmental risk

Chapter B10 Ngā tūpono ki te taiao - Environmental risk sets out objectives and policies relating to the management of several types of risk including from natural hazards. The chapter has an extensive suite of objectives relating to managing the risk to people and communities from natural hazards. However, these require amending to reflect the updated approach to the management of natural hazards being taken in this plan change.

The proposed amendments to the objectives in B10 are:

B10.2 Natural hazards and climate change	
Proposed Objective B10.2.1(1)	(1) <u>People and c</u> ommunities are more resilient to natural hazards and the effects of climate change.
Evaluation	<p>This objective is amended to align with Part 2, section 5 of the RMA which is all encompassing and captures “Māori” interests more broadly by referring to people.</p> <p>The objective gives effect to the purpose of the Act in section 5(2) which refers to people and communities’ cultural well-being and health and safety and states:</p> <p><i>In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while...</i></p> <p>It specifically recognises and provides for a matter of national importance in section 6 which states:</p> <p><i>In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use,</i></p>

	<p><i>development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:...</i></p> <p><i>(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:...</i></p> <p><i>(h) the management of significant risks from natural hazards.</i></p> <p>It is therefore considered that the amendments to this objective are the most appropriate way to achieve the purposes of the Act.</p>
Proposed Objective B10.2.1(2)	<u>(2) Natural hazard risks to people, property, infrastructure and the environment resulting from existing use and development are reduced.</u>
Evaluation	<p>This objective sets the framework for ensuring that in existing developed areas, a hazard reduction approach is adopted. This is because existing developments were established using the best available natural hazard information at the time, which are no longer reflective of the information available now. Therefore, these developments are less resilient to the impacts of natural hazards and climate change by default. Furthermore, risk from natural hazards to existing development will increase over time due to changes in the environment and the climate.</p> <p>This objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>
Proposed Objective B10.2.1(3)	<u>(3) Natural hazard risks to people, property, infrastructure and the environment from new subdivision, use and development are avoided where the hazard risk is significant</u> the creation of new risks to people property and infrastructure.
Evaluation	<p>New development in areas subject to natural hazards increases risk to people and communities, which can result in increased social and economic costs. However, there is also a need to balance the management of natural hazards with other interests to ensure that other aspects of people and communities' social, economic and cultural well-being are provided for. As such, this objective sets the framework for ensuring that in areas of new development the risks from natural hazards are avoided where the risk is significant.</p> <p>This objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>

Proposed Objective B10.2.1(5)	(5) The <u>natural hazard mitigation functions</u> of natural systems, including floodplains and coastal features, are protected from inappropriate subdivision, use and development.
Evaluation	<p>The amendments to this objective are to clarify that, in this context, it is the hazard mitigation functions of natural systems that are to be protected. It also expands the objective to specifically refer to coastal features, given the effects of sea level rise.</p> <p>This objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>
Proposed Objective B10.2.1(6)	(6) The <u>natural hazards risks on Māori values, rights and interests are managed in accordance with te ao Māori, mātauranga, and tikanga.</u>
Evaluation	<p>This objective recognises that natural hazards pose distinct risks for Māori values, rights and interests. Potential impacts include on the use and development of Māori Land, Treaty Settlement Land, marae, urupā and papakāinga, on the mauri of places with significant cultural value, and on the integrity of mana whenua cultural heritage.</p> <p>Risks from natural hazards can affect access to land and hinder customary uses and the ability to exercise kaitiakitanga. Māori Land and Treaty Settlement Land is limited to specific areas, often with significant coastal hazard, flooding, landslide, and other natural hazard risks.</p> <p>This objective is therefore the most appropriate way to achieve the sustainable management purpose in section 5 of the RMA and also recognises and provides for the matter of national importance in section 6(h), as set above.</p>
Overall Evaluation	<p>The rationale for these changes to the RPS B10 Environmental risk is to ensure adequate spatial planning to reduce the risk from natural hazards.</p> <p>The objectives seek to avoid areas of natural hazard where the risk is significant and manage the effects of the hazard where the risk is tolerable or acceptable.</p> <p>The objectives give effect to the purpose of the RMA in section 5(2) which refers to people and communities' cultural well-being and health and safety and states:</p> <p><i>In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and</i></p>

	<p><i>communities to provide for their social, economic, and cultural well-being and for their health and safety while...</i></p> <p>They also recognise and provide for matters of national importance in section 6 which states:</p> <p><i>In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:...</i></p> <p><i>(e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:...</i></p> <p><i>(h) the management of significant risks from natural hazards.</i></p> <p>The objectives also give effect to matters set out in section 7 which states:</p> <p><i>In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—</i></p> <p><i>(a) kaitiakitanga:..</i></p> <p><i>(i) the effects of climate change:</i></p> <p>It is therefore considered that the amendments to these objectives are the most appropriate way to achieve the purposes of the Act.</p>
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Part 3: Evaluation of proposed plan change

9 Evaluation approaches

9.1 Overview

In accordance with sections 32(1)(a), 32(1)(b) and 32(2) of the RMA, this section examines the extent to which the objectives and provisions in PC120 are the most appropriate way to achieve the objectives of the plan change and therein, the purpose of the RMA. In accordance with section 32(1)(c) of the RMA, the level of detail corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.

As the evaluation is by themes, it also covers the proposed amendments to the policies in the RPS set out in Attachment 2 - Supporting amendments to the RPS in addition to the assessment of the RPS objectives set out above in section 8.

9.2 Content and structure of the analysis

As outlined in Section 7, the proposed provisions of PC120 include the amendment and/or addition of objectives, policies and/or rules to the following chapters of the AUP:

- E36 Natural hazards and flooding
- E12 Land disturbance - District
- E15 Vegetation management and biodiversity
- E38 Subdivision – Urban
- E39 Subdivision - Rural

There are also amendments and additions proposed to:

- Chapter J – Definitions
- Appendix 15 Subdivision information and process
- Appendix 16 Guideline for native revegetation plantings
- AUP maps

Furthermore, the proposed changes rely on the use of spatial non-statutory layers within Geomaps to identify natural hazards.

Given the extent of changes proposed and the interrelationship between various components, the proposed amendments are grouped according to theme. Each theme is then broken down into sub-themes.

The broad structure of this part of the report is as follows:

- **Theme 10.1** Managing risk associated with existing use and development
- **Theme 10.2** Managing risk associated with new subdivision, use and development
- **Theme 10.3** Ensuring subdivision, use and development does not create or exacerbate risk elsewhere
- **Theme 10.4** Managing natural hazard risks while providing for Māori values, rights and interests

- **Theme 10.5** Providing for managed retreat of marae, papakāinga and other development on Māori land and Treaty settlement land
- **Theme 10.6** Managing natural hazard risks in relation to infrastructure where there is a functional or operational need
- **Theme 10.7** Maintenance and enhancement of natural hazard mitigation functions of natural features and natural buffers
- **Theme 10.8** Assessing the effects of climate change
- **Theme 10.9** Adopting a precautionary approach

Where applicable, relevant rules and standards have been identified for each theme or sub-theme. For brevity purposes, these have not been reproduced in full in this section. Different activities may have different activity statuses depending on the natural hazard area and some amendments only relate to clauses of existing cross-topic standards. To view the proposed amendments to the AUP in relation to natural hazards in full, please refer to Attachment 10 – Changes to the AUP in relation to natural hazards.

10 Evaluation of objectives and provisions

Theme 10.1 Managing risk associated with existing use and development

Objective E36.2(3A)

Proposal	
Objective E36.2(3A)	<u>The risk from natural hazards to people, property, infrastructure and the environment resulting from existing use and development across the region is reduced over time to a tolerable or acceptable level.</u>
General intent	The intent of the objective is to ensure that where opportunities present, the risk from existing development is reduced to a level that is tolerable or acceptable.
Status quo	
Objectives E36.2(2) and E36.2(3)	Currently no stand-alone objective, instead operative objectives E36.2(2) and E36.2(3) seeks to ensure that risk is 'not increased' and 'reduced where practicable' in urban areas and for rural uses and rural land.

How the objectives are the most appropriate way to achieve the purpose of the Act
Section 5 as it provides for the sustainable management by ensuring that natural hazard risks to existing development are reduced over time. This provides for the social, economic and cultural well-being of the local community as well as for their health and safety.
Section 6

(h) The management of significant risks from natural hazards.

There are significant risks from natural hazards to existing subdivision use and development, employing planning mechanisms is an opportunity to reduce these risks. The proposed objective outlines a clear outcome on how these risks should be managed.

Section 7

(b) the efficient use and development of natural and physical resources.

Reducing the risk of existing development is more efficient than options that could preclude their use where there is significant risk.

(i) the effects of climate change

Risk to existing development will increase over time due to the effects of climate change.

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

This approach gives effect to proposed Objectives B2.2.1(1) and B2.2.1(5), Objective B2.3.1 (1), B2.6.1(1) and Objective B10.2.1(2) of the RPS as it relates to reducing risk associated with existing activities. The proposed objective establishes a measure using the proposed risk management framework to determine the extent to which risk should be reduced to.

Provisions that give effect to Objective E36.2(3A)

The following proposed and/or amended provisions give effect to proposed Objective E36.3A.

Sub-theme 10.1.1 Enabling existing activities, buildings and infrastructure to adapt

10.1.1.1 Overview of provisions

Policies	
Policy E36.3(4C)	<p><u>Enable adaptation of existing activities and/or the continued use of existing buildings and infrastructure in natural hazard areas where risk is maintained at, or reduced as far as reasonably practicable to, a tolerable or acceptable level, including by:</u></p> <ul style="list-style-type: none">(a) <u>relocating or extending the building or structures only in areas of the site that are outside of natural hazard areas;</u>(b) <u>improving the resilience of the building or structures;</u>(c) <u>reducing the intensity of activity;</u>(d) <u>changing the use to a less sensitive activity;</u>(e) <u>limiting the duration of the activity;</u>

	<p>(f) <u>in flood hazard and coastal inundation hazard areas:</u></p> <p>(i) <u>ensuring appropriate safe refuge and safe egress are provided where possible and maintained where currently available;</u></p> <p>(ii) <u>raising floor levels to reduce the extent of flooding or inundation within the building.</u></p>
Rules	
<p>Table E36.4.1A Activity Table</p>	<p><u>(A62) Conversion of non-habitable rooms into habitable rooms within the ground or basement floor of a building in coastal hazard areas</u></p> <p><u>(A71) External alterations to existing buildings (as existing at 03/11/25) which do not increase the gross floor area of the building in coastal hazard areas</u></p> <p><u>(A72) External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in coastal hazard areas</u></p> <p><u>(A73) External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in coastal hazard areas</u></p> <p><u>(A76) All other external additions and alterations to buildings in coastal hazard areas</u></p> <p><u>(A85) Conversion of non-habitable rooms into habitable rooms within the ground or basement floor of a building in flood hazard areas</u></p> <p><u>(A93) External alterations to existing buildings (as existing at 03/11/25) which do not increase the gross floor area of the building in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A94) External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A95) External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A103) Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in flood and coastal hazard areas that complies with Standard E36.6.1.13</u></p>

	<p><u>(A104) Construction, operation, maintenance, renewal and repair of road network activities within the legal road or road formation width in flood and coastal hazard areas</u></p> <p><u>(A106) Construction, operation, maintenance, renewal and repair of underground utilities within flood and coastal inundation hazard areas</u></p> <p><u>(A107) All other infrastructure in flood and coastal hazard areas not otherwise provided for</u></p>
<p>Table E36.4.1B Activity Table</p>	<p><u>(A114) External additions and alterations to existing structures and buildings (as existing at 03/11/25) associated with activities potentially sensitive and less sensitive to natural hazards in low (acceptable) landslide hazard risk areas</u></p> <p><u>(A115) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with activities sensitive to natural hazards in low (acceptable) landslide hazard risk areas and less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas</u></p> <p><u>(A116) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A117) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A118) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with natural hazard sensitive activities in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1</u></p> <p><u>(A119) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with natural hazard sensitive activities in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A120) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than</u></p>

	<p><u>20m² associated with activities less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1</u></p> <p><u>(A121) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A122) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1</u></p> <p><u>(A123) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A124) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities sensitive to natural hazards in landslide hazard risk areas that comply with Standard E36.6.A1</u></p> <p><u>(A125) External additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities sensitive to natural hazards in landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A126) All other external additions and alterations to buildings and structures in landslide hazard risk areas that comply with Standard E36.6.A1</u></p> <p><u>(A127) All other external additions and alterations to buildings and structures in landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p>
Table E36.4.1C Activity Table	<p><u>(A130) Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in landslide susceptibility assessment areas that complies with Standard E36.6.1.13</u></p> <p><u>(A131) Construction, operation, maintenance, renewal and repair of road network activities within the legal road or road formation width in landslide susceptibility assessment areas</u></p>

	<u>(A133) All other infrastructure in landslide susceptibility assessment areas not otherwise provided for</u>
Standards	
E36.6.1.6A	<u>External alterations to existing buildings (as existing at 03/11/25) which do not increase the gross floor area of the building in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas; and external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>

Note: Rules for overland flow paths in Table E36.4.1A Activity Table (A99) to (A102) do not differentiate between existing or new development. As such the analysis of these rules are not repeated here and can be found in Section 10.2.6.

For analysis of requiring safe egress and safe refuge refer Attachment 7 – Requiring and defining safe refuge and safe egress.

10.1.1.2 Description of the proposal

In giving effect to proposed objective E36.2(3A), proposed Policy E36.3(4C) and associated rules seek to:

- require changes to existing use and development (existing as of 3 November 2025) to not result in an increase in risk and to reduce risk to the extent that is reasonably practicable, supported by rules that:
 - require resource consent for works on existing buildings above certain thresholds
 - require resource consent for the conversion of non-habitable to habitable spaces (e.g. garage to bedroom conversions) in high hazard areas
- promote the provision of safe egress and/or safe refuge for people, as an opportunity to reduce risk in areas exposed to flooding and inundation hazards
- limit the duration of the activity to enable consideration of options where the present hazard is predicted to change over time. This reflects and supports recent national work in managed retreat.

10.1.1.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

There are social and cultural benefits gained by enabling the continuation of existing activities and/or the continued use of existing buildings within areas subject to natural hazard risk particularly where those uses and/or buildings are associated with a historical and/or cultural significance to place. Consideration for alternative arrangements such as relocating buildings, changing the use, or ultimately vacating the site are also encouraged and required

over time as the risk from the hazard changes and recommended thresholds for safe occupation are surpassed. This approach reflects the need for people to consider their safe and realistic options with the benefit of being informed of the risk from natural hazards based on the most up to date information.

A lower risk management threshold is proposed for existing development as it is acknowledged that mitigation to the level expected for new development is not always feasible for existing development. Risk is a combination of likelihood and consequence, so any reduction in likelihood or consequence means that there is an overall reduction in risk. For example, it may not be feasible to raise an existing development to be above anticipated flood levels but raising floor levels could ensure that the development is not affected by higher frequency events and/or ensure that power points are above flood levels to reduce likelihood of electrical incidents. While there are costs associated with enabling people to continue to be in and continue to invest in properties where risk cannot be fully mitigated to a tolerable level, this is considered to result in greater benefits compared to the other options identified under Section 10.1.1.4.

This approach is also beneficial where infrastructure is located in areas that are subject to increasing risk from natural hazards. Alternative locations may not be a feasible option currently but would need to be considered over time as the operation of the infrastructure is increasingly compromised by the changing risk from the hazard. By enabling adaption which includes improving the resilience of the infrastructure, social benefits of location may outweigh the costs until an alternative economically viable solution can be found.

Existing buildings and/or activities within a hazard area, particularly those that could cause a public health issue during or after an event, pose a risk to the environment that would increase over time as the risk from the natural hazard changed. Enabling the adaption and improvement of these to be more resilient includes consideration of the natural environment in locating buildings and structures so that they do not interfere with the natural movement of the shoreline or the natural flow of flood waters.

Economic (including economic growth and employment)

Economic benefits can be realised in the immediate period when compared to the cost of relocating the building/activity off-site and/or rebuilding elsewhere. The policy enables the consideration of the balance of economic costs over time as the risk from hazards increase and thresholds for safe occupation reduce.

10.1.1.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Restrict further development	Greater social and cultural benefits as opportunities for additional exposure	Foregoes the ability for actions on site to reduce risk

	opportunities for existing development	arising from additions and changes on site are restricted	Restrictions may impact on reasonable use of sites under s85 of the RMA
2	Enable further development opportunities for existing development only where risk is mitigated to the same level as required for new development	Future changes to existing development would result in the development being more resilient to natural hazard risk as risk would be required to be mitigated to a greater extent	Foregoes the ability for actions on site to reduce risk Restrictions may impact on reasonable use of sites under s85 of the RMA
3	Be more enabling of changes to existing development	Greater social and cultural benefits to be gained as people are enabled to adapt and consider realistic options in keeping with the changing risk	Less opportunities for reduction of risk to be achieved Could result in increased risk to existing development

10.1.1.5 Summary of the reasons for deciding on the provisions

PC120 proposes a new risk management framework that differentiates the level of management against the tolerance to risk. This tolerance is informed through extensive consultation which included the most up to date information and evidence on natural hazard projections and behaviour, and with an understanding that the data and risks are dynamic. The tolerance is regulated by applying sensitivity ratings for activities against the hazards as these have been differentiated to better align with the consequences and likelihood of the hazard.

Taking this into account and acknowledging that existing development has cultural, financial and emotional investment embedded, the provisions provide certainty for the applicant/ homeowner (proponent) in making decisions for the use of the land. The provisions enable degrees of continued use and development where risk is reduced, with the understanding that this will change as the hazard changes over time.

Sub-theme 10.1.2 Managing re-building of materially damaged or destroyed buildings

10.1.2.1 Overview of provisions

Policies	
Policy E36.3(4D)	<u>Require re-building of materially damaged or destroyed buildings in natural hazard areas to demonstrate that the natural hazard risk is reduced to a tolerable or acceptable level, or otherwise reduced to as</u>

	<u>low as reasonably practicable (compared with the previous natural hazard risk to both the building and use of the building on the site)</u>
Rules	
Table E36.4.1A Activity Table	<u>(A66) Re-building of materially damaged or destroyed buildings in coastal hazard areas</u> <u>(A86) Re-building of materially damaged or destroyed buildings in flood hazard areas</u>
Table E36.4.1B Activity Table	<u>(A110) Re-building of materially damaged or destroyed buildings in landslide hazard risk areas that comply with Standard E36.6.A1</u> <u>(A111) Re-building of materially damaged or destroyed buildings in landslide hazard risk areas that do not comply with Standard E36.6.A1</u>

10.1.2.2 Description of the proposal

In giving effect to proposed objective E36.2(3A), proposed Policy E36.3(4D) and associated rules seek to:

- introduce a regional resource consent requirement for re-building of materially damaged or destroyed buildings in natural hazard areas

10.1.2.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

If a building was destroyed by a natural hazard event, that building could be re-built as of right (provided that the replacement building has the same footprint) due to existing use rights under section 10 of the RMA. This would mean that these buildings and those occupying the buildings could be exposed to the same level of risk in a future natural hazard event of the same scale. There is clear benefit in ensuring that buildings that have been previously affected by natural hazards are built back in a way that makes them more resilient to future natural hazard events when compared to the existing situation. This could involve ensuring that the building has higher finished floor levels or is further setback from the natural hazard area. This approach enables the existing use on and occupation of the site to continue while also ensuring that natural hazard risk is being reduced, particularly in the face of climate change and increased risk to existing development over time. This also aligns with a precautionary approach to avoid having to undo past decisions.

Economic (including economic growth and employment)

There would be an immediate increased economic cost to those undertaking these activities as there is now a resource consent requirement added to the process. Additional costs may also incur from the changes required to improve resilience of the building, compared to

replacing the building like for like. However, there are longer-term economic benefits as the replacement building would have a reduced likelihood of being affected by natural hazards and/or impacted to a lesser extent by a natural hazard event in comparison.

10.1.2.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Provide no specific direction for rebuild	<p>Lesser costs associated with the additional resource consent process</p> <p>Greater certainty of future use on the site</p>	Replacement buildings are less resilient to natural hazard risk in comparison
2	More stringent requirements and provisions that manage re-build	Replacement buildings are more resilient to natural hazard risk	<p>Additional economic costs associated with greater mitigation requirements</p> <p>Restrictions may impact on reasonable use of sites under s85 of the RMA</p>

10.1.2.5 Summary of the reasons for deciding on the provisions

The proposal maintains a suitable balance between reducing risk to existing development but also providing certainty to landowners of the ability to re-establish on site provided that risk is reduced from what was there previously. This aligns with the proactive management of use and development of land subject to natural hazards and also supports the adoption of a precautionary approach to avoid decisions that need to be re-addressed later.

Sub-theme: 10.1.3 Coastal protection for existing subdivision, use and development

10.1.3.1 Overview of provisions

Policies	
Policy E36.3(12A)	<p><u>Where coastal protection is proposed to protect existing subdivision use and development, taking into account climate change over a 100-year timeframe, avoid significant adverse effects and mitigate other adverse effects on all of the following:</u></p> <ul style="list-style-type: none">(a) <u>the natural character of the coastal environment;</u>(b) <u>outstanding natural features and landscapes;</u>(c) <u>habitats for indigenous species</u>(d) <u>access to Maori Land, Treaty Settlement Land and marae, including effects on mana whenua cultural heritage and values.</u>(e) <u>identified historic heritage places</u>(f) <u>public access to and along the coast</u>(g) <u>other properties</u>

Note: Rules for defences against coastal hazards in Table E36.4.1D Activity Table (A134) to (A142) do not differentiate between defences for existing or new development. As such the analysis of these rules are not repeated here. Please see Sections 10.2.5. and 10.7.

10.1.3.2 Description of the proposal

In giving effect to proposed objective E36.2(3A), proposed Policy E36.3(12A) seeks to provide direction on what needs to be considered when assessing coastal protection for the purposes of protecting existing use and development.

Policy 27 - *Strategies for protecting significant existing development from coastal hazard risk* of the New Zealand Coastal Policy Statement 2010, restated below, is relevant to this matter.

(1) In areas of significant existing development likely to be affected by coastal hazards, the range of options for reducing coastal hazard risk that should be assessed includes:

- (a) promoting and identifying long-term sustainable risk reduction approaches including the relocation or removal of existing development or structures at risk;*
- (b) identifying the consequences of potential strategic options relative to the option of 'do-nothing';*
- (c) recognising that hard protection structures may be the only practical means to protect existing infrastructure of national or regional importance, to sustain the potential of built physical resources to meet the reasonably foreseeable needs of future generations;*
- (d) recognising and considering the environmental and social costs of permitting hard protection structures to protect private property; and*

- (e) *identifying and planning for transition mechanisms and timeframes for moving to more sustainable approaches.*
- (2) *In evaluating options under (1):*
 - (a) *focus on approaches to risk management that reduce the need for hard protection structures and similar engineering interventions;*
 - (b) *take into account the nature of the coastal hazard risk and how it might change over at least a 100-year timeframe, including the expected effects of climate change; and*
 - (c) *evaluate the likely costs and benefits of any proposed coastal hazard risk reduction options.*
- (3) *Where hard protection structures are considered to be necessary, ensure that the form and location of any structures are designed to minimise adverse effects on the coastal environment.*
- (4) *Hard protection structures, where considered necessary to protect private assets, should not be located on public land if there is no significant public or environmental benefit in doing so.*

10.1.3.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The potential adverse environmental effects of coastal protection structures occur regardless of whether the protection is for existing or proposed development and is not repeated here and can be found in Sections 10.2.5 and 10.7.

However, these effects are expected to be highly concentrated in existing urban areas due to the contiguous nature of development on coastal development.

While providing a pathway that coastal protection for existing activities can be considered, the proposed approach provides a clear framework for ensuring that protection is only undertaken where they can be designed and implemented in a way that safeguards the natural character, biodiversity, and landscape values of the coastal environment. By requiring the avoidance of significant adverse effects and the mitigation of other impacts, it supports the long-term resilience of ecosystems, maintains public access, and protects indigenous habitats that underpin both ecological health and community well-being. The explicit recognition of mana whenua cultural heritage, access to Māori and Treaty Settlement land, and marae ensures that protection works respect and uphold cultural values, kaitiakitanga, and the relationship of tangata whenua with their ancestral lands and waters. Socially, the policy can help maintain the amenity, identity, and recreational opportunities of coastal communities, while reducing conflict between property protection and wider public interests.

The policy may however limit the range of protection options available, particularly “hard” engineering solutions, which can be more immediately effective at defending property but often have unavoidable impacts on coastal processes, habitats, and public access. In some cases, the requirement to avoid significant adverse effects could mean that protection works are not feasible, leading to potential loss of existing private or community assets and

associated social disruption. There may also be tensions where cultural or ecological constraints restrict works that some landowners view as essential, creating perceived inequities in protection outcomes. Additionally, the need to design works to meet multiple environmental and cultural criteria could increase project complexity, timeframes, and costs, which may be challenging for smaller communities or individual property owners to bear without external support.

Economic (including economic growth and employment)

By requiring that coastal protection for existing development avoids significant adverse effects and mitigates other effects on the listed environmental, cultural, and social values, the policy helps ensure that economic gains from protection works are not achieved at the expense of other assets that also have economic value. Preserving the natural character of the coast, outstanding landscapes, and indigenous habitats sustains tourism, recreation, and fisheries industries that depend on these qualities, supporting long-term revenue streams and local employment.

A report commissioned by Auckland Unlimited *Towards Sustainability: Strengthening Community Dimensions of Auckland Tourism*^{6[1]}, emphasises that Auckland's coastal landscapes, including their natural character, ecological richness, and cultural connections, are central to both community wellbeing and the visitor economy.

Protecting access to Māori Land, Treaty Settlement Land, and marae, and safeguarding mana whenua cultural heritage, maintains the cultural tourism potential and the social capital that underpins resilient local economies. Avoiding impacts on historic heritage places retains community identity, while maintaining public access to and along the coast supports visitor spending and recreational industries. Preventing adverse effects on neighbouring properties reduces the risk of costly disputes, compensation claims, and loss of neighbouring property values, thereby protecting the wider ratepayer base and local economic stability.

The requirement to avoid significant adverse effects and mitigate other effects across the listed values may increase the complexity, design requirements, and cost of coastal protection works. Engineering solutions may need to be adapted or replaced with more expensive "soft" protection or hybrid approaches to minimise impacts on natural character, landscapes, habitats, and public access. This can raise capital and maintenance costs, extend project timeframes, and require specialist input (e.g., ecological, cultural, and heritage assessments), increasing upfront expenditure. In some cases, the constraints may limit the feasibility of protection works altogether, leading to potential loss of private assets, reduced property values, and associated economic disruption. There may also be opportunity costs if funding allocated to compliant protection projects diverts resources from other infrastructure or development priorities.

^{6 [1]} Deuchar, C., Milne, S., Histen, S., & Thorburn, E., (2021), *Towards Sustainability: Strengthening community dimensions of Auckland tourism*. Retrieved from: <https://knowledgeauckland.org.nz/media/2131/towards-sustainability-strengthening-community-dimensions-of-auckland-tourism-auckland-unlimited-march-2021.pdf>

10.1.3.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Less directive on protection for existing development	Less cost and greater flexibility to implement coastal protections.	Exacerbated environmental effects. Greater potential for effects on mana whenua cultural heritage and values Potential for significant residual risks to accumulate.
2	More restrictive on protection for existing development	Less potential for environmental, landscape and cultural effects beyond the site. Coastal habitat squeeze is avoided as the shoreline can migrate in response to coastal processes with fewer barriers.	Greater or accelerated loss of existing coastal activities. Loss of property value, due to constraints on ability to protect from coastal hazards. development to coastal hazards. Accelerated loss of difficult to relocate significant sites, including urupā. Loss of use of Māori land and Treaty settlement land

10.1.3.5 Summary of the reasons for deciding on the provisions

The proposed provisions give clear policy direction for managing coastal protection works associated with existing subdivision, use, and development in areas subject to coastal hazard risk. They respond to the requirements of the NZCPS by ensuring that any protection measures are assessed over a 100-year timeframe, take account of climate change, and avoid significant adverse effects on the natural character, biodiversity, landscape, cultural heritage, and public access values of the coastal environment.

This approach enables necessary protection of existing assets where appropriate, while safeguarding environmental and cultural values that underpin community wellbeing and the coastal economy.

Less directive alternatives were discounted as they risked exacerbating adverse effects, while more restrictive options could lead to accelerated loss of existing activities and property without proportionate gains in resilience.

The chosen provisions strike a balance between enabling protection where it can be achieved sustainably and ensuring long-term adaptation to changing coastal hazards.

Sub-theme 10.1.4 Coastal protection for continued use of Māori land and sites

10.1.4.1 Overview of provisions

Policies	
Policy E36.3(12B)	<u>Provide for coastal protection, where it provides for the continued use of Māori Land, Treaty Settlement land, marae, urupā and the management of mana whenua cultural heritage and values, where natural features and buffers and nature-based solutions are not possible, while avoiding, remedying, or mitigating the adverse effects identified in Policy 12A.</u>

Note: Rules for defences against coastal hazards in Table E36.4.1D Activity Table (A134) to (A142) do not differentiate between defences for specific activities or land. As such the analysis of these rules are not repeated here. Please refer Sections 10.2.5 and 10.7.

10.1.4.2 Description of the proposal

In giving effect to proposed objective E36.2(3A), proposed Policy E36.3(12B) seeks to provide a more enabling policy direction for coastal protection where it is for the purpose to enable the continued use of Māori land and sites.

10.1.4.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

There are potential adverse environmental effects that could arise from using coastal protection, particularly where hard protection changes coastal processes resulting in loss of coastal habitat. Social and cultural effects can also occur, such as the accelerated erosion of significant coastal sites and loss of access to coastal areas.

The impact of these potential effects would be limited to those areas where coastal protection is the only way to ensure Māori land and Treaty settlement land, marae and urupā can continue to be occupied. Furthermore, the policy requires adverse effects to be avoided, remedied or mitigated and for nature-based solutions to be considered first.

There are cultural and social benefits provided by allowing the use of coastal protection for use of Māori Land, Treaty settlement land, marae, urupā, and for the management of mana

whenua cultural heritage and values. It gives Māori landowners, Settlement Trusts, and marae haukāinga the ability to use their own Tikanga and mātauranga to adapt to coastal hazards and flooding, determining for themselves where retreat is appropriate and where coastal protection is justified. It provides for the option of using coastal protection as a short-term solution in service of longer-term plans for managed retreat.

Economic (including economic growth and employment)

Using coastal protection for the purpose of enabling continued use of Māori land and Treaty settlement land offers economic benefit for Māori Landowners and Settlement Trusts, as it enables them to use their limited landholdings in a way that supports tribal economic wellbeing and to spread the costs of managed retreat over a longer period of time.

10.1.4.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Do not include a policy for Māori to use coastal protection	Less potential for adverse environmental, social and cultural effects in the vicinity of Māori land, Treaty Settlement land, marae, urupā and cultural heritage	Social, cultural and economic costs to Māori through reducing available options for addressing natural hazards that affect their land and taonga.
2	Reduce all regulatory barriers for Māori to use coastal protection	Greater self-determination for Māori over natural hazard risk management and managed retreat	Greater potential for unmitigated adverse environmental, social and cultural effects for others in the vicinity of new coastal protections.

10.1.4.5 Summary of reasons for deciding on the provisions

The provisions recognise the unique cultural, social, and economic significance and the disproportionate impacts coastal hazards can have on Māori Land, Treaty Settlement land, marae, urupā, and associated cultural heritage, and their taonga.

They provide a more enabling framework for coastal protection where nature-based solutions are not feasible, while still requiring that adverse effects are avoided, remedied, or mitigated in line with broader environmental and cultural safeguards. This approach supports mana whenua self-determination in adapting to coastal hazards, allowing tikanga and mātauranga Māori to guide decisions on protection and retreat.

Less enabling alternatives would unduly constrain Māori communities' ability to respond to hazard risks, while removing all regulatory controls was rejected due to the potential for unmitigated adverse effects on the coastal environment and neighbouring values.

Theme 10.2 Managing risk associated with new subdivision, use and development

Objectives E36.2(3B), E38.2(10) and E39.2(17)

Proposal	
Objective E36.2(3B)	<u>New subdivision, use and development avoids significant risk and only occurs when the risk from natural hazards to people, property, infrastructure and the environment is assessed as being tolerable or acceptable.</u>
Objective E38.2(10)	Subdivision: (a) within urban and serviced areas, does not increase the risks of adverse effects to people, property, infrastructure and the environment from natural hazards <u>only occurs when the risk from natural hazards, including the potential effects of climate change, to people, property, infrastructure and the environment is tolerable or acceptable...</u>
Objective E39.2(17)	Subdivision: (a) <u>only occurs when the risk from natural hazards, including the potential effects of climate change, to people, property, infrastructure and the environment is tolerable or acceptable;</u> outside of urban and serviced areas avoids adverse effects to people, property, infrastructure and the environment from natural hazards; ...
General intent	The objectives deliberately invoke the concept of risk tolerance and reflect the engagement that was undertaken with the community. It seeks, by considering the degree of exposure, and the sensitivity of the activities, to determine the degree of risk and, and to avoid activities where risk is significant, to manage activities where risk is tolerable, and to enable activities where risk is acceptable.
Status quo	
Objectives E36.2(1), E36.2(2), E36.2(3), E38.2(10), E39.2(17)	The status quo focuses indirectly on natural hazard risks, by seeking to: <ul style="list-style-type: none"> • avoid significant adverse effects that arise from natural hazards outside of urban areas (Objectives E36.2(1) and E39.2(17)) • not increase overall, and where practicable to reduce, the adverse effects from natural hazards within urban areas (Objectives E36.2(2) and E38.2(10))

	<ul style="list-style-type: none"> not increase, and where practicable to reduce, the adverse effects from natural hazards on rural land for rural uses (Policy 3) <p>The objectives to avoid increasing and to reduce where practicable indicates a higher risk tolerance than the proposed objective E36.2(3B) to avoid significant risk irrespective of the current risk profile.</p>
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How the objectives are the most appropriate way to achieve the purpose of the Act

Section 5

The objective provides for sustainable management by ensuring that new activities are not exposed to a significant level of natural hazard risk. This provides for the social, economic and cultural well-being of the local community as well as their health and safety.

Section 6

(h) The management of significant risks from natural hazards.

Significant risks can arise from locating activities in places exposed to natural hazard risks. Employing planning mechanisms that seek to avoid significant risk and otherwise manage natural hazard risks from new development is consistent with section 6. The proposed objective outlines a clear outcome for managing significant risk and sets up a framework of categorising different levels of risk and linking them to individual policy directives.

Section 7

(b) the efficient use and development of natural and physical resources.

Avoiding significant risk while managing new subdivision, use and development where risk is tolerable or acceptable establishes a balance to managing more efficient than options that could preclude any development where there is any natural hazard risk.

(i) the effects of climate change

Avoiding new subdivision, use and development where risk is the greatest ensures that the effects of climate change and its exacerbation of natural hazard risk is addressed.

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

These objectives give effect to RPS objectives B2.2.1(1), B2.2.1(5), Objective B2.3.1 (1) and Objective B2.6.1(1). Chapter B10 Natural hazards and climate change of the RPS directs decision-makers to manage subdivision, use and development of land subject to

natural hazards based on the type and severity of events, including occurrence. B10.2.2 also directs a precautionary approach to managing the risks from natural hazards. The proposed objective gives effect to these RPS directions across the region by ensuring significant risk is avoided, as per proposed Objective B10.2(3).

Provisions that give effect to Objectives E36.2(3B), E38.2(10) and E39.2(17)

The following proposed and/or amended provisions give effect to proposed Objectives E36.2(3B), E38.2(10) and E39.2(17)

Sub-theme 10.2.1 Determining risk for coastal and flood hazards

10.2.1.1 Overview of provisions

Policies									
Policy E36.3(1A)	<p><u>Identify risk from natural hazards associated with subdivision, use and development by differentiating risk into the following three classifications:</u></p> <ul style="list-style-type: none"> (a) <u>significant</u> (b) <u>potentially tolerable</u> (c) <u>acceptable</u> 								
Policy E36.3(1B)	<p><u>Manage risk from coastal erosion, coastal inundation and flooding associated with subdivision, use and development by:</u></p> <ul style="list-style-type: none"> (a) <u>identifying land that may be exposed to these hazards and requiring a site-specific assessment to determine the extent and nature of the hazard(s) on site;</u> (b) <u>using the hazard, the location of the activity, and the sensitivity of the activity to natural hazards to determine the default level of risk, as per Tables E36.3.1B.1 and E36.3.1B.2</u> (c) <u>requiring a risk assessment to determine the level of risk and applying management approaches proportionate to that level of risk</u> <p><u>Table E36.3.1B.1 Subdivision, use and development within existing urbanised areas</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;"></th> <th style="width: 15%; text-align: center;"><u>Activities sensitive to natural hazards</u></th> <th style="width: 15%; text-align: center;"><u>Activities potentially sensitive to natural hazards</u></th> <th style="width: 15%; text-align: center;"><u>Activities less sensitive to natural hazards</u></th> </tr> </thead> <tbody> <tr> <td><u>Very high flood hazard area, high flood hazard area, coastal erosion hazard area 1 and coastal inundation hazard area 1</u></td> <td style="text-align: center;">Significant</td> <td style="text-align: center;">Significant</td> <td style="text-align: center;">Acceptable</td> </tr> </tbody> </table>		<u>Activities sensitive to natural hazards</u>	<u>Activities potentially sensitive to natural hazards</u>	<u>Activities less sensitive to natural hazards</u>	<u>Very high flood hazard area, high flood hazard area, coastal erosion hazard area 1 and coastal inundation hazard area 1</u>	Significant	Significant	Acceptable
	<u>Activities sensitive to natural hazards</u>	<u>Activities potentially sensitive to natural hazards</u>	<u>Activities less sensitive to natural hazards</u>						
<u>Very high flood hazard area, high flood hazard area, coastal erosion hazard area 1 and coastal inundation hazard area 1</u>	Significant	Significant	Acceptable						

<u>Medium flood hazard area, coastal erosion hazard area 2 and coastal inundation hazard area 2</u>	Potentially tolerable	Potentially tolerable	Acceptable
<u>Low flood hazard, coastal erosion hazard area 3 and coastal inundation hazard area 3</u>	Potentially tolerable	Potentially tolerable	Acceptable
<u>Table E36.3.1B.2 Subdivision, use and development outside of existing urbanised areas</u>			
	<u>Activities sensitive to natural hazards</u>	<u>Activities potentially sensitive to natural hazards</u>	<u>Activities less sensitive to natural hazards</u>
<u>Very high flood hazard area, high flood hazard area, coastal erosion hazard area 1 and coastal inundation hazard area 1</u>	Significant	Significant	Acceptable
<u>Medium flood hazard area, coastal erosion hazard area 2 and coastal inundation hazard area 2</u>	Significant	Significant	Acceptable
<u>Low flood hazard, coastal erosion hazard area 3 and coastal inundation hazard area 3</u>	Significant	Significant	Acceptable

10.2.1.2 Description of the proposal

In giving effect to proposed objective E36.2(3B):

- proposed Policy E36.3(1A) supports the proposed changes to the Regional Policy Statement (RPS) by identifying three levels of risk: significant, potentially tolerable, and acceptable. This sets a framework to enable each level to trigger a different policy response.
- proposed Policy E36.3(1B) explains how risk for coastal and flood hazards will be assessed for a specific activity at a specific location. This involves a site-specific evaluation using Tables E36.3.1B.1 and E36.3.1B.2. This can be undertaken initially using the best available information held by the Council, however site-specific investigations will be required where a resource consent is required.

The broad approach to determining risk by considering the likelihood of exposure and consequence is discussed in Section 4.1.6.

10.2.1.3 Analysis of the proposal

Flood hazard areas are differentiated as very high, high, medium, and low hazard areas. Analysis of this approach is provided as Attachment 3 – Identifying and differentiating flood hazards.

Coastal hazard areas are differentiated as coastal hazard areas 1, 2, and 3, with 1 being the highest (or most near-term risk of exposure). Analysis of this approach is provided as Attachment 4 – Identifying and differentiating coastal hazards.

The sensitivity of activities is used to consider the consequences of exposure. There will be a greater consequence, from a more sensitive activity being exposed to a natural hazard event. Analysis of this approach is provided as Attachment 9 – Differentiating activities based on sensitivity.

The analysis below considers:

- Differentiating natural hazard risk to the extent proposed in Policies E36.3(1A) and E36.3(1B) using the proposed matrices
- Having different tolerances for risk within and outside of existing urbanised areas.

10.2.1.4 Benefits and costs of the effects of the proposal (differentiating risk using the proposed matrices)

Environmental, social and cultural

Applying an explicit risk matrix that integrates hazard exposure with activity sensitivity provides a transparent, evidence-based framework for managing natural hazard risk. By clearly distinguishing between acceptable, potentially tolerable and significant risk categories, and relating this to whether a resource consent will be required, and the nature of consenting requirements, enables early identification of activities that can proceed with minimal adverse effects to the environment, those requiring mitigation, and those that should be avoided to prevent unacceptable harm.

This supports the sustainable management purpose of the RMA by reducing the likelihood of inappropriate development in high-risk areas, thereby avoiding future environmental degradation, loss of ecosystem services (e.g. flood storage), loss of natural character, and damage to habitats for indigenous species. The framework also helps protect cultural landscapes, wāhi tapu, and access to Māori Land, Treaty Settlement Land, and marae by steering incompatible activities away from locations where hazard events could cause irreversible cultural loss.

Socially, the clarity and consistency of the matrix can improve community confidence in decision-making, reduce conflict, and support equitable treatment of landowners by applying the same risk thresholds Auckland-wide.

However, the structured nature of the matrix may limit flexibility in responding to site-specific circumstances, potentially constraining development or land use in areas where innovative design or adaptive management could otherwise reduce risk to acceptable levels. In some

cases, the classification of an activity as “significant” may be perceived as overly restrictive, leading to social and economic tension, particularly where land has existing use rights or holds cultural importance for mana whenua or local communities.

There is also a risk that the “potentially tolerable” category could be interpreted too permissively, resulting in incremental encroachment into hazard-prone areas and cumulative environmental effects over time. For mana whenua, if the matrix is applied without adequate cultural input, it may not fully capture the nuanced relationship between hazard risk, cultural values, and the exercise of kaitiakitanga. Ensuring that the matrix is supported by robust hazard data, cultural assessment, and adaptive review processes will be critical to minimising these costs and maintaining trust in its application. These risks may be somewhat mitigated by the requirements of a more detailed site-specific risk assessment as part of any resource consent application.

Economic (including economic growth and employment)

A matrix-based natural hazard risk framework can deliver economic efficiencies by providing early clarity on where activities are acceptable, potentially tolerable, or to be avoided. This predictability reduces wasted investment in proposals that would ultimately be declined and allows resources to be directed toward sites and designs with a higher likelihood of approval.

By steering new investment away from high-risk locations, the approach can reduce future disaster recovery costs, protect existing economic assets, and maintain the long-term viability of infrastructure and productive land. In the “potentially tolerable” category, the requirement for targeted mitigation can stimulate demand for specialist design, engineering, and environmental services, generating short-term employment and supporting innovation in hazard-resilient construction. Over time, this can contribute to more resilient economic growth by embedding risk-aware development patterns.

However, the requirement for hazard risk assessment in “potentially tolerable” cases can increase upfront costs and timeframes for applicants, particularly where specialist expertise is needed. While this is intended to ensure robust decision-making, it can have a “chilling” effect on development by deterring proponents, especially smaller landowners, community groups, or businesses with limited resources, from pursuing otherwise viable projects. This deterrent effect may reduce the overall level of development activity in certain areas, with flow-on impacts for local employment and economic growth. In some cases, the perception of regulatory complexity can be as influential as the actual cost, leading to under-investment even where risk could be mitigated.

To preserve the benefits of the matrix while reducing unintended deterrence, the Council may consider administrative measures to implement proportionate and clearly defined assessment pathways for low-scale or low-risk proposals, this may include standardised hazard screening for small-scale proposals.

10.2.1.5 Alternative options (differentiating risk using the proposed matrices)

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	No risk matrix – case-by-case risk assessment only to determine.	<p>Tailored evaluation using site-specific hazard data and latest modelling.</p> <p>Can accommodate innovative design or mitigation measures.</p> <p>Better integration of unique cultural, environmental, or engineering considerations.</p> <p>Strong evidential basis for decisions in complex or contested cases.</p>	<p>Higher upfront costs and longer timeframes for applicants and councils.</p> <p>Less predictability for applicants; outcomes may vary between assessors.</p> <p>Greater resource demands on both proponents and regulatory staff.</p> <p>Potential deterrent effect on smaller or less-resourced proponents</p>
2	No risk assessment informing activity status.	<p>Extremely simple to administer, minimal technical analysis or hazard mapping required.</p> <p>High predictability for applicants, everyone knows the same rules apply regardless of location or activity.</p> <p>Low upfront regulatory cost for councils and proponents.</p>	<p>Ignores actual differences in hazard exposure and activity sensitivity, leading to over-regulation in low-risk areas and under-protection in high-risk areas.</p> <p>Increases the likelihood of inappropriate development in genuinely high-risk locations, with greater potential for environmental damage, cultural loss, and future disaster costs.</p> <p>Can undermine public trust if communities see obviously safe areas treated the same as clearly hazardous ones.</p>

			Misses opportunities to target mitigation investment where it is most needed, reducing overall efficiency and resilience.
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10.2.1.6 Summary of the reasons for deciding on the provisions (differentiating risk using the proposed matrices)

As outlined above, the key reasons for deciding on the provisions are to facilitate a proportionate assessment of risk by suitably qualified specialists, avoiding development where necessary but also enabling development where there are sound mitigations available to applicants. This approach enables applicants to adopt evolving best-practice technologies and for council decisions to be supported by good quality data and analysis.

10.2.1.7 Benefits and costs of the effects of the proposal (different risk tolerances inside and outside existing urban areas)

Environmental, social and cultural

Applying different thresholds for risk tolerance inside and outside existing urban areas enables a more precautionary approach to greenfield development in hazard-prone locations, where avoidance is more feasible and less costly than retrofitting resilience later. It also aligns with the community feedback on risk tolerance as discussed in Section 4.8.

By steering new urbanisation away from high-exposure areas, the policy helps preserve the natural character of undeveloped coastlines, floodplains, and other hazard-sensitive environments, maintaining indigenous habitats, landscape values, and ecosystem services. It also reduces the likelihood of future environmental degradation from hard protection works or emergency interventions.

Socially, this approach protects future communities from foreseeable hazard risks, avoiding the displacement, disruption, and economic loss that can follow hazard events. Culturally, it safeguards wāhi tapu, Māori Land, Treaty Settlement Land, marae, and other places of significance from being placed in harm's way, supporting kaitiakitanga and the intergenerational wellbeing of mana whenua.

A stricter risk threshold for areas outside existing urban footprints may limit development opportunities in some locations valued for their amenity, cultural connections, or economic potential, even where hazards could potentially be mitigated. This could constrain housing supply or economic activity in certain districts and may be perceived as inequitable by landowners whose property is subject to higher restrictions than comparable land within urban areas.

In some cases, cultural aspirations for papakāinga or other development on ancestral land could be affected if those sites fall within high-hazard zones, requiring careful engagement

and tailored solutions. This is provided by the proposed policies that provide a more enabling approach for Māori land and other related sites. There is also a risk that concentrating growth within existing urban areas could increase development pressure on remaining open spaces or culturally significant sites there, if not managed alongside strong urban design and heritage protection measures.

Economic (including economic growth and employment)

Differentiating risk thresholds allows new urban development to be directed toward lower-hazard locations where long-term protection and adaptation costs are minimised. This reduces the likelihood of future asset loss, infrastructure damage, and costly emergency responses, preserving public and private investment over time.

By avoiding the need for expensive retrofitting in newly urbanised areas, resources can be channelled into higher-value, lower-risk projects that support sustained economic growth. Concentrating development within existing urban areas can also stimulate investment in infrastructure upgrades, urban regeneration, and intensification, generating construction and related employment in locations where hazard exposure is already managed. Over the long term, this approach can enhance investor confidence by signalling a stable, risk-aware planning environment.

Stricter thresholds outside existing urban areas may limit development opportunities on some hazard-exposed land, reducing potential short-term construction activity and associated employment in those locations. Landowners and developers in constrained areas may face reduced land values or foregone development returns, and there may be opportunity costs if viable economic activities are precluded.

In some cases, the policy could concentrate demand within existing urban areas, increasing competition for land and potentially raising development costs however, this is likely to be marginal. While these effects may be offset by reduced long-term hazard losses, they can create short-term adjustment pressures for sectors reliant on greenfield expansion.

10.2.1.8 Alternative options (different risk tolerances inside and outside existing urban areas)

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Same risk tolerance inside and outside existing urbanised area	Simple, uniform rules make the policy easy to understand and administer. Predictable outcomes for applicants and decision-makers,	Missed opportunity to avoid new hazard exposure in undeveloped areas where avoidance is cheaper and easier. May over-restrict low-risk rural/greenfield sites or under-protect high-risk

		reducing disputes over thresholds.	urban fringe areas, reducing efficiency and resilience
2	Similar policy intent but with greater flexibility for discretionary decision-making	<p>Allows site-specific factors, innovative design, and cultural considerations to be weighed in, potentially enabling safe development that a rigid rule would block.</p> <p>May better accommodate mana whenua aspirations and unique local economic or social needs.</p>	<p>Less predictability for applicants; outcomes may vary between decision-makers.</p> <p>More likely to result in new development in locations of natural hazard risk with higher long-term costs.</p> <p>Higher assessment costs and timeframes, with potential “chilling” effect on smaller or less-resourced proponents.</p>

10.2.1.9 Summary of the reasons for deciding on the provisions (different risk tolerances inside and outside existing urban areas)

The preferred approach recognises that not all environments are the same and adopts different risk thresholds inside and outside existing urbanised areas. It reflects the feedback received from the community in relation to different risk tolerances between new and existing developed areas. In comparison to the other alternatives, the proposal provides more certainty and clarity on what the expected outcomes are in these different environments while also ensuring the avoidance of establishing new development in areas where this is not feasible to do so.

Sub-theme 10.2.2 Determining risk for landslide hazards

10.2.2.1 Overview of provisions

Policies	
Policy E36.3(1A)	<p><u>Identify risk from natural hazards associated with subdivision, use and development by differentiating risk into the following three classifications:</u></p> <p>(a) <u>significant</u></p> <p>(b) <u>potentially tolerable</u></p>

	(c) <u>acceptable</u>
Policy E36.3(1C)	<p><u>Manage risk from landslides associated with subdivision, use and development by:</u></p> <p>(a) <u>identifying land that may be susceptible to landslides; and</u></p> <p>(b) <u>requiring a landslide risk assessment to be undertaken in accordance with Appendix 24 Landslide hazard risk assessment methodology, using the level of susceptibility, the underlying zone, the location and type of the activity and the sensitivity of the activity to natural hazards as determinants for the type of assessment and the level of risk; and</u></p> <p>(c) <u>applying management approaches proportionate to the level of risk.</u></p>

10.2.2.2 Description of the proposal

In giving effect to proposed objective E36.2(3B):

- proposed Policy E36.3(1A) supports the proposed changes to the RPS by identifying three levels of risk: significant, potentially tolerable, and acceptable. This sets a framework to enable each level to trigger a different policy response.
- proposed Policy E36.3(1C) explains how risk for landslide hazards will be assessed for a specific activity at a specific location. This involves a site-specific evaluation using Appendix 24 Landslide hazard risk assessment methodology.

The broad approach to determining risk by considering the likelihood of exposure and consequence is discussed in Section 4.1.6. However, the terminology has been adapted for this specific application and applied in Appendix 24 Landslide hazard risk assessment methodology.

10.2.2.3 Analysis of the proposal

For landslide hazards, the likelihood of exposure and consequence can be quantifiably assessed with reference to tabulated metrics in Appendix 24 Landslide hazard risk assessment methodology. Analysis of this approach is provided as Attachment 5 – Identifying and differentiating landslide hazards.

The analysis for differentiating activities based on sensitivity and the differentiation of risk tolerances between within and outside existing urbanised areas is covered in Attachment 9 – Defining sensitivities for activities and Section 10.2.1 respectively.

The analysis below considers:

- Differentiating landslide risk using Appendix 24 Landslide hazard risk assessment methodology as proposed in Policy E36.3(1C).

10.2.2.4 Benefits and costs of the effects of the proposal

Environmental, social and cultural

Applying an explicit landslide hazard risk assessment methodology that integrates hazard exposure with activity sensitivity provides a transparent, evidence-based framework for managing natural hazard risk. By clearly distinguishing between acceptable, tolerable and significant risk categories, and relating this to where or not a resource consent will be required, and the nature of consenting requirements, enables early identification of activities that can proceed with minimal adverse effects to the environment, those requiring mitigation, and those that should be avoided to prevent unacceptable harm.

This supports the sustainable management purpose of the RMA by reducing the likelihood of inappropriate development in high-risk areas, thereby avoiding future environmental degradation, loss of ecosystem services and natural character, and damage to habitats for indigenous species. The landslide hazard risk assessment methodology also helps protect cultural landscapes, wāhi tapu, and access to Māori Land, Treaty Settlement Land, and marae by steering incompatible activities away from locations where hazard events could cause irreversible cultural loss.

Socially, the clarity and consistency of the landslide hazard risk assessment methodology can improve community confidence in decision-making, reduce conflict, and support equitable treatment of landowners by applying the same risk thresholds Auckland-wide.

However, the structured nature of the landslide hazard risk assessment methodology may limit flexibility in responding to site-specific circumstances, potentially constraining development or land use in areas where innovative design or adaptive management could otherwise reduce risk to acceptable levels. In some cases, the classification of an activity as “significant” may be perceived as overly restrictive, leading to social and economic tension, particularly where land has existing use rights or holds cultural importance for mana whenua or local communities.

There is also a risk that the “tolerable” category could be interpreted too permissively, resulting in incremental encroachment into hazard-prone areas and cumulative environmental effects over time. For mana whenua, if the landslide hazard risk assessment methodology is applied without adequate cultural input, it may not fully capture the nuanced relationship between hazard risk, cultural values, and the exercise of kaitiakitanga. Ensuring that the landslide hazard risk assessment methodology is supported by robust hazard data, cultural assessment, and adaptive review processes will be critical to minimising these costs and maintaining trust in its application. These risks may be somewhat mitigated by the requirements of a more detailed site-specific risk assessment as part of any resource consent application.

Economic (including economic growth and employment)

A natural hazard risk framework based upon the application of a landslide hazard risk assessment methodology can deliver economic efficiencies by providing early clarity on where activities are acceptable, tolerable, or to be avoided. This predictability reduces

wasted investment in proposals that would ultimately be declined and allows resources to be directed toward sites and designs with a higher likelihood of approval.

By steering new investment away from high-risk locations, the approach can reduce future disaster recovery costs, protect existing economic assets, and maintain the long-term viability of infrastructure and productive land. In the “tolerable” category, the requirement for targeted mitigation can stimulate demand for specialist design, engineering, and environmental services, generating short-term employment and supporting innovation in hazard-resilient construction. Over time, this can contribute to more resilient economic growth by embedding risk-aware development patterns.

However, the requirement for landslide hazard risk assessments in “tolerable” cases can increase upfront costs and timeframes for applicants, particularly where specialist expertise is needed. While this is intended to ensure robust decision-making, it can have a “chilling” effect on development by deterring proponents, especially smaller landowners, community groups, or businesses with limited resources, from pursuing otherwise viable projects. This deterrent effect may reduce the overall level of development activity in certain areas, with flow-on impacts for local employment and economic growth. In some cases, the perception of regulatory complexity can be as influential as the actual cost, leading to under-investment even where risk could be mitigated.

To preserve the benefits of the landslide hazard risk assessment methodology while reducing unintended deterrence, the Council may consider administrative measures to implement proportionate and clearly defined assessment pathways for low-scale or low-risk proposals, this may include standardised hazard screening for small-scale proposals.

10.2.2.5 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	No landslide hazard risk assessment methodology – case-by-case risk assessment only	<p>Tailored evaluation using site-specific hazard data and latest modelling.</p> <p>Can accommodate innovative design or mitigation measures.</p> <p>Better integration of unique cultural, environmental, or engineering considerations.</p>	<p>Higher upfront costs and longer timeframes for applicants and councils.</p> <p>Less predictability for applicants; outcomes may vary between assessors.</p> <p>Greater resource demands on both proponents and regulatory staff.</p> <p>Potential deterrent effect on smaller or</p>

		Strong evidential basis for decisions in complex or contested cases.	less-resourced proponents
2	No landslide hazard risk assessment informing activity status.	<p>Simple to administer, minimal technical analysis or hazard mapping required.</p> <p>Predictability for applicants, everyone knows the same rules apply regardless of location or activity.</p> <p>Low upfront regulatory cost for councils and proponents.</p>	<p>Ignores actual differences in hazard exposure and activity sensitivity, leading to over-regulation in low-risk areas and under-protection in high-risk areas.</p> <p>Increases the likelihood of inappropriate development in genuinely high-risk locations, with greater potential for environmental damage, cultural loss, and future disaster costs.</p>

10.2.2.6 Summary of the reasons for deciding on the provisions

The proposal is the preferred option as it will enable the adequate assessment of applicable development proposals upon sites susceptible to landslides, particularly those sites which are subject to either moderate or high susceptibility, in relation to accurately defining and categorising landslide hazard risks associated with the proposed development. The key planning method to be utilised for achieving this outcome in a resource consenting and plan change process will be Appendix 24 Landslide hazard risk assessment methodology and its application to the assessment of applicable development proposals for the purpose of accurately defining and categorising landslide hazard risks associated with the proposed development.

Sub-theme 10.2.3 Managing wildfire risk

10.2.3.1 Overview of provisions

Policies	
Policy E36.3(1D)	<u>Ensure that subdivision, development and vegetation management mitigate wildfire hazards to as low as reasonably practicable.</u>

10.2.3.2 Description of the proposal

In giving effect to proposed objective E36.2(3B):

- proposed Policy E36.3(1D) builds upon and replaces the operative policy relating to wildfire (E36.3(34)) to align with the wording with the proposed risk management framework
- supporting amendments are proposed to strengthen the management of wildfire risk. No new rules or standards are proposed, however there are minor changes to the AUP as described below:
 - New matter of discretion and assessment criteria in Chapters E38 Subdivision – urban and E39 Subdivision – rural relating to the effects of wildfire risk from any forest vegetation within 20 metres of a building platform enabled in a subdivision.
 - Additional consideration of wildfire risk mitigation when undertaking revegetation planting under Appendix 15 Subdivision information and process.
 - Additional requirement to undertake a wildfire vegetation risk assessment when subdividing based on the replanting of native vegetation under Appendix 16 Guideline for native revegetation plantings.

10.2.3.3 Analysis of the proposal

The ability for wildfire risk to be managed under the AUP has been explored as part of the development of this plan change. An outline of the status quo and the analysis of the broad options is provided as Attachment 6 – Management of wildfire risk.

The analysis below considers:

- Undertaking select amendments to the existing AUP provisions as described in Section 10.2.3.2 above.

10.2.3.4 Benefits and costs of the effects of the proposal

Environmental, social and cultural

Strengthening the ability for wildfire risk to be considered in the AUP will reduce the potential environmental, social and cultural impacts of wildfire events. It will also raise awareness of wildfire risk and how it can be reduced and mitigated.

Economic (including economic growth and employment)

The proposal is likely to have very limited economic costs. The proposal does not result in any additional resource consent requirements as no new rules or standards are proposed. Additional information may be necessary to address these requirements however these requirements only apply in select circumstances. Additional consideration of wildfire risk will result in economic benefits by reducing the consequences and/or likelihood of wildfire events.

10.2.3.5 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Status quo e.g. rely on existing provisions	No additional information requirements	Reduced consideration of, and resilience to, wildfire risk
2	More stringent requirements e.g. new rules or standards	Wildfire risk is more strongly managed	As discussed in Attachment 6 – Managing wildfire risk, varied effectiveness in the absence of mapping or definition to define wildfire risk

10.2.3.6 Summary of the reasons for deciding on the provisions

The ability for wildfire risk to be managed under the AUP is currently limited by the lack of mapping and definitions to support the identification and assessment of wildfire risk. The proposed approach accommodates that limitation while also strengthening the provisions from the status quo.

Sub-theme 10.2.4 Requirements for assessing and managing risk

10.2.4.1 Overview of provisions

Policies	
Policy E36.3(3)	<p>Consider all of the following, as part of a <u>Where a resource consent is necessary, require proposals to subdivide, use or develop land that is subject to natural hazards to prepare a risk assessment of proposals to subdivide, use or develop land that is subject to natural hazards that considers all of the following, taking into account the potential effects of climate change and adopting a precautionary approach where information is uncertain or incomplete:</u></p> <p>(a) [Deleted] the type, frequency and scale of the natural hazard and whether adverse effects on the development will be temporary or permanent:</p> <p>(aa) <u>the type, frequency, range and scale of the natural hazard(s), including:</u></p> <p>(i) <u>where there may be coinciding, compounding and/or cascading hazards:</u></p>

	<p>(ii) <u>whether the hazard risks will be temporary or permanent;</u></p> <p>(iii) <u>whether natural hazard events of lower intensity and higher frequency than the 1 per cent AEP event will impact the property and proposed activity</u></p> <p>(b) [Deleted] the type of activity being undertaken and its vulnerability to natural hazard events;</p> <p>(c) the consequences of a natural hazard event in relation to the proposed activity;</p> <p>(d) [Deleted] the potential effects on public safety and other property;</p> <p>(e) [Deleted] any exacerbation of an existing natural hazard risk or the emergence of natural hazard risks that previously were not present at the location;</p> <p>(f) [Deleted] whether any building, structure or activity located on land subject to natural hazards near the coast can be relocated in the event of severe coastal erosion, inundation or shoreline retreat;</p> <p>(g) [Deleted] the ability to use non-structural solutions, such as planting or the retention or enhancement of natural landform buffers to avoid, remedy or mitigate hazards, rather than hard protection structures;</p> <p>(h) [Deleted] the design and construction of buildings and structures to mitigate the effects of natural hazards;</p> <p>(i) [Deleted] the effect of structures used to mitigate hazards on landscape values and public access;</p> <p>(j) [Deleted] site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event; and</p> <p>(k) [Deleted] the duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the likely effects of climate change.</p> <p>(l) <u>existing and proposed mitigation measures;</u></p> <p>(m) <u>residual risk;</u></p> <p>(n) <u>any relevant management plan, strategy or hazard risk assessment relating to the area.</u></p>
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<p>Policy E36.3(4A)</p>	<p><u>Require all of the following matters to be considered when assessing consequences of natural hazards as part of a risk assessment:</u></p> <ul style="list-style-type: none"> (a) <u>accelerating or exacerbating the natural hazard and/or its potential impacts;</u> (b) <u>creating natural hazard risks that previously were not present at the location;</u> (c) <u>the type of activity being undertaken and its sensitivity to natural hazard events;</u> (d) <u>creating or increasing the natural hazard risk(s) to people and communities, including long-term impacts from more frequent hazard events;</u> (e) <u>creating or increasing the natural hazard risk(s) to other properties, infrastructure and the environment; and</u> (f) <u>cultural impacts, including consequences for Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values.</u>
<p>Policy E36.3(4B)</p>	<p><u>Require all of the following matters to be considered as part of a risk assessment of existing and future mitigation measures and residual risk:</u></p> <ul style="list-style-type: none"> (a) <u>whether any building, structure or activity located on land subject to natural hazards can be relocated within the site or removed;</u> (b) <u>whether the use, design and construction of buildings and structures can mitigate risks associated with natural hazards;</u> (c) <u>the extent to which methods for long term maintenance of areas affected by natural hazards, such as easements, are provided;</u> (d) <u>the ability for site layout and management to limit exposure of people and property to natural hazards, including safe egress during a natural hazard event;</u> (e) <u>the effect of structures to mitigate hazards on landscape values and public access;</u> (f) <u>the robustness of the mitigation measures, their enforceability and the ability to carry out repairs and maintenance;</u> (g) <u>the potential consequences of events that exceed the design parameters of mitigation measures;</u>

	<p>(h) <u>the potential effects resulting from failure of structural and nature-based mitigation measures over a 100-year timeframe;</u></p> <p>(i) <u>the impacts of the mitigation on other people, properties, infrastructure and the environment;</u></p> <p>(j) <u>whether natural hazard risks can be reduced for Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values;</u></p> <p>(k) <u>the use of conditions of consent, including the duration of consent, to monitor changes in risk and to limit the exposure of people and property to natural hazards.</u></p> <p>(l) <u>the extent to which it is practicable to mitigate residual risk where infrastructure has a functional or operational need to locate in a natural hazard area</u></p>
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10.2.4.2 Description of the proposal

In giving effect to proposed objective E36.2(3B), Policies E36.3(3), E36.3(4A) and E36.3(4B) set out the risk management approach to be applied where activities require resource consent under E36 by:

- Setting out the scope of a risk assessment (Policy 3)
- Specifying the relevant potential consequences of natural hazards that are to be considered as part of that risk assessment (Policy 4A)
- Specifying the matters that are to be considered when assessing mitigation options as part of the risk assessment (Policy 4B)

10.2.4.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The specification of risk assessment requirements confers a range of environmental, social, and cultural benefits. It enables proactive hazard mitigation by ensuring that risks — such as flooding, coastal erosion, or landslides — are identified and addressed prior to development. This facilitates informed decision-making, supports resilient infrastructure design, and promotes the strategic avoidance of high-risk areas. Moreover, it enhances transparency and consistency in regulatory processes, thereby strengthening public confidence. When appropriately framed, such requirements also provide a mechanism for incorporating mātauranga Māori and other cultural values into spatial planning, fostering more inclusive and place-responsive outcomes.

However, highly specific requirements may impose disproportionate burdens on applicants, particularly those undertaking small-scale or community-led projects. The need for technical assessments can introduce financial and procedural barriers, potentially limiting access to

development opportunities. Inflexible frameworks may also constrain innovative or context-sensitive responses to risk, and if cultural or social dimensions are not adequately integrated, there is a risk of exclusion or marginalisation.

The proposed provisions seek to strike a balance between clarity and consistency of requirements with adaptability, ensuring robust natural hazard risk management without unduly impeding opportunities for subdivision, use and development.

Economic (including economic growth and employment)

The specification of risk assessment requirements can deliver significant economic benefits by reducing exposure to natural hazards and thereby lowering long-term public and private costs associated with damage, disruption, and recovery. By guiding development toward safer, more resilient locations or designs, it supports infrastructure efficiency and protects asset value, which in turn contributes to economic stability. Over time, this can enhance investor confidence, reduce insurance liabilities, and enable more predictable land use outcomes. In regions where risk-informed planning facilitates strategic infrastructure investment, there may also be flow-on effects for employment and local economic activity.

However, detailed assessment requirements can increase upfront development expenses, particularly for smaller operators or projects in marginal locations. This may deter investment or delay delivery of housing and commercial space, with implications for construction activity and associated employment. In some cases, overly prescriptive frameworks may constrain innovation or limit the adaptive reuse of land, reducing flexibility in responding to market demand.

The risk of disproportionate regulatory burden is somewhat addressed by the provisions of schedule 4 of the RMA that directs assessments of environmental effects required under section 88 “includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment”.

10.2.4.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Status quo, rely on practice and guidance to direct the contents and expectation of risk assessments.	<p>Greater flexibility - allows practice to evolve in response without needing a plan change.</p> <p>More responsive – guidance can be revised more quickly than plan provisions, enabling it to remain keep up with best</p>	<p>Inconsistent implementation – without binding rules, quality and scope of assessments may vary between like cases or over time.</p> <p>Less enforceable – guidance documents are not regulatory; council’s ability to require</p>

		<p>practice, new information etc.</p> <p>Encourages professional judgement – enables planners, engineers etc. to tailor assessments to site-specific conditions.</p> <p>Lower compliance costs for minor proposals – less risk of scope and depth of assessment being disproportionate to the scale of development and risk.</p>	<p>specific content or methods would be reduced.</p> <p>Risk of under-assessment – some applicants may minimise scope to reduce costs, potentially overlooking key hazards or consequences.</p> <p>Reduced transparency for decision-makers and communities – less clarity on what is “required” versus “recommended.”</p> <p>Greater reliance on professional expertise and judgment – assessing adequacy of varied approaches may demand more technical review capacity.</p>
2	More detailed risk assessment requirements	<p>Greater consistency – all applicants follow the same detailed methodology, reducing variability in assessment quality.</p> <p>Improved certainty – clear, binding requirements make expectations transparent for applicants and council.</p> <p>Easier enforcement – prescriptive rules give councils stronger grounds to require missing information or reject inadequate assessments.</p> <p>Reduced interpretation disputes – less reliance on subjective judgement about what constitutes an adequate assessment.</p>	<p>Reduced flexibility – may lock in methods or parameters that become outdated as best practice evolves.</p> <p>Higher compliance costs – more detailed requirements can increase time, expertise, and expense for applicants, especially for small-scale proposals.</p> <p>Slower plan responsiveness – updating prescriptive provisions requires a formal plan change, which is resource-intensive.</p> <p>Potential stifling of innovation – rigid methods may discourage novel or site-specific assessment techniques.</p>

		Better comparability – standardised requirements make it easier to compare risks and mitigation options across proposals.	
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10.2.4.5 Summary of the reasons for deciding on the provisions

The proposal seeks to update the matters of assessment required when seeking to subdivide, use or develop land subject to natural hazards. The current provisions were developed through the AUP and as discussed extensively through this report there have been many changes in our understanding of the impact and habits of natural hazards since then. The proposed provisions seek to strike a balance between clarity and consistency of requirements with adaptability, ensuring robust natural hazard risk management without unduly impeding opportunities for subdivision, use and development.

Sub-theme 10.2.5 Managing coastal hazard risk for new subdivision, use and development

10.2.5.1 Overview of provisions – Policy E36.3(5A)

Policies	
Policy E36.3(5A)	<p><u>Avoid new subdivision, use, and development in coastal hazard areas that would require raising the level of the land and/or coastal protection structures including nature-based solutions, within a 100-year timeframe, unless it is demonstrated that there is no practicable alternative, and the purpose of the subdivision, use and development is to:</u></p> <ul style="list-style-type: none"> (a) <u>provide significant regional or national benefit; or</u> (b) <u>provide for the continued use of Māori Land, Treaty Settlement land and marae and the management of cultural heritage; or</u> (c) <u>maintain or enhances public access or linkages with public open space to, within or adjacent to the coastal marine area; or</u> (d) <u>maintain or enhances habitat for indigenous species; or</u> (e) <u>conform to a Council approved strategic plan to manage or adapt to natural hazard risk in a particular location</u>

10.2.5.2 Description of the proposal

The purpose of the provisions is to avoid new development being located where they will require coastal protection within the minimum 100-year planning horizon, discourage excessive dependency on coastal protections and avoid increasing coastal hazard risks and adverse environmental effects.

The adverse effects of coastal protection structures and reclamation are well documented and not repeated here – these same effects arise over time if the shoreline is held static, rather than allowed to retreat through natural processes of erosion and inundation. Further, the long-term economic cost of maintaining protection measures, and increased residual risks are avoidable when considering new development proposals.

Exceptions are provided where practicable alternatives do not exist, and the nature of the proposals have significant external benefits. These exceptions are informed by well-established policies intended to manage the adverse effects of coastal structures. These include:

- NZCPS Policy 10 which provides pathways for activities, that have functional or operational needs for their location; where there is no practicable alternative method for providing the activity. Policy 10 also introduces a national or regional benefit test as in the proposed policy.
- B8 Toitū te taiwhenua - Coastal environment of the RPS, which in giving effect to the NZCPS provides similar direction.
- Chapter F2.16 of the AUP which provides for those structures that:
 - have a functional or operational need for the location;
 - provide for public access; and
 - enable “Māori cultural activities and customary use”.

Adopting these common concepts is a key mechanism to give effect to integrated management as set out in RPS Objective B8.3.1(5):

(5) Uses and developments that have a need to locate on land above and below the mean high water springs are provided for in an integrated manner

It also ensures that RPS Objective B8.3.1(7) is given effect to:

(7) In areas potentially affected by coastal hazards, including sea level rise over at least 100 years, subdivision, use and development avoid increasing the risk of social, environmental and economic harm

RPS Policy B10.2.2(22), as proposed to be added by way of PC120, is also directive on this issue:

(22) Reduce the need for using hard protection structures to protect activities from natural hazards.

10.2.5.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposed policy is expected to deliver significant long-term environmental benefits. By avoiding intensification in hazard-prone coastal locations, the policy reduces future pressure for coastal protection, thereby maintaining the natural character, ecological integrity, and dynamic processes of the coastal environment in accordance with the NZCPS. This approach supports the preservation of indigenous habitats, coastal processes and habitat

fragmentation, and sustains the natural sediment transport processes that underpin coastal resilience.

Socially, the policy reduces the risk to people and property from coastal hazards, avoiding the displacement, disruption, and economic loss that can arise from storm events, erosion, and inundation. It promotes certainty for communities by signalling where long-term occupation is sustainable and reduces the likelihood of future public expenditure on costly protection works. However, there may be short-term social costs where development opportunities are constrained, particularly for landowners with aspirations to build in affected areas. These costs are partially mitigated by the policy's targeted exceptions, which recognise developments of significant public benefit and those that maintain or enhance public access and amenity etc.

Culturally, the policy provides important benefits by safeguarding areas of cultural significance from inappropriate development and by explicitly enabling the continued use of Māori Land, Treaty Settlement land, and marae. This supports tino rangatiratanga, the exercise of kaitiakitanga, and the intergenerational transmission of cultural values and practices. The approach also aligns with Te Tiriti o Waitangi principles by recognising and providing for Māori relationships with ancestral lands, waters, and taonga.

Overall, the policy is anticipated to generate net positive outcomes by reducing long-term environmental degradation, enhancing community resilience, and upholding cultural values, while balancing these with carefully framed exceptions to address legitimate social and economic needs.

Acting to implement the proposed policy carries minimal risk, as it is consistent with national direction under the NZCPS and supported by robust hazard science. The primary risk of acting lies in potential short-term constraints on development opportunities, which may generate opposition from affected landowners. However, these are outweighed by the long-term reduction in exposure to coastal hazard risk and associated public costs.

Economic (including economic growth and employment)

The proposed policy may generate some short-term economic costs by constraining certain coastal development opportunities, potentially reducing immediate private investment and associated construction activity in hazard-prone areas. This could modestly limit localised employment growth in the building sector and related supply chains in those locations. However, these effects are likely to be offset over time by redirecting development toward safer, more sustainable sites, where investment is less exposed to hazard-related disruption and loss.

In the longer term, the policy is expected to deliver economic benefits by avoiding the substantial public and private costs of coastal protection, land raising, and post-event recovery. It reduces the risk of stranded assets, insurance withdrawal, and declining property values in high-risk areas, thereby supporting the stability of the local and regional economy. By signalling clear, hazard-aware development pathways, the policy can encourage investor confidence, promote efficient infrastructure provision, and sustain employment in sectors aligned with resilient urban growth. Overall, the approach supports economic growth by

prioritising development that is viable over the full planning horizon, rather than dependent on costly and uncertain future interventions.

10.2.5.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Allow any new development in locations that may require future coastal protection.	<p>Short-term economic stimulus through increased construction activity, land development, and associated employment in coastal hazard exposed areas.</p> <p>Greater flexibility for landowners to utilise coastal properties without regulatory constraints.</p> <p>Potential uplift in property values in desirable coastal locations in the short to medium term.</p> <p>Increased housing supply in high-amenity coastal areas, potentially easing localised demand pressures.</p>	<p>Higher long-term public expenditure on coastal protection works, land raising, and post-event recovery.</p> <p>Increased exposure of people, property, and infrastructure to coastal hazard risk, leading to greater economic losses from storm events, erosion, and inundation.</p> <p>Environmental degradation from protection measures, including loss of natural character, disruption of coastal processes, and reduced habitat quality.</p> <p>Reduced public access and amenity over time as protection structures and hazard impacts limit coastal use.</p> <p>Risk of stranded assets and insurance withdrawal, undermining long-term economic stability and investor confidence</p>
2	Avoid any new development in locations that may require future coastal protection	Maximises long-term risk reduction by fully preventing new exposure of people, property, and infrastructure to coastal hazards.	Greater constraint on land use, reducing development opportunities even where public or cultural benefits could be achieved.

		<p>Avoids future reliance on costly protection works or land raising, avoiding significant public and private expenditure.</p> <p>Strong environmental protection, preserving natural coastal processes, habitats, and landscape character without compromise.</p> <p>High certainty for investors and communities about where development can and cannot occur, reducing future conflict.</p>	<p>Potential loss of economic activity in high-amenity coastal areas, including construction and tourism-related investment.</p> <p>Reduced flexibility for Māori Land, Treaty Settlement land, and culturally significant sites where development might otherwise support community wellbeing.</p> <p>Risk of under-utilising existing infrastructure in some coastal areas if development is precluded.</p>
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10.2.5.5 Summary of the reasons for deciding on the provisions

The proposed provisions seek to limit new subdivision, use, and development in coastal hazard areas where such activities would, within a 100-year timeframe, require land raising or coastal protection works. This approach gives effect to the NZCPS, the RPS, and the sustainable management purpose of the RMA by reducing long-term exposure to hazard risk while avoiding environmental effects arising from protection measures.

In reaching this decision, alternatives were considered, including allowing all new development in such areas, or prohibiting all new development regardless of potential public or cultural benefit. The first option was rejected due to the high long-term costs, environmental damage, and increased risk to people and property. The second was not preferred as it would unnecessarily constrain development that could deliver significant regional or national benefits, maintain cultural use of Māori and Treaty Settlement land, or enhance public access and ecological values.

The proposed provisions strike a balance between risk reduction, environmental protection, cultural recognition, and enabling limited, clearly justified exceptions.

10.2.5.6 Overview of provisions – Policies E36.3(5B) – (5N)

Policies	
Policy E36.3(5B)	<u>Ensure all development, including fencing, earth bunds, storage of materials and goods, in coastal hazard areas do not create or exacerbate coastal hazard risk on other sites.</u>

Policy E36.3(5C)	<u>Require the storage and containment of hazardous substances in coastal inundation areas so that the integrity of the storage method will not be compromised in an inundation event.</u>
Policy E36.3(5D)	<u>When considering mitigation of coastal inundation hazards where buildings are located within areas of inundation, promote measures such as use of water-resistant materials and flood-proof utility connections to increase resilience to damage from inundation.</u>
Policy E36.3(5E)	<u>Manage accessways, including private roads and roads intended to be vested in coastal hazard areas, and parking areas so that safe egress is provided where possible, and coastal hazard risks are reduced to as low as reasonably practicable.</u>
Policy E36.3(5F)	<u>Locate all accessways, including private roads and roads intended to be vested, so that access is maintained as coastal hazards move inland over time.</u>
Policy E36.3(5G)	<u>Provide for activities that can demonstrate a functional or operational need to be undertaken or located in a coastal hazard area while reducing coastal hazard risks to as low as reasonably practicable.</u>
Policy E36.3(5H)	<u>Avoid new subdivision, use and development in existing urbanised areas that gives rise to significant coastal hazard risk in accordance with Table E36.3.1B.1.</u>
Policy E36.3(5I)	<u>Manage new subdivision, use and development in existing urbanised areas that gives rise to potentially tolerable coastal hazard risk in accordance with Table E36.3.1B.1 so that risk is maintained at a tolerable level by:</u> <ul style="list-style-type: none"> (a) <u>providing appropriate safe refuge and safe egress for activities sensitive to natural hazards [A], unless it can be demonstrated that safe egress is not necessary to manage risk to life; and</u> (b) <u>providing appropriate safe refuge and/or safe egress for activities potentially sensitive to natural hazards; and</u> (c) <u>minimising all other risks to as low as reasonably practicable.</u>
Policy E36.3(5J)	<u>Provide for activities less sensitive to natural hazards within coastal hazard areas in existing urbanised areas where coastal hazard risks are not exacerbated beyond the site.</u>
Policy E36.3(5K)	<u>Where specified, ensure that appropriate safe egress is provided from the site during a 1 per cent AEP inundation event, taking into account 1.5m relative sea level rise, requiring such routes to:</u>

	<p><u>(a) be free from inundation wherever possible or have inundation depths and that do not pose a risk to life, including for vulnerable people; and</u></p> <p><u>(b) connect continuously to a safe public place, where assistance can be rendered; and</u></p> <p><u>(c) remain safely traversable throughout the event; and</u></p> <p><u>(d) be a usual route to and from the building/site and not be reliant on traversing neighbouring properties; and</u></p> <p><u>(e) not be subject to hazardous residual risk.</u></p>
Policy E36.3(5L)	<p><u>Where specified, ensure that appropriate safe refuge is provided during a 1 per cent AEP inundation event, taking into account 1.5m relative sea level rise, by either:</u></p> <p>(a) <u>locating buildings outside of inundation hazard areas; or</u></p> <p>(b) <u>when locating buildings within an inundation hazard area that:</u></p> <p>(i) <u>floodwaters will not enter habitable areas of the building and sufficient freeboard is provided; and</u></p> <p>(ii) <u>the building is designed and certified to resist hydrostatic and hydrodynamic forces, debris impacts and geotechnical effects, including scour and erosion; and</u></p> <p>(iii) <u>any residual risk does not pose a risk to life, injury or significant property damage; and</u></p> <p>(iv) <u>the building can sustain basic human needs for the expected duration of inundation event, including wet-proofed electricity and sewerage systems; and</u></p> <p>(v) <u>those occupying the building will be aware that the building is a safe refuge.</u></p>
Policy E36.3(5M)	<p><u>Avoid new subdivision, use and development outside existing urbanised areas that gives rise to significant coastal hazard risk in accordance with Table E36.3.1B.2.</u></p>
Policy E36.3(5N)	<p><u>Enable new subdivision, use and development outside existing urbanised areas where coastal hazard risk is acceptable in accordance with Table E36.3.1B.2 where coastal hazard risks are not exacerbated beyond the site.</u></p>

Rules

Table E36.4.1A
Activity Table

(A57) Activities where natural hazard risk is significant in accordance with Table E36.3.1B.1 and E36.3.1B.2 in coastal hazard areas

(A58) Activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in coastal hazard areas

(A59) Activities where natural hazard risk is acceptable in accordance with Table E36.3.1B.1 and E36.3.1B.2 in coastal hazard areas

(A60) Surface parking and above ground parking areas (including vehicle entry and exit points) in coastal inundation hazard areas

(A61) Below ground parking (including vehicle entry and exit points) in coastal inundation areas

(A62) Conversion of non-habitable rooms into habitable rooms within the ground or basement floor of a building in coastal hazard areas

(A63) Storage of goods and materials in coastal hazard areas

(A64) Storage of hazardous substances in coastal hazard areas

(A65) Emergency services required to locate within coastal hazard areas

(A67) Fences and walls for landscaping, privacy, or aesthetic purposes (excluding retaining walls and earth bunds) in coastal hazard areas

(A68) On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (excluding above-ground domestic rainwater tanks) or stormwater pipes or soakage fields on land in the coastal hazard areas

(A69) Construction of private roads, roads intended to be vested, and accessways in coastal hazard areas

(A70) Domestic above-ground rainwater tanks in coastal hazard areas

(A74) New structures and buildings (excluding dwellings) ancillary to farming activities with a gross floor area of up to 100m² in coastal hazard areas

(A75) New structures and buildings with a gross floor area up to 10m² in coastal hazard areas

(A76) All other external additions and alterations to structures and buildings in coastal hazard areas

	<u>(A77) All other buildings and structures, including retaining walls and earth bunds, in coastal hazard areas</u>
Table E38.4.1 Activity Table	<p>(A11) Subdivision of land within any of the following natural hazard areas:</p> <ul style="list-style-type: none"> • [Deleted] 1 per cent annual exceedance probability floodplain • <u>flood hazard areas (excluding overland flow paths);</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) area • <u>coastal hazard areas;</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area • <u>medium landslide susceptibility assessment areas; or</u> • [Deleted] coastal erosion hazard area • <u>high landslide susceptibility assessment areas; or</u> • [Deleted] land which may be subject to land instability.
Table E39.4.1 Activity Table	<p>(A8) Subdivision of land within any of the following natural hazard areas:</p> <ul style="list-style-type: none"> • [Deleted] 1 per cent annual exceedance probability floodplain • <u>flood hazard areas (excluding overland flow paths);</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) area • <u>coastal hazard areas;</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area • <u>medium landslide susceptibility assessment areas; or</u> • [Deleted] coastal erosion hazard area • <u>high landslide susceptibility assessment areas; or</u> • [Deleted] land which may be subject to land instability.
Standards	
E36.6.1.1A	<u>Activities where natural hazard risk is acceptable in accordance with Table E36.3.1B.1 and E36.3.1B.2 in coastal hazard areas</u>
E36.6.1.1B	<u>Surface parking and above ground parking areas (including vehicle entry and exit points) in coastal inundation hazard areas</u>
E36.6.1.1C	<u>Storage of goods and materials in coastal hazard areas; and storage of hazardous substances in coastal hazard areas</u>

E36.6.1.1D	<u>Fences and walls for landscaping, privacy, or aesthetic purposes in coastal hazard areas (excluding retaining walls and earth bunds</u>
E36.6.1.1E	<u>Domestic above-ground rainwater tanks in coastal hazard areas</u>
E38.7.3.3	<u>Subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas</u> of a site within the one per cent annual exceedance probability floodplain.
E38.8.1.1(2)	Site shape factor in residential zones
E38.9.1.1(1)	Site shape factor in business zones
E39.6.1.1(3)	Specified building area
E39.6.4.2	<u>Subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas</u> of a site within the one per cent annual exceedance probability floodplain.

10.2.5.7 Description of the proposal

The proposed approach to managing coastal hazard risks takes a risk-based, tiered approach that distinguishes between significant, potentially tolerable, and acceptable levels of risk, and applies different management responses accordingly. It seeks to avoid new subdivision, use, and development in both existing urbanised and non-urbanised areas where risk is significant, while enabling or managing activities where risk is lower, provided that it is not exacerbated beyond the site.

The policies emphasise not only the siting of development but also the design and operational measures needed to reduce hazard exposure, such as ensuring safe egress and refuge during hazard events, using water-resistant materials, and securing hazardous substances. They also address the functional or operational need for certain activities to be located in hazard areas, allowing these where risks can be reduced to as low as reasonably practicable.

Supporting rules and activity classifications in the plan's activity table reinforce this framework by linking activity status to the assessed level of hazard risk and the sensitivity of the activity. This ensures that more sensitive uses, such as habitable buildings are subject to stricter controls, while less sensitive uses may proceed if they do not worsen risks for others. The approach also anticipates the dynamic nature of coastal hazards, requiring accessways to be located so they remain functional as hazards migrate inland over time.

To further support incorporating a precautionary approach, zoning has also been utilised as a tool to manage coastal hazard risk.

Overall, the package integrates avoidance, mitigation, and adaptive design measures to manage current and future coastal hazard risks, while providing for appropriate development where it can be undertaken safely and without increasing risk to people, property, or the environment.

10.2.5.8 Analysis of the proposal

Several proposed policies refer to the need to provide 'safe refuge' and 'safe egress'. Analysis of this approach is provided as Attachment 7 – Requiring and defining safe refuge and safe egress.

A zoning approach has been applied in select circumstances where coastal hazards are present. Analysis of this approach is provided as Attachment 8 – Limiting development potential to manage flood and coastal hazard risks.

Policies E36.3(5B) – (5N) that apply to managing coastal hazard risks, mirror Policies E36.3(30B) – (30H) with the following exceptions:

- Policy E36.3(5F) – requirement for accessways to be located so that access is maintained, so that it directs movement away from a hazard exposed coastline ensures:
 - the long-term viability of the development is not subject to the protection of access, giving rise to a need for coastal protection which is discouraged.
 - in a coastal hazard event safe egress is maintained.
- Policy E36.3(5G) – providing for activities with a functional or operational need to locate in a coastal hazard area
 - Activities such as emergency services, marine and port facilities have a functional requirement to locate on the coastal edge, and often times in locations exposed to coastal hazards. These activities are both very few and are specifically designed and managed to ensure the health and safety of user, and the environment.
- Policy E36.3(5H) – does not provide an opportunity for new subdivision use and development where risk is significant.
 - With sufficient investment and other than in extreme situations, it is considered the risks from flood hazards may be able to be managed without significant adverse environmental effects. However, in locations where there is significant risk arising from coastal hazards significant coastal protections would need to be employed. Cumulatively, the adverse effects of this would be significant and are avoided in accordance with the NZCPS.

It is these distinctions that are the subject of the following analysis. Otherwise, the analysis of E36.3(30B) – (30H) provided in section 10.2.6.3 of this report is relied upon. The benefits from maintaining a consistent approach where possible is noted.

Environmental, social and cultural

The proposed provisions collectively promote a precautionary and risk-based approach to development in coastal hazard areas, aligning with the sustainable management purpose of the RMA and the direction of the NZCPS. By requiring accessways to be located away from hazard-exposed coastlines (E36.3(5F)), the policies reduce the risk of reliance on coastal protection measures to ensure that a development remains accessible over time including in the event of coastal erosion or inundation. Ensuring safe egress supports public safety and community wellbeing, reducing the risk to life and property.

The targeted provision for activities with a genuine functional or operational need to locate in a hazard that would otherwise be considered as giving rise to significant risk (E36.3(5G)) recognises the essential role of certain services, such as emergency response, marine, and port operations, in supporting community resilience and economic activity. The environmental costs of enabling such activities are mitigated by their limited number, location-specific design, and operational management to minimise adverse effects. Socially, this ensures critical services remain accessible and functional during hazard events, contributing to public safety and continuity of essential operations.

The restriction on new subdivision, use, and development in areas of significant coastal hazard risk (E36.3(5H)) delivers substantial environmental benefits by reducing the risk of mal-adaptation and the cumulative adverse effects of coastal protection measures. This approach also reduces long-term financial and environmental liabilities for communities and council. Socially, while there may be opportunity costs in terms of foregone development potential and associated economic activity, these are outweighed by the reduced exposure of people and property to hazard risk, and the avoidance of future displacement or loss.

Overall, the policies deliver environmental and cultural benefits, while also providing social benefits through enhanced public safety and long-term community resilience. The primary costs relate to constraints on certain development opportunities and the need for careful design and management of essential coastal activities.

Economic (including economic growth and employment)

The proposed provisions are expected to generate long-term economic benefits by reducing exposure of people, property, and infrastructure to coastal hazard risk, thereby avoiding substantial future costs associated with damage, emergency response, and post-event recovery.

By directing accessways away from hazard-prone areas and avoiding new subdivision, use, and development in locations of significant risk, the policies help maintain the financial viability of communities and reduce the likelihood of ratepayer-funded coastal protection works. This supports the efficient allocation of resources and provides greater certainty for investment in safer, more resilient locations.

Enabling only those activities with a genuine functional or operational need to locate in hazard areas ensures that essential economic functions, such as port operations, marine

services, and emergency response, can continue to operate, sustaining these sectors and supporting wider economic activity.

While restrictions on development in high-risk areas may limit some short-term construction and land development opportunities, these effects are offset by the redirection of growth to lower-risk areas, where investment is more secure and infrastructure can be planned and maintained cost-effectively.

Overall, the provisions will over the long-term safeguard critical assets, reduce hazard-related losses, and support the continued development and operation of essential services, while avoiding the economic disruption and fiscal burden associated with repeated hazard damage and large-scale coastal protection measures.

10.2.5.9 Alternative options

Alternatives (alternatives for each of Policies E36.3(5F), (5G) and (5H) are provided below)		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1 (5F)	No policy direction regarding access	<p>Greater flexibility for landowners and developers to determine access locations without regulatory constraint.</p> <p>Potentially lower upfront planning and consenting costs due to fewer location-specific requirements.</p> <p>May enable greater development yields by more exposed areas for access, while enabling dwellings in less exposed areas.</p>	<p>Increased likelihood of accessways being located in hazard-prone areas, leading to higher long-term costs.</p> <p>Greater potential for reliance on coastal protection works, with associated environmental degradation and financial burden on council.</p> <p>Elevated risk to public safety and reduced certainty of safe egress during hazard events.</p>
1 (5G)	Not providing for activities with functional or operational needs	<p>Eliminates new exposure of people, property, and infrastructure to coastal hazard risk, reducing potential loss of life and damage costs.</p> <p>Avoids the need for hazard-specific design,</p>	<p>May prevent the establishment or renewal of essential services (e.g., emergency response, marine and port facilities) in locations where the location is functionally or operationally required.</p>

		<p>mitigation, or emergency management measures for such activities.</p> <p>Prevents incremental environmental effects from essential-service infrastructure in sensitive coastal environments.</p> <p>Provides a clear, precautionary planning signal consistent with strong risk-avoidance principles.</p>	<p>Could reduce operational efficiency and increase costs for industries reliant on direct coastal access, with potential downstream effects on local and regional economies.</p> <p>Risk of reduced service levels or slower emergency response times if facilities must be located further inland.</p> <p>Possible loss of employment opportunities in sectors dependent on coastal-edge operations.</p>
2 (5G)	Allowing a greater range of activities in coastal hazard areas	<p>Increased flexibility for landowners and developers, potentially enabling a wider variety of economic and recreational uses of coastal land.</p> <p>Short-term economic gains through expanded development opportunities, construction activity, and associated employment.</p> <p>Potential to diversify the local economy by attracting new businesses or tourism ventures that value a coastal location.</p>	<p>Higher exposure of people, property, and infrastructure to coastal hazard risk, increasing the likelihood of damage, loss, and costly recovery efforts.</p> <p>Increased cumulative risk to public safety during hazard events, and reduced certainty of safe evacuation routes.</p> <p>Reduced alignment with the NZCPS directive to avoid increasing the risk of social, environmental, and economic harm from coastal hazards.</p>
1 (5H)	Allow proponents an opportunity to demonstrate they can reduce risk from <i>significant to tolerable</i> or <i>acceptable</i> .	Allows site-specific proposals in high-risk coastal areas where design or engineering measures could demonstrably reduce	Higher residual risk if mitigation measures fail, are not maintained, or are exceeded by future sea-level rise or storm events.

	(consistent with flood hazard management approach)	<p>hazard risk to a tolerable level.</p> <p>May enable some economic activity, housing, or infrastructure in desirable coastal locations, supporting local growth and jobs.</p> <p>Encourages innovation in coastal hazard mitigation and adaptive design.</p> <p>Reduced certainty.</p>	<p>Greater uncertainty for communities and emergency services about long-term safety and evacuation.</p> <p>Weaker alignment with NZCPS direction to avoid increasing risk from coastal hazards.</p> <p>Increased transaction costs and risk of dispute for applicant and council.</p> <p>Greater ongoing reliance on coastal protection works, with associated environmental effects.</p>
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10.2.5.10 Summary of the reasons for deciding on the provisions

The provisions adopt a risk-based, tiered approach to managing coastal hazard risk, distinguishing between significant, potentially tolerable, and acceptable levels of risk, and applying proportionate management responses. They avoid new subdivision, use, and development in areas of significant risk, require safe egress and refuge for more sensitive activities, and ensure that design and operational measures—such as water-resistant materials and secure storage of hazardous substances—reduce risks to as low as reasonably practicable. Provision is made for activities with a genuine functional or operational need to be in hazard areas, provided risks are appropriately managed.

In developing this approach a range of alternatives were considered. These alternatives were not preferred as they either weakened alignment with the NZCPS, increased long-term hazard exposure, or imposed unnecessary constraints on essential services.

The chosen provisions provide a consistent and precautionary framework that safeguards people, property, and the environment, while enabling appropriate development where it can be undertaken safely and without exacerbating risk.

Sub-theme 10.2.6 Managing flood hazard risk for new subdivision, use and development

10.2.6.1 Overview of provisions

Policies	
Policy E36.3(21)	Ensure all development, including fencing, storage of materials and goods, and earthworks, in flood hazard areas in the 1 per cent annual exceedance probability (AEP) floodplain does not create or exacerbate flood risk on other sites increase adverse effects from flood hazards or increased flood depths and velocities, to other properties upstream or downstream of the site.
Policy E36.3(22)	Require the storage and containment of hazardous substances in floodplains <u>flood hazard areas</u> so that the integrity of the storage method will not be compromised in a flood event.
Policy E36.3(23)	Provide for flood mitigation measures which reduce flood-related effects and provide for the reconstruction of culverts and bridges where those measures do not create or exacerbate <u>flood risk on other sites</u> flood risk on other sites flooding upstream or downstream or otherwise increase flood hazards.
Policy E36.3(25)	When considering mitigation of flood hazards where buildings are located in floodplains, promote <u>Require measures such as use of water resistant materials and flood-proof utility connections to increase resilience to flood damage when considering mitigation of flood hazards for buildings located in flood hazard areas.</u>
Policy E36.3(26)	Construct <u>Manage</u> accessways, including private roads <u>and public roads to be vested, and parking areas in flood hazard areas so that safe egress is provided where possible, and</u> flood hazard risks are not increased <u>reduced to as low as reasonably practicable.</u>
Policy E36.3(29)	Maintain the function of overland flow paths to convey stormwater runoff safely from a site to the receiving environment <u>by ensuring that any modifications do not result in a reduction in the capacity of the overland flow path and do not cause nuisance or damage to property or the environment.</u>
Policy E36.3(30A)	<u>Enable subdivision, use and development that gives rise to acceptable flood hazard risk in accordance with Tables E36.3.1B.1 and E36.3.1B.2 where these activities do not involve buildings or structures that exacerbate the flood hazard beyond the site.</u>
Policy E36.3(30B)	<u>Avoid new subdivision, use and development in existing urbanised areas that gives rise to significant flood hazard risk in accordance with Table E36.3.1B.1 in very high flood hazard areas.</u>

Policy E36.3(30C)	<u>Avoid new subdivision, use and development in existing urbanised areas that gives rise to significant flood hazard risk in accordance with Table E36.3.1B.1 where it is for activities sensitive to natural hazards [B] in high flood hazard areas.</u>
Policy E36.3(30D)	<p><u>Avoid new subdivision, use and development in existing urbanised areas that gives rise to significant flood hazard risk in accordance with Table E36.3.1B.1 where it is for activities sensitive to natural hazards [A] or activities potentially sensitive to natural hazards in high hazard areas unless risk can be reduced to a tolerable level by:</u></p> <ul style="list-style-type: none"> (a) <u>providing appropriate safe refuge and safe egress for activities sensitive to natural hazards [A]; and</u> (b) <u>providing appropriate safe refuge and safe egress for activities potentially sensitive to natural hazards, unless it can be demonstrated that safe egress is not necessary to manage risk to life; and</u> (c) <u>minimising all other risks to as low as reasonably practicable.</u>
Policy E36.3(30E)	<p><u>Manage new subdivision, use and development in existing urbanised areas that gives rise to potentially tolerable flood hazard risk in accordance with Table E36.3.1B.1 so that risk is maintained at a tolerable level by:</u></p> <ul style="list-style-type: none"> (a) <u>providing appropriate safe refuge and safe egress for activities sensitive to natural hazards [A] unless it can be demonstrated that safe egress is not necessary to manage risk to life; and</u> (b) <u>providing appropriate safe refuge and/or safe egress for activities potentially sensitive to natural hazards; and</u> (c) <u>minimising all other risks to as low as reasonably practicable.</u>
Policy E36.3(30F)	<p><u>Where specified, ensure that appropriate safe egress is provided from the site during a 1 per cent AEP flood event by requiring such routes to:</u></p> <ul style="list-style-type: none"> (a) <u>be free from floodwaters wherever possible or have flood depths and velocities that do not pose a risk to life, including for vulnerable people; and</u> (b) <u>connect continuously to a safe public place, where assistance can be rendered; and</u> (c) <u>remain safely traversable throughout the event; and</u> (d) <u>be a usual route to and from the building/site and not be reliant on traversing neighbouring properties; and</u>

	(e) <u>not be subject to hazardous residual risk.</u>
Policy E36.3(30G)	<p><u>Where specified, ensure that appropriate safe refuge is provided during a 1 per cent AEP flood event by either:</u></p> <p>(a) <u>locating buildings outside of flood hazard areas; or</u></p> <p>(b) <u>when locating buildings within a flood hazard area that:</u></p> <ul style="list-style-type: none"> (i) <u>floodwaters will not enter habitable areas of the building and sufficient freeboard is provided; and</u> (ii) <u>the building is designed and certified to resist hydrostatic and hydrodynamic forces, debris impacts and geotechnical effects, including scour and erosion; and</u> (iii) <u>any residual risk does not pose a risk to life, injury or significant property damage; and</u> (iv) <u>the building can sustain basic human needs for the expected duration of inundation event, including wet-proofed electricity and sewerage systems; and</u> (v) <u>those occupying the building will be aware that the building is a safe refuge</u>
Policy E36.3(30H)	<u>Avoid new subdivision, use and development outside existing urbanised areas that gives rise to significant flood hazard risk in accordance with Table E36.3.1B.2</u>
Policy E38.3(2)	Require subdivision to manage the risk of adverse effects resulting from natural hazards risks in accordance with the objectives and policies in E36 Natural hazards and flooding, and to provide safe and stable building platforms and vehicle access.
Policy E39.3(2)	Require subdivision to manage the risk of adverse effects resulting from natural hazards risks in accordance with the objectives and policies in E36 Natural hazards and flooding, and to provide safe and stable building platforms and vehicle access.
Rules	
Table E36.4.1A Activity Table	<p><u>(A78) Activities where natural hazard risk is significant in accordance with Table E36.3.1B.1 and E36.3.1B.2 in flood hazard areas</u></p> <p><u>(A79) Activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in flood hazard areas</u></p> <p><u>(A80) Activities where natural hazard risk is acceptable in accordance with Table E36.3.1B.1 and E36.3.1B.2 in flood hazard areas</u></p>

- (A81) Surface parking and above ground parking areas (including vehicle entry and exit points) in flood hazard areas
- (A82) Below ground parking (including vehicle entry and exit points) in flood hazard areas
- (A83) Storage of goods and materials in flood hazard areas
- (A84) Storage of hazardous substances in flood hazard areas
- (A85) Conversion of non-habitable rooms into habitable rooms within the ground or basement floor of a building in flood hazard areas
- (A87) Fences, earth bunds, and walls in flood hazard areas
- (A88) Construction of private roads, roads intended to be vested, and accessways in flood hazard areas
- (A89) On-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas
- (A90) Operation, maintenance, renewal, repair and minor infrastructure upgrading of land drainage works, stormwater management devices and flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas
- (A91) Construction of stormwater management devices or flood mitigation works that are to be vested in the Council or which are identified in a precinct plan incorporated into the Plan or an approved network discharge consent in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas
- (A92) Construction of other land drainage works, stormwater management devices or flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas
- (A96) New structures and buildings with a gross floor area up to 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas
- (A97) All other external additions and alterations to structures and buildings in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas
- (A98) All other structures and buildings (including retaining walls) in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas

	<p><u>(A100) Any buildings or other structures located within an overland flow path with a catchment less than 4,000m²</u></p> <p><u>(A101) Any buildings or other structures located within an overland flow path with a catchment greater than 4,000m²</u></p> <p><u>(A102) Diverting the entry or exit point, piping or reducing the capacity of any part of an overland flow path</u></p>
Table E38.4.1 Activity Table	<p><u>(A11) Subdivision of land within any of the following natural hazard areas:</u></p> <ul style="list-style-type: none"> • [Deleted] 1-per cent annual exceedance probability floodplain • <u>flood hazard areas (excluding overland flow paths);</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) area • <u>coastal hazard areas;</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area • <u>medium landslide susceptibility assessment areas; or</u> • [Deleted] coastal erosion hazard area • <u>high landslide susceptibility assessment areas; or</u> • [Deleted] land which may be subject to land instability.
Table E39.4.1 Activity Table	<p><u>(A8) Subdivision of land within any of the following natural hazard areas:</u></p> <ul style="list-style-type: none"> • Deleted] 1-per cent annual exceedance probability floodplain • <u>flood hazard areas (excluding overland flow paths);</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) area • <u>coastal hazard areas;</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area • <u>medium landslide susceptibility assessment areas; or</u> • [Deleted] coastal erosion hazard area • <u>high landslide susceptibility assessment areas; or</u> • [Deleted] land which may be subject to land instability.
Standards	
E36.6.1.5	Fences, earth bunds, and walls in the 1 per cent annual exceedance probability (AEP) floodplain <u>in flood hazard areas</u>

E36.6.1.6	Storage of goods and materials in <u>flood hazard areas</u> the 1 per cent annual exceedance probability (AEP) floodplain
E36.6.1.6B	<u>New structures and buildings with a gross floor area of up to 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>
E38.7.3.3	<u>Subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas of a site within the one per cent annual exceedance probability floodplain.</u>
E38.8.1.1(2)	Site shape factor in residential zones
E38.9.1.1(1)	Site shape factor in business zones
E39.6.1.1(3)	Specified building area
E39.6.4.2	<u>Subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas of a site within the one per cent annual exceedance probability floodplain.</u>
E12.6.2(11) and E12.6.2(13)	General standards

10.2.6.2 Description of the proposal

In giving effect to proposed objective E36.2(3B), the policies and provisions outlined in Section 10.2.6.1 seek to manage flood hazard risk by:

- Providing policy direction on how flood risk arising from new subdivision, use and development is to be managed depending on the level of risk, using the matrices discussed in Section 10.2.1 above.

An 'avoid' approach is proposed where new subdivision, use and development:

- outside existing urbanised areas, gives rise to significant risk (Policy E36.3(30H))
- in existing urbanised areas, gives rise to significant risk in very high flood hazard areas (Policy E36.3(30B))
- in existing urbanised areas, relates to sensitive to natural hazards [B] and gives rise to significant risk in high flood hazard areas (Policy E36.3(30C))

In other cases, the proposed flooding provisions provide the opportunity for new subdivision, use and development to take place if risk can be reduced to, or maintained at, a tolerable or acceptable level via specified mitigation requirements

such as safe refuge and safe egress (Policies E36.3(30A), E36.3(30D) and E36.3(30E)).

- Providing policy direction on how flood risk arising from other activities is to be managed (Policies E36.3(21)-(29))
- Requiring resource consent for activities in flood hazard areas, and where appropriate, applying more stringent activity statuses for activities depending on the characteristics of the flood hazard (Table E36.4.1A)
- Applying a zoning approach to reduce development potential in select circumstances where flood hazard risk is the greatest to further align with the adoption of a precautionary approach
- Amending existing subdivision and earthworks provisions to reflect the terminology used in the new risk management framework and to align with the changes to Chapter E36.

10.2.6.3 Analysis of the proposal

Several proposed policies refer to the need to provide 'safe refuge' and 'safe egress'. Analysis of this approach is provided as Attachment 7 – Requiring and defining safe refuge and safe egress.

A zoning approach has been applied in select circumstances where flood hazards are present. Analysis of this approach is provided as Attachment 8 – Limiting development potential to manage flood and coastal hazard risks.

The analysis below considers the proposed package of policies, provisions and zoning changes to manage flood risk.

10.2.6.4 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposal delivers substantial environmental, social and cultural benefits by ensuring that new subdivision, use and development do not result in exposing people and property to significant flood hazard risk. It also reduces the opportunities of wide-spread impacts on people, property, infrastructure and the environment during and/or after a flood event. This approach limits the effects of flooding events on people and property, avoiding the displacement, disruption, and adverse social well-being impacts that can follow hazard events. This approach also reduces long-term financial and environmental liabilities for communities and council.

With regards to opportunity costs, the proposal seeks to maintain a suitable balance between managing flood risk while still providing for development opportunities where the risk can be appropriately mitigated. A more restrictive 'avoid' approach and the use of zoning to limit development potential is proposed to apply where the hazard conditions are of such a level that risk is unlikely to be able to be mitigated to a tolerable or acceptable level based on the limitations, practicality, feasibility and cost of the possible mitigation options. In other cases, flexibility is provided for suitable solutions to be found, particularly where flooding conditions on site mean that some development in higher depth and velocity floodwaters is

necessary to achieve an overall more desirable outcome. In this context, the overall opportunity costs are outweighed by the reduced exposure of people and property to where risk is the greatest, and the avoidance of future displacement or loss.

It is noted that the proposal does not eliminate exposure of future development to flood risk. Therefore, there will be social, cultural and environmental costs associated with enabling people and property to locate where they are exposed to some level of risk, even with mitigation present. However, the risk thresholds have been set to reflect the community feedback on risk tolerance, and the approach seeks to reduce costs associated with development in flood hazard areas by ensuring that where development does take place, risk to life is reduced through the necessary provision of safe refuge and safe egress.

Economic (including economic growth and employment)

The proposed provisions are expected to generate long-term economic benefits by reducing the impact that flooding events can have on people, property, infrastructure and the environment, thereby avoiding substantial future costs associated with damage, emergency response, and post-event recovery.

Flexibility has been incorporated to enable development to occur provided that suitable mitigation measures are adopted to reduce risk to a tolerable or acceptable level. While restrictions on development may limit some short-term construction and land development opportunities, these effects are offset by the flexibility provided and by the redirection of growth, particularly in lower-risk areas or locations outside of flood hazard areas. There are likely to be additional economic costs associated with providing the necessary mitigation or adjusting development to accommodate the flood hazards on site. However, these costs are likely to be outweighed from the benefits from reduced individual and societal economic impact following a flood event.

