

Version 1.0_Categorisation approach

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Categorisation Approach

Auckland Council has agreed with the Government to implement the government's categorisation framework (the Framework) for Auckland homes severely affected by the events over the Auckland Anniversary Weekend and Cyclone Gabrielle 2023 (severe weather events).

This document describes Auckland Council's nominated categorisation approach (Categorisation Approach) for application of the Framework.

1. Scope

1. Auckland Council's Categorisation Approach is part of a one-off, limited response to the exceptional circumstances of the severe weather events in 2023, and is not a permanent programme for future disaster relief.
2. The Categorisation Approach will be applied to residential properties¹ that have a legally established residential dwelling on them, and were affected by the severe weather events (Properties in Scope).
3. Auckland Council will make a Categorisation Decision about Properties in Scope on the basis of the Categorisation Approach set out below.

Overview of Categorisation Approach

4. In applying the Categorisation Approach to Properties in Scope, the council will:
 - (a) Assess whether there is "intolerable risk to life"² from flooding and/or landslides (risk assessment) for occupants of residential buildings on the property (not the land).
 - (b) Assess whether there is a feasible mitigation available to reduce the risk to life associated with the property to a tolerable level (feasibility assessment).
 - (c) Taking into account the risk assessment and feasibility assessment, assign a "Category" to the property (the Categorisation Decision).
5. A Categorisation Decision will enable the identification of:
 - (a) Category 3 properties eligible for a buy-out under the Scheme Terms.
 - (b) Category 2 properties, for which there is a feasible mitigation at either a community or property level.
 - (c) Category 1 properties, for which the risk does not meet the threshold of "intolerable risk to life".
6. Council's application of the Framework through the Categorisation Approach (and the resulting Categorisation Decision) is a feature of the jointly funded, one-off, limited

¹ "Residential properties" does not include any properties owned, managed or administered by the Crown or any of its entities or agencies.

² For flooding, there is "intolerable risk to life" where there is a high risk to life to vulnerable people in an existing 1% AEP flood event. For landslides, there is "intolerable risk to life" where the Annual Individual Fatality Risk is 1 in 10,000 or greater for the most vulnerable user.

response to the exceptional circumstances of the severe weather events in 2023. Accordingly, a Categorisation Decision:

- (a) Is understood by the council as an “administrative tool” and a prerequisite to allow the council to respond to the severe weather events.
- (b) Is not considered by Auckland Council to be an enduring state attaching to a property. A Categorisation Decision reflects the risk assessment and feasibility assessment at a particular point in time.
- (c) Does not have a legislative or regulatory basis.

Government Framework

7. The government released initial risk categories for assessing the future of flood and landslide affected residential properties on 1 May 2023. The three categories announced by the government were:
 - (a) Low Risk – Repair to previous state is all that is required to manage future severe weather event risk. This means that once any flood protection near the property is repaired, the home can be rebuilt at the same site.
 - (b) Managed Risk – Community or property-level interventions will manage future severe weather event risk. This could include the raising of nearby stop banks, improving drainage or raising the property.
 - (c) High Risk – Areas in the high-risk category are not safe to live in because of the unacceptable risk of future flooding and loss of life. Homes in these areas should not be rebuilt on their current sites.
8. The descriptions of the government’s initial categories (which inform the Framework) are as follows:

Category	Definitions	Examples
1	Repair to previous state is all that is required to manage future severe weather event risk.	Minor flood damage to repair but no need for significant redesign/retrofitting.
2C	Community level interventions are effective in managing future severe weather event risk.	Local government repairs and enhances flood protection schemes to adequately manage the risk of future flooding events in the face of climate change effects.
2P	Property level interventions are needed to manage future severe weather event risk, including in tandem with community level interventions.	Property specific measures are necessary e.g., improved drainage, raising houses is necessary. Benefits accrue to property owners but some may face affordability issues.

2A	Potential to fall within 2C/2P but significant further assessment required.	Interventions may be required / possible but insufficient information to provide initial categorisation (these may subsequently move between "2" categories or to categories 1 / 3).
3	Future severe weather event risk cannot be sufficiently mitigated. In some cases some current land uses may remain acceptable, while for others there is an intolerable risk of injury or death.	In the face of enhanced climate risks the property may face unacceptable risk of future flooding. Other property could be subject to unstable land that poses an ongoing risk.