10.2.6.5 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	More restrictive provisions i.e. do not provide opportunity for mitigation where there is significant risk and apply zoning approach to high flood hazard areas	<p>Reduced exposure of people and property to significant flood risk</p> <p>Limited residual risk as no reliance on mitigation measures</p> <p>Clearer expectations of management of significant flood risk</p>	<p>Reduced development opportunities and locations</p> <p>Potential reduction in property values for those affected by broadened zoning approach</p> <p>Opportunity cost of enabling development when risk can be appropriately mitigated</p>

		Reduced assessment requirements to determine whether mitigation requirements have been met	Removes the opportunity for mitigation to be considered Less aligned with community feedback on risk tolerance
2	Less restrictive provisions i.e. provide for mitigation opportunities in very high flood hazard areas to reduce risk to a tolerable or acceptable level and do not apply zoning approach	Greater opportunities for development and greater flexibility to manage risk in very high flood hazard areas Potential uplift in property values for those affected by zoning approach May enable some economic activity, housing, or other uses in very high flood hazard areas Encourages innovation in flood mitigation and adaptive design	Greater residual risk if mitigation measures fail, are not maintained, or are exceeded by future flood events Increased exposure of people and property to significant flood risk Can set unrealistic expectations of development potential in very high flood hazard areas Increased opportunities for dispute regarding whether risk is mitigated to a tolerable or acceptable level

10.2.6.6 Summary of the reasons for deciding on the provisions

The proposal is the preferred option because it strikes a suitable balance between enabling intensification while also managing flood risk. It also provides a suitable balance between providing clear policy direction in situations that give rise to the greatest risk, while also enabling a level of flexibility in areas of lesser risk, particularly considering the variability of flooding conditions on a site. Adopting more restrictive or less restrictive provisions results in less balanced approaches, with the former resulting in a potentially onerous reduction in development potential when risk can be appropriately mitigated and the latter resulting in considerable residual risk from enabling development to take place where mitigation options are limited.

Sub-theme 10.2.7 Managing landslide hazard risk for new subdivision, use and development

10.2.7.1 Overview of provisions

Policies	
Policy E36.3(33A)	<u>Manage activities sensitive to natural hazards and activities potentially sensitive to natural hazards associated with proposals to subdivide, use or develop land in medium (tolerable) landslide hazard risk areas so the risk is not increased and where practicable, is reduced to an acceptable level in accordance with Appendix 24 Landslide hazard risk assessment methodology.</u>
Policy E36.3(33B)	<u>Enable subdivision, use and development in low (acceptable) landslide hazard risk areas where these activities do not involve buildings or structures that exacerbate landslide hazard risk beyond the site.</u>
Policy E36.3(33C)	<p><u>Minimise earthworks and vegetation alteration or removal in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas to ensure that the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology, including only allowing earthworks in these landslide hazard areas where:</u></p> <p>(a) <u>the soil type and properties are appropriate; and</u> (b) <u>measures to maintain slope stability are practicably achievable and their ongoing management, maintenance and monitoring is provided for; and</u> (c) <u>adverse effects on stream health and stability are avoided; and</u> (d) <u>adverse effects on adjoining properties and infrastructure are avoided in the first instance, or otherwise minimised where avoidance is not reasonably practicable.</u></p>
Policy E36.3(33D)	<p><u>Manage earthworks and vegetation alteration or removal in medium landslide susceptibility assessment areas and medium (tolerable) landslide hazard risk areas so the resulting risk associated with the proposal is not increased and where practicable, is reduced to an acceptable level in accordance with Appendix 24 Landslide hazard risk assessment methodology, including managing earthworks in these landslide hazard areas to ensure:</u></p> <p>(a) <u>the soil type and properties are appropriate;</u></p>

	<p><u>(b) measures to maintain slope stability are practicably achievable and their ongoing management, maintenance and monitoring is provided for;</u></p> <p><u>(c)adverse effects on stream health and stability are avoided; and</u></p> <p><u>(d)adverse effects on adjoining properties and infrastructure are avoided in the first instance, or otherwise minimised where avoidance is not reasonably practicable.</u></p>
Policy E36.3(33E)	<p><u>Avoid the discharge of stormwater and wastewater directly to ground in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas, and, if avoidance is not reasonably practicable in existing urbanised areas, ensure that:</u></p> <p><u>(a)the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology; and</u></p> <p><u>(b)any adverse effects on the site and receiving environment are avoided in the first instance, or otherwise remedied or mitigated where avoidance is not practicable in existing urbanised areas.</u></p>
Policy E36.3(33F)	<p><u>Manage the discharge of stormwater and wastewater directly to ground in medium landslide susceptibility assessment areas and medium (tolerable) landslide hazard risk areas to ensure:</u></p> <p><u>(a) the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology; and</u></p> <p><u>(b) any adverse effects on the site and receiving environment are avoided in the first instance, or otherwise remedied or mitigated where avoidance is not practicable in existing urbanised areas.</u></p>
Policy E36.3(33G)	<p><u>Manage the storage and containment of hazardous substances in high (significant) and medium (tolerable) landslide hazard risk areas so that the integrity of the storage method will not be compromised in a landslide event.</u></p>
Policy E36.3(33H)	<p><u>Manage accessways, including private roads and roads intended to be vested, in high (significant) and medium (tolerable) landslide hazard risk areas so that safe egress is provided where practicable, and landslide risks are reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology.</u></p>
Policy E36.3(33I)	<p><u>Avoid activities sensitive to natural hazards and activities potentially sensitive to natural hazards associated with proposals to subdivide, use or develop land in existing urbanised areas that give rise to high</u></p>

	<u>(significant) landslide hazard risk in accordance with Appendix 24 Landslide hazard risk assessment methodology, and, if avoidance is not reasonably practicable, reduce the risk to as low as reasonably practicable.</u>
Policy E36.3(33J)	<u>Avoid activities sensitive to natural hazards and activities potentially sensitive to natural hazards associated with proposals to subdivide, use or develop land outside existing urbanised areas that give rise to high (significant) landslide hazard risk in accordance with Appendix 24 Landslide hazard risk assessment methodology.</u>
Policy E38.3(2)	Require subdivision to manage the risk of adverse effects resulting from natural hazards <u>risks</u> in accordance with the objectives and policies in E36 Natural hazards and flooding, and to provide safe and stable building platforms and vehicle access.
Policy E39.3(2)	Require subdivision to manage the risk of adverse effects resulting from natural hazards <u>risks</u> in accordance with the objectives and policies in E36 Natural hazards and flooding, and to provide safe and stable building platforms and vehicle access.
Rules	
Table E36.4.1B Activity Table	<u>(A108) Storage of hazardous substances in landslide hazard risk areas that comply with Standard E36.6.A1</u> <u>(A109) Storage of hazardous substances in landslide hazard risk areas that do not comply with Standard E36.6.A1</u> <u>(A112) On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or soakage fields, accessways private roads and roads intended to be vested in landslide hazard risk areas that comply with Standard E36.6.A1</u> <u>(A113) On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or soakage fields, accessways, private roads and roads intended to be vested in landslide hazard risk areas that do not comply with Standard E36.6.A1</u> <u>(A114) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) associated with activities potentially sensitive and less sensitive to natural hazards in low (acceptable) landslide hazard risk areas</u> <u>(A115) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25)</u>

with a gross floor area up to 20m² associated with activities sensitive to natural hazards in low (acceptable) landslide hazard risk areas and less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas

(A116) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1

(A117) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1

(A118) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with natural hazard sensitive activities in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1

(A119) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with natural hazard sensitive activities in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1

(A120) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1

(A121) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1

(A122) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1

	<p><u>(A123) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A124) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities sensitive to natural hazards in landslide hazard risk areas that comply with Standard E36.6.A1</u></p> <p><u>(A125) New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities sensitive to natural hazards in landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A126) All other external additions and alterations to buildings and structures in landslide hazard risk areas that comply with Standard E36.6.A1</u></p> <p><u>(A127) All other external additions and alterations to buildings and structures in landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p> <p><u>(A128) All other buildings and structures, including retaining walls, in landslide hazard risk areas that comply with Standard E36.6.A1</u></p> <p><u>(A129) All other buildings and structures, including retaining walls, in landslide hazard risk areas that do not comply with Standard E36.6.A1</u></p>
<p>Table E38.4.1 Activity Table</p>	<p><u>(A11) Subdivision of land within any of the following natural hazard areas:</u></p> <ul style="list-style-type: none"> • [Deleted] 1 per cent annual exceedance probability floodplain • <u>flood hazard areas (excluding overland flow paths);</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) area • <u>coastal hazard areas;</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area • <u>medium landslide susceptibility assessment areas; or</u> • [Deleted] coastal erosion hazard area

	<ul style="list-style-type: none"> • <u>high landslide susceptibility assessment areas</u>; or • [Deleted] land which may be subject to land instability.
Table E39.4.1 Activity Table	<p><u>(A8) Subdivision of land within any of the following natural hazard areas:</u></p> <ul style="list-style-type: none"> • Deleted] 1 per cent annual exceedance probability floodplain • <u>flood hazard areas (excluding overland flow paths);</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) area • <u>coastal hazard areas;</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area • <u>medium landslide susceptibility assessment areas; or</u> • [Deleted] coastal erosion hazard area • <u>high landslide susceptibility assessment areas</u>; or • [Deleted] land which may be subject to land instability.
Standards	
E36.6.A1	<p><u>General standards</u></p> <p><u>(1) All activities (except activities (A108), (A114) and (A115)) listed as a permitted activity, controlled activity or restricted discretionary activity in Table E36.4.1B, must comply with the following standards by being undertaken in accordance with:</u></p> <ul style="list-style-type: none"> (a) <u>geotechnical reports, prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) and approved or certified by Council when associated with a building consent or resource consent;</u> (b) <u>hazard risk assessment reports prepared by a suitably qualified and experienced person in accordance with E36.9 and Appendix 24 Landslide hazard risk assessment methodology and approved or certified by Council when associated with a resource consent or compliant proposal to subdivide, use or develop land within a landslide hazard risk area; and</u> (c) <u>any conditions of a building consent, resource consent or consent notice registered on the land title(s) associated with the site(s) and relating to landslide risk and geotechnical assessment matters.</u>
E38.7.3.3	<p><u>Subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility</u></p>

	<u>assessment areas or high landslide susceptibility assessment areas of a site within the one per cent annual exceedance probability floodplain.</u>
E38.8.1.1(2)	Site shape factor in residential zones
E38.9.1.1(1)	Site shape factor in business zones
E39.6.1.1(3)	Specified building area
E39.6.4.2	<u>Subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas of a site within the one per cent annual exceedance probability floodplain.</u>
E12.6.2(18)	General standards
E15.6.8A	<u>Vegetation alteration or removal proposed within medium and high landslide susceptibility assessment areas</u>

10.2.7.2 Description of the proposal

The policies and provisions outlined in Section 10.2.7.1 seek to manage landslide risk by:

- Providing policy direction on how landslide risk arising from new subdivision, use and development is to be managed depending on the level of risk assessed and identified for applicable development proposals using Appendix 24 Landslide hazard risk assessment methodology, with.
 - an ‘avoid’ approach proposed for activities sensitive to natural hazards and activities potentially sensitive to natural hazards associated with proposals to subdivide, use or develop land;
 - outside existing urbanised areas that give rise to significant risk (Policy E36.3.(33J));
 - in existing urbanised areas that give rise to significant risk (Policy where it is reasonably practicable to do so, otherwise reduce the risk to as low as reasonably practicable E36.3(30I)).;
 - an ‘avoid’ approach proposed for the discharge of stormwater and wastewater directly to ground in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas, and where it is not reasonably practicable to do so in existing urbanised areas, reduce the resulting risk associated with the development proposal to as low as reasonably practicable (Policy E36.3.(33E));
 - a ‘minimise’ approach for earthworks and vegetation alteration or removal in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas to ensure that the resulting risk associated with

the development proposal is reduced to as low as reasonably practicable, including only allowing earthworks to occur in landslide hazard areas which maintain slope stability (Policy E36.3.(33C));

- a management approach proposed for activities sensitive to natural hazards and activities potentially sensitive to natural hazards associated with proposals to subdivide, use or develop land in medium (tolerable) landslide hazard risk areas so the risk is not increased and where practicable, is reduced to an acceptable level (Policy E36.3.(33A));
 - a management approach proposed for earthworks, vegetation alteration or removal and the discharge of stormwater and wastewater directly to ground in medium landslide susceptibility assessment areas and medium (tolerable) landslide hazard risk areas so the resulting risk associated with the development proposal is not increased and where practicable, is reduced to an acceptable level (Policy E36.3.(33D) and (33F));
 - a management approach proposed for accessways, including private roads and roads intended to be vested, in high (significant) and medium (tolerable) landslide hazard risk areas so that safe egress is provided where practicable, and landslide risks are reduced to as low as reasonably practicable.; and
 - a management approach proposed for the storage and containment of hazardous substances in high (significant) and medium (tolerable) landslide hazard risk areas so that the integrity of the storage method will not be compromised in a landslide event.
- Requiring resource consent for activities in landslide hazard risk areas, and where appropriate, applying more stringent activity statuses for activities depending on the landslide hazard risk level (Table E36.4.1B); and
 - Amending existing subdivision, earthworks and vegetation alteration or removal provisions to reflect the terminology used in the new risk management framework and to align with the changes to Chapter E36.

10.2.7.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposal delivers substantial environmental, social and cultural benefits by ensuring that new subdivision, use and development does not result in exposing people and property to significant landslide hazard risk. It also reduces the opportunities of wide-spread impacts on people, property, infrastructure and the environment during and/or after a landslide event. This approach limits the effects of landslide events on people and property, avoiding the displacement, disruption, and adverse social well-being impacts that can follow hazard

events. This approach also reduces long-term financial and environmental liabilities for communities and council.

With regards to opportunity costs, the proposal seeks to maintain a suitable balance between managing landslide risk, while still providing for development opportunities where the risk can be appropriately mitigated. A more restrictive 'avoid' approach is proposed to apply where the hazard conditions are of such a level that risk is unlikely to be able to be mitigated to a tolerable or acceptable level where the implementation of possible mitigation options may not reasonably be practicable in urbanised areas, taking into account the feasibility of applying such options in an existing urban environment. In other cases, flexibility is provided for suitable solutions to be found, particularly where ground conditions on site mean that some development in areas subject to a higher degree of landslide risk is necessary to achieve an overall more desirable outcome through the implementation of appropriate mitigation measures which reduce such risk as low as reasonably practicable in existing urbanised areas. In this context, the overall opportunity costs are outweighed by the reduced exposure of people and property to where risk is the greatest, and the potential avoidance of future displacement or loss.

It is noted that the proposal does not eliminate exposure of future development to landslide risk. Therefore, there will be social, cultural and environmental costs associated with enabling people and property to locate where they are exposed to some level of risk, even with mitigation present. However, the risk thresholds have been set to reflect the community feedback on risk tolerance, and the approach seeks to reduce costs associated with development in landslide hazard areas by ensuring that where development does take place, risk to life is reduced through the necessary provision of appropriate mitigation measures.

Economic (including economic growth and employment)

The proposed provisions are expected to generate long-term economic benefits by reducing the impact that landslide events can have on people, property, infrastructure and the environment, thereby avoiding substantial future costs associated with damage, emergency response, and post-event recovery.

Flexibility has been incorporated to enable development to occur provided that suitable mitigation measures are adopted to reduce risk to a tolerable or acceptable level. While restrictions on development may limit some short-term construction and land development opportunities, these effects are offset by the flexibility provided and by the redirection of growth, particularly in lower-risk areas. There are likely to be additional economic costs associated with providing the necessary mitigation or adjusting development to accommodate landslide hazards affecting a development proposal. However, these costs are likely to be outweighed from the benefits from reduced individual and societal economic impact following a landslide event.

10.2.7.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	More restrictive provisions i.e. do not provide opportunity for mitigation where there is significant risk	<p>Reduced exposure of people and property to significant landslide risk</p> <p>Limited residual risk as no reliance on mitigation measures</p> <p>Clearer expectations of management of significant landslide risk</p> <p>Reduced assessment requirements to determine whether mitigation requirements have been met</p>	<p>Reduced development opportunities and locations</p> <p>Potential reduction in property values for those affected by strict avoidance approach and consequential land development restrictions</p> <p>Opportunity cost of restricting development when risk can be appropriately mitigated</p> <p>Removes the opportunity for mitigation to be considered</p> <p>Less aligned with community feedback on risk tolerance</p>
2	Less restrictive provisions i.e. provide for mitigation opportunities in high landslide susceptibility areas and high (significant) landslide hazard risk areas to reduce risk	<p>Greater opportunities for development and greater flexibility to manage risk in high landslide susceptibility areas and high (significant) landslide hazard risk areas</p> <p>May enable some economic activity, housing, or other uses in high landslide susceptibility areas and high (significant) landslide hazard risk areas</p> <p>Encourages innovation in landslide mitigation and adaptive design</p>	<p>Greater residual risk if mitigation measures fail, are not maintained, or are compromised by future landslide events</p> <p>Increased exposure of people and property to significant landslide risk</p> <p>Can set unrealistic expectations of development potential in high landslide susceptibility areas and high (significant) landslide hazard risk areas</p> <p>Increased opportunities for disputing whether</p>

			significant landslide risk is sufficiently mitigated for an affected development proposal to proceed
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10.2.7.5 Summary of the reasons for deciding on the provisions

The proposal is the preferred option because it strikes a suitable balance between enabling intensification while also managing landslide risk. It also provides a suitable balance between providing clear policy direction in situations that give rise to the greatest risk, while also enabling a level of flexibility in areas of lesser risk, particularly considering the potential variability of landslide susceptibility areas and associated ground conditions mapped for larger sites, especially in relation to small-scale landslide susceptibility. Adopting more restrictive or less restrictive provisions results in less balanced approaches, with the former resulting in a potentially onerous reduction in development potential when risk can be appropriately mitigated and the latter resulting in considerable residual risk from enabling development to occur without practicable mitigation options being implemented where there is an opportunity to do so for the purpose of reducing landslide risk associated with a development proposal.

Theme 10.3 Ensuring subdivision, use and development does not create or exacerbate risk elsewhere

Objective E36.2(3C)

Proposal	
Objective E36.2(3C)	<u>Subdivision, use and development is managed in a way that avoids creating or exacerbating natural hazard risks on other properties, infrastructure and the environment.</u>
General intent	This objective seeks to ensure that subdivision, use and development does not occur where it is at the expense of creating or exacerbating risk on others, and raises the profile of unintended consequences of mitigation measures to address natural hazard risk.
Status quo	
Objectives E36.2(1), E36.2(2), E36.2(3) and E36.2(5)	The exacerbation of risk elsewhere is not specifically identified in the existing E36 objectives beyond ensuring the risks of adverse effects from natural hazards are avoided or not increased (E36.2(1), E36.2(2) and E36.2(3)), and that the conveyance function of floodplains and overland flow paths are maintained (E36.2(5)).

How the objectives are the most appropriate way to achieve the purpose of the Act

Section 5

Ensuring subdivision, use and development does not create or exacerbate natural hazard risks beyond the site is necessary to avoiding adverse effects of activities on the environment (section 5(2)(c)). This provides for the social, economic and cultural well-being of the local community as well as their health and safety.

Section 6

(h) The management of significant risks from natural hazards.

Subdivision, use and development have the potential to result in generating or worsening significant risks from natural hazards beyond the site. Managing the impact of development, and any associated mitigation measures, on other properties, infrastructure and the environment is consistent with section 6.

Section 7

(b) the efficient use and development of natural and physical resources.

Avoiding creating or exacerbating significant risk beyond the site ensures that development opportunities on other sites are not foregone.

(i) the effects of climate change

Managing the impact of subdivision, use and development on risk to other properties, infrastructure and the environment ensures that the effects of climate change and its exacerbation of natural hazard risk is addressed.

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

Chapter B10.2 Natural hazards and climate change directs the management of natural hazard risk. The proposed objective aligns with this by ensuring that subdivision, use and development does not result in generating additional risks beyond the site, so that risk can be managed accordingly as per proposed Objectives B10.2(2) and B10.2(3). The objective also gives effect to Objectives B2.2.1(1) and B2.2.1(5).

Provisions that give effect to Objective E36.2(3C)

The following proposed and/or amended provisions give effect to proposed Objective E36.2(3C).

10.3.1 Overview of provisions

Policies	
Policy E36.3(3)	<p>Consider all of the following, as part of a <u>Where a resource consent is necessary, require proposals to subdivide, use or develop land that is subject to natural hazards to prepare a risk assessment of proposals to subdivide, use or develop land that is subject to natural hazards that considers all of the following, taking into account the potential effects of climate change and adopting a precautionary approach where information is uncertain or incomplete:</u></p> <ul style="list-style-type: none"> (a) [Deleted] the type, frequency and scale of the natural hazard and whether adverse effects on the development will be temporary or permanent: (aa) <u>the type, frequency, range and scale of the natural hazard(s), including:</u> <ul style="list-style-type: none"> (i) <u>where there may be coinciding, compounding and/or cascading hazards;</u> (ii) <u>whether the hazard risks will be temporary or permanent;</u> (iii) <u>whether natural hazard events of lower intensity and higher frequency than the 1 per cent AEP event will impact the property and proposed activity</u> (b) [Deleted] the type of activity being undertaken and its vulnerability to natural hazard events; (c) the consequences of a natural hazard event in relation to the proposed activity; (d) [Deleted] the potential effects on public safety and other property; (e) [Deleted] any exacerbation of an existing natural hazard risk or the emergence of natural hazard risks that previously were not present at the location; (f) [Deleted] whether any building, structure or activity located on land subject to natural hazards near the coast can be relocated in the event of severe coastal erosion, inundation or shoreline retreat; (g) [Deleted] the ability to use non-structural solutions, such as planting or the retention or enhancement of natural landform buffers to avoid, remedy or mitigate hazards, rather than hard protection structures;

	<p>(h) [Deleted] the design and construction of buildings and structures to mitigate the effects of natural hazards;</p> <p>(i) [Deleted] the effect of structures used to mitigate hazards on landscape values and public access;</p> <p>(j) [Deleted] site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event; and</p> <p>(k) [Deleted] the duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the likely effects of climate change.</p> <p>(l) <u>existing and proposed mitigation measures;</u></p> <p>(m) <u>residual risk;</u></p> <p>(n) <u>any relevant management plan, strategy or hazard risk assessment relating to the area.</u></p>
Policy E36.3(4A)	<p><u>Require all of the following matters to be considered when assessing consequences of natural hazards as part of a risk assessment:</u></p> <p>(a) <u>accelerating or exacerbating the natural hazard and/or its potential impacts;</u></p> <p>(b) <u>creating natural hazard risks that previously were not present at the location;</u></p> <p>(c) <u>the type of activity being undertaken and its sensitivity to natural hazard events;</u></p> <p>(d) <u>creating or increasing the natural hazard risk(s) to people and communities, including long-term impacts from more frequent hazard events;</u></p> <p>(e) <u>creating or increasing the natural hazard risk(s) to other properties, infrastructure and the environment; and</u></p> <p>(f) <u>cultural impacts, including consequences for Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values.</u></p>
Policy E36.3(4B)	<p><u>Require all of the following matters to be considered as part of a risk assessment of existing and future mitigation measures and residual risk:</u></p> <p>(a) <u>whether any building, structure or activity located on land subject to natural hazards can be relocated within the site or removed;</u></p> <p>(b) <u>whether the use, design and construction of buildings and structures can mitigate risks associated with natural hazards;</u></p>

	<ul style="list-style-type: none"> (c) <u>the extent to which methods for long term maintenance of areas affected by natural hazards, such as easements, are provided;</u> (d) <u>the ability for site layout and management to limit exposure of people and property to natural hazards, including safe egress during a natural hazard event;</u> (e) <u>the effect of structures to mitigate hazards on landscape values and public access;</u> (f) <u>the robustness of the mitigation measures, their enforceability and the ability to carry out repairs and maintenance;</u> (g) <u>the potential consequences of events that exceed the design parameters of mitigation measures;</u> (h) <u>the potential effects resulting from failure of structural and nature-based mitigation measures over a 100-year timeframe;</u> (i) <u>the impacts of the mitigation on other people, properties, infrastructure and the environment;</u> (j) <u>whether natural hazard risks can be reduced for Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values;</u> (k) <u>the use of conditions of consent, including the duration of consent, to monitor changes in risk and to limit the exposure of people and property to natural hazards.</u> (l) <u>the extent to which it is practicable to mitigate residual risk where infrastructure has a functional or operational need to locate in a natural hazard area</u>
Policy E36.3(4E)	<p><u>Support the use and development of marae while managing natural hazard risks by ensuring the following:</u></p> <ul style="list-style-type: none"> (a) <u>buildings that house activities sensitive to natural hazards are located outside of very high and high flood hazard areas, coastal erosion hazard area 1, coastal inundation hazard area 1, and high landslide hazard risk areas;</u> (b) <u>safe refuge and safe egress are provided where possible, taking into account access agreements with neighbouring properties;</u> (c) <u>the long term potential effects of climate change are taken into account;</u> (d) <u>potential effects on other properties are considered;</u>

	(e) <u>Marae trust endorsed marae natural hazard management plans and any mitigation imposed through a Māori Reservation are taken into account</u>
Policy E36.3(5B)	<u>Ensure all development, including fencing, earth bunds, storage of materials and goods, in coastal hazard areas do not create or exacerbate coastal hazard risk on other sites.</u>
Policy E36.3(5C)	<u>Require the storage and containment of hazardous substances in coastal inundation areas so that the integrity of the storage method will not be compromised in an inundation event.</u>
Policy E36.3(5J)	<u>Provide for activities less sensitive to natural hazards within coastal hazard areas in existing urbanised areas where coastal hazard risks are not exacerbated beyond the site.</u>
Policy E36.3(5N)	<u>Enable new subdivision, use and development outside existing urbanised areas where coastal hazard risk is acceptable in accordance with Table E36.3.1B.2 where coastal hazard risks are not exacerbated beyond the site.</u>
Policy E36.3(12A)	<p><u>Where coastal protection is proposed to protect existing subdivision use and development, taking into account climate change over a 100-year timeframe, avoid significant adverse effects and mitigate other adverse effects on all of the following:</u></p> <ul style="list-style-type: none"> (a) <u>the natural character of the coastal environment;</u> (b) <u>outstanding natural features and landscapes;</u> (c) <u>habitats for indigenous species;</u> (d) <u>access to Maori Land, Treaty Settlement Land and marae, including effects on mana whenua cultural heritage and values;</u> (e) <u>identified historic heritage places;</u> (f) <u>public access to and along the coast;</u> (g) <u>other properties.</u>
Policy E36.3(12C)	<p><u>Coastal protection must be designed to avoid all of the following:</u></p> <ul style="list-style-type: none"> (a) <u>undermining;</u> (b) <u>erosion;</u> (c) <u>settlement;</u> (d) <u>movement or dislodgement;</u> (e) <u>failure;</u> (f) <u>pipng or hydraulic pumping of fine material or backfill;</u> (g) <u>offshore or long-shore loss of sediment from the immediate vicinity; and</u> (h) <u>any increase in the coastal hazard posed to the coastline elsewhere.</u>

Policy E36.3(21)	Ensure all development, <u>including fencing, storage of materials and goods, and earthworks, in flood hazard areas in the 1-per cent annual exceedance probability (AEP) floodplain does not create or exacerbate flood risk on other sites</u> increase adverse effects from flood hazards or increased flood depths and velocities, to other properties upstream or downstream of the site.
Policy E36.3(22)	Require the storage and containment of hazardous substances in floodplains <u>flood hazard areas</u> so that the integrity of the storage method will not be compromised in a flood event.
Policy E36.3(23)	Provide for flood mitigation measures which reduce flood-related effects and provide for the reconstruction of culverts and bridges where those measures do not create or exacerbate <u>flood risk on other sites</u> flooding upstream or downstream or otherwise increase flood hazards.
Policy E36.3(24)	Enable the planting and retention of vegetation cover to enhance amenity values, green linkages and ecological values in floodplains <u>as long as it does not whilst ensuring that create or exacerbate flooding upstream or downstream or otherwise increase flood hazards</u> <u>flood risk on other sites are not created or exacerbated.</u>
Policy E36.3(29)	Maintain the function of overland flow paths to convey stormwater runoff safely from a site to the receiving environment <u>by ensuring that any modifications do not result in a reduction in the capacity of the overland flow path and do not cause nuisance or damage to property or the environment.</u>
Policy E36.3(30A)	<u>Enable subdivision, use and development that gives rise to acceptable flood hazard risk in accordance with Tables E36.3.1B.1 and E36.3.1B.2 where these activities do not involve buildings or structures that exacerbate the flood hazard beyond the site.</u>
Policy E36.3(33C)	<u>Minimise earthworks and vegetation alteration or removal in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas to ensure that the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology, including only allowing earthworks in these landslide hazard areas where:</u> <ul style="list-style-type: none"> a) <u>the soil type and properties are appropriate; and</u> b) <u>measures to maintain slope stability are practicably achievable and their ongoing management, maintenance and monitoring is provided for; and</u> c) <u>adverse effects on stream health and stability are avoided; and</u>

	<p>d) <u>adverse effects on adjoining properties and infrastructure are avoided in the first instance, or otherwise minimised where avoidance is not reasonably practicable</u></p>
Policy E36.3(33D)	<p><u>Manage earthworks and vegetation alteration or removal in medium landslide susceptibility assessment areas and medium (tolerable) landslide hazard risk areas so the resulting risk associated with the proposal is not increased and where practicable, is reduced to an acceptable level in accordance with Appendix 24 Landslide hazard risk assessment methodology, including managing earthworks in these landslide hazard areas to ensure:</u></p> <p>a) <u>the soil type and properties are appropriate; and</u> b) <u>measures to maintain slope stability are practicably achievable and their ongoing management, maintenance and monitoring is provided for; and</u> c) <u>adverse effects on stream health and stability are avoided; and adverse effects on adjoining properties and infrastructure are avoided in the first instance, or otherwise minimised where avoidance is not reasonably practicable</u></p>
Policy E36.3(33E)	<p><u>Avoid the discharge of stormwater and wastewater directly to ground in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas, and, if avoidance is not reasonably practicable in existing urbanised areas, ensure that:</u></p> <p>a) <u>the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology; and</u> b) <u>any adverse effects on the site and receiving environment are avoided in the first instance, or otherwise remedied or mitigated where avoidance is not practicable in existing urbanised areas</u></p>
Policy E36.3(33F)	<p><u>Manage the discharge of stormwater and wastewater directly to ground in medium landslide susceptibility assessment areas and medium (tolerable) landslide hazard risk areas to ensure:</u></p> <p>a) <u>the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology; and</u> b) <u>any adverse effects on the site and receiving environment are avoided in the first instance, or otherwise remedied or mitigated where avoidance is not practicable in existing urbanised areas</u></p>
Policy E36.3(33G)	<p><u>Manage the storage and containment of hazardous substances in high (significant) and medium (tolerable) landslide hazard risk areas so that</u></p>

	<u>the integrity of the storage method will not be compromised in a landslide event.</u>
Rules and standards	
<p>The rules and standards that are existing, proposed or proposed to be amended in Chapters E12, E15, E36, E38, and E39 by PC120 relate to the management of subdivision, use and development in natural hazard areas, which can result in impacts on other properties, infrastructure and the environment. As such, these are not all repeated here.</p>	

10.3.2 Description of the proposal

The need to consider the impact of subdivision, use and development on other properties, infrastructure and the environment is weaved throughout the proposed provisions.

This is primarily reflected in Policies E36.3(3), E36.3(4A) and E36.3(4B), where proposals that require a resource consent to subdivide, use or develop land that is subject to natural hazards are required to prepare a risk assessment to consider a range of matters, including the consequences of the activity and the impacts of any mitigation measures. Creating or increasing natural hazard risk on people, communities, other properties, infrastructure and the environment are clearly outlined as consequences that need to be assessed. These policies are supported by a range of other more hazard-specific policies. Where an activity is a permitted activity, these effects are managed by permitted standards.

10.3.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposal will ensure that risks posed by natural hazards to people, property, infrastructure and the environment are not worsened by other development activity around the region. Potential impacts could include displacement of floodwaters onto neighbouring properties due to obstruction of an overland flow path, or acceleration of coastal erosion further along the coastline as a result of a new hard protection structure. This will deliver social and cultural benefits by eliminating additional pressures generated by natural hazards on people, property and infrastructure. It will also deliver environmental benefits by reducing impacts on the receiving environment such as increased rate of stream erosion or accelerated loss of natural features.

Economic (including economic growth and employment)

Where displacement or external effects are not managed appropriately, the risk of natural hazards can be transferred to other people. This can result in unforeseen economic costs for those affected as it means that additional mitigation is now required to protect these people and their assets, as well as the environment. While the proposal will result in costs to those undertaking subdivision, use and development as they are required to find solutions to avoid creating or exacerbating risk beyond the site, it is considered that these are outweighed by

the potential costs associated with the wider community having to find solutions to address these transferred impacts.

10.3.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Status quo i.e. rely on existing policies and frameworks to assess effects on other people, property, infrastructure and the environment	Consideration of these effects is already embedded in some parts of Chapter E36	Potential inconsistencies on whether this matter is assessed appropriately Potential costs to those affected by the transfer of risk if impacts not appropriately considered

10.3.5 Summary of the reasons for deciding on the provisions

Subdivision, use and development have the potential to create or increase natural hazards risks on neighbouring and wider environment. The proposal to highlight the need for this to be considered is appropriate in order to ensure that off-site impacts are considered consistently and that the social, economic and environment costs associated with transfer of risk is avoided.

Theme 10.4 Managing natural hazard risks while providing for Māori values rights and interests

Context

Auckland Council operates under a number of statutory and substantive requirements to uphold Treaty settlements and actively protect the interests of Māori, including through provisions within the RMA, local government legislation, Treaty settlement legislation and others. Beyond defined legislative requirements, the Council has a residual Treaty obligation as a delegate of the Crown's powers to regulate the sustainable management of natural and physical resources in the environment. Māori values, rights and interests are based in a range of matters including tikanga, property rights, Treaty settlements, customary rights, interests in the protection and development of land and natural resources, and in cultural heritage and values embedded in natural resources and places. These rights, interests and values exist across Tāmaki Makaurau and belong in varying degrees to mana whenua and mataawaka. The AUP has a significant role in the regulation of activities that affect Māori values, rights and interests.

The AUP provides for Māori rights, interests and values in a reasonably comprehensive way, starting in the RPS issues and chapters. The main part of the framework is in Chapter B6

(Mana Whenua) but relevant objectives and policies exist in other chapters. These objectives and policies cascade to Auckland-wide rules, zones and precincts.

The AUP does not currently provide for consideration of Māori values, rights and interests when managing natural hazard risks. The RPS chapters are intended to be read and referenced as a whole, so the objectives and policies in Chapter B6 are relevant for interpreting and applying policies and rules for managing natural hazard risks. However, the lack of acknowledgement of Māori values, rights and interests in these sections has meant there are no clear methods for considering effects on Māori and supporting their role in managing natural hazard risks.

Natural Hazards pose significant risks for Māori values, rights and interests. These risks can be categorised as risks from natural hazards themselves and risks that arise from or are made worse by the activities of others. The exposure to risk sits across the full range of natural hazards identified in Chapter B10, including from flooding, coastal inundation, coastal erosion, land instability, and wildfire.

The risks to Māori values, rights and interests affect land and resources that Māori own and/or have customary rights over, as well as land of which they no longer have legal possession but retain significant cultural values and heritage interests.

The activities of others can reduce the effects of natural hazards for the resources and places that Māori value. For example, infrastructure can channel stormwater into the established network rather than sending it where it will harm customary resources or erode a cultural site. Infrastructure providers could locate or upgrade infrastructure in places where it would improve the resilience of Māori land and Treaty settlement land, provided they are aware of opportunities to do it.

The breadth and degree of potential impact on Māori from natural hazards means that addressing it will require ongoing involvement by iwi leaders, Māori landowners, haukāinga and kaitiaki to ensure risks are managed effectively. Mātauranga and Tikanga are essential components for carrying out site specific assessments of risk. CVAs included examples of damage and devastation from flooding that could have been predicted and avoided had mana whenua had been asked to share their mātauranga about the place.

Objective E36.2(3D)

Proposal	
Objective E36.2(3D)	<u>Risks from natural hazards on Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values are reduced over time, and not created or exacerbated by subdivision, use and development.</u>
General intent	The intent of the objective is to ensure that the cultural impacts of natural hazard risks are identified and addressed alongside the broader management of natural hazard risk and provide active protection for Māori interests that are subject to natural hazard risk.

Status quo

No objective

No objective in Chapter E36 references natural hazard risks for Māori.

How the objectives are the most appropriate way to achieve the purpose of the Act

Section 5 as it provides for the sustainable management by ensuring that natural hazard risks include consideration of Māori values rights and interests. This provides for the social, economic and cultural well-being of the local community as well as their health and safety.

Section 6

Recognise and provide for:

(e) The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga

(h) The management of significant risks from natural hazards.

The objective essentially brings these two matters of national importance together to ensure the relationship between Māori and their taonga is provided for in the identification and management of natural hazard risks.

Section 7

Take into account the maintenance and enhancement of:

(a) kaitiakitanga

(b) the efficient use and development of natural and physical resources.

(i) the effects of climate change

Including this objective enables these matters to be dealt with together for Māori interests with the participation of Māori, which maintains and enhances kaitiakitanga in the context of managing natural hazards, including those where the effects are made worse by climate change.

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

Chapter B6 Mana Whenua in the RPS directs that the principles of the Treaty of Waitangi are recognised and provided for in the sustainable management of natural and physical resources including ancestral lands, water, air, coastal sites, wahhi tapu and other taonga. It also directs that mana whenua cultural and historic heritage sites should be protected.

PC120 gives effect to the RPS directions by identifying and managing natural hazard risk in rural environments that give mana whenua realistic land use options.

Provisions that give effect to Objective E36.2(3D)

The following proposed and/or amended provisions give effect to proposed Objective E36.3D.

Sub-theme 10.4.1 Strengthening the consideration of Māori values rights and interests

10.4.1.1 Overview of provisions

Policies	
Policy E36.3(3)	<p>Consider all of the following, as part of a <u>Where a resource consent is necessary, require proposals to subdivide, use or develop land that is subject to natural hazards to prepare a risk assessment of proposals to subdivide, use or develop land that is subject to natural hazards that considers all of the following, taking into account the potential effects of climate change and adopting a precautionary approach where information is uncertain or incomplete:</u></p> <p>(a) [Deleted] the type, frequency and scale of the natural hazard and whether adverse effects on the development will be temporary or permanent:</p> <p><u>(aa) the type, frequency, range and scale of the natural hazard(s), including:</u></p> <p>(i) <u>where there may be coinciding, compounding and/or cascading hazards;</u></p> <p>(ii) <u>whether the hazard risks will be temporary or permanent;</u></p> <p>(iii) <u>whether natural hazard events of lower intensity and higher frequency than the 1 per cent AEP event will impact the property and proposed activity</u></p> <p>(b) [Deleted] the type of activity being undertaken and its vulnerability to natural hazard events;</p> <p>(c) the consequences of a natural hazard event in relation to the proposed activity;</p> <p>(d) [Deleted] the potential effects on public safety and other property;</p> <p>(e) [Deleted] any exacerbation of an existing natural hazard risk or the emergence of natural hazard risks that previously were not present at the location;</p>

	<p>(f) [Deleted] whether any building, structure or activity located on land subject to natural hazards near the coast can be relocated in the event of severe coastal erosion, inundation or shoreline retreat;</p> <p>(g) [Deleted] the ability to use non-structural solutions, such as planting or the retention or enhancement of natural landform buffers to avoid, remedy or mitigate hazards, rather than hard protection structures;</p> <p>(h) [Deleted] the design and construction of buildings and structures to mitigate the effects of natural hazards;</p> <p>(i) [Deleted] the effect of structures used to mitigate hazards on landscape values and public access;</p> <p>(j) [Deleted] site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event; and</p> <p>(k) [Deleted] the duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the likely effects of climate change.</p> <p>(l) <u>existing and proposed mitigation measures;</u></p> <p>(m) <u>residual risk;</u></p> <p>(n) <u>any relevant management plan, strategy or hazard risk assessment relating to the area.</u></p>
<p>Policy E36.3(4A)</p>	<p><u>Require all of the following matters to be considered when assessing consequences of natural hazards as part of a risk assessment:</u></p> <p>(a) <u>accelerating or exacerbating the natural hazard and/or its potential impacts</u></p> <p>(b) <u>creating natural hazard risks that previously were not present at the location</u></p> <p>(c) <u>the type of activity being undertaken and its sensitivity to natural hazard events;</u></p> <p>(d) <u>creating or increasing the natural hazard risk(s) to people and communities, including long-term impacts from more frequent hazard events;</u></p> <p>(e) <u>creating or increasing the natural hazard risk(s) to other properties, infrastructure and the environment; and</u></p> <p>(f) <u>cultural impacts, including consequences for Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values.</u></p>

<p>Policy E36.3(4B)</p>	<p><u>Require all of the following matters to be considered as part of a risk assessment of existing and future mitigation measures and residual risk:</u></p> <ul style="list-style-type: none"> (a) <u>whether any building, structure or activity located on land subject to natural hazards can be relocated within the site or removed;</u> (b) <u>whether the use, design and construction of buildings and structures can mitigate risks associated with natural hazards;</u> (c) <u>the extent to which methods for long term maintenance of areas affected by natural hazards, such as easements, are provided;</u> (d) <u>the ability for site layout and management to limit exposure of people and property to natural hazards, including safe egress during a natural hazard event;</u> (e) <u>the effect of structures to mitigate hazards on landscape values and public access;</u> (f) <u>the robustness of the mitigation measures, their enforceability and the ability to carry out repairs and maintenance;</u> (g) <u>the potential consequences of events that exceed the design parameters of mitigation measures;</u> (h) <u>the potential effects resulting from failure of structural and nature-based mitigation measures over a 100-year timeframe;</u> (i) <u>the impacts of the mitigation on other people, properties, infrastructure and the environment;</u> (j) <u>whether natural hazard risks can be reduced for Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values;</u> (k) <u>the use of conditions of consent, including the duration of consent, to monitor changes in risk and to limit the exposure of people and property to natural hazards.</u> (l) <u>the extent to which it is practicable to mitigate residual risk where infrastructure has a functional or operational need to locate in a natural hazard area</u>
<p>Policy E36.3(12A)</p>	<p><u>Where coastal protection is proposed to protect existing subdivision use and development, taking into account climate change over a 100-year timeframe, avoid significant adverse effects and mitigate other adverse effects on all of the following:</u></p> <ul style="list-style-type: none"> (a) <u>the natural character of the coastal environment;</u>

	<ul style="list-style-type: none"> (b) <u>outstanding natural features and landscapes;</u> (c) <u>habitats for indigenous species;</u> (d) <u>access to Maori Land, Treaty Settlement Land and marae, including effects on mana whenua cultural heritage and values;</u> (e) <u>identified historic heritage places;</u> (f) <u>public access to and along the coast;</u> (g) <u>other properties.</u>
Policy E36.3(36)	<u>When considering the location and design of infrastructure in areas subject to natural hazards consider the potential to reduce natural hazard risks to Māori Land, Treaty Settlement land, marae, urupā, mana whenua cultural heritage and values.</u>

10.4.1.2 Description of the proposal

This proposal establishes an AUP directive to provide methods for Māori participation in natural hazards risk identification, assessment and management. While it supports non-statutory planning such as Shoreline Adaptation Plans, the main means of participation would be through natural hazard risk assessments. These assessments are developed whenever resource consent is required to develop in areas with natural hazard risks managed in Chapter E36.

Including cultural effects in assessments will provide applicants and infrastructure providers with information for designing their activity in a way that reduces rather than exacerbates risks for Māori. The need to do this would be reinforced through including effects on Māori land, Treaty settlement land, marae, urupā, mana whenua cultural heritage and values as a matter of discretion for all restricted discretionary activities.

The policies apply to a list of matters that comprise Māori values, rights and interests that are addressed by the AUP. These are Māori Land, Treaty settlement land, marae, urupā, mana whenua cultural heritage and values. The intention behind this list was to clarify the range of matters to consider, so that plan users could better anticipate what to look out for as a trigger for engagement with mana whenua. The matters are all defined terms under Chapter J and there are a number of statutory and non-statutory GIS layers available to guide the identification of potential issues and determine what to raise when engaging with mana whenua.

This is a slight departure from the more general term “mana whenua values” which is used in other Auckland-wide chapters that manage natural resources and the coastal environment. The list still includes cultural values, leaving the scope open for consideration of other kinds of taonga. The rules for managing natural hazard risks are active alongside rules governing freshwater, indigenous biodiversity and the coastal environment.

10.4.1.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

This proposal provides social and cultural benefits for Māori by providing for their participation in the management of natural hazards as well as a consideration of their tikanga and mātauranga in the assessment. In some cases, it will be the difference between a project that degrades a taonga or improves its resilience. In every case, it will provide an opportunity for the maintenance and enhancement of kaitiakitanga. These benefits are a core aspect of achieving sustainable management under the RMA. They embody the core Treaty principles of active protection of Māori interests and participation in resource management processes.

The proposal provides environmental benefits in the sense that mana whenua cultural heritage and values often relate to natural resources in a given place. Mana whenua expressed significant concern over how use and development of land that was already prone to coastal hazards, land instability, flooding and wildfire could exacerbate issues for taonga species, mahinga kai and other customary resources. Providing for their participation in the assessment of risks will enable mana whenua to identify these impacts on cultural heritage and values and offer tikanga-consistent mitigation.

Economic (including economic growth and employment)

There is some added economic cost for plan users in that the participation of mana whenua needs to be resourced, whether this is commissioning a Cultural Impact Assessment, paying for site visits and hui, or some combination of involvement. These costs tend to be proportionate to the significance of the activity being managed, and for larger developments it will be one of several specialist inputs that are already required for an application. Auckland Council has methods for assisting plan users to anticipate and manage these costs through the CVA facilitation service and pre-application meetings.

10.4.1.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	No new policies in E36 and assessment requirements that provide for Māori participation, tikanga or mātauranga when assessing natural hazard risks	Potentially less short-term cost and uncertainty for other plan users	Cultural and social costs to Māori, including potential damage or loss of taonga due to the activities of other plan users. Potential economic costs for Māori due to lack of support for assessing

			<p>natural hazard risks for their land and resources.</p> <p>Potential long-term costs for other plan users as risks are managed without regard to mātauranga and tikanga.</p>
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10.4.1.5 Summary of the reasons for deciding on the provisions

This proposal establishes an AUP directive at this region-wide level to provide methods for Māori participation in natural hazards risk identification, assessment and management that aligns with the established directive of B6. The impact of natural hazards on Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values is included as a matter for consideration in determining the risk, the consequences and the mitigations. An additional bespoke policy is also introduced with regard to the impact of the design and management of infrastructure in light of natural hazards and the potential consequential impact on Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values.

This approach increases awareness and strengthens obligations under TeTiri o Waitangi in working in partnership with Māori in protecting and managing these valuable resources.

Sub-theme 10.4.2 Maintaining flexibility for managing risks for Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values

10.4.2.1 Context

There is very little Māori land left in Tāmaki Makaurau. Treaty settlement land (such as cultural and commercial redress, right of first refusal) is only available in specific places and in most cases negotiated before information about natural hazard risks was available. Some of this land is vulnerable to one or more natural hazard risks and some to the degree that constraints on development could be significant. Mana whenua and marae haukainga (marae hosts) were clear that they did not want to risk the health and safety of their whānau (family) and manuhiri (visitors); however, the policy framework must still provide them a degree of mana motuhake (self-determination) in providing for their tribal wellbeing.

The preference of mana whenua was in nearly all cases to manage natural hazards using natural buffers and nature-based solutions. These are consistent with te ao Māori because such methods work with the land and do not unnecessarily modify it. However, some examples arose in consultation where no other method would work to protect a site and it would not be feasible to move it, at least not in the short-medium term. In such cases a pathway to justify the use of hard protection was needed.

10.4.2.2 Overview of provisions

Policies	
Policy E36.3(4E)	<p><u>Support the use and development of marae while managing natural hazard risks by ensuring the following:</u></p> <ul style="list-style-type: none">(a) <u>buildings that house activities sensitive to natural hazards are located outside of very high and high flood hazard areas, high coastal hazard areas, and high landslide hazard risk areas</u>(b) <u>safe refuge and safe egress are provided where possible, taking into account access agreements with neighbouring properties</u>(c) <u>the long term potential effects of climate change are taken into account</u>(d) <u>potential effects on other properties are considered</u>(e) <u>Marae trust endorsed marae natural hazard management plans and any mitigation imposed through a Māori Reservation are taken into account</u>

10.4.2.3 Description of proposal

This proposal recognises the limitations and need for more empowered decision-making for Māori on their own land. It works alongside policies that manage new development in areas with natural hazards and the use of coastal protection to offer flexibility for Māori when considering how to manage risks for their land and taonga.

Marae are identified as a land use that is sensitive to the effects of natural hazards, due to the presence of people in vulnerable situations and the need to evacuate older and disabled people in the event of an emergency. However, marae have a functional need to be in areas that are culturally relevant and options are limited to land the haukāinga can own and/or control.

The proposal requires marae to use the same activity table as other uses of land, but where consent is triggered the new policy in chapter E36 that can be used to support marae use and development in principle with a focus on key assessment criteria. This acknowledges that although marae contain sensitive uses where people are in a vulnerable state, the design and location of marae structures can be varied to reduce risk and increase community resilience.

10.4.2.4 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposal creates benefits for Māori in that it creates more certainty in the process of developing and expanding marae. It puts more tools at the disposal of haukāinga and

Settlement Trusts and Māori landowners as they consider how to manage natural hazards while providing for tribal wellbeing on their limited landholdings.

Economic (including economic growth and employment)

It does not necessarily reduce costs in that in most cases a consent will still be needed, and applications will need to contain as sufficient level of detail to demonstrate that the health and safety of vulnerable people has been addressed and that the site is being made more resilient in the face of increasing risks from climate change.

10.4.2.5 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	No added policies to support the use and development marae in natural hazard areas	None	<p>Cultural and social costs to Māori – pathways for development of marae while managing natural hazard risks would be more difficult, costly and uncertain</p> <p>Potential economic costs for Māori - limited landholdings that could otherwise be made safe for use might not be developable due to rules that discourage development.</p>
2	A more permissive regime for Māori land, Treaty settlement land, and marae	<p>More economic benefits for Māori due to greater certainty and lower consenting costs</p> <p>Social/cultural benefit due to greater self-determination</p>	Costs to communities, if a lack of regulation means that marae do not sufficiently provide for the health and safety of vulnerable people.

10.4.2.6 Summary of the reasons for deciding on the provisions

The proposed policy recognises the unique situation of marae in supporting a number of functions and uses that do not ‘fit’ within a single management approach of Chapter E36. Containing activities that range across the sensitivity ratings and located across the hazard

exposure areas requires considered policy response. The proposed bespoke policy provides direction for the implementation of the rules in E36.

Theme 10.5 Providing for managed retreat of marae, papakāinga and other development on Māori land and Treaty settlement land

10.5.1 Context

Marae, urupā, papakāinga, and other places of central importance to Māori life are already affected by natural hazards and have limited places in their rohe for a safe retreat. While the provisions in Chapters E20, E21, and H27 are enabling of some development, they do not provide enough support or flexibility for development that breaches standards in the underlying zone, even where this is required to facilitate avoidance of natural hazard risks and managed retreat. It also does not provide an enabling pathway for the transfer of those development rights to nearby land that could be made available for managed retreat.

Objectives E39.2(14) and E39.2(16A)

Proposal	
Objective E39.2(14)	<p>Subdivision is provided for, by either:</p> <p>(a) Limited in-situ subdivision through the protection and enhancement of significant indigenous vegetation or wetlands and/or indigenous revegetation planting; or</p> <p>(aa) <u>Very limited rural subdivision to provide for the relocation of identified marae and urupā from sites subject to significant natural hazard risks; or</u></p> <p>(b) Transfer of titles to the Rural-Countryside Living Zone, through the protection and enhancement of indigenous vegetation and wetlands and/or through indigenous revegetation planting.</p>
Objective E39.2(16A)	<p><u>Sites to accommodate the relocation of marae and urupā are provided for in areas where there are natural and physical resources that have been scheduled in the Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character if the adverse effects on those values are avoided and or minimised.</u></p>
General intent	<p>The intent of the objective to provide for very limited subdivision and/or boundary adjustments to occur in the Rural environment for the purpose of supporting managed retreat of identified marae and urupā.</p>
Status quo	
No objective	<p>No objectives in E38 references managed retreat of marae and urupā</p>

How the objectives are the most appropriate way to achieve the purpose of the Act

Section 5 as it provides for the sustainable management by ensuring that limits on rural subdivision are maintained while providing for very limited exceptions for specific marae and urupā for the purpose of managed retreat from natural hazards.

Section 6

Recognise and provide for:

(e) The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga

(h) The management of significant risks from natural hazards.

The objectives essentially brings these two matters of national importance together to ensure the relationship between Māori and their taonga is provided for in the identification and management of natural hazard risks.

Section 7

Take into account the maintenance and enhancement of:

(a) kaitiakitanga

(b) the efficient use and development of natural and physical resources.

(i) the effects of climate change

Including this objective enables these matters to be dealt with together for Māori interests with the participation of Māori, which maintains and enhances kaitiakitanga in the context of managing natural hazards, including those where the effects are made worse by climate change.

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

The amended objectives give effect to Chapter B6 Mana Whenua and B9 Rural Environments of the RPS by providing a policy framework for some limited subdivision to occur in rural environments to avoid the risk of natural hazards. The relevant parts of the RPS directs decision makers to protect mana whenua cultural and historic heritage sites and areas which are of significance to mana whenua, and to ensure that the relocation of identified marae and urupā are appropriately managed. The proposed changes provide a policy basis for that outcome to occur.

Provisions that give effect to Objectives E38.2(14) and E38.2(16A)

The following proposed and/or amended provisions give effect to proposed Objective E38.2(14) and E38.2(16A).

10.5.2 Overview of provisions

Policies	
<u>Policy E39.3(6A)</u>	<u>Provide for other boundary adjustments only where they enable the relocation of identified existing marae and urupā which are subject to significant natural hazard risks.</u>
<u>Policy E39.3(19A)</u>	<p><u>Provide for limited rural subdivision to create a Te Wāhi Hunuku Site for identified existing marae and urupā which are subject to intolerable natural hazard risks, while ensuring that:</u></p> <ul style="list-style-type: none"> (a) <u>natural hazard risk assessments incorporate the cultural perspectives of the potentially affected iwi, hapū, whānau and haukāinga; a decision to relocate a marae and/or urupā is made in accordance with the agreed tikanga of all affected iwi, hapū, whānau and haukāinga.</u> (b) <u>the Te Wāhi Hūnuku Site will be used for the relocation of the identified marae and/or urupā and is agreed between the landowner of the parent site and the mandated marae / urupā representatives;</u> (c) <u>the original marae and urupā site is no longer used for land use or development which will result in significant natural hazard risks.</u> (d) <u>the Te Wāhi Hūnuku Site is of a sufficient size to accommodate all necessary services and to absorb and manage adverse effects within the site;</u> (e) <u>where there are natural and physical resources that have been scheduled in the Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character and are affected by relocated marae and urupā development, adverse effects on those values are avoided, remedied or mitigated;</u> (f) <u>reverse sensitivity effects are managed in a way that does not compromise the viability of surrounding rural sites for continued production;</u>

	(g) <u>the subdivision avoids, remedies or mitigates adverse effects on the rural or coastal character and complements the rural or coastal character of the area</u>
Policy E39.3(20)	<p>Require subdivision, including site boundaries and specified building areas and access, to:</p> <p>(a) recognise topography including steep slopes, natural features, ridgelines, aspect, water supplies, and existing vegetation;</p> <p>(b) avoid inappropriately located buildings and associated accessways including prominent locations as viewed from public places;</p> <p>(c) avoid adverse effects on riparian margins and protected natural features; and</p> <p>(d) <u>except in the case of Te Wāhi Hūnuku subdivision</u>, avoid fragmentation of features and landscape in the Significant Ecological Areas Overlay, Outstanding Natural Character Overlay, High Natural Character Overlay, Outstanding Natural Landscapes Overlay, Outstanding Natural Features Overlay or Sites and Places of Significance to Mana Whenua Overlay, or areas between sites.</p>
Rules	
Table E39.4.1 Subdivision for specified purposes	<u>(A4A) Te Wāhi Hūnuku boundary adjustments which enable the relocation of identified existing marae and urupā which are subject to significant natural hazard risks meeting Standard E39.6.3.2A</u>
Table E39.4.2 Subdivision in rural zones (excluding Rural – Waitākere Foothills Zone and Rural – Waitākere Ranges Zone)	<p><u>(A13A) Te Wāhi Hūnuku Site subdivision in the Rural – Rural Production Zone, Rural – Mixed Rural Zone, Rural – Rural Coastal Zone and Rural – Rural Conservation Zone for the relocation of identified marae and urupā from significant natural hazard risk complying with Standard E39.6.4.3A.</u></p> <p><u>(A13B) Te Wāhi Hūnuku Site subdivision in the Rural – Rural Production Zone, Rural – Mixed Rural Zone, Rural – Rural Coastal Zone and Rural – Rural Conservation Zone for the relocation of identified marae and urupā from significant natural hazard risk not complying with Standard E39.6.4.3A.</u></p>
Table E39.4.3 Subdivision in Future Urban Zone	<u>(A28A) Te Wāhi Hūnuku Site subdivision in the Future Urban Zone for the relocation of the Makaurau Marae urupā (Sec 2A ML 14173 Parish of Manurewa) from significant natural hazard risk complying with Standard E39.6.5.4.</u>

Standards	
<u>E39.6.3.2A</u>	<u>Te Wāhi Hūnuku boundary adjustments which enable the relocation of identified existing marae and urupā which are subject to significant natural hazard risks</u>
<u>E39.6.4.3A</u>	<u>Te Wāhi Hūnuku Site subdivision for the relocation of identified marae and urupā from significant natural hazard risk</u>
<u>E39.6.5.4</u>	<u>Te Wāhi Hūnuku Site subdivision in the Future Urban Zone for the relocation of the Makaurau Marae urupā</u>

10.5.3 Description of the proposal

This proposal provides high-level policy support to enable Māori to respond to natural hazard risks through a range of methods, including spatial strategies, plan changes, use of Māori purpose zone or precincts. It introduces a specific statutory method called Te Wāhi Hunuku to provide a very limited allowance for rural subdivision that is needed to effect the managed retreat of specific marae and urupā that have known natural hazard risks.

The policy framework for Te Wāhi Hunuku has been narrowly constructed to preserve the overall AUP intention to limit rural subdivision and focus development in urban areas.

The finite list of sites that these policies would apply to has been developed in consultation with mana whenua and marae haukāinga and represents the council's best understanding of the extent of need for managed retreat. New information might come to light in the future that means more sites need to use these policies. If this occurs the RPS-level policies acknowledging the need to support managed retreat of marae and urupā will support future plan changes that could add to this list.

The proposal is supported by new definitions for Te Wāhi Hunuku Site Subdivision and Te Wāhi Hunuku Boundary Adjustment as well as amendments to Appendix 15 Subdivision information and process.

10.5.4 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposal will benefit Māori by providing more certainty for managed retreat for their activities, even where it must occur on general land that could not otherwise access the policies that enable development in Chapters E20 (Māori land) and E21 (Treaty Settlement Land).

Rural subdivision has a significant impact on the rural environment. It is difficult to reverse the fragmentation of sites needed largely for rural activities. This means that a tightly controlled approach to providing for any more rural subdivision is needed, including for managed retreat. This option limits the potential costs to the rural environment by limiting future subdivision to the purpose of managed retreat for Māori, providing a pathway in the

AUP only for specified marae and urupā, and ensuring the continuation of that purpose through standards and conditions.

Economic (including economic growth and employment)

It does not necessarily reduce costs in that in most cases a consent will still be needed and applications will need to contain as sufficient level of detail to demonstrate that there are appropriate protections for communal ownership and ongoing control of the new rural land, as well as the surrender of development rights for the land vacated due to natural hazard risks.

10.5.5 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Make no changes to the AUP that would support managed retreat of marae and urupā on Māori land	None	Māori landowners, Settlement Trusts and haukāinga of marae would need to rely on the existing policy framework for development of Māori land and Treaty settlement land in Chapters B6, E20, E21 and H27 when determining how to respond to significant natural hazard risks on their land. They would not have any policy support for shifting these activities to general land for the purpose of managed retreat.
2	Provide a more open-ended provision for rural subdivision to enable managed retreat	More economic benefits for Māori due to greater certainty and lower consenting costs Social/cultural benefit due to greater self-determination	Costs to rural communities due to a lack of explicit limits on how fragmentation of rural land is allowed.

10.5.6 Summary of the reasons for deciding on the provisions

The proposal is considered appropriate given the alternatives identified as it maintains a balance of enabling for relocation to occur and therefore giving effect to Chapters B6 and B9 of the RPS, while also ensuring cost to rural communities are minimised and the integrity of the rural environment is not compromised.

Theme 10.6 Managing natural hazard risks in relation to infrastructure where there is a functional or operational need

Objective E36.2(4)

Proposal	
Objective E36.2(4)	Where infrastructure has a functional or operational need to locate in a natural hazard area, the risk of adverse effects to other people, property, and the environment, shall be assessed and significant adverse effects <u>avoid the creation or exacerbation of risks from natural hazards to people, property, and the environment</u> are sought first to be avoided or, if avoidance is not able to be totally achieved, the residual effects are otherwise mitigated to the extent practicable.
General intent	Consistent with other similar amendments to E36, this amendment is intended to clarify that the intent to manage risk, rather than manage the adverse effects of being exposed to natural hazards. This subtly shifts focus to a more proactive risk management approach.
Status quo	
Objective E36.2(4)	As shown above

How the objectives are the most appropriate way to achieve the purpose of the Act
<p>Section 5</p> <p>The objective provides for sustainable management by ensuring that infrastructure can be developed, operated and maintained in locations exposed to natural hazard risks, providing effects can be managed, enabling people to provide for the social, economic, and cultural wellbeing and their health and safety.</p>
<p>Section 6</p> <p><i>(h) The management of significant risks from natural hazards.</i></p> <p>Limiting opportunities to locate in areas of natural hazard risks to those that have a function or operational need for the location gives broad effect to section 6. While avoiding</p>

or otherwise mitigating natural hazard risks associated with infrastructure in these locations ensures the provisions continue also to give effect to section 6(h).

Section 7

(b) the efficient use and development of natural and physical resources.

Providing for infrastructure enables the efficient use and development of natural and physical resources.

(i) the effects of climate change

Taking a more proactive risk management approach is an appropriate response to managing the effects of climate change which have become more pronounced in the 10 years since the provisions were originally introduced.

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

The objectives give effect to proposed and amended Policies B10.2.2(22) and (23) of the RPS that similarly provide for infrastructure in locations exposed to natural hazard risks where there is a functional or operational need and alternatives are not practicable, while otherwise minimising and reducing risk.

Provisions that give effect to Objective E36.2(4)

The following proposed and/or amended provisions give effect to proposed Objective E36.2(4).

10.6.1 Overview of provisions

Policies	
Policy E36.3(35)	<p>Allow <u>Enable</u> for the construction, operation, maintenance and, upgrading and construction of infrastructure, in areas subject to natural hazards when where:</p> <ul style="list-style-type: none"> a. infrastructure is functionally or operationally required to locate in hazard areas or it is not reasonably practicable that it be located elsewhere; • in coastal hazard areas the infrastructure does not significantly increase risk to people, property and the environment, and where risks cannot be avoided, adverse effects are mitigated;

	c. in all flood hazard areas risks to people, property and the environment are mitigated to the extent practicable.
Policy E36.3(36)	<u>When considering the location and design of infrastructure in areas subject to natural hazards consider the potential to reduce natural hazard risks to Māori Land, Treaty Settlement land, marae, urupā, mana whenua cultural heritage and values.</u>
Policy E36.3(37)	<u>Where practicable, avoid locating infrastructure where it will require coastal protection structures including nature-based solutions, within a 100-year timeframe or increase dependency on existing coastal protection structures.</u>
Rules	
Table E36.4.1A Activity Table	<u>(A103) Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in flood and coastal hazard areas that complies with Standard E36.6.1.13</u> <u>(A104) Construction, operation, maintenance, renewal and repair of road network activities within the legal road or road formation width in flood and coastal hazard areas</u> <u>(A105) Infrastructure within roads or the Strategic Transport Corridor Zone in flood and coastal hazard areas</u> <u>(A106) Construction, operation, maintenance, renewal and repair of underground utilities within flood and coastal inundation hazard areas</u> <u>(A107) All other infrastructure in flood and coastal hazard areas not otherwise provided for</u>
Table E36.4.1C Activity Table	<u>(A130) Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in landslide susceptibility assessment areas that complies with Standard E36.6.1.13</u> <u>(A131) Construction, operation, maintenance, renewal and repair of road network activities within the legal road or road formation width in landslide susceptibility assessment areas</u> <u>(A132) Infrastructure within roads or the Strategic Transport Corridor Zone in landslide susceptibility assessment areas</u> <u>(A133) All other infrastructure in landslide susceptibility assessment areas not otherwise provided for</u>
Standards	

Standard E36.6.1.13 (no changes except updated list in heading)	Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in areas listed in the heading above
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Note: There are no changes proposed to Standard E36.6.1.13 except for updating references to reflect new terminology for natural hazard areas.

10.6.2 Description of the proposal

The proposal amends the AUP to require the more proactive consideration of natural hazard risks when planning and developing infrastructure, while retaining a generally enabling approach. This avoids duplicating the assessment of natural hazard risks when considering land use change or intensification in the first instances.

While retaining an enabling approach, the provisions also promote opportunities to reduce long-term risk, including residual risk, and consider risk reduction co-benefits of infrastructure in particular to Māori Land, Treaty Settlement land, marae, urupā, mana whenua cultural heritage and values.

10.6.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposed changes strengthen the integration of cultural values and long-term climate adaptation into infrastructure planning in areas exposed to natural hazards. By introducing a dedicated Policy E36.3(36) requiring explicit consideration of Māori Land, Treaty Settlement land, marae, urupā, and mana whenua cultural heritage and values, the amendments deliver a clear cultural benefit. This aligns with the principles of Te Tiriti o Waitangi and the requirements of the RMA to recognise and provide for the relationship of Māori with their ancestral lands, water, sites, wāhi tapu, and other taonga.

Policy E36.3(37), which seeks to avoid locating infrastructure where it will require coastal protection structures within a 100 year timeframe, is a proactive adaptation measure. This approach reduces the likelihood of locking in long-term reliance on hard protection works, thereby maintaining natural coastal processes, protecting biodiversity, and preserving the natural character of the coastal environment, public access etc. in accordance with the NZCPS.

The consolidation of hazard provisions in Policy E36.3(35) into a general “all hazard areas” mitigation requirement simplifies the policy framework and may improve administrative efficiency. However, the removal of hazard-specific thresholds (such as the “no significant increase in risk” test for coastal hazards) could reduce the clarity and precautionary strength of the policy, potentially allowing higher residual risk in sensitive environments. This presents a potential environmental cost if infrastructure is enabled in locations where avoidance would have been the more sustainable option.

Socially, the clearer separation of cultural, environmental, and hazard management considerations may improve clarity of the considerations and trade-offs involved. The explicit cultural recognition in Policy E36.3(36) can strengthen relationships between councils, infrastructure providers, and mana whenua, fostering trust and collaborative approaches to infrastructure and hazard risk management. Conversely, if the generalised mitigation standard in Policy E36.3(35) results in more infrastructure being located in high-risk areas, there may be long-term social costs in the form of increased exposure to hazard events, disruption to communities, and higher adaptation or retreat costs in the future.

Overall, the proposed changes provide cultural and environmental benefits by taking a proactive approach to adaptation. The main potential cost lies in the reduced specificity of hazard thresholds, which may require careful integration with other plan provisions to ensure that environmental and social resilience objectives are not undermined.

Economic (including economic growth and employment)

The proposed changes support long term economic growth by reducing future exposure of infrastructure to natural hazard damage, thereby lowering repair, replacement, and insurance costs over the asset lifecycle. By encouraging location and design choices that avoid exposing infrastructure to natural hazards and therefore require permanent protection and management, the policies can help avoid higher long-term operation and maintenance costs. It also, supports economic resilience by reducing the likelihood of infrastructure failure and required reinstatement following events exceed design requirements.

In the short term, more stringent location and design requirements could increase upfront costs for some infrastructure projects, particularly where alternative sites or adaptive design solutions are required. This may marginally affect project feasibility or timing, with flow on effects for related employment during the construction phase. However, these costs are likely to be offset over time by reduced hazard related disruption, lower maintenance burdens.

Overall, the proposed approach supports sustainable economic growth by prioritising infrastructure that is resilient, culturally responsive, and less exposed to hazard related losses, thereby safeguarding both employment and productivity in the long term.

10.6.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Managing, rather than enabling infrastructure in natural hazard areas	<p>Potential to reduce long-term hazard exposure.</p> <p>Would necessitate greater integration of hazard considerations into long-term</p>	<p>Higher upfront planning and design costs.</p> <p>Possible constraints on infrastructure delivery and</p>

		<p>landuse change and intensification decisions.</p> <p>Reduced environmental risk.</p> <p>Potential to enhance community resilience.</p> <p>Reduce dependency and cost of maintaining infrastructure and protections for infrastructure in hazard prone area in perpetuity.</p> <p>Supports climate adaptation objectives – reduces lock-in.</p>	<p>therefore land development enablement.</p> <p>Service delivery challenges and costs – avoiding hazard areas may increase network lengths or complexity, raising capital and operational costs.</p> <p>May limit development capacity in some areas, requiring strategic re-allocation of growth to lower-risk locations.</p> <p>May have unintended consequence of creating additional costs and regulatory barriers for infrastructure required to reduce or manage natural hazard risks.</p> <p>May limit the provision of infrastructure to some locations reducing community resilience.</p>
2	Enabling infrastructure without additional regulatory considerations in natural hazard areas.	<p>Lower upfront compliance costs – reduced need for hazard assessments, consenting conditions, or design modifications.</p> <p>Faster project delivery due to shorter approval and construction timeframes.</p> <p>Greater flexibility for developers and network operators.</p>	<p>Increased long-term risk exposure - higher likelihood of damage, service disruption, and loss of life or property in hazard events.</p> <p>Greater public liability due to potential for significant repair, replacement, and emergency response costs.</p> <p>Higher likelihood of modifying natural processes or relying on hard protection works with significant adverse effects.</p> <p>Reduced community resilience if infrastructure enables and locks-in</p>

			<p>vulnerable development patterns.</p> <p>Long-term economic instability due to increased risk of losses and service interruptions.</p>
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10.6.5 Summary of the reasons for deciding on the provisions

The proposed provisions enable infrastructure with a genuine functional or operational need to locate in natural hazard areas, while ensuring risks to people, property, and the environment are avoided where practicable and otherwise mitigated to the lowest reasonable level. This approach aligns with the RMA’s sustainable management purpose, gives effect to the RPS, and responds to the increasing impacts of climate change by promoting proactive risk management rather than simply managing the effects of hazard exposure.

Alternatives were considered, including managing such infrastructure more restrictively to avoid hazard areas entirely, or enabling it without additional hazard-specific requirements. The first option was not preferred as it could unduly constrain essential services and increase network inefficiencies, while the second was rejected due to the potential for high long-term exposure and associated costs.

The proposed provisions strike a balance by retaining an enabling framework for essential infrastructure, integrating cultural considerations, and embedding long-term resilience into location and design decisions.

Theme 10.7 Maintenance and enhancement of natural hazard mitigation functions of natural features and natural buffers

Objectives E36.2(5) and E36.2(6)

Proposal	
Objective E36.2(5)	Subdivision, use and development, including redevelopment, is managed to safely maintain. <u>The flood storage and conveyance functions of floodplains and overland flow paths are maintained, and enhanced where practicable, and the creation of new flood prone areas are avoided.</u>
Objective E36.2(6)	Where appropriate, n <u>Natural features and buffers are used where practicable and nature-based solutions are used</u> in preference to hard protection structures to manage natural hazards.
General intent	The objectives highlight the need to maintain and enhance the role of natural systems, features and buffers that provide hazard mitigation and

	strengthen the preferences of these and nature-based solutions over other interventions.
Status quo	
Objectives E36.2(5) and E36.2(6)	As shown above

How the objectives are the most appropriate way to achieve the purpose of the Act	
Section 5	<p>Prioritising natural systems, features, buffers, and nature-based solutions ensure the life-supporting capacity of ecosystems (section 5(2)(b)) and avoiding, remedying, or mitigating any adverse effects (section 5(2)(c)) of activities on the environment that can arise from natural hazard mitigations.</p>
Section 6	<p><i>(a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development</i></p> <p>Preferencing natural systems, features and buffers, then nature-based solutions support the preservation of natural character. This preference is important noting the coincidence of natural character values with locations exposed to natural hazard risks.</p> <p><i>(h) The management of significant risks from natural hazards.</i></p> <p>While providing a clear hierarchy of preference the policy provides for protection measures to manage significant natural hazard risks.</p>
Section 7	<p><i>(c) the maintenance and enhancement of amenity values</i></p> <p>Preferring natural systems, and nature-based solutions increases their likely prevalence and the higher amenity values they provide.</p> <p><i>(d) intrinsic values of ecosystems</i></p> <p>Natural systems, natural features and nature-based solutions are complementary and supportive of ecosystem values and services and often delivering environmental co-benefits.</p> <p><i>(f) maintenance and enhancement of the quality of the environment</i></p>

Where natural features, natural systems and nature-based solutions are maintained or adopted, they can contribute to the maintenance and enhancement of the environment by integrating with natural systems.

(i) the effects of climate change

The hierarchy of preference considers the effects of climate change and promotes adaptive, resilient hazard management methods.

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

The objective gives effect to the more pro-active adaptive management approach adopted by the RPS as proposed to be amended by PC120. In particular:

- Policy B10.2.2(5) Manage subdivision, use and development of land subject to natural hazards based on all of the following: ... (c) the cumulative effects of locating activities on land subject to natural hazards, including natural hazard risk mitigations, and the effects on other activities and resources
- Policy B10.2.2(7) Avoid or mitigate the effects of activities in areas subject to natural hazards, such as earthworks, changes to natural and built drainage systems, vegetation clearance and new or modified structures, so that the existing risks of natural hazards are not increased.
- Policy B10.2.2(14) Manage natural hazard sensitive and potentially sensitive activities, earthworks, vegetation removal, and stormwater and wastewater discharges in landslide hazard areas of medium risk.
- Policy B10.2.2(4421) Protect, strengthen and prioritise natural systems such as flood plains, vegetation and riparian margins, beaches and sand dunes in preference to using hard protection structures to manage natural hazards

Provisions that give effect to Objectives E36.2(5) and E36.2(6)

The following proposed and/or amended provisions give effect to proposed Objectives E36.2(5) and E36.2(6)

10.7.1 Overview of provisions

Policies	
Policy E36.3(10)	Avoid the modification, alteration or removal of sand dunes and vegetation on sand dunes <u>and other coastal margins</u> which would compromise their function as natural defences for an area subject to coastal hazards and ensure adverse effects on wider coastal processes are avoided or mitigated.

Policy E36.3(10A)	<u>Retain natural features and buffers, enable their restoration and enhancement, and support their function as natural defences against natural hazards within coastal hazard areas.</u>
Policy E36.3(11A)	<u>Where coastal protection is determined to be required, natural features and buffers are used where possible and nature-based solutions are used in preference to hard protection structures to manage natural hazards.</u>
Policy E36.3(21)	<u>Ensure all development, including fencing, storage of materials and goods, and earthworks, in flood hazard areas in the 1 per cent annual exceedance probability (AEP) floodplain does not create or exacerbate flood risk on other sites increase adverse effects from flood hazards or increased flood depths and velocities, to other properties upstream or downstream of the site.</u>
Policy E36.3(29)	<u>Maintain the function of overland flow paths to convey stormwater runoff safely from a site to the receiving environment by ensuring that any modifications do not result in a reduction in the capacity of the overland flow path and do not cause nuisance or damage to property or the environment.</u>
Policy E36.3(33C)	<u>Minimise earthworks and vegetation alteration or removal in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas to ensure that the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology, including only allowing earthworks in these landslide hazard areas where:</u> <ul style="list-style-type: none"> (a) <u>the soil type and properties are appropriate; and</u> (b) <u>measures to maintain slope stability are practicably achievable and their ongoing management, maintenance and monitoring is provided for; and</u> (c) <u>adverse effects on stream health and stability are avoided; and</u> (d) <u>adverse effects on adjoining properties and infrastructure are avoided in the first instance, or otherwise minimised where avoidance is not reasonably practicable.</u>
Policy E36.3(33D)	<u>Manage earthworks and vegetation alteration or removal in medium landslide susceptibility assessment areas and medium (tolerable) landslide hazard risk areas so the resulting risk associated with the proposal is not increased and where practicable, is reduced to an acceptable level in accordance with Appendix 24 Landslide hazard risk assessment methodology, including managing earthworks in these landslide hazard areas to ensure:</u>

	<p>(a) <u>the soil type and properties are appropriate; and</u></p> <p>(b) <u>measures to maintain slope stability are practicably achievable and their ongoing management, maintenance and monitoring is provided for; and</u></p> <p>(c) <u>adverse effects on stream health and stability are avoided; and</u></p> <p>(d) <u>adverse effects on adjoining properties and infrastructure are avoided in the first instance, or otherwise minimised where avoidance is not reasonably practicable.</u></p>
Rules	
<p>Table E36.4.1A Activity Table</p>	<p><u>(A67) Fences and walls for landscaping, privacy, or aesthetic purposes (excluding retaining walls and earth bunds) in coastal hazard areas</u></p> <p><u>(A89) On-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A92) Construction of other land drainage works, stormwater management devices or flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A93) External alterations to existing buildings (as existing at 03/11/25) which do not increase the gross floor area of the building in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A94) External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A95) External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A96) New structures and buildings with a gross floor area up to 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A97) All other external additions and alterations to structures and buildings in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p> <p><u>(A98) All other structures and buildings (including retaining walls) in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u></p>

	<p><u>(A100) Any buildings or other structures located within an overland flow path with a catchment less than 4,000m²</u></p> <p><u>(A101) Any buildings or other structures located within an overland flow path with a catchment greater than 4,000m²</u></p> <p><u>(A102) Diverting the entry or exit point, piping or reducing the capacity of any part of an overland flow path</u></p>
<p>Table E36.4.1D Activity Table</p> <p>(no changes from existing other moved than into new activity table)</p>	<p><u>(A134) Beach nourishment</u></p> <p><u>(A135) Dune stabilisation</u></p> <p><u>(A136) Beach nourishment which does not comply with Standard E36.6.1.2</u></p> <p><u>(A137) Dune stabilisation which does not comply with Standard E36.6.1.3</u></p> <p><u>(A138) Modification, alteration or removal of sand dunes and vegetation on sand dunes within 40m of mean high water springs not otherwise provided for</u></p> <p><u>(A139) Repair, maintenance or minor upgrade (which does not increase the area occupied by the structure) of lawfully established hard protection structures landward of mean high water springs that may serve as a defence against coastal erosion or inundation</u></p> <p><u>(A140) Extension (including upgrading that increases the area occupied by the structure) or alteration of existing lawfully established hard protection structures</u></p> <p><u>(A141) New hard protection structures located landward of the coastal protection yard that may serve as a defence against coastal erosion or inundation</u></p> <p><u>(A142) Hard protection structures not otherwise provided for</u></p>
Standards	
E36.6.1.1D	<u>Fences and walls for landscaping, privacy, or aesthetic purposes in coastal hazard areas (excluding retaining walls and earth bunds)</u>
E36.6.1.2 (no changes proposed)	Beach nourishment
E36.6.1.3	Dune stabilisation

(no changes proposed)	
E36.6.1.4 (no changes proposed)	The repair, maintenance or minor upgrade (which does not increase the area occupied by the structure) of lawfully established hard protection structures, landward of mean high water springs that may serve as a defence against coastal erosion or inundation
E36.6.1.5	Fences, <u>earth bunds</u> , and walls in the 1 per cent annual exceedance probability (AEP) floodplain in flood hazard areas
E36.6.1.6A	<u>External alterations to existing buildings (as existing at 03/11/25) which do not increase the gross floor area of the building in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas; and external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>
E36.6.1.6B	<u>External additions and alterations to existing structures and buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>
E15.6.8A	<u>Vegetation alteration or removal proposed within medium and high landslide susceptibility assessment areas</u>

10.7.2 Description of the proposal

The proposal strengthens policy direction to retain and enhance natural features and systems that provide natural hazard mitigation functions, deliver environmental co-benefits, and can be more cost effective in the long-term.

This is achieved through retaining existing rules and standards that relate to defences against coastal hazards as well as retaining, amending or introducing new rules and standards that manage impacts of development on floodplains, overland flow paths and vegetation removal in medium and high landslide susceptibility assessment areas.

10.7.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposed changes strengthen the policy and rule framework for retaining, restoring, and enhancing natural features and buffers specifically for their role in managing and defending against natural hazards including coastal erosion, inundation, flooding, and landslides. By protecting the physical form, integrity, and connectivity of these systems, the provisions help maintain their capacity to absorb, dissipate, or redirect hazard energy and flows, thereby

reducing the likelihood and severity of damage to people, property, and infrastructure. This functional focus supports long-term resilience by reducing reliance on engineered interventions, which can transfer or exacerbate risk elsewhere.

Socially, safeguarding the hazard-mitigation function of natural systems contributes to community safety, security, and confidence in the face of increasing hazard exposure, including the effects of climate change. Retaining these features in situ can also reduce the need for disruptive or costly engineered interventions over time, supporting continuity of land use and community activities. The emphasis on “where practicable” ensures that the approach remains adaptable to site-specific risk profiles and technical feasibility, while still embedding a clear preference for measures that work with natural processes.

Culturally, the protection of natural hazard-mitigation functions aligns with mātauranga Māori and the exercise of kaitiakitanga, recognising the interdependence between healthy natural systems and the safety and wellbeing of people. Many iwi and hapū values emphasise the role of natural features—such as dunes, wetlands, and riparian margins—not only as taonga but as living systems that actively protect communities from harm.

Economic (including economic growth and employment)

By protecting and enhancing the hazard-mitigation functions of natural features and buffers, the provisions can lower future repair and replacement costs, reduce insurance liabilities, and avoid the economic disruption associated with major hazard events. Over time, this resilience supports stable conditions for investment, enabling sustained economic activity and protecting the productive capacity of affected areas.

Implementation of restoration, enhancement, and maintenance works for natural systems are not expected to contribute in any significant way to employment or economic growth, however, may contribute to a diversified local economy and can stimulate specialist skills development.

Upfront expenditure for planning, design, and implementation of nature-based or restorative measures, or to avoid disrupting overland flow are expected to be comparable to alternative interventions. However, possible constraints on land use or development in hazard-prone areas would be expected to be greater, as the space, including buffers, required to allow for overland flow, natural and nature-based protections are greater than the space required for hard engineering solutions.

These costs are likely to be offset over the life of the assets by reduced maintenance requirements, avoided damage costs, the co-benefits of enhanced amenity and ecosystem services and by avoiding increasing residual risks (e.g. blockage, over-design events, structural failure etc.).

10.7.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Treating natural features and buffer, nature-based solutions, and hard engineering solutions equally.	<p>Greater flexibility to choose the most feasible or cost-effective option.</p> <p>Faster deployment possible in urgent situations.</p> <p>Fewer constraints for development and consenting.</p> <p>Wider opportunities for engineering and construction sectors.</p>	<p>Risk of over-reliance on hard structures, reducing long-term resilience.</p> <p>Potential loss of natural hazard-mitigation functions.</p> <p>Higher long-term costs from damage and maintenance.</p> <p>Greater environmental and cultural impacts.</p> <p>Weaker alignment with climate-adaptation objectives.</p>
2	Providing only for natural buffers and nature-based solutions.	<p>Strong focus on protecting existing natural hazard-mitigation functions.</p> <p>Simple, clear policy direction.</p> <p>High alignment with environmental and cultural values.</p>	<p>No guidance for situations where natural features are absent or insufficient.</p> <p>Risk of inconsistent or ad-hoc decisions on human interventions.</p> <p>Missed opportunities for integrated or adaptive hazard-management solutions.</p>

10.7.5 Summary of the reasons for deciding on the provisions

The provisions as proposed provide for the improved maintenance and enhancement of the role of natural systems, features and buffers in providing hazard mitigation over other non-nature-based solutions. This approach aligns with current understanding of the mitigation of natural hazards in reducing reliance on hard engineering solutions thereby reducing long term economic costs of maintenance and renewal in the face of increasingly recurrent natural hazard events.

Theme 10.8 Assessing the effects of climate change

Objective E36.2(7)

Proposal	
Objective E36.2(7)	<u>All natural hazard risk assessments and management measures take into account the potential long term effects of climate change.</u>
Objective E38.2(10)	Subdivision: (a) within urban and serviced areas, does not increase the risks of adverse effects to people, property, infrastructure and the environment from natural hazards <u>only occurs when the risk from natural hazards, including the potential effects of climate change, to people, property, infrastructure and the environment is tolerable or acceptable.</u> ...
Objective E39.2(17)	Subdivision: (a) <u>only occurs when the risk from natural hazards, including the potential effects of climate change, to people, property, infrastructure and the environment is tolerable or acceptable;</u> outside of urban and serviced areas avoids adverse effects to people, property, infrastructure and the environment from natural hazards; ...
General intent	These objectives seek to highlight the need to take into account climate change, aligning with RMA, the NZCPS and NPS-UD in requiring this long-term consideration of effects. This is a standalone objective in E36 to avoid repetition and emphasise the need for consideration for all proposals. The term 'potential' is used to better acknowledges the uncertainty of information relating to climate change.
Status quo	
Objectives E36.2(1) and E36.2(2)	The consideration of likely long-term effects of climate change does not have its own objective, but tied into Objectives E36.2(1) and E36.2(2) as they relate to subdivision, use and development outside and in urban areas respectively.

How the objectives are the most appropriate way to achieve the purpose of the Act
Section 5 This objective supports the purpose of section 5 through the longer-term consideration of the sustainable management of natural and physical resources subjected to natural hazards. Management methods include enabling the natural process of landward

movement of coastlines by altering and reducing development within and along these areas over time.

Section 6

(h) The management of significant risks from natural hazards.

This objective seeks the long term consideration of natural hazards as they change over time with the aim of reducing the significance of these in advance.

Section 7

(i) the effects of climate change

By singling it out through an objective, it becomes a separate and unavoidable consideration for activities on land subject to natural hazards.

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

The proposed objectives are directly aligned with Objective B10.2.1(1) which seeks to ensure resilience of people and communities to natural hazards and the effects of climate change. The proposed objectives give effect to this through requiring consideration of these effects in any risk assessment for subdivision, use and development on land subject to natural hazards. The development of resilience is core to the consideration of risk. The objectives also give effect to Objectives B2.2.1(1), B2.2.1(5), Objective B2.3.1 (1), Objective B2.5.1 (2A), Objective B2.6.1 (1), Objective B2.7.1 (4) and Objective B2.8.1 (4).

10.8.1 Overview of provisions

Policies	
Policy E36.3(1A)	<p><u>Identify risk from natural hazards associated with subdivision, use and development by differentiating risk into the following three classifications:</u></p> <ul style="list-style-type: none"> (a) <u>significant</u> (b) <u>potentially tolerable</u> (c) <u>acceptable</u>
Policy E36.3(1B)	<p><u>Manage risk from coastal erosion, coastal inundation and flooding associated with subdivision, use and development by:</u></p> <ul style="list-style-type: none"> (a) <u>identifying land that may be exposed to these hazards and requiring a site-specific assessment to determine the extent and nature of the hazard(s) on site;</u>

- (b) using the hazard, the location of the activity, and the sensitivity of the activity to natural hazards to determine the default level of risk, as per Tables E36.3.1B.1 and E36.3.1B.2
- (c) requiring a risk assessment to determine the level of risk and applying management approaches proportionate to that level of risk

Table E36.3.1B.1 Subdivision, use and development within existing urbanised areas

	<u>Activities sensitive to natural hazards</u>	<u>Activities potentially sensitive to natural hazards</u>	<u>Activities less sensitive to natural hazards</u>
<u>Very high flood hazard area, high flood hazard area, coastal erosion hazard area 1 and coastal inundation hazard area 1</u>	<u>Significant</u>	<u>Significant</u>	<u>Acceptable</u>
<u>Medium flood hazard area, coastal erosion hazard area 2 and coastal inundation hazard area 2</u>	<u>Potentially tolerable</u>	<u>Potentially tolerable</u>	<u>Acceptable</u>
<u>Low flood hazard, coastal erosion hazard area 3 and coastal inundation hazard area 3</u>	<u>Potentially tolerable</u>	<u>Potentially tolerable</u>	<u>Acceptable</u>

Table E36.3.1B.2 Subdivision, use and development outside of existing urbanised areas

	<u>Activities sensitive to natural hazards</u>	<u>Activities potentially sensitive to natural hazards</u>	<u>Activities less sensitive to natural hazards</u>
<u>Very high flood hazard area, high flood hazard area, coastal erosion hazard area 1 and coastal inundation hazard area 1</u>	<u>Significant</u>	<u>Significant</u>	<u>Acceptable</u>
<u>Medium flood hazard area, coastal erosion hazard area 2 and coastal inundation hazard area 2</u>	<u>Significant</u>	<u>Significant</u>	<u>Acceptable</u>
<u>Low flood hazard, coastal erosion hazard area 3 and</u>	<u>Significant</u>	<u>Significant</u>	<u>Acceptable</u>

	<u>coastal inundation hazard area 3</u>			
Policy E36.3(1C)	<p><u>Manage risk from landslides associated with subdivision, use and development by:</u></p> <ul style="list-style-type: none"> (a) <u>identifying land that may be susceptible to landslides; and</u> (b) <u>requiring a landslide risk assessment to be undertaken in accordance with Appendix 24 Landslide hazard risk assessment methodology, using the level of susceptibility, the underlying zone, the location and type of the activity and the sensitivity of the activity to natural hazards as determinants for the type of assessment and the level of risk;</u> (c) <u>and applying management approaches proportionate to the level of risk.</u> 			
Policy E36.3(3)	<p><u>Consider all of the following, as part of a Where a resource consent is necessary, require proposals to subdivide, use or develop land that is subject to natural hazards to prepare a risk assessment of proposals to subdivide, use or develop land that is subject to natural hazards that considers all of the following, taking into account the potential effects of climate change and adopting a precautionary approach where information is uncertain or incomplete:</u></p> <ul style="list-style-type: none"> (a) [Deleted] the type, frequency and scale of the natural hazard and whether adverse effects on the development will be temporary or permanent: (aa) <u>the type, frequency, range and scale of the natural hazard(s), including:</u> <ul style="list-style-type: none"> (i) <u>where there may be coinciding, compounding and/or cascading hazards;</u> (ii) <u>whether the hazard risks will be temporary or permanent;</u> (iii) <u>whether natural hazard events of lower intensity and higher frequency than the 1 per cent AEP event will impact the property and proposed activity</u> (b) [Deleted] the type of activity being undertaken and its vulnerability to natural hazard events; (c) <u>the consequences of a natural hazard event in relation to the proposed activity;</u> (d) [Deleted] the potential effects on public safety and other property; (e) [Deleted] any exacerbation of an existing natural hazard risk or the emergence of natural hazard risks that previously were not present at the location; 			

	<p>(f) [Deleted] whether any building, structure or activity located on land subject to natural hazards near the coast can be relocated in the event of severe coastal erosion, inundation or shoreline retreat;</p> <p>(g) [Deleted] the ability to use non-structural solutions, such as planting or the retention or enhancement of natural landform buffers to avoid, remedy or mitigate hazards, rather than hard protection structures;</p> <p>(h) [Deleted] the design and construction of buildings and structures to mitigate the effects of natural hazards;</p> <p>(i) [Deleted] the effect of structures used to mitigate hazards on landscape values and public access;</p> <p>(j) [Deleted] site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event; and</p> <p>(k) [Deleted] the duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the likely effects of climate change.</p> <p>(l) <u>existing and proposed mitigation measures;</u></p> <p>(m) <u>residual risk;</u></p> <p>(n) <u>any relevant management plan, strategy or hazard risk assessment relating to the area.</u></p>
<p>Policy E36.3(4A)</p>	<p><u>Require all of the following matters to be considered when assessing consequences of natural hazards as part of a risk assessment:</u></p> <p>(a) <u>accelerating or exacerbating the natural hazard and/or its potential impacts</u></p> <p>(b) <u>creating natural hazard risks that previously were not present at the location</u></p> <p>(c) <u>the type of activity being undertaken and its sensitivity to natural hazard events;</u></p> <p>(d) <u>creating or increasing the natural hazard risk(s) to people and communities, including long-term impacts from more frequent hazard events;</u></p> <p>(e) <u>creating or increasing the natural hazard risk(s) to other properties, infrastructure and the environment; and</u></p> <p>(f) <u>cultural impacts, including consequences for Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values.</u></p>

<p>Policy E36.3(4B)</p>	<p><u>Require all of the following matters to be considered as part of a risk assessment of existing and future mitigation measures and residual risk:</u></p> <ul style="list-style-type: none"> (a) <u>whether any building, structure or activity located on land subject to natural hazards can be relocated within the site or removed;</u> (b) <u>whether the use, design and construction of buildings and structures can mitigate risks associated with natural hazards;</u> (c) <u>the extent to which methods for long term maintenance of areas affected by natural hazards, such as easements, are provided;</u> (d) <u>the ability for site layout and management to limit exposure of people and property to natural hazards, including safe egress during a natural hazard event;</u> (e) <u>the effect of structures to mitigate hazards on landscape values and public access;</u> (f) <u>the robustness of the mitigation measures, their enforceability and the ability to carry out repairs and maintenance;</u> (g) <u>the potential consequences of events that exceed the design parameters of mitigation measures;</u> (h) <u>the potential effects resulting from failure of structural and nature-based mitigation measures over a 100-year timeframe;</u> (i) <u>the impacts of the mitigation on other people, properties, infrastructure and the environment;</u> (j) <u>whether natural hazard risks can be reduced for Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values;</u> (k) <u>the use of conditions of consent, including the duration of consent, to monitor changes in risk and to limit the exposure of people and property to natural hazards.</u> (l) <u>the extent to which it is practicable to mitigate residual risk where infrastructure has a functional or operational need to locate in a natural hazard area</u>
<p>Policy E36.3 (12A)</p>	<p><u>Where coastal protection is proposed to protect existing subdivision use and development, taking into account climate change over a 100-year timeframe, avoid significant adverse effects and mitigate other adverse effects on all of the following:</u></p> <ul style="list-style-type: none"> (a) <u>the natural character of the coastal environment;</u> (b) <u>outstanding natural features and landscapes;</u>

	<ul style="list-style-type: none"> (c) <u>habitats for indigenous species;</u> (d) <u>access to Maori Land, Treaty Settlement Land and marae, including effects on mana whenua cultural heritage and values;</u> (e) <u>identified historic heritage places;</u> (f) <u>public access to and along the coast;</u> (g) <u>other properties.</u>
Rules and standards	
The consideration of climate change is required as part of the risk assessment required under Policies E36.3(3), E36.3(4A) and E36.3(4B) for any activities under Chapters E36, E38 and E39 requiring resource consent. As such, these are not all repeated here.	
Standards	
E36.9	Special information requirements

10.8.2 Description of the proposal

PC120 proposes to strengthen the consideration of the potential long-term effects of climate change through a specific objective in Chapter E36 and supported by amendments to objectives and provisions in Chapters E38 and E39. Currently, the consideration of the effects of climate change is required to be considered against some activities in E36 which has the effect of limiting the focus on this. The proposed amendments will increase this consideration and help to improve our understanding of these effects through a consistent lens.

Specific proposed policies (E36.3(1A), E36.3(1B) and E36.3(1C)) seek to capture the understanding of the natural hazards that affect the region through identification and monitoring and then to organise these into a management approach that can adjust to incorporate improved information and advances in methodologies for measuring the effects of climate change over time.

Policies E36.3(3), E36.3(4A) and E36.3(4B) outline that the long-term impacts of climate change are to be considered for any risk assessment. This is supported by the special information requirements under E36.9, which refer to Auckland Council's guideline document on climate change scenarios.

10.8.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposal seeks to strengthen the consideration of the potential long-term effects of climate change for subdivision, use and development for land subject to natural hazards. Information relating to natural hazards and the effects of climate change is constantly evolving. Ensuring the effects of climate change on natural hazards is considered as part of the risk assessment for all proposals to subdivide, use and develop land subject to natural

hazards results in significant social and cultural benefits to society as decisions can be made based on the best available information at the time, and in turn improves confidence in society to develop credible resilience and responsiveness in the face of risk from natural hazards.

Environmental benefits are realised through the complimentary rehabilitation of the natural environment in developing resilience to natural hazards.

Economic (including economic growth and employment)

Significant economic benefits can be realised by including the consideration of these effects. As noted above, as the knowledge of impacts of climate change increases, society can make more informed decisions about the future. This in turn can enable confident investment in buildings and infrastructure that is built with improved assessment of the risk involved. Improved awareness of the effects of climate change can have on the risks that natural hazards can pose enables building for resilience and responsiveness. While this may have increased initial costs, this can be offset by the long-term gains from an urban environment that is better prepared.

10.8.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Status quo – some existing requirements to consider the long term effects of climate change	Consideration of these effects is already embedded in some parts of Chapter E36.	<p>Consideration of climate change may not be consistent and therefore not embedded with decisions regarding subdivision, use and development within hazard areas.</p> <p>Can exacerbate the consequential costs of not being prepared or resilient to the changing nature of natural hazards. This can lead to significant costs across the spectrum of well-beings.</p>

10.8.5 Summary of the reasons for deciding on the provisions

The effects of climate change are currently only specifically mentioned in some provisions within Chapter E36. Assessing these effects enable a more fulsome understanding of the

effects of the natural hazards on land, particularly with regard to coastal properties subject to sea level rise. The proposal will highlight and strengthen the consideration of this matter. Requiring this lens for all proposals to subdivide, use and develop on land subject to natural hazards will ensure a better understanding of how these can be managed.

Theme 10.9 Adopting a precautionary approach

Objective E36.2(8)

Proposal	
Objective E36.2(8)	<u>A precautionary approach is adopted where information is uncertain or incomplete</u>
General intent	A precautionary approach is required under the NZCPS with regard to coastal hazards whose effects are uncertain, unknown or little understood. A precautionary approach is incorporated at the RPS level but has not cascaded to this level. The proposed objective seeks to rectify this gap and increase awareness of this approach.
Status quo	
	There is currently no objective in Chapter E36 relating to this requirement.

How the objectives are the most appropriate way to achieve the purpose of the Act	
<p>Section 5 - in order to sustainably manage land that is subject to natural hazards, a good understanding of the impacts on these is required. Information on natural hazards is inherently incomplete and uncertain as it is evolving as more experience is gained and improvements in methods of recording and analysis are advanced. The NZCPS advocates for a precautionary approach when information about hazards in the coastal environment <i>'is little known or little understood, and potentially significantly adverse'</i>. Proposing a precautionary approach in the face of this evolving information enables interim solutions to be adopted to sustainably manage all land subject to natural hazards. Objective E36.2(8) therefore is considered an appropriate way to achieve sustainable management.</p>	
<p>Section 6</p> <p><i>(h) The management of significant risks from natural hazards.</i></p> <p>Providing for the management of significant risk from natural hazards requires knowledge of the risk. Objective E36.2(8) proposes a precautionary approach to counter where this knowledge is inadequate to make informed decisions on this management.</p>	

Section 7

(i) the effects of climate change

Adopting a precautionary approach supports accommodating the uncertainties associated with the effects of climate change

How the objectives give effect to the Regional Policy Statement (as proposed to be amended as part of PC120)

The proposed objective gives effect to amended RPS Policy B10.2.2(6) which specifically seeks that the adoption of a precautionary approach in the face of uncertainty concerning the effects of natural hazards and extent to which climate change will exacerbate these and where the level of information on the probability and/or impacts of the hazard is unknown. The proposed objective ensures a link with the relevant provisions to achieve a precautionary approach.

10.9.1 Overview of provisions

Policies	
Policy E36.3(3)	<p>Consider all of the following, as part of a <u>Where a resource consent is necessary, require proposals to subdivide, use or develop land that is subject to natural hazards to prepare a risk assessment of proposals to subdivide, use or develop land that is subject to natural hazards that considers all of the following, taking into account the potential effects of climate change and adopting a precautionary approach where information is uncertain or incomplete:</u></p> <ul style="list-style-type: none"> (a) [Deleted] the type, frequency and scale of the natural hazard and whether adverse effects on the development will be temporary or permanent; (aa) <u>the type, frequency, range and scale of the natural hazard(s), including:</u> <ul style="list-style-type: none"> (i) <u>where there may be coinciding, compounding and/or cascading hazards;</u> (ii) <u>whether the hazard risks will be temporary or permanent;</u> (iii) <u>whether natural hazard events of lower intensity and higher frequency than the 1 per cent AEP event will impact the property and proposed activity</u> (b) [Deleted] the type of activity being undertaken and its vulnerability to natural hazard events; (c) the consequences of a natural hazard event in relation to the proposed activity; (d) [Deleted] the potential effects on public safety and other property;

	<p>(e) [Deleted] any exacerbation of an existing natural hazard risk or the emergence of natural hazard risks that previously were not present at the location;</p> <p>(f) [Deleted] whether any building, structure or activity located on land subject to natural hazards near the coast can be relocated in the event of severe coastal erosion, inundation or shoreline retreat;</p> <p>(g) [Deleted] the ability to use non-structural solutions, such as planting or the retention or enhancement of natural landform buffers to avoid, remedy or mitigate hazards, rather than hard protection structures;</p> <p>(h) [Deleted] the design and construction of buildings and structures to mitigate the effects of natural hazards;</p> <p>(i) [Deleted] the effect of structures used to mitigate hazards on landscape values and public access;</p> <p>(j) [Deleted] site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event; and</p> <p>(k) [Deleted] the duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the likely effects of climate change.</p> <p>(l) <u>existing and proposed mitigation measures;</u></p> <p>(m) <u>residual risk;</u></p> <p>(n) <u>any relevant management plan, strategy or hazard risk assessment relating to the area</u></p>
Rules and standards	
<p>The consideration of a precautionary approach is required as part of the risk assessment required under Policies E36.3(3) for any activities under Chapter E36, E38 and E39. As such, these are not all repeated here.</p>	

10.9.2 Description of the proposal

The proposal seeks to direct the adoption of a precautionary approach when undertaking risk assessments as part of Policy E36.3(3). Findings of the section 35 monitoring report for B10 Natural Hazards and climate change found that the term ‘precautionary approach’ is used in Policy B10.2.2(6) but is not referenced in Chapter E36. It is also currently unclear how the AUP supports this policy.

Policy 3 of the NZCPS advocates for a precautionary approach:

1. *Adopt a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse.*
2. *In particular, adopt a precautionary approach to use and management of coastal resources potentially vulnerable to effects from climate change, so that:*

1. *avoidable social and economic loss and harm to communities does not occur;*
2. *natural adjustments for coastal processes, natural defences, ecosystems, habitat and species are allowed to occur; and*
3. *the natural character, public access, amenity and other values of the coastal environment meet the needs of future generations.*

While this relates to the coastal environment, the concept can and should be carried over to apply to all natural hazards as these are all impacted by climate change and evolving, and often incomplete, information.

10.9.3 Benefits and costs of the effects of the proposal

Environmental, social and cultural

The proposed precautionary approach provides significant social, cultural and environmental benefits by accommodating the uncertainties associated with understanding the impacts of natural hazards and climate change. The direct requirement to adopt such an approach supports more risk-adverse assessments to determine investment or otherwise for land subject to natural hazards to avoid making decisions that may need to be undone later. There is associated cost with being potentially overly cautious. However, there are likely to be greater costs to society and the environment if unconsidered impacts result in damage or impacts that requires significant undoing, or if the damage or loss is irreversible.

Economic (including economic growth and employment)

As discussed above, while adopting a precautionary approach may result in the foregoing of development and economic growth opportunities in certain locations, this will avoid scenarios where there would be significant capital required to undo, both from an individual and societal economic cost perspective.

10.9.4 Alternative options

Alternatives		Efficiency and effectiveness relative to proposed provisions 32(2)(a)	
		Benefits	Costs
1	Status quo – lack of precautionary approach	Consideration of a precautionary approach is embedded at the RPS level so can be generally applied.	Inconsistencies on when and how this approach is adopted could result in unsound investment in development and infrastructure that leads to increased exposure to natural hazard risk and the issues that need to be rectified in the future.

10.9.5 Summary of the reasons for deciding on the provisions

Information about natural hazards and climate change are often incomplete. As such, requiring the adoption of a precautionary approach when assessing risk is considered appropriate as it enables more informed and more consistent decision-making about investment and other activities.

Part 4: Evaluation of ‘the management of significant risks from natural hazards’ as a qualifying matter

11 Introduction

11.1 Statutory context

This part of the report is prepared as part of the evaluation required by Section 32 and Schedule 3C of the RMA for PC120 to the AUP.

This report discusses the implications of applying SNH as a qualifying matter to the requirements of clause 4(1)(b) and (c) of Schedule 3C of the RMA and the implementation of policy 3 of the NPS-UD. SNH are identified as a qualifying matter under section 77I(a) and (b) of the RMA as:

(a) a matter of national importance that decision makers are required to recognise and provide for under section 6

(b) a matter required in order to give effect to a national policy statement (other than the NPS-UD) or the New Zealand Coastal Policy Statement 2010

The Council may make the relevant building height or density requirements of clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD less enabling of development in relation to an area within any zone in an urban environment only to the extent necessary to accommodate 1 or more of the following qualifying matters that are present:

- (a) a matter listed in section 77I(a) to (i) of the RMA;
- (b) any other matter that makes higher density, as specified by clause 4(1)(b) or (c) of Schedule 3C of the RMA or policy 3 of the National Policy Statement on Urban Development 2020 (**NPS-UD**), inappropriate in an area but only if subclause (4) of clause 8 of Schedule 3C is satisfied.

Clause 8(2) of Schedule 3C

Under clause 8(2) of Schedule 3C of the RMA, the evaluation report required under section 32 of the RMA must in relation to a proposed amendment to accommodate a qualifying matter under subclause (1)(a) or (1)(b) of clause 8:

- (a) demonstrate why the Council considers:
 - (ii) that the area is subject to a qualifying matter; and
 - (iii) that the qualifying matter is incompatible with the level of development provided by clause 4(1)(b) or (c) or policy 3 for that area; and
- (b) assess the impact that limiting development capacity, building height, or density (as relevant) will have on the provision of development capacity; and
- (c) assess the costs and broader impacts of imposing those limits.

Clause 8(4) of Schedule 3C

Under clause 8(4) of Schedule 3C of the RMA, the evaluation report required under section 32 of the RMA must, in relation to a proposed amendment to accommodate a qualifying matter under subclause (1)(b) (an "other" qualifying matter), also:

- (a) identify the specific characteristic that makes the level of development specified by clause 4(1)(b) or (c) or policy 3 inappropriate in the area; and
- (b) justify why that characteristic makes that level of development inappropriate in light of the national significance of urban development and the objectives of the NPS-UD; and
- (c) include a site-specific analysis that—
 - (i) identifies the site to which the matter relates; and
 - (ii) evaluates the specific characteristic on a site-specific basis to determine the geographic area where intensification needs to be compatible with the specific matter; and
 - (iii) evaluates an appropriate range of options to achieve the greatest heights and densities specified by clause 4(1)(b) or (c) or policy 3 while managing the specific characteristics.

Clause 8(5) of Schedule 3C

Under clause 8(5) of Schedule 3C of the RMA, the Council may, when considering existing qualifying matters (a qualifying matter referred to in clause 8(1)(a) of Schedule 3C of the RMA that is operative in the AUP when the Auckland Housing Planning Instrument (PC120) is notified), instead of undertaking the evaluation process described in clause 8(2), do all of the following things:

- (a) identify by location (for example, by mapping) where an existing qualifying matter applies;
- (b) specify the alternative heights or densities (as relevant) proposed for those areas identified under paragraph (a);
- (c) identify in the evaluation report why the Council considers that one or more existing qualifying matters apply to those areas identified under paragraph (a);
- (d) describe in general terms for a typical site in those areas identified under paragraph (a) the level of development that would be prevented by accommodating the qualifying matter, in comparison with the level of development that would have been provided by clause 4(1)(b) or (c) or policy 3;
- (e) notify the existing qualifying matters in the Auckland housing planning instrument.

11.2 Statutory assessment overview

Natural hazards are currently managed by existing provisions in the AUP and therefore is an existing qualifying matter (to the extent these existing provisions apply within the areas specified under clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD). However, PC120 is proposing substantial changes to how natural hazard risk is proposed to be identified and managed. As such, for the purposes of this assessment, SNH as a qualifying matter has been evaluated under both clauses 8(2) and 8(5) of Schedule 3C of the RMA.

Outside of the areas specified under clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD, the management of natural hazards presents as a planning constraint, and this has been assessed through the section 32 analysis within Parts 1-3 of this report. Relevant elements of the section 32 analysis are included in this discussion (to the extent relevant).

12 Analysis and evaluation

12.1 Description of the qualifying matter

The qualifying matter being evaluated is the SNH qualifying matter. This qualifying matter seeks to ensure that the effects from natural hazards are appropriately managed and that natural hazard risks are suitably considered for any subdivision, use and development on sites that may be subject to such a hazard or for activities that may exacerbate this hazard.

12.2 AUP amendments to managing the qualifying matter

As discussed in Section 1.2.1, there are currently a range of provisions in the operative AUP that manages risk posed by natural hazards. A site-by-site analysis of natural hazard risk is required to be carried out if subdivision, use and development is proposed on a site that is identified as being subject to natural hazards, irrespective of the underlying zoning. This is to ensure that the level of natural hazard risk is identified, and avoidance or mitigation measures are in place to address this risk.

PC120 proposes significant amendments to the provisions of the AUP to strengthen the management of natural hazards in the Auckland region. The changes are covered in detail in Sections 7, 8 and 10 of this report. The changes are summarised briefly here:

- Introduction of a new risk management framework that differentiates natural hazard risk based on likelihood and consequence.
- Updates to mapping and definitions to determine areas which may be subject to natural hazard risk.
- Risk is differentiated based on the characteristics of the hazard, the sensitivity of the activity, and whether the activity is in or outside existing urbanised areas.
- Different policy approaches are proposed that are proportionate to the level of risk present. For example, where there is significant risk, the corresponding policy response is to generally avoid.
- In the case of flooding and coastal hazards, zoning approaches are also proposed to support amendments to provisions by acting to limit development potential where risk is greatest.
- For coastal hazards, this involves applying the Residential – Single House zone to residentially zoned properties that are within the hazard areas with greatest exposure to risk (coastal erosion hazard area 1 and coastal inundation hazard area 1) and do not meet the specified criteria. This is further supported by a retention of the current AUP zone in the coastal hazard areas 2 and 3, and where the criteria are met for those in coastal hazard area 1. The details of this approach are discussed in Attachment 8 – Limiting development potential to manage flood and coastal hazard risk.

- For flooding, this involves applying the Residential – Single House or Residential – Mixed Housing Urban zone to residentially zoned properties containing mapped floodplains with depths and velocities that are in the very high hazard area category and do not meet the specified criteria. The details of this approach are discussed in Attachment 8 – Limiting development potential to manage flood and coastal hazard risk.

As part of these changes, PC120 proposes to modify the heights and density requirements within clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD by:

- Limiting heights and densities through a zoning approach, as described above, in these locations for the management of flood hazards and coastal hazards
- Generally requiring resource consent for any subdivision, use and development in these locations where they coincide with an identified natural hazard area.

For the reasons outlined in Section 10, Auckland Council considers that the risk posed by natural hazards may make higher densities, in locations specified by clause 4(1)(b) or (c) of Schedule 3C of the RMA or policy 3 of the NPS-UD, inappropriate. In some cases, the heights and densities specified are not appropriate due to the hazard conditions on site, and this is reflected in the use of a zoning approach. This is to limit the amount of people and property exposed to this level of risk. In other cases, the heights and densities specified may be appropriate, but an assessment is required to ensure that risk from natural hazards is suitably managed to a tolerable or acceptable level as per the proposed policy directives.

12.3 Location of the qualifying matter

Areas subject to natural hazards are spread across the Auckland region. Areas subject to natural hazards have been identified using the definitions and supporting hazard mapping. The background to the identification of the different natural hazard areas under the operative AUP and as proposed under PC120 are discussed in detail in Attachments 3 – 5.

Landslide hazard areas and flood hazard areas are present within the areas specified under Clause 4(1)(b) and 4(1)(c) of Schedule 3C of the RMA, as well as areas specified under policy 3 of the NPS-UD. Coastal hazard areas are present within areas specified under policy 3 of the NPS-UD.

12.4 Development of options

Section 32 of the RMA requires an examination of the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of the RMA. The overall objective (purpose of the proposal) of PC120 is to implement intensification outcomes across the region to give effect to the NPS-UD (Policy 3) and the requirements of the RMA (clause 4(1)(b) and (c) of Schedule 3C) and improve how natural hazard risk is managed under the AUP.

12.4.1 Description of options

The three options that have been evaluated in the section 32 and Schedule 3C assessment of the SNH qualifying matter are:

Option 1 – apply heights and density requirements in clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD and rely on the operative natural hazard provisions in the AUP

Option 2 – apply heights and density requirements in clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD, and rely on the proposed natural hazard provisions as amended by under PC120

Option 3 – do not apply heights and density requirements in clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD where a zoning response for flood and coastal hazards is proposed, and rely on the proposed natural hazard provisions as amended by under PC120

12.4.2 Consequences for development capacity

Option 1

The operative provisions in the AUP that manage natural hazard risk do not specifically limit height or density. A resource consent is generally required where activities are proposed in areas subject to natural hazards, but the relevant AUP provisions do not automatically preclude the opportunity of, for example, having buildings of at least six storeys being established on a site.

A site-specific risk assessment is necessary to accompany any development proposal and the merits of each development is considered on a case-by-case basis against the operative policy settings. For some sites, a development of lesser intensity is appropriate given the risks posed by natural hazards on site, while for other sites, the presence of natural hazards on a site would have no impact on development potential as the risk can be suitably managed.

Given the need for a case-by-case assessment, the level of development that may be impacted by applying the existing SNH qualifying matter under Option 1 is therefore difficult to quantify.

Option 2

The above assessment for Option 1 generally applies to Option 2. Heights and densities are not specifically limited by the proposed provisions and the appropriateness of development will continue to rely on a case-by-case assessment. The key differences under Option 2 on consequences for development are:

- Changes to how areas subject to natural hazards are identified e.g. inclusion of flood prone areas and replacing existing definitions with new definitions and supporting mapping
- Increased direction on how risk should be assessed and managed
- Residential activities are specified as ‘activities sensitive to natural hazards’
- Differentiated policy direction proportionate to the level of risk
- Differentiated rules and activity statuses proportionate to the level of risk

The impact of these changes, as compared to Option 1, is also difficult to determine. For example, while there may be additional areas that are identified as being subject to the proposed provisions, development in lower risk scenarios may be more enabled.

Option 3

The above assessment for Option 2 generally applies to Option 3, except the application of a zoning response as proposed under Option 3 will have direct impacts on development capacity. Tables 1 and 2 outline the impact of the proposed zoning response on properties that would have been otherwise had heights and densities required under clause 4(1)(b) and (c) of Schedule 3 of the RMA and policy 3 of the NPS-UD.

Table 1 Zone distribution of properties in floodplains in locations under clause 4(1)(b) and (c) of Schedule 3 of the RMA and policy 3 of the NPS-UD affected by zoning response under Option 3

	Number of properties	Notes
Residential – Single House	370	44 properties retain their current Residential – Single House zone 326 properties are down-zoned to Residential – Single House from a higher intensity residential zone
Residential – Mixed Housing Suburban	0	
Residential – Mixed Housing Urban	346	These properties have been upzoned to or retained their current Residential – Mixed Housing Urban zone but have not been upzoned to Residential – Terrace Housing and Apartment Building zone
Total	716	

Table 2 Zone distribution of properties in coastal hazard areas in locations under policy 3 of the NPS-UD affected by zoning response under Option 3 (noting that there are no properties within areas subject to clause 4(1)(b) and (c) of Schedule 3 of the RMA)

	Number of properties	Notes
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Residential – Single House	366	184 properties retain their current Residential – Single House zone within the coastal Hazard Area 1 182 properties are down-zoned to Residential – Single House from a higher intensity residential zone within this hazard area
Residential – Mixed Housing Suburban	617	These properties retain their current zone within coastal Hazard Area 1 as they can create a compliant site outside the hazard area
Residential – Mixed Housing Urban	238	These properties retain their current zone within coastal Hazard Area 1 as they can create a compliant site outside the hazard area
Residential – Terrace Housing and Apartment Buildings	68	These properties retain their current zone within coastal Hazard Area 1 as they can create a compliant site outside the hazard area
Total	1289	

12.4.3 Evaluation of options

To determine the most appropriate response for SNH as a qualifying matter, each of the options needs to be evaluated in the context of the objectives and of clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD.

The reasons to why natural hazard risk needs to be managed under the AUP and the analysis between retaining the status quo and undertaking PC120 is covered in Section 1.6 of this report and is largely applicable here. As such, this analysis is not repeated here. The focus of the evaluation is therefore between Options 2 and 3 and is assessed in Table 3 below:

Table 3 Evaluation of options

Qualifying matter	Option 1 – apply heights and densities, and rely on existing AUP provisions	Option 2 – apply heights and densities, and rely on proposed AUP provisions as amended by PC120	Option 3 – do not apply heights and densities where zoning approach is proposed, and rely on proposed AUP provisions as amended by PC120
Costs of applying QM – housing supply / capacity	<p>No direct restrictions on housing supply or capacity.</p> <p>Consent as a restricted discretionary activity generally required if development proposed in areas subject to natural hazards. Development would be assessed on a case-by-case basis, resulting in unquantifiable impacts on housing supply or capacity.</p>	<p>No direct restrictions on housing supply or capacity.</p> <p>Residential activities are defined as sensitive to natural hazards and different activity statuses apply depending on the level of risk. Development would be assessed on a case-by-case basis, resulting in unquantifiable impacts on housing supply or capacity.</p>	<p>Direct restrictions on housing supply and capacity</p> <p>Where a zoning response is not applied, consent may be required and development would be assessed on a case-by-case basis, resulting in additional unquantifiable impacts on housing supply or capacity, as per Option 2.</p>
Costs and benefits: Social, environmental, and economic (not otherwise covered by housing capacity issues)	<p>As per assessment under Section 1.6</p>	<p>The intensification opportunities in areas where there is good access to public transport, jobs and services is not restricted by heights or densities, provided risk is managed appropriately.</p> <p>A more flexible approach is adopted to manage natural hazard risk and encourages innovations in mitigation and management measures.</p> <p>Less certainty in ensuring that people and property are not exposed to significant risk to natural hazards, particularly as higher densities are enabled by the underlying zone only may set</p>	<p>Use of zoning limits the opportunity to expose more people and property to natural hazard risk, particularly where higher intensities would otherwise be enabled by the zone.</p> <p>Greater intensification opportunities in locations with good access to public transport, jobs and services may be foregone. However, zoning has only been applied in areas most constrained by hazards and therefore may have limited feasible development potential.</p> <p>Greater impact on reducing the economic burden for the community</p>

Qualifying matter	Option 1 – apply heights and densities, and rely on existing AUP provisions	Option 2 – apply heights and densities, and rely on proposed AUP provisions as amended by PC120	Option 3 – do not apply heights and densities where zoning approach is proposed, and rely on proposed AUP provisions as amended by PC120
		unrealistic expectations of development potential.	and the council in responding to and recovering from hazards. Potential reduction in property values.

12.4.4 Analysis

Option 3 is the preferred option. While there is a loss of development capacity due to the application of a zoning approach, this is considered appropriate given that the sites that are subject to these approaches are most constrained by flooding or coastal hazards. There will be some impact on development capacity, but it is noted that risk posed by hazards on these sites may make the intensities identified under clause 4(1)(b) or (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD unfeasible regardless. Option 3 provides a suitable balance of still providing the opportunity for development of higher densities and heights to occur in these areas, provided appropriate mitigation of natural hazard risk is adopted, while delivering the associated benefits of limiting the opportunities for people and property to be exposed to significant natural hazard risk.

12.4.5 Risks of acting or not acting

Section 32(2)(c) of the RMA requires this evaluation to assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions. As discussed in greater detail in Section 1.7, there is a need to act even with imperfect information as the risk of not acting outweighs the risk of acting.

12.4.6 Effectiveness and efficiency

Option 3 is an efficient and effective method which achieves a balance of enabling development opportunities in areas identified as being most suitable for intensification and ensuring that less people and property are located where there is greatest risk from flooding and coastal hazards.

12.4.7 Description of how the qualifying matter is to be implemented

SNH as a qualifying matter will be implemented predominantly through the provisions of Chapter E36 – Natural hazards and flooding and Chapter E38 Subdivision – urban. Additionally, the qualifying matter will rely on a zoning approach whereby the Residential – Single House zone, Residential – Mixed Housing Suburban or Residential – Mixed Housing Urban zone will be applied where specified criteria is met.

12.4.8 Overall conclusion

The SNH qualifying matter is appropriate to modify the requirements of clauses 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD in an any residential zone in an urban environment to be less enabling of development than provided in that clause and policy to the extent necessary to accommodate the qualifying matter as a matter specified in sections 77I(a) to (i):

- a matter of national importance that decision makers are required to recognise and provide for under section 6 (sections 77I(a))
- a matter required in order to give effect to a national policy statement (other than the NPS-UD) or the New Zealand Coastal Policy Statement 2010 (section 77I(b)).

The direct effect of the qualifying matter on the housing supply and capacity is limited to specific properties which are most severely constrained by flooding and/or coastal hazards and are subject to the requirements of clauses 4(1)(b) and (c) of Schedule 3C of the RMA and/or policy 3 of the NPS-UD. This means that development of required heights and densities may still be enabled if natural hazard risk can be suitably managed.

The natural hazard provisions and zoning changes proposed under PC120 will also apply to any other property in natural hazard areas, outside of the clause 4(1)(b) and (c) of Schedule 3C of the RMA and policy 3 of the NPS-UD areas.

12.4.9 Information used

This is covered in more detail in Section 5 and not repeated here.

12.4.10 Consultation summary

This is covered in more detail in Section 6 and not repeated here.

Attachment 1 – Other documents, plans and reports that have informed the development of PC120

PAUP documentation and evidence

2.25 Flooding – section 32 evaluation for Proposed Auckland Unitary Plan

2.28 Natural hazards – section 32 evaluation for Proposed Auckland Unitary Plan

Statement of primary evidence of David William Arthur Mead on behalf of Auckland Council – Planning – B6.7 Natural hazards, 4 November 2014

Statement of primary evidence of Jane Olsen on behalf of Auckland Council – Hazard Specialist – B6.7 Natural hazards, 4 November 2014

Statement of primary evidence of Nicholas Zebedee Brown on behalf of Auckland Council – Flooding – B6.7 Natural hazards, 4 November 2014

Statement of primary evidence of Robert Gordin Bell on behalf of Auckland Council – Coastal inundation hazards and sea level rise – B6.7 Natural hazards, 4 November 2014

Statement of rebuttal evidence of David William Arthur Mead on behalf of Auckland Council – Planning – B6.7 Natural hazards, 18 November 2014

Statement of rebuttal evidence of Nicholas Zebedee Brown on behalf of Auckland Council – Flooding – B6.7 Natural hazards, 18 November 2014

Legal submission on behalf of Auckland Council – B6.7 Natural hazards, 24 November 2014

Legal submission on behalf of Auckland Council – B6.7 Natural hazards Flooding, 24 November 2014

Closing statement of points of clarification on behalf of Auckland Council – Topic 006 RPS Natural Resources and Topic 007 RPS Climate Change, 2 December 2014

Statement of primary evidence of David William Arthur Mead on behalf of Auckland Council – Planning – Auckland wide objective, policies and rules; flooding, 12 March 2015

Statement of evidence of Nicholas Zebedee Brown on behalf of Auckland Council, 12 March 2015

Statement of primary evidence of J Grant Murray on behalf of Auckland Council – Geotechnical (Land Instability) – Topic 022 Natural Hazards and Flooding, 13 March 2015

Statement of evidence of Larissa Blair Clarke on behalf of Auckland Council – Planning, 14 March 2015

Statement of rebuttal evidence of David William Arthur Mead on behalf of Auckland Council – Planning – Auckland wide objective, policies and rules; flooding, 27 March 2015

Statement of rebuttal evidence of Nicholas Zebedee Brown on behalf of Auckland Council, 27 March 2015

Statement of rebuttal evidence of Larissa Blair Clarke on behalf of Auckland Council – Planning – natural hazards, 27 March 2015

Statement of rebuttal evidence of J Grant Murray on behalf of Auckland Council – Geotechnical (Land Instability) – Topic 022 Natural Hazards and Flooding, 27 March 2015

Legal submissions on behalf of Auckland Council – Topic 022 Natural Hazards and Flooding and Topic 026 General relating to flooding, 6 April 2015

Legal submissions on behalf of Auckland Council – Topic 022 Natural Hazards and Flooding, 7 April 2015

Closing statement on behalf of Auckland Council – Topic 022 Natural Hazards and Flooding and Topic 026 General relating to flooding, 21 April 2015

Closing statement on behalf of Auckland Council – Topic 022 Natural Hazards and Flooding, 21 April 2015

AUP Independent Hearing Panel Interim Guidance Text for Topic 022 Natural hazards and flooding, 5 May 2015 – updated 10 June 2015

Statement of evidence of Nicholas Zebedee Brown on behalf of Auckland Council, 16 July 2015

Statement of primary evidence of David William Arthur Mead on behalf of Auckland Council – Planning – Auckland wide objective, policies and rules, 16 July 2015

Statement of evidence of Larissa Blair Clarke on behalf of Auckland Council – Planning – natural hazards, 16 July 2015

Statement of rebuttal evidence of Larissa Blair Clarke on behalf of Auckland Council – Planning – natural hazards, 29 July 2015

Statement of rebuttal evidence of Nicholas Zebedee Brown on behalf of Auckland Council, 29 July 2015

Statement of rebuttal evidence of David William Arthur Mead on behalf of Auckland Council – Planning – Auckland wide objective, policies and rules, 29 July 2015

Legal submissions on behalf of Auckland Council – Topic 022 Natural Hazards and Flooding and Topic 026 General relating to flooding, 5 August 2015

Legal submissions on behalf of Auckland Council – Topic 022 Natural Hazards and Flooding, 5 August 2015

AUP Independent Hearing Panel Expert Conferencing Report - Topic 022 Natural Hazards and Flooding, 5 August 2015

Closing statement on behalf of Auckland Council – Topic 022 Natural Hazards and Flooding and Topic 026 General, 24 August 2015

Statement of evidence of David William Arthur Mead on behalf of Auckland Council – Zoning and natural hazards, 3 December 2015

AUP Independent Hearing Panel Evidence and recommendations for Topic 022 Natural hazards and flooding and 026 General – others, July 2016

PC78 documentation

Section 32 report – Significant Natural Hazards Flooding

Section 32 report – Significant Natural Hazards Coastal Erosion

Section 32 report – Significant Natural Hazards Coastal inundation

Section 32 report – Significant Natural Hazards Land Instability

District and regional plans

Proposed Otago Regional Policy Statement (June 2021) and Decision Version (August 2024)

Bay of Plenty Regional Policy Statement

Tauranga City Plan

Partially Operative Dunedin City Second Generation District Plan

Whangarei District Plan

Proposed Northland Regional Plan

Operative Kaipara District Plan

Hauraki District Plan

Waikato District Plan

Operative Far North District Plan

Marlborough Sounds Resource Management Plan

Porirua Operative District Plan

Appeals Version (2024) of Proposed Porirua District Plan

Kapiti Operative District Plan

Proposed Wellington City District Plan

Nelson Resource Management Plan

Hurunui Operative District Plan

Operative Selwyn District Plan

Plan review/Plan change documentation

Plan Change Section 32 Report Plan Change 14 – Flooding (Hamilton City Council)

Natural Hazards Section 32 Report (Proposed Second Generation Dunedin City District Plan)

Natural Hazards Section 42A Hearing Report and Supplementary Evidence Proposed Second Generation Dunedin City District Plan (2GP) (Dunedin City Council), 19 April 2017

Natural Hazards Hearing Revised Recommendations Summary Proposed Second Generation Dunedin City District Plan (2GP) (Dunedin City Council)

Natural Hazard Mitigation Decision of Hearings Panel for Proposed Second Generation Dunedin City District Plan (2GP) (Dunedin City Council), 7 November 2018

Natural Hazards Decision of Hearings Panel for Proposed Second Generation Dunedin City District Plan (2GP) (Dunedin City Council), 7 November 2018

Section 32 evaluation report for Proposed Porirua District Plan: Part 2 - Natural Hazards (Porirua City Council), August 2020

Section 42A Hearing Reports and Supplementary Evidence for Proposed Porirua District Plan: Part B - Natural Hazards and Coastal Environment (Porirua City Council), 5 November 2021

Statement of Evidence of Bronwen Gibberd (Coastal Scientist) on behalf of Porirua City Council for Proposed Porirua District Plan: Part B - Coastal Environment, 3 November 2021

Statement of Evidence of Nadia Nitsche (Wellington Water Modelling Manager) on behalf of Porirua City Council for Proposed Porirua District Plan: Part B - Natural Hazards, 5 November 2021

Reply of Torey McDonnell on behalf of Porirua City Council for Proposed Porirua District Plan: Part B - Natural Hazards and Coastal Environment, 22 December 2021

Section 32 evaluation report Plan Change 27 – Flooding from intense rainfall (Tauranga City Council)

Section 32 Evaluation Report Plan Change 1: Natural Hazards (Whangarei District Council)

Section 42A Hearing Report and Council hearing documents Plan Change 1: Natural Hazards (Whangarei District Council), 4 December 2023

Right of Reply of Robert Adam Burgoyne, Natalie Aleisha Dey, Vita Strohush, and Eden Victoria Teriia Wynne on behalf of the Whangarei District Council for Plan Change 1: Natural Hazards, 12 July 2024

Hearing Panel's Recommendation Report on Plan Change 1: Natural Hazards (Whangarei District Council), 2 October 2024

Decision Version of Plan Change 1: Natural Hazards (Whangarei District Council), 4 December 2024

Consent Order Version of Plan Change 1: Natural Hazards (Whangarei District Council), 27 March 2025

Section 32 analysis report Proposed Regional Plan for Northland (Northland Regional Council)

Re-building of materially damaged or destroyed buildings - Recommendations in response to submissions on the Proposed Regional Plan for Northland - Section 42A hearing report and recommendations (Northland Regional Council)

Section 32 Evaluation Report Plan Change 29 (Nelson City Council)

Section 42A Hearing Report Plan Change 29: Natural Hazards (Nelson City Council), 24 June 2024

Statement of Evidence of Dan Chamberose on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Geotechnical), 24 June 2024

Joint Witness Statement for Plan Change 29: Natural Hazards (Flooding), 30 July 2024

Joint Witness Statement for Plan Change 29: Natural Hazards (Geotechnical), 31 July 2024

Joint Witness Statement (Part 1) for Plan Change 29: Natural Hazards (Geotechnical), 6 November 2024

Joint Witness Statement (Part 2) for Plan Change 29: Natural Hazards (Geotechnical), 25 November 2024

Rebuttal Statement of Dan Chamberose on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Geotechnical), 19 August 2024

Legal submissions on behalf of Nelson City Council for Plan Change 29, 21 August 2024

Summary Statement of Dan Chamberose on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Geotechnical), 23 August 2024

Summary Statement of Sue Robb on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Flooding), 26 August 2024

Summary Statement of Janice Carter on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Geotechnical), 26 August 2024

Reply of Sue Robb on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Flooding), 18 October 2024

Reply of Janice Carter on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Geotechnical), 27 November 2024

Statement of Reply of Dan Chamberose on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Geotechnical), 27 November 2024

Supplementary Statement of Janice Carter on behalf of Nelson City Council for Plan Change 29: Natural Hazards (Geotechnical), 20 December 2024

Hearing Panel's Natural Hazards Recommendation Report for Plan Change 29: Natural Hazards (Nelson City Council), 6 May 2025

Section 32 Evaluation Report v6.1 (Non-Freshwater) Proposed Otago Regional Policy Statement 2021 (Otago Regional Council)

Section 42A Hearing Report (Non-Freshwater) and Supplementary Evidence Proposed Otago Regional Policy Statement 2021 (Otago Regional Council)

Submissions on behalf of Otago Regional Council for Proposed Otago Regional Policy Statement 2021 Hearing (HAZ – Hazards and Risks), 26 April 2023

Opening Statement of Andrew Cameron Maclennan on behalf of Otago Regional Council for Proposed Otago Regional Policy Statement 2021 Hearing (HAZ – Hazards and Risks), 25 April 2023

Opening Statement of Scott David Kelly on behalf of Otago Regional Council for Proposed Otago Regional Policy Statement 2021 Hearing (HAZ – Hazards and Risks), 25 April 2023

Legal submissions on behalf of Queenstown Lakes District Council for Proposed Otago Regional Policy Statement 2021 Hearing (HAZ – Hazards and Risks), 26 April 2023

Closing submissions on behalf of Otago Regional Council for Proposed Otago Regional Policy Statement 2021 Hearing (HAZ – Hazards and Risks), 29 May 2023

Report and recommendations of the Non-Freshwater and Freshwater Hearings Panels to the Otago Regional Council for Proposed Otago Regional Policy Statement 2021, March 2024

Section 32 Evaluation Report for the proposed Wellington City District Plan: Part 2 - Natural and Coastal Hazards (Wellington City Council)

Statement of Evidence of James Gary Beban on behalf of Wellington City Council for the proposed Wellington City District Plan: Part 2 - Natural and Coastal Hazards (Planning), 30 June 2023

Section 42A Hearing Report for the proposed Wellington City District Plan: Part 2 - Natural and Coastal Hazards (Wellington City Council), 3 July 2023

Statement of Supplementary Planning Evidence of James Gary Beban on behalf of Wellington City Council for the proposed Wellington City District Plan: Part 2 - Natural and Coastal Hazards (Planning), 25 July 2023

Statement of Supplementary Planning Evidence of James (Jamie) Grant Sirl on behalf of Wellington City Council for the proposed Wellington City District Plan: Part 2 - Natural and Coastal Hazards (Planning), 25 July 2023

Legal submissions on behalf of Wellington City Council for the proposed Wellington City District Plan (Hearing Stream 5), 28 July 2023

Report and Decisions of Independent Commissioners (Hearing Stream 5 – Report 5B), 8 February 2024

Other documents

Auckland Council Practice Note AC2229 - Building on land subject to natural hazards
<https://www.aucklandcouncil.govt.nz/building-and-consents/Documents/ac2229-building-on-land-subject-to-natural-hazards.pdf>

Auckland Council Practice Note AC2253 – Geotechnical report requirements
<https://www.aucklandcouncil.govt.nz/building-and-consents/Documents/ac2253-geotechnical-report-requirements.pdf>

Auckland Council and GNS Science. 2014. Natural Hazard Risk Communications Toolbox.
<https://www.civildefence.govt.nz/assets/Uploads/documents/NHRCToolbox/NHRCToolbox-Auckland-Council.pdf>

Australian Geomechanics Society. 2007a. Commentary on guideline for landslide susceptibility, hazard and risk zoning for land use management. Australian Geomechanics. 42(1):37–62.

Australian Geomechanics Society. 2007b. Commentary on practice note guidelines for landslide risk management. Australian Geomechanics. 42(1):115–158.

Australian Geomechanics Society. 2007c. Guideline for landslide susceptibility, hazard and risk zoning for land use planning. Australian Geomechanics. 42(1):13–36.

Australian Geomechanics Society. 2007d. Practice note guidelines for landslide risk management. Australian Geomechanics. 42(1):63–114.

Risk Management Standard AS/NZS ISO 31000:2009. Risk management – Principles and guidelines, November 2009.

Risk assessment: Guidance for CDEM Group Planning, Director's Guideline for Civil Defence Emergency Management Groups [DGL 23/22].

Tāmaki Makaurau Auckland Civil Defence and Emergency Management Group Plan 2024-2029

Saunders WSA, Beban JG, Kilvington M. 2013. Risk-based land use planning for natural hazard risk reduction. Lower Hutt (NZ): GNS Science. 97 p. (GNS Science miscellaneous series; 67). <http://tools.envirolink.govt.nz/assets/Uploads/RISK-R7-120Risk-based20land-use20planning20for20natural20hazard20risk20reduction.pdf>

Kilvington, M.; Saunders, W.S.A. 2015. "I can live with this". The Bay of Plenty Regional Council public engagement on acceptable risk, *GNS Science Miscellaneous Series* 86. 71 p.

Ministry for the Environment. Risk Based Approach to Natural Hazards under the RMA (Tonkin and Taylor report, June 2016).

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Ministry for the Environment. Preparing for future flooding: A guide for local government in New Zealand.

Grace E, Kilvington M, France-Hudson B 2019. Reducing risk through the management of existing uses: tensions under the RMA (GNS Science Report; 2019/55 August 2019).

Bretherton EV, Feeney A, Kelly SD, Tang X, Lawson RV. 2023. Management of sensitive or vulnerable activities in relation to natural hazards in planning documents. Lower Hutt (NZ): GNS Science. 68 p. (GNS Science report; 2023/30). <https://doi.org/10.21420/CZTJ-8B15>

Toka Tū Ake EQC. Risk Tolerance Methodology. July 2023.

Toka Tū Ake EQC. Natural Hazard Risk Tolerance Literature Review. July 2023.

Natural Hazard Risk Assessment User Guide - Regional Policy Statement for the Bay of Plenty, Bay of Plenty Regional Council

Let's Talk About Risk Team (Brown, C., Horn, C., Horsfall, S., Kilvington, M). 2023. Natural hazard and climate change risk community engagement: A framework to aid engagement design. Let's Talk About Risk, <https://www.resorgs.org.nz/our-projects/risk-and-resilience-decision-making/lets-talk-about-risk/>.

Grace ES, France-Hudson BT, Kilvington MJ. 2019. Reducing risk through the management of existing uses: tensions under the RMA. Lower Hutt (NZ): GNS Science. 131 p. (GNS Science report, 2019/55). doi:10.21420/27S5-E538

Roberts, R., N Carpenter and P Klinac (2020). Predicting Auckland's exposure to coastal instability and erosion, Auckland Council, technical report, TR2020/021.

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Whangarei District Council Engineering Standards

Attachment 2 – Supporting amendments to the RPS

Introduction

Attachment 2 sets out the supporting amendments proposed to the issues, policies, explanation and principal reasons sections of the RPS.

As the evaluation under sections 32(1)(a), 32(1)(b) and 32(2) of the RMA of the proposed provisions under Sections 8 and 10 of this report cover the similar matters, these have not been repeated here. Instead, relevant parts of Section 10 have been cross-referenced where applicable.

RPS B2 Urban growth and form	
Proposed B2.1 Issues	<p>Auckland’s growing population increases demand for housing, employment, business, infrastructure, social facilities and services.</p> <p>Growth needs to be provided for in a way that does all of the following:</p> <ul style="list-style-type: none"> (1A) contributes to well-functioning urban environments; (1B) improves resilience to the effects of climate change; (1) enhances the quality of life for individuals and communities; (2) supports integrated planning of land use, infrastructure and development; (3) optimises the efficient use of the existing urban area; (4) encourages the efficient use of existing social facilities and provides for new social facilities; (5) enables provision and use of infrastructure in a way that is efficient, effective and timely; (6) maintains and enhances the quality of the environment, both natural and built; (7) maintains opportunities for rural production; and (8) enables Mana Whenua to participate and their culture and values to be recognised and provided for; <u>and</u> (9) <u>avoids or mitigates the risk from natural hazards.</u>
RPS B2.2 Urban growth and form	
Proposed B2.2.2 Policies (2) and (7)	<p>(2) Ensure the location or any relocation of the Rural Urban Boundary identifies land suitable for urbanisation in locations that contribute to a well-functioning urban environment and that:</p> <p>...</p> <p>(l) avoiding areas with significant natural hazard risks <u>or manage the natural hazard risks where the risks are tolerable or acceptable and where practicable avoiding areas prone to</u></p>

	<p>natural hazards including coastal hazards and flooding, <u>and including the effects of climate change including and sea level rise on the extent and frequency of hazards; and</u></p> <p>(7) Enable rezoning of land within the Rural Urban Boundary or other land zoned future urban to accommodate urban growth in ways that contribute to a well-functioning urban environment and that do all of the following:</p> <p>...</p> <p>(f) <u>avoid natural hazard risks where the risks are significant or manage natural hazard risks where the risks are tolerable or acceptable</u></p>
RPS B2.3 A quality built environment	
Proposed B2.3.2 Policy (1)	<p>(1) Manage the form and design of subdivision, use and development so that it contributes to a well-functioning urban environment and does all of the following:</p> <p>...</p> <p>(h) <u>avoids natural hazard risks where the risks are significant or manages natural hazard risks where the risks are tolerable or acceptable.</u></p>
RPS B2.4 Residential growth	
Proposed B2.4.2 Policy (5)	<p>(5) Avoid intensification in areas:</p> <p>(a) where there are natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage or special character; or</p> <p>(b) that are subject to significant natural hazard risks including where the frequency and extent of the natural hazards are being affected by climate change; or</p> <p>(c) where there are other qualifying matters listed in Chapter A which justify avoidance of intensification;</p> <p>where such intensification is inconsistent with the protection of the scheduled natural or physical resources or with the <u>avoidance of the risks from natural hazards where the risks are significant or mitigation of the natural hazard risks</u> or is necessary to give effect to identified qualifying matters.</p>
RPS B2.5 Commercial and industrial growth	
Proposed B2.5.2 Policy (11)	<p>(11) <u>Require commercial, retail and industrial activities to be located, designed and developed to avoid natural hazard risks where the risks are significant and manage the natural hazard risks where the risks are tolerable or acceptable.</u></p>

RPS B2.6 Rural and coastal towns and villages	
Proposed B2.6.2 Policy (1)	(5) Require the establishment of new or expansion of existing rural and coastal towns and villages to be undertaken in a manner that does all of the following: ... (c) <u>avoids areas with significant natural hazard risks or manages the natural hazard risks where the risks are tolerable or acceptable</u> avoids locations with significant natural hazard risks where those risks cannot be adequately remedied or mitigated; or
RPS B2.7 Open space and recreation facilities	
Proposed B2.7.2 Policy (12)	<u>(12) Avoid the risks from natural hazards to facilities on areas of public open space where the risks are significant or manage the natural hazard risks where the risks are tolerable or acceptable</u>
RPS B2.8 Social facilities	
Proposed B2.8.2 Policy (8)	<u>(12) Avoid the risks from natural hazards to social facilities where the risks are significant or manage the natural hazard risk where the risks are tolerable or acceptable</u>
RPS B2.9. Explanation and principal reasons for adoption	
Proposed	<u>The approach to natural hazards is to differentiate the risk based on the likelihood and consequences of the hazard and have different policy approaches applying depending on what the level of risk is.</u> <u>Where the risk from the hazard is significant the approach is to avoid development and limit further exposure to the hazard risk. Tolerable risk applies to situations where the risk needs to be managed to ensure that it is maintained at a tolerable level. Acceptable risk applies to situations where the risk is low and can be maintained at that level.</u>
Comment	These changes proposed to RPS Chapter B2.2 Urban growth and form are consequential changes to reflect the proposed risk management framework, which incorporates risk tolerance and seeks to avoid significant risk as per proposed RPS Objective B10.2.1(3). The corresponding evaluation is found the following parts of Section 10: <ul style="list-style-type: none"> • 10.2.1 Determining risk for coastal and flood hazards • 10.2.2 Determining risk for landslide hazards • 10.2.5 Managing coastal hazard risk for new subdivision, use and development • 10.2.6 Managing flood hazard risk for new subdivision, use and development

	<ul style="list-style-type: none"> • 10.2.7 Managing landslide hazard risk for new subdivision, use and development
RPS B9 Rural environment	
Proposed B9.1 Issues	<p>The Auckland region is not just the location of New Zealand’s largest city. Most of the Auckland region's land is rural and contains extensive, productive and valuable areas used for farming (agriculture, horticulture and grazing), rural service industries), forestry and rural recreation. The rural parts of Auckland also contain important natural resources, including native bush, significant ecological areas and outstanding natural landscapes. <u>A significant amount of Māori Land is located in the rural areas of Auckland, some of which contains established marae and/or urupā which may be subject to significant natural hazard risks.</u> The contributions made by rural areas and rural communities to the well-being of the region must be acknowledged and enabled.</p> <p>The outward expansion of urban areas and people’s lifestyle choices and recreational activities place significant pressures on maintaining the amenity values and the quality of the environment in rural areas. Specific issues in the Auckland region are:</p> <ul style="list-style-type: none"> • protecting the finite resource of elite quality soils from urban expansion; • managing subdivision to prevent undue fragmentation of large sites in ways that restrict rural production activities; • addressing reverse sensitivity effects which rural-residential development can have on rural production activities; and • <u>some marae and/or urupā which may be subject to significant natural hazard risks and there is lack of options for their relocation; and</u> • managing the opportunities for countryside living in rural areas in ways that provide for rural-residential development in close proximity to urban areas and the larger rural and coastal towns and villages while minimising the loss of rural production land
B9.4 Rural subdivision	
Proposed B9.4.2 Policy (2A)	<u>(2A) Provide for very limited rural subdivision for the relocation of established marae and urupā on land managed by the Te Ture Whenua Māori Land Act 1993 to avoid significant natural hazard risks.</u>
B9.5 Principal reasons for adoption	

Proposed	<u>Marae are hubs for the Māori community and are centres for Māori social, economic and cultural leadership. Cultural associations with the whenua (land) mean that many marae and urupā are currently located in coastal environments or near rivers in the rural environment. Where these cultural sites may be subject to significant natural hazard risks, very limited provision is made for the expansion or creation of new rural sites to relocate these taonga and remain in close proximity to the original whenua.</u>
Comment	<p>These changes proposed to relate to RPS Objective B9.4.1(3A) as it relates to subdivision of rural land for the purpose of supporting managed retreat of identified marae and urupā.</p> <p>The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.5 Providing for managed retreat of marae, papakāinga and other development on Māori land and Treaty settlement land

RPS B10 Environmental Risk	
<p>Proposed</p> <p>B10.1 Issues</p>	<p><i>Natural hazards and climate change</i></p> <p><u>Auckland is affected by a wide range of natural hazards, including flooding, coastal erosion (including the effects of sea level rise), freshwater erosion, landslides, wildfires volcano activity, tsunamis, earthquakes, liquefaction and other meteorologically induced hazards such as cyclones, tornadoes, and drought. All of these hazards can affect people, property and the wider environment.</u></p> <p><u>The risk that these hazards pose is made up of factors including the nature, magnitude and extent of the potential event, the anticipated frequency or probability of the hazard event occurring, the exposure and sensitivity of the environment to the hazard. The 2023 weather events have highlighted the actual impacts, and potential future impacts, that natural hazards can have on the Auckland region.</u></p> <p><u>Each of these factors needs to be considered to determine the most effective way to reduce or otherwise manage the risks from natural hazards.</u></p> <p><u>Existing activities in areas prone to natural hazards may cause or worsen risk. New growth and intensification may also cause or worsen risk, depending on the degree to which natural hazards are avoided, mitigated or accepted during planning and development.</u></p> <p><u>Growth and development need to be managed to ensure that the risk from natural hazards is not increased and, where practicable,</u></p>

	<p><u>reduced. More recent development and future development, in the face of housing supply pressure and desired intensification, will result in more public and private assets being at risk from natural hazards if not managed appropriately.</u></p> <p>Auckland's growth will increase pressure to develop areas more susceptible to natural hazards. There may be conflict between where people want to live and where they can live safely, particularly in some coastal areas. Some existing development, including infrastructure, is already located on land that may be subject to natural hazards. This needs managing to ensure that the risk is not increased.</p> <p>Climate is changing, in both the short and long term. This creates significant risks, (including exacerbating natural hazards), uncertainties and challenges for Auckland. How the region manages land use in response to climate change will determine the resilience of Auckland's economy, environment, and communities in the future.</p> <p><u>Natural hazards and climate change pose distinct risks for Māori values, rights and interests, including:</u></p> <ul style="list-style-type: none"> - <u>Disproportionate risks to Māori communities due to where they live and work in Auckland, limited landbase and current socioeconomic circumstances</u> - <u>Fragmented approaches to individualised risk assessment that do not protect Māori interests and are not suited to a more holistic te ao Māori worldview</u> - <u>The challenge of providing concurrently for the exercise of kaitiakitanga, customary rights and the relationship between Māori and their ancestral lands, water, sites, wāhi tapu and other taonga while managing natural hazard risks</u> <p><u>In respect of issues relating to Māori, the provisions of this chapter should be read alongside Chapter B6 Mana Whenua in determining the appropriate risk management response.</u></p>
Comment	The changes proposed to B10.1 Issues provides greater context of what natural hazards are and the importance of managing natural hazard risk. It also highlights particular impacts of natural hazards and climate change for Māori values, rights and interests.
Proposed B10.2.2 Policy (1)	Identify areas potentially affected by natural hazards giving priority to those <u>where the risk is likely to be significant.</u> at high risk of being affected, particularly in the coastal environment, and including areas susceptible to coastal inundation and erosion as a result of sea level rise over at least 100 years.

Comment	<p>This is a consequential change to reflect the proposed risk management framework and aligns with proposed RPS Objective B10.2.1(3). The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.2.1 Determining risk for coastal and flood hazards • 10.2.2 Determining risk for landslide hazards • 10.2.3 Managing wildfire risk
Proposed B10.2.2 Policy (2)	Undertake natural hazard identification and risk assessments as part of structure planning <u>and plan change processes</u>
Comment	This is a minor change to highlight the need for natural hazard risk to be addressed during the plan change process.
Proposed B10.2.2 Policy (3)	Ensure the potential effects of climate change, <u>including cumulative effects, and the potential effects on Māori,</u> are taken into account when undertaking natural hazard risk assessments
Comment	<p>These changes align with existing RPS Objective B10.2.1(4) and proposed Objective B10.2.1(6). The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.2.4 Requirements for assessing and managing risk • 10.4.1 Strengthening the consideration of Māori values rights and interests • 10.8 Assessing the effects of climate change
Proposed B10.2.2 Policy (4A)	<u>Identify natural hazard risks as significant, potentially tolerable; or acceptable in the risk assessment to determine the management response.</u>
Comment	<p>This is a consequential change to reflect the proposed risk management framework that aligns with proposed RPS Objective B10.2.1(3). The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.2.1 Determining risk for coastal and flood hazards • 10.2.2 Determining risk for landslide hazards
Proposed B10.2.2 Policy (5)	<p>Manage subdivision, use and development of land subject to natural hazards based on all of the following:</p> <ol style="list-style-type: none"> (a) the type and severity of potential events, including the occurrence <u>of</u> natural hazard events in combination; (b) the <u>vulnerability sensitivity</u> of the activity to adverse effects, including the health and safety of people and communities, <u>and on Māori,</u> the resilience of property to damage and the effects on the environment; (c) the cumulative effects of locating activities on land subject to natural hazards, <u>including natural hazard risk mitigation,</u> and the effects on other activities and resources.
Comment	These are consequential changes to refer alignment with the proposed risk management framework and to enhance the scope of

	<p>what needs to be considered as part of subdivision, use and development. The corresponding evaluation is found in the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.2.1 Determining risk for coastal and flood hazards • 10.2.2 Determining risk for landslide hazards • 10.2.4 Requirements for assessing and managing risk • 10.3 Ensuring subdivision, use and development does not exacerbate risk elsewhere • 10.4 Managing natural hazard risks while providing for Māori values rights and interests
Proposed B10.2.2 Policy (6)	<p>Adopt a precautionary approach to natural hazard risk assessment and management in circumstances where:</p> <p>(a) the effects of natural hazards <u>risks, either individually or cumulatively</u>, and the extent to which climate change will exacerbate such effects <u>risks</u>, are uncertain or <u>unknown</u>, but may be significant or <u>irreversible</u>, including the possibility of low-probability but high potential impact events; and also sea level rise over at least 100 years; or</p> <p>(b) the level of information on the probability and/or impacts of the hazard is limited.</p>
Comment	<p>These changes are proposed to clarify and strengthen the considerations undertaken as part of precautionary approach to support people's and communities' resilience to natural hazards and the effects of climate change under amended RPS Objective B10.2.1(1). The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.8 Assessing the effects of climate change • 10.9 Adopting a precautionary approach
Proposed B10.2.2 Policy (8A)	<p><u>Enable adaptation of existing activities in natural hazard areas where risk is maintained at or reduced to a tolerable or acceptable level.</u></p>
Comment	<p>This policy directly aligns with proposed RPS Objective B10.2.1(2) as it relates to reducing risk for existing development. The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.1.1 Enabling existing activities, buildings and infrastructure to adapt • 10.1.2 Managing re-building of materially damaged or destroyed buildings
Proposed B10.2.2 Policy (9A)	<p><u>Avoid subdivision, use and development in areas that give rise to significant flood and coastal hazard risks.</u></p>
Proposed	<p><u>Enable the use and development in coastal hazard areas where the use has a functional or operational need to be located in the coastal hazard area.</u></p>

B10.2.2 Policy (10A)	
Proposed B10.2.2 Policy (11A)	<u>Manage subdivision, use and development in areas that give rise to potentially tolerable flood or coastal hazard risks, so that the risk is maintained at a tolerable level.</u>
Comment	<p>The above three policies give effect to proposed RPS Objective B10.2.1(3) as it relates to avoiding significant hazard risk. The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.2.1 Determining risk for coastal and flood hazards • 10.2.2 Determining risk for landslide hazards • 10.2.5 Managing coastal hazard risk for new subdivision, use and development • 10.2.6 Managing flood hazard risk for new subdivision, use and development
Proposed B10.2.2 Policy (12A)	<u>Use natural features and buffers, and nature-based solutions where practicable for protection from coastal hazards, in preference to hard structures.</u>
Comment	<p>This policy directly aligns with proposed RPS Objective B10.2.1(5) as it relates to maintaining the natural hazard mitigation functions of coastal features. The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.1.3 Coastal protection for existing subdivision, use and development • 10.2.5 Managing coastal hazard risk for new subdivision, use and development • 10.7 Maintenance and enhancement of natural hazard mitigation functions of natural features and natural buffers
Proposed B10.2.2 Policy (13A)	<u>Avoid subdivision, use and development associated with activities sensitive and potentially sensitive to natural hazards and discharge of stormwater and wastewater directly to ground in high (significant) landslide hazard risk areas.</u>
Proposed B10.2.2 Policy (14)	<u>Minimise earthworks and vegetation alteration or removal in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas.</u>
Proposed B10.2.2 Policy (15)	<u>Manage subdivision, use and development associated with activities sensitive and potentially sensitive to natural hazards, earthworks, vegetation alteration or removal, and stormwater and wastewater discharges directly to ground in medium landslide susceptibility assessment areas and/or medium (tolerable) landslide hazard risk areas.</u>
Comment	<p>The above three policies give effect to proposed RPS Objective B10.2.1(3) as it relates to avoiding significant hazard risk. The corresponding evaluation is found the following parts of Section 10:</p>

	<ul style="list-style-type: none"> • 10.2.7 Managing landslide hazard risk for new subdivision, use and development
Proposed B10.2.2 Policy (16)	<u>Ensure that subdivision, use and development, mitigate and manage wildfire hazard risk to as low as reasonably practicable.</u>
Comment	<p>This supports people's and communities' resilience to natural hazards and the effects of climate change under RPS Objective B10.2.1(1). The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.2.3 Managing wildfire risk
Proposed B10.2.2 Policy (17)	<u>Provide for the active participation of Māori in the identification and decision-making over the management of natural hazard risks associated with their values, rights and interests.</u>
Proposed B10.2.2 Policy (18)	<u>Enable Integrated Māori Development on Māori Land, Treaty Settlement Land, and land held in general title identified as receiver sites for managed retreat through the following processes.</u>
Proposed B10.2.2 Policy (19)	<u>Require natural hazard identification and risk assessments to consider mātauranga and tikanga Māori.</u>
Proposed B10.2.2 Policy (20)	<u>Enable coastal protection for the use of Māori Land, Treaty Settlement land, marae, urupā and the management of mana whenua cultural heritage and values where there is no practicable alternative.</u>
Comment	<p>The above proposed policies align with proposed Objectives B9.4.1(3A) and B10.2.1(6). The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.1.4 Coastal protection for continued use of Māori land and sites • 10.4.1 Strengthening the consideration of Māori values rights and interests • 10.4.2 Maintaining flexibility for managing risks for Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values • 10.5 Providing for managed retreat of marae, papakāinga and other development on Māori land and Treaty settlement land
Proposed B10.2.2 Policy (21)	<u>Protect, Strengthen and prioritise natural systems such as flood plains, vegetation and riparian margins, beaches and sand dunes in preference to using hard protection structures to manage natural hazards.</u>
Proposed B10.2.2 Policy (21A)	<u>Reduce the need for using hard protection structures to protect activities from natural hazards.</u>

Comment	<p>The above changes to existing Policy 21 and introduction of new Policy 22 seeks to more strongly align with amended RPS Objective B10.2.1(5) and existing Objective B10.2.1(7). The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.1.3 Coastal protection for existing subdivision, use and development • 10.2.5 Managing coastal hazard risk for new subdivision, use and development • 10.7 Maintenance and enhancement of natural hazard mitigation functions of natural features and natural buffers
Proposed B10.2.2 Policy (21B)	<p><u>Enable the construction, operation, maintenance and upgrading of infrastructure, in areas subject to natural hazards where the infrastructure is functionally or operationally required to locate in hazard areas, or it is not reasonably practicable that it be located elsewhere.</u></p>
Proposed B10.2.2 Policy (22)	<p>Minimise <u>Reduce</u> the risks from natural hazards to new infrastructure which functions as a lifeline utility by:</p> <ul style="list-style-type: none"> (a) assessing the risks from a range of natural hazard events including low probability but high potential impact events such as tsunamis, earthquake and volcanic eruptions; (b) utilising design, location and network diversification to minimise <u>reduce</u> the adverse effects on infrastructure and to minimise <u>reduce</u> the adverse effects on the community from the failure of that infrastructure.; <u>and</u> (c) <u>relocating lifeline utilities away from areas of significant risk, where appropriate and practicable.</u>
Comment	<p>These are consequential changes to align with the proposed risk management framework and to provide further direction of the management of infrastructure in relation to natural hazard risk. The corresponding evaluation is found the following parts of Section 10:</p> <ul style="list-style-type: none"> • 10.6 Managing natural hazard risks in relation to infrastructure where there is a functional or operational need
Proposed B10.6. Explanation and principal reasons for adoption	<p><i>Natural hazards and climate change</i></p> <p>Auckland is affected by a wide range of natural hazards, including:</p> <ul style="list-style-type: none"> • those that occur frequently such as flooding, coastal erosion (including the effects of sea level rise), freshwater erosion, (coastal and freshwater) landslides, wildfires, instability; and • those that occur less frequently including volcano activity, tsunamis, earthquakes, liquefaction and other meteorologically induced hazards such as (cyclones, tornadoes; and drought) and fire.

All of these hazards can affect people, property and the wider environment.

The risk that these hazards pose is not just a reflection of the frequency of these events, rather it is made up of a number of factors including:

- the nature, magnitude and extent of the potential event (which gives the susceptibility of the site to the event) and likely scale of the hazard;
- the likelihood anticipated frequency or probability of the hazard occurring (the hazard); and
- the exposure and vulnerability of people, property, infrastructure and the environment to the hazard (resulting in the risk) things at risk – people, buildings, infrastructure or natural resources.

Predicted changes in climate could have an effect on the environmental processes that cause natural hazard events and should be taken into account when assessing these factors.

Each of these factors needs to be considered to determine the most effective way to reduce or otherwise manage the risks from natural hazards. Some risks can be effectively managed through land use planning and are addressed through objectives, policies and rules in the Unitary Plan or under the building control regime. Some are appropriately addressed through the provision of new or upgraded infrastructure.

The provisions in the AUP are focussed on coastal erosion; coastal inundation; flooding and landslides.

Other risks are better managed through public education, emergency preparedness, early warnings and insurance, (e.g. volcanic activity, tsunamis, earthquakes and wildfires).

Existing ~~land use~~ activities in areas prone to natural hazards may cause or worsen risk. New growth and intensification may also cause or worsen risk, depending on the degree to which natural hazards are avoided, mitigated or accepted during planning and development.

The objectives and policies seek to ensure adequate spatial planning to reduce the risk from natural hazards. ~~They also seek to ensure that new development (including infrastructure) is located and designed to deal with the impacts from hazards that may be experienced over their lifetime.~~ Risk assessment is a key means to identify and understand risks, and to determine which aspects of risk

can be managed through appropriate land use planning tools and development methods. Both current and future risks (including the effects of climate change such as sea level rise) need to be considered.

A proportionate risk-based approach has been adopted to address the risks associated with natural hazards. Generally, a risk reduction approach applies to land that has been developed for urban use and a risk avoidance approach applies to the development of land yet to be urbanised. A risk management approach also applies to infrastructure.

To assist with determining the consequences associated with natural hazards, risks are categorised as significant, tolerable or acceptable based on the the characteristics of the hazard and the sensitivity of the activity. Where the risk is “significant” the risk is to be avoided and where it is “tolerable” or “acceptable” the risk is to be managed.

Managing natural hazard risks while providing for Māori values rights and interests

Māori values, rights and interests encompass a range of matters recognized in chapter B6 (Mana Whenua). Natural hazards create significant risks on these matters, including on the use and development of Māori Land, Treaty Settlement Land, marae, urupā and papakāinga, on the mauri of places with significant cultural value, and on the integrity of mana whenua cultural heritage.

Risks from natural hazards can affect access to land and hinder customary uses and the ability to exercise kaitiakitanga. Māori Land and Treaty Settlement Land is limited to specific areas, often with significant coastal hazard, flooding, landslide, and other risks. Māori require support and flexibility to manage these risks, whether this is enabling development on the balance of the land that avoids natural hazard risks, supporting mitigation that enables use and development to occur, or facilitating retreat from high-risk areas to land acquired for the purpose.

Mana whenua cultural heritage and other areas with cultural value are frequently located along waterways, coastlines and maunga. This makes them particularly vulnerable to flooding, coastal inundation, erosion, and landslides. Subdivision, use and development (including measures to mitigate risks on other properties) can exacerbate these risks. Conversely, such activities can also be designed in a way that improves the resilience of culturally significant areas.

	<p><u>The Unitary Plan addresses natural hazard risk while providing for Māori values rights and interests by acknowledging that where subdivision, use and development is proposed in areas of natural hazard risk, there is also a need to assess effects on Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values. This assessment is done through engagement with iwi authorities and, importantly, with the hapū and whānau of individual marae and urupā to understand their mātauranga (knowledge) and tikanga (correct customs).</u></p> <p><u>To provide for flexibility and support creative solutions for at-risk Māori Land, Treaty Settlement Land, marae and urupā, this chapter supports the policy framework for the development policies of chapters E20 and E21 subdivision provisions, and zones to avoid and mitigate risk and for managed retreat.</u></p> <p><u>To support the Unitary Plan assessment and management of natural hazard risks, strategy development and planning by the Council, landowners, and mana whenua is needed to ensure the resilience of significant places and existing uses in the face of natural hazards. This includes the application of wellbeing frameworks for climate change such as Te Ora ō Tāmaki Makaurau, and the implementation of Shoreline Adaptation Plans future Māori adaptation plans</u></p>
Comment	<p>These additions and amendments are to support and explain the changes proposed to the Chapter B10 of the RPS and provide more context on the proposed risk management framework and the management of natural hazard risk in relation to Māori values rights and interests</p>

Attachment 3 – Identifying and differentiating flood hazards

Background

The AUP currently identifies areas subject to flooding via the identification of floodplains and overland flow paths. Both terms are defined in Chapter J and have corresponding indicative mapping that sit outside of the AUP maps. The floodplain mapping is based on hydraulic modelling, while overland flow paths are based on analysis of topography using latest LIDAR information. The definition and the supporting mapping are used to identify whether the relevant rules for subdivision, use and development in floodplains and overland flow paths under Chapters E12, E36, E38 and E39 apply.

Different sets of rules apply to floodplains and overland land flow paths. In both cases, the same activity status, rules and standards and policy direction generally apply regardless of the characteristics of the hazard, except for some permitted standards for activities in floodplains (e.g. surface parking), a certain maximum flood depth is specified.

The identification of areas that are subject to flood hazards is important to clarify when the relevant provisions proposed in PC120 apply.

Evaluation undertaken

Attachment 3 will cover the evaluation undertaken in relation to:

- How areas subject to flood hazards are identified
- How to improve the identification of overland flow paths
- Updates to the floodplain definition
- How the potential risk posed by flood hazards are differentiated

How areas subject to flood hazards are identified

Inclusion of flood prone areas

The proposed definition of 'flood hazard areas' expands beyond the status quo and consists of floodplains, overland flow paths as well as flood prone areas.

Floodplains and overland flow paths indicate the areas that stormwater runoff is anticipated to flow from a specified rainfall event. As such, the continued identification of flood plains and overland flow paths is a clear default way to manage flood risk under the AUP.

Floodplain modelling and mapping is undertaken with the assumption that there are no blockages in the network (i.e. all culverts etc are running freely). This leads to a potential underestimation of the flooding extent and flood levels in many areas. Flood prone areas are either natural or manmade depressions that will fill during a rainfall event either due to the lack of primary network to drain the areas (e.g. within volcanic areas) or when the primary network that drains the area becomes blocked. Blockages generally occur due to debris which has been caught up in the floodwaters and can still occur even where regular maintenance to remove any build-up of material in the outlet (e.g. culvert) has occurred.

Flood prone areas can activate very quickly and to dangerous depths, including in more frequent events.

Flood prone areas are not currently managed under the AUP, although they are shown as a mapping layer in Geomaps. Approximately 27,000 flood prone areas have been identified across the region, 13,000 of which are within the urban area. The flood prone areas mapped meet the following criteria for the modelled 1 per cent AEP flood event⁷, assuming the depression outlet is blocked:

- $\geq 500\text{m}^2$ in area
- $\geq 50\text{m}^3$ in volume; and
- $\geq 300\text{mm}$ in depth.

Many of the mapped flood prone areas are within, or contiguous to, the floodplain, but some are localised areas of flood risk. When blockages of the primary stormwater network occur, flood prone areas can fill to depths greater than the 1 per cent AEP event (as modelled for the floodplain). These areas can also fill up during more frequent rainfall events than the 1 per cent AEP event.

The 2023 weather events highlighted the level of risk that flood prone areas can pose. For example, many properties in the Grey Lynn area identified as Category 3 through the categorisation and buyout process were within flood prone areas. These properties were predominantly outside of the modelled floodplain, with the flooding resulting from network capacity being exceeded and blocked culverts. Furthermore, properties in Mangere, designed and developed in consideration of the 1 per cent AEP floodplain, were significantly impacted by flood depths that were greater than the modelled floodplain due to the activation of the flood prone area.

Given the above, it is considered that there is sufficient risk posed by flood prone areas to warrant them being identified as areas exposed to flood hazards. Not identifying these areas would mean that subdivision, use and development in these areas will continue to take place without appropriate assessment, or only be assessed if the area happens to overlap with a floodplain or overland flow path. In the latter situation, the assessment would be based on the characteristics of the floodplain or overland flow path, which may pose flood depths that are lower than the flood prone area. While the addition of flood prone areas will result in additional consenting requirements, it is necessary to achieve the purpose of the plan change.

Inclusion of flood sensitive areas

Flood sensitive areas relate to those areas that immediately adjoin the modelled floodplain, being those areas that are 0.5m (vertical) from these mapped areas. These areas have been mapped in certain parts of the region as they were managed by legacy district plans prior to the AUP.

⁷ Incorporating the 2.1 degrees climate change scenario and maximum permitted development (impervious).

While the inclusion of these areas would support a precautionary approach as it acts as a buffer for future changes to the climate and/or other factors, this is not considered to be a viable option at this point in time as further work is required to determine how these areas should be identified and managed. The existing mapping layer, which is only available for certain legacy council areas, is out of date and inaccurate in some places. There is not enough capacity to update the mapping layer for the entire region within the plan change timeframe. Furthermore, it is not clear what the appropriate management measures under the AUP should be if these areas were identified as potential flood hazard areas.

How to improve the identification of overland flow paths

Extent of the overland flow path

Overland flow paths are currently defined and managed under the AUP, with a supporting mapping layer on Geomaps. The definition under Chapter J is provided below:

Overland flow path

Low point in terrain, excluding a permanent watercourse or intermittent river or stream, where surface runoff will flow, with an upstream contributing catchment exceeding 4,000m².

Excludes the following areas:

- *constructed depressions and pits within Special Purpose - Quarry Zone.*

Note

The Council holds publicly available information showing the modelled Overland Flow Paths in its GIS viewer for specific properties. The Overland Flow Path map is indicative only. A party may provide the Council with a site specific technical report prepared by a suitably qualified and experienced person to establish the location, depth or flow characteristics of the Overland Flow Path.

Council will continually update the Overland Flow Path map to reflect the best information available.

However, a known gap is that overland flow paths, and the flood risks that they can pose, are not assessed appropriately because they are not easily identifiable.

Overland flow paths can vary in width but the mapping layer on Geomaps only shows the thalweg of the overland flow path (e.g. the line of the lowest elevation on a cross-section of the overland flow path). Furthermore, it has its limitations and is indicative only. As such, it can make it difficult for plan users to know whether an overland flow path extends onto a site, particularly if the thalweg is not shown as being within the boundaries of a site.

To address this gap, it is proposed to amend the note under the definition of 'overland flow paths' to provide more context of what the supporting mapping layer shows and to inform the interpretation of the rules. This is evaluated as the best approach currently available considering the alternative options discussed below.

Alternative option 1 – status quo

Alternative option 1 is not considered to be an appropriate option as maintaining the status quo will not resolve the gap identified.

Alternative option 2 – update the overland flow path mapping layer to show the full extent of the overland flow path

Alternative option 2 is also not appropriate as it is not possible to map the full extent of the overland flow paths.

Alternative option 3 – apply an automated buffer distance around the mapped thalweg of the overland flow path

The extent of an overland flow path varies. As such, there is no constant buffer that could be applied in this instance. Due to the catchment and site variances, it is difficult to determine an appropriate buffer width at the regional scale. Applying varying buffer widths corresponding to catchment size is not considered appropriate as topography, particularly slope, is more relevant than catchment size. Furthermore, while showing a buffer distance on the mapping may provide greater awareness to plan users on the extent of the overland flow path, it can also cause plan users to assume that that is the full extent. As such, alternative option 3 is not a preferred option.

Alternative option 4 – expand the triggers for rules and standards that apply to overland flow paths

Another alternative that has been considered is building in a buffer as part of the rules or standards themselves. Using the current rule for building in overland flow paths, this could be done by requiring consent to build within 10m of a mapped thalweg of an overland flow path or requiring consent for any building on a site/adjoining site that has a mapped overland flow path. However, this option is not considered appropriate as expanding the triggers for rules and standards could create unreasonable barriers for future development. For example, there would be significant costs to both applicants and Auckland Council if there is a resource consent requirement for any building on sites that have a mapped overland flow path or adjoins a site that has a mapped overland flow path. Furthermore, an attempt to specifying a buffer distance as part of the rules or standards instead would lead to the same challenges as discussed for alternative option 3 above.

Thresholds for overland flow paths

The current definition of overland flow path specifies that surface runoff is only an overland flow path if the upstream contributing catchment exceeds 4,000m². This can be problematic as none of the rules relating to overland flow paths apply in these situations. As such, there have been examples of people purposely directing stormwater flows to neighbouring properties. It is proposed to change the definition for 'overland flow paths' to remove the 4,000m² threshold. This is considered appropriate given that these overland flow paths are also a form of flooding and should be identified as such.

Proposed definition for overland flow paths

Taking into account the two issues identified above, PC120 proposes the following amendments to the definition for overland flow paths:

Overland flow path

~~A Low point in terrain, excluding a permanent watercourse or intermittent river or stream, (excluding permanent streams) where surface runoff will flow during rainfall events, with an upstream contributing catchment exceeding 4,000m².~~

~~Excludes the following areas:~~

~~constructed depressions and pits within Special Purpose – Quarry Zone.~~

Note

~~The Council holds publicly available information showing the modelled Overland Flow Paths in its GIS viewer for specific properties (the Overland Flow Path map). The Overland Flow Path map is indicative only and shows only the thalweg, not the full extent of the Overland Flow Path. The thalweg is the line of the lowest elevation on a cross-section of the overland flow path) and further technical assessment by a suitably qualified and experienced person is required to establish the extent, depth and flow characteristics. The actual extent of any particular Overland Flow Path may extend beyond the site on which the thalweg is depicted. A party may provide the Council with a site specific technical report prepared by a suitably qualified and experienced person to establish the location, depth or flow characteristics of the Overland Flow Path.~~

~~Council will continually update the Overland Flow Path map to reflect the best information available.~~

How the potential risk posed by flood hazards are differentiated

Many properties are at immediate flood risk from extreme events. Approximately 170,000 people live in floodplains; 56,812 buildings are exposed to floodplains (11 per cent of buildings in the region); and 105,159 buildings are exposed to at least one type of flood hazard⁸. However, the level of flooding experienced on properties varies.

The AUP currently applies a one-size-fits-all approach for flooding, where the same rules and standards generally apply regardless of the characteristics of the flood hazard. While this provides certainty to plan users on whether consent is required or not and what activity statuses would apply, it limits the ability to establish differentiations between the level of hazard risk and therefore corresponding policy directives, as sought under the proposed risk management framework. In some cases, this approach can also add unnecessary consent burden on development in areas of lower hazard risk and conversely could result in inadequate scrutiny of higher hazard risk scenarios.

The proposed approach is to use depth and velocity to differentiate hazard risk in flood hazard areas. This provides the option to use these characteristics as a method to signal

⁸ Figures obtained from: Healthy Waters Stormwater Network Discharge Consent 6-Yearly Review, September 2022, Version 2.2

where risk may be higher based on the hazard itself. Differentiating the level of risk from flooding within the extent of the floodplain enables more targeted provisions, a stronger evidence base for stricter or more lenient controls on development and enables people to make informed decisions in relation to the level of risk they are prepared to accept. Depths and velocities are also able to be calculated and provides greater clarity to plan users than if the AUP relied on descriptions of more generic consequences to differentiate risk e.g. minor damage to a building.

The level of risk posed by the flood hazard is proposed to be identified as very high, high, medium or low, corresponding to the modelled depth and velocity of floodwaters and the thresholds at which it poses risk to life and building stability. This is aligned with the consequences that community feedback on risk to life, serious injury and major damage to buildings being intolerable risk, as discussed in Section 6.

The depths and velocities are based on the flood hazard vulnerability curves identified by the Australian Institute for Disaster Resilience⁹, as shown in Figures 1 and 2 below. As depth and velocity of floodwaters required to pose a risk to life are lower than those required to pose risk to building stability, these have formed the baseline for the flood hazard delineations.

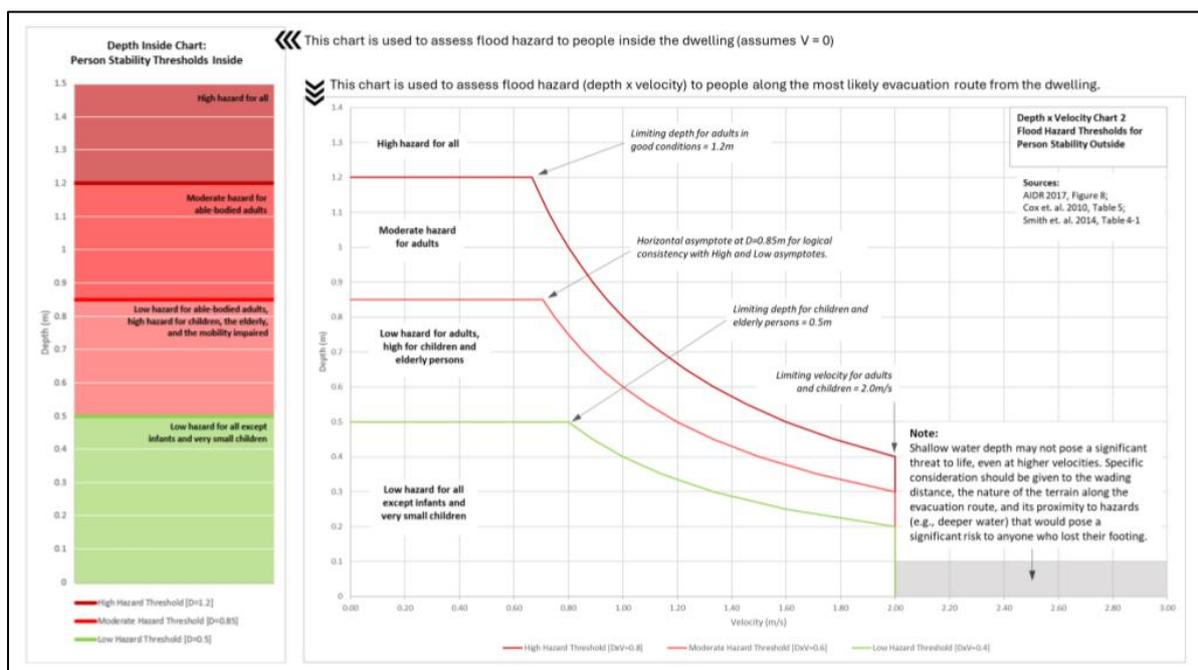


Figure 1: Depth x Velocity Chart 2 Flood Hazard Thresholds for Person Stability Outside

9

Guideline 7-3 Flood Hazard issued by the Australian Institute for Disaster Resilience
<https://knowledge.aidr.org.au/media/3518/adr-guideline-7-3.pdf>

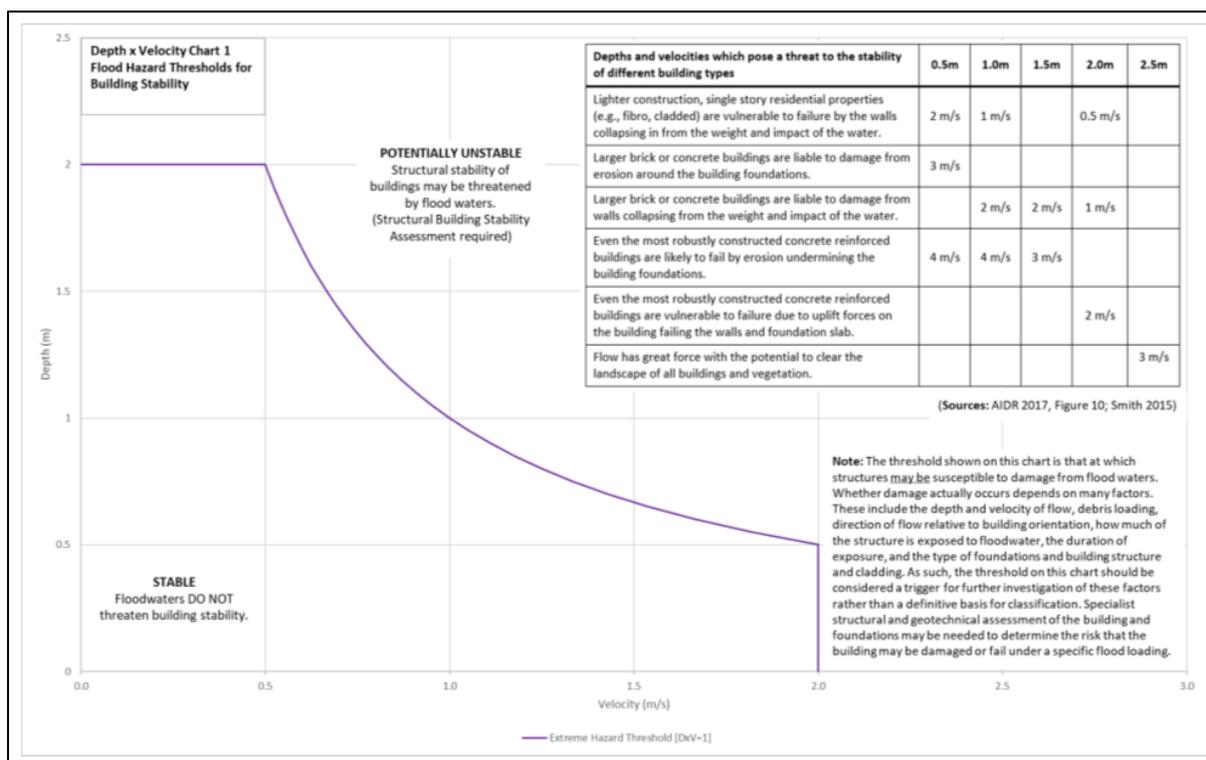


Figure 2: Depth x Velocity Chart 1 Flood Hazard Thresholds for Building Stability

While all people exposed to flood hazards have some level of vulnerability, the delineation of risk has been based on vulnerable peoples, such as children, the elderly and those with impaired mobility. This has been determined based on both research as well as feedback on risk tolerance from the community as detailed in Section 6.

With regards to research, the categorisation process found that¹⁰:

- Inside the building, those with impaired mobility are the most vulnerable. Those with mobility impairment or other forms of physical and/or intellectual impairment are more vulnerable because they may not be able to correctly perceive or understand what is happening, make the appropriate choices, or have the physical ability to evacuate unassisted. These people would require support from able-bodied adults to safely evacuate in a flood situation. According to Statistics New Zealand, 14 per cent of the adult population of New Zealand and 46 per cent of those aged over 65 have impaired mobility¹¹. The 2023 Census identified that 13.3 per cent of Auckland's population are aged 65 and over (219,753 residents).
- Outside of the building, children and the elderly are the most vulnerable. This relates to safety during evacuation, is based on established flood stability thresholds for people and directly correlates to a person's physical characteristics (weight and height) and their ability to navigate terrain. Most children under the age of 14 are

¹⁰ As detailed in: Property-level Flood Risk Framework (v2.4, October 2024)

¹¹ As noted in: Property-level Flood Risk Framework (v2.4, October 2024)

vulnerable to losing stability in floodwaters. Infants and young children are more vulnerable, but it is assumed that they would be carried by an adult.

With regards to community feedback on risk tolerance, the majority feedback from the participants indicated support for accommodating a moderate degree of vulnerabilities as part of the AUP provisions.

As such, the depth and velocities have been translated into the following hazard risk classifications:

Description	Depth and velocity calculations	Level of hazard risk
Unsafe for all people and vehicles and all buildings vulnerable to structural damage	Depth equal or greater than 1200mm or depth x velocity product greater than or equal to $0.8\text{m}^2/\text{s}$	Very high
Unsafe for all people (moderate hazard to able-bodied adults) and vehicles	Depth between 500mm and 1200mm or depth x velocity product between $0.4\text{m}^2/\text{s}$ and $0.8\text{m}^2/\text{s}$	High
Unsafe for children, the elderly, and vehicles		
Low hazard to all except infants and small children, unsafe for small vehicles	Depth between 500mm and 300mm or depth x velocity product between $0.4\text{m}^2/\text{s}$ and $0.24\text{m}^2/\text{s}$	Medium
Insignificant, generally safe for people, buildings and vehicles	Depth equal to or less than 300mm or depth x velocity product less than or equal to $0.24\text{m}^2/\text{s}$	Low

The hazard risk classification described above is proposed to apply to all flood hazard areas, being floodplains, overland flow paths and flood prone areas. However, their application differs slightly:

- For floodplains and overland flow paths, the depths and velocities are proposed to be determined using the 1 per cent AEP event. This is consistent with the current and proposed flood management provisions under the AUP.
- For flood prone areas, the floodwaters are likely to have minimal velocity. While there is some flow within flood prone areas as they fill and drain, velocity is not a

determinant for the level of risk. As such, the predominant determinant of the hazard risk classification is likely to be the depth of the floodwaters.

In addition, the amount of rainfall required to fill flood prone areas to a dangerous level varies – the smaller the amount of rain required to fill the depression, the more likely that the depression is filled (with or without blockage occurring) in a rainfall event. The more frequent the level is reached, the higher the hazard risk. The depths and velocities are proposed to be determined using a 50mm rainfall event. This is because in urban catchments, a 50mm rainfall event with a 2-hour duration is considered a 'likely' event, being equivalent to a 5-year ARI or a 20 per cent AEP event (based on historical rainfall data).

Attachment 4 – Identifying and differentiating coastal hazards

Statutory context

In addition to the requirement under s6(h) of the RMA to recognise and provide for the management of significant risks from natural hazards, Council is also required under the New Zealand Coastal Policy Statement 2010 (NZCPS) to identify areas of the coastal environment that are potentially affected by coastal hazards. Hazard risks are to be assessed over at least 100 years based against criteria including:

- b) short term and long term natural dynamic of erosion and accretion and*
- e) cumulative effects of sea level rise..*

taking into account national guidance and best available information on the likely effects of climate change on the region or district.” [New Zealand Coastal Policy Statement, Policy 24.1(a) and (e)].

Policy 25(a) of the NZCPS requires local authorities to ‘avoid increasing the risk of social, environmental and economic harm from coastal hazards’ and ‘(b) avoid redevelopment, or change in land use, that would increase the risk of adverse effects from coastal hazards’.

Background

Chapter E36 ‘Natural hazards and flooding’ and Chapters E38 ‘Subdivision – Urban’ and E39 ‘Subdivision – Rural’ of the AUP set out the policy framework and implementation methods for managing natural hazards, including coastal hazards, in the Auckland Region. These provisions apply to the subdivision, use and development of land identified as being subject to natural hazard risk. The operative AUP currently identifies coastal erosion hazard areas and coastal storm inundation areas.

A single coastal erosion hazard area

Coastal erosion hazard areas refers to areas susceptible to the gradual removal of material forming the land due to natural processes, causing the coastline to move inland over time. It is identified as a single area of susceptibility, with the classification covering both:

- Soft shoreline erosion (beaches and dunes)
- Hard shoreline erosion (coastal cliffs)

This area has the following definition under Chapter J:

Coastal erosion hazard area

Any land which is:

- (a) within a horizontal distance of 20m landward from the top of any coastal cliff with a slope angle steeper than 1 in 3 (18 degrees); or*

- (b) *at an elevation less than 7m above mean high water springs if the activity is within:*
- i. *Inner Harbours and Inner Hauraki Gulf: 40m of mean high water springs; or*
 - ii. *Open west, outer and Mid Hauraki Gulf: 50m of mean high water springs; or*
- (c) *within a lesser distance from the top of any coastal cliff, or mean high water springs, than that stated in (a) and (b), where identified in a site-specific coastal hazard assessment technical report prepared by a suitably qualified and experienced professional to establish the extent of land which may be subject to coastal erosion over at least a 100 year time frame.*

The best understanding of the areas affected at the time was a result of the 2006 Regional Assessment of Areas Susceptible to Coastal Erosion TR 2009/009.

Two differentials for coastal storm inundation areas

Coastal storm inundation areas are those areas that are modelled to be subject to coastal inundation with a 1 per cent AEP. The Plan defines two levels of coastal inundation hazard:

- a. Coastal Storm Inundation 1 per cent Annual Exceedance Probability (AEP) Area
This represents areas at risk from coastal storm inundation with a 1 per cent annual exceedance probability, which is equivalent to a 100-year average recurrence interval storm event.
- b. Coastal Storm Inundation 1 per cent AEP Plus 1m Sea Level Rise Area
This area considers the same 1 per cent AEP storm inundation scenario but adds 1 meter of sea level rise to account for climate change impacts.

These areas are defined in Chapter J as follows:

Coastal storm inundation 1 per cent annual exceedance probability (AEP) area

The area of coastal land subject to inundation caused by high sea level elevations during storm events, where the sea level elevation is of such height as to have a one per cent chance of being equalled or exceeded in any year. This includes wave set up for open coastal areas and excludes wave set up for inner harbours and estuaries. Wave run up is not included.

The Coastal storm inundation 1 per cent AEP area is:

- *the area shown in the Council's publicly available online GIS viewer as the modelled extent of affected land for a 100 year return period (Average Recurrence Interval); or*
- *as identified in a site-specific technical report prepared by a suitably qualified and experienced professional.*

Note: The Coastal Storm Inundation maps included in the Council's GIS viewer represent the area of inundation indicated in the tables of the report: Stephens, S., Wadhwa, S., and Tuckey, B., (2016) Coastal inundation by storm-tides and waves in the Auckland Region, prepared by NIWA and DHI for Auckland Council, Auckland Council Technical Report TR2016/17). These maps may be amended should more updated information be made available.

Coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area

The area inundated during a coastal-storm inundation 1 per cent AEP event plus an additional one metre of sea-level rise relative to the present-day mean sea level.

The area of coastal storm inundation 1 per cent AEP plus 1m sea level rise is defined as:

- *the area shown in the Council's publicly available online GIS viewer as the modelled extent of affected land for a 100 year return period (Average Recurrence Interval) plus 1m sea level rise; or*
- *as identified in a site-specific technical report prepared by a suitably qualified and experienced professional.*

The implication of the current differentials for coastal hazards

Under E36, within coastal erosion hazard areas, and the 1 per cent AEP coastal inundation areas, a more restrictive approach is taken to managing use and development. While in the coastal storm inundation 1 per cent AEP plus 1m sea level rise area, a more permissive approach applies.

For example, there is no permitted level of external additions and alterations that increase the gross floor area (GFA) of a building in the coastal erosion hazard areas or the 1 per cent AEP coastal inundation area. However, external additions and alterations that increase the GFA up to 25m² are permitted in the coastal storm inundation 1 per cent AEP plus 1m sea level rise area.

However, under chapters E38 (urban subdivision) and E39 (rural subdivision) of the AUP, subdivision of sites within the coastal erosion hazard area or the 1 per cent AEP plus 1m sea level rise area requires a resource consent as a restricted discretionary activity and for building platforms to be outside of these areas.

Having two differentials for coastal storm inundation hazards and one for coastal erosion hazards leads to some inconsistency in how the AUP assumes equivalence of exposure to the different hazards:

- On the one hand when managing use and development under E36, the entirety of the coastal erosion hazard area is held to contribute to risk to the same degree as the 1 per cent AEP storm inundation area. While the 1 per cent AEP storm inundation area plus 1m Sea level rise area are considered to be lower risk.

- On the other hand, when managing subdivision under E38 and E39, the entirety of the coastal erosion hazard area is held to contribute to risk to the same degree as the 1 per cent AEP storm inundation area plus 1m sea level rise.

This is shown in Table 1 below:

	Use and development (E36)	Subdivision (E38& E39)
Coastal erosion hazard area	No level of permitted extensions	No new building platforms
1 per cent AEP storm inundation area	No level of permitted extensions	No new building platforms
1 per cent AEP storm inundation area plus 1m sea level rise	Permits additions and alterations up to 25m ²	No new building platforms

Table 1: Example of operative AUP rules for coastal hazard areas showing the implications of differentiating hazard exposure areas for storm inundation, but not erosion hazard areas.

While there is the potential to differentiate coastal hazard exposure to a greater degree, there are some potential benefits from retaining this approach:

- **Simplicity:** Having fewer differentials means that it is easier to identify the provisions that apply to a particular site.
- **Familiarity:** There is an existing regulatory practice and industry understanding regarding the existing approach.

An opportunity to improve consistency and take a risk-based approach

Since the development of the AUP additional surveying and modelling has been undertaken to provide a more nuanced picture of coastal hazards in Auckland. In 2020 Council commissioned an assessment of the impacts of coastal hazards for the Auckland Region – “Predicting Auckland’s Exposure to coastal instability and erosion Auckland Council, technical report, TR2020/021” (Roberts, R, Carpenter, N and P Klinac (2020). This more refined view of susceptibility to instability and erosion gives greater confidence to differentiate areas with different degrees of hazard exposure at a scale appropriate for planning purposes.

Broadly consistent with approaches being adopted by other councils with similar risks from natural hazards and MfE¹² the provisions contained in PC120 propose a three-tier approach where different level of potential exposure can be used to guide:^[1] the provisions contained

¹² [1] Ministry for the Environment. 2024. Coastal hazards and climate change guidance. Wellington: Ministry for the Environment. Interim precautionary relative sea-level rise allowances recommended to use for coastal planning and policy before undertaking a dynamic adaptive pathways planning approach for a precinct, district or region.

in PC120 propose a three-tier approach where different level of potential exposure can be used to guide:

- Coastal subdivision and green-field development and changes in land use and intensification;
- Managing existing uses and developments;
- Non-habitable development and short-lived assets.

Being more targeted with land use and development regulation has the benefits of enabling planning frameworks to be more targeted by:

- being more enabling where risk is lower and therefore reduce opportunity cost
- being more definitive where risk is considered to be high and potentially intolerable, there by reducing long-term risk exposure, improving certainty and reducing transaction costs.

As coastal hazards will be exacerbated over time due to sea level rise, and ongoing process of coastal erosion, the three-tiered approach is based on the area that is expected to be exposed in different timeframes, based on sea level rise scenarios.

Table 5.5 below, extracted from the technical report Predicting Auckland’s Exposure to coastal instability and erosion Auckland Council, technical report, TR2020/021” (Roberts, R, Carpenter, N and P Klinac (2020), shows the adopted sea level rise scenarios for the three timeframes used to differentiate areas susceptible to coastal inundation and erosion. The full methodology is contained in the report.

Table 5.5: Adopted SLR values as shaded in grey (m)

Timeframe	SLR scenario	Projected SLR relative to 1985-2005 baseline ¹	'Adjusted' SLR from present day baseline ^{2,3}	'Effective' SLR from present day baseline ^{2,4,5}
2050	RCP2.6	0.23	0.16	0.10
	RCP4.5	0.24	0.17	0.11
	RCP8.5	0.28	0.20	0.14
	RCP8.5H+	0.37	0.27	0.22
2080	RCP2.6	0.37	0.30	0.19
	RCP4.5	0.42	0.35	0.24
	RCP8.5	0.55	0.47	0.36
	RCP8.5H+	0.75	0.65	0.55
2130	RCP2.6	0.6	0.53	0.34
	RCP4.5	0.74	0.67	0.48
	RCP8.5	1.18	1.10	0.91
	RCP8.5H+	1.52	1.42	1.23

¹ Source: Projected SLR from MfE (2017) referencing IPCC (2013) Assessment Report 5

²Correction applied to adjust from 1986-2005 (taken to be 1995) to 2016 (baseline derived from 2016-2018 LIDAR DEM)

³Utilised for consolidated cliff and embankment shorelines

⁴Subtracts assumed historical rate of 1.7 mm/year (Hannah & Bell, 2012) to avoid double-counting erosion response

⁵Used for unconsolidated beach shorelines

For coastal storm inundation, coastal extreme sea-level elevations resulting from storm-tides and wave setup for the 1 per cent AEP event have been used as document in the 2020 technical report *Auckland’s Exposure to Coastal Inundation by Storm-tides and Waves Technical Report 2020/024*.

To this, scenarios for relative sea level rise scenarios have been applied that correspond with 50 years/2080 (0.5m), 80 years/2100 (1m) and 100 years/2130 (1.5m).

As shown in the tables below, these correspond with the MfE (2024) guidance which uses 2130 SSP5-8.5M (i.e. 50%) for land use planning control for existing coastal uses and assets (building additions), and adjusted for vertical land movement (VLM) of 1.6 mm/year +/- 1.8mm/yr (as per site 1128)^{13[2]}. This is near enough to the approximate regional value of approximately 1.5+/-0.8 mm. While it is important to note that VLM can vary significantly across the region – up to 3.4mm +/- 2.1 mm/yr (site 1175), the variations brings forward the timing of when 1.5m SLR would be reached. This sensitivity is shown in Table 5 which applies VLM of 3.4mm/yr.

The extent of land affected by coastal inundation is more sensitive to modest changes in sea level, than coastal instability and erosion (particularly cliff erosion). Due to the sensitivity to vertical land movement, and the amplifying effect that time has on error margins, it is appropriate to adopt a more precautionary 2m SLR value for coastal inundation hazard identification, when considering changes in land use and development intensities (zoning).

Table 2: Relative sea level rise at 2080 with VLM 1.5mm/yr

scenario	year	p50	p83
SSP1-2.6 + VLM (medium confidence)	2080	0.46	0.72
SSP2-4.5 + VLM (medium confidence)	2080	0.54	0.8
SSP3-7.0 + VLM (medium confidence)	2080	0.61	0.88
SSP5-8.5 + VLM (medium confidence)	2080	0.68	0.96

¹³ [2] Kearse, J., Stern, T., Hamling, I., Lamb, S., & Hreinsdóttir, S. (2025). InSAR measurement of vertical land motion in New Zealand cities, and implications for sea-level rise projections. *New Zealand Journal of Geology and Geophysics*, 68(4), 794–815. <https://doi.org/10.1080/00288306.2025.2470435>

Table 3: Relative sea level rise at 2100 with VLM 1.5mm/yr

scenario	year	p50	p83
SSP1-2.6 + VLM (medium confidence)	2100	0.59	0.93
SSP2-4.5 + VLM (medium confidence)	2100	0.72	1.05
SSP3-7.0 + VLM (medium confidence)	2100	0.87	1.22
SSP5-8.5 + VLM (medium confidence)	2100	0.98	1.37

Table 4: Relative sea level rise at 2130 with VLM 1.5mm/yr

scenario	year	p50	p83
SSP1-2.6 + VLM (medium confidence)	2130	0.83	1.29
SSP2-4.5 + VLM (medium confidence)	2130	1.03	1.5
SSP3-7.0 + VLM (medium confidence)	2130	1.3	1.81
SSP5-8.5 + VLM (medium confidence)	2130	1.47	2.07

Table 5: Relative sea level rise at 2130 with VLM 3.4mm/yr

scenario	year	p50	p83
SSP1-2.6 + VLM (medium confidence)	2130	1.05	1.5
SSP2-4.5 + VLM (medium confidence)	2130	1.25	1.71
SSP3-7.0 + VLM (medium confidence)	2130	1.52	2.03

SSP5-8.5 + VLM (medium confidence)	2130	1.69	2.28
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Attachment 5 – Identifying and differentiating landslide hazards

Background

The AUP currently relies on a definition approach to identify land instability risk and to trigger rules and standards under Chapters E36, E38 and E39. The current definition is per below:

Land which may be subject to land instability

Any land with one of the following characteristics:

- (a) Where the land which is underlain by Allochthonous soils has slope angles greater than or equal to 1 vertical to 7 horizontal;*
- (b) Where the land which is underlain by Holocene or Pleistocene sediments which has a slope angle greater than or equal to 1 vertical to 4 horizontal;*
- (c) Where the land is underlain by any other soil type and has a slope angle greater than or equal to 1 vertical to 3 horizontal;*
- (d) On sloping sites where fill greater than 600mm depth has been placed in uncontrolled conditions or not to engineered (certified) standards and where the original underlying natural terrain gradient was greater than or equal to:
 - (i) 1 vertical to 7 horizontal for slope comprising Allochthonous soils;*
 - (ii) 1 vertical to 4 horizontal for slopes comprising Holocene or Pleistocene soils; or*
 - (iii) 1 vertical or 3 horizontal for slopes comprising any other soil types;**
- (e) Within a horizontal distance of 2.5 times the cliff vertical height behind the base of any natural cliff; or*
- (f) Within a horizontal distance of 2 times the cliff vertical height in front of the base of any natural cliff.*

Note

A natural cliff may be considered to be any slope with a vertical height of greater than 3.5m and a gradient equal to or greater than 1 vertical to 1 horizontal (45-degrees). The vertical height of the cliff must only be measured over that part of the cliff where the slope gradient is equal to or greater than 45 degrees.

Geological conditions, including soil types not mapped in the Plan and soil conditions as referred to in the above definition may be identified at a regional level through the following sources:

- reference to information in GNS Sciences Qmaps;*
- Geology of Auckland (compiled by Edbrooke for IGNS 2001);*
- property files material and reports held by Council; and*
- by a suitably qualified professional.*

PC120 presents the opportunity to evaluate whether there are more suitable options to identify landslide risk. The identification of areas that are subject to landslide hazards is important to clarify when and how the relevant provisions proposed in PC120 apply.

Evaluation undertaken

Attachment 5 will cover the evaluation undertaken in relation to:

- How landslide hazard assessment areas are identified
- How landslide hazard assessment areas are differentiated

How landslide hazard assessment areas are identified

Option 1 – status quo of using a definition-based approach

Existing land-use planning controls for landslide risk are incorporated into Chapter E36 of the AUP and the rules in this chapter identify the need for further assessment and/or resource consent using a definition of ‘land which may be subject to land instability’ (hereon referred to as the ‘land instability definition’). This land instability definition provides written descriptions (rather than maps) of characteristics which can make a site susceptible to landslides and were developed based on expert judgement when the AUP was developed.

The current AUP approach to managing the risk of landslides has limitations in that it does not map the locations that are susceptible to landslides. This makes it challenging for the council to enforce restrictions on land use and difficult for applicants to know when the provisions in the AUP will be triggered. For example, difficulties in accurately measuring slope gradient to determine whether a development site meets the land instability definition with reference to stated slope gradient parameters results in an inconsistent approach of how sites that may be subject to landslide risk have been identified.

Similarly, there is currently no mapping information identifying locations of ‘natural cliffs’ or their sloping gradients and their heights. This makes it difficult to identify, particularly as a desktop analysis, whether the criterion of the land instability definition criteria are met, and whether the AUP provisions apply.

Furthermore, the land instability definition does not capture all the sites that may be subject to land instability as the definition uses geology and slope angle as a proxy for instability. This covers site characteristics where land instability is more likely to occur but does not include all the possible conditions or circumstances where land instability may be an issue.

The land instability definition also does not refer to or reference all the other various forms of mapping information available that may indicate that a site is susceptible to land instability. For example, a site included as part of the “Soil Register” mapping layer because of soil instability issues, recorded in landslide databases (e.g., the GNS Landslide Database) or shown as part of a landslide area on geological maps may still not be technically subject to the land instability definition as the physical characteristics of the site do not meet any of the defined criteria.

This inconsistent approach is further exacerbated by some existing mapped geological layers which the land instability definition relies upon for application, including:

- the “Allochthon Geology” layer which is confined to patchy areas within the former Rodney District Council area
- the ‘Soil Warning Area (Soil Condition)’ layer which is confined to the former Auckland City Council and Papakura District Council land boundaries; and
- the ‘Soil Warning Area’ layer which is confined to the former Franklin District Council land boundaries.

There are also parts of the land instability definition which are not easy to identify without on-site investigation or detailed technical reporting. For example, it is difficult to ascertain whether a sloping site has been subject to fill greater than 600mm depth in uncontrolled conditions, or not to engineered standards, and what the underlying natural terrain gradient was prior the fill activity.

Option 2 – mapping landslide susceptibility (preferred)

In accordance with ‘best practice’ landslide planning guideline documents¹⁴ and landslide hazard identification methods, the council has developed landslide susceptibility maps for the region which have been informed by a comprehensive inventory of past landslides to ensure the map is scientifically robust and defensible. This inventory includes nearly 30,000 landslides, including many triggered by severe weather in 2023 (Auckland Anniversary storm and Cyclone Gabrielle), and formed a strong evidence base for the Auckland Region Landslide Susceptibility Assessment and resulting regional landslide susceptibility map.

Landslide susceptible areas in Auckland have been assessed and mapped according to Australian and NZ guidelines.

Five classes of landslide susceptibility are described, from very low to very high, and these are mapped across the region in Geomaps showing the spatial distribution and extent of the different susceptibility categories.

The five classes of landslide susceptibility include:

- Very high and high susceptibility: Primarily steep and very steep hill slopes, coastal cliffs and bluffs and moderate top steep slopes that are underlain by weak or soft materials. These slopes will have been shown to have been highly unstable in the past.
- Moderate susceptibility: Typically moderately steep and steep slopes such as rounded or undulating hills and land on the margins of gullies or at the base of hill slopes but also includes areas of flatter land near steep slopes and shallower slopes that are underlain by weak and soft materials. The potential for landslides in these areas will depend on site specific conditions such as the thickness and strength of

¹⁴ ‘Landslide Planning Guidance: Reducing Landslide Risk through Land-Use Planning’ technical document, GNS Science, January 2024: https://www.gns.cri.nz/assets/MS-144-Landslide-Planning-Guidance_2024-UPDATE.pdf

soils, the underlying geological formations and the drainage and groundwater conditions.

- Low and very low susceptibility: These are typically the shallowest slopes, flat areas and areas with strong underlying materials such as volcanic materials.

The above descriptions give an indication of typical conditions, but are not definitions used to assess susceptibility. Susceptibility was assessed statistically based on correlation between known landslide locations and the underlying conditions that control susceptibility to landslides (e.g. geology, topography, hydrology, land cover). Full details of the methodology are given in Auckland Council technical report, TR2025/7, “Auckland region landslide susceptibility assessment.”¹⁵

The landslide susceptibility categories have been applied to two landslide types and therefore two separate regional landslide susceptibility maps have been created for each landslide types which are:

- Shallow landslides - small, slope-scale failures within the shallow near surface soil and rock materials where the proportion of the affected area of slope is small (typically tens to hundreds of square metres in area)
- Large-scale landslides - geomorphic features that generally span over most of or the whole hillslope (typically thousands to hundreds of thousands of square metres in area) and are normally related to deeper geological structures and groundwater conditions, and other longer-term landscape scale processes

These two landslide types vary considerably in terms of their scale, the frequency of occurrence, the type and extent of impacts, and the characteristics of the geological formations within the region. Because of the differences in potential consequences and in the ability to control those consequences, the hazard posed by these landslide types will be managed quite differently.

The landslide susceptibility categories have been further categorised to create collective definitions which will be used as a key determinant for any applicable resource consenting and plan change requirements (listed and described below underneath the over-arching definition), in addition to the sensitivity of activities associated with a site/plan change development proposal and the assessed landslide hazard risk level attributable to the proposal:

Landslide susceptibility assessment area

Any land which has evidence of past landslides or is predicted to be susceptible to shallow landslides and/or large-scale landslides, taking into account the relative potential likelihood of a landslide occurring in the future, compared with surrounding areas. These are grouped into three categories:

¹⁵ <https://knowledgeauckland.org.nz/publications/auckland-region-landslide-susceptibility-assessment-may-2025/>

- High landslide susceptibility assessment area – any land which is predicted to have a high or very high susceptibility to landslides and shown accordingly in the Council’s GIS Viewer
- Medium landslide susceptibility assessment area – any land which is predicted to have a medium susceptibility to landslides and shown accordingly in the Council’s GIS Viewer
- Low landslide susceptibility assessment area – any land which is predicted to have a very low or low susceptibility to landslides and shown accordingly in the Council’s GIS Viewer

Landslide run-out is not explicitly incorporated into the landslide susceptibility maps or the accompanying definitions above. This aspect of the hazard is captured by requiring the consideration of susceptible land upslope within 150 m. This distance was selected based on the length of landslide debris trails mapped in the NZ Open Landslides Database within the Auckland Region (Figure 1 and 2 below). This analysis was undertaken in September 2025, and covers 11,842 landslides in the Auckland Region. In the database there were 15,172 landslides in the region at the time the analysis was conducted; the difference here is because some landslides did not have a mapped debris trail. In this assessment, 102 landslides had a debris trail longer than 150 m (just under 1 per cent of the total).

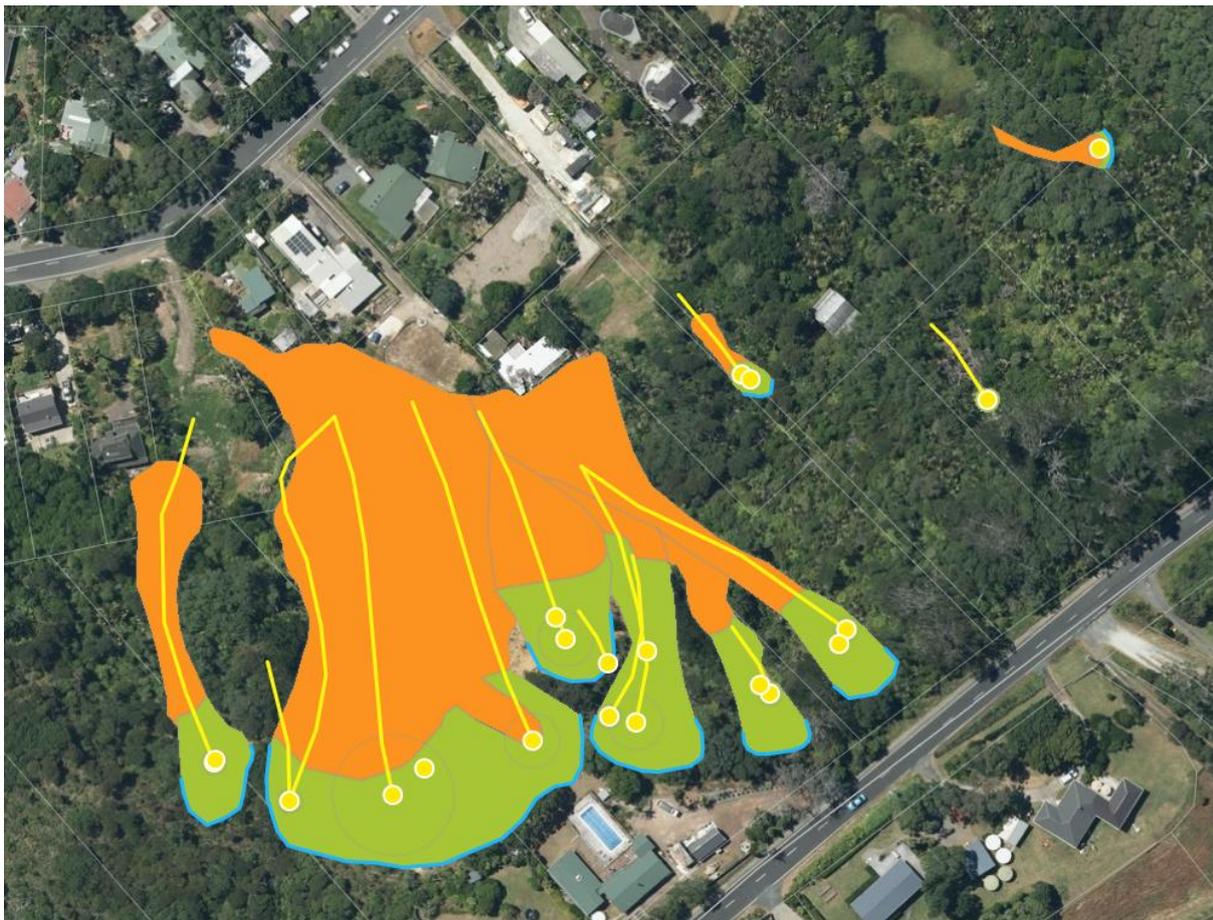


Figure 1 – Examples of mapped debris trails (yellow lines) used in the analysis. These have been added to with more detailed landslide mapping at a later date (the orange and green polygons). The

landslide at the top left of the image is an example of a landslide that does not have a debris trail mapped; as a result, it was not included in the assessment.

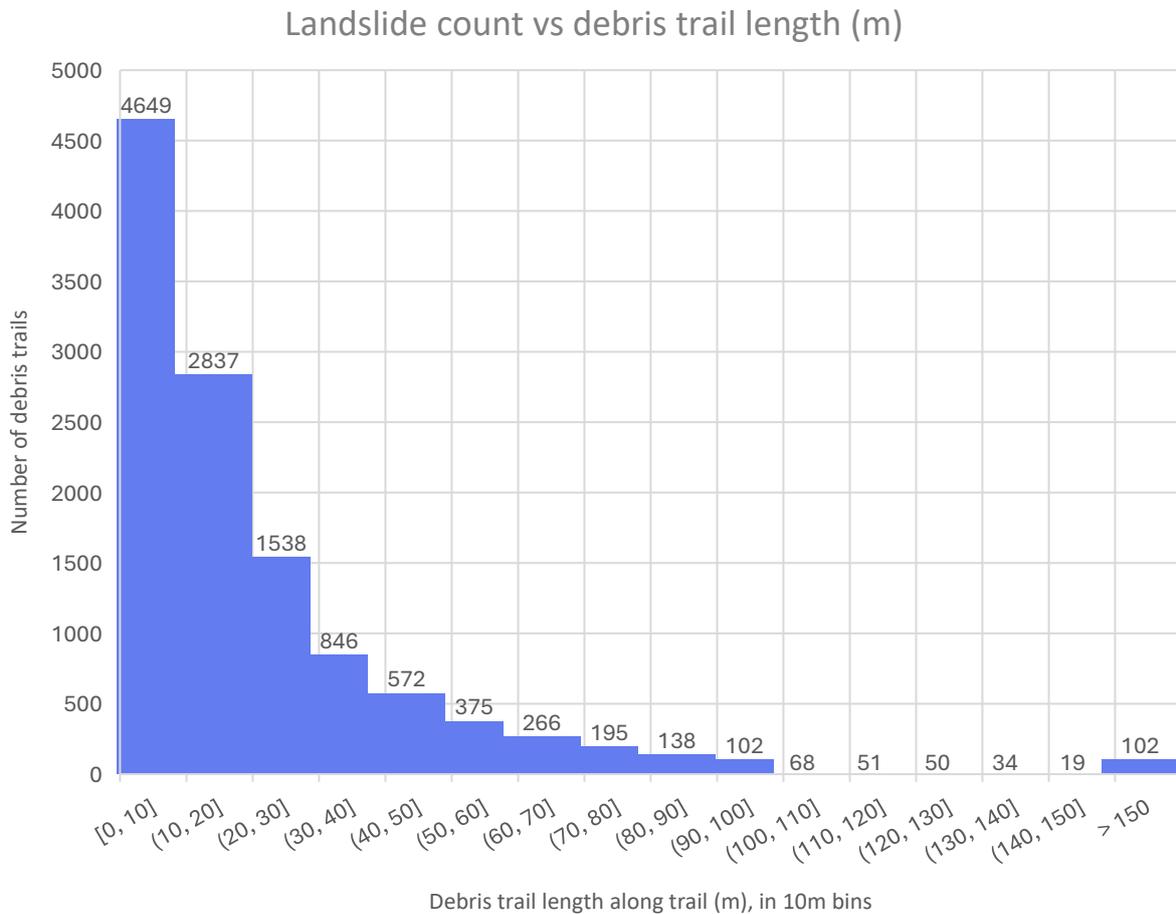


Figure 2 – Analysis of landslide debris runout from the NZ Open Landslides Database

Option 3 – mapping landslide hazards (landslide frequency and size of landslide movement)

Landslide hazard mapping is similar to susceptibility mapping (which shows *where* landslides are more likely to occur), but with the addition of an assessment of how frequently landslides are likely to occur in each location (i.e. showing *how frequently* landslides might occur in those susceptible locations, or *how large a triggering event* would be required to cause a landslide to occur). To understand how often landslides occur, current approaches require a robust long-term record of past landslides over time so that historical trends can be extrapolated to the future. This is similar to other hazards like flood or earthquake, where several hundred years of records can be used to forecast future recurrence intervals. Currently Auckland does not have a sufficiently long documented record of landslides to enable robust landslide hazard maps to be produced. Therefore, it is not considered feasible to proceed with this mapping option until such time that landslide records can be relied upon to create scientifically robust and defensible landslide hazard maps at a regional scale.

How landslide hazard assessment areas are differentiated

Option 1 – status quo of using a definition-based approach to trigger a landslide hazard risk assessment

Chapter E36 'Natural hazards and flooding' and Chapters E38 'Subdivision – Urban' and E39 'Subdivision – Rural' of the AUP set out the policy framework and implementation methods for managing natural hazards, including landslide hazards and associated risks, in the Auckland Region. These provisions apply to the subdivision, use and development of land identified as being subject to natural hazard risk.

For the reasons outlined in the previous section addressing the identification of landslide hazard assessment areas, the current AUP approach of defining and categorising landslide hazard risks by applying a land instability definition is considered to be inadequate for the purpose of ensuring that sites susceptible to landslides, particularly those sites which are subject to either moderate or high susceptibility, and applicable development proposals are adequately assessed in relation to accurately defining and categorising landslide hazard risks associated with the proposed development.

Option 2 – differentiating landslide hazard assessment areas using mapped landslide susceptibility areas and supporting best practice methodology to determine applicable landslide hazard risk classifications (preferred)

As outlined in the previous section addressing the identification of landslide hazard assessment areas, landslide susceptible areas and associated landslide types in Auckland have been assessed and mapped according to Australian and NZ guidelines which also define landslide susceptibility categories for mapping purposes.

The categorically mapped landslide susceptibility areas assist with determining applicable resource consenting and plan change requirements which also depend on the sensitivity of activities associated with a site/plan change development proposal and the assessed landslide hazard risk classifications attributable to the proposal.

The landslide hazard risk classifications attributable to a site development proposal are determined by assessing the proposal in accordance with a best practice landslide hazard risk assessment methodology (proposed Appendix 24 to the AUP) which then defines the landslide hazard risk area assessed for the site development proposal.

The landslide hazard risk assessment area associated with the site development proposal will fall into one of the following three defined risk classifications listed and described below underneath the over-arching definition which are specific to landslide hazards, but generally align with similar risk classifications applied to flood and coastal hazard areas:

Landslide hazard risk area

Any land which is identified and/or assessed as being exposed to risk in accordance with Appendix 24 Landslide hazard risk assessment methodology. These are grouped into three categories:

- High (significant) landslide hazard risk area – Any land which, for the proposed development, is identified and/or assessed as being exposed to a significant level of risk.
- Medium (tolerable) landslide hazard risk area – Any land which, for the proposed development, is identified and/or assessed as being exposed to a tolerable level of risk.
- Low (acceptable) landslide hazard risk area – Any land which, for the proposed development, is identified and/or assessed as being exposed to an acceptable level of risk.

Compared with Option 1, it is considered that Option 2 will enable the adequate assessment of applicable development proposals upon sites susceptible to landslides, particularly those sites which are subject to either moderate or high susceptibility, in relation to accurately defining and categorising landslide hazard risks associated with the proposed development. The key planning method to be utilised for achieving this outcome in a resource consenting and plan change process will be Appendix 24 Landslide hazard risk assessment methodology and its application to the assessment of applicable development proposals for the purpose of accurately defining and categorising landslide hazard risks associated with the proposed development.

The proposed contents of Appendix 24 Landslide hazard risk assessment methodology has been peer reviewed by Earth Sciences New Zealand (formerly GNS Science) which concluded that it appropriately manages landslide risk and aligns with current good practice, with the relevant peer review document appended to this report as Attachment 11 – GNS Peer Review.

Option 3 – differentiating landslide hazard assessment areas using mapped landslide hazards (landslide frequency and size of landslide movement) and associated risk areas

Currently Auckland does not have a sufficiently long documented record of landslides to enable robust landslide hazard maps to be produced. Therefore, it is not considered feasible to proceed with this mapping option until such time that landslide records can be relied upon to create scientifically robust and defensible landslide hazard maps at a regional scale.