9. The government Framework refers to floods but also applies to landslides (and so the council reads “flood” as referring to “flood or landslide” throughout).
10. The government’s Framework is clear that the Voluntary Buy-out Support Scheme for Category 3 properties will be a **voluntary process** and is limited to **residential properties only**. These parameters inform the scope of Auckland Council’s Categorisation Approach.

Context for development of the Categorisation Approach

11. The nature of the damage sustained in Auckland in the severe weather events has informed the development of the Categorisation Approach:
 - (a) **Flood damage sustained in severe weather events:** Auckland’s topography is a primary driver of flooding characteristics. Auckland’s catchments are generally small, steep and drain to the coast. The region has ~94,000 km of overland flow paths (the routes taken by stormwater when flowing over land, including over 16,000km of permanent streams. This means we have more flooding from heavy rain events (pluvial flooding), often with little warning (flash flooding). There are no major rivers in the region meaning there is less flooding from rivers breaching their banks (fluvial flooding) than other regions in NZ.
 - (b) **Land instability resulting from the severe weather events:** In Auckland, land instability is often prevalent in the weak soils and rock that are common across the region. Landslides can be triggered by heavy rainfall, earthquakes and human activity such as removal of trees and vegetation, steep cuttings, poorly placed fill, leaking water pipes or a combination of these.
12. In Auckland, advice from technical experts is that individual property assessments are required to support Categorisation Decisions. For landslides, this aligns with the recommendations of the GNS Science guideline “Landslide Planning Guidance – Reducing Landslide Risk through Land-Use Planning” (in consultation). For flooding this aligns with the standard flood assessment method for on-site assessments of public and private buildings (Auckland Council - Flood Modelling Specifications 2013).

13. The Categorisation Approach will be applied to residential properties and has been designed to assess risk at the property level rather than on an area-wide basis.

Process: Application of the Categorisation Approach

14. The Categorisation Approach will be applied as follows:
 - a. Auckland homeowners with Properties in Scope are invited to 'opt in' by providing information that the council can consider in undertaking an initial desktop assessment.
 - b. To date, Properties in Scope have been identified where a homeowner:
 - i. Owns a property in an area that council is aware was highly impacted or suffered significant damage; and/or
 - ii. Has received a letter from Auckland Council (sent to all placarded properties) or become aware of the categorisation process through the media; and/or
 - iii. Has provided information to council to inform a desktop assessment.
 - c. Work remains ongoing to identify additional Properties in Scope.³
 - d. A desktop triage is undertaken to determine whether a property has the potential to have "intolerable risk to life". This desktop assessment is based on expert judgement using the information provided by the homeowner, along with other relevant information including available datasets, flood model results, hazard maps, and records from the severe weather events.
 - e. For any Property in Scope where the desktop assessment indicates the potential for "intolerable risk to life" (and for any flooded properties that property owners have indicated they consider may be "a Category 2 or 3"), the council (or experts engaged by the council) will undertake a site assessment.
 - f. The results of the site assessment inform the risk assessment and are reported alongside potential mitigation options, with costings at a concept design level, to inform an assessment of feasibility.
 - g. The results of the risk and options assessments (and the desktop assessment) provide the council with sufficient information to inform the Categorisation Decision (i.e. whether there is an "intolerable risk to life" associated with the property, and whether the long-term risk can be feasibly mitigated to a "tolerable" level).
 - h. The Categorisation Decision will be made by the Group Recovery Manager, following consideration of the recommendation from technical experts.

³ For example, the Group Recovery Manager issued a statutory notice under the Civil Defence Emergency Management Act 2002 to insurance companies and Toka Tū Ake EQC, requiring them to provide property addresses for significant claims received in relation to the severe weather events. The notice stated that this information was required to assist council in identifying properties under the categorisation framework.

- i. The Categorisation Decision and the next steps in the process will be communicated to the property owner by the council’s Recovery Office.