The creation of landside risk maps is also not considered feasible from a practical planning perspective as it would first need to be informed by underlying landslide hazard mapping data which cannot proceed at the present time for the reasons outlined above. Furthermore, the creation of landside risk maps is dependent upon knowing site-specific development proposal details which would need to have been assessed for the purpose of informing the creation of landside risk maps that accurately map associated risk classifications. As the subject plan change proposal is being applied at a regional scale rather than a localised site-specific scale, the creation of landside risk maps is not considered feasible for this reason as well.

International landslide risk management practice

An assessment of international practice was undertaken to benchmark the proposed options against peer countries. Information was gathered from experts in Canada, China, France,

Greece, Hong Kong, Italy, Japan, Norway, Spain, United Kingdom and the USA. The countries were selected to represent a range of legal and technical approaches to provide an overview of global practice, and a short report was prepared for each country that was surveyed. This review is provided as Attachment 12 – International Landslide Risk Management Current State Review.

This review identified that most countries have some form of landslide susceptibility maps, although these vary in approach and format. While some progress has been made using AI to develop susceptibility or hazard maps, challenges around the ‘black-box’ nature of the underlying models mean that uptake in regulatory context is challenging. The transparent statistical approach proposed to be used to identify landslide hazard assessment areas (Option 2) appears to align with international best practice for land-use planning. There is no internationally consistent approach, and no defined boundaries between categories of susceptibility. Because each country used the output of susceptibility maps differently, with a range of different controls applied, it was not appropriate to directly compare the definition of susceptibility categories (e.g. “high susceptibility”) between countries.

A few countries had landslide hazard maps. These are preferable to susceptibility maps, as they allow differentiation between areas where landslides are more or less frequent. These maps were only readily available in the few countries that had a long established and legally defined landslide risk management regime, (e.g. Italy, France). Most other countries (e.g. Canada, China, Greece, Spain, UK, USA,) did not have hazard maps. While this approach would be preferable in New Zealand, our lack of long-term landslide records means that it is not currently feasible.

Japan and Norway were outliers, with national landslide risk maps which is updated daily. However, these appears to be not strictly risk maps (in that consequences are not explicitly accounted for) but is a form of real-time hazard map intended for emergency planning purposes rather than long-term land-use planning.

No countries had formally defined risk tolerances for hazard risk classifications. Those that did apply numerical criteria had approaches based on the AGS2007 / JTC-1 methodologies, which are aligned with the methodology proposed in the proposed Appendix 24. This indicates that the preferred methodology proposed to differentiate landslide hazard assessment areas is aligned with international best practice.

Attachment 6 – Managing wildfire risk

Background

The operative AUP contains a variety of provisions on management of natural hazards. This includes those that apply generally to all natural hazards and some specific to or related to wildfire. In summary:

- Several objectives and policies in Chapter E36 Natural hazards and flooding that apply to natural hazards generally. There are two policies that relate specifically to wildfire risk, being Policies E36.3(1) and E36.3(34):

(1) Identify land that may be subject to natural hazards, taking into account the likely effects of climate change, including all of the following:

(a) coastal hazards (including coastal erosion and coastal storm inundation, excluding tsunamis);

(b) flood hazards;

(c) land instability; and

(d) wildfires.

(34) Ensure that plan provisions for subdivision and vegetation management appropriately take into account wildfire hazards.

Note 1 Areas of high wildfire risk may be determined applying the National Rural Fire Authority New Zealand Wildfire Threat Analysis.

Wildfire susceptibility is not currently mapped or identified in the AUP or elsewhere in the council's Geomaps. There are also no rules in the activity tables, rules or standards in Chapter E36 relating specifically to wildfire.

- Relevant provisions in E39 Subdivision – rural are limited to an objective and policy that refer to natural hazards generally, with one standard that requires water supply capacity for firefighting. This standard applies generally to rural subdivision irrespective of whether the subdivision is in an area susceptible to wildfire.

E39.6.1.3 Services

(2) Where no reticulated water supply is available, sufficient water supply and access to water supplies for firefighting purposes in accordance with the New Zealand Fire Service Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008 must be provided.

- Chapter E15 Vegetation management and biodiversity has matters of discretion and assessment criteria that relate to the effects of vegetation clearance on natural hazard risk generally and wildfire in particular. Table E15.4.1 Activity Table also includes a range of permitted activities (rule (A2) that permits dead wood removal,

rule (A6) that permits pest plant removal and rule (A8) that permits vegetation removal within 3m of a building) that are relevant to wildfire risk reduction.

- There are also some forestry specific fire safety provisions in two precincts: I601 Bethell's Precinct and I614 Wainamu Precinct. In addition, vegetation clearance standards in the I515 Kawau Precinct allow vegetation clearance for fire protection within 10meters of existing buildings

Overall, as noted in the s35 monitoring report, the current AUP takes a minimal approach to managing wildfire risk. This approach has been revisited to determine whether the management of wildfire risk can be enhanced or strengthened to achieve the purpose of PC120. Attachment 6 outlines the evaluation undertaken in relation to the broad options identified.

Evaluation of options

Five broad options have been identified in relation to the management of wildfire risk under the AUP:

Option 1 – status quo

Option 2 – undertake selected amendments to the existing AUP provisions in Chapters E38 and E39, as well as Appendices 15 and 16

Option 3 – introduce subdivision controls for managing wildfire risk

Option 4 – introduce land use controls for managing wildfire risk

Option 5 – require wildfire risk to be assessed as part of special information requirements under E36.9

Option 1 is not a preferred approach where there are other viable options available. Retaining the status quo would not increase how wildfire risk is being managed. While there is scope to consider wildfire risk where an activity requires consent as a discretionary or non-complying activity, there is currently no direction in the AUP on how wildfire risk should be identified, assessed and managed.

While Options 3, 4 and 5 have their own strengths and weaknesses, there are the same barriers in relation to their implementation. One key reason that wildfire risk is not being assessed currently for resource consents for rural subdivisions in vegetated areas is that there is no mapping layer or definition of where or what constitutes a wildfire risk vegetation type that would trigger this consideration. Either a clear definition or a map of wildfire susceptible vegetation and/or wildfire risk management area would be required to clarify when these provisions or requirements would apply. Without these, provisions could range from being overly onerous (where consent or hazard risk assessment is required for any type of vegetation) and/or ineffective (where consent or hazard risk assessment is never required because there is no clear trigger for the provision). Furthermore, it is noted that wildfire risk extends beyond the area/line of vegetation and therefore buffer and setback distances would also need to be identified.

Investigation was undertaken in relation to the ability for areas of wildfire risk to be identified via mapping. A basic starting point would be to map contiguous areas of forests and woodlots, and then refine this further, for example, by removing isolated trees or smaller groups of trees. This could create a map alert layer that is sufficiently refined to focus on the main wildfire risk areas. However, at present, the council does not have a region-wide map showing the outline of forests at a sufficient level of accuracy to be used for RMA purposes, i.e. at the individual site scale. There are insufficient resources within the timeframe of this plan change to explore other options to map these wildfire risk areas.

Investigation was also undertaken in relation to the ability to define areas where wildfire risk may be present and where the buffer areas are. This could include identifying the species of the vegetation and the thresholds of which management of wildfire risk would be appropriate. However, there is currently insufficient information and resources to establish a suitable definition. Plant species vary significantly in their flammability. The severity of wildfire risk is also dependent on the topography and daily and seasonal weather conditions, including temperature and wind directions. Fire and Emergency New Zealand currently have a plant flammability directory, but further work is required for that to be incorporated into a workable definition for the purposes of triggering resource consent and hazard risk assessment requirements under the AUP.

Option 2 has its limitations in terms of impact. The selected changes are restricted to matters of discretion, assessment criteria and information requirements for assessment and mitigation of wildfire risk for new subdivision and does not include any changes that would enhance the management of wildfire risk resulting from land use activities. These amendments would however strengthen the consideration of wildfire risk for rural and urban subdivision. The other key advantage of Option 2 compared to Options 3, 4 and 5 is that it does not rely on associated mapping or definitions to be effective. As such, Option 2 is the preferred option as it still achieves an improvement from the status quo. It is an interim step approach while mapping, definitions and subsequent rules addressing wildfire risk can be developed.

Attachment 7 – Requiring and defining safe refuge and safe egress

Background

The terms 'safe refuge' and 'safe evacuation routes' are existing terms that are currently used in the operative AUP. These terms are found in Policies E36.3(13) and E36.3(14), as per below:

(13) In existing urban areas require new buildings designed to accommodate more vulnerable activities to be located:

*(a) outside of the 1 per cent annual exceedance probability (AEP) floodplain;
or*

(b) within or above the 1 per cent annual exceedance probability (AEP) floodplain where safe evacuation routes or refuges are provided.

(14) Require redevelopment of sites where existing more vulnerable activities are located within the 1 per cent annual exceedance probability (AEP) floodplain to address all of the following:

(a) minimise risks from flood hazards within the site;

(b) minimise the risks from flood hazards to people and property upstream and downstream of the site;

(c) remedy or mitigate where practicable or contribute to remedying or mitigating flood hazards in the 1 per cent annual exceedance probability floodplain;

(d) location of habitable rooms above flood levels; and

(e) provide safe evacuation routes or refuges from buildings and sites.

Under the current AUP, the provision of safe evacuation routes and safe refuge are mitigation methods used to manage the exposure of people to flood risk. Neither 'safe evacuation routes' or 'safe refuge' have corresponding definitions in the operative AUP, there are no provisions that explain what they constitute, and they are not referred to in respect of coastal hazards despite aspects of the hazards being similar. Furthermore, the existing policy direction uses the term 'or' and does not clarify which is sufficient or required in which situations. These gaps have led to inconsistencies in understanding of how these requirements are met and when they are applied.

PC120 proposes to continue to rely on safe egress and safe refuge to manage natural hazard risk. However, these identified gaps need to be addressed for them to be effective.

Evaluation undertaken

Attachment 7 will cover the evaluation undertaken in relation to:

- When is safe refuge and safe egress required
- How safe refuge and safe egress is defined

Whether safe refuge is sufficient and whether safe egress is required

The issue of safe refuge and safe egress was traversed as part of the Proposed Auckland Unitary Plan (PAUP) hearings. In their decision relating to the flood provisions of the PAUP, the Independent Hearings Panel noted that:

“A key difference in terms of land use planning for additional development in existing urban areas would be whether the flooding would cause people to have to leave their homes for their safety, or whether they could safely remain in their homes until the flooding recedes. Risks to pedestrians or motorists arising from venturing out into storms, do not, in the Panel’s view, provide the most appropriate basis for land use planning.

On the evidence before it, the Panel is not satisfied that there are extensive areas of urban Auckland which face flooding risk that might lead to the evacuation of homes: from the evidence and the experience of Panel members, the likely risk faced by people and community in Auckland is of surface flooding that can cause damage in low-lying or poorly drained areas.”

There have been previous studies done in relation to human behaviour in and around floodwaters with research indicating that voluntary behaviour leading to deaths range from undertaking recreational activities to rescuing or assisting with evacuation¹⁶. The weather events of 2023 have further highlighted that human behaviour during natural hazard events is unpredictable and that in many cases, and for various reasons, people will make the decision to leave their property, venturing through flood waters, even when they have a dry habitable floor.

Some people are unaware or underestimate the risk of an event and do not evacuate prior to their properties being flooded, while some delay departure due to reasons such as attempting to protect their property, not wanting to leave pets or feeling insecure about being in a communal shelter. Many with impaired mobility and those caring for dependents often require additional time or assistance to evacuate.

Some people will put themselves at risk by intentionally entering floodwater in attempts to protect property, retrieve pets, render assistance to others, or even to recreate. Shallow water can be deceptively fast moving and capable of sweeping someone off their feet, potentially into a high-risk area. Floodwaters are also often turbid and even shallow water can mask hazards such as popped manhole covers, and the water can often be contaminated with wastewater and other pollutants.

The pluvial nature of flooding in Auckland, and its unique topography, mean that flooding can occur rapidly, with very little warning. The short steep catchments result in flash flooding with

¹⁶ Becker et al (2015), A review of People’s Behaviour in and around Floodwater, Weather, Climate and Society, Volume 7.

water rising very quickly, often reaching peak levels within two hours.¹⁷ This can make it difficult to have timely evacuation from impacted properties and the high velocities that commonly occur with flash flooding pose additional danger.

Land use planning cannot address all aspects of human behaviour. More appropriate methods include education and raising hazard awareness as well as emergency and evacuation planning. However, land use planning can, to an extent, play a role by factoring in this potential eventuality. As discussed in Attachment 5 – Identifying and differentiating flood hazards, flood hazard risk differentiation has been based on the consequence of risk to life. To avoid this consequence, people should not be exposed to depths and velocities of floodwaters that could knock a vulnerable person over. Providing both a safe place for people to seek refuge in during a rainfall event and ensuring that there is safe egress available from buildings are mitigation options that can be managed under the AUP to help reduce the likelihood of this consequence from occurring. Furthermore, it is noted that ensuring safe evacuation routes is not managed under any other legislation (e.g. civil defence or building legislation) and therefore it is important that this is addressed through land use planning.

It is however acknowledged that requiring safe refuge and safe egress may not be appropriate in all circumstances. The hazard conditions on site varies, as does the sensitivity of an activity to natural hazards (as discussed in Attachment 9 – Defining sensitivities for activities). As such, it may be onerous to require both mitigation measures in situations where the activities are not as sensitive to natural hazards, in situations where the risk posed by the hazard is low, or where there is less likely to be a push factor for people to flee from the site. To address this, PC120 proposes exceptions to this requirement in certain situations to provide greater flexibility in managing risk.

How safe refuge and safe egress is defined

Defining what constitutes safe refuge and safe egress is a complicated exercise. While the Property-level Flood Risk Framework¹⁸ provided some initial ideas of how these could be defined, there is a need to consider what is within scope for land use planning purposes and what can be reasonably assessed at the plan change or resource consent stage. For example, while being able to reach a specified location (e.g. welfare facility) is an option for an emergency evacuation plan, this was not necessarily suitable for land use planning purposes – there is no guarantee that the facility will be there in perpetuity, and any route to this location would not be easily assessable or enforceable.

Key challenges include determining where safe egress is to (and how they can be enforced as part of the consenting process) and what criteria should refuge spaces meet for it to be deemed 'safe'. In addition, there is also the question of how the criteria determining safe refuge and safe egress are expressed and administered in the AUP in combination with the policy directions outlined above.

¹⁷ Property-level Flood Risk Framework (v2.4, 23 October 2024)

¹⁸ Property-level Flood Risk Framework (v2.4, 23 October 2024)

Four options have been identified:

Option 1 – introduce and rely on detailed definitions of ‘safe refuge’ and ‘safe egress’ to specify the criteria that need to be met

Option 2 – introduce simple definitions of ‘safe refuge’ and ‘safe egress’ but rely on the detail to be provided through a general or permitted standard

Option 3 – introduce simple definitions of ‘safe refuge’ and ‘safe egress’ but rely on supplementary policies to outline matters to be considered when assessing these

Option 4 – introduce simple definitions of ‘safe refuge’ and ‘safe egress’ but rely on supplementary policies to outline specific requirements

Option 1 is not the preferred option because using a definition is a very rigid approach, which means that either the refuge or egress meets the definition, or it does not. While it is beneficial as it clearly specifies the requirements that need to be met, it can lead to unintended consequences. For example, initial attempts included specifying certain depths and velocities of floodwaters required for safe egress, which meant that depths and velocities slightly beyond the threshold would not meet the definition while depths and velocities slightly below the threshold would. This would mean that the definition would be met in the latter scenario, even though the risk the floodwaters posed are the likely to be similar. The rigidity also is a problem in situations where it is difficult to provide a one-size-fits-all approach. In many cases, whether safe refuge and safe egress can be achieved will be dependent on a case-by-case basis. Adopting Option 1 also means that there may need to be additional policy direction or guidance documents to support decision-making where the definition is not strictly met.

Option 2 has similar issues as Option 1, except there is more flexibility provided as infringement of the rule can be assessed as part of a resource consent application. It is not considered appropriate as the situations where safe refuge and/or safe egress are necessary are usually associated with activities that have more stringent activity statuses. Furthermore, there would also need to be further policy direction or guidance documents to support decision-making where the standard is not strictly met.

Options 3 and 4 are very similar, with the only difference being the nature of the policies and how they are phrased. While there is less clarity about the specific requirements that safe refuge and safe egress need to achieve, the supporting simple definition provides the key elements of what they must constitute, with the policies themselves provide for the ability to be flexible as part of the assessment. Both options are likely to require supporting guidance documents to support the use of the terms that have not been able to be fully defined. Option 4 is preferred over Option 3 as it provides more direction in terms of the necessary requirements that need to be met.

Attachment 8 – Limiting development potential to manage flood and coastal hazard risk

Background

The operative AUP relies primarily on the Auckland-wide provisions to manage flood and coastal hazard risks. In select locations, the application of the Residential – Single House zone has also been utilised.

Additional intensification, particularly in residential areas, that are subject to flooding and coastal hazards increases the number of people and properties that are exposed to this hazard. As such, consideration needs to be given to what other tools could be used to manage flood and coastal hazard risk. This needs to take into account the development potential enabled in hazard areas through past planning decisions, as well as the both the intensification and natural hazard drivers of PC120.

Evaluation undertaken

Attachment 8 will cover the evaluation undertaken in relation to the additional measures that could be applied beyond the changes to the Auckland-wide provisions. Different aspects of this approach have been considered sequentially and outlined in the sections below.

Flood and coastal hazards

Which areas would this approach apply to?

Option 1 – all zones that provide for residential activities

Option 2 – all residential zones

Option 3 – all urban residential zones, excluding the Residential – Large Lot and Residential – Rural and Coastal Settlement zones

Risk associated with residential activity, which is identified as an activity sensitive to natural hazards, is of greatest concern when it comes to risk to life and property, and reducing the development potential of residential activity in flood and coastal hazard areas would have the greatest impact in managing risk.

Option 1 is not appropriate given that it includes business and various other zones. The use of zoning in these situations can have ramifications on other directives under the RPS and does not account for the economies of scale as it applies to higher intensity mixed use development. For these zones, reliance should be on the Auckland-wide provisions to manage flood and coastal hazard risk.

Option 2 is also not appropriate as both the Residential – Large Lot zone and Residential – Rural and Coastal Settlement zone each have specific purposes and already provide for limited development potential.

Option 3 is the most appropriate given that these zones cover a significant portion of the Auckland region and therefore limiting development potential on these sites will have a considerable impact on managing flood and coastal hazard risk.

Flood hazards

What is the level of flooding on site that warrants this approach?

Option 1 – all mapped floodplains using Auckland Council’s regionwide flood models

Option 2 – mapped floodplains with depths and velocities that are in the high or very high flood hazard area category using Auckland Council’s regionwide flood models

Option 3 – mapped floodplains with depths and velocities that are in the very high hazard area category using Auckland Council’s regionwide flood models.

As discussed in Sections 3.6.4 and 4.5.6, floodplain mapping for the Auckland region is updated through a rolling programme of hydraulic modelling. As such, some catchments, which have not been updated recently, may show outputs from outdated models that factor in lower temperature rise scenarios. To ensure that there is more consistent identification of floodplains across the region, Auckland Council has utilised regionwide flood modelling for across the region, accommodating the 3.8 degree temperature rise scenario^{19 20}. This aligns with the Tāruke-ā-Tāwhiri: Auckland’s Climate Plan (of at least 3.5 degree temperature rise) and Guideline Document 15 Climate Change Scenarios. This is considered the most consistent and best available information to inform the limiting of development potential.

As covered in Section 4.6, PC120 proposes to take a proportionate management approach for risk. As such, zoning to limit future development potential on the site should only be applied where risk is the greatest. Option 1 is not appropriate as a blanket approach to all floodplains does not align with this framework.

Both Option 2 and 3 align with the proposed ‘avoid’ policies for significant flood risk – when a residential activity is proposed in a very high flood hazard area, the policy direction is to ‘avoid’; whereas in a high flood hazard area, the policy direction is to ‘avoid’ unless specific mitigation measures are achieved to reduce risk to a tolerable level. As discussed in Section 10.2.6, this is based on the potential role that mitigation can play. In the case of very high flood hazard areas, there are limited mitigation options. In the case of high flood hazard areas, there is still an opportunity for mitigation and limiting development potential outright would forego this opportunity to an extent.

¹⁹ Auckland Council Regionwide Rural Rapid Flood Model – Model Built Report, May 2023
http://www.aucklandcity.govt.nz/FloodPlains/ID_159%20Regionwide%20Rural%20Rapid%20Flood%20Model%20Build%20Report%20May%202023.pdf

²⁰ Auckland Council Regionwide Urban Flood Model – Model Built Report, May 2025, Version 1.0
http://www.aucklandcity.govt.nz/FloodPlains/ID_167%20Auckland%20Council%20Regionwide%20Urban%20Flood%20Model%20v1.0%20Final.pdf

In this context, Option 3 is more appropriate as this is more consistent with the proposed framework and supports the policy direction to avoid new subdivision, use and development for residential activities in very high flood hazard areas.

How should sites that would be subject to this approach be identified?

Option 1 – all sites

Option 2 – specific sites based on criteria using percentage or remaining site size

Option 3 – specific sites based on criteria using a residential shape factor (aligned with Chapter E38 Subdivision – urban)

Option 4 – specific sites based on criteria regarding access points

The extent to which floodwaters of depths and velocities in the very high flood hazard category affects a site varies significantly across the region. In some cases, this level of anticipated floodwaters only affects a small part of the site. As such, Option 1 is not appropriate as some sites can accommodate further intensification while remaining clear of (or otherwise accommodating) these flood hazard areas.

While Option 2 presents possible methods to identify sites that are most constrained by the existence of this level of flooding on a site, this is not considered appropriate. This is due to the difference in site sizes, site shapes and the extent of flooding on sites. Examples of issues include:

- this level of flooding may cover a large percentage or portion of a site, but the site may still be large enough to sufficiently accommodate a certain level of further development outside of these areas (with appropriate mitigation where necessary).
- a site may have multiple small and separate areas that are clear of this level of flooding that are each not large enough to accommodate further development that avoids the areas subject to this level of flooding
- the remaining area of a site may be of an irregular shape
- a site may include driveways and accessways that contribute to site size and percentage calculations

Option 3 would rely on the two existing shape factor requirements in the AUP – one (8m x 15m) that applies to Residential – Single House, Residential – Mixed Housing Suburban and Residential – Mixed Housing Urban zones, and another one (15m x 20m) that applies to the Residential – Terrace Housing and Apartment Building zone. This option also identifies those sites that are most constrained by the existence of this level of flooding, except the criterion uses a contiguous land area as the identifying factor instead. This is the preferred approach as it is consistent with existing AUP provisions and is based on a constant variable that can be applied across sites of different shapes and sizes, rather than a methodology that would be dependent on multiple variables.

Another option that has been considered is limiting development potential where a site's access points are affected by floodwaters of depths and velocities in the very high flood hazard category. However, the ability to identify these sites in the timeframe and with the resources available proved challenging. As such, Option 4 is not a preferred option, with the management of safe access to sites covered by the proposed changes to the Auckland-wide provisions.

How should the limitation of development potential be applied?

Option 1 – incorporate density controls into Chapter E36 provisions

Option 2 – addition of an overlay or standard variation controls

Option 3 – apply zoning

Chapter E36 is a district-wide chapter that contains provisions which manage use and development in natural hazards across the entire region. There is no direct correlation between these provisions and the underlying zone, with the provisions in Chapter E36 being independent, and applying in addition to, those in the underlying zone i.e., these provisions do not supersede the underlying zone provisions as they manage separate effects. As such, Option 1 is not considered appropriate to limit development potential through Chapter E36.

Both Option 2 and 3 would achieve a similar outcome but via different planning mechanisms. Option 3 is preferred over Option 2 as zoning is more accessible for plan users. An overlay or standard variation control would add another layer of complexity to the AUP. Furthermore, Option 3 can rely on the existing residential zone hierarchy. The amendments required would be less than Option 2, which would require the creation of a new overlay or new standard variation control with new objectives, policies and/or standards to support them.

What is the zone that should be applied?

Option 1 – Residential – Single House zone

Option 2 – Residential – Single House zone or Residential – Mixed Housing Urban zone, depending on which shape factor criteria can be met

Option 1 would involve applying a Residential – Single House zone to any site that did not meet their respective building platform requirements. This would restrict development to one dwelling per site as a permitted activity (with some exceptions), which would limit the opportunity for additional people and property to be exposed to this level of flooding. Using this approach however would also mean that Residential – Terrace Housing and Apartment Building (THAB) zoned sites would be downzoned to Residential – Single House if the 15m x 20m building platform could not be achieved. This is not considered to be appropriate given that there may still be sufficient space on site for potentially smaller scale development. As such, this option may unnecessarily restrict potential intensification opportunities on these sites.

Taking this into account, Option 2 is considered to be a more nuanced and more appropriate approach to the use of zoning. The Residential – Single House zone would be applied in

circumstances where a site cannot meet the 8m x 15m shape factor, while the Residential – Mixed Housing Urban zone would be applied where a THAB site cannot meet the 15m x 20m shape but can meet the 8m x 15m shape factor. This option would enable development potential to more accurately reflect the development opportunities available on the site without needing to be located within dangerous flowing floodwaters.

Summary of the application for zoning response for flooding

- The Residential – Single House zone is applied to any site that cannot achieve a 8m x 15m shape factor outside of the mapped floodplains with depths and velocities that are in the very high hazard area category
- There are 2359 sites that have had the Residential – Single House zone applied due to the response described above. 640 of these sites retain their current Residential – Single House zone, while the remainder of 1719 are being down-zoned from other higher intensity residential zones.
- The Residential – Mixed Housing Urban zone is applied to any THAB zoned site that cannot achieve a 15m x 20m shape factor but can achieve a 8m x 15m shape factor outside of the mapped floodplains with depths and velocities that are in the very high hazard area category
- There are 184 sites that are currently Residential – Terrace Housing and Apartment Building zone that have had the Residential – Mixed Housing Urban zone applied due to the response described above

The addresses of these properties subject to down zoning can be found in Attachment 13 – Properties down-zoned due to natural hazards.

Limitations and adopting a precautionary approach

As discussed above regarding the regionwide modelling, the zoning approach for flooding has been based on the latest and best information that Council has available on flooding.

It is noted that due to review and quality assurance processes, there is a lag time between completing modelling and publishing the updated floodplain dataset within Auckland Council's Geomaps. As such, the current floodplain layer on Geomaps is not fully complete as it only reflects the outputs from the regionwide urban model in certain parts of the region, with the remaining parts still undergoing review before they can be published (and therefore relying on older catchment modelling results). They will be published in due course and will be incorporated into the Auckland Council Regionwide Urban Flood Model report²¹.

As discussed in Sections 4.5.8 and 4.5.9, there is always a degree of uncertainty with information relating to natural hazards and climate change, and this information can be incomplete. However, it is the best available information available. A precautionary approach

²¹ Auckland Council Regionwide Urban Flood Model – Model Built Report, May 2025, Version 1.0
http://www.aucklandcity.govt.nz/FloodPlains/ID_167%20Auckland%20Council%20Regionwide%20Urban%20Flood%20Model%20v1.0%20Final.pdf

has been adopted to use the completed modelling outputs to form the basis for the application of the zoning approach, noting that further review and quality assurance processes are still to come. This means that there are properties that are subject to a zoning response that are not currently shown to be within a mapped floodplain in Geomaps (as the mapping for that catchment has been derived from older and out-of-date modelling) but the latest modelling outputs have not yet been published.

Coastal hazards

What is the level of coastal hazard risk on site that warrants this approach?

Option 1 – apply ‘down-zoning’ in all mapped coastal hazard areas regardless of risk level

Option 2 – apply ‘down-zoning’ only to mapped coastal hazard Area 1

Option 3 – apply down-zoning to mapped coastal hazard Area 1, while holding the operative zone over other mapped coastal hazard areas.

See Attachment 4 – Identifying and differentiating coastal hazards for analysis supporting differentiating coastal hazard areas into the areas 1, 2, 3 and coastal inundation 1 per cent AEP + 2m relative sea level rise.

Option 1 – ‘down-zoning’ across all mapped coastal hazard areas in already developed areas removes the intended policy distinction between existing urbanised areas and already developed areas by creating significant limitations to increased development.

Such limitations in all areas of coastal hazard risk, without differentiating between higher and lower (or shorter and longer-term) exposure areas, would provide the strongest possible avoidance of future exposure to hazard events. This approach would give clear, simple rules for decision-makers, developers, and communities, and reduce the likelihood of costly damage, disruption, and recovery efforts in the future. It would also support long-term climate adaptation objectives by avoiding new investment in locations likely to be affected by erosion or inundation.

However, applying such restrictions uniformly would remove development potential regardless of actual risk level, constraining housing supply, business opportunities, and landowner use rights. This could lead to foregone economic activity and employment in lower-risk coastal areas, reduce flexibility for context-specific or adaptive design solutions, and limit opportunities for community growth or renewal in established settlements, with potential flow-on effects for local services and vitality.

It would also risk under-utilisation of existing assets and investments in typically high-amenity well serviced locations.

Option 2 – this option would enable zoning in other coastal hazard areas to respond to the need for additional development capacity without being constrained by considerations of coastal hazard risks. This may result in significant up-zoning in some locations – beyond what is currently provided for.

This has the potential to inflate property values and accelerate intensification in locations subject to coastal hazard risks. In the absence of long-term adaptation strategies, there would be greater potential for stranded assets and infrastructure, mal-adaptation and commitment to high-cost infrastructural solutions or accepting communities becoming increasingly vulnerable to coastal hazard risks as the effects of climate change.

However, this approach does provide a distinction between areas with a greater degree of hazard exposure (or sooner to be realised) from areas with less exposure (or over longer timeframes). The distinction acknowledges the costs associated with preventing further development in urban areas where there is already significant investment in urban development, infrastructure and public amenities and seeks to minimise these costs by providing for new use and development providing that natural hazard risks are managed to a level where they are tolerable or acceptable in accordance with (proposed to be amended) RPS.

It may also maximise utilisation of locations where costs are already likely to be incurred to protect development from coastal hazards and make the most of existing and planned infrastructure required to service existing and plan enabled development capacity.

Option 3 – this approach provides a measured, middle-ground between options 1 and 2. While it continues to provide meaningful opportunities for intensification within coastal hazard areas under a strengthened risk management approach proposed through Chapter E36, significant risk is avoided by significantly limiting opportunities for intensification within Hazard Area 1 for both coastal hazards. This ensures that existing infrastructure and development investment intentions can be realised, while limiting the ability for these intentions (and natural hazard risk) to be extended beyond those that are already contemplated.

This approach may be considered interim in so far as long-term adaptation planning which enables a fulsome assessment of the trade-offs of different adaptation strategies (e.g. hold the line vs allowing coastal process to occur) can be undertaken with community engagement.

Both the NZCPS and the Ministry for the Environment's 2024 Coastal Hazards and Climate Change Guidance recognise that existing development in areas at risk of coastal hazards presents a different challenge from new development — and they set out a more nuanced, managed approach rather than blanket risk avoidance.

NZCPS

- Policy 27 is the key provision for *significant existing development* in coastal hazard areas. It directs councils to identify such areas and to develop strategies for reducing risk over time.
- These strategies can include:
 - Relocation or removal of assets
 - Use of hazard-resilient design and construction

- Allowing for natural coastal processes to occur
- Considering the full range of adaptation options, including managed retreat where necessary
- The emphasis is on progressive risk reduction, recognising that existing communities and infrastructure cannot always be moved or redesigned immediately, but that long-term resilience should be the goal.
- This is distinct from Policy 25, which applies to new subdivision, use, and development, and is more strongly focused on *avoiding* increased risk.

MfE 2024 Guidance

- Reinforces the NZCPS distinction between new and existing development, and frames existing development management within an adaptive pathways approach.
- Encourages councils to:
 - Assess the current and future risk profile over at least a 100-year timeframe, incorporating sea-level rise scenarios
 - Engage communities early to co-design adaptation strategies
 - Use planning tools (e.g., zoning changes, overlays, consent conditions) to limit intensification in high-risk areas while enabling risk-reduction measures
 - Plan for transition periods, where existing uses may continue under certain conditions while preparing for eventual relocation or redesign
- Stresses that while short-term measures (e.g., temporary protection works) may be appropriate in some cases, they should not lock in long-term reliance on hard defences that will become unsustainable.

Both the NZCPS and the latest MfE guidance accept that existing development in hazard-prone coastal areas will often need to be managed in place for a time, but they require councils to actively plan for reducing that risk over the long term — ideally moving toward avoidance through adaptation, retreat, or redesign, rather than perpetuating or intensifying exposure.

Option 3 is the preferred approach, as it targets the highest-risk locations (Hazard Area 1) and allows a management approach in other mapped coastal hazard areas (Hazard Areas 2 and 3), aligning with the NZCPS and the proportional risk-based framework. It provides for continuity of the status quo, without tolerating risk increasing beyond what is currently planned for, until such time as long-term adaptation strategies are in place.

How should sites that would be subject to this approach be identified?

Option 1 – All sites within mapped Hazard Area 1

Option 2 – Specific sites based on percentage of site affected by Hazard Area 1

Option 3 – Specific sites based on ability to achieve a compliant subdivision site size outside Hazard Area 1 extent

The extent of Hazard Area 1 on a site varies considerably. In some cases, only a portion of the site is affected, and a compliant building platform can be located outside the hazard area. Applying down-zoning to all sites in Area 1 (Option 1) would unnecessarily restrict development potential where safe, compliant development is possible.

Option 2, based on percentage of site affected, is less precise due to variations in site shape, size, and layout. For a large site, a large percentage may be within a coastal hazard area, while a compliant subdivision meeting the proposed standards can still be achieved in a part of the site that is not identified as being subject to coastal hazards.

Option 3, the preferred option, uses the ability to achieve a compliant subdivision outside the hazard area in Hazard Area 1 as the determining factor. This approach is consistent with the proportional risk management framework and avoids unnecessarily constraining sites where hazard risk can be avoided through site layout.

How should the limitation of development potential be applied?

Option 1 – incorporate density controls into Chapter E36 provisions

Option 2 – addition of an overlay or standard variation controls

Option 3 – apply zoning

As with flood hazards, Chapter E36 provisions operate independently of underlying zoning and are not designed to directly limit development potential. Option 1 is therefore not appropriate for achieving the zoning-based limitation.

Option 2 could achieve the outcome but would add complexity through new overlays or standards.

Option 3 is preferred, as zoning is more accessible for plan users, can rely on the existing residential zone hierarchy, and requires fewer plan amendments than creating new overlays or variation controls.

What is the zone that should be applied?

Option 1 – Residential – Single House zone for all affected sites

Option 2 – Residential – Single House zone only where a compliant subdivision site size cannot be achieved outside Hazard Area 1; retain current zone where a compliant subdivision site size can be achieved outside Hazard Area 1.

Option 1 would unnecessarily restrict development on sites where hazard risk can be avoided through site layout.

Option 2 is preferred, as it applies the Residential – Single House zone only where hazard risk is significant and unavoidable, while retaining the operative zone where safe

development is possible. This approach better reflects the actual development potential of the site and avoids over-regulation.

Summary of the application for zoning response for coastal hazards

- The Residential – Single House zone is applied to any site within coastal erosion or inundation Hazard Area 1 where a compliant subdivision site size cannot be achieved outside the hazard area. This equates to 1,492 properties. The addresses for these properties can be found in Attachment 13 – Properties down-zoned due to natural hazards.
- Current operative zone is retained where a compliant subdivision site size can be located outside the hazard area. This equates to 12,352 SH zoned properties, 3,270 MHS zoned properties, 2,037 MHU zoned properties and 409 THAB zoned properties.
- Current operative zone is retained in other areas identified as subject to coastal hazards (Hazard Areas 2 and 3), with risk managed through revised AUP provisions.
- This approach may be considered an interim zoning response and should be revisited once long-term adaptation strategies in coastal hazard areas have been determined.
- The proposed approach results in:
 - The down-zoning of properties affected by coastal Hazard Area 1 from their current zone to Residential – Single House zone (1,492 properties).
 - The retention of the currently operative zone for properties within coastal Hazard Areas 2 and 3.

Attachment 9 – Defining sensitivities for activities

Background

The AUP currently uses the terms ‘more vulnerable activities’ and ‘less vulnerable activities’ within natural hazard provisions. These terms were introduced through the development of the AUP as reflecting the international approach at the time of looking at the different consequences of the hazard (flooding) depending on the type of activity rather than the traditional hazard management approach of focusing on the broad idea of risk.

The Independent Hearings Panel (IHP) supported this approach adding that “less” and “more” vulnerable activities should be differentiated according to the nature of the risk (including the degree of exposure) rather than simply based on the nature of the activity. Meaning, more vulnerable activities being those where people may sleep on the site (such as dwellings and healthcare facilities with overnight accommodation) and less vulnerable being those that are part of the working environment generally occupied during the day.

The definitions for these under Chapter J are:

Less vulnerable activities

Means activities listed in the following nesting tables:

- *Commerce;*
- *Community, excluding care centres, and healthcare facilities with overnight stay facilities;*
- *Industry; and*
- *Rural.*

More vulnerable activities

Means activities listed in the residential nesting table and also includes care centres, and healthcare facilities with overnight stay facilities

However, as noted in the section 35 monitoring report of Chapter B10 Natural hazards and climate change, although these terms are used, they are not well supported at the RPS level nor are they used consistently, which has the potential to lead to outcomes that do not fully align with what the RPS seeks to achieve. Subsequently, they are being reviewed as part of the amendments proposed through PC120 to assist with better determining the consequences of natural hazards to better inform their management.

Evaluation undertaken

This evaluation included a comparison of relevant councils that have recently developed their second-generation district plans (Dunedin City Council, Porirua City Council and Wellington City Council) to understand current thinking on the management of natural hazards. These Councils have introduced sensitivity ratings for activities as they are impacted by natural hazards – aligning with sensitive to, potentially sensitive to and least sensitive to.

These sensitivity ratings are developed against the Building Importance Levels of the Building Code which reflect the importance of the activity that the building is designed to accommodate. Buildings are required to be fit for purpose, built to a required level of structural integrity depending on its intended use. Ranging from 1-5 a Building Importance Level of 1 is assigned to accessory buildings and the like, not intended for habitation, whereas a Building Importance Level of 5 is designed to accommodate a major hazardous substance storage facility or major dam that could create a significant public health issue in the event of failure.

Although the Building Importance Levels relate to the required strength of the building, they have been translated to attributing to the sensitivity of the activity that they are intended for. By way of explanation, Wellington City Council expanded on this as reflecting the planning guidance from the Ministry for the Environment regarding the development of land on or close to active fault. A planning lens was then applied to the categorisation to ensure that it aligned with the non-statutory guidance applicable to natural hazards and to ensure that no perverse outcomes would be realised in terms of risk to life, vulnerability of the activity and property²².

Dunedin City Council provides a definition for the sensitivity ratings as:

Natural hazard sensitive activity - a land use activity:

- *where people are regularly present and often in a vulnerable state because they sleep there, require medical treatment, or require extra assistance to evacuate; and/or*
- *which may create a significant public health issue if damaged as a result of a natural hazard event*

Natural hazard potentially sensitive activity - an activity:

- *where people are regularly present and buildings are routinely required to carry out the activity but people are not usually in a vulnerable state; and*
- *which are unlikely to create a significant public health issue in a natural hazard event*

Natural hazard least sensitive activity - a land use activity:

- *where there is a minimal presence of people and buildings; and*
- *which will not create a public health issue in a natural hazard event.*

The Councils have included lists of activities against these ratings which are similar for the greatest part. In each case, the Councils then align these sensitivity ratings against their categorisation of the risk to exposure for their natural hazards to determine the activity status.

Sensitive activities such as dwellings are deemed non-complying or prohibited in areas of greatest exposure to risk and provisions of 'avoid' support this. Whereas less sensitive

²² Wellington Proposed District Plan. S32 report: Part 2 Natural and Coastal Hazard. WCC 2024

activities such as park facilities or rural activities may be deemed restricted discretionary or permitted and provisions seek to 'enable' and 'manage' accordingly. In addition to more vulnerable and less vulnerable activities the AUP also contains a number of definitions within Chapter J that relate to the sensitivity of activities to matters such as aircraft noise, air discharges, noise (generally), the National Grid and hazardous facilities and infrastructure. These align generally with the first part of the definition for 'sensitive activities' above in that activities that include people in a vulnerable state are included, such as dwellings and healthcare facilities. While these do not provide any further refinement of the sensitivity of the activity to the matters, they do provide a level of confidence for establishing a base.

The AUP also contains a number of Nesting Tables within Chapter J which crudely align with the sensitivity ratings above. However, some activities are more appropriately placed in a sensitivity rating that does not align with most of the table. For example, the Nesting Table for Rural generally aligns with activities less sensitive to natural hazards except for the following:

- intensive farming
- equestrian centres
- rural industries
- post-harvest facilities.

These are considered to be more aligned with activities that are potentially sensitive to natural hazards in that while they are unlikely to create a significant public health issue, potential damages to their facilities as the result of an event may require a degree of urgency to prevent adverse environmental impacts. Subsequently it was considered that rather than define the sensitivity of activities through aligning with these tables, the activities within them would be referred to exclusive of these nests.

Conclusions

In considering the lists developed by these Councils, PC120 proposes that activities as they are impacted by natural hazards in the Auckland region are allocated similar sensitivity ratings of:

- activities sensitive to natural hazards
- activities potentially sensitive to natural hazards
- activities less sensitive to natural hazards

These build on and further refine the other 'sensitivity of activities' definitions and include other activities as defined within Chapter J of the AUP.

The proposed definitions for these ratings are included in Chapter J of the AUP along with lists of activities that are applicable. These are summarised below:

- Activities sensitive to natural hazards

These activities are split into two groups – [A] and [B]. Group [A] are activities where people are regularly present and often in a vulnerable state because they sleep

there, require medical treatment, or require extra assistance to evacuate (including dwellings, healthcare facilities with overnight accommodation, etc); and group [B] are activities which, if damaged, may create a significant public health or pollution issue during and/or after a natural hazard event (including hazardous facilities, crematoriums and landfills etc)

- Activities potentially sensitive to natural hazards

These activities are those where people are regularly present and buildings are routinely required to carry out the activity, but people are not usually in a vulnerable state; and which are unlikely to create significant public health or pollution issues in a natural hazard event (such as commercial services, retail activities, community facilities and rural industries).

- Activities less sensitive to natural hazards

These activities are those where there is a minimal presence of people and buildings and which will not create public health or pollution issues in a natural hazard event (such as parking and loading areas, marine and port facilities and organized sport and recreation).

While activities (use) and their associated buildings (development) are separated within the proposed provisions for the AUP, their risk from the natural hazards is required to be considered comprehensively in any assessment required with a resource consent. This ensures that due consideration is given to the consequences of new activities sensitive or potentially sensitive to natural hazards being established, or existing activities expanding in existing buildings that are currently located within hazard areas.

Some activities are exceptions to the sensitivity ratings above due to their locational limitations (such as emergency services that are required to locate in coastal hazard areas) and are therefore subject to separate provisions.

Attachment 10 – Changes to the AUP in relation to natural hazards

Changes to Chapter E36 Natural hazards and flooding

E36. Natural hazards and flooding

E36.1. Background

Auckland is affected by natural hazards including: flooding, coastal erosion (including the effects of sea level rise), freshwater erosion, landslides, wildfires, volcanic activity, tsunami, earthquakes, liquefaction, and other meteorologically induced hazards such as cyclones, tornados and drought.

- ~~• those that occur frequently such as flooding, coastal erosion (including the effects of sea level rise), freshwater erosion and land instability; and~~
- ~~• those that occur less frequently such as wildfires, volcanic activity, tsunami, earthquakes and meteorological hazards such as cyclones, tornados and drought.~~

All of these hazards can have the potential to affect people, property and the wider environment.

The risk that these natural hazards pose is made up of factors including:

- the nature, magnitude and extent of the ~~hazard~~ potential event (which gives the susceptibility of the site to the event);
- the anticipated frequency or probability of the ~~hazard~~ event occurring (the hazard); and
- the exposure and vulnerability of the environment to the hazard (the resulting risk).

Decisions on how to avoid or mitigate natural hazards risk can affect not only the subject site but also neighbouring properties, mana whenua values and heritage, and the wider environment, and may ~~unintentionally~~ exacerbate the risk. Risk assessment is a key means to identify and understand risks, and to determine which aspects of risk can be managed through appropriate land use planning tools and development methods. Both current and future risks (including the effects of climate change such as sea level rise) need to be considered.

A ~~flexible~~ proportionate risk-based approach has been ~~taken~~ adopted to address the risks associated with natural hazards. A risk ~~management~~ reduction approach applies to land that has been developed for urban use, existing development and infrastructure while a risk reduction (including avoidance where appropriate) approach applies to development of greenfield land yet to be urbanised. A risk management approach applies to infrastructure.

Where the Council has developed a strategic plan to manage, or adapt to natural hazard risks in particular locations, alignment with those plans is expected to be considered.

The Plan has defined criteria to identify land which may be subject to natural hazards. The Plan requires the use of the best information available to identify greenfield land ~~or~~

~~all land which is proposed for redevelopment~~ which may be subject to natural hazards. This includes hazard maps, databases and reports held by the Council. The level of detail and the quality of this information is variable. This affects the Council's ability to identify and map land that may be subject to natural hazards. At this time, the provisions in the Plan are focussed on the following hazards:

- coastal erosion;
- coastal ~~storm~~ inundation;
- flooding;
- ~~land instability~~ landslides; and
- wildfires.

The Council is working to gather, assess and refine information so that a more comprehensive range of natural hazards can be assessed and, as appropriate, subdivision, use and development can be better managed through provisions in the Plan.

Some risks from events with low probability but high potential impact (e.g. volcanic activity, tsunamis and earthquakes) ~~cannot~~ are unlikely to be addressed through land use planning and may be better addressed through mechanisms outside of the Plan, such as measures put in place by emergency management groups. ~~such as Civil Defence. These include education, warning systems and emergency preparedness.~~

Hazard sensitivity and risk categories

Natural hazard areas are identified by hazard type and the characteristics of the natural hazard.

To assist with determining the consequences associated with natural hazards, activities have been allocated one of the following sensitivity ratings:

- activities sensitive to natural hazards
- activities potentially sensitive to natural hazards
- activities less sensitive to natural hazards.

These ratings refer to the potential consequences, should the activity be impacted by a natural hazard event, and the impact due to these activities occurring within a natural hazard area.

Risks are then categorised as significant, potentially tolerable and acceptable based on the sensitivity of the activity and the characteristics of the hazard. Where risk is significant, activity is to be avoided in some instances. In other instances, where risk is significant or potentially tolerable, a risk assessment will be required to determine whether the risk can be reduced to, or maintained at, a tolerable level.

While activities (use) and their associated buildings (development) are separated within the provisions of this chapter, their risk from the natural hazards is required to be considered comprehensively in any assessment required with a resource consent. This ensures that due consideration is given to the consequences of new activities sensitive

or potentially sensitive to natural hazard being established, or existing activities expanding in existing buildings that are currently located within natural hazard areas.

Some activities are exceptions to the sensitivity ratings above due to their locational limitations (such as emergency services that are required to locate in coastal hazard areas) and are therefore subject to separate provisions within this chapter.

Relationship with zones

The AUP has a variety of zones that are applied across Auckland, ranging from the Business – City Centre zone to the Rural – Rural Production zone. Chapter E36 recognises the constraints imposed by natural hazards and in many cases will seek outcomes to manage natural hazard risks that result in the underlying zoning outcomes being unobtainable.

Structure

Section E36.2 contains objectives that apply to all natural hazards. Section E36.3 starts with policies that apply to all natural hazards and is then followed by sets of policies that apply to individual hazards. These hazard-specific policies start with those that apply across the region and is then followed by differing policies dependent on whether the land is within or outside existing urbanised areas.

E36.2. Objectives [rp/dp]

- (1) ~~[Deleted] Subdivision, use and development outside urban areas does not occur unless the risk of adverse effects to people, property, infrastructure and the environment from natural hazards has been assessed and significant adverse effects are avoided, taking into account the likely long term effects of climate change.~~
- (2) ~~[Deleted] Subdivision, use and development, including redevelopment in urban areas, only occurs where the risks of adverse effects from natural hazards to people, buildings, infrastructure and the environment are not increased overall and where practicable are reduced, taking into account the likely long term effects of climate change.~~
- (3) ~~[Deleted] Subdivision, use and development on rural land for rural uses is managed to ensure that the risks of adverse effects from natural hazards are not increased and where practicable are reduced.~~

(3A) The risk from natural hazards to people, property, infrastructure and the environment resulting from existing use and development across the region is reduced over time to a tolerable or acceptable level.

(3B) New subdivision, use and development avoids significant risk and only occurs when the risk from natural hazards to people, property, infrastructure and the environment is assessed as being tolerable or acceptable.

(3C) Subdivision, use and development is managed in a way that avoids creating or exacerbating natural hazard risks on other properties, infrastructure and the environment.

(3D) Risks from natural hazards on Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values are reduced over time, and not created or exacerbated by subdivision, use and development.

(4) Where infrastructure has a functional or operational need to locate in a natural hazard area, ~~the risk of adverse effects to other people, property, and the environment shall be assessed and significant adverse effects are sought first to be avoided~~ avoid the creation or exacerbation of risks from natural hazards to people, property, and the environment or, if avoidance is not able to be ~~totally~~ achieved, the residual effects are otherwise mitigated to the extent practicable.

(5) ~~Subdivision, use and development including redevelopment, is managed to safely maintain~~ The flood storage and the conveyance functions of floodplains and overland flow paths are maintained, and enhanced where practicable, and the creation of new flood prone areas are avoided.

(6) ~~Where appropriate, n~~ Natural features and buffers are used where practicable and nature-based solutions are used in preference to hard protection structures to manage natural hazards.

(7) All natural hazard risk assessments and management measures take into account the potential long term effects of climate change.

(8) A precautionary approach is adopted where information is uncertain or incomplete.

E36.3. Policies [rp/dp]

General

(1) ~~[Deleted] Identify land that may be subject to natural hazards, taking into account the likely effects of climate change, including all of the following:~~

~~coastal hazards (including coastal erosion and coastal storm inundation, excluding tsunami);~~

~~flood hazards;~~

~~land instability; and~~

~~wildfires.~~

Risk classifications

(1A) Identify risk from natural hazards associated with subdivision, use and development by differentiating risk into the following three classifications:

- (a) significant
- (b) potentially tolerable
- (c) acceptable

Risk settings and management methodology

(1B) Manage risk from coastal erosion, coastal inundation and flooding associated with subdivision, use and development by:

- (a) identifying land that may be exposed to these hazards and requiring a site-specific assessment to determine the extent and nature of the hazard(s) on site; and
- (b) using the hazard, the location of the activity, and the sensitivity of the activity to natural hazards to determine the default level of risk, as per Tables E36.3.1B.1 and E36.3.1B.2; and
- (c) requiring a risk assessment to determine the level of risk and applying management approaches proportionate to that level of risk.

Table E36.3.1B.1 Subdivision, use and development within existing urbanised areas

	<u>Activities sensitive to natural hazards</u>	<u>Activities potentially sensitive to natural hazards</u>	<u>Activities less sensitive to natural hazards</u>
<u>Very high flood hazard area, high flood hazard area, coastal erosion hazard area 1 and coastal inundation hazard area 1</u>	<u>Significant</u>	<u>Significant</u>	<u>Acceptable</u>
<u>Medium flood hazard area, coastal erosion hazard area 2 and coastal inundation hazard area 2</u>	<u>Potentially tolerable</u>	<u>Potentially tolerable</u>	<u>Acceptable</u>
<u>Low flood hazard, coastal erosion hazard area 3 and coastal inundation hazard area 3</u>	<u>Potentially tolerable</u>	<u>Potentially tolerable</u>	<u>Acceptable</u>

Table E36.3.1B.2 Subdivision, use and development outside of existing urbanised areas

	<u>Activities sensitive to natural hazards</u>	<u>Activities potentially sensitive to natural hazards</u>	<u>Activities less sensitive to natural hazards</u>
<u>Very high flood hazard area, high flood hazard area, coastal erosion hazard area 1 and coastal inundation hazard area 1</u>	<u>Significant</u>	<u>Significant</u>	<u>Acceptable</u>
<u>Medium flood hazard area, coastal erosion hazard area 2 and coastal inundation hazard area 2</u>	<u>Significant</u>	<u>Significant</u>	<u>Acceptable</u>
<u>Low flood hazard, coastal erosion hazard area 3 and coastal inundation hazard area 3</u>	<u>Significant</u>	<u>Significant</u>	<u>Acceptable</u>

(1C) Manage risk from landslides associated with subdivision, use and development by:

- (a) identifying land that may be susceptible to landslides; and
- (b) requiring a landslide risk assessment to be undertaken in accordance with Appendix 24 Landslide hazard risk assessment methodology, using the level of susceptibility, the underlying zone, the location and type of the activity and the sensitivity of the activity to natural hazards as determinants for the type of assessment and the level of risk; and
- (c) applying management approaches proportionate to the level of risk.

(1D) Ensure that subdivision, development and vegetation management mitigate wildfire hazards to as low as reasonably practicable

- (2) Investigate other natural hazards to assess whether risks to people, property or the environment should be managed through the Auckland Unitary Plan or otherwise.

Risk assessment requirements

(3) Consider all of the following, as part of a Where a resource consent is necessary, require proposals to subdivide, use or develop land that is subject to natural hazards to prepare a risk assessment of proposals to subdivide, use or develop land that is subject to natural hazards that considers all of the following, taking into account the potential effects of climate change and adopting a precautionary approach where information is uncertain or incomplete:

- (a) [~~Deleted~~] ~~the type, frequency and scale of natural hazards and whether adverse effects on development will be temporary or permanent;~~
- (aa) the type, frequency, range and scale of the natural hazard(s), including:
 - (i) where there may be coinciding, compounding and/or cascading hazards;
 - (ii) whether the hazard risks will be temporary or permanent;
 - (iii) whether natural hazard events of lower intensity and higher frequency than the 1 per cent AEP event will impact the property and proposed activity
- (b) [~~Deleted~~] ~~the type of activity being undertaken and its vulnerability to natural hazard events;~~
- (c) the consequences of a natural hazard event in relation to the proposed activity;
- (d) [~~Deleted~~] ~~the potential effects on public safety and other property;~~
- (e) [~~Deleted~~] ~~any exacerbation of an existing natural hazard risk or the emergence of natural hazard risks that previously were not present at the location;~~
- (f) [~~Deleted~~] ~~whether any building, structure or activity located on land subject to natural hazards near the coast can be relocated in the event of severe coastal erosion, inundation or shoreline retreat;~~
- (g) [~~Deleted~~] ~~the ability to use non-structural solutions, such as planting or the retention or enhancement of natural landform buffers to avoid, remedy or mitigate hazards, rather than hard protection structures;~~
- (h) [~~Deleted~~] ~~the design and construction of buildings and structures to mitigate the effects of natural hazards;~~
- (i) [~~Deleted~~] ~~the effect of structures used to mitigate hazards on landscape values and public access;~~

- (j) ~~[Deleted] site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event; and~~
 - (k) ~~[Deleted] the duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the likely effects of climate change.~~
 - (l) existing and proposed mitigation measures;
 - (m) residual risk;
 - (n) any relevant management plan, strategy or hazard risk assessment relating to the area.
- (4) ~~[Deleted] Control subdivision, use and development of land that is subject to natural hazards so that the proposed activity does not increase, and where practicable reduces, risk associated with all of the following adverse effects:~~
- (a) ~~accelerating or exacerbating the natural hazard and/or its potential impacts;~~
 - (b) ~~exposing vulnerable activities to the adverse effects of natural hazards;~~
 - (c) ~~creating a risk to human life; and~~
 - (d) ~~increasing the natural hazard risk to neighbouring properties or infrastructure~~
- (4A) Require all of the following matters to be considered when assessing consequences of natural hazards as part of a risk assessment:
- (a) accelerating or exacerbating the natural hazard and/or its potential impacts;
 - (b) creating natural hazard risks that previously were not present at the location;
 - (c) the type of activity being undertaken and its sensitivity to natural hazard events;
 - (d) creating or increasing the natural hazard risk(s) to people and communities, including long-term impacts from more frequent hazard events;
 - (e) creating or increasing the natural hazard risk(s) to other properties, infrastructure and the environment; and
 - (f) cultural impacts, including consequences for Māori land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values.

(4B) Require all of the following matters to be considered as part of a risk assessment of existing and future mitigation measures and residual risk:

- (a) whether any building, structure or activity located on land subject to natural hazards can be relocated within the site or removed;
- (b) whether the use, design and construction of buildings and structures can mitigate risks associated with natural hazards;
- (c) the extent to which methods for long term maintenance of areas affected by natural hazards, such as easements, are provided;
- (d) the ability for site layout and management to limit exposure of people and property to natural hazards, including safe egress during a natural hazard event;
- (e) the effect of structures to mitigate hazards on landscape values and public access;
- (f) the robustness of the mitigation measures, their enforceability and the ability to carry out repairs and maintenance;
- (g) the potential consequences of events that exceed the design parameters of mitigation measures;
- (h) the potential effects resulting from failure of structural and nature-based mitigation measures over a 100-year timeframe;
- (i) the impacts of the mitigation on other people, properties, infrastructure and the environment;
- (j) whether natural hazard risks can be reduced for Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values;
- (k) the use of conditions of consent, including the duration of consent, to monitor changes in risk and to limit the exposure of people and property to natural hazards; and
- (l) the extent to which it is practicable to mitigate residual risk where infrastructure has a functional or operational need to locate in a natural hazard area

Management of risk for existing use and development

(4C) Enable adaptation of existing activities and/or the continued use of existing buildings and infrastructure in natural hazard areas where risk is maintained at, or reduced as far as reasonably practicable to, a tolerable or acceptable level, including by:

- (a) relocating or extending the building or structures only in areas of the site that are outside of natural hazard areas;
- (b) improving the resilience of the building or structures;
- (c) reducing the intensity of activity;
- (d) changing the use to a less sensitive activity;
- (e) limiting the duration of the activity;
- (f) in flood hazard and coastal inundation hazard areas:
 - (i) ensuring appropriate safe refuge and safe egress are provided where possible and maintained where currently available;
 - (ii) raising floor levels to reduce the extent of flooding or inundation within the building.

(4D) Require re-building of materially damaged or destroyed buildings in natural hazard areas to demonstrate that the natural hazard risk is reduced to a tolerable or acceptable level, or otherwise reduced to as low as reasonably practicable (compared with the previous natural hazard risk to both the building and use of the building on the site).

Management of risk for marae

(4E) Support the use and development of marae while managing natural hazard risks by ensuring the following:

- (a) buildings that house activities sensitive to natural hazards are located outside of very high and high flood hazard areas, coastal erosion hazard area 1, coastal inundation hazard area 1, and high landslide hazard risk areas;
- (b) safe refuge and safe egress are provided where possible, taking into account access agreements with neighbouring properties;
- (c) the long term potential effects of climate change are taken into account;
- (d) potential effects on other properties are considered;
- (e) Marae trust endorsed marae natural hazard management plans and any mitigation imposed through a Māori Reservation are taken into account.

Coastal hazards (including coastal erosion and coastal storm inundation) – general

~~(5) [Deleted] Ensure that subdivision, use and development on rural land for rural uses and in existing urban areas subject to coastal hazards avoids or mitigates adverse effects resulting from coastal storm inundation, coastal erosion and sea level rise of 1m through location, design and management.~~

(5A) Avoid new subdivision, use, and development in coastal hazard areas that would require raising the level of the land and/or coastal protection structures including nature-based solutions, within a 100-year timeframe, unless it is demonstrated that there is no practicable alternative, and the purpose of the subdivision, use and development is to:

- (a) provide significant regional or national benefit; or
- (b) provide for the continued use of Māori Land, Treaty Settlement land and marae and the management of cultural heritage; or
- (c) maintain or enhances public access or linkages with public open space to, within or adjacent to the coastal marine area; or
- (d) maintain or enhances habitat for indigenous species; or
- (e) conforms to a Council approved strategic plan to manage or adapt to natural hazard risk in a particular location.

(5B) Ensure all development, including fencing, earth bunds, storage of materials and goods, in coastal hazard areas do not create or exacerbate coastal hazard risk on other sites.

(5C) Require the storage and containment of hazardous substances in coastal inundation areas so that the integrity of the storage method will not be compromised in an inundation event.

(5D) When considering mitigation of coastal inundation hazards where buildings are located within areas of inundation, promote measures such as use of water-resistant materials and flood-proof utility connections to increase resilience to damage from inundation.

(5E) Manage accessways, including private roads and roads intended to be vested in coastal hazard areas, and parking areas so that safe egress is provided where possible, and coastal hazard risks are reduced to as low as reasonably practicable.

(5F) Locate all accessways, including private roads and roads intended to be vested, so that access is maintained as coastal hazards move inland over time.

(5G) Provide for activities that can demonstrate a functional or operational need to be undertaken or located in a coastal hazard area while reducing coastal hazard risks to as low as reasonably practicable.

Coastal hazards – within existing urbanised areas

(5H) Avoid new subdivision, use and development in existing urbanised areas that gives rise to significant coastal hazard risk in accordance with Table E36.3.1B.1.

(5I) Manage new subdivision, use and development in existing urbanised areas that gives rise to potentially tolerable coastal hazard risk in accordance with Table E36.3.1B.1 so that risk is maintained at a tolerable level by:

- (a) providing appropriate safe refuge and safe egress for activities sensitive to natural hazards [A], unless it can be demonstrated that safe egress is not necessary to manage risk to life; and
- (b) providing appropriate safe refuge and/or safe egress for activities potentially sensitive to natural hazards; and
- (c) minimising all other risks to as low as reasonably practicable.

(5J) Provide for activities less sensitive to natural hazards within coastal hazard areas in existing urbanised areas where coastal hazard risks are not exacerbated beyond the site.

(5K) Where specified, ensure that appropriate safe egress is provided from the site during a 1 per cent AEP inundation event, taking into account 1.5m relative sea level rise, requiring such routes to:

- (a) be free from inundation wherever possible or have inundation depths and that do not pose a risk to life, including for vulnerable people; and
- (b) connect continuously to a safe public place, where assistance can be rendered; and
- (c) remain safely traversable throughout the event; and
- (d) be a usual route to and from the building/site and not be reliant on traversing neighbouring properties; and
- (e) not be subject to hazardous residual risk.

(5L) Where specified, ensure that appropriate safe refuge is provided during a 1 per cent AEP inundation event, taking into account 1.5m relative sea level rise, by either:

- (a) locating buildings outside of inundation hazard areas; or
- (b) when locating buildings within an inundation hazard area that:
 - (i) floodwaters will not enter habitable areas of the building and sufficient freeboard is provided; and
 - (ii) the building is designed and certified to resist hydrostatic and hydrodynamic forces, debris impacts and geotechnical effects, including scour and erosion; and
 - (iii) any residual risk does not pose a risk to life, injury or significant property damage; and

- (iv) the building can sustain basic human needs for the expected duration of inundation event, including wet-proofed electricity and sewerage systems; and
- (v) those occupying the building will be aware that the building is a safe refuge.

Coastal hazards – outside existing urbanised areas

(5M) Avoid new subdivision, use and development outside existing urbanised areas that gives rise to significant coastal hazard risk in accordance with Table E36.3.1B.2.

(5N) Enable new subdivision, use and development outside existing urbanised areas where coastal hazard risk is acceptable in accordance with Table E36.3.1B.2 where coastal hazard risks are not exacerbated beyond the site.

~~(6) [Deleted] Avoid subdivision, use and development in greenfield areas which would result in an increased risk of adverse effects from coastal hazards, taking account of a longer term rise in sea level.~~

~~(7) [Deleted] Ensure that buildings in areas subject to coastal hazards are located and designed to minimise the need for hard protection structures.~~

~~(8) [Deleted] Ensure that when locating any new infrastructure in areas potentially subject to coastal hazards consider, where appropriate, an adaptive management response taking account of a longer term rise in sea level.~~

~~(9) [Deleted] Require habitable areas of new buildings and substantial additions, alterations, modifications or extensions to existing buildings located in coastal storm inundation areas to be above the 1 per cent annual exceedance probability (AEP) coastal storm inundation event including an additional sea level rise of 1m.~~

Defences against coastal hazards

~~(10) Avoid the modification, alteration or removal of sand dunes and vegetation on sand dunes and other coastal margins which would compromise their function as natural defences for an area subject to coastal hazards ~~and ensure adverse effects on wider coastal processes are avoided or mitigated.~~~~

(10A) Retain natural features and buffers, enable their restoration and enhancement, and support their function as natural defences against natural hazards within coastal hazard areas.

~~(11) [Deleted] Consider hard protection works to protect development only where existing natural features will not provide protection from the natural hazard and enhancement of natural defences is not practicable.~~

(11A) Where coastal protection is determined to be required, natural features and buffers are used where possible and nature-based solutions are used in preference to hard protection structures to manage natural hazards.

~~(12) [Deleted] Require hard protection works involving the placement of any material, objects or structures in or on any area located above mean high water springs to be designed and located to avoid, remedy or mitigate adverse environmental effects including all of the following:~~

~~(a) location of structures as far landward as possible to retain as much natural beach buffer as possible;~~

~~any likely increase in the coastal hazard, including increased rates of erosion, accretion, subsidence or slippage;~~

~~undermining of the foundations at the base of the structure;~~

~~erosion in front of, behind or around the ends or down-drift of the structure;~~

~~settlement or loss of foundation material;~~

~~movement or dislodgement of individual structural elements;~~

~~offshore or long-shore loss of sediment from the immediate vicinity;~~

~~long-term adverse visual effects on coastal landscape and amenity values; and~~

~~effects on public access.~~

(12A) Where coastal protection is proposed to protect existing subdivision use and development, taking into account climate change over a 100-year timeframe, avoid significant adverse effects and mitigate other adverse effects on all of the following:

(a) the natural character of the coastal environment;

(b) outstanding natural features and landscapes;

(c) habitats for indigenous species;

(d) access to Maori Land, Treaty Settlement Land and marae, including effects on mana whenua cultural heritage and values;

(e) identified historic heritage places;

(f) public access to and along the coast;

(g) other properties.

(12B) Provide for coastal protection, where it provides for the continued use of Māori Land, Treaty Settlement land, marae, urupā and the management of mana whenua cultural heritage and values, where natural features and buffers and nature-based solutions are not possible, while avoiding or mitigating the adverse effects identified in Policy 12A.

(12C) Coastal protection must be designed to avoid all of the following:

- (a) undermining;
- (b) erosion;
- (c) settlement;
- (d) movement or dislodgement;
- (e) failure;
- (f) pipng or hydraulic pumping of fine material or backfill;
- (g) offshore or long-shore loss of sediment from the immediate vicinity; and
- (h) any increase in the coastal hazard posed to the coastline elsewhere.

Floodplains in urban areas

~~(13) [Deleted] In existing urban areas require new buildings designed to accommodate more vulnerable activities to be located:~~

- ~~(a) outside of the 1 per cent annual exceedance probability (AEP) floodplain;
or
within or above the 1 per cent annual exceedance probability (AEP) floodplain where safe evacuation routes or refuges are provided.~~

~~(14) [Deleted] Require redevelopment of sites where existing more vulnerable activities are located within the 1 per cent annual exceedance probability (AEP) floodplain to address all of the following:~~

- ~~(a) minimise risks from flood hazards within the site;

minimise the risks from flood hazards to people and property upstream and downstream of the site;

remedy or mitigate where practicable or contribute to remedying or mitigating flood hazards in the 1 per cent annual exceedance probability floodplain;

location of habitable rooms above flood levels; and

provide safe evacuation routes or refuges from buildings and sites.~~

- (15) ~~[Deleted] Within existing urban areas, enable buildings containing less vulnerable activities to locate in the 1 per cent annual exceedance probability (AEP) floodplains where that activity avoids, remedies or mitigates effects from flood hazards on other properties.~~

Floodplains in rural areas

- (16) ~~[Deleted] In rural areas, avoid where practicable locating buildings accommodating more vulnerable activities in the 1 per cent annual exceedance probability (AEP) floodplain and manage other buildings and structures so that flood hazards are not exacerbated.~~

Floodplains in greenfield areas

- (17) ~~[Deleted] On greenfield land outside of existing urban areas, avoid locating buildings in the 1 per cent annual exceedance probability (AEP) floodplain.~~
- (18) ~~[Deleted] Enable flood tolerant activities to locate in the 1 per cent annual exceedance probability (AEP) floodplain where these activities do not involve buildings or structures that exacerbate the flood hazard to other properties upstream or downstream of the site.~~
- (19) ~~[Deleted] Require fences, storage of materials and goods and car parking in the 1 per cent annual exceedance probability (AEP) floodplains to not exacerbate the flood hazard to other properties upstream or downstream of the site.~~
- (20) ~~[Deleted] Require earthworks within the 1 per cent annual exceedance probability (AEP) floodplain to do all of the following:~~
- ~~(a) remedy or mitigate where practicable or contribute to remedying or mitigating flood hazards in the floodplain;~~
 - ~~(b) not exacerbate flooding experienced by other sites upstream or downstream of the works; and~~
 - ~~(c) not permanently reduce the conveyance function of the floodplain.~~

Floodplains Flooding – general

- (21) Ensure all development, including fencing, storage of materials and goods, and earthworks, in flood hazard areas in the 1 per cent annual exceedance probability (AEP) floodplain does not create or exacerbate flood risk on other sites increase adverse effects from flood hazards or increased flood depths and velocities, to other properties upstream or downstream of the site.
- (22) Require the storage and containment of hazardous substances in floodplains flood hazard areas so that the integrity of the storage method will not be compromised in a flood event.

- (23) Provide for flood mitigation measures which reduce flood-related effects and provide for the reconstruction of culverts and bridges where those measures do not create or exacerbate flood risk on other sites ~~flooding upstream or downstream or otherwise increase flood hazards.~~
- (24) Enable the planting and retention of vegetation cover to enhance amenity values, green linkages and ecological values in floodplains ~~as long as it does not~~ whilst ensuring that create or exacerbate flooding upstream or downstream or otherwise increase flood hazards flood risk on other sites are not created or exacerbated.
- (25) ~~When considering mitigation of flood hazards where buildings are located in floodplains, promote~~ Require measures such as use of water resistant materials and flood-proof utility connections to increase resilience to flood damage when considering mitigation of flood hazards for buildings located in flood hazard areas.
- (26) ~~Construct~~ Manage accessways, including private roads and public roads to be vested, and parking areas in flood hazard areas so that safe egress is provided where possible, and flood hazard risks are ~~not increased~~ reduced to as low as reasonably practicable.
- (27) [Deleted] ~~Enable the construction and maintenance of flood mitigation works to reduce flood risks to people, property, infrastructure and the environment.~~
- (28) [Deleted] ~~Take into account any authorised earthworks or drainage infrastructure which avoids, remedies or mitigates flood hazards when assessing proposed subdivision, use or development.~~

Overland flow paths

- (29) Maintain the function of overland flow paths to convey stormwater runoff safely from a site to the receiving environment by ensuring that any modifications do not result in a reduction in the capacity of the overland flow path and do not cause nuisance or damage to property or the environment.
- (30) [Deleted] ~~Require changes to overland flow paths to retain their capacity to pass stormwater flows safely without causing damage to property or the environment.~~
- (30A) Enable subdivision, use and development that gives rise to acceptable flood hazard risk in accordance with Tables E36.3.1B.1 and E36.3.1B.2 where these activities do not involve buildings or structures that exacerbate the flood hazard beyond the site.

Flooding – within existing urbanised areas

- (30B) Avoid new subdivision, use and development in existing urbanised areas that gives rise to significant flood hazard risk in accordance with Table E36.3.1B.1 in very high flood hazard areas.

(30C) Avoid new subdivision, use and development in existing urbanised areas that gives rise to significant flood hazard risk in accordance with Table E36.3.1B.1 where it is for activities sensitive to natural hazards [B] in high flood hazard areas.

(30D) Avoid new subdivision, use and development in existing urbanised areas that gives rise to significant flood hazard risk in accordance with Table E36.3.1B.1 where it is for activities sensitive to natural hazards [A] or activities potentially sensitive to natural hazards in high hazard areas unless risk can be reduced to a tolerable level by:

- (d) providing appropriate safe refuge and safe egress for activities sensitive to natural hazards [A]; and
- (e) providing appropriate safe refuge and safe egress for activities potentially sensitive to natural hazards, unless it can be demonstrated that safe egress is not necessary to manage risk to life; and
- (f) minimising all other risks to as low as reasonably practicable.

(30E) Manage new subdivision, use and development in existing urbanised areas that gives rise to potentially tolerable flood hazard risk in accordance with Table E36.3.1B.1 so that risk is maintained at a tolerable level by:

- (a) providing appropriate safe refuge and safe egress for activities sensitive to natural hazards [A] unless it can be demonstrated that safe egress is not necessary to manage risk to life; and
- (b) providing appropriate safe refuge and/or safe egress for activities potentially sensitive to natural hazards; and
- (c) minimising all other risks to as low as reasonably practicable.

(30F) Where specified, ensure that appropriate safe egress is provided from the site during a 1 per cent AEP flood event by requiring such routes to:

- (a) be free from floodwaters wherever possible or have flood depths and velocities that do not pose a risk to life, including for vulnerable people; and
- (b) connect continuously to a safe public place, where assistance can be rendered; and
- (c) remain safely traversable throughout the event; and
- (d) be a usual route to and from the building/site and not be reliant on traversing neighbouring properties; and
- (e) not be subject to hazardous residual risk.

(30G) Where specified, ensure that appropriate safe refuge is provided during a 1 per cent AEP flood event by either:

- (a) locating buildings outside of flood hazard areas; or
- (b) when locating buildings within a flood hazard area that:
 - (i) floodwaters will not enter habitable areas of the building and sufficient freeboard is provided; and
 - (ii) the building is designed and certified to resist hydrostatic and hydrodynamic forces, debris impacts and geotechnical effects, including scour and erosion; and
 - (iii) any residual risk does not pose a risk to life, injury or significant property damage; and
 - (iv) the building can sustain basic human needs for the expected duration of inundation event, including wet-proofed electricity and sewerage systems; and
 - (v) those occupying the building will be aware that the building is a safe refuge.

Flooding – outside existing urbanised areas

(30H) Avoid new subdivision, use and development outside existing urbanised areas that gives rise to significant flood hazard risk in accordance with Table E36.3.1B.2.

Land instability

- ~~(31) [Deleted] Identify land that may be subject to land instability taking into account all of the following features:~~
- ~~(a) proximity to cliffs;~~
 - ~~steepness of land;~~
 - ~~geological characteristics; and~~
 - ~~uncontrolled fill.~~
- ~~(32) [Deleted] Require risk assessment prior to subdivision, use and development of land subject to instability.~~
- ~~(33) [Deleted] Locate and design subdivision, use and development first to avoid potential adverse effects arising from risks due to land instability hazards, and, if avoidance is not practicably able to be totally achieved, otherwise to remedy or mitigate residual risks and effects to people, property and the environment resulting from those hazards.~~

Landslide hazards – general

(33A) Manage activities sensitive to natural hazards and activities potentially sensitive to natural hazards associated with proposals to subdivide, use or develop land in medium (tolerable) landslide hazard risk areas so the risk is not increased and where practicable, is reduced to an acceptable level in accordance with Appendix 24 Landslide hazard risk assessment methodology.

(33B) Enable subdivision, use and development in low (acceptable) landslide hazard risk areas where these activities do not involve buildings or structures that exacerbate landslide hazard risk beyond the site in accordance with Appendix 24 Landslide hazard risk assessment methodology.

(33C) Minimise earthworks and vegetation alteration or removal in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas to ensure that the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology, including only allowing earthworks in these landslide hazard areas where:

- (a) the soil type and properties are appropriate; and
- (b) measures to maintain slope stability are practicably achievable and their ongoing management, maintenance and monitoring is provided for; and
- (c) adverse effects on stream health and stability are avoided; and
- (d) adverse effects on adjoining properties and infrastructure are avoided in the first instance, or otherwise minimised where avoidance is not reasonably practicable.

(33D) Manage earthworks and vegetation alteration or removal in medium landslide susceptibility assessment areas and medium (tolerable) landslide hazard risk areas so the resulting risk associated with the proposal is not increased and where practicable, is reduced to an acceptable level in accordance with Appendix 24 Landslide hazard risk assessment methodology, including managing earthworks in these landslide hazard areas to ensure:

- (a) the soil type and properties are appropriate; and
- (b) measures to maintain slope stability are practicably achievable and their ongoing management, maintenance and monitoring is provided for; and
- (c) adverse effects on stream health and stability are avoided; and
- (d) adverse effects on adjoining properties and infrastructure are avoided in the first instance, or otherwise minimised where avoidance is not reasonably practicable.

(33E) Avoid the discharge of stormwater and wastewater directly to ground in high landslide susceptibility assessment areas and high (significant) landslide hazard risk areas, and, if avoidance is not reasonably practicable in existing urbanised areas, ensure that:

- (a) the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology; and
- (b) any adverse effects on the site and receiving environment are avoided in the first instance, or otherwise remedied or mitigated where avoidance is not practicable in existing urbanised areas.

(33F) Manage the discharge of stormwater and wastewater directly to ground in medium landslide susceptibility assessment areas and medium (tolerable) landslide hazard risk areas to ensure:

- (a) the resulting risk associated with the proposal is reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology; and
- (b) any adverse effects on the site and receiving environment are avoided in the first instance, or otherwise remedied or mitigated where avoidance is not practicable in existing urbanised areas.

(33G) Manage the storage and containment of hazardous substances in high (significant) and medium (tolerable) landslide hazard risk areas so that the integrity of the storage method will not be compromised in a landslide event.

(33H) Manage accessways, including private roads and roads intended to be vested, in high (significant) and medium (tolerable) landslide hazard risk areas so that safe egress is provided where practicable, and landslide risks are reduced to as low as reasonably practicable in accordance with Appendix 24 Landslide hazard risk assessment methodology.

Landslide hazards – within existing urbanised areas

(33I) Avoid activities sensitive to natural hazards and activities potentially sensitive to natural hazards associated with proposals to subdivide, use or develop land in existing urbanised areas that give rise to high (significant) landslide hazard risk in accordance with Appendix 24 Landslide hazard risk assessment methodology, and, if avoidance is not reasonably practicable, reduce the risk to as low as reasonably practicable.

Landslide hazards – outside existing urbanised areas

(33J) Avoid activities sensitive to natural hazards and activities potentially sensitive to natural hazards associated with proposals to subdivide, use or develop land outside existing urbanised areas that give rise to high

(significant) landslide hazard risk in accordance with Appendix 24 Landslide hazard risk assessment methodology.

Wildfire hazards

- (34) ~~[Deleted] Ensure that plan provisions for subdivision and vegetation management appropriately take into account wildfire hazards.~~

~~Note 1~~

~~Areas of high wildfire risk may be determined applying the National Rural Fire Authority New Zealand Wildfire Threat Analysis.~~

Infrastructure in areas subject to natural hazards

- (35) ~~Allow~~ Enable for the construction, operation, maintenance, and upgrading ~~and construction~~ of infrastructure, in areas subject to natural hazards where ~~when~~:

- (a) infrastructure is functionally or operationally required to locate in hazard areas or it is not reasonably practicable that it be located elsewhere;
- (b) ~~[Deleted] in coastal hazard areas the infrastructure does not significantly increase risk to people, property and the environment, and where risks cannot be avoided, adverse effects are mitigated; and~~
- (c) ~~in all flood hazard areas~~ risks to people, property and the environment are mitigated to the extent practicable.
- (36) When considering the location and design of infrastructure in areas subject to natural hazards consider the potential to reduce natural hazard risks to Māori Land, Treaty Settlement land, marae, urupā, mana whenua cultural heritage and values.
- (37) Where practicable, avoid locating infrastructure where it will require coastal protection structures including nature-based solutions, within a 100-year timeframe or increase dependency on existing coastal protection structures.

E36.4. Activity tables

Tables E36.4.1A, E36.4.1B, E36.4.1C and E36.4.1D Activity tables specifies the activity status of land use and development activities pursuant to sections 9(2) and 9(3) of the Resource Management Act 1991.

Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017

If any activity listed in rules (including standards) E36.4.1A to E36.6.1 is regulated by the Resource Management (National Environmental Standard for Plantation Forestry) Regulations 2017 (“NESPf”) then the NESPf applies and prevails.

However, the NESPf allows the plan to include more restrictive rules in relation to one or more of the following:

- Significant Ecological Areas Overlay;
- Water Supply Management Areas Overlay;
- Outstanding Natural Character Overlay;
- High Natural Character Overlay;
- Outstanding Natural Landscapes Overlay;
- Outstanding Natural Features Overlay; or
- activities generating sediment that impact the coastal environment.

Where there is a rule in the plan that relates to any of the matters listed above then the plan rule will apply. In the event that there is any conflict between the rules in the plan and the NESPF in relation to any of the above, the most restrictive rule will prevail.

If the NESPF does not regulate an activity then the plan rules apply.

Note 1

Where activities are located in the coastal marine area then see Chapter F Coastal.

Note 2

Where earthworks are proposed in flood hazard and landslide hazard areas then see Chapter E12 Land disturbance – District.

Note 3

Where vegetation alteration or removal is proposed in landslide hazard areas then see Chapter E15 Vegetation management and biodiversity

Table E36.4.1 [Deleted] Activity table

Activity		Activity status
Activities on land in the coastal erosion hazard area		
(A1)	External alterations to buildings which do not increase the gross floor area of the building, on land in the coastal erosion hazard area	P
(A2)	External alterations to buildings which increase the gross floor area of the building on land in the coastal erosion hazard area	RD
(A3)	New structures and buildings (excluding dwellings) ancillary to farming activities with a gross floor area of up to 100m ² on land in the coastal erosion hazard area Note 1 Structures ancillary to farming activities includes artificial crop protection structures and crop support structures.	P
(A4)	All other buildings and structures on land in the coastal erosion hazard area	RD
(A5)	On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or soakage fields on land in the coastal erosion hazard area	RD
Activities on land in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area		

(A6)	External alterations to buildings which do not increase the gross floor area on land in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area	P
(A7)	External alterations to buildings which increase the gross floor area of the building on land in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area	RD
(A8)	New structures and buildings (excluding dwellings) ancillary to farming activities with a gross floor area of up to 100m ² on land in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area Note 1 Structures ancillary to farming activities includes artificial crop protection structures and crop support structures.	P
(A9)	All other buildings and structures on land in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area	RD
(A10)	On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or soakage fields on land in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area	RD
Activities on land in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1 m sea level rise area		
(A11)	Additions of habitable rooms up to 25m ² to existing buildings in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area	P
(A12)	Habitable rooms in new buildings and additions of habitable rooms (greater than 25m ²) to existing buildings in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area that comply with standard E36.6.1.1	P
(A13)	Habitable rooms in new buildings and additions of habitable rooms (greater than 25m ²) to existing buildings in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area that do not comply with Standard E36.6.1.1	D
Defences against coastal hazards		
(A14)	Beach nourishment	P
(A15)	Dune stabilisation	P
(A16)	Beach nourishment which does not comply with Standard E36.6.1.2	D
(A17)	Dune stabilisation which does not comply with Standard E36.6.1.3	D
(A18)	Modification, alteration or removal of sand dunes and vegetation on sand dunes within 40m of mean high water springs not otherwise provided for	D
(A19)	Repair, maintenance or minor upgrade (which does not increase the area occupied by the structure) of lawfully established hard protection structures landward of mean high water springs that may serve as a defence against coastal erosion or inundation	P
(A20)	Extension (including upgrading that increases the area occupied by the structure) or alteration of existing lawfully established hard protection structures	RD
(A21)	New hard protection structures located landward of the coastal protection yard that may serve as a defence against coastal erosion or inundation	RD
(A22)	Hard protection structures not otherwise provided for	D

Activities in the 1 per cent annual exceedance probability (AEP) floodplain		
(A23)	Fences and walls in the 1 per cent annual exceedance probability (AEP) floodplain	P
(A24)	Surface parking and above ground parking areas in the 1 per cent annual exceedance probability (AEP) floodplain, that comply with Standard E36.6.1.7	P
(A25)	Surface parking areas and above ground parking areas in the 1 per cent annual exceedance probability (AEP) floodplain, that do not comply with Standard E36.6.1.7	G
(A26)	Below ground parking or parking areas in the 1 per cent annual exceedance probability (AEP) floodplain	RD
(A27)	Maintenance, repair and construction of private roads and accessways in the 1 per cent annual exceedance probability (AEP) floodplain	P
(A28)	Storage of goods and materials in the 1 per cent annual exceedance probability (AEP) floodplain	P
(A29)	Storage of hazardous substances in the 1 per cent annual exceedance probability (AEP) floodplain	RD
(A30)	On-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) floodplain	RD
(A31)	Operation, maintenance, renewal, repair and minor infrastructure upgrading of land drainage works, stormwater management devices and flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain	P
(A32)	Construction of stormwater management devices or flood mitigation works that are to be vested in the Council or which are identified in a precinct plan incorporated into the Plan or an approved network discharge consent in the 1 per cent annual exceedance probability (AEP) floodplain	P
(A33)	Construction of other land drainage works, stormwater management devices or flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain	RD
(A34)	New structures and buildings (and external alterations to existing buildings) with a gross floor area up to 10m ² within the 1 per cent annual exceedance probability (AEP) floodplain that comply with standard E36.6.1.9	P
(A35)	New structures and buildings designed to accommodate flood tolerant activities up to 100m ² gross floor area within the 1 per cent annual exceedance probability (AEP) floodplain	P
(A36)	New structures and buildings (and external alterations to existing buildings) with a gross floor area up to 10m ² within the 1 per cent annual exceedance probability (AEP) floodplain that do not comply with standard E36.6.1.9	RD
(A37)	All other new structures and buildings (and external alterations to existing buildings) within the 1 per cent annual exceedance probability (AEP) floodplain	RD
(A38)	Use of new buildings to accommodate more vulnerable activities, and changes of use to accommodate more vulnerable activities within existing buildings located within the 1 per cent annual exceedance probability (AEP) floodplain	RD
Activities in overland flow paths		

(A39)	Fences and walls located within or over an overland flow path that do not obstruct the overland flow path	P
(A40)	Flood mitigation works within an overland flow path required to reduce the risk to existing buildings from flooding hazards	P
(A41)	Diverting the entry or exit point, piping or reducing the capacity of any part of an overland flow path	RD
(A42)	Any buildings or other structures, including retaining walls (but excluding permitted fences and walls) located within or over an overland flow path	RD
Activities on land which may be subject to land instability		
(A43)	Buildings and structures on land which may be subject to land instability that comply with Standard E36.6.1.11	P
(A44)	On-site septic tanks, onsite wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater soakage fields and access ways on land which may be subject to land instability that comply with Standard E36.6.1.12	P
(A45)	On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater soakage fields, on land which may be subject to land instability that do not comply with Standard E36.6.1.12	RD
(A46)	Storage of hazardous substances on land which may be subject to land instability	RD
(A47)	External alteration to any building, on land which may be subject to land instability which does not increase the gross floor area	P
(A48)	New structures and buildings (excluding dwellings) ancillary to farming activities with a gross floor area up to 100m ² on land which may be subject to land instability Note 1 Structures ancillary to farming activities includes artificial crop protection structures and crop support structures	P
(A49)	Alterations to existing structures and buildings (excluding dwellings) ancillary to farming activities which do not increase the gross floor area, on land which may be subject to land instability Note 1 Structures ancillary to farming activities includes artificial crop protection structures and crop support structures	P
(A50)	External additions to buildings and to any structures excluding decks under 1.2m high and 20m ² gross floor area on land which may be subject to land instability	RD
(A51)	All other buildings and structures, on land which may be subject to land instability not otherwise provided for	RD
Infrastructure: <ul style="list-style-type: none"> • in the coastal erosion hazard area; • in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area; • in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area; • in the 1 per cent annual exceedance probability (AEP) floodplain; • in overland flow paths • on land which may be subject to land instability 		

(A52)	Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in areas listed in the heading above that complies with Standard E36.6.1.13	P
(A53)	Construction, operation, maintenance, renewal and repair of road network activities within the legal road or road formation width in areas listed in the heading above	P
(A54)	Infrastructure within roads or the Strategic Transport Corridor Zone in areas listed in the heading above	P
(A55)	Operation, maintenance, renewal, repair and minor infrastructure upgrading of infrastructure in areas listed in the heading the above that do not comply with Standard E36.6.1.13	RD
(A56)	All other infrastructure in areas listed in the heading above not otherwise provided for	RD

Table E36.4.1A Activity table

Activity		Activity status		
		Very high flood hazard areas, high flood hazard areas, coastal erosion hazard area 1 and coastal inundation hazard area 1	Medium flood hazard areas, coastal erosion hazard area 2 and coastal inundation hazard area 2	Low flood hazard areas, coastal erosion hazard area 3 and coastal inundation hazard area 3
Activities on land in coastal hazard areas				
Use – coastal hazard areas				
(A57)	Activities where natural hazard risk is significant in accordance with Table E36.3.1B.1 and E36.3.1B.2 in coastal hazard areas	NC	NC	NC
(A58)	Activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in coastal hazard areas	N/A	D	RD
(A59)	Activities where natural hazard risk is acceptable in accordance with Table E36.3.1B.1 and E36.3.1B.2 in coastal hazard areas	P	P	P
(A60)	Surface parking and above ground parking areas (including vehicle entry and exit points) in coastal inundation hazard areas	D	RD	P
(A61)	Below ground parking (including vehicle entry and	D	RD	RD

	<u>exit points) in coastal inundation areas</u>			
(A62)	<u>Conversion of non-habitable rooms into habitable rooms within the ground or basement floor of a building in coastal hazard areas</u>	NC	D	RD
(A63)	<u>Storage of goods and materials in coastal hazard areas</u>	P	P	P
(A64)	<u>Storage of hazardous substances in coastal hazard areas</u>	D	P	P
(A65)	<u>Emergency services required to locate within coastal hazard areas</u>	RD	RD	RD
Re-building – coastal hazard areas [rp]				
(A66)	<u>Re-building of materially damaged or destroyed buildings in coastal hazard areas</u>	RD	RD	C
Development (excluding infrastructure covered by A103-A107) – coastal hazard areas				
(A67)	<u>Fences and walls for landscaping, privacy, or aesthetic purposes (excluding retaining walls and earth bunds) in coastal hazard areas</u>	P	P	N/A
(A68)	<u>On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (excluding above-ground domestic rainwater tanks) or stormwater pipes or soakage fields on land in the coastal hazard areas</u>	RD	RD	RD
(A69)	<u>Construction of private roads, roads intended to be vested, and accessways in coastal hazard areas</u>	RD	RD	RD
(A70)	<u>Domestic above-ground rainwater tanks in coastal hazard areas</u>	RD	P	P
(A71)	<u>External alterations to existing buildings (as existing at 03/11/25) which do not increase the gross</u>	P	P	P

	<u>floor area of the building in coastal hazard areas</u>			
(A72)	<u>External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in coastal hazard areas</u>	<u>RD</u>	<u>RD</u>	<u>P</u>
(A73)	<u>External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in coastal hazard areas</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
(A74)	<u>New structures and buildings (excluding dwellings) ancillary to farming activities with a gross floor area of up to 100m² in coastal hazard areas</u>	<u>RD</u>	<u>P</u>	<u>P</u>
(A75)	<u>New structures and buildings with a gross floor area up to 10m² in coastal hazard areas</u>	<u>RD</u>	<u>P</u>	<u>P</u>
(A76)	<u>All other external additions and alterations to structures and buildings in coastal hazard areas</u>	<u>D</u>	<u>RD</u>	<u>RD</u>
(A77)	<u>All other buildings and structures, including retaining walls and earth bunds, in coastal hazard areas</u>	<u>D</u>	<u>RD</u>	<u>RD</u>
<u>Activities on land in flood hazard areas</u>				
<u>Use – flood hazard areas</u>				
(A78)	<u>Activities where natural hazard risk is significant in accordance with Table E36.3.1B.1 and E36.3.1B.2 in flood hazard areas</u>	<u>NC</u>	<u>NC</u>	<u>NC</u>
(A79)	<u>Activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in flood hazard areas</u>	<u>N/A</u>	<u>D</u>	<u>RD</u>
(A80)	<u>Activities where natural hazard risk is acceptable in accordance with Table E36.3.1B.1 and</u>	<u>P</u>	<u>P</u>	<u>P</u>

	<u>E36.3.1B.2 in flood hazard areas</u>			
(A81)	<u>Surface parking and above ground parking areas (including vehicle entry and exit points) in flood hazard areas</u>	<u>D</u>	<u>RD</u>	<u>P</u>
(A82)	<u>Below ground parking (including vehicle entry and exit points) in flood hazard areas</u>	<u>D</u>	<u>RD</u>	<u>RD</u>
(A83)	<u>Storage of goods and materials in flood hazard areas</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A84)	<u>Storage of hazardous substances in flood hazard areas</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
(A85)	<u>Conversion of non-habitable rooms into habitable rooms within the ground or basement floor of a building in flood hazard areas</u>	<u>NC</u>	<u>D</u>	<u>RD</u>
Re-building – flood hazard areas [rp]				
(A86)	<u>Re-building of materially damaged or destroyed buildings in flood hazard areas</u>	<u>RD</u>	<u>RD</u>	<u>C</u>
Development (excluding infrastructure covered by A103-A107) – flood hazard areas				
(A87)	<u>Fences, earth bunds, and walls in flood hazard areas</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A88)	<u>Construction of private roads, roads intended to be vested, and accessways in flood hazard areas</u>	<u>RD</u>	<u>RD</u>	<u>P</u>
Development (excluding infrastructure covered by A103-A107) – 1 per cent AEP floodplain and flood prone areas				
(A89)	<u>On-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
(A90)	<u>Operation, maintenance, renewal, repair and minor infrastructure upgrading of land drainage works, stormwater management devices and flood mitigation works in the 1</u>	<u>P</u>	<u>P</u>	<u>P</u>

	<u>per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>			
(A91)	<u>Construction of stormwater management devices or flood mitigation works that are to be vested in the Council or which are identified in a precinct plan incorporated into the Plan or an approved network discharge consent in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A92)	<u>Construction of other land drainage works, stormwater management devices or flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
(A93)	<u>External alterations to existing buildings (as existing at 03/11/25) which do not increase the gross floor area of the building in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A94)	<u>External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>	<u>RD</u>	<u>RD</u>	<u>P</u>
(A95)	<u>External additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
(A96)	<u>New structures and</u>	<u>RD</u>	<u>RD</u>	<u>P</u>

	<u>buildings with a gross floor area up to 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>			
(A97)	<u>All other external additions and alterations to structures and buildings in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
(A98)	<u>All other structures and buildings (including retaining walls) in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
<u>Development (excluding infrastructure covered by A103-A107) – overland flow paths</u>				
(A99)	<u>Flood mitigation works within an overland flow path required to reduce the risk to existing buildings from flooding hazards</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A100)	<u>Any buildings or other structures located within an overland flow path with a catchment less than 4,000m²</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A101)	<u>Any buildings or other structures located within an overland flow path with a catchment greater than 4,000m²</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
(A102)	<u>Diverting the entry or exit point, piping or reducing the capacity of any part of an overland flow path</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>
<u>Infrastructure – flood and coastal hazard areas</u>				
(A103)	<u>Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in flood and coastal hazard areas that complies with Standard E36.6.1.13</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A104)	<u>Construction, operation, maintenance, renewal and repair of road network activities within the legal road or road formation</u>	<u>P</u>	<u>P</u>	<u>P</u>

	<u>width in flood and coastal hazard areas</u>			
(A105)	<u>Infrastructure within roads or the Strategic Transport Corridor Zone in flood and coastal hazard areas</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A106)	<u>Construction, operation, maintenance, renewal and repair of underground utilities within flood and coastal inundation hazard areas</u>	<u>P</u>	<u>P</u>	<u>P</u>
(A107)	<u>All other infrastructure in flood and coastal hazard areas not otherwise provided for</u>	<u>RD</u>	<u>RD</u>	<u>RD</u>

Table E36.4.1B Activity table

Activity	Activity status			
	High (significant) landslide hazard risk areas	Medium (tolerable) landslide hazard risk areas	Low (acceptable) landslide hazard risk areas	
Activities on land in landslide hazard risk areas				
Use – landslide hazard risk areas				
(A108)	<u>Storage of hazardous substances in landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>RD</u>	<u>P</u>	<u>P</u>
(A109)	<u>Storage of hazardous substances in landslide hazard risk areas that do not comply with Standard E36.6.A1</u>	<u>NC</u>	<u>RD</u>	<u>C</u>
Re-building – landslide hazard risk areas [rp]				
(A110)	<u>Re-building of materially damaged or destroyed buildings in landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>RD</u>	<u>RD</u>	<u>C</u>
(A111)	<u>Re-building of materially damaged or destroyed buildings in landslide hazard risk areas that do not comply with Standard E36.6.A1</u>	<u>NC</u>	<u>D</u>	<u>RD</u>
Development and associated use, where applicable (excluding infrastructure covered by Table E36.4.1C) – landslide hazard risk areas				

(A112)	<u>On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or soakage fields, accessways private roads and roads intended to be vested in landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>RD</u>	<u>P</u>	<u>P</u>
(A113)	<u>On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or soakage fields, accessways, private roads and roads intended to be vested in landslide hazard risk areas that do not comply with Standard E36.6.A1</u>	<u>D</u>	<u>RD</u>	<u>C</u>
(A114)	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) associated with activities potentially sensitive and less sensitive to natural hazards in low (acceptable) landslide hazard risk areas</u>	<u>N/A</u>	<u>N/A</u>	<u>P</u>
(A115)	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with activities sensitive to natural hazards in low (acceptable) landslide hazard risk areas and less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas</u>	<u>P</u>	<u>P</u>	<u>P</u>

(A116)	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>C</u>	<u>P</u>	<u>N/A</u>
(A117)	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u>	<u>RD</u>	<u>C</u>	<u>N/A</u>
(A118)	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with natural hazard sensitive activities in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>RD</u>	<u>C</u>	<u>N/A</u>
(A119)	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area up to 20m² associated with natural hazard sensitive activities in medium (tolerable) and high (significant) landslide hazard risk areas that do</u>	<u>D</u>	<u>RD</u>	<u>N/A</u>

	<u>not comply with Standard E36.6.A1</u>			
<u>(A120)</u>	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>P</u>	<u>P</u>	<u>N/A</u>
<u>(A121)</u>	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities less sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u>	<u>RD</u>	<u>C</u>	<u>N/A</u>
<u>(A122)</u>	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>RD</u>	<u>C</u>	<u>N/A</u>
<u>(A123)</u>	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor</u>	<u>D</u>	<u>RD</u>	<u>N/A</u>

	<u>area more than 20m² associated with activities potentially sensitive to natural hazards in medium (tolerable) and high (significant) landslide hazard risk areas that do not comply with Standard E36.6.A1</u>			
(A124)	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities sensitive to natural hazards in landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>RD</u>	<u>RD</u>	<u>P</u>
(A125)	<u>New structures and buildings and external additions and alterations to existing structures and buildings (as existing at 03/11/25) with a gross floor area more than 20m² associated with activities sensitive to natural hazards in landslide hazard risk areas that do not comply with Standard E36.6.A1</u>	<u>NC</u>	<u>D</u>	<u>C</u>
(A126)	<u>All other external additions and alterations to buildings and structures in landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>RD</u>	<u>P</u>	<u>P</u>
(A127)	<u>All other external additions and alterations to buildings and structures in landslide hazard risk areas that do not comply with Standard E36.6.A1</u>	<u>D</u>	<u>RD</u>	<u>C</u>
(A128)	<u>All other buildings and structures, including retaining walls, in landslide hazard risk areas that comply with Standard E36.6.A1</u>	<u>RD</u>	<u>P</u>	<u>P</u>
(A129)	<u>All other buildings and structures, including</u>	<u>D</u>	<u>RD</u>	<u>C</u>

	<u>retaining walls, in landslide hazard risk areas that do not comply with Standard E36.6.A1</u>			
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Table E36.4.1C Activity Table

Activity		Activity status		
		High landslide susceptibility assessment areas	Medium landslide susceptibility assessment areas	Low landslide susceptibility assessment areas
Infrastructure – landslide susceptibility assessment areas				
<u>(A130)</u>	<u>Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in landslide susceptibility assessment areas that complies with Standard E36.6.1.13</u>	<u>P</u>	<u>P</u>	<u>P</u>
<u>(A131)</u>	<u>Construction, operation, maintenance, renewal and repair of road network activities within the legal road or road formation width in landslide susceptibility assessment areas</u>	<u>P</u>	<u>P</u>	<u>P</u>
<u>(A132)</u>	<u>Infrastructure within roads or the Strategic Transport Corridor Zone in landslide susceptibility assessment areas</u>	<u>P</u>	<u>P</u>	<u>P</u>
<u>(A133)</u>	<u>All other infrastructure in landslide susceptibility assessment areas not otherwise provided for</u>	<u>RD</u>	<u>RD</u>	<u>P</u>

Table E36.4.1D Activity table

Activity		Activity status
Defences against coastal hazards		
<u>(A134)</u>	<u>Beach nourishment</u>	<u>P</u>
<u>(A135)</u>	<u>Dune stabilisation</u>	<u>P</u>
<u>(A136)</u>	<u>Beach nourishment which does not comply with Standard E36.6.1.2</u>	<u>D</u>
<u>(A137)</u>	<u>Dune stabilisation which does not comply with Standard E36.6.1.3</u>	<u>D</u>
<u>(A138)</u>	<u>Modification, alteration or removal of sand dunes and vegetation on sand dunes within 40m of mean high water springs not otherwise provided for</u>	<u>D</u>

(A139)	<u>Repair, maintenance or minor upgrade (which does not increase the area occupied by the structure) of lawfully established hard protection structures landward of mean high water springs that may serve as a defence against coastal erosion or inundation</u>	P
(A140)	<u>Extension (including upgrading that increases the area occupied by the structure) or alteration of existing lawfully established hard protection structures</u>	RD
(A141)	<u>New hard protection structures located landward of the coastal protection yard that may serve as a defence against coastal erosion or inundation</u>	RD
(A142)	<u>Hard protection structures not otherwise provided for</u>	D

E36.5. Notification

- (1) An application for resource consent for a controlled activity listed in Tables E36.4.1A and E36.4.1B Activity tables will be considered without public or limited notification or the need to obtain written approval from affected parties unless the Council decides that special circumstances exist under section 95A(9) of the Resource Management Act 1991.
- (2) Any application for resource consent for an activity listed in Tables E36.4.1A and E36.4.1B Activity tables and which is not listed in E36.5(1) will be subject to the normal tests for notification under the relevant sections of the Resource Management Act 1991.
- (3) When deciding who is an affected person in relation to any activity for the purposes of section 95E of the Resource Management Act 1991 the Council will give specific consideration to those persons listed in Rule C1.13(4).

E36.6. Standards

E36.6.A1 General standards

- (1) All activities (except activities (A108), (A114) and (A115)) listed as a permitted activity, controlled activity or restricted discretionary activity in Table E36.4.1B, must comply with the following standards by being undertaken in accordance with:
 - (a) geotechnical reports, prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) and approved or certified by Council when associated with a building consent or resource consent;
 - (b) hazard risk assessment reports prepared by a suitably qualified and experienced person in accordance with E36.9 and Appendix 24 Landslide hazard risk assessment methodology and approved or certified by Council when associated with a resource consent or compliant proposal to subdivide, use or develop land within a landslide hazard risk area; and

- (c) any conditions of a building consent, resource consent or consent notice registered on the land title(s) associated with the site(s) and relating to landslide risk and geotechnical assessment matters.

E36.6.1. Permitted activity standards

Activities listed as a permitted activity in Tables E36.4.1A, E36.4.1C and E36.4.1D Activity tables must comply with the specified permitted activity standards.

Activities in the coastal hazard areas coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1 m sea level rise area

E36.6.1.1. [Deleted] Habitable rooms in new buildings and additions of habitable rooms (greater than 25m³) to existing buildings in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area

- (1) Finished floor levels of habitable rooms must be above the inundation level of the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1 metre sea level rise area.

E36.6.1.1A. Activities where natural hazard risk is acceptable in accordance with Table E36.3.1B.1 and E36.3.1B.2 in coastal hazard areas

- (1) The risk from coastal hazards must not be exacerbated beyond the site.

E36.6.1.1B. Surface parking and above ground parking areas (including vehicle entry and exit points) in coastal inundation hazard areas

- (1) The parking areas including vehicle entry and exit points must be above the 1 per cent AEP inundation level taking into account 1.5m relative sea level rise.

E36.6.1.1C. Storage of goods and materials in coastal hazard areas; and storage of hazardous substances in coastal hazard areas

- (1) Goods and materials are secured and contained so as not to cause an environmental, public health or safety hazard during or after an event.

E36.6.1.1D. Fences and walls for landscaping, privacy, or aesthetic purposes in coastal hazard areas (excluding retaining walls and earth bunds)

- (1) The fence or wall must be constructed so that 80 per cent of the surface area will permit the unobstructed passage of tidal water, overland flow or stormwater drainage.
- (2) The fence or wall must not prevent the ebb and flow of the tide during storm events.
- (3) The fence or wall shall not be for erosion control or hazard mitigation.

- (4) The fence or wall must not incorporate footings, anchoring systems, steel reinforcement or other structural elements designed to withstand lateral earth pressure.

E36.6.1.1E. Domestic above-ground rainwater tanks in coastal hazard areas

- (1) The rainwater tank must be secured so that it cannot become mobile during a coastal inundation event.

Defences against coastal hazards

E36.6.1.2. Beach nourishment

- (1) Depositing must be for the purpose of:
- (a) erosion management;
 - (b) beach (including dune system) replenishment or re-contouring;
 - (c) habitat enhancement; or
 - (d) depositing of material excavated during stream mouth and stormwater outfall clearance operations.
- (2) Written advice must be given to the council at least 10 working days prior to the work starting.
- (3) Placement of sediment must avoid existing areas of indigenous vegetation and any bird nesting area.
- (4) The deposited material must have similar physical characteristics to the sediment at the location it will be deposited, and must generally be of slightly coarser grain size.
- (5) The deposited sediment must not permanently prevent or hinder public access or prevent or hinder the operation of any existing infrastructure.
- (6) There must be no release of contaminants from equipment being used for the activity.
- (7) All equipment and materials must be removed from the foreshore and seabed on the completion of works or activities.

E36.6.1.3. Dune stabilisation

- (1) Dune stabilisation must be for the purpose of:
- (a) erosion management;
 - (b) beach (including dune system) replenishment or re-contouring;
 - (c) habitat enhancement; or

- (d) depositing of material excavated during stream mouth and stormwater outfall clearance operations.
- (2) Written advice must be given to the Council at least 10 working days prior to the work starting.
- (3) Placement of sediment must avoid existing areas of indigenous vegetation and any bird nesting area.
- (4) The deposited sediment must not permanently prevent or hinder public access or prevent or hinder the operation of any existing infrastructure.
- (5) There must be no release of contaminants from equipment being used for the activity.
- (6) The reshaped dune toe must not extend seaward of the typical extent of the natural dune toe position, and the seaward slope must lie within the slope range of 1:5 (around 11 degrees) to 1:3 (around 18 degrees).
- (7) Any foreign material; including clay fill or soil material that has been placed on the dune must be removed and lawfully disposed off-site.
- (8) Works must be timed in accordance with favourable weather patterns and, where necessary, carried out in stages to enable planting work to commence immediately to minimise risk of wind erosion.
- (9) Planting of native vegetation must be sourced from the same ecological district and must use plants that are appropriate for the location considering dune form and function.

E36.6.1.4. The repair, maintenance or minor upgrade (which does not increase the area occupied by the structure) of lawfully established hard protection structures, landward of mean high water springs that may serve as a defence against coastal erosion or inundation

- (1) The work must maintain the structure or building in a good and safe working condition.
- (2) The work must not use materials which alter the form or external appearance of the structure in more than a minor way.
- (3) The work must not change the area occupied by the structure.

Activities in flood hazard areas ~~the 1 per cent annual exceedance probability (AEP) floodplain~~

E36.6.1.5. Fences, earth bunds, and walls in the 1 per cent annual exceedance probability (AEP) floodplain in flood hazard areas

- (1) Fences, earth bunds and walls in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas must be designed to

allow for the passage of flood waters ~~where those flood waters exceed 300mm in depth.~~

- (2) ~~[Deleted] Standard E36.6.1.5(1) above does not apply where the fence and wall design is controlled by a rule or standard elsewhere in the Plan.~~
- (3) Fences, earth bunds and walls located within an overland flow path must not obstruct the overland flow path.
- (4) Fences, earth bunds or walls must not exacerbate the depth, velocity or extent of flow of surface water beyond the subject site.

Note 1

The following fence designs would comply with Standard E36.6.1.5(1) Fences, earth bunds, and walls in the ~~1 per cent annual exceedance probability (AEP) floodplain~~ flood hazard areas:

- post and wire fences and wire mesh fences;
- railing type fences where at least 70 per cent of the surface area of the fence is not solid; or
- solid fences and walls with an opening of sufficient size at flood level that can convey the 1 per cent annual exceedance probability (AEP) flood flow or overland flow.