Categorisation Approach: Landslide Risk Assessment

15. For landslides, the risk assessment framework anticipates that a building will be “Category 3” where the Annual Individual Fatality Risk is 1 in 10,000 or greater for the most vulnerable user and there is no feasible mitigation (at a property or community level) to reduce the risk to a tolerable or acceptable level.
16. The Annual Individual Fatality Risk is calculated as follows:

$$R_{(LoL)} = P_{(H)} \times P_{(S:H)} \times P_{(T:S)} \times V_{(D:T)} \quad (2)$$

Where

- R_(LoL)** is the risk (annual probability of loss of life (death) of an individual).
- P_(H)** is the annual probability of the landslide.
- P_(S:H)** is the probability of spatial impact of the landslide impacting a building (location) taking into account the travel distance and travel direction given the event.
- P_(T:S)** is the temporal spatial probability (e.g. of the building or location being occupied by the individual) given the spatial impact and allowing for the possibility of evacuation given there is warning of the landslide occurrence.
- V_(D:T)** is the vulnerability of the individual (probability of loss of life of the individual given the impact).

17. For properties where there may potentially be “intolerable risk to life” according to a desktop triage in areas not covered by the GHD report, Auckland Council has contracted geotechnical engineers to undertake on-site geotechnical assessments. Auckland Council has created a template scope of works to guide the quantitative assessment by geotechnical experts of risk to life from landslides. If property owners prefer to organise their own geotechnical report they can do so, with advice available on the council’s website (including a downloadable copy of the template for completion by the privately engaged geotechnical engineer, and guidelines on the use of AGS2007 for landslide risk assessment in Auckland).
18. A landslide risk assessment undertaken in accordance with council’s template will provide the council with evidence of (amongst other things):
 - (a) **Damage assessment:** An assessment of land damage sustained from the Auckland weather events (which will also include any work carried out to repair the land damage, consideration of pre-existing conditions or damage, apportionment of damage if multiple events, and assessment of any sources of off-site risk).
 - (b) Quantitative assessment of the stability of the land which may affect safe use of the property.
 - (c) Quantitative assessment of risk of loss of life for users of the property. An “intolerable risk to life” (in accordance with the AGS2007 guidelines), is an Annual Individual Fatality Risk of 1 in 10,000 or greater for the most vulnerable user.
 - (d) Expert opinion on whether the long-term risk to life can be reduced to a tolerable level (and advice on the Categorisation Approach required to achieve this, and scope of works to be completed as part of the construction programme, including a cost estimate).
 - (e) An assessment of the unmitigated and mitigated risk of loss of life.

19. A landslide risk assessment undertaken in accordance with Auckland Council's template provides the council with sufficient information (in addition to the information already held) to inform a recommendation by the technical experts to the Group Recovery Manager.

Categorisation Approach: Flooding Risk Assessment

20. Auckland Council's risk assessment framework for flooding assesses "intolerable risk to life" associated with residential properties, based on a Danger Rating assigned through the application of "Flood Danger Risk Assessment".
21. Flood Danger represents the relative threat posed by flooding to building occupants taking into account the flood hazard inside and outside the building, and evacuation routes.
22. For flooding, the risk assessment framework anticipates that a building will be "Category 3" where there is a high risk to life to vulnerable people in an existing 1% AEP flood event, and there is no feasible mitigation (at a property or community level) to reduce the risk to a tolerable or acceptable level.
23. Risk assessment for flooding will include:
 - (a) **Damage assessment:** an assessment of flood damage sustained from the Auckland weather events
 - (b) **Assessment of Flood Danger** as a combination of:
 - i. **Event likelihood** (in terms of the probability of an event of a given magnitude being equalled or exceeded within a year – the Annual Exceedance Probability, or AEP),
 - ii. **Hazard** (the level of risk to life by flooding),
 - iii. **Exposure** (what is exposed to flood hazard in a given place) and
 - iv. **Vulnerability** (propensity to suffer adverse effects of flooding, based on individual characteristics and external factors).
24. Auckland Council will assess whether there is "intolerable risk to life" by assigning a Flood Danger Rating to a property in accordance with council's Flood Danger Rating Schema. The Flood Danger Rating represents the threat to life to people inside or outside dwellings on residential property that are exposed to flood hazard.
25. In addition to Flood Danger, the risk assessment framework takes into account the likelihood of an event occurring. Event Likelihood is described by the annual exceedance probability (AEP) of the flood event, which is the probability of the event being equalled or exceeded within a year. As rainfall is the primary driver of flooding in the Auckland region, flood event likelihood can be considered synonymous with rainfall event likelihood.
26. Expert opinion on options to reduce risk to life to a tolerable level (and the Categorisation Approach required to achieve this, and scope of works to be completed as part of the construction programme, including a cost estimate).