E36.6.1.6. Storage of goods and materials in flood hazard areas the ~~1 per cent annual exceedance probability (AEP) floodplain~~

- (1) Goods and materials stored in the ~~1 per cent annual exceedance probability (AEP) floodplain~~ flood hazard areas for longer than 28 consecutive days must:
 - (a) not impede flood flows; and
 - (b) where capable of creating a safety hazard by being shifted by floodwaters, be contained and secured in order to minimise movement in times of floods; and
 - (c) be stored in watertight containers if they are hazardous substances.

E36.6.1.6A. External alterations to existing buildings (as existing at 03/11/25) which do not increase the gross floor area of the building in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas; and external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas

- (1) External additions and alterations must not impede flood flows or exacerbate the depth, velocity or extent of flow of surface water beyond the subject site.

E36.6.1.6B. New structures and buildings with a gross floor area of up to 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas

- (1) The structure or building must not impede flood flows or exacerbate the depth, velocity or extent of flow of surface water beyond the subject site.

~~E36.6.1.7. [Deleted] Surface parking areas and above ground parking areas within the 1 per cent annual exceedance probability (AEP) flood plain~~

- ~~(1) Surface parking areas and vehicle entry and exit points to above ground parking areas in the 1 per cent annual exceedance probability (AEP) floodplain must be located where the depth of flood waters in a 1 per cent annual exceedance probability (AEP) event does not exceed 200mm above ground level.~~

~~E36.6.1.8. [Deleted] Maintenance, repair and construction of private roads and accessways in the 1 per cent annual exceedance probability (AEP) floodplain~~

- ~~(1) Where the road or accessway serves more than two lots, the road or accessway is to be located where the depth of flood waters in a 1 per cent annual exceedance probability (AEP) event does not exceed 200mm above ground level.~~

~~E36.6.1.9. [Deleted] New structures and buildings with a gross floor area of up to 10m² within the 1 per cent annual exceedance probability (AEP) floodplain~~

- ~~(1) The structure or building is to be located where the depth of flood waters in a 1 per cent annual exceedance probability (AEP) event does not exceed 300mm above ground level.~~

Activities in overland flow paths

~~E36.6.1.10. [Deleted] Fences and walls located within or over an overland flow path that do not obstruct the overland flow path~~

- ~~(1) Any ponding of floodwater caused by any fence or wall must not extend beyond (upstream of or adjacent to) the site.~~
- ~~(2) Standard E36.6.1.10(1) above does not apply where the fence and wall design is controlled by a rule or standard elsewhere in the Plan.~~

Note 4

The following fence designs would comply with Standard E36.6.1.10(1) above:

- (a) ~~post and wire fences and wire mesh fences;~~
- (b) ~~railing type fences where at least 70 per cent of the surface area of the fence is not solid; or~~
- (c) ~~solid fences and walls with an opening at ground level sufficient to convey the overland flow.~~

Activities on land which may be subject to land instability

E36.6.1.11. [Deleted] Buildings and structures on land which may be subject to land instability

- (1) ~~Buildings and structures located on land which may be subject to land instability must be constructed in accordance with:~~
 - (a) ~~a geotechnical completion report or similar professional report, approved by Council; and~~
 - (b) ~~any conditions of resource consent or subdivision consent associated with the site relating to stability or geotechnical matters.~~

E36.6.1.12. [Deleted] On-site septic tanks, on-site wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater soakage fields and accessways on land which may be subject to land instability

- (1) ~~On-site septic tanks, on-site wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater soakage fields and accessways on land which may be subject to land instability must be constructed in accordance with:~~
 - (a) ~~a geotechnical completion report or similar professional report, approved or endorsed by Council; and~~
 - (b) ~~any conditions of resource consent or subdivision consent associated with the site relating to stability or geotechnical matters.~~

Infrastructure:

- ~~in the coastal erosion hazard area;~~
- ~~in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area;~~
- ~~in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area;~~
- ~~in the 1 per cent annual exceedance probability (AEP) floodplain;~~
- ~~in overland flow paths and~~
- ~~on land which may be subject to land instability~~
- in flood hazard areas
- in coastal hazard areas and

- in landslide susceptibility assessment areas

E36.6.1.13. Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in areas listed in the heading above

(1) Minor infrastructure upgrading of infrastructure must comply with the following (where relevant):

(a) minor re-alignment, configuration, relocation or replacement of electricity, gas distribution, or telecommunication line, pipe, pole, conductors, cross arms, switches, transformers, cabinets or ancillary structures:

- (i) that is within 2m of the existing alignment or location; or
- (ii) that is within 5m of the existing alignment or location when associated with road widening reasons or road safety or electricity clearance reasons.

(b) alterations and additions to overhead electricity and telecommunication lines on existing poles:

- (i) do not increase the number of conductors or wires/lines by more than 100 per cent; or
- (ii) when installing a new low voltage circuit on an existing pole, the total number of new conductors or wires/lines must not exceed 8, consisting specifically of 4 lines for electricity circuit, 1 hot water pilot line, 1 street light line, and 2 for telecommunication purposes. Where the hot water pilot and street light lines are not required, the maximum number of new conductors must not exceed 6;
- (iii) the provisions in E36.6.1.13(b)(i) and (ii) above exclude service connections and lateral network connections;
- (iv) include additional cross arms that do not exceed the length of the existing cross arm by more than 100 per cent, up to a maximum of 4m;
- (v) additional or replacement electricity and telecommunication lines that do not exceed 30mm in diameter;

(c) the addition or replacement of:

- (i) earthwires, either overhead or underground, and underground earthgrids, which may contain telecommunication lines, and earthpeaks; or
- (ii) above-ground insulators on the poles;

- (d) any pole which replaces an existing pole provided that:
 - (i) it must not have a diameter or width that is more than the existing pole's diameter or width at its largest point plus 50 per cent and in the case of double pole 100 per cent, and
 - (ii) it must not have a height greater than 25m;
- (e) modification of an existing pole:
 - (i) only where the mechanical loading requirements make this necessary in order to undertake reconductoring or the reconfiguration of equipment, such as stay wires, anchor blocks, on overhead electricity and telecommunication lines; or
 - (ii) when modifications to structures are required to meet mechanical loading requirements provided that the height and profile of any modified support structures remains the same as existed prior to the improvements;
- (f) the installation of new mid-span electricity poles in existing networks to address clearances in New Zealand Electrical Code of Practice for Electrical Safe Distances NZECP 34:2001;
- (g) an increase in the power carrying or operating capacity, efficiency or security of electricity lines, gas distribution lines and telecommunications lines, where this uses the existing network utility and meets the requirements of E36.6.1.13(c) to (f) above;
- (h) the alteration, replacement or relocation of water, wastewater or stormwater structures (excluding pipes):
 - (i) there must be no more than a 10 per cent increase in the width, length and/or height of the structure;
 - (ii) the structure must be located within the 2m of existing alignment or location;
 - (iii) must not involve a new or relocated outfall structure that discharges to an area outside the influence of the current outfall structure;
- (i) the alterations or replacement of water, wastewater, stormwater, gas pipes provided that:
 - (i) above ground pipes must not exceed 300mm increase in diameter of the pipe;
 - (ii) underground pipes must not exceed a 50 per cent increase in the diameter of the pipe;

- (j) the replacement of any antennae with a new antenna provided that the new antenna does not exceed the maximum dimension of the antenna, or the diameter where it is a dish antenna, by more than 20 per cent, and the overall height of the facility to which the antenna is attached either does not increase or that any height increase is as a result of the antenna size increase only.

E36.6.2. [Deleted] Controlled activity standards

Activities listed as a controlled activity in Table E36.4.1 Activity table must comply with the specified controlled activity standards.

E36.6.2.1. [Deleted] Surface parking areas and above ground parking areas in the 1 per cent annual exceedance probability (AEP) floodplain that do not comply with Standard E36.6.1.7

- (1) Surface parking areas and above ground parking areas (excluding parking on roads) within the 1 per cent annual exceedance probability (AEP) floodplain:
 - (a) must be located where depth of flood waters in a 1 per cent annual exceedance probability (AEP) event does not exceed 500mm above ground level; and
 - (b) vehicles can be contained within the site during the flood event.

E36.7. Assessment – controlled activities

E36.7.1. Matters of control

The Council will reserve its control to all the following matters when assessing a controlled activity resource consent application:

- (1) [Deleted] for surface parking areas and above ground parking areas (excluding parking on roads) in the 1 per cent annual exceedance probability (AEP) floodplain:
 - (a) the effects of the location and design of parking;
 - (b) actions necessary to protect people in flood events; and
 - (c) the design of containment structures.
- (2) for the re-building of materially damaged or destroyed buildings in coastal erosion hazard area 3 and coastal inundation hazard area 3; for the re-building of materially damaged or destroyed buildings in low flood hazard areas; and for the re-building of materially damaged or destroyed buildings in low (acceptable) landslide hazard risk areas that comply with Standard E36.6.A1:
 - (a) the location, design and use of the re-build;

- (b) the risk from natural hazards resulting from the re-build and the level of risk in comparison to the previous natural hazard risk to both the building and use of the building on the site;
- (c) measures to reduce natural hazard risk to the re-build;
- (d) measures to avoid creating or exacerbating natural hazard risks on other property resulting from the re-build
- (3) for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or stormwater soakage fields, accessways, private roads and roads intended to be vested in low (acceptable) landslide hazard risk areas that do not comply with E36.6.A1:
 - (a) the likely effect of landslides on the design, location and functioning of the structure; and
 - (b) measures to avoid creating or exacerbating natural hazard risks and associated adverse effects to people, property and the environment, including all of the following:
 - (i) risk to public health and safety and groundwater quality;
 - (ii) impacts on landscape values and public access associated with the proposed activity including a need for hard protection structures or increased dependency on existing hard protection structures required to protect accessways and roads from landside hazard risks;
 - (iii) the management or regulation of other people and property required to mitigate landslide hazard risks resulting from the location of the accessway or road;
 - (iv) the use of non-structural solutions instead of hard engineering solutions;
 - (v) the ability to relocate or remove structures;
 - (vi) effects on mana whenua cultural heritage and values;
 - (vii) effects on Māori Land and Treaty Settlement land;
 - (viii) methods provided to manage activities and uses within the site, including safe egress from the site; and
 - (ix) the extent of any associated earthworks and/or vegetation alteration or removal
- (4) all other controlled activities in landslide hazard risk areas:
 - (a) the type of activity being undertaken and its sensitivity to the potential effects of landslides;

- (b) the consequences of the potential effects of landslides in relation to potentially sensitive and sensitive activities;
- (c) the possible effects on public safety and other property resulting from the proposed development or activity;
- (d) the likelihood of a hazard arising from a landslide and the likely extent of any damage;
- (e) measures to avoid creating or exacerbating landslide hazard risks and associated adverse effects to people, property and the environment;
- (f) the effects of the location of the structures or building platforms;
- (g) the effects on landscape values, associated earthworks and land form modifications;
- (h) the methods provided to manage activities and uses within the site, including the provision of safe egress from buildings and structures and the management of people and property;
- (i) the ability to relocate buildings or structures within a landslide hazard risk area, including the proposed duration of occupation of the structures or building;
- (j) the ability to design, construct and maintain buildings or structures so that they are resilient to landslide hazards
- (k) the effects on mana whenua cultural heritage and values; and
- (l) the effects on Māori Land, Treaty Settlement land, marae, and urupā.

E36.7.2. Assessment criteria

The Council will consider the relevant assessment criteria for controlled activities from the list below:

- (1) ~~[Deleted] for surface parking areas and above ground parking areas (excluding parking on roads) in the 1 per cent annual exceedance probability (AEP) floodplain:~~
 - (a) ~~the adequacy of the site design to contain vehicles displaced by flood waters within the site;~~
 - (b) ~~whether actions are necessary to ensure that people will not be placed in danger during a flood event when parking or retrieving vehicles; and~~
 - (c) ~~the extent to which the containment structures will not result in increased flood hazards upstream or downstream through blockage or displacement of flood waters.~~

- (2) for the re-building of materially damaged or destroyed buildings in coastal erosion hazard area 3 and coastal inundation hazard area 3; for the re-building of materially damaged or destroyed buildings in low flood hazard areas; and for the re-building of materially damaged or destroyed buildings in low (acceptable) landslide hazard risk areas that comply with Standard E36.6.A1:
 - (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B) and E36.3(4D).
- (3) for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or stormwater soakage fields, accessways, private roads and roads intended to be vested in low (acceptable) landslide hazard risk areas that do not comply with E36.6.A1:
 - (a) the extent to which the structure is necessary to provide for the proposed use or development
 - (b) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(33E) and E36.3(33F).
- (4) all other controlled activities in landslide hazard risk areas:
 - (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4E), and E36.3(33A)

E36.8. Assessment – restricted discretionary activities

E36.8.1. Matters of discretion

The Council will restrict its discretion to the following matters when assessing a restricted discretionary resource consent application:

Activities in the coastal erosion hazard area

- (1) ~~[Deleted] for external alterations to existing buildings which increase the gross floor area of the building in the coastal erosion hazard area; for all other buildings and structures in the coastal erosion hazard area; and for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater pipes or soakage fields in the coastal erosion hazard area:~~
 - (a) ~~the type of activity being undertaken and its vulnerability to natural hazard events including the consequences of a natural hazard event in relation to more or less vulnerable activities;~~
 - (b) ~~the likelihood of a natural hazard event occurring and the likely extent of any damage to people, property or the environment taking in to account the likely effects of climate change, including sea level rise;~~
 - (c) ~~the effects on public access, landscape and other environmental values, caused by any works proposed in association with the building or~~

~~structure, including any associated earthworks and land form modifications, to address the hazard by way of mitigation; and~~

- ~~(d) the ability to relocate buildings or structures including the proposed duration of occupation of the building or structure within a hazard area, taking into account the long term likely effects of climate change.~~

All restricted discretionary activities

(1A) for all restricted discretionary activities:

- (a) effects on Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values

Activities in coastal hazard areas the coastal storm inundation 1 per cent annual exceedance probability (AEP) area

- ~~(2) [Deleted] for external alterations to existing buildings which increase the gross floor area of the building in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area; for all other buildings and structures in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area; for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater pipes or soakage fields in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area:~~

- ~~(a) the type of activity being undertaken and its vulnerability to natural hazard events including the consequences of a natural hazard event in relation to more or less vulnerable activities;~~
- ~~(b) the likelihood of a natural hazard event occurring and the likely extent of any damage to people, property or the environment taking in to account the likely effects of climate change, including sea level rise;~~
- ~~(c) the effects on public access, landscape and other environmental values, caused by any works proposed in association with the building or structure, including any associated earthworks and land form modifications, to address the hazard by way of mitigation; and~~
- ~~(d) the ability to relocate buildings or structures including the proposed duration of occupation of the building or structure within a hazard area, taking into account the long term likely effects of climate change.~~

(2A) for activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in coastal erosion hazard area 3 and coastal inundation hazard area 3:

- (a) type of activity being undertaken and its sensitivity to natural hazard events including the consequences of a natural hazard event;

- (b) the possible effects on public safety and other property resulting from the proposed development or activity;
 - (c) the effects on landscape values, associated earthworks and land form modifications;
 - (d) the effects on public access;
 - (e) the methods provided to manage activities and uses within the site, including safe egress from buildings and structures or and the site and the management of people and property during a coastal hazard event;
 - (f) any exacerbation of an existing coastal hazard or creation of a new coastal hazard as a result of the proposed activity or development and possible effects on public safety and other property;
 - (g) the proposed use of, necessity for and design of hard engineering solutions to mitigate the hazard;
 - (h) the ability to relocate buildings or structures, including the proposed duration of occupation of the buildings or structures, taking into account the long term likely effects of climate change; and
 - (i) the ability to design, construct and maintain buildings or structures so that they are resilient to the effects of the hazard
- (2B) for surface parking areas and above ground parking areas (including vehicle entry and exit points) in coastal inundation hazard area 2:
- (a) the location and design of parking;
 - (b) actions necessary to protect people in an inundation event; and
 - (c) the design of containment structures
- (2C) for below ground parking in the coastal inundation hazard areas 2 and 3:
- (a) the effects of the location and design of below ground parking;
 - (b) the structural integrity of the below ground parking building or structure;
 - (c) the location of the vehicle entry and exit points in relation to the coastal inundation hazard area;
 - (d) the potential effects of vehicles being mobilised by inundation waters;
 - (e) actions necessary to protect people in an inundation event; and
 - (f) the design of containment structures.
- (2D) for the conversion of non-habitable rooms into habitable rooms within the ground floor or basement of a building in coastal erosion hazard area 3 and coastal inundation hazard area 3:

- (a) the type of activity being undertaken and its sensitivity to natural hazard events including the consequences of a natural hazard event; and
 - (b) the methods provided to manage safe egress from the building and/or refuge during and after a coastal hazard event.
- (2E) for emergency services required to locate within coastal hazard areas:
- (a) the extent to which natural hazard risk to human life can be avoided, remedied or mitigated;
 - (b) the ability to design, construct and maintain buildings or structures so that they are resilient to coastal hazards, including the ability to relocate in the future
- (2F) for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (excluding above-ground domestic rainwater tanks) or stormwater pipes or soakage fields on land in the coastal hazard areas:
- (a) the design of the device including inundation proofing;
 - (b) the potential risk to public health; and
 - (c) the potential release of contaminants into water.
- (2G) for the construction of private roads, roads to be vested and accessways in coastal hazard areas:
- (a) the location and design of the road or accessway;
 - (b) actions necessary to protect people in coastal hazard events; and
 - (c) the design of containment structures
- (2H) for domestic above-ground rainwater tanks in coastal erosion hazard area 1 and coastal inundation hazard area 1:
- (a) the potential environmental and safety risks resulting from the tank becoming mobile
- (2I) for external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in coastal erosion hazard areas 1 and 2 and coastal inundation hazard areas 1 and 2; and external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in coastal hazard areas:
- (a) the extent to which the additions or alterations reduce natural hazard risks on the site and/or its surrounds;
- (2J) for new structures and buildings (excluding dwellings) ancillary to farming activities with a gross floor area of up to 100 m²; and new structures and

buildings with a gross floor area up to 10m² in coastal erosion hazard area 1 and coastal inundation hazard area 1:

- (a) the effects of the location of the structures and building platforms;
- (b) the effects of coastal hazards on the structural integrity of a building or structure;
- (c) the effects of storage of outdoor goods and materials;
- (d) the effects of the location and design of roads, accessways and parking areas;
- (e) the extent of any associated earthworks;
- (f) the effects of potential changes in coastal hazard extent and frequency on adjoining sites, from the buildings and structures;
- (g) the extent to which methods for maintenance of areas affected by coastal hazards, such as easements, are provided in the long term;
- (h) the effects of the use of spaces under buildings; and
- (i) the effects on the operational or functional needs of network utilities, marine and port activities and electricity generation activities.

(2K) for all other external additions and alterations to buildings in coastal erosion hazard areas 2 and 3 and coastal inundation hazard areas 2 and 3; and all other buildings and structures, including retaining walls and earth bunds, in coastal erosion hazard areas 2 and 3 and coastal inundation hazard areas 2 and 3:

- (a) the type of activity being undertaken and its sensitivity to natural hazard events including the consequences of a natural hazard event;
- (b) the likelihood of a natural hazard event occurring and the likely extent of any damage to people, property or the environment
- (c) the effects on public access, landscape and other environmental values, caused by any works proposed in association with the building or structure, including any associated earthworks and land form modifications, to address the hazard by way of mitigation; and
- (d) the ability to relocate buildings or structures including the proposed duration of occupation of the building or structure within a hazard area

Defences against coastal hazards

- (3) for the extension (including upgrading that increases the area occupied by the structure) or alteration of existing lawfully established hard protection structures; and for new hard protection structures, located landward of the

coastal protection yard that may serve as a defence against coastal erosion or inundation:

- (a) any relevant management strategy, strategic plan or hazard risk assessment relating to the area where hard protection structures are proposed, including the ability to relocate buildings, structures, infrastructure or land uses which the structure is designed to protect;
- (b) effects on coastal processes, ecological values, landscape values and visual amenity;
- (c) effects on public access and safety;
- (d) effects on existing uses and activities (including other infrastructure);
- (e) consent duration and monitoring;
- (f) the operational or functional need for the structure;
- (g) the design, location and construction including:
 - (i) the ability to locate the structure as far landward as practicable from mean high water springs;
 - (ii) the ability to use, retain or enhance natural defences non-structural solutions in place of hard protection structures;
 - (iii) the ongoing management, maintenance and monitoring of structures;
 - (iv) construction or works methods, timing and hours of construction, including any associated earthworks; and
 - (v) location, design and materials.

(3A) for the re-building of materially damaged or destroyed buildings in:

- coastal inundation hazard area 1 and 2;
 - coastal erosion hazard area 1 and 2;
 - very high, high and medium flood hazard areas; and
 - high (significant) and medium (tolerable) landslide hazard risk areas complying with Standard E36.6.A1 and low (acceptable) landslide hazard risk areas not complying with Standard E36.6.A1
- (a) the location, design and use of the re-build;
 - (b) the risk from natural hazards resulting from the re-build and the level of risk in comparison to the previous natural hazard risk to both the building and use of the building on the site;
 - (c) measures to reduce natural hazard risk to the re-build; and
 - (d) measures to avoid creating or exacerbating natural hazard risks on other property resulting from the re-build.

Activities in flood hazard areas the 1 per cent annual exceedance probability (AEP) flood plain

- (4) for fences, earth bunds and walls in the ~~1 per cent annual exceedance probability (AEP) floodplain~~ flood hazard areas that do not comply with Standard E36.6.1.5:
 - (a) the design of the fence or wall;
 - (aa) any obstruction of flows, including changes to location and capacity of overland flow paths;
 - (b) the effects on flood depth and velocity from the blocking or channelling of water; and
 - (c) the effects of the flood hazard within and beyond the site ~~and on other properties upstream or downstream of the site.~~
- (4A) for the construction of private roads, roads intended to be vested and accessways in very high, high and medium flood hazard areas:
 - (a) the location and design of the road or accessway;
 - (b) actions necessary to protect people in flood events; and
 - (c) the design of containment structures.
- (4B) for surface parking areas and above ground parking areas (including vehicle entry and exit points) in medium flood hazard areas:
 - (a) the location and design of parking;
 - (b) actions necessary to protect people in flood events; and
 - (c) the design of containment structures.
- (5) for below ground parking ~~or parking areas~~ in the ~~1 per cent annual exceedance probability (AEP) floodplain~~ medium and low flood hazard areas:
 - (a) [Deleted] ~~the effects of the location of the structures and building platforms;~~
 - (b) [Deleted] ~~the effects of flood hazards on the structural integrity of a building or structure;~~
 - (c) [Deleted] ~~the effects of storage of outdoor goods and materials;~~
 - (d) [Deleted] ~~the effects of the location and design of roads, accessways and parking areas;~~
 - (e) [Deleted] ~~the extent of any associated earthworks;~~

- (f) ~~[Deleted] the effects of potential changes in flood depth, velocity and frequency on adjoining sites, including upstream and downstream from buildings and structures;~~
 - (g) ~~[Deleted] the extent to which methods for long term maintenance of areas affected by flooding, such as easements, are provided;~~
 - (h) ~~[Deleted] the effects of the use of spaces under buildings; and~~
 - (i) ~~[Deleted] the effects on the operational or functional needs of network utilities, marine and port activities and electricity generation activities.~~
 - (j) the structural integrity of the below ground parking building or structure;
 - (k) the location of the vehicle entry and exit points in relation to the flood hazard area;
 - (l) the potential effects of vehicles being mobilised by floodwaters;
 - (m) actions necessary to protect people in flood events; and
 - (n) the design of containment structures.
- (6) for the storage of hazardous substances in the ~~1 per cent annual exceedance probability (AEP) floodplain~~ flood hazard areas:
- (a) the location, design and management of facilities where hazardous substances are stored, used or disposed;
 - (b) the potential risk to public health and the environment; and
 - (c) the potential contamination of water.
- (7) for on-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) flood plain and flood prone areas:
- (a) the design of the device including flood proofing;
 - (b) the potential risk to public health; and
 - (c) the potential contamination of groundwater.
- (8) for the construction of other land drainage works, stormwater management devices and flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas:
- (a) the effects that the flooding may have on the function of the device including the potential mobilisation of accumulated contaminants.
- (9) for external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in very high, high and medium flood hazard areas for the 1 per cent annual exceedance

probability (AEP) floodplain and flood prone areas; for external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas; for new structures and buildings (and external alterations to existing buildings) with a gross floor area up to 10m² within very high, high and medium flood hazard areas for the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas that do not comply with standard E36.6.1.9; for all other external additions and alterations to buildings in the 1 per cent annual exceedance probability (AEP) flood plain and flood prone areas; and for all other structures and buildings (and external alterations to existing buildings including retaining walls) within the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas:

- (a) the effects of the location of the structures and building platforms;
 - (b) the effects of flood hazards on the structural integrity of a building or structure;
 - (c) the effects of storage of outdoor goods and materials;
 - (d) the effects of the location and design of roads, accessways and parking areas;
 - (e) the extent of any associated earthworks;
 - (f) the effects of potential changes in flood depth, velocity and frequency on adjoining sites, including upstream and downstream from buildings and structures;
 - (g) the extent to which methods for long term maintenance of areas affected by flooding, such as easements, are provided;
 - (h) the effects of the use of spaces under buildings; and
 - (i) the effects on the operational or functional needs of network utilities, marine and port activities and electricity generation activities.
- (10) [Delete] ~~for use of new buildings to accommodate more vulnerable activities, and changes of use to accommodate more vulnerable activities within existing buildings located within the 1 per cent annual exceedance probability (AEP) floodplain:~~
- ~~(a) the type of activity being undertaken and its vulnerability sensitivity to flood events;~~
 - ~~(b) the likelihood and consequences of a flood event in relation to more vulnerable activities;~~
 - ~~(c) the possible effects on public safety and other property resulting from the proposed development or activity;~~

- ~~(d) the effects on landscape values, associated earthworks and land form modifications;~~
- ~~(e) the effects on public access;~~
- ~~(f) the methods provided to manage activities and uses within the site, including safe egress from buildings and structures or the site and the management of people and property during a flood event;~~
- ~~(g) any exacerbation of an existing flood hazard or creation of a new flood hazard as a result of the proposed activity or development and possible effects on public safety and other property;~~
- ~~(h) the proposed use of, necessity for and design of hard engineering solutions to mitigate the hazard;~~
- ~~(i) the ability to relocate buildings or structures, including the proposed duration of occupation of the buildings or structures, taking into account the long term likely effects of climate change; and~~
- ~~(j) the ability to design, construct and maintain buildings or structures so that they are resilient to the effects of the hazard.~~

(10A) for activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in low flood hazard areas:

- (a) the type of activity being undertaken and its sensitivity to flood events;
- (b) the likelihood and consequences of a flood;
- (c) the possible effects on public safety and other property resulting from the proposed development or activity;
- (d) the effects on landscape values, associated earthworks and land form modifications;
- (e) the effects on public access;
- (f) the methods provided to manage activities and uses within the site, including safe egress from buildings and structures or the site and the management of people and property during a flood event;
- (g) any exacerbation of an existing flood hazard or creation of a new flood hazard as a result of the proposed activity or development and possible effects on public safety and other property;
- (h) the proposed use of, necessity for and design of hard engineering solutions to mitigate the hazard;

- (i) the ability to relocate buildings or structures, including the proposed duration of occupation of the buildings or structures, taking into account the long term likely effects of climate change; and
- (j) the ability to design, construct and maintain buildings or structures so that they are resilient to the effects of the hazard.

(10B) for the conversion of non-habitable rooms into habitable rooms within the ground or basement floor of a building in low flood hazard areas:

- (a) the type of activity being undertaken and its sensitivity to natural hazard events including the consequences of a natural hazard event; and
- (b) the methods provided to manage safe egress from the building and/or refuge during and after a flood event.

Activities in overland flow paths

~~(11) [Deleted] for fences and walls in the 1 per cent annual exceedance probability (AEP) floodplain that do not comply with Standard E36.6.1.10:~~

- ~~(a) the design of the fence or wall;~~
- ~~(b) the potential impacts on the overland flow path including all of the following:~~
 - ~~(vi) the obstruction of flows;~~
 - ~~(vii) any change to location and capacity;~~
 - ~~(viii) any changes in depth and velocity of flow; and~~
 - ~~(ix) any change to overland flow on the site and on other properties upstream or downstream of the site.~~

(12) for diverting the entry or exit point, piping or reducing the capacity in any part of an overland flow path:

- (a) the potential impacts on the overland flow path including:
 - (i) the obstruction of flows; and
 - (ii) any change to location and capacity; and
 - (iii) any changes in depth and velocity of flow; and
 - (iv) any change to overland flow on other properties.
- (b) the provision of alternative overland flow paths;
- (c) the extent of any associated earthworks; and

- (d) the extent to which methods for long term maintenance of areas affected by flooding, such as easements, are provided.
- (13) for any buildings or structures ~~including retaining walls (but excluding permitted fences and walls)~~ located within an overland flow path with a catchment greater than 4,000m²:
- (a) the effects of flooding on the activity proposed, including whether it is a natural hazard sensitive, potentially sensitive or less sensitive ~~more or less vulnerable~~ activity;
 - (b) the effects on the location of habitable rooms;
 - (c) the design of the building and how it provides for safe access and the potential effects of flood hazards on chosen access routes; and
 - (d) the effects on people during a flood event and the ability to avoid, remedy or mitigate these.

Activities on land which may be subject to land instability

- (14) ~~[Deleted] for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater soakage fields on land which may be subject to land instability that do not comply with permitted activity Standard E36.6.1.12:~~
- ~~(a) the likely effect of land instability on the design, location and functioning of the device;~~
 - ~~(b) the potential risk to public health; and~~
 - ~~(c) the potential for contamination of groundwater.~~
- (15) ~~[Deleted] for the storage of hazardous substances on land which may be subject to land instability:~~
- ~~(a) the likely effect of land instability on the design, location and management of facilities where hazardous substances are stored, used or disposed; and~~
 - ~~(b) the potential risk to public health.~~
- (16) ~~[Deleted] for external additions to buildings and to any structures excluding decks under 1.2m high and 20m² gross floor area on land which may be subject to instability; and for all other buildings and structures on land which may be subject to land instability not otherwise provided for:~~
- ~~(a) the type of activity being undertaken and its vulnerability to the potential effects of land instability;~~
 - ~~(b) the consequences of the potential effects of land instability in relation to more vulnerable activities;~~

- ~~(c) the possible effects on public safety and other property resulting from the proposed development or activity;~~
 - ~~(d) the likelihood of a hazard arising from unstable land event and the likely extent of any damage;~~
 - ~~(e) the effects on landscape values, associated earthworks and land form modifications;~~
 - ~~(f) the methods provided to manage activities and uses within the site, including safe egress from buildings and structures and the management of people and property during a hazard event;~~
 - ~~(g) any exacerbation of an existing land instability hazard or creation of a new land instability hazard as a result of the proposed activity or development and possible effects on public safety and other property;~~
 - ~~(h) the proposed use of, necessity for and design of hard engineering solutions for land instability hazards;~~
 - ~~(i) the ability to relocate buildings or structures within a hazard area, including the proposed duration of occupation of the structures or building; and~~
 - ~~(j) the ability to design, construct and maintain buildings or structures so that they are resilient to land instability hazards.~~
- (17) ~~[Deleted] for all other infrastructure on land which may be subject to land instability not otherwise provided for:~~
- ~~(a) the functional and/or operational need to locate within the hazard area;~~
 - ~~(b) the risk of adverse effects to other people, property and the environment including all of the following:~~
 - ~~(i) risk to public health and safety;~~
 - ~~(ii) impacts on landscape values and public access associated with the proposed activity including a need for hard protection structures to be required to protect the utility from land instability hazards;~~
 - ~~(iii) the management or regulation of other people and property required to mitigate land instability hazard risks resulting from the location of the network utility or infrastructure;~~
 - ~~(iv) the storage or use of hazardous substances in relation to the activity;~~
 - ~~(v) any exacerbation of an existing land instability hazard or creation of a new land instability hazard as a result of the structure;~~
 - ~~(vi) the use of non-structural solutions instead of hard engineering solutions; and~~
 - ~~(vii) the ability to relocate or remove structures.~~

Activities in landslide hazard areas

(17A) for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or soakage fields, accessways, private roads and roads intended to be vested in high (significant) and medium (tolerable) landslide hazard risk areas:

- (a) the likely effect of landslides on the design, location and functioning of the structure; and
- (b) measures to avoid creating or exacerbating landslide hazard risks and associated adverse effects to people, property and the environment, including all of the following
 - (i) risk to public health and safety and groundwater quality;
 - (ii) impacts on landscape values and public access associated with the proposed activity including a need for hard protection structures or increased dependency on existing hard protection structures required to protect accessways and roads from landslide hazard risks;
 - (iii) the management or regulation of other people and property required to mitigate landslide hazard risks resulting from the location of the accessway or road;
 - (iv) the use of non-structural solutions instead of hard engineering solutions;
 - (v) the ability to relocate or remove structures; and
 - (vi) methods to manage activities and uses within the site, including safe egress from the site.

(17B) for the storage of hazardous substances on land in medium (tolerable) and high (significant) landslide hazard risk areas:

- (a) the likely effect of landslides on the design, location and management of facilities where hazardous substances are stored, used or disposed; and
- (b) the potential risk to public health and the receiving environment.

(17C) for all other restricted discretionary activities in landslide hazard risk areas:

- (a) the likelihood of a landslide hazard event occurring, its magnitude and duration, the consequences of the event and its effects on public health, safety, property and the environment;
- (b) the extent to which site-specific analysis has been undertaken and any other information the Council may have on the site and surrounding land;

- (c) measures to avoid creating or exacerbating landslide hazard risks and associated adverse effects to people, property and the environment:
- (i) the effects of the location of the structures and building platforms;
 - (ii) the effects of landslide hazards on the structural integrity of a building or structure;
 - (iii) the effects on landscape values, associated earthworks and land form modifications;
 - (iv) the methods provided to manage activities and uses within the site, including safe egress from buildings and structures and the management of people and property;
 - (v) the ability to relocate buildings or structures within a landslide hazard risk area, including the proposed duration of occupation of the structures or building; and
 - (vi) the ability to design, construct and maintain buildings or structures so that they are resilient to landslide hazards;

Infrastructure:

- ~~*in the coastal erosion hazard area;*~~
 - ~~*in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area;*~~
 - ~~*in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area;*~~
 - ~~*in the 1 per cent annual exceedance probability (AEP) floodplain;*~~
 - ~~*in overland flow paths and*~~
 - ~~*on land which may be subject to land instability*~~
 - *in flood hazard areas*
 - *in coastal hazard areas and*
 - *in landslide susceptibility assessment areas*
- (18) ~~Operation, maintenance, renewal, repair and minor infrastructure upgrading, of infrastructure in areas listed in the heading above that do not comply with Standard E36.6.1.13:~~
- (a) ~~[Moved to E36.8.1(18A)(a)] the functional and/or operational need to locate within the hazard area;~~
 - (b) ~~[Moved to E36.8.1(18A)(b)] the risk of adverse effects to other people, property and the environment including all of the following:~~
 - (i) ~~[Moved to E36.8.1(18A)(b)(i)] risk to public health and safety;~~

- (ii) [~~Moved to E36.8.1(18A)(b)(ii)] ~~impacts on landscape values and public access associated with the proposed activity including a need for hard protection structures to be required to protect the utility from the natural hazard;~~~~
- (iii) [~~Moved to E36.8.1(18A)(b)(iii)] ~~the management or regulation of other people and property required to mitigate natural hazard risks resulting from the location of the infrastructure;~~~~
- (iv) [~~Moved to E36.8.1(18A)(b)(iv)] ~~the storage or use of hazardous substances in relation to the activity;~~~~
- (v) [~~Moved to E36.8.1(18A)(b)(v)] ~~any exacerbation of an existing natural hazard or creation of a new natural hazard as a result of the structure;~~~~
- (vi) [~~Moved to E36.8.1(18A)(b)(vi)] ~~the use of non-structural solutions instead of hard engineering solutions; and~~~~
- (vii) [~~Moved to E36.8.1(18A)(b)(vii)] ~~the ability to relocate or remove structures.~~~~

(18A) For all other infrastructure in flood hazard areas, coastal hazard areas and high and medium landslide susceptibility assessment areas not otherwise provided for:

- (a) the functional and/or operational need to locate within the hazard area;
- (b) the risk of adverse effects to other people, property and the environment including all of the following:
 - (i) risk to public health and safety;
 - (ii) impacts on landscape values and public access associated with the proposed activity including a need for hard protection structures to be required to protect the utility from the natural hazard or increased dependency on existing hard protection structures;
 - (iii) the management or regulation of other people and property required to mitigate natural hazard risks resulting from the location of the infrastructure;
 - (iv) the storage or use of hazardous substances in relation to the activity;
 - (v) any exacerbation of an existing natural hazard or creation of a new natural hazard as a result of the structure;
 - (vi) the use of non-structural solutions instead of hard engineering solutions; and
 - (vii) the ability to relocate or remove structures; and
 - (viii) the benefits of the infrastructure.

E36.8.2. Assessment criteria

The Council will consider the relevant assessment criteria for restricted discretionary activities from the list below:

Activities in the coastal erosion hazard area

- (1) ~~[Deleted] for external alterations to existing buildings which increase the gross floor area of the building in the coastal erosion hazard area; for all other buildings and structures in the coastal erosion hazard area; and for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater pipes or soakage fields in the coastal erosion hazard area:~~
- ~~(a) the likelihood of a coastal hazard event occurring, its magnitude and duration, the consequences of the event and its effects on public health, safety, property and the environment;~~
 - ~~(b) the extent to which site specific analysis, such as engineering, stability or flooding reports and its analysis have been undertaken and any other information the Council may have on the site and surrounding land;~~
 - ~~(c) the extent to which public access, landscape and other environmental values are affected by any works proposed in association with the building or structure, by way of mitigation of the hazard; and~~
 - ~~(d) the extent to which any building or structure can be relocated in the event of severe coastal erosion or shoreline retreat, taking into account the likely long term effects of climate change.~~

All restricted discretionary activities

(1A) for all restricted discretionary activities:

- (a) effects on Māori Land, Treaty Settlement Land, marae, urupā, mana whenua cultural heritage and values

Activities in coastal hazard areas the coastal storm inundation 1 per cent annual exceedance probability (AEP) area

- (2) ~~[Deleted] for external alterations to existing buildings which increase the gross floor area of the building in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area; for all other buildings and structures in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area; for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater pipes or soakage fields in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area:~~
- ~~(a) the likelihood of a coastal storm inundation hazard event occurring, its magnitude and duration, the consequences of the event and its effects on public health, safety, property and the environment;~~

- (b) ~~the extent to which site-specific analysis, such as engineering, stability or flooding reports and its analysis have been undertaken and any other information the Council may have on the site and surrounding land;~~
- (c) ~~the extent to which public access, landscape and other environmental values are affected by any works proposed in association with the building or structure, by way of mitigation of the hazard; and~~
- (d) ~~the extent to which any building or structure can be relocated in the event of severe coastal erosion or shoreline retreat, taking into account the likely long term effects of climate change.~~

(2A) for activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in coastal erosion hazard area 3 and coastal inundation hazard area 3:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4C), E36.3(4E), E36.3(5I), E36.3(5K), and E36.3(5L).

(2B) for surface parking areas and above ground parking areas (including vehicle entry and exit points) in coastal inundation hazard area 2:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), and E36.3(5E).

(2C) for below ground parking in the coastal inundation hazard areas 2 and 3:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(5D), E36.3(5E) and E36.3(5F).

(2D) for the conversion of non-habitable rooms into habitable rooms within the ground floor or basement of a building in coastal erosion hazard area 3 and coastal inundation hazard area 3:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4C), E36.3(4E), E36.3(5I) and E36.3(5M).

(2E) for emergency services required to locate within coastal hazard areas:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4C), and E36.3(5G).

(2F) for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (excluding above-ground domestic rainwater tanks) or stormwater pipes or soakage fields on land in the coastal hazard areas:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B) and E36.3(5B).

(2G) for the construction of private roads, roads to be vested and accessways in coastal hazard areas:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(5B), E36.3(5E), and E36.3(5F).

(2H) for domestic above-ground rainwater tanks in coastal erosion hazard area 1 and coastal inundation hazard area 1:

(a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), and E36.3(5B).

(2I) for external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in coastal erosion hazard areas 1 and 2 and coastal inundation hazard areas 1 and 2; and external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in coastal hazard areas:

(a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4C), E36.3(5B) and E36.3(4E).

(2J) for new structures and buildings (excluding dwellings) ancillary to farming activities with a gross floor area of up to 100 m²; and new structures and buildings with a gross floor area up to 10m² in coastal erosion hazard area 1 and coastal inundation hazard area 1:

(a) refer to Policy E36.3(3), E36.3(4A), E36.3(4B), E36.3(4E), E36.3(5B) and E36.3(5J).

(2K) for all other external additions and alterations to structures and buildings in coastal erosion hazard areas 2 and 3 and coastal inundation hazard areas 2 and 3; and all other buildings and structures, including retaining walls and earth bunds, in coastal erosion hazard areas 2 and 3 and coastal inundation hazard areas 2 and 3:

(a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4C), E36.3(4E), and E36.3(5B).

Defences against coastal hazards

(3) for the extension (including upgrading that increases the area occupied by the structure) or alteration of existing lawfully established hard protection structures; and for new hard protection structures, located landward of the coastal protection yard that may serve as a defence against coastal erosion or inundation:

(a) ~~[Deleted] the extent to which the structure or works for the structure are located and designed to avoid, remedy or mitigate adverse effects;~~

(b) ~~[Deleted] the extent to which the structure avoids, remedies or mitigates effects on public access, including pedestrian access, access to the coastline and access to areas of public open space;~~

(c) ~~[Deleted] the extent of consent duration sought and whether it is necessary for the functional and operational needs of the activity or whether an adaptive management approach can be achieved;~~

- (d) ~~[Deleted] the extent of monitoring required to avoid, remedy or mitigate adverse environmental effects;~~
- (e) ~~[Deleted] whether the construction works can be undertaken at a time that will avoid or minimise adverse effects on marine mammals, roosting, nesting and feeding areas, and recreational users of the coastal marine area;~~
- (f) ~~[Deleted] whether the construction works or methods avoid, remedy or mitigate adverse effects, particularly on water quality and sedimentation;~~
- (g) ~~[Deleted] whether the structure is located and designed to avoid, remedy or mitigate adverse effects on the environment; and~~
- (h) ~~[Deleted] the extent to which material used are compatible with the surrounding coastal environment and where practicable, with the natural material at the site. This includes texture, colour, composition, grain size, level of contamination and potential for leaching.~~
- (i) refer Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(10), E36.3(10A), E36.3(11A), E36.3(12A), E36.3(12B) and E36.3(12C)

Re-building in flood hazard areas, coastal hazard areas and landslide hazard risk areas

(3A) for the re-building of materially damaged or destroyed buildings in:

- coastal inundation hazard area 1 and 2;
 - coastal erosion hazard area 1 and 2;
 - very high, high and medium flood hazard areas; and
 - high (significant) and medium (tolerable) landslide hazard risk areas complying with Standard E36.6.A1 and low (acceptable) landslide hazard risk areas not complying with Standard E36.6.A1
- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4C) and E36.3(4D).

Activities in flood hazard areas the 1 per cent annual exceedance probability (AEP) flood plain

(4) for fences, earth bunds and walls in the 1 per cent annual exceedance probability (AEP) floodplain flood hazard areas that do not comply with Standard E36.6.1.5:

- (a) ~~[Deleted] whether the fence or wall will result in changes to the flood hazard experienced within the site, or on other sites including upstream or downstream of the site;~~
- (b) ~~[Deleted] whether the fence or wall will result in changes to flood depths and velocities from the blocking or channelling of flood waters; and~~

(c) ~~[Deleted] the extent to which the fence or wall is necessary to maintain privacy, security, biosecurity or safety of the site or adjoining sites.~~

(d) refer to Policies E36.3(3), E36.3(4A), E36.3(4B) and E36.3(21).

(4A) for the construction of private roads, roads intended to be vested and accessways in very high, high and medium flood hazard areas:

(a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B) E36.3(21) and E36.3(26).

(4B) for surface parking areas and above ground parking areas (including vehicle entry and exit points) in medium flood hazard areas

(a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(21) and E36.3(26).

(5) for below ground parking ~~or parking areas in the 1 per cent annual exceedance probability (AEP) floodplain~~ medium and low flood hazard areas:

(a) ~~[Deleted] whether the parking area can be located outside of the 1 per cent annual exceedance probability (AEP) floodplain so as not to block or impede the flood hazard;~~

(b) ~~[Deleted] where the parking area cannot be practically located outside or above the floodplain, how the parking areas can be designed and managed to minimise any increase in flood related risks to people and property on site and to other properties upstream or downstream of the site;~~

(c) ~~[Deleted] the extent of potential adverse effects resulting from vehicles being mobilised by a 1 per cent annual exceedance probability (AEP) flood event;~~

(d) ~~[Deleted] whether the building or structure maintains structural integrity during a flood event; and~~

(e) ~~[Deleted] whether site layout and management can avoid hazardous and floatable materials, including cars and other stored items, being carried off the site.~~

(f) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(21) and E36.3(26).

(5A) for private roads, roads intended to be vested and accessways in flood hazard areas:

(a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(21) and E36.3(26).

(6) for the storage of hazardous substances in the 1 per cent annual exceedance probability (AEP) floodplain flood hazard areas:

(a) ~~[Deleted] the extent to which the proposal ensures that hazardous substances stored in flood hazard areas are protected from flooding, spillage and leakage should a flood hazard event occur;~~

- (b) ~~[Deleted] the extent of public health hazards that may result from a flood hazard event and how these are proposed to be avoided; and~~
 - (c) ~~[Deleted] whether groundwater contamination in a flood event can be avoided.~~
 - (d) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(21) and E36.3(22).
- (7) for on-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) flood plain and flood prone areas:
- (a) ~~[Deleted] whether the design of the device impedes flood flows or otherwise increases flood risk upstream or downstream of the site and how such effects can be avoided or mitigated;~~
 - (b) ~~[Deleted] whether the design of the device is resilient to damage from a range of flood events;~~
 - (c) ~~[Deleted] whether access to the device for maintenance and maintenance plans are provided and the potential effects that may result from the proposed access route;~~
 - (d) ~~[Deleted] the extent of public health hazards that may result from a flood hazard event and how these are proposed to be avoided; and~~
 - (e) ~~[Deleted] whether groundwater contamination in a flood event can be avoided.~~
 - (f) refer to Policy E36.3(3), E36.3(4A), E36.3(4B) and E36.3(21).
- (8) for the construction of other land drainage works, stormwater management devices and flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas:
- (a) ~~[Deleted] whether the design of and works or devices impede flood flows or otherwise increases flood risk upstream or downstream of the site and how such effects can be avoided or mitigated;~~
 - (b) ~~[Deleted] whether the design of the works or any device is resilient to damage from a range of flood events; and~~
 - (c) ~~[Deleted] whether access to the works or device for maintenance and maintenance plans are provided and the potential effects that may result from the proposed access route.~~
 - (d) refer to Policies E36.3(3), E36.3(4A), E36.3(4B) and E36.3(21).
- (9) for external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by no more than 10m² in very high, high and medium flood hazard areas for the 1 per cent annual exceedance

probability (AEP) floodplain and flood prone areas; for external additions and alterations to existing buildings (as existing at 03/11/25) that increase the gross floor area by more than 10m² in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas; for new structures and buildings (and external alterations to existing buildings)-with a gross floor area up to 10m² within very high, high and medium flood hazard areas for the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas that do not comply with standard E36.6.1.9; for all other external additions and alterations to structures and buildings in the 1 per cent annual exceedance probability (AEP) flood plain and flood prone areas; and for all other structures and buildings (and external alterations to existing buildings including retaining walls) within the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas:

- (a) ~~[Deleted] whether the building platform can be located outside of the 1 per cent AEP floodplain so as not to block or impede the flood waters;~~
 - (b) ~~[Deleted] where the building cannot be practically located outside or above the flood plain, how the building can be designed and managed to minimise increase in flood related risks experienced by other properties, including those upstream or downstream such as, maintaining a clear undercroft, allowing for the passage of flood waters;~~
 - (c) ~~[Deleted] whether buildings likely to be affected by flood waters should be wet proofed or dry proofed to minimise damage to the building and its contents; and~~
 - (d) ~~[Deleted] site layout and management to avoid hazardous and floatable materials including cars and other stored items being carried off site.~~
 - (e) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4C), E36.3(4E), E36.3(21), E36.3(25).
- (10) ~~[Deleted] for use of new buildings to accommodate more vulnerable activities, and changes of use to accommodate more vulnerable activities within existing buildings located within the 1 per cent annual exceedance probability(AEP) floodplain:~~
- (a) ~~the likelihood of a flood hazard event occurring and its magnitude and duration, and the consequences of the event, its possible effects on public health, safety, property and the environment;~~
 - (b) ~~the extent to which a flood hazard assessment or mitigation plan addresses methods provided to manage activities or uses within the site;~~
 - (c) ~~whether sufficient actions can be undertaken to ensure that people will not be placed in danger during a flood event;~~

- (d) ~~the extent to which the proposal and any subsequent land use is likely to exacerbate the flood hazard or create a new flood on the subject land and/ or on any adjacent land; and~~
- (e) ~~whether the building or structure maintains structural integrity during a flood event.~~

(10A) For activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in low flood hazard areas:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(21), E36.3(30E), and E36.3(30F), E36.3(30G).

(10B) for the conversion of non-habitable rooms into habitable rooms within the ground or basement floor of a building in low flood hazard areas:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4C), E36.3(4E), E36.3(21), E36.3(30F), E36.3(30G) and E36.3(30H).

Activities in overland flow paths

(11) ~~[Deleted] for fences and walls in the 1 per cent annual exceedance probability (AEP) floodplain that do not comply with Standard E36.6.1.10:~~

- (a) ~~whether the fence or wall will result in changes to the flood hazard experienced within the site, or on other sites including upstream or downstream of the site;~~
- (b) ~~whether the fence or wall will result in changes to flood depths and velocities from the blocking or channelling of flood waters; and~~
- (c) ~~the extent to which the fence or wall is necessary to maintain privacy, security, biosecurity or safety of the site or adjoining sites.~~

(12) ~~for diverting the entry or exit point, piping or reducing the capacity in any part of an overland flow path:~~

- (a) ~~[Deleted] the extent to which the continuity of the overland flow paths both within the site and upstream and downstream of the site will be maintained;~~
- (b) ~~[Deleted] the extent to which and how the effects on other properties from the diversion or alteration of the overland flow path will be avoided or mitigated;~~
- (c) ~~[Deleted] the extent to which and how scouring and erosion will be managed;~~
- (d) ~~[Deleted] the extent to which and how the proposal will avoid, or mitigate adverse effects on stream ecology;~~

(e) ~~[Deleted] the extent of long term maintenance proposed, ensuring that, when appropriate, an easement in favour of Council is created to limit further changes to the overland flow path; and~~

(f) ~~[Deleted] the extent to which design and management measures are proposed to manage risk to a building, its occupants or contents.~~

(g) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(21) and E36.3(29).

(12A) ~~for any buildings or structures including retaining walls (but excluding permitted fences and walls) located within an overland flow path with a catchment greater than 4,000m²:~~

(a) ~~[Deleted] the extent to which the overland flow path is maintained to convey stormwater runoff safely from a site to the receiving environment;~~

(b) ~~[Deleted] the location of habitable rooms in relation to the overland flow path;~~

(c) ~~[Deleted] the extent to which the design of the building provides for safe access and the potential effects of flood hazards on chosen access routes; and~~

(d) ~~[Deleted] the extent to which people are affected during flood events and the extent to which effects are avoided, remedied or mitigated.~~

(e) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(21) and E36.3(29).

Activities on land which may be subject to land instability

(13) ~~[Deleted] for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater soakage fields on land which may be subject to land instability that do not comply with permitted activity Standard E36.6.1.12:~~

(a) ~~the extent to which the location, design and functioning of the device would be adversely affected by the land instability hazard and how such effects can be avoided or mitigated;~~

(b) ~~whether the design of the device is resilient to damage from the land instability hazard;~~

(c) ~~whether access to the device for maintenance and maintenance plans are provided and the potential effects that may result from the proposed access route;~~

(d) ~~the extent of public health hazards that may result from the land instability hazard and how these are proposed to be avoided; and~~

(e) ~~whether groundwater contamination from the land instability hazard can be avoided.~~

- (14) ~~[Deleted] for the storage of hazardous substances on land which may be subject to land instability:~~
- ~~(a) the extent to which the proposal ensures that hazardous substances are protected from spillage or leakage should a natural hazard event occur; and~~
 - ~~(b) the extent of public health hazards that may result from the land instability hazard and how these are proposed to be avoided.~~
- (15) ~~[Deleted] for external additions to buildings and to any structures excluding decks under 1.2m high and 20m² gross floor area on land which may be subject to instability; and for all other buildings and structures on land which may be subject to land instability not otherwise provided for:~~
- ~~(a) the likelihood of a land instability hazard event occurring, its magnitude and duration, the consequences of the event and its effects on public health, safety, property and the environment;~~
 - ~~(b) the extent to which site specific analysis, such as engineering, or stability reports and its analysis have been undertaken and any other information the Council may have on the site and surrounding land;~~
 - ~~(c) the extent to which landscape and other environmental values are affected by any works proposed in association with the building or structure or mitigation of the hazard; and~~
 - ~~(d) the extent to which any building or structure can be relocated in the event of a land instability hazard occurring.~~
- (16) ~~[Deleted] for all other infrastructure on land which may be subject to land instability not otherwise provided for:~~
- ~~(a) the long term management, maintenance and monitoring of any mechanisms associated with managing the risk of adverse effects resulting from the placement of infrastructure within a hazard area to other people, property and the environment including the management of hazardous substances;~~
 - ~~(b) the extent to which residual risks to people, property and the environment resulting from any mitigation measures implemented to manage the hazard;~~
 - ~~(c) the extent to which an existing hazard is exacerbated or a new hazard is created as a result of the structure;~~
 - ~~(d) the extent to which the proposal includes non-structural solutions to protect infrastructure from the hazard and resulting adverse effects; and~~

- (e) ~~the extent to which landscape values and/ or public access are affected by the proposed structure or structures associated with the mitigation of the hazard.~~

Activities in landslide hazard areas

(16A) for on-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks (including rainwater tanks) or stormwater pipes or soakage fields, accessways, private roads and roads intended to be vested in high (significant) and medium (tolerable) landslide hazard risk areas:

- (a) the extent to which the structure is necessary to provide for the proposed use or development; and
- (b) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(33E), E36.3(33F) and E36.3(33H).

(16B) for the storage of hazardous substances on land in medium (tolerable) and high (significant) landslide hazard risk areas:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B) and E36.3(33G).

(16C) for all other restricted discretionary activities in landslide hazard risk areas:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(4E), E36.3(33A), E36.3(33I), and E36.3(33J).

Infrastructure:

- in flood hazard areas
- in coastal hazard areas and
- in landslide susceptibility assessment areas

~~(17) [Deleted] for operation, maintenance, renewal, repair and minor infrastructure upgrading of infrastructure in the coastal erosion hazard area; or in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area; or in the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area; or in the 1 per cent annual exceedance probability (AEP) floodplain; or in overland flow paths; or on land which may be subject to land instability;~~

- ~~(a) the long-term management, maintenance and monitoring of any mechanisms associated with managing the risk of adverse effects resulting from the placement of infrastructure within a hazard area to other people, property and the environment including the management of hazardous substances;~~

- ~~(b) the extent to which residual risks to people, property and the environment resulting from any mitigation measures implemented to manage the hazard;~~

- (c) ~~the extent to which an existing hazard is exacerbated or a new hazard is created as a result of the structure;~~
- (d) ~~the extent to which the proposal includes non-structural solutions to protect infrastructure from the hazard and resulting adverse effects;~~
and
- (e) ~~extent to which landscape values and/ or public access are affected by the proposed structure or structures associated with the mitigation of the hazard.~~

(17A) For all other infrastructure in flood hazard areas, coastal hazard areas and high and medium landslide susceptibility assessment areas not otherwise provided for:

- (a) refer to Policies E36.3(3), E36.3(4A), E36.3(4B), E36.3(35), E36.3(36) and E36.3(37).

E36.9. Special information requirements

- (1) A hazard risk assessment must be undertaken when subdivision, use or development requiring resource consent is proposed to be undertaken on land which ~~may be subject to~~ are within any one or more natural hazard areas of the following:
 - (a) ~~[Deleted] coastal erosion;~~
 - (b) ~~[Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP);~~
 - (c) ~~[Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise;~~
 - (d) ~~[Deleted] the 1 per cent annual exceedance probability (AEP) floodplain;~~
 - (e) ~~[Deleted] overland flow paths; or~~
 - (f) ~~[Deleted] land instability.~~

The level of information required to be provided should be proportionate to the hazard risk, the nature of the hazard. It should also be appropriate to the scale, nature and location of the development and reflective of the scale of the activity proposed. For coastal hazards this should include a consideration of the potential effects of climate change over at least a 100 year timeframe.

- (2) A hazard risk assessment report must accompany a resource consent application for the subdivision, use or development referenced in E36.9(1) above and must identify which natural hazard(s) that the land is potentially at risk of being exposed to over at least the next 100 years and whether ~~the land is or is likely to be subject to coastal erosion; coastal storm inundation 1 per cent annual exceedance probability (AEP); coastal storm~~

~~inundation 1 per cent annual exceedance probability (AEP) plus 1 metre sea level rise; the 1 per cent annual exceedance probability (AEP) floodplain; overland flow paths; or land instability, over at least the next 100 years and, if found to be subject to one or more of these hazards, should provide an assessment, which does not need to duplicate an assessment of environmental effects, which addresses all of the following: all the matters outlined in Policies E36.3(3), E36.3(4A) and E36.4(4B), including climate scenarios in Auckland Council Guideline Document 15: Climate change scenarios (GD15) November 2024.~~

- (a) ~~[Deleted] the type, frequency and scale of the natural hazard and whether adverse effects on the development will be temporary or permanent;~~
- (b) ~~[Deleted] the type of activity being undertaken and its vulnerability to natural hazard events;~~
- (c) ~~[Deleted] the consequences of a natural hazard event in relation to the proposed activity and the people likely to be involved in that activity;~~
- (d) ~~[Deleted] the potential effects on public safety and other property;~~
- (e) ~~[Deleted] any exacerbation of an existing natural hazard risks or creation of a new natural hazard risks;~~
- (f) ~~[Deleted] whether any building, structure or activity located on land subject to natural hazards near the coast can be relocated in the event of severe coastal erosion, coastal storm inundation or shoreline retreat;~~
- (g) ~~[Deleted] the ability to use of non-structural solutions, such as planting or the retention or enhancement of natural landform buffers to avoid, remedy or mitigate the hazard, rather than hard engineering solutions or protection structures;~~
- (h) ~~[Deleted] the design and construction of buildings and structures to mitigate the effects of natural hazards;~~
- (i) ~~[Deleted] the effect of structures used to mitigate hazards on landscape values and public access;~~
- (j) ~~[Deleted] site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event;~~
- (k) ~~[Deleted] the duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the effects of climate change; and~~
- (l) ~~[Deleted] any measures and/ or plans proposed to mitigate the natural hazard or the effects of the natural hazard.~~

- (3) A landslide hazard risk assessment prepared by a suitably qualified and experienced person in accordance with Appendix 24 Landslide hazard risk assessment methodology must accompany a resource consent application for the subdivision, use or development of land within a landslide hazard area.
- (4) Geotechnical reports prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) must accompany a resource consent application for the subdivision, use or development of land within a landslide hazard area.

Changes to Chapter E12 Land disturbance – District

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E12.6.2. General standards

All activities (except ancillary farming earthworks, ancillary forestry earthworks and network utilities) listed as a permitted activity, controlled activity or restricted discretionary activity in Table E36.4.1, Table E36.4.2 or Table E36.4.3 must comply with the following standards.

- (1) Land disturbance within riparian yards and coastal protection yards are limited to:
 - (a) operation, maintenance and repair (including network utilities);
 - (b) less than 5m² or 5m³; for general earthworks;
 - (c) less than 10m² or 5m³ for the installation of new network utilities;
 - (d) installation of fences and walking tracks; or
 - (e) burial of marine mammals.
- (2) Land disturbance must not result in any instability of land or structures at or beyond the boundary of the property where the land disturbance occurs.
- (3) The land disturbance must not cause malfunction or result in damage to network utilities, or change the cover over network utilities so as to create the potential for damage or malfunction.
- (4) Access to public footpaths, berms, private properties, network utilities, or public reserves must not be obstructed unless that is necessary to undertake the works or prevent harm to the public.
- (5) Measures must be implemented to ensure that any discharge of dust beyond the boundary of the site is avoided or limited such that it does not cause nuisance.
- (6) Burial of marine mammals must be undertaken by the Department of Conservation or the agents of the Department of Conservation.
- (7) Land disturbance around Transpower NZ Ltd electricity transmission line poles must:
 - (a) be no deeper than 300mm within 2.2m of a transmission pole support structure or stay wire; and
 - (b) be no deeper than 750mm within 2.2 to 5m of a transmission pole support structure or stay wire; except that
 - (c) vertical holes not exceeding 500mm diameter beyond 1.5m from the outer edge of a pole support structure or stay wire are exempt from Standards E36.6.2(7)(a) and E36.6.2(7)(b) above.

- (8) Land disturbance around Transpower NZ Ltd electricity transmission lines towers must:
- (a) be no deeper than 300mm within 6m of the outer visible edge of a transmission tower support structure; and
 - (b) be no deeper than 3m between 6-12m from the outer visible edge of a transmission tower support structure.
- (9) Land disturbance within 12m of a Transpower NZ Ltd electricity transmission line pole or tower must not:
- (a) create an unstable batter that will affect a transmission support structure; or
 - (b) result in a reduction in the ground to conductor clearance distances as required by New Zealand Electrical Code of Practice for Electrical Safe Distances NZECP34:2001.
- (10) Only cleanfill material may be imported and utilised as part of the land disturbance.
- (11) Earthworks (including filling) within ~~a 100-year~~ the 1 per cent annual exceedance probability (AEP) flood plain and/or flood prone areas:
- (a) must not raise ground levels more than 300mm, to a total fill volume up to 10m³ which must not be exceeded through multiple filling operations; and
 - (b) must not result in any adverse changes in flood hazard beyond the site.
- Note1
- This standard does not limit excavation and replacement of fill to form building platforms, where those works do not raise ground levels.
- (12) Earthworks (including filling) within overland flow paths must maintain the same entry and exit point at the boundaries of a site and not result in any adverse changes in flood hazards beyond the site, unless such a change is authorised by an existing resource consent.
- (13) Temporary land disturbance and stockpiling of soil and other materials in flood hazard areas ~~within the one per cent annual exceedance probability (AEP) flood plain and/or overland flow path~~ for up to a maximum of 28 days in any calendar year may occur as part of construction or maintenance activities.
- (14) Earthworks for maintenance and repair of driveways, parking areas, sports fields and major recreational facilities on a site or places of Significance to Mana Whenua must be limited to the area and depth of earth previously disturbed or modified.
- (15) Earthworks for maintenance and repair of driveways, parking areas, sports fields and major recreational facilities within the Historic Heritage Overlay

must not extend more than 300 mm below the surface where additional rules for archaeological sites or features apply as listed in [Schedule 14 Historic Heritage Schedule, Statements and Maps](#).

- (16) Earthworks associated with a temporary activity on a site or place of significance to Mana Whenua shall be limited to the area of earthwork previously disturbed or modified.
- (17) Earthworks/land disturbance for the planting of any tree within the Historic Heritage Overlay must not be undertaken where additional rules for archaeological sites or features apply as listed in [Schedule 14 Historic Heritage Schedule, Statements and Maps](#), other than as a replacement for a pre-existing tree; and, within the area previously occupied by the root plate of the pre-existing tree.
- (18) Earthworks proposed within medium and high landslide susceptibility assessment areas must be undertaken in general accordance with:
 - (a) geotechnical reports, prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) and approved or certified by Council when associated with a resource consent or compliant proposal in relation to applicable Auckland-wide natural hazard rules;
 - (b) a landslide hazard risk assessment report prepared by a suitably qualified and experienced person in accordance with Appendix 24 Landslide hazard risk assessment methodology and approved or certified by Council when associated with a resource consent or compliant proposal in relation to applicable Auckland-wide natural hazards rules; and
 - (c) any conditions of a building consent, resource consent, or consent notice registered on the land title(s) associated with the proposal and relating to landslide risk and geotechnical assessment matters.

...

E12.9 Special information requirements

~~There are no special information requirements in this section.~~

- (1) Geotechnical reports prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) must accompany a resource consent application for earthworks within medium and high landslide susceptibility assessment areas.

Changes to Chapter E15 Vegetation management and biodiversity

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E15.6.8 Vegetation alteration or removal undertaken within the 100-year ARI 1 per cent annual exceedance probability (AEP) floodplain

- (1) Vegetation alteration or removal must ensure that erosion control measures associated with vegetation removal and replanting, such as mulch or bark, are not able to be swept off-site in a flood event.

E15.6.8A Vegetation alteration or removal proposed within medium and high landslide susceptibility assessment areas

- (1) Vegetation alteration or removal proposed within medium and high landslide susceptibility assessment areas must be undertaken in general accordance with:
 - (a) geotechnical reports prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) and approved or certified by Council when associated with a resource consent or compliant proposal in relation to applicable Auckland-wide natural hazards rules;
 - (b) a landslide hazard risk assessment report prepared by a suitably qualified and experienced person in accordance with Appendix 24 Landslide hazard risk assessment methodology and approved or certified by Council when associated with a resource consent or compliant proposal in relation to applicable Auckland-wide natural hazards rules;
 - (c) any conditions of a building consent, resource consent or consent notice registered on the land title(s) associated with the proposal and relating to landslide risk and geotechnical assessment matters.

...

E15.9 Special information requirements

~~There are no special information requirements.~~

- (1) Geotechnical reports prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) must accompany a resource consent application for vegetation alteration or removal within medium and high landslide susceptibility assessment areas
- (2) A landslide hazard risk assessment prepared by a suitably qualified and experienced person in accordance with Appendix 24 Landslide hazard risk assessment methodology must accompany a resource consent

application for vegetation alteration or removal within medium and high landslide susceptibility assessment areas.

Changes to E38 Subdivision – urban

E38.2 Objectives

...

(10) Subdivision:

(a) ~~[Deleted] within urban and serviced areas, does not increase the risks of adverse effects to people, property, infrastructure and the environment from natural hazards;~~

(aa) only occurs when the risk from natural hazards, including the potential effects of climate change, to people, property, infrastructure and the environment is tolerable or acceptable;

(b) avoids, where possible, and otherwise mitigates, adverse effects associated with subdivision for infrastructure or existing urban land uses; and

(c) maintains the function of flood plains and overland flow paths to safely convey flood waters, and of natural features and buffers in the coastal environment, as natural defenses against coastal hazards, while taking into account the likely long term effects of climate change;

(d) is enabled where the sites can be adequately serviced by the water supply, wastewater and stormwater networks to avoid adverse effects on the function and capacity of the networks; and

(e) is only enabled in areas serviced by the combined wastewater network where it is confirmed that there is sufficient capacity in the network to service the subdivision and resulting development.

E38.3. Policies

...

(2) Require subdivision to manage ~~the risk of adverse effects resulting from natural hazards~~ risks in accordance with the objectives and policies in [E36 Natural hazards and flooding](#), ~~and to provide safe and stable building platforms and vehicle access.~~

...

(21) Require sites capable of containing a building, in areas with no reticulated water supply, stormwater or wastewater network, to be of a size and shape that provides for:

(a) the treatment and disposal of stormwater in a way that does not lead to significant adverse off-site effects including degraded water quality, erosion, land instability, creation or exacerbation of flooding;

- (b) management of wastewater via:
 - (i) an on-site wastewater treatment system that does not lead to adverse off-site effects including degraded water quality, erosion, land instability, creation or exacerbation of flooding, or
 - (ii) approval to connect to a private wastewater network; and
- (c) potable water.

...

- (23) ~~Manage~~ Require subdivision and development to avoid, remedy or mitigate adverse effects on infrastructure including reverse sensitivity effects, which may compromise the operation and capacity of existing or authorised infrastructure.

...

- (26) Require esplanade reserves rather than esplanade strips unless any of the following apply:
 - (a) land has limited conservation and recreational value;
 - (b) conservation and historic heritage values that are present can be adequately protected in private ownership;
 - (c) the opportunity to acquire an esplanade reserve is unlikely to arise but continuity of access is desirable;
 - (d) creation of esplanade strips can secure public benefits and resource management objectives without alienating land from private ownership;
 - (e) land is subject to natural hazards or stability issues taking into account the likely potential long term effects of climate change; or
 - (f) a marginal strip of at least 20 metres under the Conservation Act 1987 has not been set aside on land that is Treaty Settlement Land.

...

E38.4.1 Activity table

Note 1

The rules that have immediate legal effect are identified in Table E38.4.1 as below. Any associated standards, matters of discretion, assessment criteria, special information requirements, maps, definitions and appendices applicable to those rules also have immediate legal effect.

Table E38.4.1 Activity table - Subdivision for specific purposes

(A11)	<p>Subdivision of land within any of the following natural hazard areas:</p> <ul style="list-style-type: none"> • [Deleted] 1 per cent annual exceedance probability floodplain • <u>flood hazard areas (excluding overland flow paths);</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) area • <u>coastal hazard areas;</u> • [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area • <u>medium landslide susceptibility assessment areas; or</u> • [Deleted] coastal erosion hazard area • <u>high landslide susceptibility assessment areas;</u> or • [Deleted] land which may be subject to land instability. 	RD
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...

E38.7.3. Standards – specific purposes restricted discretionary activities

Subdivision listed as restricted discretionary activities in Table E38.4.1 Subdivision for specific purposes must comply with the applicable standards for the proposed subdivision listed in E38.6 General standards for subdivisions and E38.7.3 Standards – specific purposes restricted discretionary activities.

E38.7.3.3. Subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas of a site within the one per cent annual exceedance probability floodplain

(1) Each proposed site within the ~~one per cent floodplain that is to contain a more vulnerable activity~~ flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas must ~~meet one of~~ the following:

(a) ~~[Deleted] in residential zones and business zones – a shape factor that meets the requirements of Standard E38.8.1.1 Site shape factor in~~

~~residential zones or Standard E38.9.1.1 Site shape factor in business zones; or~~

- (b) ~~be in accordance with a land use consent that authorises development or building in the floodplain natural hazard area; or~~
- (c) ~~in residential zones and business zones, contains a shape factor that meets the requirements of Standard E38.8.1.1 Site shape factor in residential zones or Standard E38.9.1.1 Site shape factor in business zones; and~~
- (d) ~~demonstrate that access to all proposed building platforms or areas are located outside any:~~
 - i. ~~high or very high flood hazard area~~
 - ii. ~~coastal hazard area 1 or 2~~
 - iii. ~~high (significant) landslide hazard risk area identified in accordance with Appendix 24 Landslide hazard risk assessment methodology; and~~
- (e) ~~demonstrate that all on-site private infrastructure required to service the intended use of the site is located outside any:~~
 - i. ~~coastal hazard area 1 or 2~~
 - ii. ~~high (significant) landslide hazard risk area identified in accordance with Appendix 24 Landslide hazard risk assessment methodology~~

E38.7.3.4. [Deleted] Subdivision of land in the coastal erosion hazard area; or the coastal storm inundation 1 per cent annual exceedance probability (AEP) area

- (1) ~~Each proposed site on land in the coastal erosion hazard area or the coastal storm inundation 1 per cent annual exceedance probability (AEP) area must demonstrate that all of the relevant areas/features in E38.7.3.4(a) to (c) below are located outside of any land that may be subject to coastal erosion or coastal storm inundation:~~
 - (a) ~~in residential zones and business zones -- a shape factor that meets the requirements of Standard E38.8.1.1 Site shape factor in residential zones or Standard E38.9.1.1 Site shape factor in business zones;~~
 - (b) ~~access to all proposed building platforms or areas; and~~
 - (c) ~~on-site private infrastructure required to service the intended use of the site.~~

...

E38.8. Standards for subdivisions in residential zones

Subdivision listed in Table E38.4.2 Subdivision in residential zones must comply with the applicable standards for the proposed subdivision in E38.6 General standards for subdivision and E38.8.1 General standards in residential zones.

E38.8.1. General standards in residential zones

E38.8.1.1 Site shape factor in residential zones

- (1) Access and manoeuvring must meet the requirements of [E27 Transport](#).
- (2) All vacant sites must be able to contain a rectangle of 8 metres by 15 metres except the Residential - Terrace Housing and Apartment Buildings Zone must contain a rectangle of 15 metres by 20 metres, to accommodate a building that complies with all applicable standards of the zone and is located outside:
 - (a) ~~[Deleted] the 1 per cent annual exceedance probability floodplain~~
 - (aa) flood hazard areas (excluding overland flow paths);
 - (b) ~~[Deleted] the coastal erosion hazard area;~~
 - (ba) coastal hazard areas;
 - (c) ~~[Deleted] the coastal storm inundation 1 per cent annual exceedance probability (AEP) area; and the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area;~~
 - (d) ~~[Deleted] land which may be subject to land instability;~~
 - (da) high (significant) landslide hazard risk areas identified in accordance with Appendix 24 Landslide hazard risk assessment methodology;
 - (e) the protected root zone of trees identified in the Notable Trees Overlay;
 - (f) areas identified as significant ecological areas, outstanding natural features, outstanding natural landscapes, outstanding natural character areas or high natural character areas in the Significant Ecological Areas Overlay, the Outstanding Natural Features Overlay and Outstanding Natural Landscapes Overlay, or the Outstanding Natural Character and High Natural Character Overlay.
 - (g) areas identified as scheduled historic heritage places, or sites and places of significance to Mana Whenua in the Historic Heritage Overlay or the sites and Places of Significance to Mana Whenua Overlay;
 - (h) network utilities, including private and public lines;

- (i) right-of-way easements;
- (j) area of esplanade reserves required by Standard E38.7.3.2 Subdivision establishing an esplanade reserve;
- (k) yard setback requirements of the zone including riparian, lakeside or coastal protection yards; and
- (l) the National Grid Yard.

...

E38.9. Standards for subdivisions in the business zones

Subdivision listed in Table E38.4.3 Subdivision in business zones must comply with the applicable standards for the proposed subdivision listed in E38.6 General standards for subdivision and E38.9.1 General standards for business zones.

E38.9.1. General standards for business zones

E38.9.1.1. Site shape factor in business zones

- (1) All vacant sites must be able to contain a rectangle with an area equal to half the area of the site where the longer sides are no greater than twice the length of the shorter sides to accommodate a building that complies with all applicable controls of the zone and is located outside all of the following:
 - (a) ~~[Deleted] the 1 per cent annual exceedance probability floodplain;~~
 - (aa) flood hazard areas (excluding overland flow paths);
 - ~~(b) the coastal storm inundation 1 per cent annual exceedance probability (AEP) area;~~
 - (ba) coastal hazard areas;
 - ~~(c) [Deleted] the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1 metre sea level rise area;~~
 - ~~(d) [Deleted] the coastal erosion hazard area;~~
 - ~~(e) [Deleted] land which may be subject to land instability;~~
 - (ea) high (significant) landslide hazard risk areas identified in accordance with Appendix 24 Landslide hazard risk assessment methodology
 - (f) the protected root zone of trees identified in the Notable Trees Overlay;
 - (g) areas identified as significant ecological areas, outstanding natural features, outstanding natural landscapes, outstanding natural character areas or high natural character areas in the Significant

Ecological Areas Overlay, the Outstanding Natural Features Overlay and Outstanding Natural Landscapes Overlay, or the Outstanding Natural Character and High Natural Character Overlay.

- (h) areas identified as scheduled historic heritage place, or sites and places of significance to Mana Whenua in the Historic Heritage Overlay or the Sites and Places of Significance to Mana Whenua Overlay;
- (i) private and public network utilities;
- (j) private and public stormwater and wastewater lines;
- (k) building line restrictions;
- (l) right-of-way easements;
- (m) area of esplanade reserves required by Standard E38.7.3.2 Subdivision establishing an esplanade reserve;
- (n) yard setback requirements of the zone including riparian, lakeside or coastal protection yards; and
- (o) National Grid Yard (Uncompromised) (except that if the subdivision is for an activity sensitive to the National Grid, the building platform must not be located within the National Grid Yard (Uncompromised or Compromised).

...

E38.12. Assessment – restricted discretionary activities

E38.12.1 Matters of discretion

The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary resource consent application:

- (1) subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas of a site within the 1 per cent annual exceedance probability floodplain:
 - (a) the effects of the natural hazards exposure on of the intended use of the sites or sites created enabled by the subdivision and the vulnerability sensitivity of these uses to flood natural hazard events.
- (2) ~~[Deleted] subdivision of a site in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area or coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1 m sea level rise area:~~

~~(a) the effects of the hazard on the intended use of the sites created by the subdivision and the vulnerability of these uses to coastal storm inundation events.~~

~~(3) [Deleted] subdivision of a site in the coastal erosion hazard area:~~

~~(a) the effects of the erosion on the intended use of the sites created by the subdivision and the vulnerability of these uses to coastal erosion.~~

~~(4) [Deleted] subdivision of a site subject to land instability including those areas defined in the Plan as “land which may be subject to land instability”, or other unstable soils as identified through a specific site assessment:~~

~~(a) the effects of remediating the land instability hazard and the effect of the hazard on the intended use.~~

...

(7) all other restricted discretionary activity subdivisions:

(a) the effect of the design and layout of sites to achieve the purposes of the zone or zones and to provide safe legible and convenient access to a legal road;

(b) the effect of infrastructure provision and management of effects of stormwater

(c) the effect on the functions of floodplains and provision for any required overland flow paths:

(ca) the effect on function of natural buffers and features in the coastal environment as protections from coastal hazards and provision for their continued performance;

(d) the effect on historic heritage and cultural heritage items:

(e) the effect of the layout, design and pattern of blocks and roads in so far as they contribute to enabling a liveable, walkable and connected neighbourhood;

(f) the effect of layout and orientation of blocks and sites on the solar gain achieved for sites created, if relevant;

(g) the effects arising from any significant increase in traffic volumes on the existing road network;

(h) the visual effect on landscape and on topographical features and vegetation arising from subdivision of sites zoned Residential - Large Lot Zone and Residential - Rural and Coastal Settlement Zone;

- (i) the provision made for the incorporation and enhancement of land forms, natural features and indigenous trees and vegetation;
- (ia) the effect of wildfire risk from any forestry vegetation within 20 meters of a building platform enabled in a subdivision;
- (j) the effect on recreation and open space.
- (k) the effect of the design and layout of sites on transport infrastructure and facilities within roads.

...

E38.12.2. Assessment Criteria

The Council will consider the relevant assessment criteria for restricted discretionary activities from the list below:

- (1) ~~subdivision of a site within the 1 per cent annual exceedance probability floodplain land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas:~~
 - (a) ~~the effects of the natural hazards exposure on of the intended use of the sites or sites created enabled by the subdivision and the vulnerability sensitivity of these uses to flood natural hazard events:~~
 - (i) ~~[Deleted] whether measures are proposed to ensure the long term protection of flood plain conveyance functions;~~
 - (ii) ~~[Deleted] whether the location and design of development including building platforms and access ways are located to avoid the hazard;~~
 - (iii) ~~[Deleted] the extent to which changes to the landform and the design of mitigation structures/features are necessary for the subdivision; and~~
 - (iv) refer to Policy E38.3(2).
- (2) ~~[Deleted] subdivision of a site in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area or the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1 metre sea level rise area:~~
 - (a) ~~the effects of the hazard on the intended use of the sites created by the subdivision and the vulnerability of these uses to coastal storm inundation events:~~
 - (i) ~~whether the location and design of development including proposed and existing building platforms and access ways include the ability to relocate uses within the proposed site area, taking~~

~~into account in urban and serviced areas a 1 metre rise in sea levels;~~

- ~~(ii) whether the use of defences to protect the land and any buildings or structures on the land from coastal storm inundation are necessary;~~
- ~~(iii) whether there is any residual risk posed by coastal storm inundation to the site(s) associated with any existing or proposed coastal defences;~~
- ~~(iv) whether there are effects on landscape values resulting from associated built and/or land form modifications required to provide for the intended use of the site; and~~
- ~~(v) refer to Policy E38.3(2).~~

~~(3) [Deleted] subdivision of a site in the coastal erosion hazard area:~~

- ~~(a) the effects of the hazard on the intended use of the sites created by the subdivision and the vulnerability of these uses to coastal erosion:~~
 - ~~(i) whether public access to the coast is affected;~~
 - ~~(ii) the extent to which the installation of hard protection structures to be utilised to protect the site or its uses from coastal erosion hazards over at least a 100 year timeframe are necessary; and~~
 - ~~(iii) refer to Policy E38.3(2).~~

~~(4) [Deleted] subdivision of a site subject to land instability including those areas defined in the Plan as “land which may be subject to land instability”, or other unstable soils as identified through a specific site assessment:~~

- ~~(a) the effects of remediating the land instability hazard and the effect of the hazard on the intended use:~~
 - ~~(i) the extent to which the proposed sites are stable and suitable;~~
 - ~~(ii) the extent to which the site instability will affect the intended use, including the provision for onsite infrastructure (where applicable) and accessways; and~~
 - ~~(iii) refer to Policy E38.3(2).~~

...

E38.13. Special information requirements

~~There are no special information requirements in this section.~~

(1) A hazard risk assessment must be undertaken when subdivision, use or development requiring resource consent is proposed to be undertaken on land which are within any one or more natural hazard areas.

The level of information required to be provided should be proportionate to the hazard risk, the nature of the hazard. It should also be appropriate to the scale, nature and location of the development and reflective of the scale of the activity proposed. For coastal hazards this should include a consideration of the potential effects of climate change over at least a 100 year timeframe.

(2) A hazard risk assessment report must accompany a resource consent application for the subdivision, use or development referenced in E36.9(1) above and must identify which natural hazard(s) that the land is potentially at risk of being exposed to over at least the next 100 years and which addresses all the matters outlined in Policies E36.3(3), E36.3(4A) and E36.3(4B), including climate scenarios in Auckland Council Guideline Document 15: Climate change scenarios (GD15) November 2024.

(3) A landslide hazard risk assessment prepared by a suitably qualified and experienced person in accordance with Appendix 24 Landslide hazard risk assessment methodology must accompany a resource consent application for the subdivision, use or development of land within a landslide hazard area.

(4) Geotechnical reports prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) must accompany a resource consent application for the subdivision, use or development of land within a landslide hazard area.

Changes to E39 Subdivision – rural

E39.1. Introduction

Subdivision is the process of dividing a site or a building into one or more additional sites or units, or changing an existing boundary location. While the provisions generally encourage the retention of large site sizes to promote productive rural activities, limited subdivision opportunities are provided to respond to the protection and enhancement of indigenous vegetation, wetlands, and the relocation of identified marae and urupā which are likely to be subject to significant natural hazard risks over time.

Objectives, policies and rules in this section apply to subdivision in the following zones:

- Rural – Rural Production Zone, Rural - Mixed Rural Zone, Rural - Rural Coastal Zone, Rural – Rural Conservation Zone and Rural – Countryside Living Zone;
- Rural – Waitākere Foothills Zone and Rural – Waitākere Ranges Zone;
- Future Urban Zone; and
- Special Purpose – Quarry Zone.

For subdivision provisions in all other zones refer to [E38 Subdivision – Urban](#).

E39.2. Objectives

...

(14) Subdivision is provided for, by either:

(a) Limited in-situ subdivision through the protection and enhancement of significant indigenous vegetation or wetlands and/or indigenous revegetation planting; or

(aa) Very limited rural subdivision to provide for the relocation of identified marae and urupā from sites subject to significant natural hazard risks; or

(b) Transfer of titles to the Rural-Countryside Living Zone, through the protection and enhancement of indigenous vegetation and wetlands and/or through indigenous revegetation planting.

...

(16A) Sites to accommodate the relocation of marae and urupā are provided for in areas where there are natural and physical resources that have been scheduled in the Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character if the adverse effects on those values are avoided and or minimised.

(17) Subdivision:

(a) ~~[Deleted] outside of urban and serviced areas avoids adverse effects to people, property, infrastructure and the environment from natural hazards;~~

(aa) only occurs when the risk from natural hazards, including the potential effects of climate change, to people, property, infrastructure and the environment is tolerable or acceptable;

(b) avoids where possible, and otherwise mitigates, adverse effects associated with subdivision for infrastructure or existing urban land uses; and

(c) maintains the function of flood plains and overland flow paths to safely convey flood waters, and of natural features and buffers in the coastal environment as natural defenses against coastal hazards, while taking into account the likely long term effects of climate change;

...

E39.3. Policies

...

(2) Require subdivision to manage ~~the risk of adverse effects resulting from~~ natural hazards risks in accordance with the objectives and policies in [E36](#)

Natural hazards and flooding, and to provide safe and stable building platforms and vehicle access.

...

(6A) Provide for other boundary adjustments only where they enable the relocation of identified existing marae and urupā which are subject to significant natural hazard risks.

...

Relocation of identified marae and urupā from significant natural hazard risk (a Te Wāhi Hūnuku Site)

(19A) Provide for limited rural subdivision to create a Te Wāhi Hūnuku Site for identified existing marae and urupā which are subject to significant natural hazard risks, while ensuring that:

- (a) natural hazard risk assessments incorporate the cultural perspectives of the potentially affected iwi, hapū, whānau and haukāinga.
- (b) a decision to relocate a marae and/or urupā is made in accordance with the agreed tikanga of all affected iwi, hapū, whānau and haukāinga.
- (c) the Te Wāhi Hūnuku Site will be used for the relocation of the identified marae and/or urupā and is agreed between the landowner of the parent site and the mandated marae / urupā representatives;
- (d) the original marae and urupā site is no longer used for land use or development which will result in significant natural hazard risks.
- (e) the Te Wāhi Hūnuku Site is of a sufficient size to accommodate all necessary services and to absorb and manage adverse effects within the site;
- (f) where there are natural and physical resources that have been scheduled in the Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character and are affected by relocated marae and urupā development, adverse effects on those values are avoided, remedied or mitigated;
- (g) reverse sensitivity effects are managed in a way that does not compromise the viability of surrounding rural sites for continued production;
- (h) the subdivision avoids, remedies or mitigates adverse effects on the rural or coastal character and complements the rural or coastal character of the area.

...

E39.4. Activity table

...

Note 1

The rules that have immediate legal effect are identified within the activity tables as below. Any associated standards, matters of discretion, assessment criteria, special information requirements, maps, definitions and appendices applicable to those rules also have immediate legal effect.

Table E39.4.1 Subdivision for specified purposes

(A4A)	<u>Te Wāhi Hūnuku boundary adjustments which enable the relocation of identified existing marae and urupā which are subject to significant natural hazard risks meeting Standard E39.6.3.2A</u>	<u>C</u>
(A8)	Subdivision of land within any of the following natural hazard areas: <ul style="list-style-type: none"> • Deleted] 1 per cent annual exceedance probability floodplain • <u>flood hazard areas (excluding overland flow paths);</u> • [Deleted] <u>coastal storm inundation 1 per cent annual exceedance probability (AEP) area</u> • <u>coastal hazard areas;</u> • [Deleted] <u>coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area</u> • <u>medium landslide susceptibility assessment areas; or</u> • [Deleted] <u>coastal erosion hazard area</u> • <u>high landslide susceptibility assessment areas; or</u> • [Deleted] <u>land which may be subject to land instability.</u> 	RD
(A10)	Boundary adjustments unable to comply with controlled activity rule and standards in E39.6.3.2 and <u>E39.6.3.2A</u> E39.6.3	D

...

Table E39.4.2 Subdivision in rural zones (excluding Rural – Waitākere Foothills Zone and Rural – Waitākere Ranges Zone)

(A13A)	<u>Te Wāhi Hūnuku Site subdivision in the Rural – Rural Production Zone, Rural – Mixed Rural Zone, Rural – Rural Coastal Zone and Rural – Rural Conservation Zone for the relocation of identified marae and urupā from significant natural hazard risk complying with Standard E39.6.4.3A.</u>	<u>RD</u>
(A13B)	<u>Te Wāhi Hūnuku Site subdivision in the Rural – Rural Production Zone, Rural – Mixed Rural Zone, Rural – Rural Coastal Zone and Rural – Rural Conservation Zone for the relocation of identified marae and urupā from significant natural hazard risk not complying with Standard E39.6.4.3A.</u>	<u>NC</u>

...

Table E39.4.3 Subdivision in Future Urban Zone

(A28A)	<u>Te Wāhi Hūnuku Site subdivision in the Future Urban Zone for the relocation of the Makaurau Marae urupā (Sec 2A ML 14173</u>	<u>D</u>
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	<u>Parish of Manurewa) from significant natural hazard risk complying with Standard E39.6.5.4.</u>	
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...

E39.6. Standards

Subdivision listed in Tables E36.4.1 to E39.4.5 must comply with the relevant standards in E36.6.1 General standards (except as otherwise provided in Standard E39.6.5.1(2)), and the relevant standards for permitted, controlled, restricted discretionary and discretionary activities in E39.6.2 to E39.6.5.

E39.6.1. General standards

E39.6.1.1 Specified building area

- (1) A specified building area must be clearly identified on every site on a subdivision scheme plan on which a building is to be constructed.
- (2) Where the site contains an existing dwelling at the time the subdivision application is made, the specified building area must include:
 - (a) the location of the existing dwelling;
 - (l) indicate that the dwelling will be removed from the site; or
 - (m) the new location of the existing dwelling that will be relocated.
- (3) The specified building area must meet all of the following:
 - (a) include a single area of at least 2,000m² clear of all of the following:
 - (i) all yards;
 - ~~(ii) [Deleted] one per cent annual exceedance probability floodplain areas;~~
 - (iia) flood hazard areas (excluding overland flow paths);
 - ~~(iii) [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) area;~~
 - (iiia) coastal hazard areas;
 - ~~(iv) [Deleted] coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area;~~
 - ~~(v) [Deleted] coastal erosion hazard area;~~
 - (vi) land which may be subject to land instability high (significant) landslide hazard risk areas identified in accordance with Appendix 24 Landslide hazard risk assessment methodology;
 - (vii) access to all proposed building platforms or areas; and

- (viii) on-site private infrastructure required to service the intended use of the site.
- (n) be able to be linked by adequate and appropriate vehicle access to a formed public road;
- (o) be identified as the only place within the site where dwellings, any accessory buildings, and related parking and manoeuvring areas can be located; and
- (p) be located outside of the Quarry Buffer Area Overlay.

...

E39.6.3. Standards - controlled activities

Subdivision listed as a controlled activity in Table E36.4.1 Subdivision for specified purposes and Table E39.4.5 Subdivision in Rural – Waitākere Foothills Zone and Rural – Waitākere Ranges Zone must comply with the relevant standards in E36.6.1 General standards and in E39.6.3 Standards – controlled activities.

E39.6.3.2A Te Wāhi Hūnuku boundary adjustments which enable the relocation of identified existing marae and urupā which are subject to significant natural hazard risks

- (1) The subdivision adjusts a boundary of one of the identified listed sites below:
 - (a) Te Kia Ora Marae (Kakanui Marae): 2263 Kaipara Coast Highway, Makaurau 0984;
 - (b) Te Kiri Marae (Ōmaha Marae): Omaha Block Access Road, Leigh 0985;
 - (c) Umupuia Marae: 163 Maraetai Coast Road, Clevedon 2582;
 - (d) Whaataapaka Marae: 258C Whatapaka Road, Karaka 2580.
- (2) The existing marae or urupā must have an active trusteeship.
- (3) All sites prior to the boundary adjustment must be contained within the same zone.
- (4) All service connections and on-site infrastructure must be located within the boundary of the site they serve, or have legal rights provided by an appropriate legal mechanism.
- (5) Boundary adjustments must not result in the creation of additional titles.
- (6) An encumbrance is registered on the marae or urupā site identifying that the boundary relocation entitlement has been used under rule E39.4.1(A4A) and that a suitable legal mechanism is used to ensure no future land use or development will be undertaken which results in an significant natural hazard risk.

- (7) The adjusted portion of the marae and/or urupā site is limited for use as a marae and/ or urupā through one of the following mechanisms:
- (a) an encumbrance is registered on the adjusted portion of the marae and/or urupā site.
 - (b) the adjusted portion of the marae and/or urupā site must be classified as a Māori Reservation and remain vested in the existing trust of the marae or urupā as determined by the Māori Land Court.

...

E39.6.4. Standards – restricted discretionary activities

Subdivision listed as a restricted discretionary activity in Table E36.4.1 Subdivision for specified purposes or Table E39.4.2 Subdivision in rural zones must comply with the relevant standards set out in E36.6.1 General standards and E36.6.4 Standards – restricted discretionary activities unless otherwise specified.

E39.6.4.2 Subdivision of land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas of a site within the one per cent annual exceedance probability floodplain

- (1) Each proposed site within ~~the one per cent floodplain that is to contain a more vulnerable activity~~ flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas must ~~meet one of~~ the following:
- (a) ~~[Deleted] contain a specified building area that meets the requirements of Standard E39.6.1 General standards; or~~
 - (b) be in accordance with a land use consent that authorises development or building in the floodplain natural hazard area; or
 - (c) contain a specified building area that meets the requirements of Standard E39.6.1 General standards; and
 - (d) demonstrate that access to all proposed building platforms or areas are located outside any:
 - i. high or very high flood hazard area
 - ii. coastal hazard area 1 or 2

iii. high (significant) landslide hazard risk area identified in accordance with Appendix 24 Landslide hazard risk assessment methodology; and

(e) demonstrate that all on-site private infrastructure required to service the intended use of the site is located outside any:

i. coastal hazard area 1 or 2

ii. high (significant) landslide hazard risk area identified in accordance with Appendix 24 Landslide hazard risk assessment methodology.

E39.6.4.3 Subdivision of land in the coastal erosion hazard area; or the coastal storm inundation 1 per cent annual exceedance probability (AEP) area

~~(1) Each proposed site on land in the coastal erosion hazard area or the coastal storm inundation 1 per cent annual exceedance probability (AEP) area must demonstrate that all of the relevant areas/features in (a) to (c) below are located outside of any land subject to coastal erosion or coastal storm inundation:~~

~~(a) a specified building area that meets the requirements of Standard E39.6.1 General standards;~~

~~(b) access to all proposed building platforms or areas; and~~

~~(c) on-site private infrastructure required to service the intended use of the site.~~

E39.6.4.3A Te Wāhi Hūnuku Site subdivision for the relocation of identified marae and urupā from significant natural hazard risk

Refer to Appendix 15 Subdivision information and process for further information in relation to Te Wāhi Hūnuku subdivisions.

(1) The significant natural hazard risk applies to one of the following eligible marae and/or associated urupā:

(a) Te Kia Ora Marae (Kakanui Marae): 2263 Kaipara Coast Highway, Makaurau 0984,

(b) Te Kiri Marae (Ōmaha Marae): Omaha Block Access Road, Leigh 0985,

(c) Umupuia Marae: 163 Maraetai Coast Road, Clevedon 2582,

- (d) Whaataapaka Marae: 258C Whatapaka Road, Karaka 2580.
- (2) The existing marae or urupā must have an active trusteeship.
- (3) Only one new Te Wāhi Hūnuku Site may be created for each listed site up to a maximum of 4 hectares in size. No minimum site size applies.
- (4) A natural hazard risk assessment must be undertaken in accordance with Chapter E36 and include the cultural perspectives of the trustees to confirm the eligible marae and/or associated urupā is subject to a significant natural hazard risk.
- (5) The Te Wāhi Hūnuku Site must be the subject of a binding legal sale and purchase agreement between the marae or urupā trust and the landowner of the parent site subject to the subdivision.
- (6) An encumbrance is registered on the original marae or urupā site identifying that the subdivision entitlement has been used under rule E39.4.2(A13A) and that a suitable legal mechanism is used to ensure no future land use or development will be undertaken which results in a significant natural hazard risk.
- (7) The Te Wāhi Hūnuku Site is limited for use as a marae and/ or urupā through one of the following legal mechanisms:
 - (a) an encumbrance is registered on the new site,
 - (b) the new site must be classified as a Māori Reservation and remain vested in the existing trust of the marae or urupā as determined by the Māori Land Court

...

E39.6.5. Standards – discretionary activities

Subdivision listed as a discretionary activity in Table E36.4.2 and Table E39.4.5 must comply with the relevant standards in E36.6.1 General standards and E36.6.5 Standards – discretionary activities.

E39.6.5.4 Te Wāhi Hūnuku Site subdivision in the Future Urban Zone for the relocation of the Makaurau Marae urupā

- (1) The urupā must have an active trusteeship.
- (2) Only one new Te Wāhi Hūnuku Site may be created up to a maximum of 1 hectare in size. No minimum site size applies.
- (3) A natural hazard risk assessment must be undertaken in

accordance with Chapter E36 and include the cultural perspectives of the trustees to confirm the eligible urupā is subject to a significant natural hazard risk.

- (4) The Te Wāhi Hūnuku Site must be the subject of a binding legal sale and purchase agreement between the urupā trust and the landowner of the parent site subject to the subdivision.
- (5) An encumbrance is registered on the original urupā site identifying that the subdivision entitlement has been used under rule E39.4.3(A28A) and that a suitable legal mechanism is used to ensure no future land use or development will be undertaken which results in a significant natural hazard risk.
- (6) The Te Wāhi Hūnuku Site is limited for use as an urupā through one of the following legal mechanisms:
 - (a) an encumbrance is registered on the new site,
 - (b) the new site must be classified as a Māori Reservation and remain vested in the existing trust of the urupā as determined by the Māori Land Court.

...

E39.8. Assessment – restricted discretionary activities

E39.8.1. Matters of discretion

The Council will restrict its discretion to the following matters when assessing a restricted discretionary resource consent application:

- (1) ~~subdivision of a site within the 1 per cent annual exceedance probability floodplain land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas:~~
 - (a) ~~the effects of the natural hazards exposure on of the intended use of the sites or sites created enabled by the subdivision and the vulnerability sensitivity of these uses to flood natural hazard events.~~
- (2) ~~[Deleted] subdivision of a site in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area or the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1 m sea level rise area:~~
 - (a) ~~the effects of the hazards on the intended use of the sites created by the subdivision and the vulnerability of these uses to coastal storm inundation events.~~
- (3) ~~[Deleted] subdivision of a site in the coastal erosion hazard area:~~
 - (a) ~~the effects of the erosion on the intended use of the sites created by the subdivision and the vulnerability of these uses to coastal erosion.~~

(4) ~~[Deleted] subdivision of sites subject to land instability including those areas defined in the Plan as “land which may be subject to land instability”, or other unstable soils as identified through a specific site assessment:~~

~~(a) the effects of remediating the land instability hazard and the effect of the hazard on the intended use.~~

(5) subdivision establishing an esplanade reserve:

(b) the effect of the design, purpose and location of any esplanade reserve established by subdivision in terms of public access, and the conservation of coastal and/or riverbank ecological values, natural values, geological features and landscape features.

(5A) Subdivision in the Rural – Rural Production Zone, Rural – Mixed Rural Zone, Rural – Rural Coastal Zone and Rural – Rural Conservation Zone for the relocation of identified marae and urupā from significant natural hazard risk complying with Standard E39.6.4.3A:

(a) effects associated with the following matters, having regard to the need to ensure that the cultural benefits of providing a Te Wāhi Hūnuku Site for at risk marae and urupā do not unnecessarily compromise other elements of rural character and amenity:

(i) the potential effects of the natural hazard risk affecting the original marae or urupā site

(ii) the site size, building platforms locations and access;

(iii) the rural character, landscapes and amenity;

(iv) measures proposed to avoid, remedy or mitigate adverse effects on natural and physical resources that have been scheduled in the Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character;

(v) the location and configuration of the proposed site with respect to the tikanga of the mandated marae/or and urupā representatives;

(vi) the compliance with the Auckland-wide rules;

(vii) legal mechanisms to restrict land use and development on the original marae and/or urupā site to avoid significant risks and to ensure the new site is only used for the intended cultural purpose;

- (viii) The site is of sufficient size for the provision of adequate access to existing and new infrastructure and provision of appropriate management of effects of stormwater;
- (ix) any reverse sensitivity effects; and
- (x) the location of identified building areas platforms relative to areas of significant mineral resources

E39.8.2. Assessment criteria

The Council will consider the relevant assessment criteria for restricted discretionary activities from the list below:

- (1) ~~subdivision of a site within the 1 per cent annual exceedance probability floodplain land within flood hazard areas (excluding overland flow paths), coastal hazard areas, medium landslide susceptibility assessment areas or high landslide susceptibility assessment areas:~~
 - (a) ~~the effects of the natural hazards exposure on of the intended use of the sites or sites created enabled by the subdivision and the vulnerability sensitivity of these uses to flood natural hazard events:~~
 - (i) ~~[Deleted] whether measures are proposed to ensure the long term protection of flood plain conveyance functions;~~
 - (ii) ~~[Deleted] whether the location and design of development including building platforms and access ways are located to avoid the hazard;~~
 - (iii) ~~[Deleted] the extent to which changes to the landform and the design of mitigation structures/features are necessary for the subdivision; and~~
 - (iv) refer to Policy E36.3(2).
- (2) ~~[Deleted] subdivision of a site in the coastal storm inundation 1 per cent annual exceedance probability (AEP) area or the coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1 m sea level rise area:~~
 - (b) ~~the effects of the hazards on the intended use of the sites created by the subdivision and the vulnerability of these uses to coastal storm inundation events:~~
 - (v) ~~whether the location and design of development including proposed and existing building platforms and access ways include the ability to relocate uses within the proposed site area;~~
 - (vi) ~~whether the use of defences to protect the land and any buildings or structures on the land from coastal storm inundation are necessary;~~
 - (vii) ~~whether there is any residual risk posed by coastal storm inundation to the site(s) associated with any existing or proposed coastal defences;~~

- (viii) ~~whether there are effects on landscape values resulting from associated built and/or land form modifications required to provide for the intended use of the site; and~~
- (ix) ~~Policy E36.3(2).~~
- (3) ~~[Deleted] subdivision of site in the coastal erosion hazard area:~~
 - (c) ~~the effects of the hazards on the intended use of the sites created by the subdivision and the vulnerability of these uses to coastal erosion:~~
 - (x) ~~whether public access to the coast is affected;~~
 - (xi) ~~the extent to which the installation of hard protection structures to be utilised to protect the site or its uses from coastal erosion hazards over at least a 100 year timeframe are necessary; and~~
 - (xii) ~~Policy E36.3(2).~~
 - (4) ~~[Deleted] subdivision of sites subject to land instability including those areas defined in the Plan as "land which may be subject to land instability", or other unstable soils as identified through a specific site assessment:~~
 - (d) ~~the effects of remediating the land instability hazard and the effect of the hazard on the intended use:~~
 - (xiii) ~~the extent to which the proposed sites are stable and suitable;~~
 - (xiv) ~~the extent to which the site instability will affect the intended use, including the provision for onsite infrastructure (where applicable) and accessways; and~~
 - (xv) ~~Policy E36.3(2).~~

(5A) Subdivision in the Rural – Rural Production Zone, Rural – Mixed Rural Zone, Rural – Rural Coastal Zone and Rural – Rural Conservation Zone for the relocation of identified marae and urupā from significant natural hazard risk complying with Standard E39.6.4.3A:

- (a) The extent to which natural hazards present a significant risk to the original marae and/or urupā site.
- (b) The extent to which the size and location of the new site is consistent with the relevant tikanga of the mandated marae and/or urupā representatives.
- (c) Mechanisms in place to ensure the new site will be used for the intended cultural purpose.
- (d) Mechanisms in place to ensure the original marae or urupā site is no longer used for land use or development which will result in significant natural hazard risk.

(e) Policies E39.3(1), (19A), and (20).

E39.9. Special information requirements

~~There are no special information requirements in this section.~~

- (1) A hazard risk assessment must be undertaken when subdivision, use or development requiring resource consent is proposed to be undertaken on land which are within any one or more natural hazard areas.

The level of information required to be provided should be proportionate to the hazard risk, the nature of the hazard. It should also be appropriate to the scale, nature and location of the development and reflective of the scale of the activity proposed. For coastal hazards this should include a consideration of the potential effects of climate change over at least a 100 year timeframe.

- (2) A hazard risk assessment report must accompany a resource consent application for the subdivision, use or development referenced in E36.9(1) above and must identify which natural hazard(s) that the land is potentially at risk of being exposed to over at least the next 100 years and which addresses all the matters outlined in Policies E36.3(3), E36.3(4A) and E36.4(4B), including climate scenarios in Auckland Council Guideline Document 15: Climate change scenarios (GD15) November 2024.
- (3) A landslide hazard risk assessment prepared by a suitably qualified and experienced person in accordance with Appendix 24 Landslide hazard risk assessment methodology must accompany a resource consent application for the subdivision, use or development of land within a landslide hazard area.
- (4) Geotechnical reports prepared by a suitably qualified and experienced person in accordance with Auckland Council Code of Practice for Land Development and Subdivision, Section 2 (Earthworks and Geotechnical Requirements) must accompany a resource consent application for the subdivision, use or development of land within a landslide hazard area.

Changes to Chapter H3 – Residential – Single House zone

H3 Residential – Single House Zone

H3.1 Zone description

The Residential – Single House Zone is applied to identified sites within residential neighbourhoods that necessitate a lower intensity of development and to serviced rural settlements.

The purpose of the Residential – Single House Zone is to manage development to the extent necessary to:

...

- prevent development intensifying in areas that are known to be exposed to coastal and flood hazards;

H3.2 Objectives

- (5) Development does not adversely affect the values of adjoining water bodies including riparian, lakeside and coastal protection areas; nor increases natural hazard risks.
- (9) Development, including redevelopment, only occurs when the risk from natural hazards to people, property, infrastructure and the environment is tolerable or acceptable in the short to long term.

H3.3 Policies

- (11) Require buildings to be setback from water bodies to maintain and protect environmental, open space, amenity values of riparian margins of lakes, streams and coastal areas and water quality and to provide protection from natural hazards.
- (12) Restrict development in high hazard areas, and manage development in medium or low hazard areas to ensure natural hazard risk is tolerable or acceptable.

H3.4.1 Activity Table

...

The purpose of land use activities H3.4.1 (A3), (A5), (A6), (A9), (A11), (A13), (A15), (A22), (A23) in the Residential – Single House Zone includes restricting development in high hazard areas and managing development in medium or low hazard areas to ensure natural hazard risk is tolerable or acceptable.

Changes to Chapter H4 – Residential – Mixed Housing Suburban zone

H4 Residential – Mixed Housing Urban Zone

H4.1 Zone description

...

All residential development must comply with development standards to achieve high good quality on-site living liveable environments that are attractive, healthy and safe; meet the functional and operational needs of residents and emergency responders; and that contribute to climate resilience. Risks from natural hazards are not increased.

H4.2 Objectives

- (7) Development does not adversely affect the values of adjoining water bodies including riparian, lakeside and coastal protection areas; nor increases natural hazard risks.

H4.3 Policies

(3C) Require buildings to be setback from water bodies to maintain and protect environmental, open space, amenity values of riparian margins of lakes, streams and coastal areas and water quality and to provide protection from natural hazards.

(3D) Restrict development in high hazard areas, and manage development in medium or low hazard areas to ensure natural hazard risk is tolerable or acceptable.

Changes to Chapter H5 – Residential – Mixed Housing Urban zone

H5 Residential – Mixed Housing Urban Zone

H5.1 Zone description

...

All residential development must comply with development standards to achieve high good quality on-site living liveable environments that are attractive, healthy and safe; meet the functional and operational needs of residents and emergency responders; and that contribute to climate resilience. Risks from natural hazards are not increased.

H5.2 Objectives

- (8) Development does not adversely affect the values of adjoining water bodies including riparian, lakeside and coastal protection areas; nor increases natural hazard risks.

H5.3 Policies

(3C) Require buildings to be setback from water bodies to maintain and protect environmental, open space, amenity values of riparian margins of lakes, streams and coastal areas and water quality and to provide protection from natural hazards.

(3D) Restrict development in high hazard areas, and manage development in medium or low hazard areas to ensure natural hazard risk is tolerable or acceptable.

H5.4 Activity table

...

The purpose of land use activities H5.4.1 (A15), (A16), (A20), (A24) in the Residential – Mixed Housing Urban Zone includes managing development to ensure natural hazard risk is not increased.

Changes to Chapter H6 – Residential – Terraced Housing and Apartment Buildings zone

H6.1 Zone description

...

All residential development must comply with development standards to achieve high good quality on-site living/liveable environments that are attractive, healthy and safe; meet the functional and operational needs of residents and emergency responders; and that contribute to climate resilience. Risks from natural hazards are not increased.

H6.2 Objectives

(8) Development does not adversely affect the values of adjoining water bodies including riparian, lakeside and coastal protection areas; nor increases natural hazard risks.

H6.3 Policies

(C9) Require buildings to be setback from water bodies to maintain and protect environmental, open space, amenity values of riparian margins of lakes, streams and coastal areas and water quality and to provide protection from natural hazards.

(D9) Restrict development in high hazard areas, and manage development in medium or low hazard areas to ensure natural hazard risk is tolerable or acceptable.

Changes to Chapter J Definitions

J.1. Definitions

J1.2. Abbreviations and acronyms

...

ARI

~~Average rain index~~ Average Recurrence Interval

...