27. An assessment of the unmitigated and mitigated risk: A flooding risk assessment undertaken in accordance with Auckland Council's template, and if necessary an options assessment provides the council with sufficient information (in addition to the information already held) to inform a recommendation by the technical experts to the Group Recovery Manager.

Categorisation Approach: Feasibility Assessment

28. The site assessments undertaken by Auckland Council (or experts engaged by the council) will consider whether there is a property or community level solution available to mitigate the risk to life associated with a property, and the approximate cost of that solution.
29. Whether a property level mitigation is feasible will be determined by the council taking into account
 - (a) The cost of the mitigation (whether the cost of the mitigation is likely to cost less than 25% of the CV of the property).
 - (b) Whether the mitigation can reasonably be expected to be delivered within two years of the Categorisation Decision.
30. Whether a community level mitigation is feasible will be determined by the council (and is subject to business case approval and funding under the National Resilience Plan).

Categorisation Approach: Quality Assurance

31. The government engaged Tonkin & Taylor Ltd to provide a high-level assurance review of the process followed by Auckland Council in establishing the Categorisation Approach (in accordance with the Framework).
32. In terms of the application for the Framework, for the landslide risk assessments Auckland Council has engaged a panel of five experts (the Geotechnical Advisory Panel) to review the approaches taken, project scopes and key deliverables. These individuals were chosen to represent the range of skills and experience needed to achieve the required outcomes. The Geotechnical Advisory Panel comprises two Engineering Geologists, a Hydrologist and two Geotechnical Engineers from five independent organisations.
33. In addition to the Geotechnical Advisory Panel, Auckland Council has a dual approach to quality assurance for the landslide risk assessments being undertaken across Auckland. Auckland Council is in the process of engaging two well respected local experts to act as mentors to the suppliers undertaking the field assessment work to help ensure they are providing consistent, well informed reports. Once delivered, each report is then subjected to a robust peer-review process. Council has engaged WSP Australia to undertake the technical peer-review, while our in-house Regulatory Services team will check proposed mitigations for potential consenting requirements.
34. For the Flood risk assessments Auckland Council is in the process of engaging a panel of four experts to review and assure the approach taken. These individuals were chosen to represent a range of skills and experience needed to achieve the required

outcomes. The group contains expertise from across New Zealand, including the engineering sector, local government, and a Crown Research Institute.

Dispute resolution

35. Auckland Council has established a dispute resolution process [\[LINK\]](#) for Categorisation Decisions. The dispute resolution process will relate to a Categorisation Decision made in respect of a Property in Scope, and is not an opportunity to contest the Framework or the Categorisation Approach itself.

Special circumstances

36. On the application of a homeowner, the council may in its discretion consider whether to make a Categorisation Decision that departs from the position set out in this Categorisation Approach (a special circumstances decision).
37. A special circumstances decision will be made in accordance with the council's Guidance on the application of Special Circumstances, and will have regard to:
- (a) The nature of the "special circumstances" and the extent of (and any implications of) departure from the Categorisation Approach.
 - (b) The level of any increased cost to the council resulting from the departure from the Categorisation Approach.
 - (c) Whether departure in an individual case is consistent with the council's overarching policy objective for its Categorisation Approach, which is to permanently remove or reduce the intolerable risk to life posed by some residential properties due to the severe weather events.
 - (d) Whether departure in an individual case is consistent with the further objectives guiding the council's policy approach (i.e. whether departure is effective, affordable, fair and consistent with policy intent, and equitable).=

END