J1.3A Natural hazard areas and hazard classifications

<u>Natural Hazard Area</u>	<u>Flood hazard area</u>	<u>Flood plain</u>	<u>Very high flood hazard area</u>
		<u>Flood prone area</u>	<u>High flood hazard area</u>
		<u>Overland flow path</u>	<u>Medium flood hazard area</u>
			<u>Low flood hazard area</u>
<u>Coastal hazard area</u>		<u>Coastal inundation hazard area 1</u>	

		<u>Coastal inundation hazard area</u>	<u>Coastal inundation hazard area 2</u>
			<u>Coastal inundation hazard area 3</u>
		<u>Coastal erosion hazard area</u>	<u>Coastal erosion hazard area 1</u>
			<u>Coastal erosion hazard area 2</u>
			<u>Coastal erosion hazard area 3</u>
	<u>Landslide hazard area</u>	<u>Landslide hazard risk area</u>	<u>High (significant) landslide hazard risk area</u>
			<u>Medium (tolerable) landslide hazard risk area</u>
			<u>Low (acceptable) landslide hazard risk area</u>
		<u>Landslide susceptibility assessment area</u>	<u>High landslide susceptibility assessment area</u>
	<u>Medium landslide susceptibility assessment area</u>		
	<u>Low landslide susceptibility assessment area</u>		

J1.4 Definitions

...

Activities less sensitive to natural hazards

Activities where there is a minimal presence of people and buildings and which will not create public health or pollution issues in a natural hazard event

- marine and port activities
- marine and port accessory structures and services
- marine and port facilities
- marine industry
- marine retail
- marine passenger operations
- informal recreation
- organised sport and recreation
- parks infrastructure
- public amenities
- parking and loading areas
- forestry
- mineral extraction
- buildings for network utilities
- rural activities, except those that are listed as 'Activities Potentially Sensitive to Natural Hazards'

Activities potentially sensitive to natural hazards

Activities where people are regularly present and buildings are routinely required to carry out the activity, but people are not usually in a vulnerable state; and which are unlikely to create significant public health or pollution issues in a natural hazard event.

These include:

- offices
- retail
- commercial services
- entertainment facilities
- education facilities without overnight accommodation
- emergency services
- community facilities, except those listed as ‘Activities Sensitive to Natural Hazards’
- correction facilities without overnight accommodation
- healthcare facilities without overnight accommodation
- temporary activities
- industrial activities, except those listed as ‘Activities Sensitive to Natural Hazards’
- intensive farming
- equestrian centres
- rural industries
- post-harvest facilities

...

Activities sensitive to natural hazards

These activities are split into two groups – [A] and [B].

Activities sensitive to natural hazards [A] are activities where people are regularly present and often in a vulnerable state because they sleep there, require medical treatment, or require extra assistance to evacuate. These include:

- healthcare facilities with overnight accommodation
- care centres
- hospital
- correction facilities

- residential dwellings and associated activities (including conversion of one dwelling into two or more dwellings and excluding working from home that do not involve additional people on-site)
- marae
- visitor accommodation including boarding houses
- retirement villages
- camping grounds
- educational facilities with overnight accommodation
- supported residential care

Activities sensitive to natural hazards [B] are activities which, if damaged, may create a significant public health or pollution issue during and/or after a natural hazard event. These include:

- cemeteries and urupā
- crematoriums
- landfills
- hazardous facilities and major hazardous facilities
- service stations
- industrial laboratories
- manufacturing
- waste management facilities

...

Annual exceedance probability

The probability of exceeding a given threshold within a period of one year. It can be applied to any type of risk to express the likelihood of an event. For example, in relation to flooding, a one per cent AEP flood plain is the area that would be inundated in a storm event of a scale that has a one per cent or ~~greater~~ lower probability of occurring in any one year.

Approximate Equivalent average return recurrence intervals (ARI) are:

- one per cent AEP = 100 year ARI.
- two per cent AEP = 50 year ARI.
- 10 per cent AEP = 10 year ARI.
- 20 per cent AEP = 5 year ARI.
- 50 per cent AEP = 2 year ARI.

...

Coastal erosion hazard area

Any land which is identified as susceptible to coastal erosion or instability triggered by such erosion. The coastal erosion hazard area is subdivided into three areas taking into account increasing sea levels relative to present day:

- Area 1: Coastal erosion hazard area taking into account 0.28m of relative sea level rise.
- Area 2: Coastal erosion hazard area taking into account between 0.28m and 0.55m of relative sea level rise.
- Area 3: Coastal erosion hazard area taking into account between 0.55m and 1.52m of relative sea level rise.

Note. The Council holds publicly available information in its Geomaps GIS viewer showing the modelled extent of Areas Subject to Coastal Instability and Erosion (ASCIE) over at least 100 years (to 2130) based on a greenhouse gas emissions Representative Concentration Pathway 8.5M scenarios (RCP 8.5) and 8.5H+ scenario (RCP 8.5+). This includes a 30-year (2050) scenario which accounts for a sea level rise of 0.28m, a 50-year (2080) scenario which accounts for a sea level rise of 0.55m and 100-year (2130) scenario which accounts for a sea level rise of 1.52m relative to present day sea level. The ASCIE maps are based on a regional-scale assessment. The ASCIE maps may be updated by Council to reflect the best information available.

A party may provide the Council with a site-specific technical report prepared by a suitably qualified and experienced person to establish the extent of the Coastal Erosion Hazard Area specific to their site and development proposal. The assessment should be consistent with guidance included in 'Coastal Hazard Assessment in the Auckland Region: Guideline document 2021/010, August 2021' (GD2021/010) and any subsequent update to this document and will be subject to review by Council.

Any land which is:

- (d) ~~within a horizontal distance of 20m landward from the top of any coastal cliff with a slope angle steeper than 1 in 3 (18 degrees); or~~
- (e) ~~at an elevation less than 7m above mean high water springs if the activity is within:~~
 - (iii) ~~Inner Harbours and Inner Hauraki Gulf: 40m of mean high water springs;~~
~~or~~
 - (iv) ~~Open west, outer and Mid Hauraki Gulf: 50m of mean high water springs;~~
~~or~~
- (f) ~~within a lesser distance from the top of any coastal cliff, or mean high water springs, than that stated in (a) and (b), where identified in a site specific coastal hazard assessment technical report prepared by a suitably qualified and~~

experienced professional to establish the extent of land which may be subject to coastal erosion over at least a 100 year time frame.

Coastal hazard areas

Includes coastal inundation hazard areas and coastal erosion hazard areas – refer to J1.3A Natural hazard areas and hazard classifications

...

Coastal storm inundation 1 per cent annual exceedance probability (AEP) hazard area

The area of coastal land subject to inundation caused by sea level elevations during storm events, where the sea level elevation is of such height as to have a one per cent chance of being equalled or exceeded in any year. This includes wave set up for open coastal areas as well as wave setup and tidal amplification for inner harbours and estuaries. Wave run up is not included. The coastal inundation hazard area is subdivided into three areas taking into account increasing sea levels relative to present day:

- Area 1: Coastal inundation hazard areas taking into account a relative sea level rise of up to 0.5m.
- Area 2: Coastal inundation hazard areas taking into account a relative sea level rise of between 0.5m and 1m.
- Area 3: Coastal inundation hazard areas taking into account a relative sea level rise of between 1m and 1.5m.

Note. The Council holds publicly available information in its Geomaps GIS viewer showing the modelled extent of the coastal storm inundation areas. The coastal storm inundation maps are based on a regional-scale assessment. These maps may be updated by Council to reflect the best information available.

A party may provide the Council with a site specific technical report prepared by a suitably qualified and experienced person to establish the extent of the coastal inundation area specific to their site and development proposal. The assessment should be consistent with the methods and approaches used in [Auckland's Exposure to Coastal Inundation by Storm-tides and Waves, December 2020 \(Technical report 2020/024\)](#) and any subsequent replacement or revisions of this document and will be subject to review by Council.

~~The area of coastal land subject to inundation caused by high sea level elevations during storm events, where the sea level elevation is of such height as to have a one per cent chance of being equalled or exceeded in any year. This includes wave set up for open coastal areas and excludes wave set up for inner harbours and estuaries. Wave run up is not included.~~

~~The Coastal storm inundation 1 per cent AEP area is:~~

- ~~the area shown in the Council's publicly available online GIS viewer as the modelled extent of affected land for a 100 year return period (Average Recurrence Interval); or~~

- as identified in a site-specific technical report prepared by a suitably qualified and experienced professional.

Note: The Coastal Storm Inundation maps included in the Council's GIS viewer represent the area of inundation indicated in the tables of the report: Stephens, S., Wadhwa, S., and Tuckey, B., (2016) Coastal inundation by storm tides and waves in the Auckland Region, prepared by NIWA and DHI for Auckland Council, Auckland Council Technical Report TR2016/17). These maps may be amended should more updated information be made available.

~~Coastal storm inundation 1 per cent annual exceedance probability (AEP) plus 1m sea level rise area~~

~~The area inundated during a coastal storm inundation 1 per cent AEP event plus an additional one metre of sea level rise relative to the present day mean sea level.~~

~~The area of coastal storm inundation 1 per cent AEP plus 1m sea level rise is defined as:~~

- ~~the area shown in the Council's publicly available online GIS viewer as the modelled extent of affected land for a 100 year return period (Average Recurrence Interval) plus 1m sea level rise; or~~
- ~~as identified in a site-specific technical report prepared by a suitably qualified and experienced professional.~~

...

Flood hazard area

Includes floodplains, flood prone areas and overland flow paths – refer to J1.3A Natural hazard areas and hazard classifications. Flood hazard areas are categorised based on the depth and velocity of floodwaters into four classifications:

- Very high flood hazard areas –
 - for floodplains and overland flow paths, where floodwaters have a depth equal or greater than 1200mm or depth x velocity product greater than or equal to 0.8m²/s in a 1 per cent AEP event
 - for flood prone areas, where floodwaters have a depth equal or greater than 1200mm with 50mm of rainfall (approximately a 20 per cent AEP event), assuming the primary stormwater network is 100 per cent blocked.
- High flood hazard areas –
 - for floodplains and overland flow paths, where floodwaters have a depth between 500mm and 1200mm or depth x velocity product between 0.4m²/s and 0.8m²/s in a 1 per cent AEP event
 - for flood prone areas, where floodwaters have a depth between 500mm and 1200mm with 50mm of rainfall (approximately a 20 per cent AEP event), assuming the primary stormwater network is 100 per cent blocked.
- Medium flood hazard area –

- for floodplains and overland flow paths, where floodwaters have a depth between 500mm and 300mm or depth x velocity product between 0.4m²/s and 0.24m²/s in a 1 per cent AEP event
- for flood prone areas, where floodwaters have a depth between 500mm and 300mm with 50mm of rainfall (approximately a 20 per cent AEP event), assuming the primary stormwater network is 100 per cent blocked.
- Low flood hazard area –
 - for floodplains and overland flow paths, where floodwaters have depth equal to or less than 300mm or depth x velocity product less than or equal to 0.24m²/s in a 1 per cent AEP event
 - for flood prone areas, all other flood prone areas not meeting the definition for very high, high and medium flood hazard areas

Flood prone area

An area of land within a topographical depression where water will pond in a 1 per cent AEP rainfall event if soakage is restricted or the primary drainage outlet is blocked.

Note:

The Council holds publicly available information showing the modelled extent of Flood Prone Areas in its GIS viewer (Flood Prone map). The Flood Prone map is indicative only and excludes topographical depressions that are less than 300mm deep, have a water surface area of less than 500m² or a water volume less than 50m³.

The flood prone map depicts either the area that the depression will fill to in the 1 per cent AEP event or if the depression fills to overflowing, then to the level it starts to spill.

Flood Prone Areas may be susceptible to hazardous flooding during a range of storm events, including frequent events. A party will usually be required to provide the Council with a site-specific technical report prepared by a suitably qualified and experienced person to establish the frequency, extent and characteristics of the Flood Prone Area specific to their property and proposed development.

Flood tolerant activity

Flood tolerant activities for the purpose of the Plan are:

- informal recreation and leisure;
- organised sports and recreation including park fields structures;
- public amenities;
- farming and intensive farming and artificial crop protection structures and crop support structures;
- forestry;

- ~~mineral extraction;~~
- ~~car parking and loading areas; and~~
- ~~buildings for network utilities.~~

...

Land which may be subject to land instability

Any land with one of the following characteristics:

- (g) ~~Where the land which is underlain by Allochthonous soils has slope angles greater than or equal to 1 vertical to 7 horizontal;~~
- (h) ~~Where the land which is underlain by Holocene or Pleistocene sediments which has a slope angle greater than or equal to 1 vertical to 4 horizontal;~~
- (i) ~~Where the land is underlain by any other soil type and has a slope angle greater than or equal to 1 vertical to 3 horizontal;~~
- (j) ~~On sloping sites where fill greater than 600mm depth has been placed in uncontrolled conditions or not to engineered (certified) standards and where the original underlying natural terrain gradient was greater than or equal to:

 - (v) ~~1 vertical to 7 horizontal for slope comprising Allochthonous soils;~~
 - (vi) ~~1 vertical to 4 horizontal for slopes comprising Holocene or Pleistocene soils; or~~
 - (vii) ~~1 vertical or 3 horizontal for slopes comprising any other soil types;~~~~
- (k) ~~Within a horizontal distance of 2.5 times the cliff vertical height behind the base of any natural cliff; or~~
- (l) ~~Within a horizontal distance of 2 times the cliff vertical height in front of the base of any natural cliff.~~

Note

~~A natural cliff may be considered to be any slope with a vertical height of greater than 3.5m and a gradient equal to or greater than 1 vertical to 1 horizontal (45 degrees). The vertical height of the cliff must only be measured over that part of the cliff where the slope gradient is equal to or greater than 45 degrees.~~

~~Geological conditions, including soil types not mapped in the Plan and soil conditions as referred to in the above definition may be identified at a regional level through the following sources:~~

- ~~reference to information in GNS Sciences Qmaps;~~
- ~~Geology of Auckland (compiled by Edbrooke for IGNS 2001);~~
- ~~property files material and reports held by Council; and~~
- ~~by a suitably qualified professional.~~

...

Landslide hazard area

Includes landslide hazard risk areas and landslide susceptibility assessment areas – refer to J1.3A Natural hazard areas and hazard classifications.

Landslide hazard risk area

Any land which is identified and/or assessed as being exposed to risk in accordance with Appendix 24 Landslide hazard risk assessment methodology. These are grouped into three categories:

- High (significant) landslide hazard risk area – Any land which, for the proposed development, is identified and/or assessed as being exposed to a significant level of risk.
- Medium (tolerable) landslide hazard risk area – Any land which, for the proposed development, is identified and/or assessed as being exposed to a tolerable level of risk.
- Low (acceptable) landslide hazard risk area – Any land which, for the proposed development, is identified and/or assessed as being exposed to an acceptable level of risk.

Landslide susceptibility assessment area

Any land which has evidence of past landslides or is predicted to be susceptible to shallow landslides and/or large-scale landslides, taking into account the relative potential likelihood of a landslide occurring in the future, compared with surrounding areas. .These are grouped into three categories:

- High landslide susceptibility assessment area – any land which is predicted to have a high or very high susceptibility to landslides and shown accordingly in the Council's GIS Viewer.
- Medium landslide susceptibility assessment area – any land which is predicted to have a medium susceptibility to landslides and shown accordingly in the Council's GIS Viewer
- Low landslide susceptibility assessment area – any land which is predicted to have a very low or low susceptibility to landslides and shown accordingly in the Council's GIS Viewer.

Note: The Council holds publicly available information in its Geomaps GIS viewer showing known landslides in mapped landslide inventories. Other sources of information available include the Earth Sciences Geological Map of New Zealand collection and Natural Hazards Commission claims portal.

The Council also holds publicly available information in its Geomaps GIS viewer showing the modelled extent of landslide susceptibility for shallow landslides and large-scale

landslides. The landslide susceptibility maps are based on a regional-scale assessment and are not intended to be viewed or relied upon on a property-level scale. A party may provide the Council with a site-specific technical report prepared by a suitably qualified and experienced person to establish the extent of the landslide susceptibility area (assessed in accordance with GNS Science 144¹) and any associated landslide hazard area specific to their site and development proposal, assessed in accordance with [Appendix 24 Landslide hazard risk assessment methodology](#).

The assessment of landslide susceptibility should also be consistent with the methods and approaches used in the [Auckland Region Landslide Susceptibility Assessment, May 2025 \(Technical report 2025/7\)](#) and any subsequent replacement or revisions of this document and will be subject to review by Council.

These maps may be updated by Council to reflect the best information available.

...

Less vulnerable activities

Means activities listed in the following nesting tables:

- ~~Commerce;~~
- ~~Community, excluding care centres, and healthcare facilities with overnight stay facilities;~~
- ~~Industry; and~~
- ~~Rural.~~

...

Lifeline utility

Has the same meaning as in Civil Defence Emergency Act 2002.

...

Mana Whenua cultural heritage

In a Plan context, this includes sacred sites and places and the cultural landscape context in which sites and places are located. Mana Whenua cultural heritage can be scheduled or unscheduled in the plan and includes:

- archaeology of Māori origin;
- wāhi (location, locality, place);
- wāhi tapu (sacred ancestral sites and places of significance to iwi, hapū or whānau);
- sites and places are significant to Mana Whenua for the tangible and intangible values they hold;

¹ De Vilder SJ, Kelly SD, Buxton RB, Allan S, Glassey PJ. 2024. Landslide planning guidance: reducing landslide risk through land-use planning. Lower Hutt (NZ): GNS Science. 77 p. GNS Science miscellaneous series 144). <https://doi.org/10.21420/R2X8-FJ49>

- Māori cultural landscapes;
- wāhi pakanga (battle site);
- wāhi tohi (ritual site);
- urupā (Māori burial ground);
- tō waka (waka portage);
- rākau pito and wāhi pito (tree marking the burial site of a placenta or umbilical cord);
- taonga (a treasured item, it can be tangible or intangible); and
- cultural and spiritual associations with these areas, features or sites.

...

Māori land

~~Has the same meaning as section 129 of Te Ture Whenua Māori Act 1993.~~

Means:

- Māori freehold land (as defined in section 129 of Te Ture Whenua Māori Act 1993), including land deemed to be Māori freehold land under section 243 or section 256 of TTWMA
- Māori customary land (as defined in section 129 of TTWMA)
- general land owned by Māori that was previously Māori freehold land, but ceased to have that status under Part 1 of the Māori Affairs Amendment Act 1967 and is beneficially owned by the persons who beneficially owned the land immediately before the land ceased to be Māori land, or their successors

...

~~More vulnerable activities~~

~~Means activities listed in the residential nesting table and also includes care centres, and healthcare facilities with overnight stay facilities.~~

...

Natural hazard areas

Includes coastal hazard areas, flood hazard areas and landslide hazard areas – refer to J1.3A Natural hazard areas and hazard classifications.

...

Overland flow path

A Low point in terrain, excluding a permanent watercourse or intermittent river or stream, (excluding permanent streams) where surface runoff will flow during rainfall events, with an upstream contributing catchment exceeding 4,000m².

Excludes the following areas:

- constructed depressions and pits within Special Purpose - Quarry Zone.

Note

The Council holds publicly available information showing the modelled Overland Flow Paths in its GIS viewer ~~for specific properties (the Overland Flow Path map)~~. The Overland Flow Path map is indicative only and shows only the thalweg, not the full extent of the Overland Flow Path. The thalweg is the line of the lowest elevation on a cross-section of the overland flow path) and further technical assessment by a suitably qualified and experienced person is required to establish the extent, depth and flow characteristics. The actual extent of any particular Overland Flow Path may extend beyond the site on which the thalweg is depicted. A party may provide the Council with a site specific technical report prepared by a suitably qualified and experienced person to establish the location, depth or flow characteristics of the Overland Flow Path.

Council will continually update the Overland Flow Path map to reflect the best information available.

...

Residual risk

The level of risk to people, property, and the environment that remains after all reasonable and practicable mitigation measures to avoid or reduce the impacts of natural hazards have been implemented.

...

Safe egress

A safe evacuation route, that is free of permanent obstacles and can be easily traversed by foot, from a building through the property to a safe public place.

Safe refuge

A building with habitable rooms in which a person can safely stay during a natural hazard event

...

Te Wāhi Hūnuku boundary adjustments

A subdivision of identified existing marae and/or urupā sites to relocate the marae and/or urupā away from significant natural hazard risks that:

- maintains the same number of sites following subdivision as existed prior to it;
- alters the boundaries between two or more contiguous sites, and
- may result in any one or more of the sites becoming larger or smaller.

Te Wāhi Hūnuku site subdivision

A rural site of up to 4 hectares, or up to 1 hectare in the Future Urban Zone, created by subdivision which is for the purpose of relocating identified existing marae and/or urupā away from significant natural hazard risks.

...

Changes to Appendix 15 Subdivision information and process

...

15.3. Transferable rural site subdivision

15.3.1. Process

15.3A Te Wāhi Hūnuku Site Subdivision

- (1) A Te Wāhi Hūnuku Site provides limited opportunities for the subdivision of rural sites to create one site of up to 4 hectares in rural zones, and one site of up to 1 hectare in the Future Urban Zone. These sites act as a receiving site for existing marae and urupā identified in the provisions, which are likely to be subject to significant natural hazard risks now or in the future. A 4 hectare maximum size limit has been set to allow for the creation of Te Wāhi Hūnuku Sites which are both large enough to accommodate the existing facilities and also allow for some expansion. The 1 hectare maximum size in the Future Urban Zone is specifically to accommodate the urupā of Makaurau Marae which is currently subject to natural hazards.
- (2) A natural hazard risk assessment must be undertaken in accordance with Chapter E36 to confirm that the eligible marae and/or associated urupā are subject to a significant level of natural hazard risk. Importantly, this assessment must include the cultural perspectives of the potentially affected iwi, hapū, whānau and haukāinga so the cultural impact of the hazard can be understood in making the risk determination. The marae or urupā trustees convey these perspectives to council.
- (3) A decision to relocate a marae or urupā is a culturally significant one. The discussion can extend beyond the haukāinga (home people of the marae) to include all affected iwi, hapū and whānau associated with the site. Decisions are made in accordance with agreed tikanga, which can vary.
- (4) Identifying a new location for a marae and urupā is also a culturally significant one. It can take into account matters such as cultural landmarks, proximity to customary activities, and kōrero tuku iho (stories handed down through generations). The Te Wāhi Hūnuku Site subdivision provisions are intended to provide as much flexibility as possible as to where new sites can be established. This includes recognition that desirable sites can at times include natural and physical resources that have been scheduled in the Auckland Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character.
- (5) Each identified marae or urupā eligible for Te Wāhi Hūnuku Site subdivision is a Māori Reservation and must have an active trusteeship as determined by the Māori Land Court. These trusts are the legal entities which make decisions on behalf of the marae or urupā and therefore are the mandated representatives which council engages with during the subdivision process.
- (6) It is important to ensure that the newly created Te Wāhi Hūnuku Site is used for the intended cultural purpose of relocating the marae or urupā. There are two legal mechanisms to achieve this in the provisions. These are through the use of encumbrances on the property title or by requiring that the newly created site are classified as a Māori Reservation administered by the existing marae or urupā trust. Māori Reservations are established and amended by the Māori Land Court under Te Ture Whenua Māori Act 1993 and can apply over general title land or

Māori Land. It is recommended that independent legal advice is sought by the applicant.

(7) It is similarly important that the original site is no longer used in a manner that will result in significant natural hazard risk. This is done either through registering an encumbrance on the property title, or through an amendment to the purpose of the original Māori Reservation which can be sought through the Māori Land Court. An order can be obtained from the court specifying where development sensitive to natural hazards should not occur within the reservation. Activities on the Māori Reservation are administered by the appointed trusteeship to comply with the terms of the reservation. Again, independent legal advice is recommended.

(8) While it is possible to develop marae and urupā in Rural zone and Future Urban Zone land, classifying the resultant site as Māori Land under Te Ture Whenua Māori Land Act 1993 or rezoning the site to the Special Purpose – Māori Purpose Zone will provide more flexibility for these cultural land uses. The entire process of relocating a marae or urupā is expected to take approximately 2 years, allowing time for classification of Māori Land, or rezoning to occur.

15.3B Te Wāhi Hūnuku Boundary Relocation

(1) Boundary relocation is another option open to the identified existing marae and urupā in rural areas. It allows for existing marae and/or urupā sites to be enlarged so sensitive activities can be relocated out of hazard risk areas.

(2) There is no limit to the size of the boundary adjustment, but there is a requirement for the adjusted marae and/or urupā site to be used for the intended cultural purpose. This can be through the registration of an encumbrance or through amending the existing Māori Reservation by Māori Land Court order. There is similarly a requirement to apply a suitable legal mechanism to avoid future land use or development which will result in significant natural hazard risk.

...

15.6. Revegetation planting

(1) A planting plan for any revegetation planting is required prior to a section 224(c) certificate being issued and must identify the following:

- (a) the ecological district of the site;
- (b) the characteristics of the soil (i.e. clay, silt, loam etc.);
- (c) soil drainage;
- (d) topography of the area to be planted;
- (e) location and extent of the area to be planted;
- (f) exposure of the site to wind, frost, sunlight and salt spray;
- (g) presence of plant and animal pests;

- (h) presence of any threatened species and if necessary the process for the translocation of threatened species,
 - (i) stock-proof fencing that should be at least a full seven wire, post and batten fence, planting areas, weed and animal pest control;
 - (j) extent of the existing Significant Ecological Areas (indigenous vegetation) and an outline of the biodiversity of the Significant Ecological Areas (indigenous vegetation) and the land in the subdivision;
 - (k) any restrictions on planting, such as existing infrastructure, wildfire risk mitigation, safety or existing access issues;
 - (l) how revegetation planting will be ecologically linked to an area of contiguous Significant Ecological Areas (indigenous vegetation) and if possible any other additional existing ecological corridors or connections;
 - (m) how revegetation planting will provide robust and high value ecological connections without gaps to the Significant Ecological Areas;
 - (n) how revegetation planting will buffer the Significant Ecological Areas and ensure long term viability and resilience of the Significant Ecological Areas;
 - (o) site planting, including species to be planted, size and spacing of plants and where they are to be planted, requirements for replacement of pest plants with appropriate native species and measures to minimise reinvasion of pest plants and mitigate wildfire risk;
 - (p) measures for the maintenance of planting, including releasing plants, fertiliser, plant and animal pest control and mulching and replacement of plants which do not survive, and measures for animal and plant pest control;
 - (q) protective measures proposed to ensure the Significant Ecological Areas (indigenous vegetation) and any proposed revegetation planting remain protected in perpetuity;
 - (r) details confirming that revegetation planting is only to be carried out contiguous to the Significant Ecological Areas (consisting of indigenous vegetation)
 - (s) confirmation that the assessment of whether the maintenance of plantings has been achieved shall be undertaken by a suitably qualified independent ecologist according to a quantitative monitoring programme
- (2) The location and species composition of the restoration planting is to achieve the following:
- (a) provide necessary protection and restoration of the Significant Ecological Areas to ensure its long term viability, health, and significance;

- (b) facilitate the use of natural regeneration processes to ensure that in the long term these natural regeneration processes take over;
 - (c) provide for the protection and restoration of the Significant Ecological Areas and provide robust linkages between ecological features;
 - (ca) wildfire risk mitigation;
 - (d) provide a sustainable, potentially significant forest, wetland or shrubland.
- (3) The following matters must be implemented prior to a section 224(c) certificate is issued and confirmation is provided:
- (a) the establishment of secure stock exclusion that is at least a full seven wire, post and batten fence;
 - (b) the planting of native vegetation at a density detailed below or at some other density considered more appropriate for the site circumstances by Council:
 - (i) an average density of 1.4 metre centres (5,100 stems per hectare) reducing to 1 metre centres (10,000 stems per hectare) in kikuyu and wetland and riparian margins;
 - (ii) sourced from the ecological district and to be appropriate for the soil, aspect, exposure and topography; and
 - (iii) reflect the composition of former natural vegetation likely to have occupied the site and include appropriate native species that will enable natural processes of succession;
 - (c) the maintenance of any plantings must occur until the plantings have reached a sufficient maturity to be self-sustaining, and have reached 80 per cent canopy closure. The survival rate must ensure a minimum 90 per cent of the original density and species;
 - (d) the maintenance of any plantings must include the ongoing replacement of plants that do not survive;
 - (e) the maintenance of any plantings must ensure that all invasive plant pests are eradicated from the planting site both at the time of planting and on an on-going basis and plants released from kikuyu as necessary to ensure adequate growth; and
 - (f) the maintenance of any plantings must ensure animal and plant pest control occurs.
- (4) The planting plan must be prepared and confirmed by a suitably qualified and experienced person.

Changes to Appendix 16 Guideline for native revegetation plantings

16.1. Introduction

These guidelines explain what specific information is needed for native revegetation plantings, why the information is necessary and why Council expects certain actions to be undertaken to ensure planning is successful. When applying to Council for consent to subdivide based on the replanting of native vegetation (see [E39 Subdivision - Rural](#)), Council requires the following:

- (1) pre-planting site assessment;
- (2) planting plan assessment; ~~and~~
- (2a) wildfire vegetation risk assessment; and
- (3) annual monitoring programme.

...

16.2A Wildfire vegetation risk assessment

(4) Human activities cause the majority of wildfires in New Zealand. Therefore, where the proposed vegetation is close to existing or proposed more vulnerable activities and significant ecological areas, it is important that species are selected with a low flammability to mitigate wildfire risk. This applies to the wildfire risk of proposed planting to both more vulnerable activities and significant ecological areas. The following information assists in assessing that risk:

- (g) whether there are any more vulnerable activities (including access routes), significant ecological areas or other forest vegetation within 20m of the proposed planting;
- (h) the flammability rating of the more prevalent species in the proposed or existing forest vegetation with reference to the flammability ratings of very low, low/moderate, moderate, moderate/high, high or very high (refer to the Fire and Emergency New Zealand Plant Flammability Directory or equivalent) and the distance of that vegetation to the more vulnerable activities;
- (i) any other information relevant to wildfire risk;
- (j) plans showing the above and contours and waterbodies

16.3. Planting plan assessment

(1) In order to assist Council in establishing whether the planting proposed is adequate a Planting Plan Assessment needs to be produced containing the following information:

- (a) the purpose of the planting, which could include: hill country erosion control, stream bank erosion, habitat control, habitat restoration,

ecological corridor creation, buffer planting to protect the edges of existing bush and/or water quality enhancement, and wildfire risk mitigation;

(b) location and extent of planting on a plan;

(c) site preparation for planting, including stock-proof fencing of areas, weed and animal pest control;

(d) site planting, including species to be planted, size of plants and where they are to be planted, density of planting, plant species flammability, sourcing of plants and fertilisers; and

(e) maintenance of planting, including fertiliser, releasing plants, animal and plant pest control, and mulching.

(2) The reasons for the detail required in the Planting Plan Assessment are discussed below under the following headings:

(f) site preparation (including identifying and removing weeds, animal pest control, and stock control);

(g) site planting (including canopy closure and plant spacing, fertiliser, size of plants to be planted, time of planting); and

(h) site maintenance (including mulching and animal and plant pest control).

...

Attachment 11 – GNS peer review



17 September 2025

Auckland Council
Private Bag 92300
Victoria Street West
Auckland 1142

Attention: Nicholas Lau

Dear Nicholas,

Auckland Unitary Plan – Draft Replacement Plan change for Proposed Plan Change 78 – Intensification

Landslide Risk Assessment Method – Phase 2 Peer Review

1.0 Purpose

Auckland Council has prepared a draft replacement plan change for Proposed Plan Change 78 – Intensification (PC78)¹. Included within the draft replacement plan change are changes to *‘Chapter E36 – Natural hazards and flooding’*, and the addition of an *‘Appendix 24 – Landslide hazard risk assessment methodology’*.

We have been engaged to undertake a two phased review of the landslide provisions in the draft replacement Chapter E36 and of Appendix 24. Phase 1 comprised track changes and comments on June 2025 versions of these documents. This Phase 2 review was provided as track changes and comments on versions of these document as at 27 August 2025, and seeks to answer whether implementation of the approach: (1) manages the risks appropriately; (2) aligns with current good practice; and (3) avoids potential significant challenges to adoption.

¹ [PC 78: Intensification](#)

DISCLAIMER

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This letter report summarises our Phase 2 review, in particular discussion of key themes relevant to the implementation of the landslide provisions in Chapter E36, and Appendix 24. We consider whether the provision provide appropriate management for landslide risk, align with current good practice, and consideration of potential significant challenges to adoption.

It is understood this letter report may be used in support of Resource Management Act 1991 Section 32 evaluation reporting for draft replacement Chapter E36 and Appendix 24.

2.0 Peer Reviewers

The Phase 1 and 2 peer reviews have been undertaken by Scott Kelly and Dr Saskia de Vilder. We are the lead authors on the Landslide Planning Guidance (de Vilder et al. 2024), and each have more than 10 years' experience in resource management planning and landslide hazard and risk assessments respectively.

Scott is a Senior Natural Hazards Planner, and Team Leader of the Planning and Policy and Risk Science teams at Earth Science NZ. He led the development of the Proposed Otago Regional Policy Statement APP6 – Methodology for natural hazard risk assessment, and several other risk assessment methodologies for land-use planning applications.

Saskia is a Senior Engineering Geologist at Earth Science NZ and has undertaken and led landslide hazard and risk assessments around New Zealand. She developed the natural hazard risk analysis methodology framework for the Department of Conservation and leads the Sliding Lands Hōretireti Whenua Endeavour research programme (2023–2028). Hōretireti Whenua is creating national-scale landslide models that can forecast where rapid and dangerous landslides are likely to be triggered by earthquakes and rainfall events.

3.0 Key Themes

The following subsections set out and discuss the key themes identified in our Phase 2 peer review. We consider addressing each of these matters within the draft replacement Chapter E36 and Appendix 24 will:

- Assist plan users with their interpretation, understanding and clarity of the landslide provisions and risk assessment methodology.
- Improve alignment with current good practice.
- Improve the application of the underpinning knowledge and reasoning of the landslide provisions and risk assessment methodology; and / or
- Reduce implementation challenges of these aspects of the draft replacement plan change.

3.1 Concept of Risk Tolerance

The concept of risk tolerance is critical to guiding consistent risk-based decision-making, and we consider that its role could be more clearly articulated in the chapter and appendix. While, the concept is highlighted at the outset and referenced in several places, it is not always clear how it informs the approaches being proposed.

“Risk tolerance is our willingness to bear a risk. Understanding risk tolerance helps us decide how to manage the potential impacts of a hazard on the things we value (such as our health, environment, economy, and buildings and infrastructure).” (NHC, 2023). Within society, risk tolerance differs from

person to person, group to group, and over different timeframes based on lived experiences, perceived futures and goals. To an extent land-use planning frameworks must balance different tolerances.

We consider that clearer inclusion and discussion of the concept of risk tolerance could usefully assist implementation and clarity. Within Chapter E36.1. Background, Paragraph 5 considers that *“A proportionate risk-based approach has been adopted ...”*, and goes on to discuss the different types of approaches that are being applied to different situations (e.g. risk reduction for existing urban land-uses, risk avoidance for land that is yet to be urbanised, and risk management for infrastructure). We consider that this section would benefit from setting out the concept of risk tolerance (e.g. what the different levels of risk used mean), and what is broadly expected at the different levels of risk (e.g. significant risk is reduced to a tolerable level or avoided, tolerable risk is reduced as low as reasonably practicable and maintained, and acceptable risk is enabled).

Further into Chapter E36.1. Background, under the heading *‘Hazard sensitivity and risk categories’*, this section could usefully utilise risk tolerance concepts to improve clarity for plan users and provide a consistent base for the rest of the chapter. NHC (2023) provides a useful overview. If it is not sufficient to include this as explanatory text within Chapter E36, we recommend that a practice note or definition be used to convey this information.

3.2 Alignment and Consistency

In addition to risk tolerance, there are several other concepts within and between Chapter E36 and Appendix 24 where the alignment and consistency could be usefully improved to assist implementation and clarity for plan users. These concepts are considered below.

3.2.1 How Areas and Development are dealt with depending on their Current State

As it stands, Chapter E36 contains separate provisions for existing urbanised areas and areas outside of existing urbanised areas. Appendix 24 makes different requirements depending on whether the risk assessment is considering existing or new development with different risk thresholds applying to each. We consider navigation and implementation of these different approaches to be challenging due to their markedly different scales.

The concepts underpinning the provisions should be used consistently throughout. Our recommendation is to adopt the ‘existing versus new development’ separation, owing to likely imminent national direction assisting this and the clarity and consistency it provides when implementing provisions at a site level. This would mean urban and rural areas are treated the same, and instead the landslide hazard and the development present or to occur drive the provisions to be implemented.

3.2.2 Hazard and Risk Scales

Chapter E36 categorises risk as significant, potentially tolerable and acceptable, while Appendix 24 categorises landslide risk as high, medium and low. Sometimes the two are used alongside each other. For flooding, very high, high, medium and low hazard is used to categorise the hazard, while coastal erosion and inundation use different areas (i.e. area 1, area 2). Both hazard and risk scale / categories should be reconciled, aligned and consistent where possible. Existing practice in the Wellington region using the hazard-sensitive activities approach provides a good practice example of this.

Consistency with good practice and challenges of implementing tolerability terminology (Chapter E36) in a land-use planning application (i.e. different tolerability’s across plan users) versus level-based terminology (Appendix 24) requires careful navigation, and separate advice may be required for this.

3.2.3 'As Low as Reasonably Practicable' Creating a Caveat to avoid Policies

Throughout Chapter E36 “*as low as reasonably practicable*” is utilised, including in landslide specific policies. In the landslide policies it is often used to present an alternative to avoidance directives when avoidance is not reasonably practicable in relation to certain activities and significant risk. For example:

(4KA) Avoid natural hazard sensitive activities and natural hazard potentially sensitive activities associated with proposals to subdivide, use or develop land in existing urbanised areas that give rise to significant landslide hazard risk in accordance with Appendix 24 Landslide hazard risk assessment methodology, and, if avoidance is not reasonably practicable, reduce the risk to as low as reasonably practicable.

This use of “*as low as reasonably practicable*” creates a caveat to a policy that firstly seeks avoiding subjecting certain activities to significant landslide risk where that level of risk could still be established provided it is “*as low as reasonably practicable*” – thereby undermining the intent of the policy.

The use of “avoid” in a policy is a strong signal, that should not be undermined. Often avoid policies are interpreted that the activity should be avoided, in this instance it is clear that it is a level of risk that is to be avoided – an approach that we support.

3.2.4 The Risks being Considered

Risks to life, society and property are the most fulsome description of what risks are being contemplated by Chapter E36 and Appendix 24, however this is not consistent throughout – sometimes only risk to life is contemplated, and other times risks to nature are also contemplated. There appears to be inconsistency with the risks considered in relation to other hazards (e.g. Policy 4DE regarding flooding and property damage).

We recommend risk to life and property are the explicit focus, which aligns with potential national direction and current good practice (e.g. Otago and Bay of Plenty) and the potentially forthcoming National Policy Statement for Natural Hazards.

3.2.5 Building Importance Level versus Sensitive Activities

Both building importance level (BIL), and sensitive activity approaches are currently used within Chapter E36 and Appendix 24. For simplicity and to assist implementation one approach should be used.²

BIL is an approach likely drawn from the Building Code (MBIE, n.d.) or Active Fault Guidance (Kerr et al. 2003), and the sensitive activities approach which was first utilised in the Dunedin City Second Generation District Plan and also applied throughout District Plans in the Wellington Region are two complimentary approaches that proxy vulnerability into land-use planning for natural hazard risk on the basis of different building uses being more or less vulnerable to natural hazards.

The use of BIL may conflict with or confuse the building consent process. The sensitive activities approach is recommended owing to it being more widely used in resource management practice and offering more nuance and customisation of categorisation.

In addition to the approach taken to proxy vulnerability, it is noted that a landslide rule framework using BIL or sensitive activities was not evident in the version we reviewed. We recommend a rule framework is developed and included to align with good practice. In a rule framework for sensitive activities,

² We were informed that between the 27 August 2025 version reviewed for this letter report, and this letter report being **Plan Change 120: Housing Intensification and Resilience Section 32** from Appendix 24. 396

activities sensitive to natural hazards would have a more onerous (i.e. non-complying or discretionary) activities status than activities less sensitive or not sensitive to natural hazards.

3.3 Clarity on Climate Change Scenarios

Since our Phase 1 review, changes have been made in Appendix 24 regarding climate change scenarios, which now required the use of Shared Socio-Economic Pathway (SSP) scenario SSP5-8.5 presented in Auckland Council Guidance Document 15: “Climate Change Scenarios”(GD15) November 2024. We support this clarity provided in relation to climate change scenarios, but recommend that these also be reflected in relevant provisions of Chapter E36.

In addition, a timeframe out to which the climate change scenario is applied should also be provided – e.g. 100 years into the future or to 2125, depending on what GD15 is able to support.

3.4 Consideration of Events with a Lower Probability than the 1% AEP

The ‘Risk assessment requirements’ set out at the beginning of *Chapter E36.3 Policies [rp/dp]* requires explicit consideration of *‘whether natural hazard events of lower intensity and higher frequency than the 1 per cent AEP event will impact the property and proposed activity’*. While this is important owing to an accumulation of these lower intensity events being a proverbial straw on the camel’s back, we consider events of a higher intensity and lower frequency than 1 per cent AEP event should also be considered.

In relation to the landslides, Appendix 24 provides for consideration of events with lesser and greater intensities and likelihoods compared to the 1% AEP event, but this may be interpreted to run contrary to Chapter E36. Changes are required to address this inconsistency and potential implementation challenge regarding consideration of lower probability, higher intensity events in risk assessments.

3.5 Risk Assessment Sequence

As currently drafted and presented in the figures of Appendix 24, aspects of the risk assessment method appear inconsistent with good practice. In particular:

1. Where multiple risk assessment methods are applied, we recommend stating that results from Method 2 should take precedence over those from Method 1. This would reflect the greater level of detail and rigour typically associated with Method 2 assessments.
2. It is currently unclear whether there are circumstances under which a Method 1 assessment should trigger a Method 2 assessment. We recommend this is included in Appendix 24. For example, where Method 1 results in a high or significant risk level, good practice would generally require a follow-up Method 2 assessment to confirm or refine the result.

Clarifying the relationship between the two methods, including when escalation from Method 1 to Method 2 is warranted, would improve consistency and alignment with established risk assessment frameworks.

3.6 Material incorporated by Reference

Throughout Chapter E36 and Appendix 24 various databases, reports and scenarios are incorporated by reference. Where possible, we recommend that these are hyperlinked for ease of use for plan users. Ideally the landslide susceptibility maps, database and reports would also be incorporated by reference however we note that Part 3, Schedule 1 of the RMA likely prevents this from occurring.

This likely presents a challenge for implementation whereby plan users are uncertain of what information to use in undertaking a landslide risk assessment.

3.7 Understanding of the Underpinning Technical Information

There are elements of the risk assessment method that rely on technical information not presented within Appendix 24 that have not been reviewed as part of this peer review. However, this technical information underpins thresholds which are used to determine if a risk assessment is required and the related level of analysis. The integration of this technical foundation with the method is critical to its successful and robust implementation, and we consider review of this underpinning information necessary to fully address the questions posed for this peer review (see Section 1). This is particularly evident in our commentary on Stage 1.2 and Stage 1.4 of the method in relation to why landslides that have not been active for more than 5000 years are not considered and the 150 metre proxy for landslide runout. Each of these is considered in further detail below.

3.7.1 Landslide Activity Status Classification

At present, Stage 1.2 states that no further analysis is required if a landslide has not been active within the last 5000 years. We have two key concerns with this approach. First, the level of confidence in determining when a landslide was last active must be robust and defensible. Second, we understand that the rationale for excluding landslides with no known activity in the last 5000 years is because they had not been active under current environmental conditions. However, we consider that there may be instances where landslides pose a risk of reactivation depending on their formation and triggering mechanisms. For example, an earthquake induced landslide that responds only to significant ground shaking, or one influenced by river incision and avulsion, may become active again under certain conditions.

Assessing the stability, and identifying the potential causes and triggers of landslide movement requires the development of an engineering geological model. On this basis, we recommend that landslides last active more than 5000 years ago still be considered for further analysis. A distinction in method requirements – such as “Known landslide active in the last 5000 years” versus “Known landslide not active in the last 5000 years” – could be incorporated into the Stage 2 table, with the latter requiring only a Method 1 risk analysis.

We also recommend including clarifying information on how landslide activity estimates were derived. Where the method of assessment of landslide activity is based on geomorphological assessment rather than precise age dating, terminology could be updated to reflect this – for example, “Known landslides, where geomorphology indicates inactivity over the last 5000 years.”

3.7.2 Landslide runout buffering (currently 150 metres)

We welcome the inclusion of landslide runout within Appendix 24. Currently, Stage 1.4 outlines that areas impacted by landslide runout are identified by considering the landslide susceptibility class within 150 metres of the site in an uphill direction including along gully paths. The highest landslide susceptibility class within 150 metres is used to inform the assessment. Based on information provided by Auckland Council, the 150 metre distance was derived from an analysis of landslide runout triggered by Cyclone Gabrielle. However, limited technical detail has been provided regarding this analysis, and it remains unclear what proportion of landslide runout events are captured by the 150 metre buffer. For instance, does this buffer encompass 90% of observed runout, with only 10% extending beyond, or is the capture rate lower?

It is also uncertain whether the runout characteristics observed during Cyclone Gabrielle are representative of broader landslide behaviour across the Auckland region. To support the use of this approach, we recommend the development of a short technical report that outlines the rationale and justification for the selection of the 150 metre distance.

For reference, we also highlight an alternative technical approach applied and used elsewhere for identifying areas impacted by landslide runout, which is the Hong Kong Approach of in-principle objective criteria and alert criteria which use angles and distances from slope bases to determine areas affected by landslide runout (Ho & Roberts, 2016). These criteria could be tested against recorded landslide runout events in the Auckland region to assess their suitability and potential for adaptation.

Should it be retained, we consider that expression of the 150 metre rule requires refinement to better convey its application in a land-use planning context – for example a 150 metre upslope only buffer (noting this may require a definition or other planning mechanism to appropriately constrain) around a proposed activity would be more consistent with how activity statuses are applied in relation to overlays.

3.8 Australian Geomechanics versus National Policy Statement for Natural Hazards Likelihoods

For Stage 3 – Method 1, a likelihood table based on the Australian Geomechanics Society Landslide Risk Management likelihood table is utilised. We consider this requires evaluation against the recently socialised National Policy Statement for Natural Hazards (NPS-NH) likelihood table.

Given the low upper bound on NPS-NH likelihood (currently >5000 years), we expect the AGS likelihood table to provide more nuance, and note this would remain consistent with currently good practice and signals surrounding NPS-NH policy intent.

3.9 Assessment Areas over or under Five Hectares

Stage 3 – Method 1 includes a series of consequence tables, two of which apply a five-hectare threshold to determine the consequences of landslides. These tables appear to draw on the Bay of Plenty Regional Policy Statement (BoP RPS)³; however, the technical basis for this threshold is unclear, nor is the approach applied here entirely consistent with that in the BoP RPS. The approach in Appendix 24 sets out consequence tables on the basis of the landslide hazard assessment area either being over or under five hectares. In contrast, the BoP RPS assessment methodology utilises a five-hectare threshold in relation to the site size on which development is to occur.

While there is logic in the size of the assessment area or site size being a determining factor of the consequence thresholds owing to larger areas having greater potential to result in more numerous or larger landslides, there are potential unintended consequences. For example, where the assessment area is intentionally set to ensure a more lenient consequence table or where inconsistencies arise based on the number of landslides present or susceptibility of landslides across different five-hectare areas.

Without a clear understanding of the underlying rationale and case study evaluation / testing, it is difficult to assess how this influences the overall risk assessment process. We recommend the five-hectare threshold is removed, and one consequence table is used.

Should the five-hectare threshold remain, as the consequence table used is derived from this, the term ‘landslide hazard assessment area’ requires further definition and clarity given its impact on the risk assessment process. If retained, this term is key for setting the scope of the engineering geological model and associated risk analysis (Method 1 or Method 2).

4.0 Concluding Statement

This letter report sets out a summary of our Phase 2 peer review of the landslide risk assessment method and associated policies in the Auckland Unitary Plan draft replacement plan change for Proposed Plan Change 78 – Intensification. The Phase 2 peer review sets out to answer whether implementation of the approach: (1) manages the risks appropriately; (2) aligns with current good practice; and (3) avoids potential significant challenges to adoption.

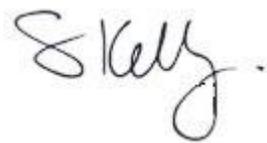
We have not identified any major matters where we consider landslide risk is assessed or managed inappropriately. We do make several recommendations that we consider would notably improve the assessment or management of landslide risk.

We consider that the method and policies are not inconsistent with current good practice. There are several matters that require further consideration in relation to current good practice, particularly:

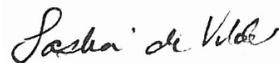
- Reconciliation of the hazard and risk scales.
- Inclusion of property risk within Appendix 24.
- Incorporation of a sensitive activities rule framework for landslide hazards.
- Clarification that Method 2 results take precedence over Method 1 results.
- A trigger from a Method 1 assessment to a Method 2 assessment.

We identify several challenges to adoption and implementation; however, we consider that these are navigable within the framework that has been put forward. Of note are the instances of inconsistency within Chapter E36 between landslide and other natural hazards, inconsistency between the landslide provisions and the methodology set out in Appendix 24, and the challenge of incorporating the landslide susceptibility maps and database by reference likely being restricted by the RMA.

Yours sincerely,



Scott Kelly
Senior Natural Hazards Planner



Dr Saskia de Vilder
Senior Engineering Geologist

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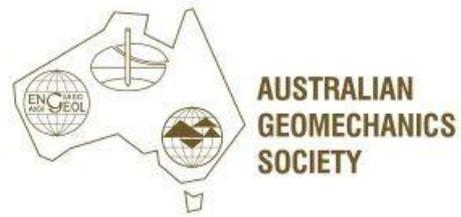
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Attachment 12 – International Landslide Risk Management Current State Review – Overview for s32 report

DRAFT



A Collaborating Technical Society
of Engineering New Zealand



Landslide Risk Management: International Landslide Risk Management Current State Review – Synopsis report

Editor – Ross Roberts

This document was predominantly compiled by information provided by the authors. The editorial process involved simplification, re-wording and re-ordering.

Authors

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CONTENTS

1	Introduction	1
2	Summary by Country	2
2.1	Canada	2
2.2	China	8
2.3	France	13
2.4	Greece.....	19
2.5	Hong Kong	24
2.6	Italy	29
2.7	Japan.....	35
2.8	New Zealand	39
2.9	Norway	42
2.10	Spain (Catalonia).....	46
2.11	United Kingdom.....	51
2.12	United States of America.....	56
3	Discussion.....	61
3.1	Landslide inventories.....	61
3.2	Roles & Responsibilities.....	61
3.3	Procedures.....	Error! Bookmark not defined.
4	References	63
	Appendix A - Timeline by Country	Error! Bookmark not defined.
	Canada	Error! Bookmark not defined.
	China	Error! Bookmark not defined.
	France.....	Error! Bookmark not defined.
	Greece.....	Error! Bookmark not defined.
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1 INTRODUCTION

In 2024 the Australian Geomechanics Society and the New Zealand Geotechnical Society commenced a project to update the existing “Landslide Risk Management Guidelines” published in 2007 by the AGS.

As part of this update, a working group was directed to research global state of art practices and trends in landslide risk management (LRM). The information gathered by this working group was intended to inform the review and update of the guidelines.

Eleven countries, along with New Zealand, were chosen for this research. The countries were selected to represent a range of legal and technical approaches to provide an overview of global practice. The study focused on countries classified as advanced, based on the assumption that these contexts may offer comprehensive information relevant to developing practice guidelines.

Detailed reviews by (Malet & Maquaire, 2008) and (Kalsnes & Nadim, 2012) were used by (Thiery et al., 2020) to propose two groups of European countries by their approach to landslide risk management:

- (i) Countries that produce non-regulatory landslide hazard guideline documents to be used for land-use planning (e.g., Andorra, Spain, Austria, Romania, and the UK).
- (ii) Countries with a legal framework based on the production of regulatory documents related to binding legislation enforceable against populations and administrations (e.g. Italy, France, Norway, Sweden, and Switzerland).

This report presents a representative sample of each group, alongside others from around the world.

This synopsis report summarises key elements of each national report, and adds additional context where appropriate.

2 SUMMARY BY COUNTRY

A short report was prepared for each country that was surveyed. This section introduces the content of each report. Specific details are compared between the reports in subsequent sections.

2.1 Canada

2.1.1 Background

Landslide risk management in Canada is technically complex due to differences in the types of landslides occurring in areas with varying topography, geology, and climate. For example, landslides in Canada can range from rapid downslope processes such as debris flows, rock falls and rock avalanche in the Canadian Cordillera, to relatively gently sloped, slowly moving deep-seated earth slides in the Western Canada Sedimentary Basin, and from shallow flows in degrading permafrost in the Northern Canada to large retrogressive earth slides in marine sediments in the St. Lawrence lowlands of eastern Ontario and Quebec and some parts of coastal British Columbia.

As populations grow and critical infrastructure continues to expand, there continues to be increasing intersection of hazards and these elements-at-risk. It is expected that with changing climate these intersections and associated risks will continue to increase unless deliberate, proactive action is taken.

2.1.2 GFDRR landslide hazard comparison

Established in 2006, the Global Facility for Disaster Reduction and Recovery (GFDRR) is a global partnership that helps low- and middle-income countries better understand and reduce their vulnerability to natural hazards and climate change. Their online portal, "ThinkHazard!", is a tool enabling non-specialists to consider the impacts of disasters on new development projects. Users can quickly and robustly assess the level of river flood, earthquake, drought, cyclone, coastal flood, tsunami, volcano, and landslide hazard within their project area to assist with project planning and design. While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them.

The hazard level in Canada is shown as:

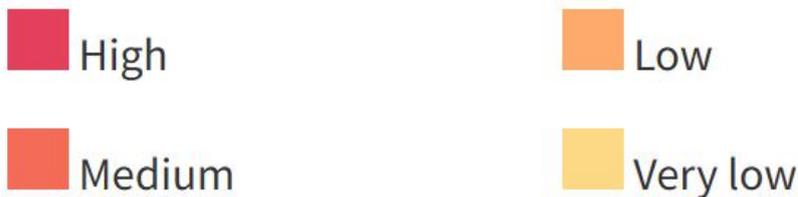
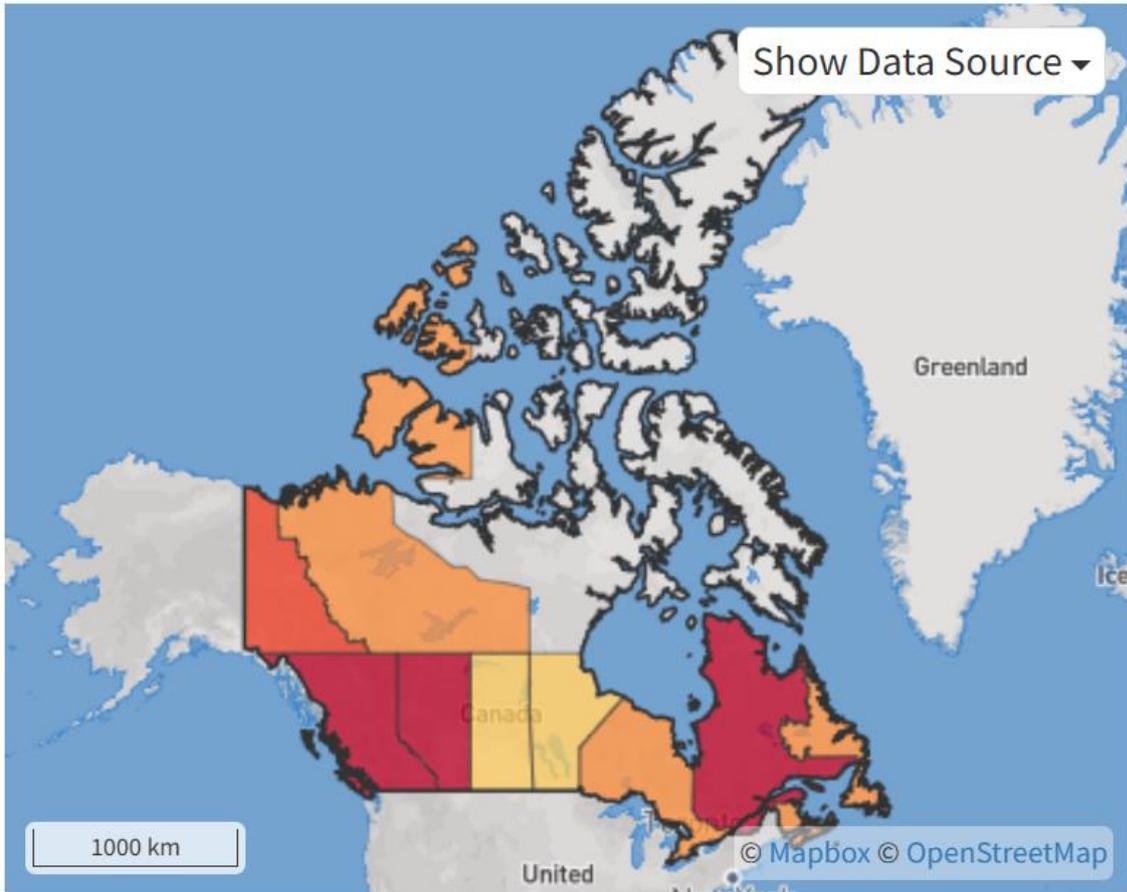


Figure 1 - UNDRR landslide hazard map for Canada

2.1.3 Roles, responsibilities and legislation

Not only is the landmass of Canada vast and the types of landslides variable, the roles and responsibilities of landslide risk governance are fragmented between various players in both the public and private sector. In Canada the nested levels of government oversight typically range from national to provincial/territorial to regional to local.

Beyond Federally - owned property and infrastructure, or disasters requiring national response, the Federal government provides knowledge and resources but mostly does not hold direct governance responsibility for landslide risk management in Canada. Direct responsibilities are typically held at a Provincial or local level. An exception has been Federal oversight of First Nations reserves under the Indian Act.

The ten provincial and three territorial governments have responsibility for coordination and management of activities in their jurisdictions and can request support for the federal government.

In terms of landslide risk management, the following responsibilities typically fall within the purview of the provincial and territorial governments:

- Geological Survey/Mapping
- Land Use Planning and Regulation
- Asset Management
- Emergency Management/Public Safety

Local governments typically hold responsibility for landslide risk management related to residential development and municipal infrastructure in most areas of Canada. Outside of declared states of emergencies that open additional funding channels, the cost of landslide management is typically borne by a local tax base, through grants offered by higher orders of government, or by private parties (e.g. proponents of a proposed development). Local governments use a range of legal instruments to apply landslide hazard information to land use and development, including Official Community Plan policies and land use designations, development permit areas, and bylaws such as zoning bylaws.

In Canada, the incorporation of Traditional (Indigenous) Knowledge has become an expected standard of practice for landslide assessments in areas where First Nations hold rights and title. Expectations for engagement with First Nations communities follow the Sendai Framework for Disaster Risk Reduction and the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) to obtain “full and meaningful” participation of affected parties.

2.1.4 Principles of landslide risk management

The approach to landslide risk reduction varies greatly depending on the context within which decisions are being made in terms of both desired outcomes (safety, economic, societal, environmental), the elements impacted (populations vs. infrastructure), the types of landslide processes and the spatial and temporal scales over which decisions are being made. Across Canada, damaging events, such as the November 2021 atmospheric rivers that impacted on Southern British Columbia (Baumgard et al., 2022), continue to raise public concern about landslide risk, providing a strong motivation to help authorities and decision makers fulfil their mandates to reduce or prevent injury, fatalities, and critical infrastructure damages due to landslides.

Historically in Canada the most dramatic examples of landslides impacting on infrastructure and populations have been documented in British Columbia and Quebec. As the geological conditions are quite complex and the vulnerabilities significant, government organisations with accountability for regulating best practices in these regions have developed formal legislated best practice guidelines.

2.1.5 Practices to assess and manage landslide risk

The consideration for risk associated with landslide hazards was first integrated into practice in the 1970's and has evolved significantly since that time. The consideration of risk, both quantitative and qualitative, is considered a requirement as part of professional practice in Canada currently. For all levels of risk assessment, the Canadian consulting community has adopted the risk process as outlined in International Organization for Standardization (ISO) 31000 (ISO, 2009), including terminology and methodology. Both (VanDine, 2018) and (Porter & Morgenstern, 2013) provide succinct overviews of the current methodologies and techniques utilized to support risk assessment in Canada.

2.1.5.1 Landslide inventory

The key foundational component of risk management is an understanding as to where landslides may occur in relation to assess potential intersections with assets and communities is provided via geological mapping. Traditionally the role of providing information on a jurisdiction's geological framework in the form of mapping is undertaken by its geological survey. With the exception of Prince Edward Island (PEI), each of the provinces and territories in Canada has a geological survey function that is responsible for providing framework geoscience knowledge to support the government and public. As these surveys are typically housed in departments of mining, resources and/or energy with a focus on characterization of mineral and energy resources. As the focus on the preparedness, response and mitigation for landslide hazards is typically the responsibility of other government ministries, the geological surveys would only provide mapping and knowledge of landslide hazards under a request from the responsible ministries.

In some jurisdictions, the ministries responsible for the management of infrastructure and approvals of land developments possess the knowledge to support the regional landslide context.

As an example, in British Columbia, the Ministry of Transportation and Infrastructure (MOTI) is responsible for the design, operation and maintenance of the provincial transportation infrastructure, including integration of the understanding of landslide hazards. As part of MOTI's mandate there has not been systematic mapping of landslide hazards. As the BC Geological Survey (BCGS) does not have a dedicated landslide mapping program, the only systematic, publicly available mapping of landslides and susceptibility was funded by the BC Oil and Gas Research and Innovation Society (BCOGRIS) and is publicly disseminated by the BC Energy Regulator (BCER) and is only focussed on deep seated landslides in the Western Canada Sedimentary Basin (WSCB) in northeastern British Columbia (BGC, 2020). In reviewing the overview of the roles and responsibilities with respect to landslide risk management in British Columbia provided by LeSueur and Strouth (2022) there is no central organization identified as responsible for mapping of landslide hazards at the provincial level.

2.1.5.2 Landslide susceptibility or hazard

A high-level susceptibility map exists for Canada, developed by the Geological Survey of Canada (Bobrowsky & Dominguez, 2012).

In Quebec, there is clearly defined governance around the provision of knowledge around landslide hazards impacting on the public and infrastructure that is delivered through Ministère des Transports du Québec (MTQ). With this the landslide specialist at MTQ have developed a series of landslide stress maps that are publicly available to support land use planning and decision making in Quebec. These maps are focussed on areas of exposure and do not provide a complete view of landslide susceptibility in the region.

Different industry-funded (and government co-funded) research and knowledge dissemination groups have been formed to support knowledge gaps with respect to certain industries in Canada. As an example, in BC both Geoscience BC (<https://www.geosciencebc.com/>) and the BC Oil and Gas Research and Innovation Society (BCOGRIS) (<https://www.bcogris.ca/>) support the development of public geoscience products with a focus on support knowledge gaps for the oil and gas sector in British Columbia. BCOGRIS recently funded the development of a publicly available landslide susceptibility map of northeastern BC (BGC, 2021) as there is no government body in BC with the mandate or funding to develop this type of product.

2.1.5.3 Risk assessment and tolerance

As each type of infrastructure has its own design and operation criteria, there are no set tolerances set as to what levels of displacement are tolerable. Rather infrastructure owners/operators must ensure that their assets are maintained in a serviceable state that reduce risks to public safety and the environment.

2.1.5.4 Zoning and land-use planning

Each provincial and territorial government has a Ministry that interacts with local and regional governments to regulate development in landslide-prone areas. Regulatory responsibilities vary by development type (e.g., assets under Provincial or municipal control) and jurisdictional boundary (e.g., incorporated municipalities versus unincorporated rural areas).

Jurisdictions such as BC and Quebec guide but do not typically set requirements for local government incorporation of hazard data into planning and regulation, and both the quality of hazard data and degree of policy integration vary widely. A small number of local governments have led the early integration of landslide hazard and risk information into regulations, with other jurisdictions following the decision processes developed by these early adopters.

In BC, the British Columbia Land Title Act (1996) prescribes the roles and responsibilities with respect to land use approvals at both the regional district and municipal level. Engineers and Geoscientists BC (EGBC) has further defined the requirements for landslide assessments to support land use decision making and the qualifications of professionals that undertake landslide assessments (EGCB, 2023).

In Quebec, the Ministry of Municipal Affairs and Housing provides a website outlining government direction on management of landslides in unconsolidated deposits and provides specific guidance in relation to integration of landslide knowledge into decision making, access to landslide stress maps and competency profiles for geotechnical engineers undertaking landslide studies.

2.1.6 Risk transfer, managed retreat and insurance

Limited information is available on the approach to manage retreat from landslide risk. Some information is available in scientific papers such as (Doberstein et al., 2020).

2.1.7 Key challenges and opportunities

At a technical workshop in 2023 the following challenges were identified:

1. **Governance:** All groups highlighted that there is not an obvious coordinating body with formal accountability to convene and manage landslide risk management in most jurisdictions. This lack of clear accountability and lack of clear roles and responsibilities for the different players in the system was highlighted as a significant impediment to advancing risk management goals at the jurisdictional level.
2. **Roles of Government:** Participants expressed a range of perspectives on public and private sector roles in landslide risk management. Some participants emphasized public sector roles to maintain baseline earth science and asset data inputs, with a larger role of the private sector to carry out landslide risk management and act as custodians of knowledge. Those emphasizing a larger role of government to 'own' a greater portion of landslide risk management activities agreed that the level of participation needed to be matched by sufficient resources and coordination capacity.
3. **Coordination/Collaboration/Engagement:** Following on the governance theme, the lack of a coordinating body also impeded engagement of parties in a jurisdiction, to gather data,

share information, and share resources to address risk for common landslide processes that impact on all groups.

4. **Common Incentives and Programmatic Approaches:** One of the key blockages to groups moving forward together were lack of common incentives for risk management. While different levels of government and private sector all have specific drivers as to why they manage risk, there lacked a common framework to link these groups and programmatic sources of funding to understand hazards that are common to all parties with assets in a region.
5. **Knowledge Transfer/Technical Capacity:** There was significant inequity observed across the various phases of risk management with respect to the understanding of hazards, how to systematically assess, evaluate and control the risk associated with landslide hazards. Often this was based in the lack of access to technical resources to support these processes and the base understanding of these processes by decision makers.
6. **Guidelines and Processes:** While some groups had access to more sophisticated tools and processes to assess risk, the need for some common guidance and methodologies around how to systematically execute a risk management program was highlighted across all sessions. This ranged from the provision of guidance as to what types and scale of landslide hazard products were required (and how to derive them) to how to make decisions around risk control based on cost/benefit of the measures.
7. **Data Access and Standards:** Following on the need for consistency in the types of data required for risk identification, the current nature of disparate and non-discoverable/accessible data was highlighted across all working groups.
8. **Access to Dynamic Data and Tools:** Legacy forms of project procurement by government have favoured static documents, maps and data. In order to plan for future events and manage events as they unfold, access to data that reflects how landslides have moved in the past and tracks near real-time evolution of processes is required in order to make informed decisions.
9. **Access to Research:** For decision makers charged with making decisions considering future climate scenarios, the ability to understand past landslide activity and to integrate with past hydroclimatic data is required in order to support forecasts of landslide activity in future climate scenarios. This requires not only access to spatially and temporally continuous data sets, such as InSAR data, but also for continued research and development in terms of coupling landslide activity and hydroclimate using machine learning models and the ability to ingest and track changes over time.

2.2 China

2.2.1 Background

China has a complex and diverse geographical environment and geological conditions. For example, in the southwestern region, high mountains and deep valleys are widely distributed, with huge terrain drops. Under the influence of frequent earthquakes over a long period, co-seismic landslides are widespread (e.g. (Huang et al., 2024)).

Landslide assessment and risk management in China face challenges in social, technical, legal and other aspects. At the social level, public awareness needs to be strengthened. Although landslide disasters occur frequently in China, residents in some areas have insufficient awareness of landslide risks and have not developed effective preventive awareness and emergency preparedness. Many key landslide prevention areas in China, such as Sichuan, Yunnan, Guizhou and other regions, are densely populated. Residents are mostly distributed in mountainous and hilly areas. The quality of housing varies, and disaster prevention infrastructure is weak, making them vulnerable to landslide disasters. The rapid advancement of urbanization has led to an increase in activities such as mountain excavation, road construction, and mine development, further exacerbating landslide risks. There is a disconnect between land use planning and risk assessment.

2.2.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery “ThinkHazard!” map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in China is shown as:

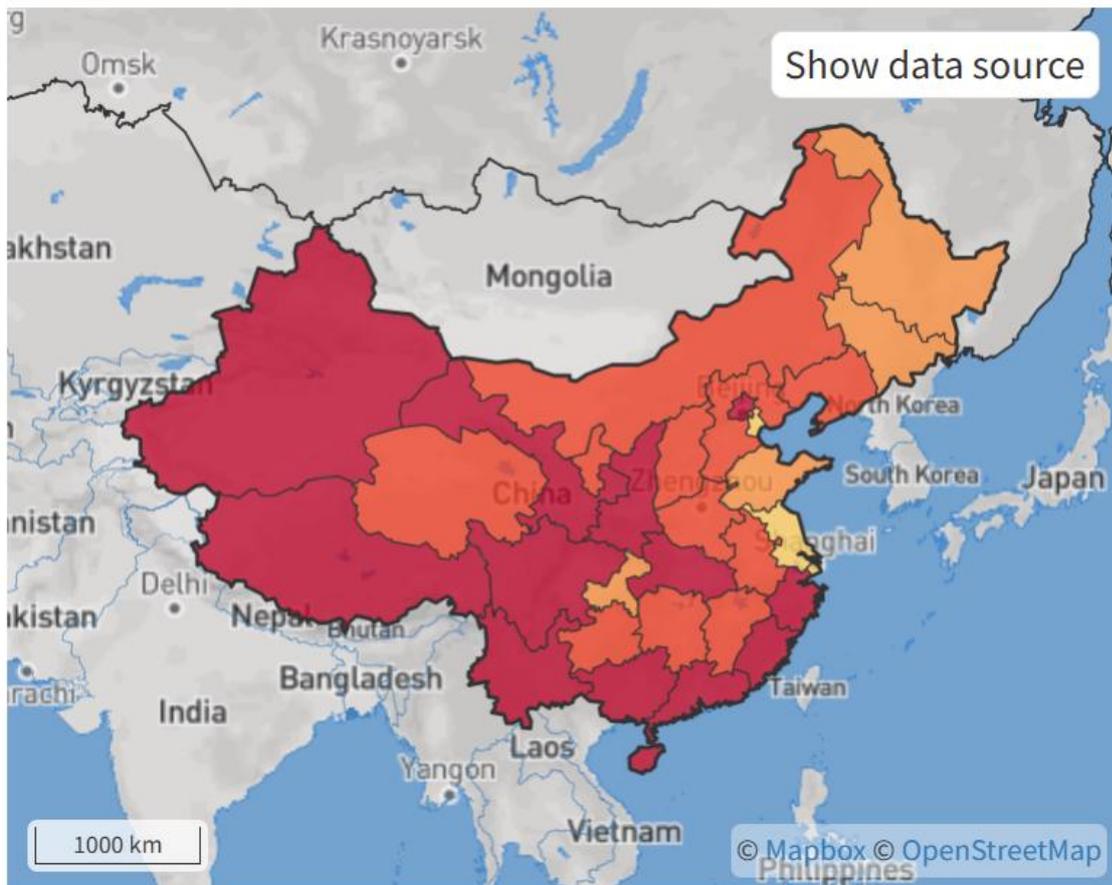


Figure 2 - UNDRR landslide hazard map for China

2.2.3 Principles of landslide risk management

The main principles of landslide risk management in China can be summarised as:

1. Prevention First, Combined Prevention and Control. Landslide prevention and control should adhere to the principle of "prevention first, combined prevention and control". When conducting landslide risk management, emphasis should first be placed on preventive work. By identifying the geological conditions that breed disasters, understanding the factors affecting slope stability, and using means such as monitoring and warning, potential landslide hazards can be promptly detected and eliminated. At the same time, treatment measures should also be combined to effectively treat landslides that have occurred or are likely to occur.
2. Comprehensive Planning and Integrated Treatment. Landslide risk management requires comprehensive planning, considering the strategies and measures for landslide prevention and control as a whole. This includes identifying the scale and boundary conditions of slope deformation and failure, and formulating corresponding prevention and control measures according to the specific conditions of the slope. Meanwhile, for landslide prevention and

control, a combination of multiple measures such as engineering measures, biological measures, community-based publicity and education measures, economic measures, and policy and regulatory measures should be adopted to achieve the best prevention and control effects.

3. **Technically Feasible and Economically Reasonable.** Landslide risk management needs to follow the principles of technical feasibility and economic rationality. When selecting prevention and control measures, ensure technical feasibility and reliability. At the same time, economic rationality and effectiveness should also be considered. The optimal prevention and control plan is determined through cost-benefit comparison to maximize the effectiveness of landslide risk management.
4. **Scientific Construction and Dynamic Design.** The implementation of landslide risk management requires scientific construction and dynamic design. During the construction process, construction must be carried out strictly in accordance with the design plan and technical requirements to ensure construction quality and safety. At the same time, the design plan and construction measures should be adjusted promptly according to the actual situation and monitoring data during the construction process to ensure the effectiveness and pertinence of landslide risk management.
5. **Strengthen Monitoring and Timely Warning.** Landslide risk management requires strengthening monitoring and warning efforts. By establishing a complete monitoring and warning system, the deformation and displacement of the landslide body can be monitored in real time, and the occurrence of landslide disasters can be promptly detected and warned. This helps to take preventive measures in advance, reducing the losses and impacts of landslide disasters.
6. **Focus on Maintenance and Ensure Safety.** Landslide risk management also requires attention to maintenance and safety protection. Regular inspections and maintenance should be carried out on the implemented prevention and control measures to ensure their normal operation and effective prevention and control functions. At the same time, safety management and publicity and education should be strengthened to enhance the public's awareness and prevention awareness of landslide disasters.

2.2.4 Practices to assess and manage landslide risk

2.2.4.1 Landslide inventory

There appears to be significant academic efforts being put into the creation of landslide inventories (e.g. (Chen et al., 2023)), and into improving the techniques for creation and sharing of inventories (e.g. (Xu, 2015)). However, the focus of these appears to be primarily academic and on post-disaster assessments rather than on preparedness.

2.2.4.2 Landslide susceptibility or hazard

Many examples of landslide susceptibility or hazard assessments are available in China. For example, (Xu et al., 2019) considered the actual probabilities of seismic landslide occurrence in China under different peak ground acceleration levels. In addition, combined with the peak ground acceleration distribution map of China, they produced the first-generation probability map of seismic landslide hazards in China. In many cases these appear to be driven by academic research, and it is unclear whether these have been fully incorporated into risk management practices.

2.2.4.3 Risk assessment and tolerance

There is extremely high research enthusiasm in landslide-prone regions, such as the southwestern mountainous areas and the Three Gorges Reservoir. Assessment work combining regional

characteristics and landslide mechanisms represents a significant direction in the research of landslide assessment and risk management in China. There is diversity in technologies and methods. Technologies such as remote sensing, GIS, numerical simulation, and machine learning complement each other and have become the main technical approaches in landslide research.

There appears to be some transition from fundamental research to practical applications (e.g. (Chong et al., 2023)).

Currently, China lacks a clear standard for classifying landslide risk levels. Generally, they are divided into low, medium, high, and extremely high risk based on the likelihood, harm, and impact of landslides, with flexible adjustments in practice. We were not able to identify examples of documented quantitative or qualitative tolerance for landslide risks.

2.2.4.4 Zoning and land-use planning

The Notice on Strengthening the Prevention and Control of Urban Geological Safety Risks (https://www.gov.cn/zhengce/zhengceku/202405/content_6949739.htm) requires that during urban geological surveys, hazard assessment and risk zoning should be done to classify risks and create a unified risk map. When formulating or revising urban spatial plans, risk assessments should be conducted using geological disaster survey results. New construction land should avoid high-risk areas; if unavoidable, risk reduction measures are needed. In urban built-up areas, proper spatial arrangements should be made to reduce disaster risks.

"GB/T 40112-2021 Specifications for risk assessment of geological hazard" clearly stipulates that the suitability of construction land is determined by three aspects: the complexity of the geological environment, the potential risks of geological disasters triggered by engineering construction and those that construction projects may suffer from, and the difficulty of preventing and controlling geological disasters.

"Regulations on the Prevention and Control of Geological Disasters" clearly stipulates that within geological disaster-prone areas, activities such as blasting, slope cutting, engineering construction, and other activities that may trigger geological disasters are prohibited. For engineering construction in geological disaster-prone areas, risk assessment of geological disasters should be carried out during the feasibility study stage.

2.2.5 Risk transfer, managed retreat and insurance

"The National Territorial Plan 2016-2030" focuses on high-risk disaster and project-disturbed zones. It requires strengthening disaster prevention measures, enhancing capabilities in disaster-hit areas, conducting facility risk assessments and building seismic surveys in dense areas, setting up a prevention database, and relocating people from high-risk geological sites during rural construction.

2.2.6 Key challenges and opportunities

1. Landslide disaster data is heterogeneous, scattered, and regional. Current research on landslide databases is quite extensive (e.g. (Fang et al., 2024)), covering various types of landslides classified according to multiple standards. These include co-seismic landslides triggered by earthquakes, rainfall-induced landslides triggered by extreme rainfall events, ancient landslides / large-scale landslide relics, deformed slopes, etc. This has led to a lack of unified database standards and sharing mechanisms among different regions and types.
2. The "black-box nature" of landslide AI models makes it difficult for researchers to understand the basis of prediction results, thus limiting the application of these models among the government and the public.

3. Efforts should be made to advance data governance and intelligent applications. There is a need to establish unified data standards and sharing platforms, breaking down data silos among different departments to ensure the efficient integration and flow of multi-source data from geology, meteorology, and monitoring. By leveraging advanced technologies like big data analysis and artificial intelligence, the value of data can be fully exploited and intelligent prediction models tailored to diverse geological conditions and landslide types can be developed.
4. Although a preliminary legal system for geological disaster prevention and control has been established, there is a lack of specific regulations and details in aspects such as landslide disaster risk assessment, land development constraints, and division of monitoring responsibilities. During the rescue and compensation process after a landslide occurs, the division of rights and responsibilities among the government, developers, and residents is relatively ambiguous, which can easily lead to disputes and delay emergency responses. There is a need to formulate more detailed laws, standards, and regulations related to landslide risk management. These should clearly define the processes, standards, and responsible entities for landslide risk assessment, refine risk control requirements, and standardize the approval procedures for construction activities in high-risk areas. Specific implementation rules should be established for links such as landslide monitoring, early warning, and emergency response to ensure that relevant documents are more operable.

2.3 France

2.3.1 Background

In France, on average 6,000 municipalities are declared a state of natural disaster each year. Of the 240,000 natural disaster declarations issued over the period 1982-2023, nearly 56% relate to flooding, 35% to ground movements (including drought orders) and 8% to atmospheric phenomena. €49.9 billion in compensation was paid by insurers under the natural disaster guarantee over the period 1982-2022. Over this period floods accounted for €24.8 billion in insured damages. Cumulative claims related to drought are €20.8 billion. Since 2017, compensation related to clay shrinkage and swelling has been predominant (GeoRisques, n.d.).

More than 12,500 municipalities are covered by a natural risk prevention plan. Natural hazard prevention plans (PPRN) are put in place to prescribe measures to reduce the exposure of property (new buildings, existing properties) and people in areas at risk of natural disasters. Approximately one third of municipalities have a PPRN, covering all hazards (slow-flowing floods, torrential floods or rapid rises in rivers, runoff and mudslides) (GeoRisques, n.d.).

With 20% of municipalities exposed, ground movements are, after floods, the natural phenomena that most widely threaten French territory. The risks associated with landslides affect approximately 7,000 municipalities, a third of which are exposed to a hazard described as high. (CCR, n.d.-b).

France's landslide risk management framework integrates national risk prevention plans (PPRN) with empirical, data-driven hazard assessment and mapping, focusing on vulnerability and exposure to identify high-risk areas for regulatory and prevention purposes. While evolving from a data-limited approach, France, influenced by EU directives like the Soil Framework Directive, is moving towards a harmonized, quantitative method for risk assessment and management, including national risk maps, to better protect people and property from increasing landslide threats (Thierry et al., 2020).

2.3.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery “ThinkHazard!” map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in France is shown as:

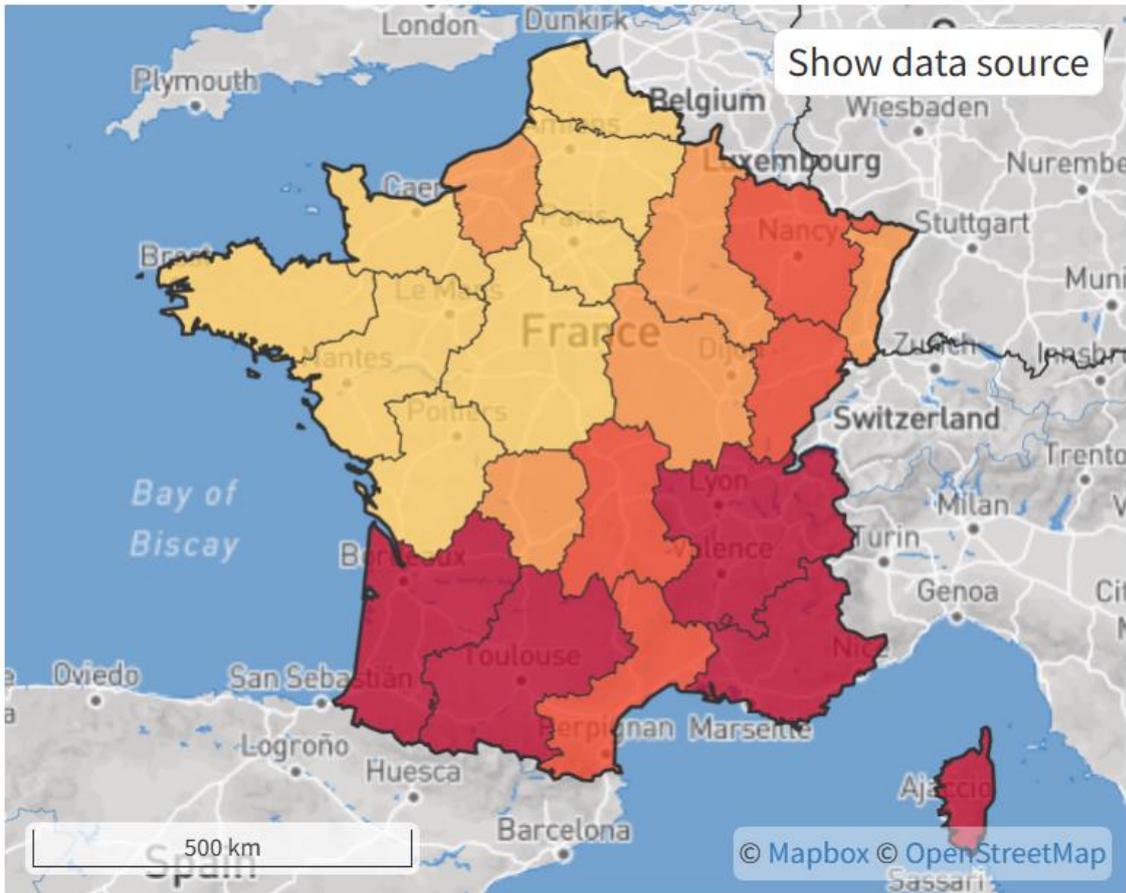


Figure 3 - UNDRR landslide hazard map for France

2.3.3 Roles, responsibilities and legislation

In France, regulations regarding risk prevention and risk management are the result of more than 200 years of legislation. The management of natural risks has been subject to preventive measures since the introduction of the first Plans de Surfaces Submersibles (PSS, Submersible Surface Plans) in 1935. These documents were later replaced by the Plans d'Exposition aux Risques Naturels Prévisibles (Predictable Natural Risk Exposure Plans), established in 1982. The Law of July 13, 1982 introduced the natural disaster compensation system. Before this law, there was no formal legal framework for compensation, and ZERMOS (Zones Exposed to Major Risks) were only indicative.

The 1982 law on the compensation of victims of natural disasters (Law No. 82-600 of July 13, 1982) established the Plan d'Exposition aux Risques (PER, Risk Exposure Plan) to encourage, among other things, insured parties to engage in risk prevention. In 1995, the Plans de Prévention des Risques Naturels Prévisibles (PPRN, Predictable Natural Risk Prevention Plans) replaced the PER and any other risk management plans or regulations previously approved by the regional prefects (e.g., risk perimeters defined by Article R111-3 of the Urban Planning Code, Plan de Surfaces Submersibles

(PSS, Submersible Surface Plans), and Plans de Zones Sensibles aux Incendies de Forêt (PZSIF, Fire-Sensitive Zone Plans)). The Barnier Law aimed to strengthen and unify risk prevention efforts, stipulating that pre-existing procedures would be considered equivalent to a PPRN.

The implementation of this prevention policy is a shared responsibility involving decentralized state services, local authorities, multiple ministries, and citizens, each contributing within their respective areas of expertise.

Among the various natural risk prevention measures, PPRNs primarily aim to reduce both exposure to hazards and the vulnerability of people and property. Citizens are expected to be the first actors in ensuring their own safety and that of their families. Consequently, numerous accessible resources are available to inform the public about potential risks.

Several key documents can be consulted at the town hall, including the Dossier Départemental des Risques Majeurs (Departmental Major Risk File), the Dossier d'Information Communal sur les Risques Majeurs (DICRIM, Municipal Information File on Major Risks), and relevant maps and reports from the Plans de Prévention des Risques Naturels (PPRN, Natural Risk Prevention Plans), Technologiques (PPRT, Technological Risk Prevention Plans), or Miniers (PPRM, Mining Risk Prevention Plans). In municipalities exposed to risks, public buildings and establishments open to the public are required to display risk-related information. It is the responsibility of the mayor to enforce this requirement.

Two years after the industrial accident of AZF (French initials for AZote Fertilisant), a new law was introduced on July 30, 2003 which described both prevention and repair of the damage caused by industrial and natural disasters. Since then, regulations have been made considerably tighter and the entire approach towards risk assessment has changed (Lenoble & Durand, 2011).

France has also developed geotechnical approaches to take into account in the design of protection solutions for unstable sites. Difficulties have been reported in the use of the Eurocodes philosophies, which have been addressed by the creation of guides (1998, 2007, 2010) provide geotechnical approaches adapted to the unstable site that are quite unique.

Mayors, local communities are responsible for implementing land use planning (since 1956, urbanism code).

Owners of works are responsible for their maintenance. The infrastructure managers in France are generally large establishments with full or partial state ownership. Land owners are responsible for their maintenance. Owners are also responsible of the strategy of mitigation of risk around their infrastructures even if they concerned public. The operator of infrastructure is responsible for the protection of works against natural phenomena necessary for the infrastructure.

However, when a phenomenon threatens safety, the mayor must also implement police powers.

The state has ensured a revitalisation policy, which attempts to stabilise slopes by reforestation. The Forest Office (ONF) is now in charge of these missions.

Works to protect against natural phenomena when protecting several issues are generally the responsibility of the mayor.

The state and local authorities inform each other at their own level. The state through the Georisque platform (<https://www.georisques.gouv.fr/>) brings a lot of information. The mayor must draw up specific documents on his commune.

Sellers of goods must inform buyers of natural hazard risks.

2.3.4 Principles of landslide risk management

France defines its preventive measures by 7 pillars:

1. knowledge of hazards
2. monitoring of phenomena
3. preventive information
4. urbanization control
5. reduction of risk
6. preparation
7. feedback

2.3.5 Practices to assess and manage landslide risk

2.3.5.1 Landslide inventory

A national interactive map is available on the Georisque website

(<https://www.georisques.gouv.fr/cartes-interactives#/>).

2.3.5.2 Landslide susceptibility or hazard

There is no real susceptibility approach; France prefers to bypass this stage and move straight to the more advanced hazard assessment (Plan de Prévention des Risques Naturels – PPNN – hazard map).

The state is responsible for the definition of hazards and their display, as well as for the definition of rules of urbanism and construction.

2.3.5.3 Risk assessment and tolerance

For landslide there is no formalised risk approach (this is more present in flood and earthquake risk). This is primarily because losses in France are more related to floods and the removal of swelling of clays. Multicriteria analysis is commonly used.

There are no defined acceptable threshold/risk values in France. Generally the accepted risk is assessed through history, past observations, past decisions reflect the accepted risk. Recent methods for landslide hazard mapping are inspired of JTC-1 works regarding definition of thresholds.

PPRNs are established for the most exposed areas under the authority of the department prefect. Their development is financed by the State through the fund for the prevention of major natural hazards (fond Barnier).

The PPRN procedure is efficient. It has made progress in the coverage of hazard maps of the territory. It has integrated the changes/expectations in terms of risk. Updating PRs allows for an update of the risk. In practice, the lack of quantification makes procedures long. Rapid changes related to climate change are difficult to integrate

2.3.5.4 Zoning and land-use planning

The PPRN aims to:

- Prevent people and properties from being increasingly exposed to natural hazards risks;
- Reduce the negative impact of natural hazards on human lives, the environment, economic activity and cultural heritage;
- Always considering sustainable development of territories.

It achieved this by defining high risk zones where buildings or other facilities are prohibited, and by allowing other zones to be developed in a thought-out and safe manner complying with certain requirements in line with the potential hazard intensity (medium or low).

The PPRN contributes to the reduction of potential damage by defining prevention, protection and conservation measures, alongside measures relating to the development or use of buildings, civil engineering structures, and agricultural areas existing on the date of the plan's establishment.

PPRN consists of three documents:

- (i) A project outline that indicates the geographical area concerned, the nature of the natural phenomena in question, and their possible consequences based on the current state of knowledge. It justifies preventive choices made, indicating the principles governing the PPRN's development and explaining the regulations in place.
- (ii) A regulatory zoning plan. This combines information from the hazard map and the at-risk elements' map to define the regulated areas by the PPRN. It defines the current zones at risk, but also zones where development could aggravate the existing risks or cause new ones. The hazard map characterizes the phenomena to which the risk area is exposed and determines a reference hazard. It locates and classifies the various hazard zones. At-risk elements are assessed qualitatively regarding land use and occupation patterns.
- (iii) A regulatory document that specifies the rules applicable to each of the zones. It defines the conditions in which any construction, civil engineering works, developments and agricultural, forestry, artisanal, commercial or industrial operations are to be carried out. It also regulates the preventive, protective and conservation measures for which individuals or local authorities are responsible, but also any mandatory measures applicable to existing property and activities.

The PPRN represents a -PAC- an official transmission of knowledge from state to local authorities. It applies to everyone : individuals, businesses, local authorities and the State.

Involvement is essential for public action to be effective. It creates the trusting climate necessary for accepting the analyses and decisions that form the basis of the PPRN project. The various stakeholders – particularly regional and local authorities responsible for territorial planning – are therefore involved from the very beginning of the process, mostly through meetings.

Consulting the public is a fundamental success factor and should be done as comprehensively as possible. The objective is for the process to be shared by everyone concerned. It allows for an open debate and public discussion between the various stakeholders on a project that affects the area and the local population.

2.3.6 Risk transfer, managed retreat and insurance

France has a natural disaster compensation scheme known as the "Cat Nat" scheme, created in 1982. This made it possible to compensate for a lack of coverage for natural risks, which were previously very poorly insured. It is described as virtually unique in the world and essential for maintaining the insurability of all throughout the country (CCR, n.d.-a).

This scheme is administered by CCR. A 100% state-owned company, CCR offers, with the State guarantee, unlimited coverage to insurers operating in France for uninsurable risks. CCR's activities cover public reinsurance, extreme risk prevention, claims management, and modelling.

When an expropriation (house purchase) is necessary, the state has responsibility for the purchase, the land is then made available to local communities (Mayors).

The Barnier Fund (also known by its French acronym, FPRNM) has been called the backbone of France's natural disaster prevention policy. It enables local authorities, small businesses and private individuals to finance work to reduce the vulnerability of buildings exposed to natural disasters.

Initially intended to finance compensation paid to owners of property expropriated as a result of severe natural events, the scope of the fund has significantly broadened since it was first set up in 1995. Between 2009 and 2020 the Barnier Fund financed around 700 preventive operations for an average annual amount of more than €170 million – or more than €2 billion over the last decade.

Managed retreat from landslide risk is not yet formalised, although a new national guide is in progress (MEZAR).

2.3.7 Key challenges and opportunities

When French residents are asked about environmental problems "where they live," only one in ten mentions natural hazards. Awareness of these issues remains to be raised.

2.4 Greece

2.4.1 Background

The most and largest landslides in the Greek area are particularly located in Central and Western Greece, where various factors including the lithological composition, the seismic action, the intense topographic relief and the climatic factors (intense rainfall and prolonged snowfalls and permafrost), contribute to the occurrence of landslides.

In Greece specific national legislation exists, but numerous weaknesses are identified in the control of its application. Although Greek legislation related to urban planning for new areas includes landslide assessment, there are serious problems with already established settlements (Mateos et al., 2020). Although Greece has a substantial number of fatal landslides and a high range of population exposure, it has not implemented a continuous plan for landslide risk reduction. Preparedness usually takes place after significant events.

2.4.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery “ThinkHazard!” map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in Greece is shown as:

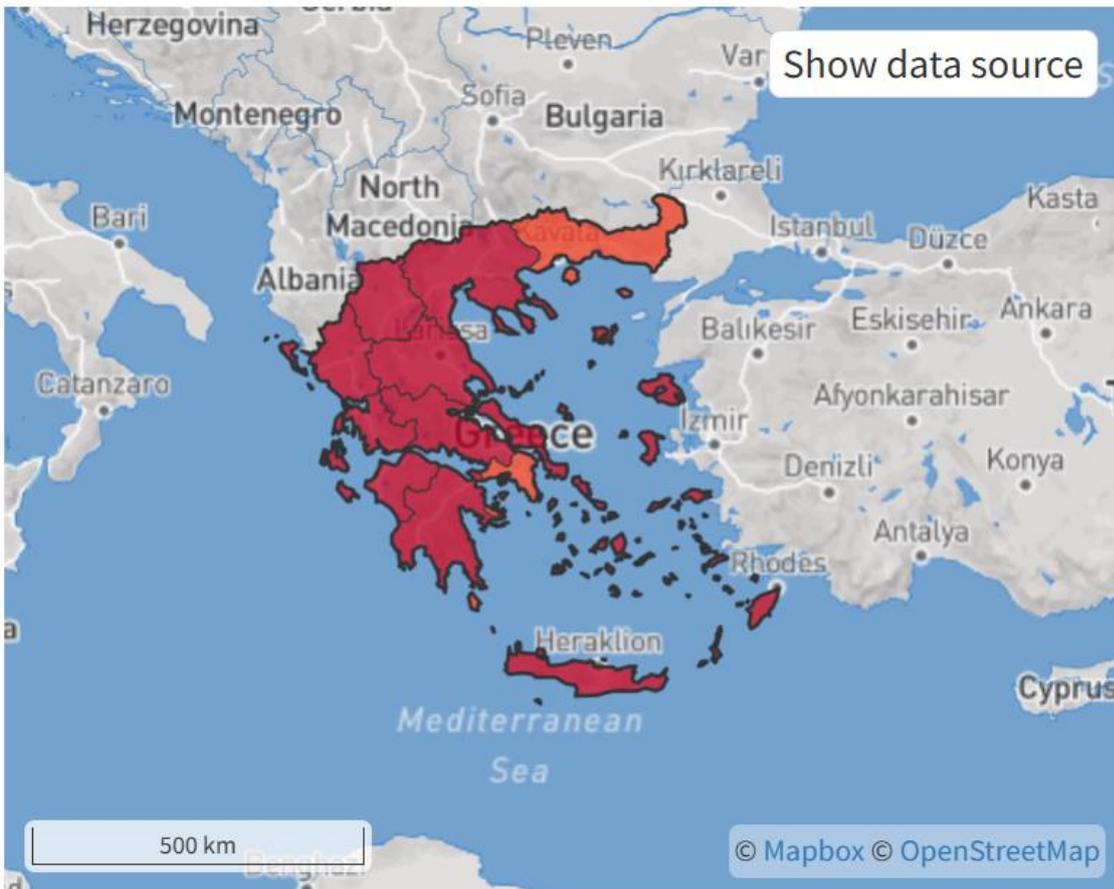


Figure 4 - UNDRR landslide hazard map for Greece

2.4.3 Roles, responsibilities and legislation

Currently in Greece there is no official authority for the management of landslides, unlike earthquakes (Earthquake Planning & Protection Organization, OASP). As a public administration institution, the HSGME (Hellenic Survey of Geology and Mineral Exploration) offers its expertise on landslide technical issues to management authorities e.g. the Ministry of Climate Crisis and Civil Protection. It is responsible for monitoring and evaluating the evolution and potential impacts of landslide phenomena.

Preventive measures to reduce the risk of landslides are the responsibility of the municipalities, regions or ministries. Depending on the jurisdiction, studies can be carried out with or without the participation of the HSGME, and that the reports provided by the HSGME for the specific events cannot be considered a geological/geotechnical study of the landslide risk of the affected area.

Besides the HSGME, further institutions for understanding the risks are the Geodynamic Institute–National Observatory of Athens-NOA, and specifically the BEYOND research institute which employs

satellite data to this purpose. In some cases, detailed technical-geological mapping of the landslide-prone areas is carried out by the Municipalities.

Academia also contributes to studies on landslides risks, with few cases of common projects in collaboration with administrative authorities.

Repair of private damaged property has been, in most cases, partially funded by the Greek government. In cases of extreme weather phenomena, the government has provided partial funding for new housing for the affected persons by landslides. Insurance companies, in reality, play a minor role in the repair of damage due to landslides, as commonly buildings are not insured for this.

In Greece, there are no official practices for the landslide hazard and risk assessment. Research on hazard and risk assessment is also scarce.

2.4.4 Principles of landslide risk management

Landslide susceptibility maps generated by the HSGME aim at (Spanou et al., 2024):

1. Better geo-hazard management, where the main end-user is the Civil Protection Authority
2. Safe design of energy networks and industrial infrastructures, as well as the road network
3. Facilitating the selection of the regions which are mostly at risk and the application of hazard and risk models.

2.4.5 Practices to assess and manage landslide risk

2.4.5.1 Landslide inventory

The HSGME has compiled a national-scale geodatabase following an extended period of documentation from mid-20th century to the present day, incorporating recent events) (Spanou et al., 2024). The database comprises over 5,500 individual landslide records, each one studied in the field and aligned with European Union and United Nations directives on natural disaster risk mapping. By November 2023, 84% of the archive records had been incorporated into the landslide database (Spanou et al., 2023). Access to the landslide geodatabase is currently available to various users within HSGME's local network and it will be made available to the general public via a web GIS platform in the near future. The scale of the inventory maps is 1:500,000.

The inventory includes the following data: Older history, Slope gradient, Location accuracy, Movement date, Field survey date, Type of movement, Geometry, State of activity, Type of activity, Triggering factor, Landslide causes, Consequences, Proposed Remedial measures, Degree of compliance.

Active surveys ensure the reliability of the data.

2.4.5.2 Landslide susceptibility or hazard

Nationwide susceptibility maps are created by the HSGME at 1:500,000 scale. For regional susceptibility assessment the scale is 1:50,000. Susceptibility assessment considers the following factors: slope angle, geotechnical characteristics, land cover, road network density and distance from roads (to include the impact of road network in the occurrence of landslides), distance from faults, and distance from hydrographic networks. Details for the methodology are given at (Kavoura et al., 2024).

The scale of the national scale landslide susceptibility maps is 1:500,000. Regional susceptibility maps are generated at 1:50,000 scale. Landslide susceptibility is carried out using the nation-wide landslide inventory developed at the HSGME.

For susceptibility mapping, five classes are foreseen. Classification is carried out based on the LSI values. For the comparison of different case studies, the LSI range is normalized from 0% to 100% and subdivided into susceptibility zones of 10% (Kavoura et al., 2024). The classification into susceptibility classes has not been so far standardised.

There is no information about how landslide susceptibility classes are correlated with different land use planning rules.

2.4.5.3 Risk assessment and tolerance

No vulnerability and risk assessment is officially performed. There are no specific tolerability criteria for landslide risk for Greece.

2.4.5.4 Zoning and land-use planning

There is no official landslide zoning in Greece. In areas of increased susceptibility, further studies should be implemented to address the potential failures, with additional funds for the required technical projects.

2.4.6 Risk transfer, managed retreat and insurance

Managed retreat is not yet a widespread policy approach in Greece. Greece's climate and disaster resilience efforts under its recovery and resilience plan focus on mitigation measures but managed retreat from landslide-prone areas has not been a prominent feature of the national policy. In order to address climate vulnerabilities, prioritization is given through infrastructure improvements and nature-based solutions (European Commission - Greece Recovery Plan).

Nevertheless, some temporary restrictions on access to high-risk areas have been introduced following landslides, like on the island of Santorini where restrictions on the traffic of people, vehicles and ships have been imposed for selected areas of the island during the highly touristic months.

2.4.7 Key challenges and opportunities

1. Technical issues include the continuous data updating for the landslide inventory, which is a challenge.
2. Capability issues include the development and application of hazard and risk assessment methodology.
3. Greece has an extensive legal framework related to Citizen Protection and Disaster Risk Management DRM that demonstrates the evolution of its system. However, raising alignment with the law is a challenge.
4. Societal issues involve the following
 - a. coordination across different mandates and integration of different existing strategies and plans, budgets, and programs.,
 - b. funding availability can be inconsistent, especially during economic downturns, which Greece has experienced in the past.
 - c. coordination between multiple funding sources and stakeholders (local, national, and EU) is critical but can be complex.

5. The disaster risk management system in Greece focused more on response and less on ex-ante risk prevention, and efforts need to be made to shift to a more balanced approach.
6. The recently updated legislation for spatial planning (Law 4759/2020) provides an opportunity for developing an inclusive and risk-informed urban and regional planning scheme. However, its application has to be followed by the creation of landslide hazard and risk maps, at a more detailed scale than the current, in order to be used for urban planning.

2.5 Hong Kong

2.5.1 Background

With its steep terrain, sub tropical weathering and intense rainstorm events, landslides have always been an issue for Hong Kong. However, the landslides at Sau Mau Ping in eastern Kowloon and at Kotewall Road on Hong Kong Island on 18 June 1972, which killed 71 people and 67 people respectively, followed by a second slope failure on 25 August 1976 again at Sau Mau Ping killing 18 were the catalyst for change. An independent review panel was established in 1976 and its report recommended establishing a control organisation to regulate hillside development as well as the design, construction and maintenance of slopes (CEDD, 2005). This led to the formation of the Hong Kong Government's Geotechnical Control Office (subsequently renamed the Geotechnical Engineering Office (GEO) in 1977.

While many of these landslides were on slopes modified by human activity, natural slopes also cause challenges. In 1990 Tsing Shan debris flow occurred which commenced as a relatively small debris avalanche of approximately 350m³. This transformed into a debris flow with significant entrainment resulting in final volume of 20,000m³ with the debris running out for over 1km. This impacted land which was being developed for housing and triggered the commencement of the evaluation of the risk from landslides occurring on natural terrain.

Hong Kong has invested heavily on the mitigation of landslide risk and, unlike many other part of the world, there are few financial limitations on this. As of 2024, the GEO has spent about \$HK29 billion (apx US\$2.3 billion) on landslide prevention and mitigation works and studies

2.5.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery "ThinkHazard!" map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in Hong Kong is shown as:

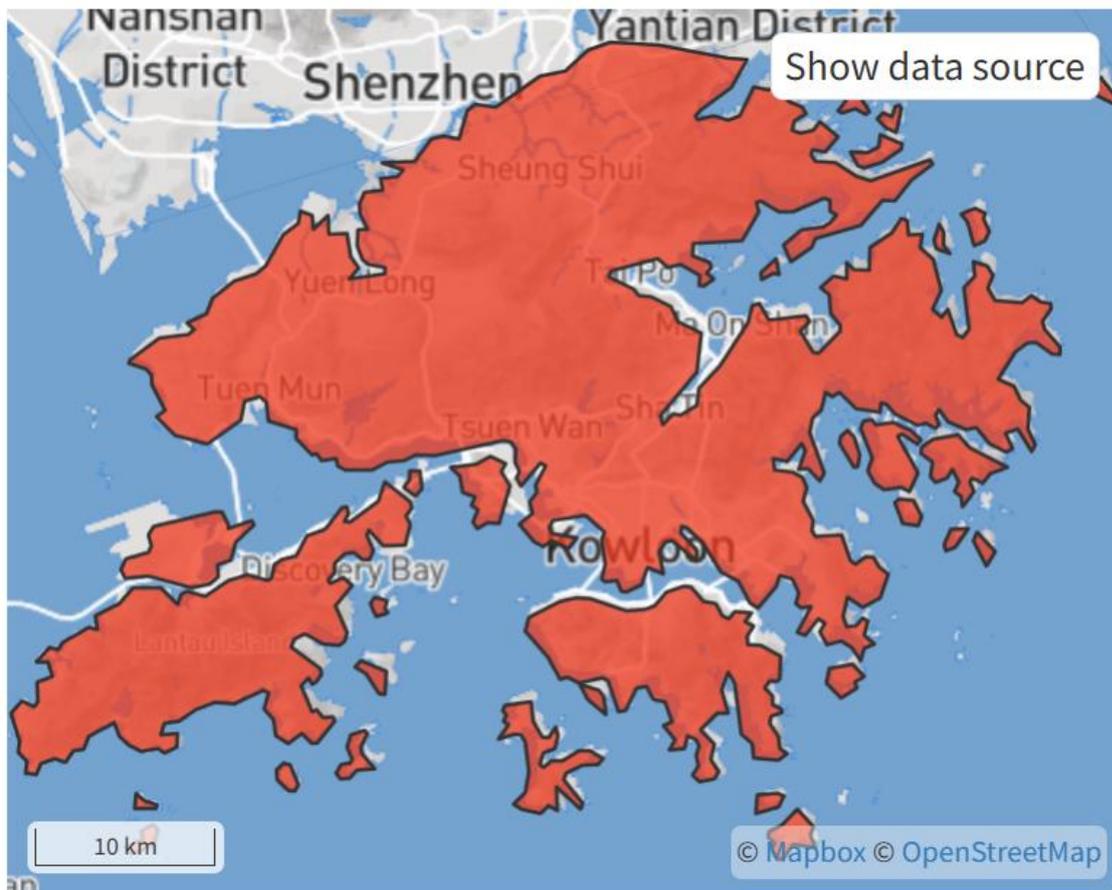


Figure 5 - UNDRR landslide hazard map for Hong Kong

2.5.3 Roles, responsibilities and legislation

A key part of GEOs work was the commencement of the Landslip Preventive Measures (LPM) Programme identifying, categorising and systematically upgrading the numerous historical substandard man-made slopes in Hong Kong, as well as undertaking safety screening studies of the stability of private man-made slopes. Part of this work included the generation of a Catalogue of Slopes, with the risk from each slope assessed quantitatively to generate a priority ranking for the LPM Programme. The initial system adopted in the 1970s were the Cut Slope Ranking System and Fill Slope Ranking System (Wong & Ko, 2006).

In 1995 the GEO commenced the Natural Terrain Landslide Inventory (NTLI) a comprehensive database of landslides on natural terrain based on the systematic evaluation of historical aerial photographs.

In 1998, a set of interim natural terrain landslide risk guidelines, benchmarked against that adopted for Potentially Hazardous Installations in Hong Kong, was formulated by the GEO (ERM 1998). The risk guidelines stipulate the tolerable risk criteria for natural terrain landslides in respect of

Individual Risk and Societal Risk. The Individual Risk criteria apply to the annual probability of fatality for the most vulnerable person affected by landslide hazards. The maximum allowable limit is 10^{-5} for a new development, and 10^{-4} for an existing development. The Societal Risk criteria apply to the total risk to-life posed on the community by landslide hazards within the consultation zone. The criteria were expressed as a frequency (F) versus number of fatalities (N) distribution.

In 2000, the assessment of the potential hazard from natural terrain landslides became a requirement for all new developments in Hong Kong.

In the early 2000s the GEO began incorporating the assessment and mitigation of selected catchments, where recent natural terrain landslides, had occurred into the LPM programme and guidelines for such assessment were prepared (Ng et al., 2003). These recommended appropriate practice and procedures in particular with the so-called Design Event Approach as an alternative to QRA.

2.5.4 Principles of landslide risk management

Three different approaches, viz., Factor of Safety, QRA and Design Event, have been recommended for dealing with natural terrain hazards in Hong Kong.

- (a) Factor of Safety Approach: The conventional engineering approach, which is commonly applied to man-made slopes, has been to design the slopes to the required factor of safety. The relevant slope design requirements are stipulated in the Geotechnical Manual for Slopes (GCO 1984). This approach aims to avert landslides by ensuring a prescribed margin of safety and is also applicable to natural terrain if the design objective is to reduce the likelihood of slope failure. A typical example of such application is in the study of natural terrain below a development site to ensure that natural terrain landslides which may adversely undermine the site will not occur. However, this approach is often not suitable for use in dealing with a large area of natural terrain that poses a risk to the facilities located at its toe.
- (b) QRA Approach: This approach is applicable when designers opt for quantification and management of natural terrain landslide risk instead of prevention of failures. Based on this approach, the designer carries out QRA to quantify the risk of natural terrain landslides. The need for any necessary risk mitigation measures is assessed by reference to GEO's risk guidelines (ERM 1998). This approach would entail a detailed assessment of the probability and consequence of natural terrain landslides, with account taken of the uncertainties in an explicit and systematic manner, and consideration of the tolerability of the assessed risk level. It may be considered as the most rigorous and comprehensive assessment. The assessment often requires expert input and may be fairly involved and costly
- (c) Design Event Approach: This approach adopts a risk-based design framework and is applicable when designers opt for mitigation of natural terrain landslide risk without carrying out a formal QRA. Under this approach, the required mitigation measures (e.g. debris-resisting barriers) to protect a development from natural terrain landslides are determined by reference to an assessment of the design landslide event that may occur on the hillside affecting the development. Uncertainties are generally considered in an implicit manner through the assessment of the design event, e.g. a landslide of a certain size with a given degree of mobility. Depending on the potential landslide consequence and susceptibility of the site, the required design event may either be a 'worst credible' event or 'conservative' event, which correspond to a notional return period of 1,000 years and 100 years, respectively. The design event approach is relatively easy to apply as it does not demand formal and rigorous quantification of risk and is favoured by many practitioners in

Hong Kong. However, it gives no provision for consideration of the practicality and cost-effectiveness of risk mitigation. Such consideration is inherent in the QRA approach if the risk level is found to be within the 'As Low As Reasonably Practicable (ALARP)' region"

Since 2016, the preferred technical approach for dealing with natural terrain hazards is to mitigate the risk through implementation of hazard mitigation measures, adjustments to the facility layout or providing buffer zones, in preference to carrying out stabilization works to large areas of natural terrain, which may be both impractical and environmentally damaging.

2.5.5 Practices to assess and manage landslide risk

2.5.5.1 Landslide inventory

As a result of the relatively small land area, and significant investment by GEO, a robust landslide inventory is available.

2.5.5.2 Landslide susceptibility or hazard

With respect to natural terrain landslides, Hazard, as defined in AGS 2007, is still not a requirement of assessments. Even with the revised Design Event Approach (Ho and Roberts, 2016) mitigation works are still required for most sites assessed, albeit at a lower volumes than previously.

Hazard at specific sites is initially assessed using 'shadow angle' type approaches. For example, runoff is considered by comparing with the following definition:

- Where there is natural terrain outside the site, but within the same catchment, that is at an angular elevation of 20° or more from the site and where there is ground sloping at more than 15° within 50 m horizontally upslope of the site boundary, provided that there is a credible debris flow path to the site.

2.5.5.3 Risk assessment and tolerance

The approach to risk assessment and tolerance is based predominantly on extrapolation from past events. For example, the GEO will object to proposals for the zoning and disposal of a site that is either:

- a. located within an angle of reach of 35° from any natural terrain at an elevation of 50 m or more above the proposed site formation level, or
- b. located on, or immediately below, terrain that is known to be affected by active, large-scale movement

This does not directly correlate with a quantifiable level of risk tolerance, but benefits from the extensive records of landslide hazards in Hong Kong.

2.5.5.4 Zoning and land-use planning

In Hong Kong all land is owned by the Government which has the powers to lease and grant state land to the public for ownership for a limited period of time.

The assessment and design of all new man-made slopes has been vetted by GEO since the 1970s.

Since 2000, the assessment of landslide hazards from natural terrain has been a requirement for all new developments in Hong Kong and these are also vetted by GEO. These assessments follow GEO Report 138 (Ho & Roberts, 2016) and typically adopt the Design Event Approach. For existing development, the current strategy for study and mitigation of natural terrain landslide risk is

founded on the 'react-to known-hazard' principle, i.e. studies will be undertaken if a potential risk becomes evident.

The GEO adopts two sets of technical criteria for screening of sites in respect of natural terrain hazards. These two sets of criteria, are. the "In-principle Objection Criteria" and the "Alert Criteria". The screening process is generally conducted at the land use planning stage when the case is referred to the GEO from the Planning Department, e.g. during planning application under the Town Planning Ordinance, or at the land disposal or lease modification stage when Lands Department seeks GEO's input. The screening is also required to be carried out as part of the technical feasibility of a proposed public works project and geotechnical preliminary studies of Housing Department projects. The screening provides information on whether any parts of the site may be affected by natural terrain hazards, which will give an indication of likely scale of the problem, facilitate preliminary design of the site layout, and help to determine where further input on study of natural terrain hazards is required. It should normally come to a conclusion on the feasibility of the proposed development, any need to avoid areas exposed to severe hazards, and any provision to be made in the development for NTHS and mitigation.

2.5.6 Risk transfer, managed retreat and insurance

No information is available on this topic.

2.5.7 Key challenges and opportunities

An concern with the current guidelines is that the requirement for evaluating the probability of large magnitude, low frequency landslides is largely removed and with the associated implications for hazard and risk this may entail. The approach is directed towards hazard management and not risk management. As a result, mitigation measures are based on event size and not at site risk.

2.6 Italy

2.6.1 Background

Due to its morphological and lithological characteristics, Italy is naturally prone to landslides. In fact, three quarters of its territory is made up of mountains and hills. The widespread presence of predominantly clay or clay-sandy lithologies, which have poor mechanical strength—especially in the presence of water—significantly contributes to slope instability.

This is compounded by the structural weakness of rigid rock formations, which are extensively affected by faults and fractures.

With over 630,000 landslides recorded in the National Inventory of Landslides in Italy (IFFI), Italy is the European country most affected by landslides, covering a total area of approximately 23,700 km² (equivalent to 7.9% of the national territory).

2.6.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery “ThinkHazard!” map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in Italy is shown as:

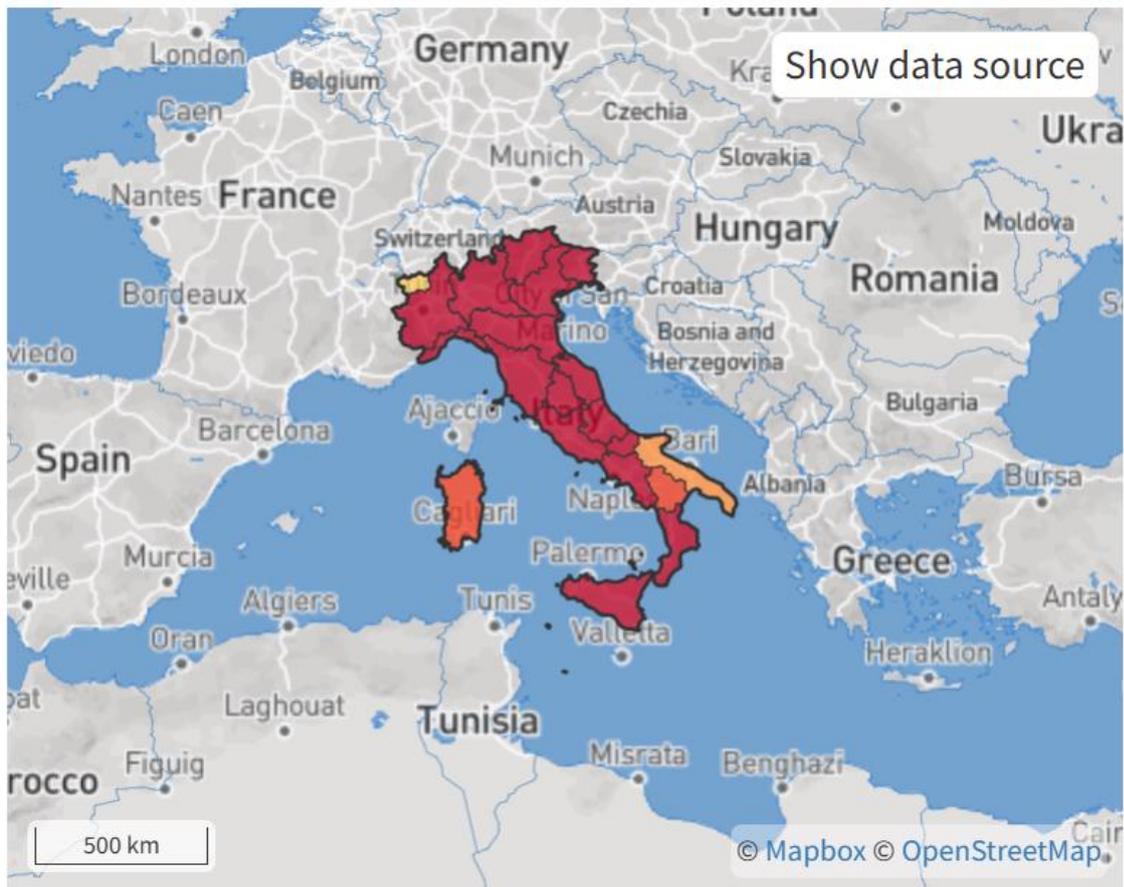


Figure 6 - UNDRR landslide hazard map for Italy

2.6.3 Roles, responsibilities and legislation

In Italy, the institutional framework for hydrogeological risk mitigation policy operates as a complex multi-level governance system. In accordance with the Italian Constitution, it involves multiple administrations at different levels of government. Civil protection and territorial governance, including soil and environmental protection, fall under shared legislative competence between the State and Regions, as established by Article 117 of the Constitution.

Legislation on hydrogeological risk is extensive and includes laws, decrees, and regulations aimed at preventing, mitigating, and managing risks due to landslides, floods, and land instability. Currently in force are sector-specific regulations governing the use and planning of areas classified as being at landslide risk within the Piani Stralcio per l'Assetto Idrogeologico – Rischio da frana - Excerpt Plans for Hydrogeological Management – Landslide Risk, as well as the Norme Tecniche per le Costruzioni NTC, 2018 — Technical Standards for Construction, which provide guidelines and criteria for designing civil engineering works, including slope stabilization measures. Additionally, European standards (the Eurocodes) serve as a reference for the safety of engineering works. All these

regulations aim to ensure a proper interaction between built-up areas, their infrastructures (existing or planned), and areas affected by existing landslides or at risk of future landslides. Italian regulations on landslide risk rely on a combination of preventive planning (Hydrogeological Management Plans - PAI), emergency management tools (Civil Protection), and mitigation measures financed through national and European funds. However, the main challenge remains the full implementation and continuous monitoring of at-risk areas.

The Technical Standards for Construction (NTC 2018) have binding legal authority across the Italian territory. Consequently, engineering projects in Italy must adhere to the 2018 Technical Standards rather than Eurocodes, except in cases explicitly specified by the national technical regulations.

The State is responsible for:

- Defining general definitions, guidelines, and criteria for Regions and Local Authorities.
- Establishing funding programs.
- Setting the general technical criteria for defining Landslide Risk Zones zonation
- Defining general land-use criteria within Landslide Risk Zones
- Proposing and implementing updates to the ICMS (Italian Seismic Microzonation Guidelines, 2008 Working Group).
- Establishing methods and operational tools for assessing areas affected by seismically induced slope instability, as identified in MS1 studies.

Regions and Autonomous Provinces are responsible for:

- Adopting the general criteria established by the State and the Conference of Regions and Autonomous Provinces.
- Developing additional specific criteria based on regional characteristics.
- Reviewing, proposing modifications, and/or approving liquefaction-prone area studies already defined within the region, in coordination with the State (Level 1 of MS).
- Promoting and coordinating studies to define new areas affected by seismically induced slope instability at the regional level, transmitting the results to the State (Level MS3).
- Defining Landslide Risk Zones maps (MS1 and MS3 levels).
- Requiring Local Authorities to inform and notify citizens about the identification of Landslide Risk Zones and the specific land-use criteria within these areas.

Local Authorities are responsible for:

- Adopting the specific criteria set by the Regions and Autonomous Provinces.
- Regulating land use within Landslide Risk Zones.
- Developing Programs for areas affected by seismically induced slope instability.

Informing citizens, in coordination with the Regions and Autonomous Provinces, about the identification of Landslide Risk Zones and the specific land-use criteria within these areas.

2.6.4 Principles of landslide risk management

Despite the complex evolution of recent regulations, the criteria for managing landslide risk remain those established by the D.P.C.M. of September 29, 1998, which, in line with Article 1, paragraph 1 of Decree-Law 180/98, defines three successive phases for risk management activities:

- Step 1: Identification of areas subject to hydrogeological risk through the collection of available information on land instability.
- Step 2: Zoning, risk level assessment, and definition of safeguarding measures.
- Step 3: Planning of risk mitigation measures.

Within the Hydrogeological Management Plans (PsAI), two key outputs of Step 2 play a strategic role in risk management: the risk zoning map, which serves as a forecasting tool and protection measures, which function as a preventive tool.

2.6.5 Practices to assess and manage landslide risk

2.6.5.1 Landslide inventory

The National Inventory of Landslides in Italy (IFFI), established according to Law 132/2016, aims to identify and delineate landslides across Italy using standardized and shared methods.

2.6.5.2 Landslide susceptibility or hazard

Landslide-prone areas in Italy have been mapped and classified in the Piani di Assetto Idrogeologico (PAI) (Hydrogeological Asset Plans) developed under Law 183/1989, Legislative Decree 180/1998 and subsequent amendments, Legislative Decree 152/2006

These plans, created by national, interregional, and regional river basin authorities, now district basin authorities, divide landslide hazard areas into five classes:

Hazard Level	Km ²	% National Territory
Very High Hazard (P4)	9,153	3.0
High Hazard (P3)	16,256	5.4
Medium Hazard (P2)	13,835	4.6
Moderate Hazard (P1)	13,953	4.6
"Areas of Attention" (AA)	6,782	2.2
Total	59,981	19.8

Landslide hazard and "attention" areas cover 59,981 km² (about 20% of Italy's total land area). High hazard areas (P3 & P4) account for nearly 10% of the national territory.

2.6.5.3 Risk assessment and tolerance

For landslide risk areas, the first of the two key outputs require that risk be zoned based on technical cartography (minimum scale 1:25,000) using a landslide inventory. The zoning is categorized into four risk levels:

- Very High Risk (R4): Potential for loss of human lives and serious injuries, severe damage to buildings, infrastructure, and environmental heritage, and the destruction of socio-economic activities.
- High Risk (R3): Possible threats to human safety, functional damage to buildings and infrastructure leading to their inaccessibility, interruption of socio-economic activities, and significant environmental damage.
- Medium Risk (R2): Possible minor damage to buildings, infrastructure, and the environment without endangering human safety, building usability, or economic activities.
- Moderate Risk (R1): Marginal social, economic, and environmental damage.

These classifications serve as a foundation for prevention, mitigation, and intervention planning in landslide-prone areas across Italy.

The NTC 2018, issued by Ministerial Decree on January 17, 2018, serve as the regulatory framework for the design, execution, and testing of construction projects in Italy. The most relevant chapter for landslide risk assessment and mitigation is Chapter 6 (Geotechnical Design), which outlines the criteria for investigation, analysis, and verification of the stability of natural slopes and artificial embankments.

The Italian legislation for landslides in general, and rockfalls in particular, does not contain reference threshold values. The scientific literature in this regards referred to procedures and suggestions for general engineering works, industrial plants, workers' safety, and the zoning of avalanche-prone areas and proposed threshold values for landslides and driving risk. In particular methodology are published for the evaluation of acceptable risk for roads: suitable thresholds and design.

The main objective of a risk assessment procedure is to evaluate the acceptability of a numerically calculated risk value for a given case and to determine whether it is necessary to implement measures aimed at its reduction (Fell et al., 2008). In this way, the risk reduction potentials of design alternatives can be analysed and compared by the authorities.

2.6.5.4 Zoning and land-use planning

The landslide zoning approach adopted in Italy is highly similar—in terms of methodology and reference topographic scale—to that developed in other European countries (Corominas & Mavrouli, 2010). Additionally, both Italy and other parts of Europe have proposed examples of quantitative risk zoning, implementing deterministic methods—typically applied to small areas and at large or detailed scales e.g. (Corominas et al., 2005), (Ferlisi et al., 2021).

The three steps outlined in D.P.C.M. 1998 implicitly encourage a multi-scalar approach—which is the only method capable of linking land-use restrictions, proposals for population relocation, risk mitigation intervention planning, the identification and design of mitigation measures, the allocation of necessary economic resources (e.g. (Cascini et al., 2013)).

The D.P.C.M. 1998 sets guidelines for areas classified as Very High Risk (R4) and High Risk (R3).

In R4 risk areas, the following interventions are allowed:

- Demolition without reconstruction;
- Ordinary maintenance interventions, as defined by Article 31(a) of Law No. 457 of August 5, 1978;
- Strictly necessary measures to reduce the vulnerability of existing buildings and enhance public safety, without increasing surface area or volume, and without changes in land use that would lead to increased urban load;
- Ordinary and extraordinary maintenance for public works or projects of public interest;
- All reclamation and stabilization works for landslide areas.

In R3 risk areas, in addition to the interventions allowed for R4 areas, the following are also permitted:

- Extraordinary maintenance, restoration, and conservative rehabilitation, as defined by Articles 31(b) and (c) of Law No. 457/1978, without increasing surface area or volume, aimed at reducing the vulnerability of buildings;
- Expansions of existing buildings, but only for justified health and hygiene compliance needs.

For Medium Risk (R2) and Moderate Risk (R1) areas, as well as for areas classified under different hazard levels (P), D.P.C.M. 1998 does not provide specific guidance. Instead, it leaves the decision-

making to national, interregional, and regional basin authorities, as defined by Law 183/89, ensuring compliance with current regulations, including technical standards.

Consistently with quantitative risk zoning methodologies ((Cascini et al., 2005); (Fell et al., 2005)), the D.P.C.M. 1998 guidelines promote safeguarding measures aimed at (Ferlisi et al., 2014):

- Maintain, reduce or avoid increasing the built-up load in the risk areas identified in the Landslide Risk Hydrogeological Management Plans;
- Avoiding increases and, if possible, reducing the vulnerability of exposed elements, particularly buildings and public or community infrastructure;
- Lowering the probability of landslide events.

Following these guidelines, Basin Authorities have regulated land use and the acceptability of projects in areas included in Landslide Risk Hydrogeological Management Plans. They have also mandated the submission of a "Hydrogeological Compatibility Study" (Studio di compatibilità idrogeologica - SCI), which must be tailored to the level of project planning, as defined by the Public Works Framework Law (Legislative Decree No. 50 of April 18, 2016).

2.6.6 Risk transfer, managed retreat and insurance

2.6.7 Key challenges and opportunities

The benefits of Piano Stralcio per l'Assetto Idrogeologico-rischio da frana are evident, as their accompanying implementation regulations have enabled territorial planning to better account for present hazards. The safeguard measures for risk areas have also contributed to reducing the number of casualties, even in the presence of severe events. However, Piano Stralcio per l'Assetto Idrogeologico-rischio da frana have certain limitations, mainly related to the scale at which they are typically produced in Italy (1:25,000), which is less detailed than that required for urban planning (1:5,000), where landslide risk zoning must be considered. Another limitation is the lack of direct integration with the design of landslide risk mitigation works, for which the hydrogeological compatibility report is required. This report must compare a qualitative risk zoning framework with mitigation works designed at a detailed scale (>1:5,000).

The NTC 2018 stem from a completely different process, historically aimed at engineering design in line with the most advanced technical-scientific knowledge. More recently, they have also focused on ensuring the appropriate integration of structures into their surrounding territory. The guidelines seek to bridge the gap between planning and design by promoting the appropriate use of analysis methods, input data, topographic scales for calculations and study representations, and more. They define necessary analyses, criteria for identifying priority intervention areas, slope-scale risk assessments, and the mitigation effects of implemented works. However, at present, these two domains (planning and engineering design) do not fully interact, despite both being aimed at ensuring the sustainable use of the territory

The Italian scientific and academic research sector is making great efforts to improve the knowledge and technologies applied to landslide risk management as demonstrate by the large number of papers published.

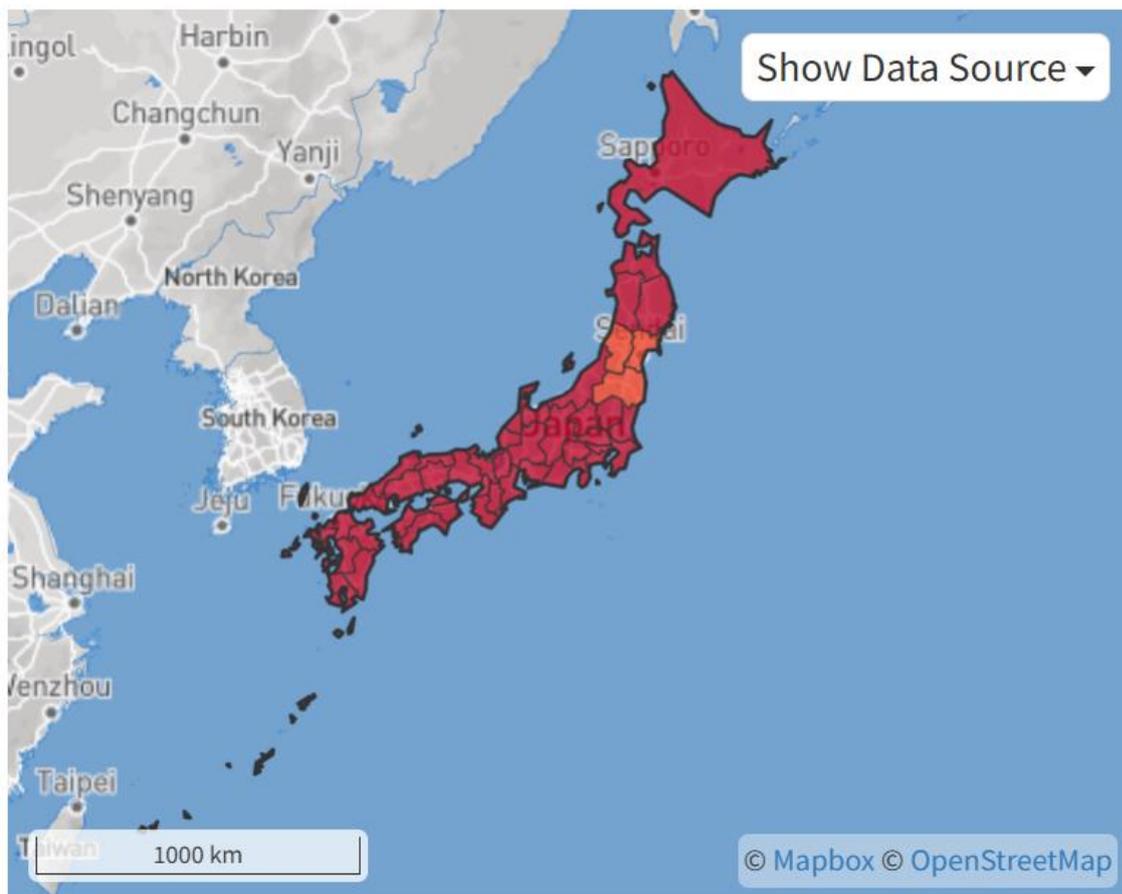
2.7 Japan

2.7.1 Background

75% of Japan's total land area is comprised of mountainous terrain. Due to the topographic characteristics, tectonic activity, heavy seasonal rainfall and other natural conditions of the land, Japanese people have been suffering from numerous slope related disasters since ancient times. In accordance with Ministry of Land, Infrastructure and Transport (2006), approximately 1,000 slope failures occur every year in Japan. Over recent years, the number of natural disasters triggered by heavy rainfall in Japan have been increasing. In 2023, 326 torrential rainfalls in excess of hourly 50 mm were observed (Japan Meteorological Agency 2023). This triggered 1,471 sediment-related disasters across Japan (Ministry of Land, 2023).

2.7.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery "ThinkHazard!" map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in Japan is shown as:



High

Low

Medium

Very low

Figure 7 - UNDRR landslide hazard map for Japan

2.7.3 Roles, responsibilities and legislation

Legislation for these sediment-related disasters commenced in 1966. This legislation, named “Act on Sediment Disaster Countermeasures” came into effect in 2000. Since then, the designation and announcement of sediment disaster special alert areas have been undertaken across Japan. Any development activities within these areas are strictly regulated and earthworks such as filling and excavation, building activities, etc require permission from the jurisdictional provincial governor.

2.7.4 Principles of landslide risk management

In general, identification of these high-risk slopes / sediment disaster special alert areas in Japan are carried out utilising the following studies:

- Past failure history;
- Desktop 1: 2,500 topographic map study;
- Field topographic and geological studies; and
- Understanding of conservation (preservation) target(s) in the area.

The identification of sites is usually undertaken in a qualitative manner. According to statistics issued by Ministry of Land, Infrastructure, Transport and Tourism, Japan (2023), 525,307 sediment disaster alert areas including 11,288 landslide areas, 330,156 rapid slope failure areas and 183,863 debris flow areas have been registered across Japan in 2002.

2.7.5 Practices to assess and manage landslide risk

2.7.5.1 Landslide inventory

Landslide Distribution Maps are, in theory, available from the Japan Seismic Hazard Information Station (<https://www.j-shis.bosai.go.jp/en/wms-landslide>) as a Web Map Service. However, the system did not appear to be operational when this document was produced.

2.7.5.2 Landslide susceptibility or hazard

The Japanese Meteorological Agency provides a real-time Landslide Risk Map for the country which includes a layer showing “Landslide hazardous areas” (https://www.jma.go.jp/bosai/en_risk/#zoom:6/lat:37.055177/lon:139.119873/colordepth:normal/elements:land&hazardmap).

2.7.5.3 Risk assessment and tolerance

Many methods have been established to provide quantitative assessment of slope risk / disaster prone locations in Japan. Among them, one of the most recognised risk assessment methods includes the road disaster prevention inspection, which has been regularly undertaken since in 1968.

This method assesses the safety of road users and road infrastructure against landslide, rapid slope failure, rock fall, debris flow, fill embankment, retaining walls, erosion, avalanche and blizzard utilising the following three steps (Japan Geotechnical Consultants Association 2006):

- Step 1 Screening of sites based on the following criteria:
 - Previously identified unmitigated high risk sites;
 - Sites showing signs of instability; or
 - Sites identified under disaster prevention management.

- Step 2: Further refinement of Step 1 site selections, based on those that require stability assessment utilising the following desktop and field studies:
 - Possible triggers of disaster and its impact on road infrastructure based on:
 - Past failure history;
 - Past visual inspection records;
 - Topographic and geological maps; and
 - Aerial photographs.
 - Visual inspection of sites. For landslides, rock fall and rapid slope failure, rock slope failure, and debris flow, the following criteria are used to identify the site:
 - Landslides:
 - ◆ Designated landslide alert area and landslide prevention area;
 - ◆ Road section located in the landslide terrain identified from the desktop study; or
 - ◆ Site showing the landslide phenomenon.
 - Rock fall and rapid slope failure:
 - ◆ $H \geq 15\text{m}$ cut slope / natural slope and ≥ 45 degrees natural slope;
 - ◆ Slopes contains cobbles / boulders on the slope surface; or
 - ◆ Deteriorated previous treated site, or mitigation treatment proposed site.
 - Rock slope failure:
 - ◆ Rock exposed on $H \geq 15\text{m}$ and ≥ 60 degrees slope.
 - Debris flow:
 - ◆ Road crossing mountain stream which has ≥ 10 degrees upstream bed and contains $\geq 0.01\text{km}^2$ basin area.
- Step 3: Stability assessment of sites selected in Step 2 to quantify site risk. Input parameters of this assessment such as topography, geology, slope geometry, ground surface conditions, signs of deformation, seepage, past mitigation treatment, etc vary depending on the target hazard (ie, landslide, rapid slope failure, rock fall, debris flow, fill embankment, retaining walls, erosion, avalanche and blizzard). The traffic volume is not taken into account in this assessment. Assessment results are classified into the following three categories:
 - Sites that require mitigation treatment;
 - Sites that require disaster prevention record for future risk management; and
 - Sites that require no new actions.

The Japanese Meteorological Agency provides a real-time Landslide Risk Map for the country (https://www.jma.go.jp/bosai/en_risk/#zoom:6/lat:37.055177/lon:139.119873/colordepth:normal/elements:land&hazardmap).

2.7.5.4 Zoning and land-use planning

Information about zoning and land-use planning was not available.

2.7.6 Risk transfer, managed retreat and insurance

Information about risk transfer, managed retreat and insurance was not available.

2.7.7 Key challenges and opportunities

Information about challenges and opportunities was not available.

2.8 New Zealand

2.8.1 Background

New Zealand is second in Lloyds of London's list of most exposed countries to natural hazards. They estimate that the average cost of natural disasters to New Zealand's economy is 0.7% of gross domestic product (GDP) per year (NZ Government Inquiry, 2024). When taken over the past 20 years, noting the impact of the Canterbury and Kaikoura earthquakes, the cost recovering from natural hazards is 4.3% of GDP per year. This cost is forecast to grow.

New Zealand has a high exposure to natural hazards due to its location in the remote, mid latitude region of the Southern Hemisphere at the boundary of two colliding tectonic plates. There are variously mountainous areas, ongoing uplift, fault-bound rock, large earthquakes, active volcanoes, erosion, weak soils and potentially high rainfall that contribute to the potential for landslides. The relatively low population density means that the risk to people and property may be less than comparably hazardous, more populous terrain elsewhere in the world. The low taxation base means that landslide hazards often cannot be economically mitigated as they would be in a more densely populated country of similar per capita wealth.

2.8.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery "ThinkHazard!" map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in New Zealand was not available at the time of writing.

2.8.3 Roles, responsibilities and legislation

Central government is responsible for defining the roles of national and local government through legislation. It sets a national policy that are applied by local government according to their requirements. For LRM, this means that there is a range of approaches to evaluating landslide hazards.

Local government comprises 16 regional councils, whose responsibilities include building more resilient communities in the face of natural hazards and climate change. Within these are a total of 61 territorial authorities, comprising 11 city councils and 50 district councils.

There is no single statute that provides the framework for managing natural hazards, but there are five pieces of legislation that are directly relevant to the management of natural hazards in New Zealand. Relevant legislation relating to natural hazards, including landslides are described below:

1. **Resource Management Act 1991 (RMA)**. This is the primary, nationally-applied act for proactive management of natural hazards. RMA consent is required when changing land use, e.g. where rural land is proposed to be subdivided into residential use and is usually the first time a natural hazard (including landslide) risk assessment would be required to inform the decision of whether the proposed change is appropriate.
2. **Building Act 2004**. This act applies to the building of structures and considers managing hazards at a smaller scale and occurs at a later stage to the resource consent (RMA) process. A building consent authority has some ability to restrict construction of new buildings or major alterations on land subject to hazards.
3. **Local Government Act 2002**. This is the principal statute providing for the governance of New Zealand's local authorities, and mandates the managing of natural hazard risk in infrastructure resilience.

4. **Civil Defence and Emergency Management Act 2002 (CDEM Act).** This requires all levels of government to work collaboratively to reduce the risk to people and their property through the sustainable management of hazards. It is based on the concept of the '4 Rs' - Reduction (of risk), Readiness (for an event), Response (when an event occurs) and Recovery (after the event).
5. **Severe Weather Emergency Recovery Legislation Act 2023.** This legislation followed from the damaging floods in early 2023 (Auckland in January and the North Island in February's Cyclone Gabrielle). The intent was to assist communities and local authorities affected by the severe weather events to respond to, and recover from, the impacts of the severe weather events. The post-event creation of this act highlights gaps in existing legislation when dealing with large-scale emergencies.

In addition, New Zealand has international obligations as a signatory to the 2015-2030 Sendai Framework for Disaster Risk Reduction, which was adopted at the UN World Conference in Sendai, Japan as the successor of the Hyogo Framework (2005-2015).

2.8.4 Principles of landslide risk management

The overarching principles are not explicitly defined in a single place, but can be summarised as:

1. Taking a risk-based approach, influenced by the "as low as reasonably practicable" principle.
2. Using land-use planning as a primary control to manage intolerable risk, while being generally permissive about what landowners can do with their land.
3. Engaging with the public to align risk management practices with societal expectations.
4. Using communication as a tool to allow the public to make informed risk decisions.
5. Taking an adaptive approach to strategies, policies and legislation to build resilience, often in response to events.

The overall approach applied as good practice (for land use planning and major infrastructure projects) in New Zealand align with AGS (2007, see Figure 1), with the zone of landsliding being defined (scope), followed by characterising the mechanism of landslide and frequency (hazard analysis). The likelihood and consequence of the landslide occurring on life and/or property is then evaluated (consequence analysis). This leads to the estimation of risk, which may be presented with confidence ranges. The risk evaluation includes consideration of tolerance of the risk by stakeholders and the community. Mitigation of the risk involves consideration and selection of options to be implemented. Ongoing review of the hazard and management is required to ensure an appropriate risk response.

This approach is not widely adopted for small-scale building projects. In these cases it is more common to identify the hazard (ideally by geomorphological mapping, although this is often missed), and to identify if this could pose a risk to development using expert judgement (usually by a geotechnical engineer or engineering geologist, but sometimes by a general practitioner engineer). If a risk is identified, this will usually be mitigated by physical intervention (e.g. retaining walls) designed in accordance with the New Zealand Building Code. It is generally accepted that achieving a factor of safety of 1.5 is appropriate, although a recent guidance is encouraging a risk based approach (NZGS Slope Stability guidelines unit 4, in publication).

2.8.5 Practices to assess and manage landslide risk

2.8.5.1 Landslide inventory

New Zealand does not have a properly funded national inventory of landslides. This means there is no reliable and future-proofed resource to inform future susceptibility and hazard mapping. Two

main inventories exist, each with a separate purpose and design; ESNZ have their New Zealand Landslides Database and Auckland Council and the Natural Hazards Commission have funded the Open Landslides Database. They each add significant value, but neither has secure long-term funding.

2.8.5.2 *Landslide susceptibility or hazard*

Landslide susceptibility maps are not widely available, but where they are available they are most commonly maintained by regional or territorial authorities, usually with independent web-based GIS portals that can be accessed by the public. Research underway by Earth Sciences New Zealand may result in a national susceptibility or hazard map, but there is currently no national organisation with a mandate (and funding) to develop and maintain such a map in perpetuity.

2.8.5.3 *Risk assessment and tolerance*

There is no legislated definition of risk tolerability or acceptability. Nationally there is a variable definition of risk as each region has its own mandate for defining parameters, with a resulting range of risk criteria.

2.8.5.4 *Zoning and land-use planning*

Guidance on the responsibility for landslide assessment and mitigation is provided in de Vilder et al. (2024). As a recent document, it is expected to influence the direction of LRM, however, it may not represent current practice in New Zealand in all cases as natural hazard risk assessment is evolving.

The resource management responsibilities of a region are set out in Regional Policy Statements (RPS). The responsibilities of aspects of landslide assessment can be by regional or territorial authorities, although the latter usually manages landslide risk as they manage subdivision and most land uses. Each RPS is developed in collaboration with local stakeholders (community, authorities and local Maori iwi – tribes) and will differ regionally due to New Zealand's large variety of geology, topography, rainfall and population density. A District Plan is the document where specific LRM policies and methods are set out. These align with the overall approach in the RPS.

2.8.6 *Risk transfer, managed retreat and insurance*

New Zealand property is extremely well insured compared to other countries, which means the insurance industry bears most of the costs when a disaster occurs. The New Zealand insurance sector has several features that differentiate it from insurance sectors in other countries. The Government is a key player in the provision of non-life insurance. Because of New Zealand's relatively small size, and high hazard exposure, it is challenging to maintain a sustainable insurance pool to share and transfer risk. This public-sector involvement provides the international underwriting market with comfort that their risk is being managed and therefore supports their ongoing provision of insurance to homeowners in New Zealand.

2.8.7 *Key challenges and opportunities*

The wide distribution of responsibilities, with little formalised coordination between parties, prevents landslide risk from being efficiently managed. A national strategy may provide a more coherent approach.

2.9 Norway

2.9.1 Background

For centuries, Norwegians have managed risks associated with geological hazards (geohazards), incorporating this expertise across the public and private sectors as well as academia. As a result, Norway is recognized as a global leader in geohazard management. The success and widespread implementation of geohazard management in Norway has driven the continuous evolution of government practices and organizations responsible for these efforts over the past two decades, adapting to public needs and technological advancements.

2.9.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery “ThinkHazard!” map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in Norway is shown as:

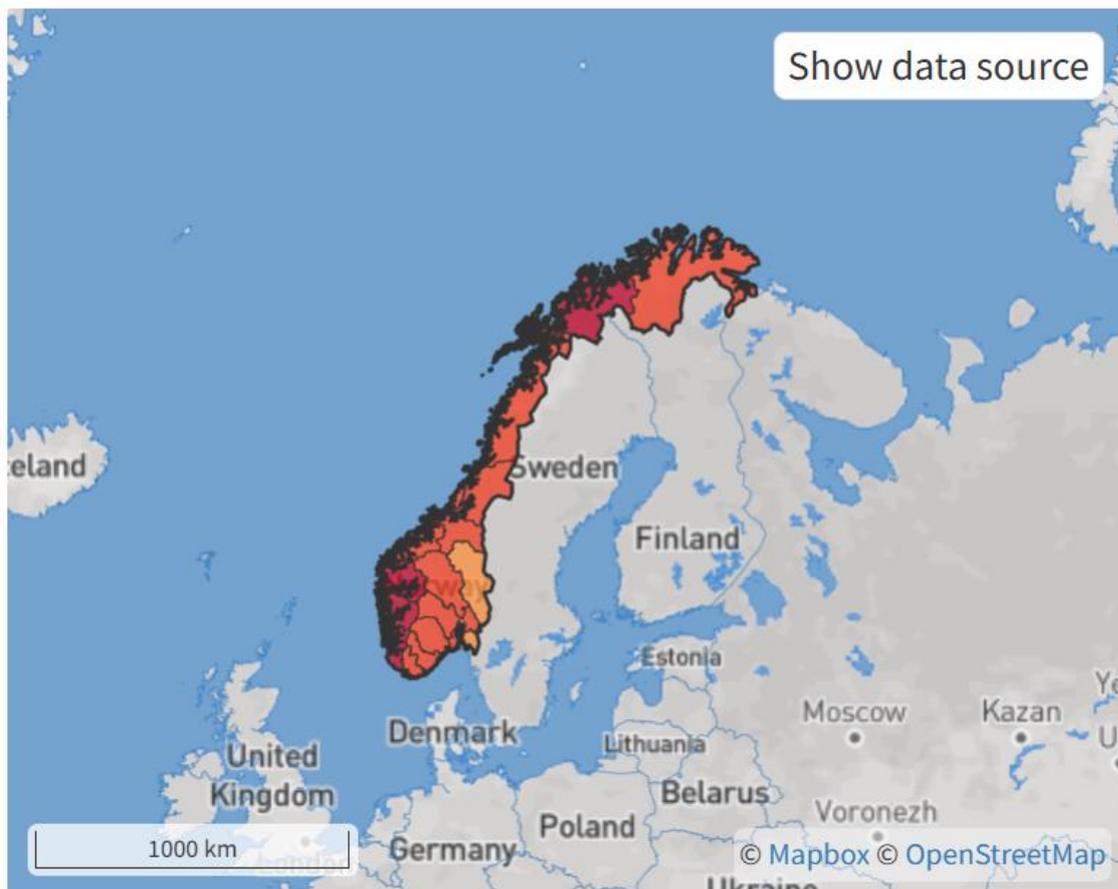


Figure 8 - UNDRR landslide hazard map for Norway

2.9.3 Roles, responsibilities and legislation

The Norwegian Water Resources and Energy Directorate (NVE), operating under the Ministry of Energy (ME), is responsible for managing Norway's water and energy resources at the national level (NVE, 2014a). The Ministry of Energy holds the overall administrative responsibility for managing geohazard risks, while NVE serves as the operational authority. The national geohazard program is implemented through NVE and other government bodies, such as the Norwegian Geological Survey (NGU), with contributions from academia, private consulting firms, and partners across various government levels.

In Norway, geohazard management is primarily overseen by governmental organizations and policies. The leading entities include the Norwegian Water Resources and Energy Directorate (NVE), which holds the operative authority for landslides in the country (Chiu and Eidsvig, 2016), and the Norwegian Public Roads Administration (NPRA), responsible for managing geohazards along Norwegian roads. Additionally, the Norwegian Directorate for Civil Protection (DSB) performs annual risk assessments for the nation (DSB, 2019).

When examining the integration of flood and landslide hazards into land use planning, it is essential to outline the current governing documents. The hierarchy of these documents in Norway, based on their relative importance, is as follows: 1) National Policy, 2) Enabling Legislation (Acts), and 3) Regulations and Guidelines/Manuals.

2.9.4 Principles of landslide risk management

In Norway, among the various geohazards the country is exposed to, flood and slope hazards (including rock, soil, debris, and snow hazards) are typically the primary concerns in land use planning.

2.9.5 Practices to assess and manage landslide risk

2.9.5.1 *Landslide inventory*

Landslide inventories are commonly created after major events (e.g. (Rüther et al., 2024)).

Norges vassdrag og energidirektorat (NVE) issues warnings for both floods and landslides. The warning system is based on conditions such as precipitation and snow melting. In addition, NVE has a national landslide database comprising 60,000 registered events, very few of which, however, contain details about the landslide footprint. Many events come from Norwegian Public Roads Administration records of landslides which blocked roads (Klima2050, n.d.).

2.9.5.2 *Landslide susceptibility or hazard*

Norway has a national susceptibility map for landslides in soils at a catchment level. These maps are used to inform the daily forecast of rainfall-induced landslides in Norway (Devoli et al., 2019).

2.9.5.3 *Risk assessment and tolerance*

The DSB (2017) framework deliberately follows the ISO3100:2018 process (ISO, 2018) to establish a systematic, repeatable method for identifying and analyzing hazards and designating areas for further development consideration. This DSB process involves engaging a wide range of stakeholders with relevant expertise to provide input on the temporal probability of hazards, which is then integrated into planning efforts. The approach relies on compiled published data and tools like Bow-Tie Analyses (ISO, 2019) to visually represent the broad-scale hazards facing populations and infrastructure within a region, as well as the vulnerabilities of those elements at risk. The aim of the RVA process is to initially collect available data on various hazards impacting populations and infrastructure, followed by assessing the likelihood of these hazards and the vulnerability of the

elements at risk. Guideline documents (DSB, 2014, 2016, 2017) offer semi-quantitative rating criteria based on public safety, social, and economic factors to allow for relative risk ranking. This method requires specialized input to provide realistic probability ranges and impact assessments. Although this approach is recommended, it does not appear to be compulsory, and the extent of its use across different planning levels remains unclear.

In 2023, the Ministry of Petroleum and Energy contracted a report on the assessment of risk acceptance for floods and landslides NGI (2023). The report states that the risk acceptance criteria established in the Norwegian public sector are different in form and that it can be difficult to get an overview. To the extent that risk acceptance criteria affect the agencies' priorities, different risk acceptance levels may mean that the value of life, health and material and environmental damage is valued differently between sectors. The consequence of a non-harmonized approach to acceptable risk is that public priorities are sub-optimal. This, in turn, means that it is likely that more risk per budget dollar could be reduced if risk acceptance criteria were harmonized across sectors. Given that the approach to risk acceptance criteria varies and the responsibility is spread across many agencies/directorates, flood and landslide risk management is addressed in a large number of guidelines - which are neither compiled nor harmonized. The main reason is seen in the fact that the national responsibility for managing natural hazards and climate risk is divided between eight ministries, and that the responsibility for risk acceptance criteria is delegated to four government agencies (NVE, NPRA, the Norwegian Railway Directorate, and Bane NOR).

Risk is commonly categorized into three groups: acceptable, tolerable, and unacceptable risk.

2.9.5.4 Zoning and land-use planning

The requirement for Risk and Vulnerability Assessments (RVA) applies in the planning stages for development (DSB, 2017). MJPS (2019) further instructs all Ministries involved in civil protection and social security functions to *“compile and maintain systematic risk and vulnerability analyses based on assessments of intentional and unintentional accidents that may threaten the ministry’s and sector’s functionality, and represent a risk for life, health and material assets”*. According to DSB (2017), the RVA should identify all risk and vulnerability factors crucial for assessing the suitability of an area for development, as well as any changes in these conditions due to the planned development.

2.9.6 Risk transfer, managed retreat and insurance

The Natural Property Insurance Act (JD, 1989) offers guidance on the regulation of private insurance schemes concerning coverage for natural hazards. The Natural Damage Compensation Act (MAF, 1994) governs the state's compensation to private property owners who are unable to obtain private insurance for geohazard impacts. It also includes provisions regarding liability and the implementation of safety measures.

Limited information is available about managed retreat from landslide risk. An investigation carried out by The Office of the Auditor General (2022) shows that the authorities lack knowledge about how exposed existing buildings and transport infrastructure are to natural hazards under future climate conditions. This creates a risk that the necessary preventive measures will not be implemented. The authorities lack the necessary overview of how far Norway has come in its efforts to adapt to climate change, and coordination between national authorities is too weak.

2.9.7 Key challenges and opportunities

While comprehensive guidance exists for integrating flood and landslide hazards into land use planning at various levels, some fragmentation persists in processes and responsibilities.

Consequently, these evolving practices can lead to uncertainty among stakeholders regarding roles, responsibilities, and expectations for geohazard management across different levels of government.

While there are ongoing efforts to create a consistent approach for understanding hazard zoning and risk at all levels, the current focus is mainly on reducing the vulnerability of buildings to flooding and landslide impacts. While this is crucial, a broader consideration of the wider societal impacts and risks should guide decisions regarding national funding.

2.10 Spain (Catalonia)

2.10.1 Background

In Spain, landslides are phenomena mostly concentrated in the mountainous areas and coastal cliffs. Landslides in Spain occur mostly in three main geomorphological contexts: the Alpine ranges associated to the steep relief, the coastal cliffs subjected to the sea erosion, and the Cenozoic basins filled with hard soils and weak rocks which are susceptible to landsliding, particularly in locations affected by fluvial erosion. The whole Cantabrian coast is dotted with landslides caused by the erosion and undermining of the cliffs. The most frequent types of failures in the alpine ranges are shallow landslides and debris flows, generated in surficial formations, particularly till deposits and colluvium. The Geological Survey of Spain is reported to be preparing a National Landslide Catalogue. This catalogue may become a useful tool for evaluations and to establish a reliable relationship between climate change and landslide occurrence (Corominas et al., 2017).

2.10.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery “ThinkHazard!” map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in Spain is shown as:

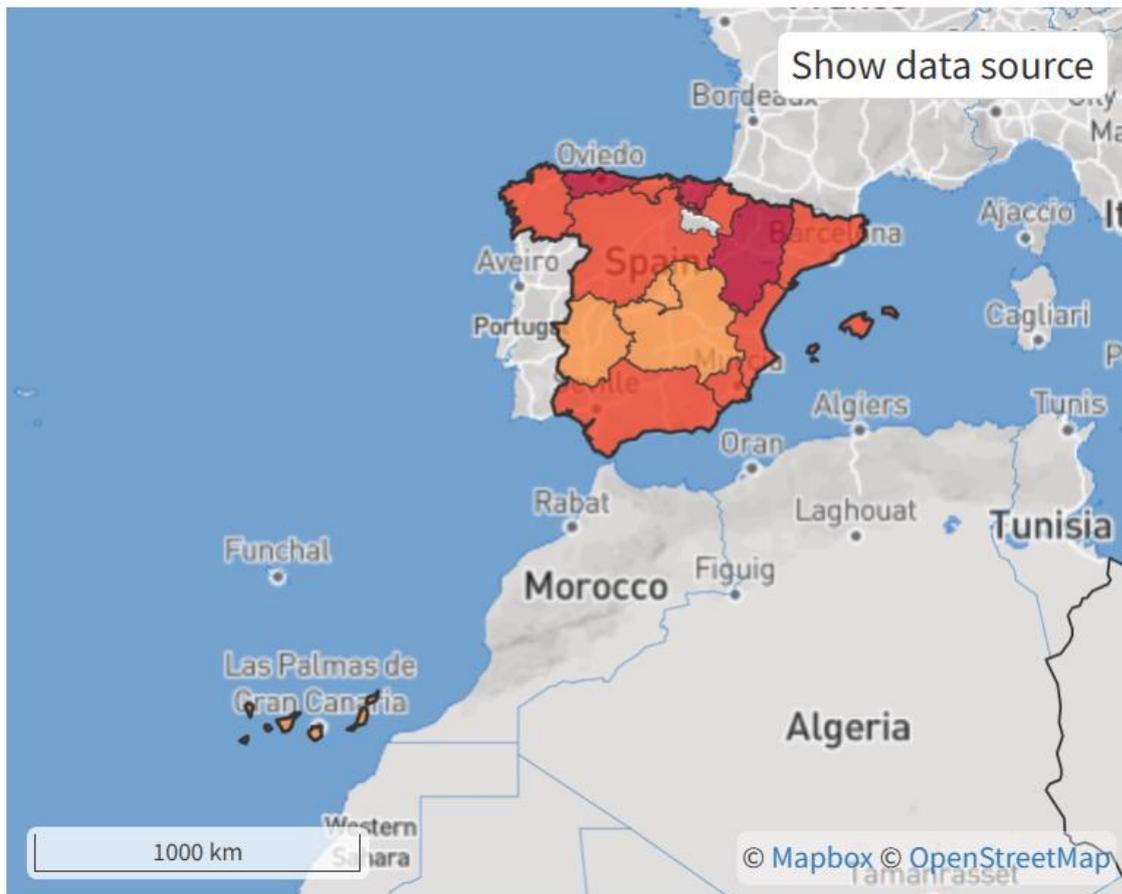


Figure 9 - UNDRR landslide hazard map for Spain

2.10.3 Roles, responsibilities and legislation

The management of natural hazards in Spain is carried out by the regional administrations and, specifically by Civil Protection and Emergency Services (Mateos, 2007).

Spain is organized in autonomous regions. Landslide risk management is contemplated in Regional Laws rather than National Laws, with the example of Catalonia. The region of Catalonia has authority over regional planning and land development, and on civil protection. In what concerns the landslide risk management, the Catalanian autonomous administration has followed a different strategy. These strategies have been conditioned by the availability of land, the pressure for development and the socioeconomic impact of the previous landsliding events.

In Catalonia, the Geologic Institute of Catalonia (Institut Geològic de Catalunya - IGC) has the responsibility of studying and evaluating the geological and associated risks, including the risk due to avalanches. More specifically, there exist various norms that, for their application, they make reference to the presence of geologic and other natural hazards: i.e. the Urban Law (Text Refós de la Llei d'Urbanisme –TRLU), approved by decree in 2005 and modified in 2007 and the Regulation of the Urban Law, approved by decree in 2006.

Research institutions and consulting companies support administration authorities in the risk management through the development of methodologies for the risk assessment and their application.

2.10.4 Principles of landslide risk management

2.10.5 Practices to assess and manage landslide risk

2.10.5.1 Landslide inventory

The recommendations for the landslide hazard mapping which are followed by the Geological and Cartographical Institute of Catalonia (ICGC) for the mapping of geological risks, including landslides. Current maps are available at <https://www.icgc.cat/en/Thematic-areas/Risks-and-emergencies/Geological-risks>

The practice provides recommendations, and it is not legally binding. Official accompanying technical specifications that explain step-by-step the used methodologies also exist. The document is intended to be used by administrative authorities, companies and professionals as a support tool for the planning of the territory of public works.

2.10.5.2 Landslide susceptibility or hazard

The Geological Risk Prevention Map of Catalonia (Mapa de Prevenció de Riscos Geològics - MPRG25M) was issued in 2007. The objective of the MPRG25M is to support territorial planning, taking into account the areas which are subjected to geological risks. Hazard maps are provided, where three hazard levels; low, moderate, and high. Hazard is assessed qualitatively and are presented in a GIS format which include multi-hazards (for landslides: rockfalls, landslides, flows, snow avalanches) as well as additional geological hazards: earthquakes and floods, settlement (subsidence or collapses).

The maps provide a qualitative rating of the hazard levels, for different kinds of hazards. Five gravitational mass phenomena are considered: rockfalls, flows, slides, snow avalanches, sinkings: subsidence and collapses. Three more categories of related phenomena having an effect on the security and durability of buildings are included: retreat of scarps, erosion and deposition related to fluvial and coastal dynamics, geotechnical problems due to the presence of degradable or evolutioned materials, expansive or due to the presence of anthropic fillings.

Susceptibility is addressed separately for each phenomenon. Susceptibility analysis is carried out empirically. It is done by crossing lithology with slope inclination (Oller et al. 2013).

By October 2024 68 hazard maps (~25% of the territory) (Institut Cartogràfic i Geològic de Catalunya, n.d.).

2.10.5.3 Risk assessment and tolerance

There is no official risk assessment practice for Catalonia, or Spain.

2.10.5.4 Zoning and land-use planning

Landslide risk zonation practices align with the JTC-1 zonation guidelines.

The overall scale of landslide hazard mapping in Catalonia is typically 1:25,000. This permits the identification of the landslides, however the landslide boundaries are not provided at this scale. This risk map scale is neither compatible nor appropriate to allow their direct incorporation in the urban planning and ordination system of the territory, which use maps at scales of 1:1.000, 1:2.000, 1:5.000 and 1:10.000

A detailed study (1:10,000) is recommended for the areas that are identified as of high hazard and coincide with the development of infrastructure.

The methodology is transparent (there are technical specification documents accompanying the maps) and the results are reproducible. Because it is a multi-risk hazard map where the hazards deriving from different phenomena can be superposed, combined risk can be considered.

For the classification of the magnitude scale, the impacts on people, conventional buildings, urban infrastructures and natural environments of open spaces are taken into account, according to Table 1.

Table 1 - Catalonia magnitude scale based on the destructive potential or damage it could potentially create on certain type elements

Magnitude	Buildings	Infrastructures	Persons	Natural environment
M1	Negligible effects; occasionally it can cause minor non-structural damage.	Obstacle of easy removal and minimal damage to roads. May cause point damage to light moving vehicles.	Can injure a person in open space.	It can leave a punctual and barely perceptible mark on the natural environment.
M2	May cause functional damage and some minor structural damage.	It may temporarily obstruct passage through a vial or part and cause minor damage to the vial. It can cause significant damage to light moving vehicles.	Can fatally injure people in open space. People are sheltered inside the buildings.	It leaves a small lasting mark on the natural environment.
M3	It can cause severe functional and moderate structural damage, or destroy lightweight constructions.	It can cause repairable damage to the infrastructure that temporarily limits its functionality. It can destroy light moving vehicles and damage heavy ones.	People inside buildings are at risk, although they may have some protection.	It leaves a mark throughout its extent on the natural environment, generally of short duration.
M4	It can cause severe structural damage to multiple buildings and partially destroy them.	It can cause damage that renders the infrastructure unusable requiring expensive repairs. It can destroy all kinds of vehicles.	The buildings do not offer effective protection to the occupants.	It leaves a clear and lasting mark. It can destroy a portion of forest and make modifications to the terrain.
M5	It can damage large built-up areas and destroy multiple structures.	It can destroy infrastructure or cause irreparable damage that requires reconstruction or re-routing.	Survival depends on fortuitous circumstances.	It can transform the landscape, with the destruction of forests or new landforms.

This temporal scale that is used is consistent with the safety of people and the durability and value generated by land uses and buildings (for example): ten-year insurance for newly built homes (10

years), mortgage (30 years), design life for constructions (100 years), inheritance for the second generation (120 years), inheritance with a cycle of 4 generations (200 years).

2.10.6 Risk transfer, managed retreat and insurance

Damages caused by natural risks in Spain are covered by the Insurance Compensation Consortium, which covers the consequences of extraordinary risks (Royal Act 2022/1986) and includes: flooding, earthquakes, tsunamis, volcanic eruptions, storms of certain intensity, and falls of meteorites or other planetary objects. Landslides are not specifically included, except when they are linked to high intensity storms. When the situation of natural disaster is officially declared, the uncovered damages caused by landslides on infrastructure and crops, are compensable, as occurred after the heavy rains of 1983 in northern Spain (Bonachea et al. 2014).

There are scarce examples of full relocation due to landslide risk in Spain.

2.10.7 Key challenges and opportunities

- The risk map scales that have been elaborated for civil protection (scales 1:50.000 or 1:25.000) are neither compatible nor appropriate to allow their direct incorporation in the urban planning and ordination system of the territory, which use maps at scales of 1:1.000, 1:2.000, 1:5.000 and 1:10.000.

2.11 United Kingdom

2.11.1 Background

The largest loss of life caused by a single landslide in the UK occurred on 21st October 1966 when a waste tip formed by coal spoil failed and destroyed a school in the South Wales town of Aberfan, killing 144 people, most of whom were children. Prior to this event, there was little government interest in mitigating any dangerous ground – rebuilding the economy and national infrastructure following World War II was the priority, with resources prioritised towards developing the manufacturing sector, and supporting exploitation of energy and mineral resources (Gibson et al., 2013).

A series of significant landslides also occurred during major infrastructure construction in the UK in the 1960s and 1970s stimulating early research into natural landslides. In the mid-1980s, the UK Government's Department of the Environment (DoE) commissioned a study to build a national register (database) of landslides in Great Britain. This was completed in 1994. The work was effectively a desk study of readily available information sources and built a picture of 8835 landslides (Jones & Lee, 1994).

An evaluation of debris flows impacting the Scottish road network was also commenced following two debris flows in August 2004 which trapped 57 motorists.

2.11.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery “ThinkHazard!” map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in the United Kingdom is shown as:

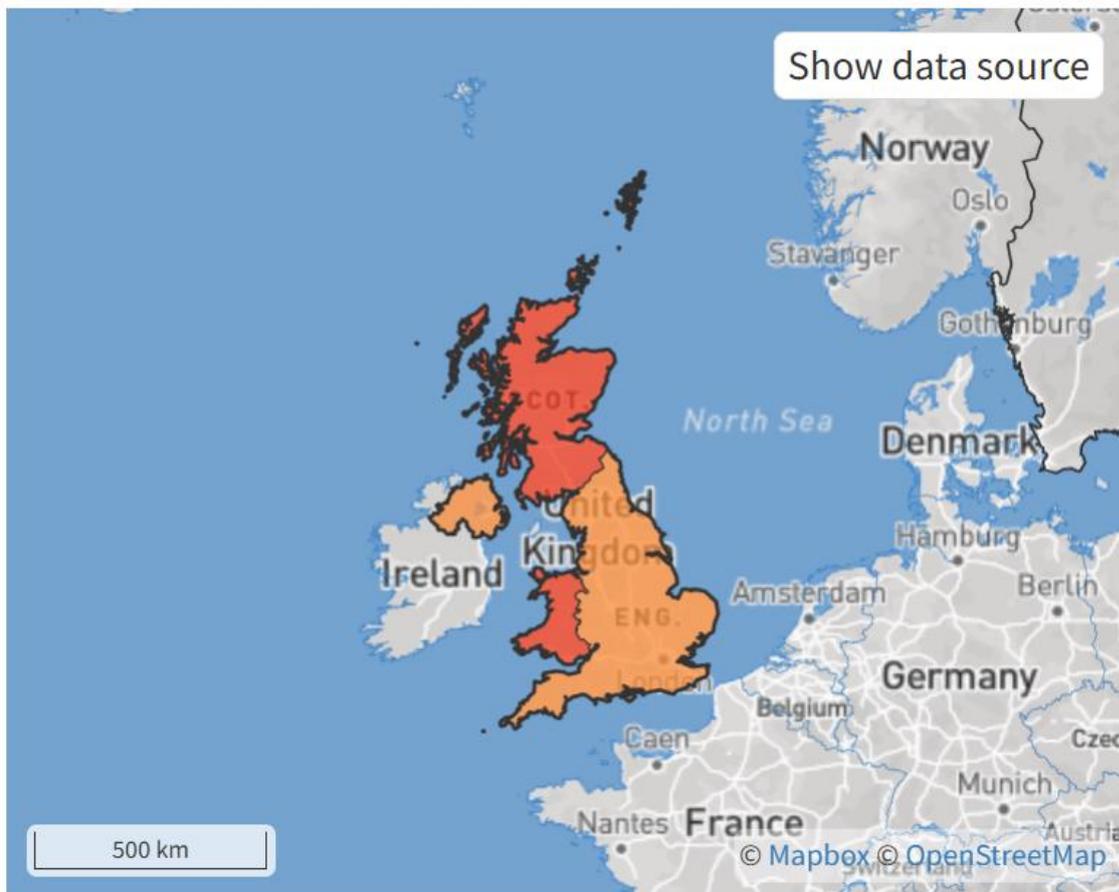


Figure 10 - UNDRR landslide hazard map for the United Kingdom

2.11.3 Roles, responsibilities and legislation

Foster et al., 2011 note that “The current systems, which are neither centralized nor legally binding, comprises a system of planning regulations (Town and Country Planning Act 1990), guidance notes, operational regulations and building codes (Building Regulations, 2006). Except for the Building Regulations, none of these legal statutes specifically mention landslides. The majority of the legislation can be interpreted as placing responsibility with the developer, utility operator or landowner to ensure landslides are not an issue”.

The 2004 regulations state that “The building shall be constructed so that ground movement caused by (a) swelling, shrinkage or freezing of the subsoil; or (b) landslip or subsidence (other than subsidence arising from shrinkage), in so far as the risk can be reasonably foreseen, will not impair the stability of any part of the building” (Anon 2004).

2.11.4 Principles of landslide risk management

2.11.5 Practices to assess and manage landslide risk

2.11.5.1 Landslide inventory

Following the DoE studies in the 1980s, long-term funding to develop the database was not forthcoming and further formal studies ceased.

The British Geological Survey (“BGS”) took over responsibility for the DOE database in 1995 and this was renamed as the UK National Landslide Database (“NLD”) in 2002. The NLD currently contains attributes of over 16,000 landslides, 10,000 of which are from BGS maps (Foster et al., 2008). The NLD is based on reported landslides, as such it is biased toward areas where detailed landslide evaluations have been carried out. Attribute data, in particular age and magnitude, is not available for the majority of the records in the NLD.

2.11.5.2 Landslide susceptibility or hazard

The BGS maintain the GEOSURE dataset which comprises six different Geographical Information System (“GIS”) layers, with each layer representing a different natural ground stability process that occurs in Great Britain, one of which is related to landslides. GEOSURE documentation states “GeoSure ground stability data consists of six data layers in Geographical Information System (GIS) format that identify areas of potential hazard in Great Britain. It is essentially a national hazard susceptibility map”. As such the terminology does not align with international practice with the document providing a landslide susceptibility map based on JTC-1 terminology.

2.11.5.3 Risk assessment and tolerance

It is considered that the CIRIA guidelines, published in 2023, provide the most up to date and through guidance for the assessment of landslide hazard and risk in the UK. The CIRIA report broadly adopted the JTC-1 approach to the assessment of landslides and recommends that quantitative risk assessment are used where possible but focuses on the quantification of hazard given that UK asset owners have their own risk assessment methodologies.

2.11.5.4 Zoning and land-use planning

The management of landslide risk is addressed primarily through guidance, including Planning Policy Guidance PPG 14, Development on Unstable Land (1990), the associated Annex 1 Landslides and Planning (1994, 1996) and Landslide Investigation and Management in Great Britain: A Guide for Planners and Developers (DOE, 1996)

PPG 14 states “Where there are grounds for believing that there is active or potential landsliding which would affect a proposed development reservations can be overcome in an environmentally acceptable manner. This may require the application to be accompanied by a slope stability report prepared by a competent person, which demonstrates that the site is stable or can be made so and will not be affected by or trigger landsliding beyond the boundaries of the site”.

Section 1B3 Annex 1 Landslides and Planning (1996) states “Slope stability reports should be prepared by a “competent person” able to demonstrate relevant specialist experience in the assessment and evaluation of slope stability. A competent person would normally be expected to be a Corporate Member of a relevant professional institution such as the Institution of Civil Engineers or the Geological Society. In this context, a competent person would be a geotechnical specialist as defined by the Site Investigation Steering Group of the Institution of Civil Engineers”.

The slope stability report focuses on geotechnical issues of the site, i.e. a FoS approach.

PPG was superseded by the National Planning Policy Framework (MHCLG, 2021) which does not contain specific guidance on landslides but states that a new development should be planned to avoid increased vulnerability to the range of impacts arising from climate change, taking into account the long term implications for coastal change and landscapes.

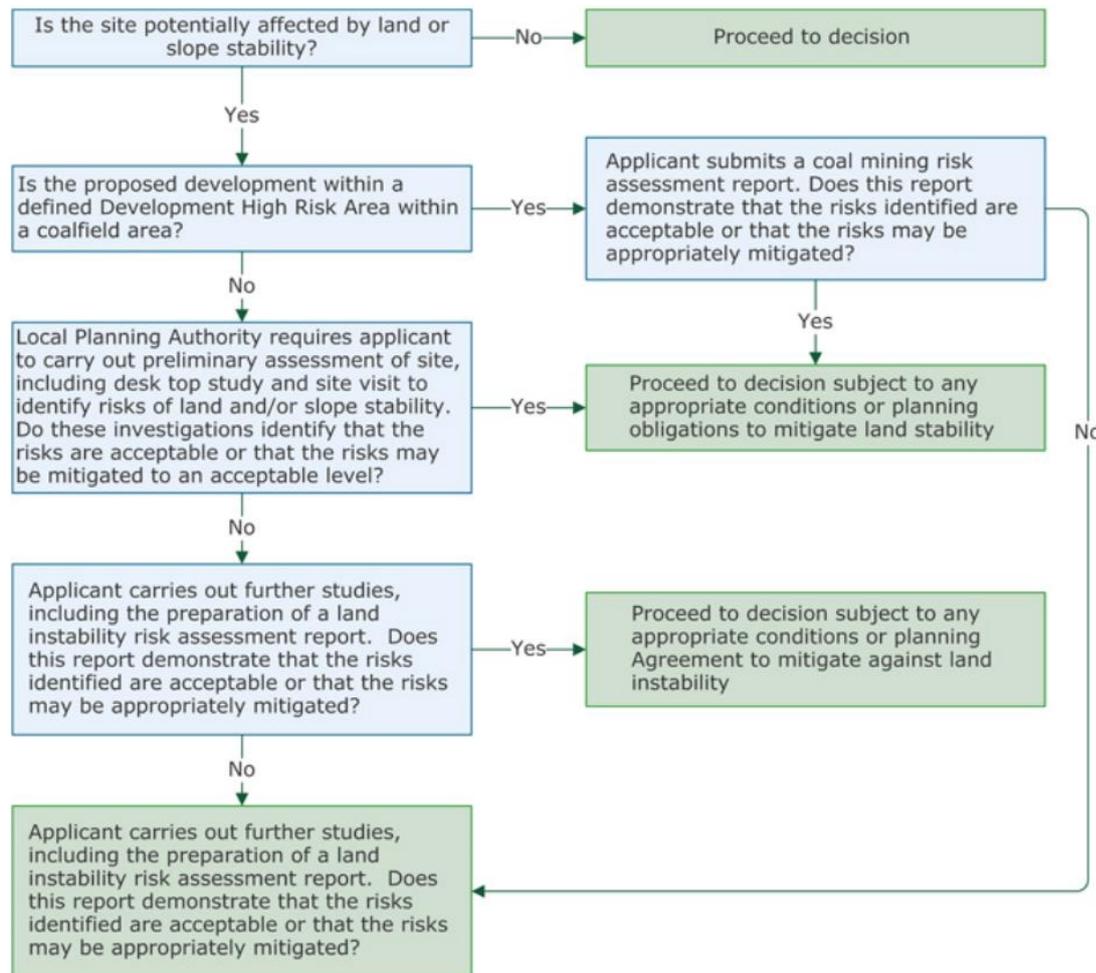


Figure 11 - How do considerations of land stability fit into development management? From <https://www.gov.uk/guidance/land-stability>

2.11.6 Risk transfer, managed retreat and insurance

While "managed retreat" is a common term internationally for relocating people and infrastructure away from hazardous areas, in the UK, the concept is more often referred to as "managed realignment", particularly in coastal and flood defence contexts. Although "managed realignment" is specifically for coastal and flood defences, it shares the core concept of strategically moving away from risk. However, there are few clear examples of comprehensive, large-scale "managed retreat" specifically from landslides in the UK, though the principle of adapting to significant landslide events, like the one at Ventnor, Isle of Wight, involves community-led strategies that consider moving away from the risk area.

The UK Shoreline Management Plans may provide a framework for retreat from landslide risk in future (<https://www.gov.uk/guidance/shoreline-management-plans>).

2.11.7 Key challenges and opportunities

There is now considerable evidence to demonstrate that climate and relative sea level has been changing and the pace of change is predicted to accelerate. However, the effects on the landslide

environment of the UK remain very uncertain. It is certainly possible that the changing frequency of intense rainstorms and wet winters will result in a national increase in landslide activity. However, the impact on individual sites is very difficult to quantify (e.g.(Dijkstra & Dixon, 2010)).

2.12 United States of America

2.12.1 Background

In the USA, landslides are a geologic hazard known to occur in every state. Some estimates suggest that they cause an average of 25–50 fatalities each year and contribute to billions of US dollars in economic losses annually (e.g. (Schuster, 1996)). Landslide fatalities vary considerably from year to year, and more recent estimates report that 93 landslide-related fatalities occurred within the USA between 2004 and 2016 (Froude & Petley, 2018).

While landslides occur in every U.S. State, their impacts are often a localized and episodic phenomenon, plus landslide types and triggering mechanisms vary widely across the country. Looking at past incidents help us to understand and prepare for landslides, but information about historic landslide events varies in quality, availability, and extent. This makes it hard to get a clear picture of landslide risks across the entire country. Higher landslide susceptibility is evident across most mountainous terrain within the U.S., but there is also considerable potential scattered throughout other areas of the country.

2.12.2 GFDRR landslide hazard comparison

The Global Facility for Disaster Reduction and Recovery “ThinkHazard!” map presents an overview of the hazard (see 2.1.2 for more information). While this is only a relatively crude assessment, it can be useful to compare between countries and regions as the methodology is consistent between them. The hazard level in the United States of America was not available at the time this report was written. In the absence of this, the USGS landslide susceptibility map is presented.

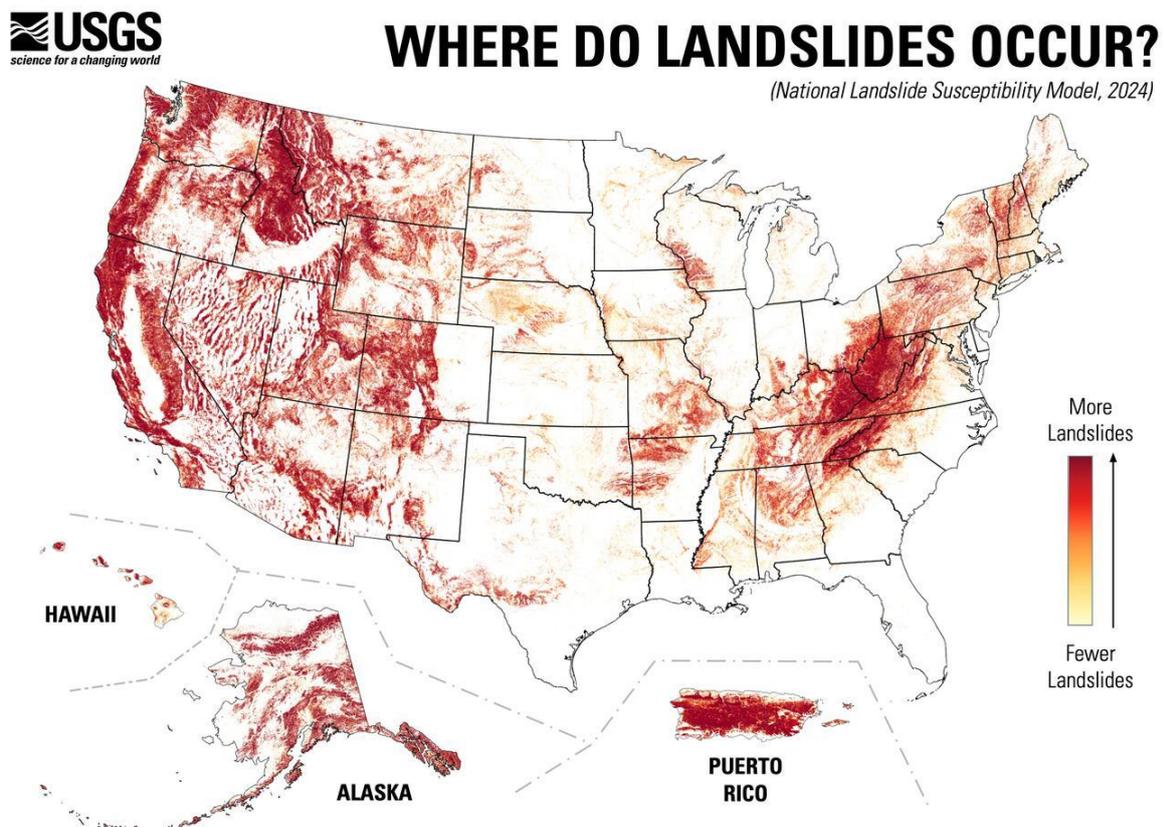


Figure 12 - Landslide susceptibility map of the United States including Hawaii, Alaska, and Puerto Rico shows landslide susceptibility from yellow (low) to red (high), where the areas without shading represent negligible potential for landslides (<https://www.usgs.gov/media/images/where-do-landslides-occur>)

2.12.3 Roles, responsibilities and legislation

Landslide risk management in the USA is very complicated between the jurisdictions of the states and territories, and in some cases, counties and municipalities, and the umbrella of the US Federal Government, with guidance that is subdivided even within department. For example, the Federal Highway Administration and the Pipelines and Hazardous Materials Safety Administration within the Department of Transportation have their own guidance and approaches, and the Departments of Interior and Agriculture, and the Federal Emergency Management Agency, and the Corps of Engineers are all other bodies that develop their own national guidance.

The U.S. Geological Survey (USGS) is home to the only Federal program dedicated to landslide hazard science, yet more than 10 different Federal agencies and offices have some stake in landslide hazard mitigation, response, and recovery. Beyond the Federal interest, each State, Tribal, and territorial government has responsibilities for landslide assessment, mitigation, and response. Research on and knowledge of landslide processes, hazards, risk, and mitigation practices are spread across the Federal, State, academic, and private sectors.

The USA has a national strategy for landslide loss reduction (the National Strategy). This document fulfills the requirements of the National Landslide Preparedness Act (Public Law 116–323) for the publication of a national strategy for landslide hazards, risk reduction, and response. The document was prepared in coordination with a Federal interagency working group and incorporates input and feedback from a 3-day workshop held virtually on June 22–24, 2021 (Godt et al., 2022).

2.12.4 Principles of landslide risk management

The National Strategy proposed a series of strategic actions to achieve four goals:

- **Assess:** Decision makers have access to detailed, nationwide, and contextually relevant information on landslide hazard and risk.
- **Coordinate:** Landslide hazard mitigation, preparedness, response, and recovery efforts are coordinated across Federal, State, Tribal, territorial, and local levels.
- **Plan:** Communities and land managers are prepared and able to plan for landslide hazards.
- **Respond:** Landslide surveillance, warnings, and responses to events are effective, efficient, equitable, cooperative, and data-driven to protect lives, property, infrastructure, and the environment.

2.12.5 Practices to assess and manage landslide risk

2.12.5.1 Landslide inventory

The United States Geological Survey runs a Landslide Hazards Program which produces maps indicating both historical landslide locations and potential future landslide risks (Mirus et al., 2020). These include the web-based U.S. Landslide Inventory and Susceptibility Map (<https://www.usgs.gov/tools/us-landslide-inventory-and-susceptibility-map>), which presents susceptibility at a continental scale (Mirus et al., 2024).

2.12.5.2 Landslide susceptibility or hazard

As described above, there is a high-level national landslide susceptibility map for the USA. This is based on an extensive landslide database (N = 613,724) and a high-resolution digital elevation model (10-m). It assessed four alternative linear and nonlinear thresholds of topographic slope and relief using an objective split-sample calibration, with results down-sampled to a 90-m grid to account for uncertainty in the digital elevation model and landslide position. The less conservative nonlinear

model gave the preferred output, capturing observed landslides (99%) while minimizing area covered by susceptible terrain (43%).

2.12.5.3 Risk assessment and tolerance

Landslide risk management is described as very simple and is ad hoc, if it happens at all. It is generally based on deterministic analyses developed for engineered structures and then, in some cases, extrapolated for natural slopes. Approaches that are more explicitly risk based do exist and are becoming more common, but they are still part of the ad hoc approach.

2.12.5.4 Zoning and land-use planning

The USGS describes their landslide inventory and susceptibility maps as “useful for risk-reduction and land-use planning”. However, implementation of this is not consistent nationally.

Within each State there are a multitude of approaches to landslide risk management by each jurisdiction. This makes it impractical to describe all the approaches. A useful example is provided by Oregon (Sears et al., 2019). This describes a range of approaches, with the example below taken from the City of Salem:

The code factors the degree of hazard at a site with the level of proposed development activity to determine the extent of geological study needed before development can occur on the site. The code applies to all areas of land designated as Moderate Landslide Hazard Risk or High Landslide Risk as described by the code.

A Landslide Hazard Construction Permit is required; the code provides details on applicability, exemptions, procedure type, submittal requirements, approval criteria, the authority’s ability to request additional information, and the connection to land use approvals related to the Landslide Hazard Construction Permit.

The code contains standards for geological assessments and geotechnical reports. Graduated Response Tables are used to determine the total landslide risk and required level of site investigation for regulated activities. The five tables are: Earthquake-Induced Landslide Susceptibility Ratings (Table A); Water-Induced Landslide Susceptibility Ratings (Table B); Activity Susceptibility Ratings (Table C); Cumulative Score (Table D); and Total Landslide Hazard Risk (Table E). The Total Landslide Hazard Risk table (reproduced here as Table 4-1) contains the cumulative score, which is calculated in Tables A–D, and relates it to the landslide hazard risk and the requirements.

Cumulative Score (From [Salem] Table 810-1D)	Landslide Hazard Risk	Requirement
4 or fewer points	Category A – Low	No Requirements
5–8 points	Category B – Moderate	Geologic Assessment/ Geotechnical Report
9 or more points	Category C – High	Geotechnical Report

Table 2 - City of Salem, Unified Development Code, Table 810.1E, Total Landslide Hazard Risk. Source: City of Salem, Unified Development Code, Chapter 810, Landslide Hazards, https://library.municode.com/or/salem/codes/code_of_ordinances

A certificate of compliance is required, with the code stating, “No regulated activity requiring a geotechnical report shall receive final approval or be permitted for properties located in areas of high landslide hazard risk until the Director receives a written statement by a geotechnical engineer that all measures contained in the geotechnical report are completed, in place, and operable.”

2.12.6 Risk transfer, managed retreat and insurance

In the USA flood insurance can be purchased from FEMA's National Flood Insurance Program. If a home stands in the 100-year flood plain or has a 1% or greater chance of annual flooding, there is a legal requirement to have insurance for mortgage approval.

The NFIP policy covers mudflows, but does not cover mudslides and landslides. Homeowners can separately purchase landslide cover, but this is not common.

Managed retreat is being considered in the USA (e.g. (Siders, 2019)) but is not commonly considered for landslide risk.

2.12.7 Key challenges and opportunities

The National Strategy identified the following key challenges:

- Currently, gaps in the basic understanding of landslides inhibit many mitigation and preparedness activities. For example, scientists do not have a precise estimate of how many landslides occur in the United States each year or what effects these events have had on people's lives and on local economies, infrastructure, housing, and ecosystem services.
- A consistent and actionable mapping of landslide prone areas is unavailable at a national scale.
- Because precise and accurate prediction of landslide occurrence is challenging even with intensive monitoring, alerts are not available before most landslides take place.
- Landslide hazards span jurisdictions and sectors, making coordination and communication difficult.

3 DISCUSSION

3.1 Roles and responsibilities

Most countries have challenges relating to the widely distributed roles and responsibilities for managing landslide risk. Countries with both significant landslide hazards, and a legal system based on Roman Law origins (e.g. Italy) appear to have a more coherent approach relative to countries with fewer landslide hazards and legal systems based on Codified Law (e.g. UK).

A lack of nationally available hazard mapping appears to be a major constraint in some countries, especially where land-use planning is very localised and widely distributed (e.g. USA) making it challenging to bring together all relevant stakeholders to develop nationally appropriate approaches.

3.2 Landslide inventories

Practice around landslide inventories is variable, and challenging to compare between (or even within) countries. An assessment undertaken in 2010 for European countries identified that many countries have created or are creating national and/or regional landslide databases. Yet little was known on their contents, completeness, format, structure, language use and accessibility, and hence on their ability to perform national or transnational landslide zoning. To fill this knowledge gap (Van Den Eeckhaut & Hervás, 2012) performed a detailed analysis of existing national landslide databases in the EU member states, EU official candidate and potential candidate countries, and EFTA countries, and their possible use for landslide zoning.

Twenty-two out of 37 contacted European countries currently have national landslide databases, and six other countries have only regional databases. In fall 2010, the national databases contained 633,696 landslides, of which 485,004 are located in Italy, while Austria, the Czech Republic, France, Norway, Poland, Slovakia, and the UK also have more than 10,000 landslides in their databases.

They noted that:

- Integration of landslide information from different national databases is hampered because of differences in language and classification systems for landslide type and activity.
- Only half of the national databases have a direct link between spatial and alphanumeric information.
- Public access is generally restricted or limited.

3.3 Landslide susceptibility maps

Most countries have some form of landslide susceptibility maps, although these vary in approach and format. There is no internationally consistent approach, and no defined boundaries between levels of susceptibility. While some progress has been made using AI to develop susceptibility or hazard maps, challenges around the 'black-box' nature of the underlying models mean that uptake in regulatory context is challenging.

3.4 Landslide hazard maps

A few countries had landslide hazard maps. These are often preferable to susceptibility maps, as they allow differentiation between areas where landslides are more or less frequent. These maps were only readily available in the few countries that had a long established and legally defined

landslide risk management regime, (e.g. Italy, France). Most other countries (e.g. Canada, China, Greece, Spain, UK, USA,) did not have hazard maps.

3.5 Landslide risk maps

Japan and Norway were outliers, with national landslide risk maps which is updated daily. However, these appears to be not strictly risk maps (in that consequences are not explicitly accounted for) but is a form of real-time hazard map intended for emergency planning purposes rather than long-term land-use planning.

3.6 Risk assessment and risk tolerance

No countries had formally defined risk tolerances for landslide hazard risk classifications. Countries with the most advanced risk management practices appear to follow the approaches set out in the AGS2007 / JTC-1 guidelines. No countries have formalised their risk tolerance settings, but a number have adopted values set out in these guidelines for landslide risk management.

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Attachment 13 – Properties down-zoned due to natural hazards

Properties down-zoned to SH due to flood/coastal hazards

1 Alf Walker Place PAPAURA 2110
1 Bangor Street Point Chevalier Auckland 1022
1 Bloom Crescent Sunnyvale 0612
1 Bridge Street Panmure Auckland 1072
1 Camphora Place Ranui
1 Civic Place Waiuku Auckland 2123
1 Coletta Lane Te Atatu South 0610
1 Frederick Street Hillsborough Auckland 1042
1 Gubb Place Otara Auckland 2023
1 Henderson Valley Road Henderson
1 Horlicks Place Randwick Park Auckland 2105
1 Ingram Street Papakura Auckland 2110
1 Karaka Park Place Glendowie Auckland 1071
1 Kereti Lane MOUNT WELLINGTON 1060
1 Kiwi Esplanade Mangere Bridge Auckland 2022
1 Lady McKenzie Mews CONIFER GROVE 2112
1 Margate Road Blockhouse Bay Auckland 0600
1 Maumahara Way PAPATOETOE 2025
1 Meadowcroft Way Henderson
1 Miro Street New Lynn
1 Rosandich Drive Sunnyvale 0612
1 Saddleback Crescent PAPAURA 2110
1 Shackleton Road Mount Eden Auckland 1024
1 St Leonards Road Mount Eden Auckland 1024
1 St Leonards Road Mount Eden Auckland 1024
1 Sylvan Avenue Northcote 0627
1 The Esplanade Eastern Beach Auckland 2012
1 Whakaora Place PUKEKOHE 2120
1 Whakaruru Lane DRURY 2578
1 Wing Crescent Papakura Auckland
1 Woodbridge Lane Milford 0620
1 Woodward Avenue Mangere Bridge Auckland 2022
1/1 Honowai Street Kumeu 0810
1/102 Millbrook Road Henderson 0612
1/11 Serwayne Place Sunnyvale
1/117 Bolton Street New Lynn
1/13 Marau Crescent Mission Bay Auckland 1071
1/15 Edmonton Road Henderson
1/15 Old Wairoa Road PAPAURA 2110
1/15 Rush Place MANGERE 2022
1/16 Brady Road OTAHUHU 1062
1/16 Gaye Crescent OTARA 2023
1/16 Wattle Street New Lynn
1/164B Princes Street East OTAHUHU 1062
1/164B Princes Street East OTAHUHU 1062
1/17 Epping Road Henderson
1/17 Zodiac Street Henderson
1/19 Darcy Place Massey
1/20 Bentley Road OTARA 2023
1/21 Reynella Drive Massey
1/23 Kuaka Place New Lynn
1/3 Kaimai Avenue Massey 0614
1/30 Don Buck Road Massey
1/34 Don Buck Road Massey

1/35 Don Buck Road Massey
1/35 Wilsher Crescent Henderson
1/36 Brady Road OTAHUHU 1062
1/38 Borich Road Sunnyvale
1/40 Borich Road Sunnyvale
1/42 Borich Road Sunnyvale
1/50 Borich Road Sunnyvale
1/55 Waiwera Road Waiwera 0950
1/64 Borich Road Sunnyvale
1/65C Metcalfe Road Ranui 0612
1/78 Borich Road Sunnyvale
1/80 Borich Road Sunnyvale
1/86 Borich Road Sunnyvale
1/88 Borich Road Sunnyvale
10 Alamein Place Pukekohe Auckland 2120
10 Alf Walker Place Papakura Auckland 2110
10 Amberwood Drive Northpark 2013
10 Beach Road Hobsonville 0618
10 Blampied Road Otara Auckland 2023
10 Blethyn Place Te Atatu South
10 Cameron Place Drury Auckland
10 Candia Road Swanson
10 Clouston Street Glendowie Auckland 1071
10 Clover Drive Massey
10 Commodore Parry Road Castor Bay 0620
10 Crescent Road Parnell Auckland 1052
10 Dakota Avenue Beach Haven 0626
10 Durrant Place New Lynn
10 Gaye Crescent Otara Auckland 2023
10 Glenross Drive Wattle Downs Auckland 2103
10 Golden Fall Road Hobsonville 0616
10 Gubb Place Otara Auckland 2023
10 Horlicks Place Randwick Park Auckland 2105
10 Hugh Brown Drive New Lynn
10 Ingram Street Papakura Auckland
10 Jutland Road Manurewa Auckland 2102
10 Kari Lane Kumeu 0810
10 Kawapani Lane Kumeu 0810
10 Komako Lane DRURY 2579
10 Kuparu Lane Red Beach 0932
10 Lilford Place Half Moon Bay 2012
10 Lucinda Place Glen Eden
10 Lyons Avenue Murrays Bay 0630
10 MacPherson Street Meadowbank Auckland 1072
10 Miro Street Drury Auckland 2113
10 Nile Road Milford 0620
10 Paetahi Lane Northcote 0627
10 Papaku Road Otahuhu Auckland 1062
10 Parenga Lane Kumeu 0810
10 Pepperdine Place Albany 0632
10 Sauterne Road Huapai 0892
10 Scramble Lane Hobsonville 0632
10 Shahkot Way PAPATOETOE 2025
10 Stainton Place Otara Auckland 2023
10 Tahatai Street Otahuhu Auckland 1062
10 The Strand Waiwera 0950

10 Trimdon Street Randwick Park 2105
10 Tuamaka Lane Hobsonville 0618
10 Wairere Avenue Mount Albert Auckland 1025
10 Waiwera Road Waiwera 0950
10 Waterfront Road Mangere Bridge 2022
10 Wing Crescent Papakura Auckland 2110
10/16 Brady Road OTAHUHU 1062
10/162 Princes Street East OTAHUHU 1062
10/20 Bentley Road OTARA 2023
10/36 Brady Road OTAHUHU 1062
10/36 Brady Road OTAHUHU 1062
10/62 Coxhead Road MANUREWA 2102
100 Alford Street WATERVIEW 1026
100 Borich Road Sunnyvale
100 Clovelly Road Bucklands Beach Auckland 2012
100 Eastdale Road AVONDALE 1026
100 Seabrook Avenue New Lynn
100-106 Harbour Village Drive Hobbs Bay 0930
100A Eastdale Road AVONDALE 1026
100E Ash Street AVONDALE 1026
101 Chichester Drive Papakura Auckland 2113
101 Eversleigh Road Belmont 0622
101 Ninth View Avenue BEACHLANDS 2571
101 Ninth View Avenue BEACHLANDS 2571
101 Papatupu Way Kumeu 0810
101 Papatupu Way Kumeu 0810
101 Seabrook Avenue New Lynn
102 Alford Street WATERVIEW 1026
102 Clovelly Road Bucklands Beach Auckland 2012
102 Parrs Cross Road Sunnyvale
102A Tiroroa Avenue Te Atatu South 0610
103 Chichester Drive Papakura Auckland
103 Eskdale Road Birkdale 0626
103 Ninth View Avenue BEACHLANDS 2571
103 Ninth View Avenue BEACHLANDS 2571
104 Clovelly Road Bucklands Beach Auckland 2012
104 Tiraumea Drive Pakuranga Auckland 2010
104 Tiraumea Drive Pakuranga Auckland 2010
104A Tiraumea Drive Pakuranga Auckland 2010
104B Tiraumea Drive Pakuranga Auckland 2010
105 Ninth View Avenue BEACHLANDS 2571
105 Ninth View Avenue BEACHLANDS 2571
106 Clovelly Road Bucklands Beach Auckland 2012
106 Waiatarua Road Remuera Auckland 1050
106C Gowing Drive Meadowbank Auckland 1072
107 Ngapuhi Road Remuera Auckland 1050
107 Ngapuhi Road Remuera Auckland 1050
107 Ninth View Avenue BEACHLANDS 2571
107A Edgewater Drive Pakuranga Auckland 2010
108 Clovelly Road Bucklands Beach Auckland 2012
108 Glendale Road Glen Eden
108 Waiatarua Road Remuera Auckland 1050
108-114 Harbour Village Drive Hobbs Bay 0930

109 Bellfield Road PAKAPURA 9999
109 Ngapuhi Road Remuera Auckland 1050
109 Ninth View Avenue BEACHLANDS 2571
109 Ninth View Avenue BEACHLANDS 2571
10A Commodore Parry Road Castor Bay 0620
10A Daphne Road Papatoetoe Auckland 2025
10A The Rise St Heliers Auckland 1071
10B Foote Street HILLSBOROUGH 1042
10B Harbour View Road POINT CHEVALIER 1022
10C Hastings Road Mairangi Bay 0630
10D Hastings Road Mairangi Bay 0630
10E Hastings Road Mairangi Bay 0630
10F Riria Crescent CONIFER GROVE 2112
11 Alamein Place Pukekohe Auckland 2120
11 Arohaina Avenue PUKEKOHE 2676
11 Athlone Road Glendowie Auckland 1071
11 Bannockburn Road PAKAPURA 2113
11 Blampied Road OTARA 2023
11 Bloom Crescent Sunnyvale 0612
11 Cambie Avenue Red Beach 0932
11 Camphora Place Ranui
11 Coletta Lane Te Atatu South
11 Eccles Place Otara Auckland 2023
11 Evelyn Street Papatoetoe Auckland 2025
11 Evelyn Street Papatoetoe Auckland 2025
11 Foote Street Hillsborough Auckland 1042
11 Geranium Avenue Flat Bush Auckland 2016
11 Hotspur Place Bayview 0629
11 Inga Road Milford 0620
11 Kautawa Lane Massey 0614
11 Koura Drive Red Beach 0932
11 La Bella Road Hobsonville 0616
11 Lady McKenzie Mews CONIFER GROVE 2112
11 Liban Place Massey 0614
11 Lloyd Avenue Papatoetoe Auckland 2025
11 Mahia Road Manurewa Auckland 2102
11 Maumahara Way PAPATOETOE 2025
11 Mount Roskill Road Mount Roskill Auckland 1041
11 Paine Place Mangere Auckland 2022
11 Peony Mews Albany 0632
11 Pepperdine Place Albany 0632
11 Poutawa Lane PUKEKOHE 2679
11 Riukiuta Avenue THREE KINGS 1024
11 Rue d' Amarres Hobbs Bay 0930
11 Saddleback Crescent PAKAPURA 2110
11 Shahkot Way PAPATOETOE 2025
11 Siska Place Manurewa Auckland 2103
11 Standish Place Bayview 0629
11 Tahatai Street Otahuhu Auckland 1062
11 Tiel Lane Papakura Auckland 2110
11 Trimdon Street Randwick Park 2105
11 Tuuhura Road PUKEKOHE 2120
11 Verdant Lane MOUNT WELLINGTON 1062
11 Waterfront Road Mangere Bridge 2022
11 Whakaruru Lane DRURY 2578
11/20 Bentley Road OTARA 2023

11/36 Brady Road OTAHUHU 1062
11/36 Brady Road OTAHUHU 1062
11/36 Brady Road OTAHUHU 1062
110 Clovelly Road Bucklands Beach Auckland 2012
110 Jack Lachlan Drive Beachlands Auckland 2571
110 Ramarama Road DRURY 2579
110 Ramarama Road DRURY 2579
110A Bolton Street Blockhouse Bay Auckland 0600
111 Battalion Drive PAPAKURA 2110
111 Bellfield Road PAPAKURA 9999
111 Ngapuhi Road Remuera Auckland 1050
111 Ninth View Avenue BEACHLANDS 2571
111 Ninth View Avenue BEACHLANDS 2571
112 Alford Street WATERVIEW 1026
112 Clovelly Road Bucklands Beach Auckland 2012
112 Lucerne Road Remuera Auckland 1050
112 Shepherds Bush Road DRURY 2579
113 Battalion Drive PAPAKURA 2110
113 Beach Haven Road Beach Haven 0626
113 Beach Haven Road Beach Haven 0626
113 Becroft Drive Forrest Hill 0620
113 Bellfield Road PAPAKURA 9999
113 John Main Drive DRURY 2579
113 Ngapuhi Road Remuera Auckland 1050
113 Ninth View Avenue BEACHLANDS 2571
113 Ninth View Avenue BEACHLANDS 2571
113 Ninth View Avenue BEACHLANDS 2571
114 Alford Street WATERVIEW 1026
114 Clovelly Road Bucklands Beach Auckland 2012
114A Clovelly Road Bucklands Beach Auckland 2012
114A Donovan Street BLOCKHOUSE BAY 0600
115 Battalion Drive PAPAKURA 2110
115 Bellfield Road PAPAKURA 9999
115 Buckley Avenue Hobsonville 0618
115 John Main Drive DRURY 2579
115 Ninth View Avenue BEACHLANDS 2571
115 Ninth View Avenue BEACHLANDS 2571
115-117 Waterside Crescent Hobbs Bay 0930
115A Prince Regent Drive HALF MOON BAY 2012
115C Tripoli Road PANMURE 1072
116 Alford Street WATERVIEW 1026
116 Clovelly Road Bucklands Beach 2012
116A Nile Road Milford 0620
116R Clovelly Road Bucklands Beach 2012
117 Bellfield Road PAPAKURA 9999
117 John Main Drive DRURY 2579
117 Ninth View Avenue BEACHLANDS 2571
117 Ninth View Avenue BEACHLANDS 2571
117A Gray Avenue Papatoetoe Auckland 2024
117A Gray Avenue Papatoetoe Auckland 2024
117B St Stephens Avenue Parnell Auckland 1052
118 Clovelly Road Bucklands Beach Auckland 2012
119 Bellfield Road PAPAKURA 9999
119 Bolton Street New Lynn
119 Glendale Road Glen Eden
119 Ngapuhi Road Remuera Auckland 1050

119 Ninth View Avenue BEACHLANDS 2571
119 Ninth View Avenue BEACHLANDS 2571
119 Waterside Crescent Hobbs Bay 0930
119A Bolton Street New Lynn
119A Bolton Street New Lynn
119A Weatherly Road Torbay 0630
119B Beach Road Castor Bay 0620
119B Bolton Street New Lynn
119C Beach Road Castor Bay 0620
11A Blampied Road OTARA 2023
11A Blampied Road OTARA 2023
11A La Bella Road Hobsonville 0616
11C Burwood Crescent Remuera Auckland 1050
12 Alamein Place Pukekohe Auckland 2120
12 Alf Walker Place Papakura Auckland
12 Beach Road Hobsonville 0618
12 Bellamy Place Blockhouse Bay Auckland 0600
12 Blampied Road Otara Auckland 2023
12 Boathouse Bay Lane Snells Beach 0982
12 Cameron Place Drury Auckland 2113
12 Central Park Drive Te Atatu South
12 Cobham Crescent Otara Auckland 2023
12 Commodore Parry Road Castor Bay 0620
12 Crescent Road Parnell Auckland 1052
12 Eulogy Place Randwick Park 2105
12 Foote Street Hillsborough Auckland 1042
12 Gaye Crescent Otara Auckland 2023
12 Glenross Drive Wattle Downs Auckland 2103
12 Glenross Drive Wattle Downs Auckland 2103
12 Gubb Place Otara Auckland 2023
12 Ingram Crescent Otara Auckland 2023
12 Kari Lane Kumeu 0810
12 Kautawa Lane Massey 0614
12 Kawapani Lane Kumeu 0810
12 Kelvin Crescent Te Atatu Peninsula
12 Komako Lane DRURY 2579
12 Kupu Lane Red Beach 0932
12 Library Lane Albany 0632
12 Lilford Place Half Moon Bay Auckland 2012
12 Lucinda Place Glen Eden
12 MacPherson Street Meadowbank Auckland 1072
12 Montana Avenue Murrays Bay 0630
12 Murray Street DRURY 2113
12 Noel Hayden Street CONIFER GROVE 2112
12 Paetahi Lane Northcote 0627
12 Parenga Lane Kumeu 0810
12 Pelorus Place Pakuranga Auckland 2010
12 Pepperdine Place Albany 0632
12 Reid Road New Lynn
12 Reid Road New Lynn
12 Shahkot Way PAPATOETOE 2025
12 Stainton Place Otara Auckland 2023
12 Sutcliffe Place Otara Auckland 2023
12 The Rise St Heliers Auckland 1071
12 The Rise St Heliers Auckland 1071
12 The Rise St Heliers Auckland 1071

12 The Rise St Heliers Auckland 1071
12 The Strand Waiwera 0950
12 Trimdon Street Randwick Park 2105
12 Tuamaka Lane Hobsonville 0618
12 Villanova Place Albany 0632
12 Wairere Avenue Mount Albert Auckland 1025
12 Waiwera Road Waiwera 0950
12 Waterfront Road Mangere Bridge Auckland 2022
12/20 Bentley Road OTARA 2023
12/36 Brady Road OTAHUHU 1062
12/36 Brady Road OTAHUHU 1062
121 Bellfield Road PAPAKURA 9999
121 Bremner Road DRURY 2578
121 Glendale Road Glen Eden
121 Millbrook Road Henderson
121 Preston Road Otara Auckland 2023
121 St Stephens Avenue Parnell Auckland 1052
121 Waterside Crescent Hobbs Bay 0930
122 Tiroroa Avenue Te Atatu South
122A Clovelly Road Bucklands Beach Auckland 2012
122A Tiroroa Avenue Te Atatu South
123 Bellfield Road PAPAKURA 9999
123 Bellfield Road PAPAKURA 9999
123 Bremner Road DRURY 2578
123 St Stephens Avenue Parnell Auckland 1052
123A Edgewater Drive PAKURANGA 2010
123A Millbrook Road Henderson 0612
123A Sunnynook Road Forrest Hill 0620
123B Sunnynook Road Forrest Hill 0620
124 Clovelly Road Bucklands Beach Auckland 2012
125 Beaumonts Way Manurewa Auckland 2102
125 Bremner Road DRURY 2578
125A Portland Road Remuera Auckland 1050
126 Kahui Parade DRURY 2578
126A Clovelly Road Bucklands Beach Auckland 2012
126B Clovelly Road Bucklands Beach Auckland 2012
127 Ahunga Road DRURY 2578
127 Ahunga Road DRURY 2578
127 Beaumonts Way Manurewa Auckland 2102
127 Bremner Road DRURY 2578
128 Lucerne Road Remuera Auckland 1050
129 Bremner Road DRURY 2578
129 Ngapuhi Road Remuera Auckland 1050
129B Millbrook Road Henderson 0612
12A Brady Road Otahuhu Auckland 1062
12A Glenross Drive Wattle Downs Auckland 2103
12A Kuaka Place New Lynn
12B Riverina Avenue PAKURANGA 2010
12C Riverina Avenue PAKURANGA 2010
13 Aporo Tawhito Lane Henderson 0612
13 Ascot Avenue Henderson
13 Bannockburn Road PAPAKURA 2113
13 Blair Avenue Pukekohe Auckland 2120
13 Blampied Road Otara Auckland 2023
13 Bloom Crescent Sunnyvale 0612
13 Bloom Crescent Sunnyvale 0612

13 Bloom Crescent Sunnyvale 0612
13 Burwood Crescent Remuera Auckland 1050
13 Cambie Avenue Red Beach 0932
13 Camphora Place Ranui
13 Coletta Lane Te Atatu South
13 Eccles Place Otara Auckland 2023
13 Epping Road Henderson
13 Guthrey Place Otara Auckland 2023
13 Horlicks Place Randwick Park Auckland 2105
13 Hotspur Place Bayview 0629
13 Koura Drive Red Beach 0932
13 La Bella Road Hobsonville 0616
13 Lady McKenzie Mews CONIFER GROVE 2112
13 Maumahara Way PAPATOETOE 2025
13 Mount Roskill Road Mount Roskill Auckland 1041
13 Peacock Street Glendowie Auckland 1071
13 Peony Mews Albany 0632
13 Pepperdine Place Albany 0632
13 Propeller Avenue Whenuapai 0618
13 Saddleback Crescent PAPAURA 2110
13 Serwayne Place Sunnyvale
13 Shahkot Way PAPATOETOE 2025
13 Shahkot Way PAPATOETOE 2025
13 Shahkot Way PAPATOETOE 2025
13 Tuuhura Road PUKEKOHE 2120
13 Wairere Avenue Mount Albert Auckland 1025
13 Waterfront Road Mangere Bridge Auckland 2022
13 Weranui Road Waiwera 0950
13 Whakaruru Lane DRURY 2578
13/20 Bentley Road OTARA 2023
130 Clovelly Road Bucklands Beach Auckland 2012
130 Luke Street East Otahuhu Auckland 1062
130R Henwood Road Taupaki 0782
130R Henwood Road Taupaki 0782
131 Bremner Road DRURY 2578
131 Ngapuhi Road Remuera Auckland 1050
131-137 St Stephens Avenue Parnell Auckland 1052
131B East Tamaki Road Papatoetoe Auckland 2025
132 Clovelly Road Bucklands Beach Auckland 2012
132 Clovelly Road Bucklands Beach Auckland 2012
132 Universal Drive Henderson
132F Bremner Road DRURY 2578
133 Bremner Road DRURY 2578
133 Great South Road MANUREWA 2102
133 Millbrook Road Henderson
133 Sunnynook Road Forrest Hill 0620
133A Great South Road MANUREWA 2102
133B Sunnynook Road Forrest Hill 0620
136 Clovelly Road Bucklands Beach Auckland 2012
136A Great South Road Drury Auckland 2113
136B Great South Road Drury Auckland 2113
137 Gadsby Road Favona Auckland 2024
138 Clovelly Road Bucklands Beach 2012
139 Bremner Road DRURY 2578
13A Billington Avenue Otara Auckland 2025
13A Mount Roskill Road Mount Roskill Auckland 1041

13A Old Wairoa Road PAPAURA 2110
 13A Seymour Road Sunnyvale
 13A Tuuhura Road PUKEKOHE 2120
 13B Richards Avenue PAPATOETOE 2025
 13B Seymour Road Sunnyvale
 13B Tuuhura Road PUKEKOHE 2120
 13C Inver Street Glen Eden
 13R Seaside Place PAKURANGA 2010
 14 Ahutoetoe Road Pine Valley 0992
 14 Aporo Tawhito Lane Henderson 0612
 14 Beach Road Hobsonville 0618
 14 Bentley Road Otara Auckland 2023
 14 Blampied Road Otara Auckland 2023
 14 Brady Road Otahuhu Auckland 1062
 14 Cameron Place Drury Auckland 2113
 14 Candia Road Swanson
 14 Clover Drive Massey
 14 Coletta Lane Te Atatu South
 14 Commodore Parry Road Castor Bay 0620
 14 Crescent Road Parnell Auckland 1052
 14 Eulogy Place Randwick Park 2105
 14 Fitchburg Place Mangere Auckland 2022
 14 Foote Street Hillsborough Auckland 1042
 14 Gaye Crescent Otara Auckland 2023
 14 Glenross Drive Wattle Downs Auckland 2103
 14 Gubb Place Otara Auckland 2023
 14 Hugh Brown Drive New Lynn
 14 Jellicoe Road Manurewa Auckland 2102
 14 Kari Lane Kumeu 0810
 14 Kawapani Lane Kumeu 0810
 14 Komako Lane DRURY 2579
 14 Kupu Lane Red Beach 0932
 14 Lilford Place Half Moon Bay Auckland 2012
 14 Lucinda Place Glen Eden
 14 Paetahi Lane Northcote 0627
 14 Paneika Lane OTAHUHU 1062
 14 Parenga Lane Kumeu 0810
 14 Reid Road New Lynn
 14 Ribblesdale Road Henderson
 14 Sauterne Road Huapai 0892
 14 Stainton Place Otara Auckland 2023
 14 Stedman Place Avondale Auckland 0600
 14 Te Ara Hikoi PUKEKOHE 2677
 14 The Parade Bucklands Beach Auckland 2012
 14 The Strand Waiwera 0950
 14 Trimdon Street Randwick Park 2105
 14 Tuamaka Lane Hobsonville 0618
 14 Villanova Place Albany 0632
 14 Wairere Avenue Mount Albert Auckland 1025
 14 Waiwera Road Waiwera 0950
 14 Waiwera Road Waiwera 0950
 14 Waiwera Road Waiwera 0950
 14 Waiwera Road Waiwera 0950

14 Waterfront Road Mangere Bridge 2022
14 Weona Place Westmere Auckland 1022
14 Wilkie Place Mount Wellington Auckland 1060
14/20 Bentley Road OTARA 2023
140 Clovelly Road Bucklands Beach Auckland 2012
140 Shifnal Drive Randwick Park 2105
140B Wellington Street Howick Auckland 2014
140C Wellington Street Howick Auckland 2014
141 Bremner Road DRURY 2578
141 Portland Road Remuera Auckland 1050
141 St Stephens Avenue Parnell Auckland 1052
141 Sunnynook Road Forrest Hill 0620
142 Clovelly Road Bucklands Beach 2012
142 Edinburgh Street PUKEKOHE 2120
142 Lucerne Road Remuera Auckland 1050
142 Pooks Road Ranui
142 Shifnal Drive Randwick Park 2105
143 Bremner Road DRURY 2578
143 Great South Road Drury Auckland 2579
143 Portland Road Remuera Auckland 1050
143 St Stephens Avenue Parnell Auckland 1052
143 Sunnynook Road Forrest Hill 0620
144 Clovelly Road Bucklands Beach Auckland 2012
144 Lucerne Road Remuera Auckland 1050
144 Shifnal Drive Randwick Park 2105
144B Wellington Street Howick Auckland 2014
144C Wellington Street Howick Auckland 2014
145 Bremner Road DRURY 2578
145 Portland Road Remuera Auckland 1050
145 St Stephens Avenue Parnell Auckland 1052
145 St Stephens Avenue Parnell Auckland 1052
145 Sunnynook Road Forrest Hill 0620
146 Clovelly Road Bucklands Beach Auckland 2012
146 Great South Road Drury Auckland
146 Shifnal Drive Randwick Park Auckland 2105
147 Bremner Road DRURY 2578
147 Portland Road Remuera Auckland 1050
148 Great South Road Drury Auckland
148 Lucerne Road Remuera Auckland 1050
148 Shifnal Drive Randwick Park Auckland 2105
149 Bremner Road DRURY 2578
149 Great South Road Drury Auckland 2579
149 Portland Road Remuera Auckland 1050
14A Forfar Road Glendowie Auckland 1071
14A Garrett Place OTARA 2023
14A Glenross Drive Wattle Downs Auckland 2103
14A Pelorus Place Pakuranga Auckland 2010
14A Tahingamanu Road Hobsonville 0616
14B Gibbons Road Takapuna 0622
14B Gibbons Road Takapuna 0622
14C Woodglen Road Glen Eden
14D Gibbons Road Takapuna 0622
14F Kaponga Crescent New Lynn 0600
15 Aporo Tawhito Lane Henderson 0612
15 Aumarire Lane MANGERE 2024
15 Bannockburn Road PAPAURA 2113

15 Blair Avenue Pukekohe Auckland 2120
15 Blampied Road Otara Auckland 2023
15 Blethyn Place Te Atatu South
15 Burwood Crescent Remuera Auckland 1050
15 Cambie Avenue Red Beach 0932
15 Camphora Place Ranui
15 Coletta Lane Te Atatu South
15 Cracroft Street Otahuhu Auckland 1062
15 Eccles Place Otara Auckland 2023
15 Frederick Street Hillsborough Auckland 1042
15 Horlicks Place Randwick Park Auckland 2105
15 Hotspur Place Bayview 0629
15 Joan Street Point Chevalier Auckland 1022
15 Koura Drive Red Beach 0932
15 Lady McKenzie Mews CONIFER GROVE 2112
15 Milich Terrace Te Atatu South 0610
15 Peacock Street Glendowie Auckland 1071
15 Propeller Avenue Whenuapai 0618
15 Rue d' Amarres Hobbs Bay 0930
15 Saddleback Crescent PAPAURA 2110
15 Serwayne Place Sunnyvale
15 The Parade BUCKLANDS BEACH 2012
15 Toscana Drive FLAT BUSH 2016
15 Trimdon Street Randwick Park 2105
15 Vanderbilt Parade Albany 0632
15 Waikare Road Otahuhu Auckland 1062
15 Weranui Road Waiwera 0950
15 Whakaruru Lane DRURY 2578
15 Zodiac Street Henderson
151 Bremner Road DRURY 2578
151 Portland Road Remuera Auckland 1050
151 Shore Road Remuera Auckland 1050
153 Bremner Road DRURY 2578
153 Portland Road Remuera Auckland 1050
154 Clovelly Road Bucklands Beach Auckland 2012
154 The Drive Epsom Auckland 1023
154 Whitney Street New Windsor 0600
155 Bremner Road DRURY 2578
155 Portland Road Remuera Auckland 1050
155A Portland Road Remuera Auckland 1050
159A Princes Street East Otahuhu Auckland 1062
15A Firlle Place Green Bay
15A Milich Terrace Te Atatu South 0610
15A The Parade BUCKLANDS BEACH 2012
15A The Parade BUCKLANDS BEACH 2012
15B The Parade BUCKLANDS BEACH 2012
15C Volante Avenue MANUREWA 2103
15D Volante Avenue MANUREWA 2103
16 Baltimore Place Forrest Hill 0620
16 Beach Road Hobsonville 0618
16 Bellbird Street PAPAURA 2110
16 Bentley Road Otara Auckland 2023
16 Blampied Road Otara Auckland 2023
16 Cameron Place Drury Auckland 2113
16 Cameron Place Drury Auckland 2113
16 Central Park Drive Te Atatu South

16 Clover Drive Massey
16 Clover Drive Massey
16 Crescent Road Parnell Auckland 1052
16 Eulogy Place Randwick Park 2105
16 Fitchburg Place Mangere Auckland 2022
16 Fitchburg Place Mangere Auckland 2022
16 Joan Street Point Chevalier Auckland 1022
16 Kari Lane Kumeu 0810
16 Kawapani Lane Kumeu 0810
16 Kuparu Lane Red Beach 0932
16 Lilford Place Half Moon Bay Auckland 2012
16 Lipton Grove Papakura Auckland
16 Lucinda Place Glen Eden 0602
16 Lucinda Place Glen Eden 0602
16 Miro Street Drury Auckland 2113
16 Paetahi Lane Northcote 0627
16 Paneika Lane OTAHUHU 1062
16 Paneika Lane OTAHUHU 1062
16 Parenga Lane Kumeu 0810
16 Princes Street Pukekohe Auckland 2120
16 Reid Road New Lynn
16 Serwayne Place Sunnyvale
16 Stedman Place Avondale Auckland 0600
16 Te Mura Crescent CONIFER GROVE 2112
16 The Strand Waiwera 0950
16 Thomas Rea Place Te Atatu South
16 Trimdon Street Randwick Park 2105
16 Tuamaka Lane Hobsonville 0618
16 Tute Lane GLEN INNES 1072
16 Ulay Place Clover Park Auckland 2023
161 Godley Road Green Bay 0604
161 Portland Road Remuera Auckland 1050
163 Tamaki Drive Kohimarama Auckland 1071
164 Princes Street East OTAHUHU 1062
164 Sunnynook Road Sunnynook 0620
164A Princes Street East OTAHUHU 1062
164A Sunnynook Road Sunnynook 0620
165 Tamaki Drive Kohimarama Auckland 1071
166 Sunnynook Road Sunnynook 0620
166A Sunnynook Road Sunnynook 0620
168Z Sunnynook Road Forrest Hill 0620
16A Penfold Place Henderson
16C Woodglen Road Glen Eden
17 Aumarire Lane MANGERE 2024
17 Bannockburn Road PAKAKURA 2113
17 Blampied Road Otara Auckland 2023

17 Blethyn Place Te Atatu South
17 Blethyn Place Te Atatu South
17 Burwood Crescent Remuera Auckland 1050
17 Cambie Avenue Red Beach 0932
17 Camphora Place Ranui
17 Clover Drive Massey
17 Coletta Lane Te Atatu South
17 Eccles Place Otara Auckland 2023
17 Edwards Court Pukekohe Auckland 2120
17 Evergreen Parade HINGAIA 2113
17 Fencible Place Otahuhu Auckland 1062
17 Fjord Way HINGAIA 2580
17 Horlicks Place Randwick Park Auckland 2105
17 Jellicoe Road MANUREWA 2102
17 Koura Drive Red Beach 0932
17 Lady McKenzie Mews CONIFER GROVE 2112
17 Lynch Street Point Chevalier Auckland 1022
17 Rue d' Amarres Hobbs Bay 0930
17 Saddleback Crescent PAPAKURA 2110
17 Serwayne Place Sunnyvale
17 Titirangi Road New Lynn
17 Totaravale Drive Totara Vale 0629
17 Trimdon Street Randwick Park 2105
17 Vanderbilt Parade Albany 0632
17 Weranui Road Waiwera 0950
17 Whakaruru Lane DRURY 2578
173 Jack Lachlan Drive Beachlands Auckland 2571
175 Jack Lachlan Drive Beachlands Auckland 2571
175 Tamaki Drive Kohimarama Auckland 1071
177 Jack Lachlan Drive Beachlands Auckland 2571
177-179 Tamaki Drive Kohimarama Auckland 1071
17A Falstaff Place Half Moon Bay Auckland 2012
17A Milich Terrace Te Atatu South 0610
17C Margan Avenue PAPATOETOE 2025
17C Prictor Street PAPAKURA 2110
17D Seymour Road Sunnyvale 0612
17E Prictor Street PAPAKURA 2110
17F Prictor Street PAPAKURA 2110
18 Beach Road Hobsonville 0618
18 Bellbird Street PAPAKURA 2110
18 Benita Place Sunnyvale
18 Blampied Road Otara Auckland 2023
18 Brady Road Otahuhu Auckland 1062
18 Candia Road Swanson
18 Central Park Drive Te Atatu South
18 Crescent Road Parnell Auckland 1052
18 Croydon Road New Lynn
18 Eulogy Place Randwick Park 2105
18 James Scott Place Te Atatu South 0602
18 Kawapani Lane Kumeu 0810
18 Lucinda Place Glen Eden 0602
18 Lucinda Place Glen Eden 0602
18 May Road Mount Roskill Auckland 1041
18 Miro Street Drury Auckland 2113
18 Paetahi Lane Northcote 0627
18 Paraone Crescent CONIFER GROVE 2112

18 Parenga Lane Kumeu 0810
18 Propeller Avenue Whenuapai 0618
18 Serwayne Place Sunnyvale
18 Shepherds Road Papakura Auckland 2110
18 Stedman Place Avondale Auckland 0600
18 Taiao Rise Warkworth 0981
18 The Parade Bucklands Beach Auckland 2012
18 Trimdon Street Randwick Park 2105
18 Vanderbilt Parade Albany 0632
18 Waterbury Place Mangere Auckland 2022
18 Westmere Park Avenue Westmere Auckland 1022
180 Meadowbank Road Meadowbank Auckland 1072
181 Tamaki Drive Kohimarama Auckland 1071
183 Jack Lachlan Drive Beachlands Auckland 2571
183 Tamaki Drive Kohimarama Auckland 1071
183B Great South Road Drury Auckland 2579
184 Otuwairoa Esplanade PAPAURA 2113
185 Jack Lachlan Drive Beachlands Auckland 2571
185 West Harbour Drive West Harbour
186 Otuwairoa Esplanade PAPAURA 2113
187 Jack Lachlan Drive Beachlands Auckland 2571
187 West Harbour Drive West Harbour
18A Bentley Road OTARA 2023
18A Cadness Street Northcote 0627
18B Bentley Road OTARA 2023
18C Bentley Road OTARA 2023
18D Bentley Road OTARA 2023
18E Bentley Road OTARA 2023
18E Bentley Road OTARA 2023
19 Bangor Street Point Chevalier Auckland 1022
19 Bannockburn Road PAPAURA 2113
19 Birch Place Otara Auckland 2023
19 Blampied Road Otara Auckland 2023
19 Blethyn Place Te Atatu South
19 Brady Road Otahuhu Auckland 1062
19 Brady Road Otahuhu Auckland 1062
19 Burwood Crescent Remuera Auckland 1050
19 Cambie Avenue Red Beach 0932
19 Camphora Place Ranui
19 Chilcott Road Henderson
19 Clover Drive Massey
19 Clover Drive Massey
19 Fjord Way HINGAIA 2580
19 Frederick Street Hillsborough Auckland 1042
19 Himalaya Crescent Lynfield Auckland 1042
19 Horlicks Place Randwick Park Auckland 2105
19 Inga Road Castor Bay 0620
19 Jellicoe Road Manurewa 2102
19 Koura Drive Red Beach 0932
19 Lady McKenzie Mews CONIFER GROVE 2112
19 Nicholson Avenue PAPATOETOE 2025
19 Peacock Street Glendowie Auckland 1071
19 Rue d' Amarres Hobbs Bay 0930
19 Saddleback Crescent PAPAURA 2110
19 Serwayne Place Sunnyvale
19 Totaravale Drive Totara Vale 0629

19 View Road Henderson
19 Weranui Road Waiwera 0950
19 Whai Hua Lane MANGERE BRIDGE 2022
19 Whakaruru Lane DRURY 2578
19 Whakaruru Lane DRURY 2578
19 Wilsher Crescent Henderson
192 Lake Road Belmont 0622
193 Kahui Parade DRURY 2578
194 Lake Road Belmont 0622
196 Lake Road Belmont 0622
197 Tamaki Drive Kohimarama Auckland 1071
199 Beach Road Campbells Bay 0620
19A Kuaka Place New Lynn
19A Margate Road Blockhouse Bay Auckland 0600
19A Seymour Road Sunnyvale
19B Battle Place Glenfield 0629
19B Margate Road Blockhouse Bay Auckland 0600
19C Kellett Road Ranui 0612
19D Kellett Road Ranui 0612
1A Coletta Lane Te Atatu South 0610
1A Gills Avenue Papakura Auckland 2110
1A Kiwi Esplanade Mangere Bridge Auckland 2022
1A Miro Street New Lynn
1A Shackleton Road Mount Eden Auckland 1024
1A The Esplanade Eastern Beach 2012
1A Webber Street GREY LYNN 1022
2 Bamfield Place Onehunga Auckland 1042
2 Blampied Road Otara Auckland 2023
2 Camphora Place Ranui
2 Candia Road Swanson
2 Commodore Parry Road Castor Bay 0620
2 Faithful Drive DRURY 2578
2 Frederick Street Hillsborough Auckland 1042
2 Golden Fall Road Hobsonville 0616
2 House Avenue Mangere Bridge Auckland 2022
2 Kari Lane Kumeu 0810
2 Kawapani Lane Kumeu 0810
2 Komako Lane DRURY 2579
2 Korokio Lane Henderson 0612
2 Lignite Street DRURY 2579
2 Meadowcroft Way Henderson
2 Miro Street Drury Auckland
2 Miro Street New Lynn
2 Miromiro Lane DRURY 2579
2 Parenga Lane Kumeu 0810
2 Parrish Road Sandringham Auckland 1025
2 Rawene Avenue Westmere Auckland 1022
2 Springcombe Road ST HELIERS 1071
2 The Esplanade Eastern Beach 2012
2 The Strand Waiwera 0950
2 Tindall Crescent Otara Auckland 2023
2 Waiwera Road Waiwera 0950
2 Waiwera Road Waiwera 0950
2 Willowgrange Place PUKEKOHE 2120
2/1 Omana Road Milford 0620
2/102 Millbrook Road Henderson 0612

2/13 Chilcott Road Henderson 0612
2/13 Marau Crescent Mission Bay Auckland 1071
2/15 Old Wairoa Road PAPAURA 2110
2/15 Rush Place MANGERE 2022
2/16 Brady Road OTAHUHU 1062
2/16 Brady Road OTAHUHU 1062
2/16 Gaye Crescent OTARA 2023
2/164B Princes Street East OTAHUHU 1062
2/20 Bentley Road OTARA 2023
2/20 Lucinda Place Glen Eden
2/224 Princes Street East OTAHUHU 1062
2/26 The Strand Waiwera 0950
2/36 Brady Road OTAHUHU 1062
2/36 Brady Road OTAHUHU 1062
2/62 Coxhead Road MANUREWA 2102
20 Bellbird Street PAPAURA 2110
20 Ben Nevis Place Northpark 2013
20 Blampied Road Otara Auckland 2023
20 Blythe Place Glendene 0602
20 Cade Place Manurewa Auckland 2103
20 Central Park Drive Te Atatu South
20 Clover Drive Massey
20 Cracroft Street Otahuhu Auckland 1062
20 Crescent Road Parnell Auckland 1052
20 Eulogy Place Randwick Park 2105
20 Inga Road Castor Bay 0620
20 Kerewhenua Crescent Hobsonville 0618
20 Matawhanga Drive MANUREWA 2103
20 May Road Mount Roskill Auckland 1041
20 Napoleon Avenue Milford 0620
20 Paetahi Lane Northcote 0627
20 Parenga Lane Kumeu 0810
20 Picnic Point Road Hobsonville 0618
20 Picnic Point Road Hobsonville 0618
20 Propeller Avenue Whenuapai 0618
20 Rue d' Amarres Hobbs Bay 0930
20 Seabreeze Road Narrow Neck 0624
20 Serwayne Place Sunnyvale
20 Te Mura Crescent CONIFER GROVE 2112
20 The Strand Waiwera 0950
20 Trimdon Street Randwick Park 2105
20 Trimdon Street Randwick Park 2105
20 Vanderbilt Parade Albany 0632
20 Waiwera Road Waiwera 0950
20 Westmere Park Avenue Westmere Auckland 1022
20 Wilsher Crescent Henderson
200 Orakei Road Remuera Auckland 1050
205 Tamaki Drive Kohimarama Auckland 1071
205 Tamaki Drive Kohimarama Auckland 1071
205 Tamaki Drive Kohimarama Auckland 1071
206 Riddell Road GLENDOWIE 1071
207 Princes Street East Otahuhu Auckland 1062
207A Meola Road Point Chevalier Auckland 1022
207B Meola Road Point Chevalier Auckland 1022
208 Riddell Road GLENDOWIE 1071
208A Riddell Road GLENDOWIE 1071

209 Beach Road Campbells Bay 0630
209 Beach Road Campbells Bay 0630
209 Princes Street East Otahuhu Auckland 1062
209 Tamaki Drive Kohimarama Auckland 1071
20A Eltham Road Kohimarama Auckland 1071
20A Standen Avenue Remuera Auckland 1050
20B Woodglen Road Glen Eden
20F Olive Crescent PAPATOETOE 2025
21 Battersby Avenue Mount Roskill Auckland 1041
21 Blampied Road Otara Auckland 2023
21 Blethyn Place Te Atatu South
21 Brady Road Otahuhu Auckland 1062
21 Brighton Terrace Mairangi Bay 0630
21 Burwood Crescent Remuera Auckland 1050
21 Cambie Avenue Red Beach 0932
21 Camphora Place Ranui
21 Chilcott Road Henderson
21 Clover Drive Massey
21 De Val Drive Titirangi
21 Fjord Way HINGAIA 2580
21 Hills Road Otara Auckland 2023
21 Himalaya Crescent Lynfield Auckland 1042
21 Horlicks Place Randwick Park Auckland 2105
21 Horlicks Place Randwick Park Auckland 2105
21 Jellicoe Road MANUREWA 2102
21 Koura Drive Red Beach 0932
21 Lady McKenzie Mews CONIFER GROVE 2112
21 Murdoch Street Otahuhu Auckland 1062
21 Rue d' Amarres Hobbs Bay 0930
21 Saddleback Crescent PAPAURA 2110
21 Serwayne Place Sunnyvale
21 Shera Road Remuera Auckland 1050
21 Totaravale Drive Totara Vale 0629
21 Trafalgar Road Milford 0620
21 Whai Hua Lane MANGERE BRIDGE 2022
21 Wilsher Crescent Henderson
211 Princes Street East Otahuhu Auckland 1062
211A Penrose Road Mount Wellington Auckland 1060
213 Princes Street East Otahuhu Auckland 1062
215 Princes Street East Otahuhu Auckland 1062
217 Princes Street East Otahuhu Auckland 1062
2180B Great North Road Avondale Auckland 0600
2180C Great North Road Avondale Auckland 0600
219 Bremner Road DRURY 2578
219 Garnet Road Westmere Auckland 1022
21A Brighton Terrace Mairangi Bay 0630
21A Cambie Avenue Red Beach 0932
21A Jellicoe Road MANUREWA 2102
21A Jesmond Terrace St Lukes Auckland 1025
21A Kerswill Place Pakuranga Auckland 2010
21A Margate Road Blockhouse Bay Auckland 0600
21A Meadow Crescent Te Atatu South
21B Edgewater Drive Pakuranga Auckland 2010
21B Jellicoe Road MANUREWA 2102
21B-21C Margate Road Blockhouse Bay Auckland 0600
22 Baltimore Place Forrest Hill 0620

22 Bellbird Street PAPAURA 2110
22 Blampied Road Otara Auckland 2023
22 Brady Road Otahuhu Auckland 1062
22 Candia Road Swanson
22 Central Park Drive Te Atatu South
22 Clover Drive Massey
22 Craig Road Milford 0620
22 Deas Place Otahuhu Auckland 1062
22 Gaye Crescent Otara Auckland 2023
22 Inga Road Castor Bay 0620
22 Kapiti Place Sunnynook 0620
22 Kristin Lane Albany 0632
22 Lina Place Waiuku Auckland 2123
22 Matawhanga Drive MANUREWA 2103
22 Paetahi Lane Northcote 0627
22 Papatupu Way Kumeu 0810
22 Parenga Lane Kumeu 0810
22 Propeller Avenue Whenuapai 0618
22 Rosandich Drive Sunnyvale 0612
22 Roundel Crescent Whenuapai 0618
22 Rue d' Amarres Hobbs Bay 0930
22 Seabreeze Road Narrow Neck 0624
22 Serwayne Place Sunnyvale
22 Sunny Brae Crescent Westmere Auckland 1022
22 The Strand Waiwera 0950
22 Trimdon Street Randwick Park 2105
22 Trimdon Street Randwick Park 2105
22 Waiwera Road Waiwera 0950
22 Westmere Park Avenue Westmere Auckland 1022
22 Whai Hua Lane MANGERE BRIDGE 2022
22 Wilsher Crescent Henderson
221A Garnet Road WESTMERE 1022
221R Princes Street East OTAHUHU 1062
222A Princes Street East OTAHUHU 1062
223 Garnet Road Westmere Auckland 1022
223 Princes Street East Otahuhu Auckland 1062
224 Princes Street East OTAHUHU 1062
225 Garnet Road Westmere Auckland 1022
226 Garnet Road Westmere Auckland 1022
227 Garnet Road Westmere Auckland 1022
227 Garnet Road Westmere Auckland 1022
227 Tamaki Drive Kohimarama Auckland 1071
227 Tamaki Drive Kohimarama Auckland 1071
229 East Tamaki Road Otara Auckland 2023
22A Alidade Place Massey
22A Kelkirk Street Kelston 0602
22A Sunny Brae Crescent Westmere Auckland 1022
22A Totaravale Drive Totara Vale 0629
22B Kelkirk Street Kelston 0602
22D Larsen Street OTARA 2025
22E Larsen Street OTARA 2025
23 Blethyn Place Te Atatu South
23 Brady Road Otahuhu Auckland 1062
23 Burwood Crescent Remuera Auckland 1050
23 Cambie Avenue Red Beach 0932
23 Camphora Place Ranui

23 Chilcott Road Henderson
23 Constable Lane West Harbour
23 Cracroft Street Otahuhu Auckland 1062
23 Glencoe Road Browns Bay 0630
23 Himalaya Crescent Lynfield Auckland 1042
23 Horlicks Place Randwick Park Auckland 2105
23 Kapiti Place Sunnynook 0620
23 Koura Drive Red Beach 0932
23 Lady McKenzie Mews CONIFER GROVE 2112
23 Mamuku Drive Massey 0614
23 Maxwell Avenue Westmere Auckland 1021
23 Murdoch Street Otahuhu Auckland 1062
23 Murdoch Street Otahuhu Auckland 1062
23 Peacock Street Glendowie Auckland 1071
23 Pinotage Place Huapai 0810
23 Riroriro Road Hobsonville 0616
23 Rue d' Amarres Hobbs Bay 0930
23 Saddleback Crescent PAPAKURA 2110
23 Serwayne Place Sunnyvale
23 Totaravale Drive Totara Vale 0629
23 Wattle Street New Lynn
23 Whai Hua Lane MANGERE BRIDGE 2022
23 William Bryan Drive Half Moon Bay Auckland 2012
23 Wilsher Crescent Henderson
230 Manuka Road Bayview 0629
230 Sandringham Road Sandringham Auckland 1025
231 Garnet Road Westmere Auckland 1022
23-151 Sutton Road Drury Auckland
233 Garnet Road Westmere Auckland 1022
233 Garnet Road Westmere Auckland 1022
233 Hobsonville Point Road Hobsonville 0618
234 Sandringham Road Sandringham Auckland 1025
234 Sandringham Road Sandringham Auckland 1025
237 Sandringham Road Sandringham Auckland 1025
238A Princes Street East OTAHUHU 1062
239 Hobsonville Point Road Hobsonville 0618
239 Sandringham Road Sandringham Auckland 1025
23A Bannockburn Road PAPAKURA 2113
23A Boundary Road PAPAKURA 2113
23A Cambie Avenue Red Beach 0932
23A Edgewater Drive PAKURANGA 2010
23R Edgewater Drive PAKURANGA 2010
24 Bellbird Street PAPAKURA 2110
24 Blampied Road Otara Auckland 2023
24 Central Park Drive Te Atatu South
24 Clover Drive Massey
24 Dublin Street PUKEKOHE 2120
24 Humenga Place Long Bay 0630
24 Humenga Place Long Bay 0630
24 Kuaka Place New Lynn
24 Lipton Grove Papakura Auckland 2113
24 Lucinda Place Glen Eden
24 MacPherson Street Meadowbank Auckland 1072
24 Matawhanga Drive MANUREWA 2103
24 Niagara Crescent Lynfield Auckland 1042
24 Old Wairoa Road Papakura Auckland 2110

24 Paetahi Lane Northcote 0627
24 Picnic Point Road Hobsonville 0618
24 Propeller Avenue Whenuapai 0618
24 Roberta Avenue Glendowie Auckland 1071
24 Rosandich Drive Sunnyvale 0612
24 Roundel Crescent Whenuapai 0618
24 Rue d' Amarres Hobbs Bay 0930
24 Seabreeze Road Narrow Neck 0624
24 Serwayne Place Sunnyvale
24 Sunny Brae Crescent Westmere Auckland 1022
24 Trimdon Street Randwick Park Auckland 2105
24 Tui Street Torbay 0630
24 Waiwera Road Waiwera 0950
24 Westmere Park Avenue Westmere Auckland 1022
241 Hobsonville Point Road Hobsonville 0618
24A Bath Street Parnell Auckland 1052
24A Dublin Street PUKEKOHE 2120
24A Karaka Street New Lynn 0600
24A Scarlet Drive Ranui 0612
24A The Strand Waiwera 0950
24B Bath Street Parnell Auckland 1052
24E Oakland Avenue PAPATOETOE 2025
25 Blethyn Place Te Atatu South
25 Brady Road Otahuhu Auckland 1062
25 Burwood Crescent Remuera Auckland 1050
25 Cambie Avenue Red Beach 0932
25 Camphora Place Ranui
25 Chilcott Road Henderson
25 Clover Drive Massey
25 Harrybrook Road Green Bay
25 Himalaya Crescent Lynfield Auckland 1042
25 Horlicks Place Randwick Park Auckland 2105
25 Kaimai Avenue Massey 0614
25 Karikari Crescent TAKANINI 2112
25 Komako Lane DRURY 2579
25 Koura Drive Red Beach 0932
25 Lady McKenzie Mews CONIFER GROVE 2112
25 Mamuku Drive Massey 0614
25 Matata Street Blockhouse Bay Auckland 0600
25 Newell Street Point Chevalier Auckland 1022
25 Peacock Street Glendowie Auckland 1071
25 Pinotage Place Huapai 0810
25 Puia Street PAPATOETOE 2025
25 Reynolds Road Pukekohe Auckland 2120
25 Riria Crescent CONIFER GROVE 2112
25 Riroriro Road Hobsonville 0616
25 Roeroe Place Fairview Heights 0632
25 Roeroe Place Fairview Heights 0632
25 Rue d' Amarres Hobbs Bay 0930
25 Saddleback Crescent PAKURA 2110
25 Serwayne Place Sunnyvale
25 Springcombe Road St Heliers Auckland 1071
25 Totaravale Drive Totara Vale 0629
25 Whai Hua Lane MANGERE BRIDGE 2022
25 Wilsher Crescent Henderson
254 Sandringham Road Sandringham Auckland 1025

254 Sandringham Road Sandringham Auckland 1025
255 Great South Road Manurewa Auckland 2102
259 Great South Road Manurewa Auckland 2102
25A Glendale Road Glen Eden
25A Melling Street GLEN INNES 1072
25B Blethyn Place Te Atatu South
25C Oteha Valley Road Northcross 0632
25D Oteha Valley Road Northcross 0632
25E Oteha Valley Road Northcross 0632
25F Oteha Valley Road Northcross 0632
26 Baltimore Place Forrest Hill 0620
26 Bellbird Street PAPAURA 2110
26 Central Park Drive Te Atatu South
26 Challinor Street Pakuranga Auckland 2010
26 Cleve Road Green Bay
26 Cleve Road Green Bay
26 Clover Drive Massey
26 Dublin Street Pukekohe Auckland 2120
26 Gaye Crescent Otara Auckland 2023
26 Harmony Avenue Otahuhu Auckland 1062
26 Humenga Place Long Bay 0630
26 Kerswill Place Pakuranga Auckland 2010
26 Matawhanga Drive MANUREWA 2103
26 Matawhanga Drive MANUREWA 2103
26 Old Wairoa Road Papakura Auckland 2110
26 Paetahi Lane Northcote 0627
26 Propeller Avenue Whenuapai 0618
26 Roberta Avenue Glendowie Auckland 1071
26 Rosandich Drive Sunnyvale 0612
26 Rue d' Amarres Hobbs Bay 0930
26 Serwayne Place Sunnyvale
26 Stanford Street Albany 0632
26 Sunny Brae Crescent Westmere Auckland 1022
26 Trimdon Street Randwick Park Auckland 2105
26 Villanova Place Albany 0632
26 Waiwera Road Waiwera 0950
26 Walter Lawry Road PUKEKOHE 2676
26 Westmere Crescent Westmere Auckland 1022
26 Westmere Park Avenue Westmere Auckland 1022
260 Great South Road Manurewa Auckland 2102
264E East Tamaki Road OTARA 2023
268 East Tamaki Road Otara Auckland 2023
26A Browns Avenue Pakuranga Auckland 2010
26A Camphora Place Ranui 0612
26A Himalaya Crescent Lynfield Auckland 1042
26A Segedin Place Glenfield 0629
26A Standen Avenue Remuera Auckland 1050
26A Universal Drive Henderson 0610
26B Short Street PAPAURA 2110
26B Universal Drive Henderson 0610
26C Camphora Place Ranui 0612
26C Universal Drive Henderson 0610
27 Bardia Street Belmont 0622
27 Bight Road Long Bay 0630
27 Bight Road Long Bay 0630
27 Bight Road Long Bay 0630

27 Brady Road Otahuhu Auckland 1062
27 Burwood Crescent Remuera Auckland 1050
27 Camphora Place Ranui
27 Clover Drive Massey
27 Himalaya Crescent Lynfield Auckland 1042
27 Horlicks Place Randwick Park Auckland 2105
27 Jane Cowie Avenue Otahuhu Auckland 1062
27 Komako Lane DRURY 2579
27 Koura Drive Red Beach 0932
27 Mamuku Drive Massey 0614
27 Matata Street Blockhouse Bay Auckland 0600
27 Memorial Avenue Mount Roskill Auckland 1041
27 Murdoch Street Otahuhu Auckland 1062
27 Newell Street Point Chevalier Auckland 1022
27 Pinotage Place Huapai 0810
27 Riria Crescent CONIFER GROVE 2112
27 Riroriro Road Hobsonville 0616
27 Rue d' Amarres Hobbs Bay 0930
27 Saddleback Crescent PAPAURA 2110
27 Seaside Avenue Waterview Auckland 1026
27 Serwayne Place Sunnyvale
27 Springcombe Road St Heliers Auckland 1071
27 Taukahiwi Road PUKEKOHE 2120
27 The Parade Bucklands Beach Auckland 2012
27 Whai Hua Lane MANGERE BRIDGE 2022
27 Wilsher Crescent Henderson
270 East Tamaki Road Otara Auckland 2023
272 East Tamaki Road Otara Auckland 2023
274 East Tamaki Road Otara Auckland 2023
27A Chilcott Road Henderson
27A Memorial Avenue Mount Roskill Auckland 1041
27A Totaravale Drive Totara Vale 0629
27B Chilcott Road Henderson
27B Chilcott Road Henderson
27B Long Bay Drive Torbay 0630
27B Memorial Avenue Mount Roskill Auckland 1041
27B Totaravale Drive Totara Vale 0629
28 Bagley Street Hillsborough Auckland 1042
28 Bellbird Street PAPAURA 2110
28 Brady Road Otahuhu Auckland 1062
28 Camphora Place Ranui 0612
28 Camphora Place Ranui 0612
28 Dublin Street PUKEKOHE 2120
28 Frangipani Avenue Manurewa Auckland 2102
28 Himalaya Crescent Lynfield Auckland 1042
28 Humenga Place Long Bay 0630
28 Huron Street Takapuna 0622
28 Kiwi Esplanade Mangere Bridge Auckland 2022
28 Lipton Grove Papakura Auckland 2113
28 MacPherson Street Meadowbank Auckland 1072
28 Matawhanga Drive MANUREWA 2103
28 Murdoch Street Otahuhu Auckland 1062
28 Propeller Avenue Whenuapai 0618
28 Serwayne Place Sunnyvale
28 Short Street Papakura Auckland 2110
28 Sunny Brae Crescent Westmere Auckland 1022

28 The Strand Waiwera 0950
28 Trimdon Street Randwick Park Auckland 2105
28 Westmere Crescent Westmere Auckland 1022
28 Westmere Park Avenue Westmere Auckland 1022
280 Dairy Flat Highway Albany 0632
28A Brady Road Otahuhu Auckland 1062
28A Brady Road Otahuhu Auckland 1062
28A Brady Road Otahuhu Auckland 1062
28A Dublin Street PUKEKOHE 2120
28A Matawhanga Drive MANUREWA 2103
28A Matawhanga Drive MANUREWA 2103
28A The Parade Bucklands Beach 2012
28B Brady Road Otahuhu Auckland 1062
29 Beihlers Road Weymouth Auckland 2103
29 Bight Road Long Bay 0630
29 Bight Road Long Bay 0630
29 Boathouse Bay Lane Snells Beach 0982
29 Brady Road Otahuhu Auckland 1062
29 Burwood Crescent Remuera Auckland 1050
29 Camphora Place Ranui
29 Chilcott Road Henderson
29 Clover Drive Massey
29 Himalaya Crescent Lynfield Auckland 1042
29 Horlicks Place Randwick Park Auckland 2105
29 Kiwi Esplanade Mangere Bridge Auckland 2022
29 Koura Drive Red Beach 0932
29 Longford Park Drive Takanini Auckland 2112
29 Mamuku Drive Massey 0614
29 Maxwell Avenue Westmere Auckland 1021
29 Murray Street Drury Auckland 2113
29 Newell Street Point Chevalier Auckland 1022
29 Rawene Avenue Westmere Auckland 1022
29 Rawene Avenue Westmere Auckland 1022
29 Rue d' Amarres Hobbs Bay 0930
29 Saddleback Crescent PAPAURA 2110
29 Serwayne Place Sunnyvale
29 Springcombe Road St Heliers Auckland 1071
29 The Parade Bucklands Beach Auckland 2012
29 Totaravale Drive Totara Vale 0629
29 Whai Hua Lane MANGERE BRIDGE 2022
29 Willerton Avenue New Lynn
29 Wilsher Crescent Henderson
29-31 Bagley Street Hillsborough Auckland 1042
295 Victoria Avenue Remuera Auckland 1050
29A Chilcott Road Henderson
29A Robert Burke Place Henderson 0612
29B Curacao Place HALF MOON BAY 2012
29B Edgewater Drive Pakuranga Auckland 2010
2A Commodore Parry Road Castor Bay 0620
2A Kiwi Esplanade Mangere Bridge Auckland 2022
2A Omana Road Milford 0620
2A St Leonards Road Mount Eden Auckland 1024
2A Takapu Street Henderson 0612
2A Woodglen Road Glen Eden 0602
2C Livingstone Street Milford 0620
3 Alamein Place Pukekohe Auckland 2120

3 Bamfield Place Onehunga Auckland 1042
3 Bangor Street Point Chevalier Auckland 1022
3 Blampied Road Otara Auckland 2023
3 Bloom Crescent Sunnyvale 0612
3 Camphora Place Ranui
3 Foreshore Lane DRURY 2578
3 Hogan Street PUKEKOHE 2120
3 Horlicks Place Randwick Park Auckland 2105
3 Ingram Street Papakura Auckland
3 Kereti Lane MOUNT WELLINGTON 1060
3 Kiwi Esplanade Mangere Bridge 2022
3 Komako Lane DRURY 2579
3 Lady McKenzie Mews CONIFER GROVE 2112
3 Margate Road Blockhouse Bay Auckland 0600
3 Maumahara Way PAPATOETOE 2025
3 Mays Road Te Papapa Auckland 1061
3 Miromiro Lane DRURY 2579
3 Nield Road MANUREWA 2102
3 Pekepeke Lane DRURY 2579
3 Saddleback Crescent PAPAKURA 2110
3 Shackleton Road Mount Eden Auckland 1024
3 The Esplanade Eastern Beach 2012
3 Trimdon Street Randwick Park Auckland 2105
3 Waterfront Road Mangere Bridge Auckland 2022
3 Whakaruru Lane DRURY 2578
3/1 Omana Road Milford 0620
3/13 Marau Crescent Mission Bay Auckland 1071
3/15 Rush Place MANGERE 2022
3/16 Brady Road OTAHUHU 1062
3/16 Gaye Crescent OTARA 2023
3/164B Princes Street East OTAHUHU 1062
3/20 Bentley Road OTARA 2023
3/20 Bentley Road OTARA 2023
3/224 Princes Street East OTAHUHU 1062
3/36 Brady Road OTAHUHU 1062
3/36 Brady Road OTAHUHU 1062
3/62 Coxhead Road MANUREWA 2102
3/72 Alfriston Road MANUREWA 2102
30 Bellbird Street PAPAKURA 2110
30 Boathouse Bay Lane Snells Beach 0982
30 Forrest Hill Road Forrest Hill 0620
30 Forrest Hill Road Forrest Hill 0620
30 Frangipani Avenue Manurewa Auckland 2102
30 Holcroft Street ARDMORE 2582
30 Huron Street Takapuna 0622
30 Lipton Grove Papakura Auckland 2113
30 MacPherson Street Meadowbank Auckland 1072
30 Matawhanga Drive MANUREWA 2103
30 Propeller Avenue Whenuapai 0618
30 Serwayne Place Sunnyvale
30 Short Street Papakura Auckland 2110
30 Silkwood Grove Totara Heights Auckland 2105
30 Standen Avenue Remuera Auckland 1050
30 Steppe Drive DRURY 2579
30 The Strand Waiwera 0950
30 Trimdon Street Randwick Park Auckland 2105

30 Waiwera Road Waiwera 0950
30 Westmere Crescent Westmere Auckland 1022
30 Westmere Park Avenue Westmere Auckland 1022
30 Wilsher Crescent Henderson
305 Tamaki Drive Kohimarama Auckland 1071
30A Beachcroft Avenue Onehunga Auckland 1061
30A Forrest Hill Road Forrest Hill 0620
30A Forrest Hill Road Forrest Hill 0620
30A MacPherson Street Meadowbank Auckland 1072
30A Millbrook Road Henderson
30B Beachcroft Avenue Onehunga Auckland 1061
30C Beachcroft Avenue Onehunga Auckland 1061
30D Beachcroft Avenue Onehunga Auckland 1061
30D Beachcroft Avenue Onehunga Auckland 1061
30E Beachcroft Avenue Onehunga Auckland 1061
30G Beachcroft Avenue Onehunga Auckland 1061
31 Boathouse Bay Lane Snells Beach 0982
31 Brady Road Otahuhu Auckland 1062
31 Brady Road Otahuhu Auckland 1062
31 Brady Road Otahuhu Auckland 1062
31 Burwood Crescent Remuera Auckland 1050
31 Camphora Place Ranui 0612
31 Chilcott Road Henderson
31 Clover Drive Massey
31 Horlicks Place Randwick Park Auckland 2105
31 Kimberley Road Epsom Auckland 1023
31 Kimberley Road Epsom Auckland 1023
31 Kimberley Road Epsom Auckland 1023
31 Kiwi Esplanade MANGERE BRIDGE 2022
31 Koura Drive Red Beach 0932
31 Newell Street Point Chevalier Auckland 1022
31 Ngapipi Road Orakei Auckland 1071
31 Saddleback Crescent PAPAURA 2110
31 Steppe Drive DRURY 2579
31 Sylvania Crescent Lynfield Auckland 1042
31 Totaravale Drive Totara Vale 0629
31 Whai Hua Lane MANGERE BRIDGE 2022
31 Wilsher Crescent Henderson
31A Takanini Road Takanini Auckland 2112
31B Pleasant Street ONEHUNGA 1061
31F Seacombe Road POINT CHEVALIER 1022
32 Awhina Street MANGERE 2024
32 Bellbird Street PAPAURA 2110
32 Boathouse Bay Lane Snells Beach 0982
32 Clover Drive Massey
32 Frangipani Avenue Manurewa Auckland 2102
32 Kiwi Esplanade Mangere Bridge Auckland 2022
32 Matawhanga Drive MANUREWA 2103
32 Penning Road Castor Bay 0620
32 Perkins Street ARDMORE 2582
32 Propeller Avenue Whenuapai 0618
32 Pukeko Road Hobsonville 0616
32 Pukeko Road Hobsonville 0616
32 Pukeko Road Hobsonville 0616
32 Seabreeze Road Narrow Neck 0624
32 Serwayne Place Sunnyvale

32 Short Street Papakura Auckland 2110
32 Silkwood Grove Totara Heights Auckland 2105
32 Standen Avenue Remuera Auckland 1050
32 Steppe Drive DRURY 2579
32 Sunny Brae Crescent Westmere Auckland 1022
32 The Strand Waiwera 0950
32 Trimdon Street Randwick Park Auckland 2105
32 Westmere Crescent Westmere Auckland 1022
32 Westmere Park Avenue Westmere Auckland 1022
32 Wilsher Crescent Henderson
32A Don Buck Road Massey
32A Kiwi Esplanade Mangere Bridge Auckland 2022
32A Maryland Street Point Chevalier Auckland 1022
32A Rata Street New Lynn
32A Sandown Road Rothesay Bay 0630
32A Seabreeze Road Narrow Neck 0624
32A Trimdon Street Randwick Park Auckland 2105
32A Trimdon Street Randwick Park Auckland 2105
32B Brady Road Otahuhu Auckland 1062
32B Kiwi Esplanade MANGERE BRIDGE 2022
32B Universal Drive Henderson 0610
32C Kiwi Esplanade Mangere Bridge 2022
32C Universal Drive Henderson 0610
33 Ben Nevis Place Northpark 2013
33 Bight Road Long Bay 0630
33 Bight Road Long Bay 0630
33 Bloom Crescent Sunnyvale 0612
33 Brady Road Otahuhu Auckland 1062
33 Chesterfield Avenue GLENDOWIE 1071
33 Chilcott Road Henderson
33 Clover Drive Massey
33 Clover Drive Massey
33 Koura Drive Red Beach 0932
33 Longford Park Drive Takanini Auckland 2112
33 Newham Place Henderson
33 Onewa Road Northcote 0627
33 Onewa Road Northcote 0627
33 Saddleback Crescent PAPAURA 2110
33 Totaravale Drive Totara Vale 0629
33 Trimdon Street Randwick Park 2105
33 Whai Hua Lane MANGERE BRIDGE 2022
33 Wilsher Crescent Henderson
334 Victoria Avenue Remuera Auckland 1050
334A Victoria Avenue Remuera Auckland 1050
335 Great South Road CONIFER GROVE 2112
338 Triangle Road Massey 0614
338A West Coast Road Glen Eden
339 West Coast Road Glen Eden
33B Hoskins Avenue Hillsborough Auckland 1042
33B John Street Pukekohe Auckland 2120
33B Johnstone Street Point Chevalier Auckland 1022
33R Forest Glen Orewa 0931
34 Awhina Street MANGERE 2024
34 Bloom Crescent Sunnyvale 0612
34 Boathouse Bay Lane Snells Beach 0982
34 Boyd Avenue Mangere Bridge Auckland 2022

34 Clover Drive Massey
34 Matawhanga Drive MANUREWA 2103
34 McEldownie Road DRURY 2579
34 Meadow Street Mount Wellington Auckland 1062
34 Rata Street New Lynn
34 Ribblesdale Road Henderson
34 Serwayne Place Sunnyvale
34 Silkwood Grove Totara Heights Auckland 2105
34 Sunny Brae Crescent Westmere Auckland 1022
34 Takutai Street Parnell Auckland 1052
34 The Parade Bucklands Beach Auckland 2012
34 The Strand Waiwera 0950
34 Westmere Crescent Westmere Auckland 1022
34 Westmere Park Avenue Westmere Auckland 1022
34 Wilsher Crescent Henderson
341 West Coast Road Glen Eden
343 West Coast Road Glen Eden
34-38 Harbour Village Drive Hobbs Bay 0930
345 Riddell Road Glendowie Auckland 1071
345 West Coast Road Glen Eden
34B Meadow Street Mount Wellington Auckland 1062
34E Fruitvale Road New Lynn 0600
34E Saxon Street WATERVIEW 1026
35 Alanbrooke Crescent Avondale Auckland 0600
35 Bight Road Long Bay 0630
35 Bight Road Long Bay 0630
35 Bloom Crescent Sunnyvale 0612
35 Brandon Road Glen Eden
35 Chesterfield Avenue GLENDOWIE 1071
35 Chilcott Road Henderson
35 Clover Drive Massey
35 Koura Drive Red Beach 0932
35 Kumerahou Street Kumeu 0810
35 Meg Lane Glen Eden 0602
35 Newham Place Henderson
35 Northwood Avenue Albany 0632
35 Saddleback Crescent PAPAKURA 2110
35 Stanmore Road Grey Lynn Auckland 1021
35 Totaravale Drive Totara Vale 0629
35 Vale Road ST HELIERS 1071
35 Whai Hua Lane MANGERE BRIDGE 2022
3-53 Central Park Drive Te Atatu South 0610
355 Riddell Road Glendowie 1071
356 Blockhouse Bay Road Avondale Auckland 0600
35A Byron Avenue Takapuna 0622
35A Tennyson Avenue Takapuna 0622
35B Drumconnell Drive FLAT BUSH 2016
35C Cornwall Road PAPATOETOE 2025
36 Awhina Street MANGERE 2024
36 Bloom Crescent Sunnyvale 0612

36 Boathouse Bay Lane Snells Beach 0982
36 Boathouse Bay Lane Snells Beach 0982
36 Clover Drive Massey
36 Frangipani Avenue Manurewa Auckland 2102
36 Great South Road Manurewa Auckland 2102
36 Matawhanga Drive MANUREWA 2103
36 Murdoch Street Otahuhu Auckland 1062
36 Nikau Road Otahuhu Auckland 1062
36 Seabreeze Road Narrow Neck 0624
36 Serwayne Place Sunnyvale
36 Shore Road Remuera Auckland 1050
36 Shore Road Remuera Auckland 1050
36 Sunny Brae Crescent Westmere Auckland 1022
36 Wilsher Crescent Henderson
36-40 Pomaria Road Henderson
36A Brady Road OTAHUHU 1062
36A Kingdale Road Henderson 0610
36A Maryland Street Point Chevalier Auckland 1022
36A Rata Street New Lynn
36A Westmere Crescent Westmere Auckland 1022
36B Kawerau Avenue Devonport 0624
36D Wedgwood Avenue MANGERE EAST 2024
37 Ahunga Road DRURY 2578
37 Bight Road Long Bay 0630
37 Bight Road Long Bay 0630
37 Bloom Crescent Sunnyvale 0612
37 Boundary Road Avondale Auckland 0600
37 Boyes Avenue Whenuapai 0618
37 Burwood Crescent Remuera Auckland 1050
37 Chilcott Road Henderson
37 Clover Drive Massey
37 Cranston Street Torbay 0632
37 Don Buck Road Massey
37 La Rosa Street Green Bay
37 Meg Lane Glen Eden 0602
37 Ngaio Street Otahuhu Auckland 1062
37 Saddleback Crescent PAPAKURA 2110
37 Stanmore Road Grey Lynn Auckland 1021
37 Sylvania Crescent Lynfield Auckland 1042
37 Totaravale Drive Totara Vale 0629
37 Tuaiwi Street MANUKAU CENTRAL 2104
37 Walters Road Mount Wellington Auckland 1062
37 Whai Hua Lane MANGERE BRIDGE 2022
37 Wilsher Crescent Henderson
371C Hibiscus Coast Highway Orewa 0931
37A Premier Avenue POINT CHEVALIER 1022
37A Sylvania Crescent Lynfield Auckland 1042
37A Tennyson Avenue Takapuna 0622
37A Walters Road Mount Wellington Auckland 1062
37A Walters Road Mount Wellington Auckland 1062
38 Awhina Street MANGERE 2024
38 Bloom Crescent Sunnyvale 0612
38 Boathouse Bay Lane Snells Beach 0982
38 Clover Drive Massey
38 Honowai Street Kumeu 0810
38 Honowai Street Kumeu 0810

38 MacPherson Street Meadowbank Auckland 1072
38 Murdoch Street Otahuhu Auckland 1062
38 Newell Street POINT CHEVALIER 1022
38 Newington Road Henderson
38 Nikau Road Otahuhu Auckland 1062
38 Rata Street New Lynn
38 Seabreeze Road Narrow Neck 0624
38 Serwayne Place Sunnyvale
38 Sunny Brae Crescent Westmere Auckland 1022
38 Sylvania Crescent Lynfield Auckland 1042
38 Tennyson Avenue Takapuna 0622
38 The Parade Bucklands Beach 2012
38 Trimdon Street Randwick Park Auckland 2105
38 Wilsher Crescent Henderson
38A Newell Street POINT CHEVALIER 1022
38A Trimdon Street Randwick Park Auckland 2105
38B Trimdon Street Randwick Park Auckland 2105
38C Trimdon Street Randwick Park Auckland 2105
39 Bloom Crescent Sunnyvale 0612
39 Boyes Avenue Whenuapai 0618
39 Brady Road Otahuhu Auckland 1062
39 Burwood Crescent Remuera Auckland 1050
39 Chilcott Road Henderson
39 Cliff Road St Heliers Auckland 1071
39 Esmonde Road Takapuna 0622
39 Kitchener Road Sandringham Auckland 1025
39 Saddleback Crescent PAPAKURA 2110
39 The Parade Bucklands Beach 2012
39 Whai Hua Lane MANGERE BRIDGE 2022
39 Wilsher Crescent Henderson
39-43 Huron Street Takapuna 0622
39-43 Huron Street Takapuna 0622
39-43 Huron Street Takapuna 0622
39A Saxon Street WATERVIEW 1026
39B Saxon Street WATERVIEW 1026
39C Saxon Street WATERVIEW 1026
39D Saxon Street WATERVIEW 1026
3A Alamein Place Pukekohe Auckland 2120
3A Epping Road Henderson
3A San Luis Place Howick Auckland 2013
3A Shackleton Road Mount Eden Auckland 1024
3A Waterview Road West Takanini Auckland 2112
3B Epping Road Henderson
3B Gills Avenue PAPAKURA 2110
3B Nield Road MANUREWA 2102
3B Shackleton Road Mount Eden Auckland 1024
3B Tidal View Road DRURY 2578
3C Epping Road Henderson
3C Shackleton Road Mount Eden Auckland 1024
4 Bamfield Place Onehunga Auckland 1042
4 Blampied Road Otara Auckland 2023
4 Blethyn Place Te Atatu South
4 Bond Street Otara Auckland 2023
4 Camphora Place Ranui
4 Civic Place Waiuku Auckland 2123
4 Coronation Road Mangere Bridge 2022

4 Crescent Road Parnell Auckland 1052
4 Crescent Road Parnell Auckland 1052
4 Faithful Drive DRURY 2578
4 Foreshore Lane DRURY 2578
4 Golden Fall Road Hobsonville 0616
4 Gubb Place Otara Auckland 2023
4 Gubb Place Otara Auckland 2023
4 Hertford Street Avondale Auckland 0600
4 Kari Lane Kumeu 0810
4 Kawapani Lane Kumeu 0810
4 Kiwi Esplanade Mangere Bridge Auckland 2022
4 Koiora Road PUKEKOHE 2679
4 Komako Lane DRURY 2579
4 Korokio Lane Henderson 0612
4 Lignite Street DRURY 2579
4 Lincoln Garden Close Massey
4 Lincoln Garden Close Massey
4 Meadowcroft Way Henderson
4 Miro Street Drury Auckland 2113
4 Miro Street New Lynn
4 Miromiro Lane DRURY 2579
4 Miromiro Lane DRURY 2579
4 Nuinga Lane MOUNT WELLINGTON 1062
4 Parenga Lane Kumeu 0810
4 Parkhill Road St Lukes Auckland 1022
4 St Leonards Road Mount Eden Auckland 1024
4 Stainton Place Otara Auckland 2023
4 Tindall Crescent Otara Auckland 2023
4 Tuamaka Lane Hobsonville 0618
4 Tuwhare Street ARDMORE 2582
4 Umar Court Warkworth 0981
4 Waiwera Road Waiwera 0950
4 Waiwera Road Waiwera 0950
4 Waterfront Road Mangere Bridge 2022
4 Willowgrange Place PUKEKOHE 2120
4 Wing Crescent Papakura Auckland 2110
4/13 Chilcott Road Henderson 0612
4/13 Marau Crescent Mission Bay Auckland 1071
4/15 Rush Place MANGERE 2022
4/16 Brady Road OTAHUHU 1062
4/16 Gaye Crescent OTARA 2023
4/164B Princes Street East OTAHUHU 1062
4/19 Gardner Avenue New Lynn
4/20 Bentley Road OTARA 2023
4/218 Lake Road Northcote 0627
4/224 Princes Street East OTAHUHU 1062
4/224 Princes Street East OTAHUHU 1062
4/36 Brady Road OTAHUHU 1062
4/36 Brady Road OTAHUHU 1062
4/72 Alfriston Road MANUREWA 2102
40 Bloom Crescent Sunnyvale 0612
40 Boathouse Bay Lane Snells Beach 0982
40 Brady Road Otahuhu Auckland 1062
40 Clovelly Road Bucklands Beach Auckland 2012
40 Clover Drive Massey
40 Eastburn Street Papakura Auckland 2110

40 Fruitvale Road New Lynn 0600
40 Kensington Avenue Balmoral Auckland 1024
40 Kimberley Road Epsom Auckland 1023
40 Lyons Avenue Murrays Bay 0630
40 MacPherson Street MEADOWBANK 1072
40 Murdoch Street Otahuhu Auckland 1062
40 Newell Street Point Chevalier Auckland 1022
40 Norana Avenue Remuera Auckland 1050
40 Northboro Road Hauraki 0622
40 Serwayne Place Sunnyvale
40 Sunny Brae Crescent Westmere Auckland 1022
40 Sylvania Crescent Lynfield Auckland 1042
40 Tennyson Avenue Takapuna 0622
40 The Parade Bucklands Beach Auckland 2012
40 Trimdon Street Randwick Park Auckland 2105
40 Walter Lawry Road PUKEKOHE 2676
40-48 Harbour Village Drive Hobbs Bay 0930
407 Riddell Road Glendowie Auckland 1071
407 Riddell Road Glendowie Auckland 1071
40A Ennis Avenue Pakuranga Heights Auckland 2010
40A Haycock Avenue Mount Roskill Auckland 1041
40A MacPherson Street MEADOWBANK 1072
40A Rata Street New Lynn
40A Spencer Road Pinehill 0632
40A The Parade Bucklands Beach Auckland 2012
40A The Parade Bucklands Beach Auckland 2012
40A Trimdon Street Randwick Park Auckland 2105
40A Tudor Road Henderson 0610
40A Universal Drive Henderson
40A Universal Drive Henderson
40B MacPherson Street MEADOWBANK 1072
40B Rata Street New Lynn
40B Universal Drive Henderson
40D Evelyn Place Hillcrest 0627
41 Bloom Crescent Sunnyvale 0612
41 Bond Crescent Forrest Hill 0620
41 Boyes Avenue Whenuapai 0618
41 Burwood Crescent Remuera Auckland 1050
41 Chilcott Road Henderson
41 Cliff Road ST HELIERS 1071
41 Cobham Crescent Otara Auckland 2023
41 Johnstone Street Point Chevalier Auckland 1022
41 McInnes Road Weymouth Auckland 2103
41 Oopunga Road PUKEKOHE 2120
41 Oraha Road Huapai 0810
41 Orion Street Papakura Auckland 2110
41 Saddleback Crescent PAPAURA 2110
41 Saxon Street Waterview Auckland 1026
41 Speight Road KOHIMARAMA 1071
41 Whai Hua Lane MANGERE BRIDGE 2022
41 Wilsher Crescent Henderson
4118 Great North Road Glen Eden
41A Byron Avenue Takapuna 0622
41A Chilcott Road Henderson
41B Athlone Road Glendowie Auckland 1071
41C Ernie Pinches Street Mount Roskill Auckland 1041

41D Ernie Pinches Street Mount Roskill Auckland 1041
42 Bloom Crescent Sunnyvale 0612
42 Boathouse Bay Lane Snells Beach 0982
42 Boyes Avenue Whenuapai 0618
42 Bracken Avenue Takapuna 0622
42 Clover Drive Massey
42 Cresta Avenue Beach Haven 0626
42 Eastburn Street Papakura Auckland 2110
42 Edwards Court Pukekohe Auckland 2120
42 McInnes Road Weymouth Auckland 2103
42 Murdoch Street Otahuhu Auckland 1062
42 Nile Road Milford 0620
42 Queen Mary Avenue New Lynn
42 Rata Street New Lynn
42 Sunny Brae Crescent Westmere Auckland 1022
42 Sylvania Crescent Lynfield Auckland 1042
42 Trimdon Street Randwick Park Auckland 2105
42 Trimdon Street Randwick Park Auckland 2105
420 Bremner Road DRURY 2578
427A Riddell Road Glendowie Auckland 1071
42A Candia Road Swanson
42A Eastburn Street Papakura Auckland 2110
42A Landon Avenue MANGERE EAST 2024
42A Sylvania Crescent Lynfield Auckland 1042
42A Trimdon Street Randwick Park Auckland 2105
42A Universal Drive Henderson
42B Landon Avenue MANGERE EAST 2024
42B Universal Drive Henderson
42C Universal Drive Henderson
42D Eskdale Road Birkdale 0626
42E Kopara Place MANUREWA 2103
43 Athlone Road Glendowie Auckland 1071
43 Bloom Crescent Sunnyvale 0612
43 Boyes Avenue Whenuapai 0618
43 Chilcott Road Henderson
43 Kiwi Esplanade Mangere Bridge Auckland 2022
43 Oopunga Road PUKEKOHE 2120
43 Orion Street Papakura Auckland 2110
43 Saddleback Crescent PAPAURA 2110
43 Takutai Street Parnell Auckland 1052
43 The Parade Bucklands Beach Auckland 2012
43 Whai Hua Lane MANGERE BRIDGE 2022
43 Wilsher Crescent Henderson
434 Riddell Road Glendowie Auckland 1071
434 Riddell Road Glendowie Auckland 1071
44 Battersby Avenue Mount Roskill Auckland 1041
44 Bloom Crescent Sunnyvale 0612
44 Boathouse Bay Lane Snells Beach 0982
44 Boundary Road Blockhouse Bay Auckland 0600
44 Clovelly Road Bucklands Beach Auckland 2012
44 Clover Drive Massey
44 Clover Drive Massey
44 Greenhaven Avenue Papakura Auckland 2110
44 Nile Road Milford 0620
44 Queen Mary Avenue New Lynn
44 Rata Street New Lynn

44 Speight Road Kohimarama Auckland 1071
44 Sylvania Crescent Lynfield Auckland 1042
44 Trimdon Street Randwick Park Auckland 2105
445 Riddell Road Glendowie Auckland 1071
44A Alwyn Avenue Te Atatu South 0610
44A Clifton Road Hauraki 0622
44A Eastburn Street PAPAURA 2110
44A Eastburn Street PAPAURA 2110
44A Nile Road Milford 0620
44A Speight Road Kohimarama Auckland 1071
44A Woodside Road Massey
44A Woodside Road Massey
44B Alwyn Avenue Te Atatu South 0610
44B Eastburn Street PAPAURA 2110
44B Eastburn Street PAPAURA 2110
44B Eastburn Street PAPAURA 2110
44C Alwyn Avenue Te Atatu South 0610
44C Alwyn Avenue Te Atatu South 0610
44C Eastburn Street PAPAURA 2110
44C Eastburn Street PAPAURA 2110
44D Alwyn Avenue Te Atatu South 0610
44D Eastburn Street PAPAURA 2110
44D Eastburn Street PAPAURA 2110
44E Eastburn Street PAPAURA 2110
44F Eastburn Street PAPAURA 2110
45 Alanbrooke Crescent Avondale Auckland 0600
45 Bloom Crescent Sunnyvale 0612
45 Boyes Avenue Whenuapai 0618
45 Chilcott Road Henderson
45 Esmonde Road Takapuna 0622
45 Hannah Road Otara Auckland 2023
45 Kiwi Esplanade Mangere Bridge Auckland 2022
45 Larne Avenue Pakuranga Heights 2010
45 Orah Road Huapai 0810
45 Orion Street Papakura Auckland 2110
45 Saddleback Crescent PAPAURA 2110
45 Springvale Drive Fairview Heights 0632
45 The Parade Bucklands Beach 2012
45 Universal Drive Henderson
45 Wilsher Crescent Henderson
45A Kahui Parade DRURY 2578
45B Kahui Parade DRURY 2578
45B View Road Campbells Bay 0630
46 Bloom Crescent Sunnyvale 0612
46 Boathouse Bay Lane Snells Beach 0982
46 Byron Avenue Takapuna 0622
46 Clovelly Road Bucklands Beach Auckland 2012
46 Clover Drive Massey
46 Eastburn Street Papakura Auckland 2110
46 Harbour View Road Point Chevalier Auckland 1022
46 Kahui Parade DRURY 2578
46 Queen Mary Avenue New Lynn
46 Seabreeze Road Narrow Neck 0624
46 Speight Road Kohimarama Auckland 1071
46 Stottholm Road Titirangi
46 Sylvania Crescent Lynfield Auckland 1042

46 Trimdon Street Randwick Park Auckland 2105
46A Linwood Avenue MOUNT ALBERT 1025
46A Millbrook Road Henderson
46A Rata Street New Lynn
46A Speight Road Kohimarama Auckland 1071
46B Millbrook Road Henderson
46Q Millbrook Road Henderson
46R Millbrook Road Henderson
47 Bayside Drive Browns Bay 0630
47 Bloom Crescent Sunnyvale 0612
47 Boyes Avenue Whenuapai 0618
47 Bracken Avenue Takapuna 0622
47 Chilcott Road Henderson
47 Cliff Road St Heliers Auckland 1071
47 Kahui Parade DRURY 2578
47 Kahui Parade DRURY 2578
47 Lake Road Northcote 0627
47 Larne Avenue Pakuranga Heights 2010
47 Orion Street Papakura Auckland 2110
47 Parker Avenue New Lynn
47 Saddleback Crescent PAPAURA 2110
47 Taunton Terrace Blockhouse Bay Auckland 0600
47 View Road Campbells Bay 0630
47 Whai Hua Lane MANGERE BRIDGE 2022
47 Wilsher Crescent Henderson
471-479 West Coast Road Glen Eden
48 Boathouse Bay Lane Snells Beach 0982
48 Borich Road Sunnyvale
48 Borich Road Sunnyvale
48 Byron Avenue Takapuna 0622
48 Clovelly Road Bucklands Beach Auckland 2012
48 Clover Drive Massey
48 Kahui Parade DRURY 2578
48 Rata Street New Lynn
48 Saltaire Street Avondale Auckland 1026
48 Sunny Brae Crescent Westmere Auckland 1022
48 Trimdon Street Randwick Park 2105
48 Wright Road Point Chevalier Auckland 1022
483 Riddell Road Glendowie Auckland 1071
489 Riddell Road Glendowie Auckland 1071
48A Orion Street PAPAURA 2110
48A Sunny Brae Crescent Westmere Auckland 1022
48A Trimdon Street Randwick Park Auckland 2105
48B Orion Street PAPAURA 2110
48B Sunny Brae Crescent Westmere Auckland 1022
49 Alanbrooke Crescent Avondale Auckland 0600
49 Boyes Avenue Whenuapai 0618
49 Chilcott Road Henderson
49 Cliff Road St Heliers Auckland 1071
49 Kahui Parade DRURY 2578
49 Larne Avenue Pakuranga Heights 2010
49 Nor'East Drive Northcross 0632
49 Orion Street Papakura Auckland 2110
49 Saddleback Crescent PAPAURA 2110
49 Tennyson Avenue Takapuna 0622
49 Wilsher Crescent Henderson

496 Point Chevalier Road POINT CHEVALIER 1022
498 Point Chevalier Road Point Chevalier Auckland 1022
49A Cliff Road St Heliers Auckland 1071
49A Crestview Rise PAPAURA 2110
49A Queen Mary Avenue New Lynn
4A Millbrook Road Henderson
4A Shepherds Road Papakura Auckland 2110
4C Bournemouth Avenue Sandringham Auckland 1025
5 Alamein Place Pukekohe Auckland 2120
5 Aporo Tawhito Lane Henderson 0612
5 Atkin Avenue Mission Bay Auckland 1071
5 Blampied Road Otara Auckland 2023
5 Bloom Crescent Sunnyvale 0612
5 Brigantine Drive Beach Haven 0626
5 Cambie Avenue Red Beach 0932
5 Camphora Place Ranui
5 Coletta Lane Te Atatu South
5 Cracroft Street Otahuhu Auckland 1062
5 Foreshore Lane DRURY 2578
5 Horlicks Place Randwick Park Auckland 2105
5 Ingram Street Papakura Auckland
5 JaeDee Court HOWICK 2014
5 Kereti Lane MOUNT WELLINGTON 1060
5 Kiwi Esplanade Mangere Bridge Auckland 2022
5 Kohimarama Road Kohimarama Auckland 1071
5 Komako Lane DRURY 2579
5 Koura Drive Red Beach 0932
5 Lady McKenzie Mews CONIFER GROVE 2112
5 Mahia Road Manurewa Auckland 2102
5 Maumahara Way PAPATOETOE 2025
5 Mays Road Te Papapa Auckland 1061
5 Miromiro Lane DRURY 2579
5 Patros Place Bucklands Beach Auckland 2012
5 Peacock Street Glendowie Auckland 1071
5 Pepperdine Place Albany 0632
5 Reitu Rise STONEFIELDS 1072
5 Rue d' Amarres Hobbs Bay 0930
5 Saddleback Crescent PAPAURA 2110
5 Shackleton Road MOUNT EDEN 1024
5 Shackleton Road MOUNT EDEN 1024
5 Townley Place Clover Park Auckland 2023
5 Trimdon Street Randwick Park Auckland 2105
5 Tuuhura Road PUKEKOHE 2120
5 Wairere Avenue Mount Albert Auckland 1025
5 Waterfront Road Mangere Bridge Auckland 2022
5 Whakaruru Lane DRURY 2578
5 Whawhaki Lane Kumeu 0810
5/13 Chilcott Road Henderson 0612
5/15 Rush Place MANGERE 2022
5/15 Rush Place MANGERE 2022
5/16 Brady Road OTAHUHU 1062
5/16 Gaye Crescent OTARA 2023
5/16 Gaye Crescent OTARA 2023
5/164B Princes Street East OTAHUHU 1062
5/18 Tyburnia Avenue OWAIRAKA 1025
5/19 Gardner Avenue New Lynn

5/20 Bentley Road OTARA 2023
5/218 Lake Road Northcote 0627
5/224 Princes Street East OTAHUHU 1062
5/36 Brady Road OTAHUHU 1062
5/36 Brady Road OTAHUHU 1062
5/72 Alfriston Road MANUREWA 2102
50 Boathouse Bay Lane Snells Beach 0982
50 Clovelly Road Bucklands Beach Auckland 2012
50 Clover Drive Massey
50 Kahui Parade DRURY 2578
50 Kingdale Road Henderson
50 Orion Street Papakura Auckland 2110
50 Trimdon Street Randwick Park Auckland 2105
50 Verdale Circle Glen Eden
500 Point Chevalier Road Point Chevalier Auckland 1022
500S Pakuranga Road Pakuranga Auckland 2012
50-68 Harbour Village Drive Hobbs Bay 0930
50A Rata Street New Lynn
50A Trimdon Street Randwick Park Auckland 2105
50C Eastdale Road Avondale Auckland 1026
51 Boyes Avenue Whenuapai 0618
51 Chilcott Road Henderson
51 Cliff Road St Heliers Auckland 1071
51 Fantail Place AVONDALE 0600
51 Kahui Parade DRURY 2578
51 Kiwi Esplanade Mangere Bridge Auckland 2022
51 Maketu Road DRURY 2579
51 Roys Road Weymouth Auckland 2103
51 Saddleback Crescent PAPAURA 2110
51 Tennyson Avenue Takapuna 0622
51 Wilsher Crescent Henderson
510 Great South Road Papatoetoe 2025
51A Kawerau Avenue Devonport 0624
52 Clovelly Road Bucklands Beach Auckland 2012
52 Clover Drive Massey
52 Coburg Street Henderson
52 Greenmeadows Avenue Manurewa Auckland 2102
52 Kahui Parade DRURY 2578
52 Liberation Road PAPAURA 2110
52 Matawhanga Drive MANUREWA 2103
52 Orion Street Papakura Auckland 2110
52 Portland Road Remuera Auckland 1050
52 Rata Street New Lynn
52 Seabreeze Road Narrow Neck 0624
52 Trimdon Street Randwick Park Auckland 2105
52 Waiwera Road Waiwera 0950
52 Whakairo Crescent Hobbs Bay 0930
52 Whitney Street New Windsor Auckland 0600
52A Ennis Avenue PAKURANGA HEIGHTS 2010
53 Boyes Avenue Whenuapai 0618
53 Chilcott Road Henderson
53 Cliff Road St Heliers Auckland 1071
53 Kahui Parade DRURY 2578
53 Kawerau Avenue Devonport 0624
53 Mataroa Road Mount Wellington Auckland 1062
53 Queen Mary Avenue New Lynn

53 Saddleback Crescent PAPAURA 2110
53 Taunton Terrace Blockhouse Bay Auckland 0600
53 Tennyson Avenue Takapuna 0622
53 View Road Campbells Bay 0630
53 View Road Campbells Bay 0630
53 View Road Campbells Bay 0630
53 Vinistra Road Huapai 0891
53 Wilsher Crescent Henderson
53A Milford Road Milford 0620
54 Borich Road Sunnyvale
54 Clovelly Road Bucklands Beach Auckland 2012
54 Clover Drive Massey
54 Dundale Avenue Blockhouse Bay Auckland 0600
54 Greenmeadows Avenue MANUREWA 2102
54 Kahui Parade DRURY 2578
54 Kingdale Road Henderson
54 Liberation Road PAPAURA 2110
54 Matawhanga Drive MANUREWA 2103
54 Orion Street Papakura Auckland 2110
54 Portland Road Remuera Auckland 1050
54 Rata Street New Lynn
54 Seabreeze Road Narrow Neck 0624
54 Taikura Avenue Red Beach 0932
54 Trimdon Street Randwick Park Auckland 2105
54 Trimdon Street Randwick Park Auckland 2105
54 Waiwera Road Waiwera 0950
54A Andrew Road Howick Auckland 2010
54A Galloway Crescent FARM COVE 2012
54A Greenmeadows Avenue MANUREWA 2102
54B Galloway Crescent FARM COVE 2012
54B Galloway Crescent FARM COVE 2012
54C Galloway Crescent FARM COVE 2012
54F Parker Avenue New Lynn 0600
55 Boyes Avenue Whenuapai 0618
55 Craigs Way Hobsonville 0618
55 Eastburn Street PAPAURA 2110
55 Garelja Road Henderson
55 Kahui Parade DRURY 2578
55 Orion Street Papakura Auckland 2110
55 Steppe Drive DRURY 2579
55 Steppe Drive DRURY 2579
55 Wilsher Crescent Henderson
55A Eastburn Street PAPAURA 2110
55B Bond Crescent Forrest Hill 0620
55C Bond Crescent Forrest Hill 0620
55D Bond Crescent Forrest Hill 0620
56 Borich Road Sunnyvale
56 Clover Drive Massey
56 Dundale Avenue Blockhouse Bay Auckland 0600
56 Greenmeadows Avenue Manurewa Auckland 2102
56 Hamill Road Otara Auckland 2023
56 Kahui Parade DRURY 2578
56 Kahui Parade DRURY 2578
56 Liberation Road PAPAURA 2110
56 Matawhanga Drive MANUREWA 2103
56 Seabreeze Road Narrow Neck 0624

56 Taikura Avenue Red Beach 0932
56 Trimdon Street Randwick Park Auckland 2105
56 Waiwera Road Waiwera 0950
56 Whitehaven Road Glendowie Auckland 1071
569 Weymouth Road Weymouth Auckland 2103
56A Clovelly Road BUCKLANDS BEACH 2012
56A Orion Street PAPAURA 2110
56A Seabreeze Road Narrow Neck 0624
56B Clovelly Road BUCKLANDS BEACH 2012
56B Orion Street PAPAURA 2110
56C Nile Road Milford 0620
56C Orion Street PAPAURA 2110
57 Chilcott Road Henderson
57 Eastburn Street Papakura Auckland 2110
57 Kahui Parade DRURY 2578
57 Orion Street Papakura Auckland 2110
57 St Michaels Avenue Point Chevalier Auckland 1022
57 Taunton Terrace Blockhouse Bay Auckland 0600
57 View Road Campbells Bay 0630
57 Waiwera Road Waiwera 0950
57 Wilsher Crescent Henderson
573 Laurie Southwick Parade Hobbs Bay 0930
575 Laurie Southwick Parade Hobbs Bay 0930
577 Laurie Southwick Parade Hobbs Bay 0930
577A Laurie Southwick Parade Hobbs Bay 0930
579 Laurie Southwick Parade Hobbs Bay 0930
579 Mount Albert Road Royal Oak Auckland 1023
579A Laurie Southwick Parade Hobbs Bay 0930
57A Hamill Road OTARA 2023
57C Millen Avenue Pakuranga Auckland 2010
57D Millen Avenue Pakuranga Auckland 2010
58 Chichester Drive Papakura Auckland 2113
58 Clovelly Road Bucklands Beach 2012
58 Clovelly Road Bucklands Beach 2012
58 Dishys Road FLAT BUSH 2019
58 Greenmeadows Avenue Manurewa Auckland 2102
58 Hamill Road Otara Auckland 2023
58 John Main Drive DRURY 2579
58 Kahui Parade DRURY 2578
58 Matawhanga Drive MANUREWA 2103
58 Seabreeze Road Narrow Neck 0624
58 Taikura Avenue Red Beach 0932
58 The Esplanade EASTERN BEACH 2012
58 Trimdon Street Randwick Park Auckland 2105
58 Whitehaven Road Glendowie Auckland 1071
581 Laurie Southwick Parade Hobbs Bay 0930
581A Laurie Southwick Parade Hobbs Bay 0930
583 Laurie Southwick Parade Hobbs Bay 0930
583A Laurie Southwick Parade Hobbs Bay 0930
585 Laurie Southwick Parade Hobbs Bay 0930
58A Hope Farm Avenue Pakuranga Heights Auckland 2010
58B Whitehaven Road Glendowie Auckland 1071
59 Chilcott Road Henderson
59 Cliff Road St Heliers Auckland 1071
59 Eastburn Street Papakura Auckland 2110
59 Hamill Road Otara Auckland 2023

59 Kahui Parade DRURY 2578
59 Orion Street Papakura Auckland 2110
59 St Michaels Avenue Point Chevalier Auckland 1022
59 Taunton Terrace Blockhouse Bay Auckland 0600
59 West Harbour Drive West Harbour
5A Alamein Place Pukekohe Auckland 2120
5B Earlswoth Road Mangere East Auckland 2024
5B Margate Road Blockhouse Bay Auckland 0600
5C Margate Road Blockhouse Bay Auckland 0600
6 Alamein Place Pukekohe Auckland 2120
6 Battersby Avenue Mount Roskill Auckland 1041
6 Blampied Road Otara Auckland 2023
6 Blethyn Place Te Atatu South
6 Bond Street Otara Auckland 2023
6 Church Street Onehunga Auckland 1061
6 Civic Place Waiuku Auckland 2123
6 Durrant Place New Lynn
6 Durrant Place New Lynn
6 Faithful Drive DRURY 2578
6 Ferguson Road Otara Auckland 2023
6 Foreshore Lane DRURY 2578
6 Gubb Place Otara Auckland 2023
6 Hastings Road Mairangi Bay 0630
6 Hato Road Hobsonville 0616
6 Horlicks Place Randwick Park Auckland 2105
6 Kari Lane Kumeu 0810
6 Kawapani Lane Kumeu 0810
6 Kiwi Esplanade Mangere Bridge Auckland 2022
6 Komako Lane DRURY 2579
6 Kuparu Lane Red Beach 0932
6 Lignite Street DRURY 2579
6 Lilac Grove Hillsborough Auckland 1042
6 Lilford Place Half Moon Bay 2012
6 Lincoln Garden Close Massey
6 Miro Street Drury Auckland
6 Miro Street New Lynn
6 Miromiro Lane DRURY 2579
6 Parenga Lane Kumeu 0810
6 Sage Road Kohimarama Auckland 1071
6 Sauterne Road Huapai 0892
6 Shepherds Road Papakura Auckland 2110
6 St Leonards Road Mount Eden Auckland 1024
6 Stainton Place Otara Auckland 2023
6 The Rise St Heliers Auckland 1071
6 The Strand Waiwera 0950
6 Trimdon Street Randwick Park 2105
6 Tuamaka Lane Hobsonville 0618
6 Waiwera Road Waiwera 0950
6 Waiwera Road Waiwera 0950
6 Waterfront Road Mangere Bridge Auckland 2022
6 Wing Crescent Papakura Auckland 2110
6/13 Chilcott Road Henderson 0612
6/15 Rush Place MANGERE 2022
6/16 Brady Road OTAHUHU 1062
6/16 Gaye Crescent OTARA 2023
6/164B Princes Street East OTAHUHU 1062

6/20 Bentley Road OTARA 2023
6/224 Princes Street East OTAHUHU 1062
6/36 Brady Road OTAHUHU 1062
6/36 Brady Road OTAHUHU 1062
6/72 Alfriston Road MANUREWA 2102
60 Chichester Drive Papakura Auckland 2113
60 Fort Lincoln Loop HINGAIA 2580
60 Greenmeadows Avenue Manurewa Auckland 2102
60 Hamill Road Otara Auckland 2023
60 John Main Drive DRURY 2579
60 Kahui Parade DRURY 2578
60 Matawhanga Drive MANUREWA 2103
60 Totara Road Te Atatu Peninsula
60 Trimdon Street Randwick Park Auckland 2105
60 Wallace Street Herne Bay Auckland 1011
60A Oakdale Road Hillsborough Auckland 1041
61 Aldersgate Road Hillsborough Auckland 1042
61 Butterworth Drive Glendene
61 Chilcott Road Henderson
61 Eastburn Street Papakura Auckland 2110
61 Greenmeadows Avenue Manurewa Auckland 2102
61 Hamill Road Otara Auckland 2023
61 Kahui Parade DRURY 2578
61 Orion Street Papakura Auckland 2110
61 Smythe Road Henderson
61 St Michaels Avenue Point Chevalier Auckland 1022
61B Holly Street AVONDALE 1026
61B Millen Avenue Pakuranga Auckland 2010
62 Borich Road Sunnyvale
62 Chichester Drive Papakura Auckland 2113
62 Clovelly Road Bucklands Beach Auckland 2012
62 Fort Lincoln Loop HINGAIA 2580
62 Greenmeadows Avenue Manurewa 2102
62 Hamill Road Otara Auckland 2023
62 John Main Drive DRURY 2579
62 Kahui Parade DRURY 2578
62 Paretaiuru Crescent PAPAURA 2110
62 Rowandale Avenue MANUREWA 2102
62 Trimdon Street Randwick Park Auckland 2105
62A Kesteven Avenue GLENDOWIE 1071
62A Youngs Road Papakura Auckland 2110
63 Eastburn Street Papakura Auckland 2110
63 Glidepath Road Hobsonville 0618
63 Greenmeadows Avenue Manurewa Auckland 2102
63 Orion Street Papakura Auckland 2110
63 Smythe Road Henderson
63 Woodside Road Massey 0614
63B Woodside Road Massey 0614
63C Woodside Road Massey 0614
64 Clovelly Road Bucklands Beach Auckland 2012
64 Glendale Road Glen Eden
64 Greenmeadows Avenue Manurewa Auckland 2102
64 Hamill Road Otara Auckland 2023
64 Kahui Parade DRURY 2578
64 Mapou Road Hobsonville 0618
64 Paretaiuru Crescent PAPAURA 2110

64 Sentinel Road Herne Bay Auckland 1011
64 Sentinel Road Herne Bay Auckland 1011
64 Sentinel Road Herne Bay Auckland 1011
64 Trimdon Street Randwick Park Auckland 2105
64A Wainui Avenue Point Chevalier Auckland 1022
64B Coxhead Road MANUREWA 2102
64C Coxhead Road MANUREWA 2102
64D Coxhead Road MANUREWA 2102
64E Coxhead Road MANUREWA 2102
64F Coxhead Road MANUREWA 2102
64R Fir Street WATERVIEW 1026
65 Chilcott Road Henderson 0612
65 Eastburn Street Papakura Auckland 2110
65 Glidepath Road Hobsonville 0618
65 Greenmeadows Avenue Manurewa Auckland 2102
65 Hamill Road Otara Auckland 2023
65 Kahui Parade DRURY 2578
65 Orion Street Papakura Auckland 2110
65 Smythe Road Henderson
65 St Michaels Avenue Point Chevalier Auckland 1022
65A Chilcott Road Henderson 0612
65A Woodglen Road Glen Eden
65A Woodside Road Massey 0614
65D Caronia Crescent Lynfield Auckland 1042
66 Clovelly Road Bucklands Beach Auckland 2012
66 Ferguson Street Manurewa Auckland 2102
66 Greenmeadows Avenue Manurewa Auckland 2102
66 Hamill Road Otara Auckland 2023
66 Kahui Parade DRURY 2578
66 Mapou Road Hobsonville 0618
66 Trimdon Street Randwick Park Auckland 2105
66D Coxhead Road MANUREWA 2102
67 Frederick Street Hillsborough Auckland 1042
67 Greenmeadows Avenue MANUREWA 2102
67 Hamill Road Otara Auckland 2023
67 Kahui Parade DRURY 2578
67 Orion Street Papakura Auckland 2110
67 Routley Drive Glen Eden
67 Smythe Road Henderson
67 St Michaels Avenue Point Chevalier Auckland 1022
67 Taunton Terrace Blockhouse Bay Auckland 0600
67A Greenmeadows Avenue MANUREWA 2102
67A Vodanovich Road Te Atatu South
67B Greenmeadows Avenue MANUREWA 2102
68 Clovelly Road Bucklands Beach Auckland 2012
68 Ferguson Street Manurewa Auckland 2102
68 Greenmeadows Avenue Manurewa Auckland 2102
68 Hamill Road Otara Auckland 2023
68 Haycock Avenue Mount Roskill Auckland 1041
68 Kahui Parade DRURY 2578
68 Mapou Road Hobsonville 0618
68 Trimdon Street Randwick Park Auckland 2105
68 Waiatarua Road Remuera Auckland 1050
689 Great South Road Otahuhu Auckland 1062
68A St Michaels Avenue Point Chevalier Auckland 1022
69 Cliff Road St Heliers Auckland 1071

69 Frank Grey Place Otahuhu Auckland 1062
69 Frederick Street Hillsborough Auckland 1042
69 Greenmeadows Avenue Manurewa Auckland 2102
69 Hamill Road Otara Auckland 2023
69 Kahui Parade DRURY 2578
69 Orion Street Papakura Auckland 2110
69 Smiths Avenue Papakura Auckland 2110
69 West End Road Herne Bay 1022
69A Frederick Street Hillsborough Auckland 1042
69A Vodanovich Road Te Atatu South
69A Vodanovich Road Te Atatu South
69B Millen Avenue PAKURANGA 2010
69C Millen Avenue PAKURANGA 2010
6A Arkley Avenue Farm Cove Auckland 2012
6A Browns Bay Road Rothesay Bay 0630
6A Church Street OTAHUHU 1062
6A Fairsea Place Mount Roskill Auckland 1042
6A MacPherson Street MEADOWBANK 1072
6A St Leonards Road Mount Eden Auckland 1024
6A St Leonards Road Mount Eden Auckland 1024
6A Tahatai Street Otahuhu Auckland 1062
6A The Parade Bucklands Beach Auckland 2012
6A The Parade Bucklands Beach Auckland 2012
6B Arkley Avenue Farm Cove Auckland 2012
6B Fairsea Place Mount Roskill Auckland 1042
6B Fairsea Place Mount Roskill Auckland 1042
6B MacPherson Street MEADOWBANK 1072
6B Millbrook Road Henderson
6B St Leonards Road Mount Eden Auckland 1024
6B The Parade Bucklands Beach Auckland 2012
6C MacPherson Street MEADOWBANK 1072
6F Hughs Way FLAT BUSH 2016
7 Alamein Place Pukekohe Auckland 2120
7 Atkin Avenue Mission Bay Auckland 1071
7 Bedford Street Te Atatu South
7 Blampied Road Otara Auckland 2023
7 Bond Street Otara Auckland 2023
7 Brigantine Drive Beach Haven 0626
7 Cambie Avenue Red Beach 0932
7 Camphora Place Ranui
7 Coletta Lane Te Atatu South
7 Donegal Street Avondale Auckland 0600
7 Eccles Place Otara Auckland 2023
7 Epping Road Henderson 0610
7 Fowler Avenue Mount Albert Auckland 1025
7 Horlicks Place Randwick Park Auckland 2105
7 Kelvin Crescent Te Atatu Peninsula
7 Komako Lane DRURY 2579
7 Lady McKenzie Mews CONIFER GROVE 2112
7 Liban Place Massey 0614
7 Mahia Road Manurewa Auckland 2102
7 Maumahara Way PAPATOETOE 2025
7 Mays Road Te Papapa Auckland 1061
7 Melody Lane Otahuhu Auckland 1062
7 Miro Street Drury Auckland 2113
7 Paine Place Mangere Auckland 2022

7 Patros Place Bucklands Beach Auckland 2012
7 Pepperdine Place Albany 0632
7 Riukiuta Avenue THREE KINGS 1024
7 Rivulet Way Hobsonville 0616
7 Rue d' Amarres Hobbs Bay 0930
7 Saddleback Crescent PAPAKURA 2110
7 Shackleton Road Mount Eden Auckland 1024
7 Trimdon Street Randwick Park 2105
7 Tuuhura Road PUKEKOHE 2120
7 Waterfront Road Mangere Bridge Auckland 2022
7 Whakaruru Lane DRURY 2578
7 Whawhaki Lane Kumeu 0810
7/11 Seymour Road Sunnyvale 0612
7/13 Chilcott Road Henderson 0612
7/15 Rush Place MANGERE 2022
7/16 Brady Road OTAHUHU 1062
7/16 Gaye Crescent OTARA 2023
7/20 Bentley Road OTARA 2023
7/224 Princes Street East OTAHUHU 1062
7/36 Brady Road OTAHUHU 1062
7/36 Brady Road OTAHUHU 1062
7/62 Coxhead Road MANUREWA 2102
7/72 Alfriston Road MANUREWA 2102
70 Borich Road Sunnyvale 0612
70 Clovelly Road Bucklands Beach Auckland 2012
70 Ferguson Street Manurewa Auckland 2102
70 Hamill Road Otara Auckland 2023
70 Kahui Parade DRURY 2578
70 Kokihi Lane Snells Beach 0920
70 Mapou Road Hobsonville 0618
70 Savoy Road Glen Eden
70 Trimdon Street Randwick Park Auckland 2105
70-88 Harbour Village Drive Hobbs Bay 0930
71 Kahui Parade DRURY 2578
71 Ninth View Avenue BEACHLANDS 2571
71 Smiths Avenue Papakura Auckland 2110
71 West End Road Herne Bay 1022
71A Sarsfield Street Herne Bay Auckland 1011
71B Caronia Crescent Lynfield Auckland 1042
72 Borich Road Sunnyvale
72 Clovelly Road Bucklands Beach Auckland 2012
72 Ferguson Street Manurewa Auckland 2102
72 Hamill Road Otara Auckland 2023
72 Kahui Parade DRURY 2578
72 Mapou Road Hobsonville 0618
72A Borich Road Sunnyvale
72A Matawhanga Drive MANUREWA 2103
72A Matawhanga Drive MANUREWA 2103
72A Smythe Road Henderson 0612
73 Archboyd Avenue Mangere East Auckland 2024
73 Greville Road Pinehill 0632
73 Kahui Parade DRURY 2578
73 Smythe Road Henderson
73 West End Road HERNE BAY 1022
732A-732B Mount Eden Road Mount Eden Auckland 1024
74 Clovelly Road Bucklands Beach Auckland 2012

74 Ferguson Street Manurewa Auckland 2102
74 Hamill Road Otara Auckland 2023
74 Kahui Parade DRURY 2578
74 Mapou Road Hobsonville 0618
74 Trimdon Street Randwick Park Auckland 2105
75 Archboyd Avenue Mangere East Auckland 2024
75 Frederick Street Hillsborough Auckland 1042
75 Frederick Street Hillsborough Auckland 1042
75 Kahui Parade DRURY 2578
75 West End Road HERNE BAY 1022
75A Edgewater Drive PAKURANGA 2010
76 Clovelly Road Bucklands Beach Auckland 2012
76 Hamill Road Otara Auckland 2023
76 Mapou Road Hobsonville 0618
76 St Michaels Avenue Point Chevalier Auckland 1022
76 St Michaels Avenue Point Chevalier Auckland 1022
76 Wainui Avenue Point Chevalier Auckland 1022
76B Borich Road Sunnyvale 0612
76C Borich Road Sunnyvale 0612
77 Kahui Parade DRURY 2578
77 Smythe Road Henderson
77-87 Waterside Crescent Hobbs Bay 0930
77A Glendale Road Glen Eden
77A Ngapuhi Road REMUERA 1050
77C Buckland Road MANGERE EAST 2024
78 Clovelly Road Bucklands Beach Auckland 2012
78 Clovelly Road Bucklands Beach Auckland 2012
78 Hamill Road Otara Auckland 2023
78 Mapou Road Hobsonville 0618
79 Ninth View Avenue BEACHLANDS 2571
79A Herdman Street Waterview Auckland 1026
79A Ngapuhi Road Remuera Auckland 1050
7A Alamein Place Pukekohe Auckland 2120
7A Bedford Street Te Atatu South
7A Bedford Street Te Atatu South
7A Bond Street Otara Auckland 2023
7A Coletta Lane Te Atatu South
7A Merwood Lane Devonport 0624
7A Pito Place Mangere Auckland 2022
7A Shackleton Road Mount Eden Auckland 1024
7A Waterfront Road Mangere Bridge Auckland 2022
8 Ahutoetoe Road Pine Valley 0992
8 Bannockburn Road PAKAKURA 2113
8 Battersby Avenue MOUNT ROSKILL 1041
8 Beach Road Hobsonville 0618
8 Blampied Road Otara Auckland 2023
8 Blethyn Place Te Atatu South
8 Church Street OTAHUHU 1062
8 Civic Place Waiuku Auckland 2123
8 Commodore Parry Road Castor Bay 0620
8 Eulogy Place Randwick Park 2105
8 Eulogy Place Randwick Park 2105
8 Eulogy Place Randwick Park 2105
8 Foreshore Lane DRURY 2578
8 Foreshore Lane DRURY 2578
8 Gaye Crescent Otara Auckland 2023

8 Golden Fall Road Hobsonville 0616
8 Gubb Place Otara Auckland 2023
8 Hastings Road Mairangi Bay 0630
8 Horlicks Place Randwick Park Auckland 2105
8 Ingram Street Papakura Auckland
8 Kari Lane Kumeu 0810
8 Kawapani Lane Kumeu 0810
8 Kiwi Esplanade Mangere Bridge Auckland 2022
8 Komako Lane DRURY 2579
8 Kuparu Lane Red Beach 0932
8 Lincoln Garden Close Massey
8 Lister Street Point Chevalier Auckland 1022
8 MacPherson Street Meadowbank Auckland 1072
8 Marlborough Crescent Hobsonville 0618
8 Miro Street Drury Auckland 2113
8 Miromiro Lane DRURY 2579
8 Montana Avenue Murrays Bay 0630
8 Old Wairoa Road PAPAURA 2110
8 Paetahi Lane Northcote 0627
8 Parenga Lane Kumeu 0810
8 Pepperdine Place Albany 0632
8 Pixie Place Pakuranga Heights Auckland 2010
8 Sauterne Road Huapai 0892
8 Shahkot Way PAPATOETOE 2025
8 Stainton Place Otara Auckland 2023
8 Tahatai Street Otahuhu Auckland 1062
8 The Rise St Heliers Auckland 1071
8 The Strand Waiwera 0950
8 Tuamaka Lane Hobsonville 0618
8 Wairere Avenue Mount Albert Auckland 1025
8 Waiwera Road Waiwera 0950
8 Wallis Esplanade HINGAIA 2580
8 Wallis Esplanade HINGAIA 2580
8 Wing Crescent Papakura Auckland 2110
8/13 Chilcott Road Henderson 0612
8/15 Old Wairoa Road PAPAURA 2110
8/16 Brady Road OTAHUHU 1062
8/20 Bentley Road OTARA 2023
8/224 Princes Street East OTAHUHU 1062
8/36 Brady Road OTAHUHU 1062
8/36 Brady Road OTAHUHU 1062
8/62 Coxhead Road MANUREWA 2102
8/72 Alfriston Road MANUREWA 2102
80 Alford Street WATERVIEW 1026
80 Clovelly Road Bucklands Beach 2012
80 Clovelly Road Bucklands Beach 2012
80 Hamill Road Otara Auckland 2023
80 Trimdon Street Randwick Park Auckland 2105
80R Curran Street Herne Bay Auckland 1011
81 Ninth View Avenue BEACHLANDS 2571
81 Taunton Terrace Blockhouse Bay Auckland 0600
81A Cambridge Terrace Papatoetoe Auckland 2025
81A Cambridge Terrace Papatoetoe Auckland 2025
81B Cambridge Terrace Papatoetoe Auckland 2025
82 Alford Street WATERVIEW 1026
82 Alverston Street Waterview Auckland 1026

82 Beachcroft Avenue Onehunga Auckland 1061
82 Clovelly Road Bucklands Beach Auckland 2012
82 Dundale Avenue Blockhouse Bay Auckland 0600
82 Hamill Road Otara Auckland 2023
82 Trimdon Street Randwick Park Auckland 2105
83 Bellfield Road PAPAKURA 9999
83 Cambridge Terrace Papatoetoe Auckland 2025
83 Smythe Road Henderson
83 Taunton Terrace Blockhouse Bay Auckland 0600
83 Taunton Terrace Blockhouse Bay Auckland 0600
83 Wainui Avenue Point Chevalier Auckland 1022
83 White Swan Road Mount Roskill Auckland 1041
83 White Swan Road Mount Roskill Auckland 1041
83 White Swan Road Mount Roskill Auckland 1041
83B White Swan Road Mount Roskill Auckland 1041
84 Alford Street WATERVIEW 1026
84 Alverston Street Waterview Auckland 1026
84 Clovelly Road Bucklands Beach Auckland 2012
84B Eskdale Road Birkdale 0626
85 Bellfield Road PAPAKURA 9999
85 Ninth View Avenue BEACHLANDS 2571
85A Commissariat Road Mount Wellington Auckland 1060
85A Goodall Street Hillsborough Auckland 1042
85A Oteha Valley Road Fairview Heights 0632
86 Alford Street WATERVIEW 1026
86 Clovelly Road Bucklands Beach Auckland 2012
86 Joshua Carder Drive Hobsonville 0618
86 Trimdon Street Randwick Park Auckland 2105
87 Bellfield Road PAPAKURA 9999
87 Ninth View Avenue BEACHLANDS 2571
87 Shepherds Bush Road DRURY 2579
87A Waiatarua Road Remuera Auckland 1050
88 Alford Street WATERVIEW 1026
88 Clovelly Road Bucklands Beach Auckland 2012
88 Trimdon Street Randwick Park Auckland 2105
888D Great South Road MANUKAU CENTRAL 2104
88R Limestone Drive Hobsonville 0616
88R Limestone Drive Hobsonville 0616
89 Bellfield Road PAPAKURA 9999
89 Frederick Street Hillsborough Auckland 1042
89 Lynbrooke Avenue Blockhouse Bay Auckland 0600
89 Ninth View Avenue BEACHLANDS 2571
89 Shepherds Bush Road DRURY 2579
890A Great South Road MANUKAU CENTRAL 2104
890A Great South Road MANUKAU CENTRAL 2104
890B Great South Road MANUKAU CENTRAL 2104
890C Great South Road MANUKAU CENTRAL 2104
890D Great South Road MANUKAU CENTRAL 2104
8A Bond Street Otara Auckland 2023
8A Daphne Road Papatoetoe Auckland 2025
8A Durrant Place New Lynn
8A Glenford Lane Te Atatu Peninsula
8A Old Wairoa Road PAPAKURA 2110
8B Church Street OTAHUHU 1062
8B Durrant Place New Lynn
8R Dundale Avenue Blockhouse Bay Auckland 0600

9 Alamein Place Pukekohe Auckland 2120
9 Bannockburn Road PAPAURA 2113
9 Bellamy Place Blockhouse Bay Auckland 0600
9 Blampied Road Otara Auckland 2023
9 Bloom Crescent Sunnyvale 0612
9 Cambie Avenue Red Beach 0932
9 Camphora Place Ranui
9 Coletta Lane Te Atatu South
9 Foreshore Lane DRURY 2578
9 Ifield Court East Tamaki Auckland 2013
9 Ingram Street Papakura Auckland
9 Kautawa Lane Massey 0614
9 Kautawa Lane Massey 0614
9 Kiwi Esplanade Mangere Bridge Auckland 2022
9 La Bella Road Hobsonville 0616
9 Lady McKenzie Mews CONIFER GROVE 2112
9 Liban Place Massey 0614
9 Mahia Road Manurewa Auckland 2102
9 Margan Avenue New Lynn
9 Maumahara Way PAPATOETOE 2025
9 Mount Roskill Road Mount Roskill Auckland 1041
9 Paine Place Mangere Auckland 2022
9 Peony Mews Albany 0632
9 Pepperdine Place Albany 0632
9 Poutawa Lane PUKEKOHE 2679
9 Rue d' Amarres Hobbs Bay 0930
9 Saddleback Crescent PAPAURA 2110
9 Serwayne Place Sunnyvale
9 Standish Place Bayview 0629
9 Tiel Lane Papakura Auckland 2110
9 Trimdon Street Randwick Park 2105
9 Trimdon Street Randwick Park 2105
9 Tuuhura Road PUKEKOHE 2120
9 Wairere Avenue Mount Albert Auckland 1025
9 Waterfront Road MANGERE BRIDGE 2022
9 Whakaruru Lane DRURY 2578
9 Whawhaki Lane Kumeu 0810
9 Whawhaki Lane Kumeu 0810
9 Young Crescent Drury Auckland 2113
9/13 Chilcott Road Henderson 0612
9/16 Brady Road OTAHUHU 1062
9/20 Bentley Road OTARA 2023
9/36 Brady Road OTAHUHU 1062
9/36 Brady Road OTAHUHU 1062
9/62 Coxhead Road MANUREWA 2102
90 Alford Street WATERVIEW 1026
90 Clovelly Road Bucklands Beach Auckland 2012
90 Trimdon Street Randwick Park Auckland 2105
90-98 Harbour Village Drive Hobbs Bay 0930
90A Tiroroa Avenue Te Atatu South
91 Gribblehirst Road Sandringham Auckland 1025
91 Ninth View Avenue BEACHLANDS 2571
91 Shepherds Bush Road DRURY 2579
91 Smythe Road Henderson
92 Alford Street WATERVIEW 1026
92 Borich Road Sunnyvale

92 Clovelly Road Bucklands Beach 2012
92 Meadowbank Road Meadowbank Auckland 1072
92 Te Napi Drive CONIFER GROVE 2112
92A Ngatarunga Road Devonport 0624
93 Dignan Street Point Chevalier Auckland 1022
93 Ninth View Avenue BEACHLANDS 2571
93 Shepherds Bush Road DRURY 2579
93 Waiatarua Road Remuera Auckland 1050
94 Alford Street WATERVIEW 1026
94 Clovelly Road Bucklands Beach Auckland 2012
94 Trimdon Street Randwick Park Auckland 2105
94A Clovelly Road Bucklands Beach Auckland 2012
94A Tiroroa Avenue Te Atatu South
95 Ninth View Avenue BEACHLANDS 2571
95 Saddleback Rise Murrays Bay 0630
95A Beresford Street Bayswater 0622
95A Riverpark Crescent Henderson 0610
96 Alford Street WATERVIEW 1026
96 Clovelly Road Bucklands Beach Auckland 2012
96 Harbour View Road Point Chevalier Auckland 1022
96 Papatupu Way Kumeu 0810
96 Trimdon Street Randwick Park Auckland 2105
96B Alfred Street Onehunga 1061
97 Kahui Parade DRURY 2578
97 Ninth View Avenue BEACHLANDS 2571
97 Ninth View Avenue BEACHLANDS 2571
97B Pooks Road Ranui
98 Alford Street WATERVIEW 1026
98 Borich Road Sunnyvale
99 Arimu Road Papakura Auckland 2110
99 Ninth View Avenue BEACHLANDS 2571
99 Ninth View Avenue BEACHLANDS 2571
9A Waterfront Road Mangere Bridge Auckland 2022
9B Kiwi Esplanade Mangere Bridge Auckland 2022
9B Waterfront Road MANGERE BRIDGE 2022
Alford Street WATERVIEW 1026
Bremner Road DRURY 2578
Bremner Road DRURY 2578
Evergreen Parade HINGAIA 2113
Glendale Road Glen Eden
Glendale Road Glen Eden
Glendale Road Glen Eden
Haverstock Road Sandringham Auckland 1025
Inver Street Glen Eden
Kokihi Lane Snells Beach 0920
Kokihi Lane Snells Beach 0920
Kumerahou Street Kumeu 0810
Marlborough Crescent Hobsonville 0618
McEldownie Road DRURY 2579
PT SECS 42 & 43 BLK VI OTAHUHU SURVEY DISTRICT SO Cracroft Street Otahuhu 1062
Pump Station NS6756 4Z Sage Road Kohimarama 1071
Rata Street New Lynn
Rates 46 Boundary Road Blockhouse Bay Auckland 0600
Rates 48 Boundary Road Blockhouse Bay Auckland 0600
Saltburn Road Milford 0620
SO 401920 McManus Place Otahuhu 1062

SO 401920 McManus Place Otahuhu 1062
SO 401920 McManus Place Otahuhu 1062
Thomas Road FLAT BUSH 2016
Tirimoana Road Te Atatu South 0602
Titchener Street New Lynn
Whakato Avenue Kumeu 0810
Woodglen Road Glen Eden
Woodglen Road Glen Eden 0602
Youngs Road Papakura Auckland 2110

Properties Down-zoned to MHU due to flood hazard

1 Korokio Lane Henderson 0612
1 Takapu Street Henderson 0612
1 Wyon Way Flat Bush Auckland 2016
1/19 Glenorchy Street Glen Eden
1/20 Lucinda Place Glen Eden
1/21 Henderson Valley Road Henderson 0612
1/42 Wingate Street Avondale Auckland 0600
10/11 Arran Street Avondale Auckland 0600
10A Victor Street Avondale Auckland 1026
10B Millbrook Road Henderson
11A Donegal Street Avondale Auckland 0600
11B Donegal Street Avondale Auckland 0600
12 King Edward Avenue Papakura Auckland
12 Serwayne Place Sunnyvale
1222A New North Road Mount Albert Auckland 1025
12A Woodglen Road Glen Eden
12C Angelo Avenue HOWICK 2014
12E Angelo Avenue HOWICK 2014
13 Reitu Rise STONEFIELDS 1072
13 Rush Place Mangere Auckland 2022
13 Seymour Road Sunnyvale
131 Sunnynook Road Forrest Hill 0620
133A Sunnynook Road Forrest Hill 0620
135 Sunnynook Road Forrest Hill 0620
137 Great South Road Manurewa 2102
137 Sunnynook Road Forrest Hill 0620
139 Sunnynook Road Forrest Hill 0620
14 Reid Road New Lynn
14 Serwayne Place Sunnyvale
14A Woodglen Road Glen Eden
14F Kaponga Crescent New Lynn 0600
15 Nikau Street New Lynn
158 Sunnynook Road Sunnynook 0620
16 Benita Place Sunnyvale
16 Dellwood Avenue Henderson
16 Reid Road New Lynn
160 Sunnynook Road Sunnynook 0620
162 Sunnynook Road Sunnynook 0620
16B Woodglen Road Glen Eden
17 Rush Place Mangere Auckland 2022
17 Wilsher Crescent Henderson
17C Kereru Street Henderson
18 Wilsher Crescent Henderson
19 Kereru Street Henderson
19 Railway Street West Papakura Auckland 2110
19 Seymour Road Sunnyvale

19A Hutchinsons Road Highland Park Auckland 2014
19C Railway Street West Papakura Auckland 2110
1A St Leonards Road Mount Eden Auckland 1024
1A St Leonards Road Mount Eden Auckland 1024
2 Ahiriri Avenue Avondale Auckland 0600
2 Kaimata Street ST HELIERS 1071
2 Koraha Street REMUERA 1050
2 Woodvale Road Glen Eden
2/36 Caen Road Panmure Auckland 1072
2/42 Wingate Street Avondale Auckland 0600
20 Kapiti Place Sunnynook 0620
2086A Great North Road Avondale Auckland 0600
2088 Great North Road Avondale Auckland 0600
21 Pine Street New Lynn
21 Seymour Road Sunnyvale
2157B Great North Road Avondale Auckland 0600
219 Bremner Road DRURY 2578
21A Highbury Street Avondale Auckland 1026
21A View Road Henderson
21B Highbury Street Avondale Auckland 1026
21C Highbury Street Avondale Auckland 1026
22 Lucinda Place Glen Eden
22 Pine Street New Lynn
23 Kenderdine Road Papatoetoe Auckland 2025
236 Sandringham Road Sandringham Auckland 1025
238 Sandringham Road Sandringham Auckland 1025
23A Kenderdine Road Papatoetoe Auckland 2025
23A Weymouth Road Manurewa Auckland 2102
23B Kenderdine Road Papatoetoe Auckland 2025
23C Kenderdine Road Papatoetoe Auckland 2025
24 Kereru Street Henderson
24 Korokio Lane Henderson 0612
24 Totaravale Drive Totara Vale 0629
24 Wilsher Crescent Henderson
241 Sandringham Road Sandringham Auckland 1025
255 Murphys Road FLAT BUSH 2016
256 Sandringham Road Sandringham Auckland 1025
258 Sandringham Road Sandringham Auckland 1025
26 Tahi Terrace Glen Eden
26A Tahi Terrace Glen Eden
28 Wilsher Crescent Henderson
28-30 The Avenue Lynfield Auckland 1042
28F Glenorchy Street Glen Eden
28H Glenorchy Street Glen Eden
29B Robert Burke Place Henderson 0612
2B Kaimata Street ST HELIERS 1071
3 Hutchinsons Road Highland Park Auckland 2014

3 Korokio Lane Henderson 0612
3 Reitu Rise STONEFIELDS 1072
30 Millbrook Road Henderson
327A Pakuranga Road Pakuranga Auckland 2010
33 Glendale Road Glen Eden
33 Meg Lane Glen Eden 0602
33A St Lukes Road St Lukes Auckland 1025
340A West Coast Road Glen Eden
36 Line Road Glen Innes Auckland 1072
36A Line Road Glen Innes Auckland 1072
37 Line Road Glen Innes Auckland 1072
38 Grahame Breed Drive MOUNT ROSKILL 1042
38 Line Road Glen Innes Auckland 1072
38A Line Road Glen Innes Auckland 1072
39 Napier Street Freemans Bay Auckland 1011
3A Kelvyn Grove Hill Park 2102
4 Carlton Road Pukekohe Auckland 2120
4 Parrish Road Sandringham Auckland 1025
40 Newington Road Henderson
40B Rata Street New Lynn
41B Ernie Pinches Street Mount Roskill Auckland 1041
42B Wingate Street Avondale Auckland 0600
42C Wingate Street Avondale Auckland 0600
45 Gibraltar Crescent Parnell Auckland 1052
46C Millbrook Road Henderson
46M Millbrook Road Henderson
46N Millbrook Road Henderson
46P Millbrook Road Henderson
47 Barnea Circle Glen Eden
47 Gibraltar Crescent Parnell Auckland 1052
48 Millstream Drive Henderson
49A Newington Road Henderson
4A Purley Place Mangere Auckland 2022
5 Henderson Valley Road Henderson
5 Nevis Place Mangere Auckland 2022
5 Paine Place Mangere Auckland 2022
5/1 Arran Street Avondale Auckland 0600
5/8 Otahuri Crescent Remuera Auckland 1051
51B West Coast Road Glen Eden
52C Kings Road Panmure Auckland 1072
54 Kings Road Panmure Auckland 1072
56 Kings Road Panmure Auckland 1072
58 Oriana Avenue Lynfield Auckland 1042
583 Laurie Southwick Parade Hobbs Bay 0930
583A Laurie Southwick Parade Hobbs Bay 0930
59 Smythe Road Henderson
59 Wilsher Crescent Henderson

6 Carlton Road Pukekohe Auckland 2120
6 Lucinda Place Glen Eden
6 Purley Place Mangere Auckland 2022
6/11 Arran Street Avondale Auckland 0600
6/136 Taylors Road MOUNT ALBERT 1025
60 Oriana Avenue Lynfield Auckland 1042
61 Wilsher Crescent Henderson
62A Glendale Road Glen Eden
62A Line Road GLEN INNES 1072
62B Glendale Road Glen Eden
666B Whangaparaoa Road Stanmore Bay 0932
7 Ingram Street Papakura Auckland
7 Serwayne Place Sunnyvale
7/11 Arran Street Avondale Auckland 0600
7/136 Taylors Road MOUNT ALBERT 1025
70 Glendale Road Glen Eden 0602
709 Remuera Road Remuera Auckland 1050
71 Caronia Crescent Lynfield Auckland 1042
71A Caronia Crescent Lynfield Auckland 1042
72 Glendale Road Glen Eden 0602
72 Hall Avenue Otahuhu Auckland 1062
72 Smythe Road Henderson 0612
74 Glendale Road Glen Eden
76 Glendale Road Glen Eden
760 Mount Eden Road Mount Eden Auckland 1024
8 Ahiriri Avenue Avondale Auckland 0600
8 Carlton Road Pukekohe Auckland 2120
8 Fowler Avenue Mount Albert Auckland 1025
8 Koinaki Road STONEFIELDS 1072
8 Lucinda Place Glen Eden
8 Nevis Place Mangere Auckland 2022
8 Purley Place Mangere Auckland 2022
8 Victor Street Avondale Auckland 1026
8/10 Rimu Street New Lynn 0600
8/11 Arran Street Avondale Auckland 0600
8/136 Taylors Road MOUNT ALBERT 1025
8/9 Eastview Road GLEN INNES 1072
87 Smythe Road Henderson
9/11 Arran Street Avondale Auckland 0600
932 Mount Eden Road Three Kings Auckland 1024
934 Mount Eden Road Three Kings Auckland 1024
9A Oates Road Glen Eden
R 29B Glencoe Road Browns Bay 0630