

## **Before you fill out the attached submission form, you should know:**

You need to include your full name, an email address, or an alternative postal address for your submission to be valid. Also provide a contact phone number so we can contact you for hearing schedules (where requested).

By taking part in this public submission process your submission will be made public. The information requested on this form is required by the Resource Management Act 1991 as any further submission supporting or opposing this submission is required to be forwarded to you as well as Auckland Council. Your name, address, telephone number, email address, signature (if applicable) and the content of your submission will be made publicly available in Auckland Council documents and on our website. These details are collected to better inform the public about all consents which have been issued through the Council.

Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least one of the following applies to the submission (or part of the submission):

- It is frivolous or vexatious.
- It discloses no reasonable or relevant case.
- It would be an abuse of the hearing process to allow the submission (or the part) to be taken further.
- It contains offensive language.
- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

# Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991  
FORM 5



Send your submission to [unitaryplan@aucklandcouncil.govt.nz](mailto:unitaryplan@aucklandcouncil.govt.nz) or post to :

Attn: Planning Technician  
Auckland Council  
Level 24, 135 Albert Street  
Private Bag 92300  
Auckland 1142

For office use only

Submission No:

Receipt Date:

## Submitter details

### Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name) Dr Jo Horrocks

Organisation Name (if submission is made on behalf of Organisation) Toka Tū Ake EQC

Address for service of Submitter: PO Box 311, Wellington 6140

Telephone:

Fax/Email:

resilience@eqc.govt.nz

Contact Person: (Name and designation, if applicable)

## Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number PC 78

Plan Change/Variation Name Intensification

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provisions E36 – Natural Hazards  
E36.3  
E36.3.13  
E38 (33)

Maps Natural Hazard Overlays  
Terraced Housing and Apartments Overlay  
Residential – Mixed Housing Urban

## Submission

I **support** the specific provisions identified above

I **oppose** the specific provisions identified above

I wish to have the provisions identified above amended Yes ☒ No

The reasons for my views are:

---

### Provision E36 – Natural hazards, and Natural Hazard Map Overlays

Auckland is at risk from multiple natural hazards. The proposed unitary plan change includes provisions which account for flooding, coastal erosion and inundation, land instability, and wildfires, but notes that the risks from low probability but high impact hazards such as tsunami and volcanic activity cannot be addressed through land use planning. Because of the variable and unpredictable nature of the Auckland Volcanic Zone, land use planning is not likely to be able to affect the risks associated with volcanic activity, but it is the position of Toka Tū Ake that land use planning can be effective in minimizing the risks from earthquake and tsunami.

#### Tsunami

Tsunami are a low probability, but very high impact hazard which rely on rapid and effective evacuation of coastal areas to avoid loss of life. Auckland has multiple recent and historical records of tsunami<sup>1</sup>, on both the east and west coast. Paleotsunami deposits have also been found on the Manukau Heads and islands of the Hauraki Gulf from tsunami of up to 10 m run-up height<sup>2</sup>.

The risk of tsunami to Auckland can come from distant, regional or local sources. Regional sources such as earthquakes on the Kermadec and Puyseger subduction zones create the largest tsunami in models, of 2 – 4 m<sup>3</sup>. These tsunami may take as little as three hours to reach the coast, and may not be preceded by strong earthquake shaking (which can be a natural trigger for evacuation). Local source tsunami will have even less warning time, and sources can include offshore volcanic activity, fault rupture and submarine landslides.

Research into evacuation rates in Aotearoa New Zealand<sup>4</sup> found that in 2015 around one third of people did not intend to evacuate or evacuate fast enough, and a similar response occurred in Kaikoura in 2016. This could lead to many deaths and injuries if a major tsunami were to occur. While relying on warnings is one aspect of managing the tsunami risk, it should not be the only option due to:

- the lack of official warnings if a locally sourced event occurs;
- the amount of education, planning and exercising required with communities, so they understand when and how to evacuate;
- the expected rate of evacuations i.e., ~30% may not self-evacuate; and
- the time it may take some communities to evacuate to a safe area.

Land use planning can be effective in limiting the number of people who live in areas which require evacuation in the event of a tsunami, limiting Building Importance Category (BIC) structures of 3 or above<sup>5</sup> in tsunami evacuation zones, and ensuring that there are sufficient evacuation routes. Currently, Proposed Plan Change 78 contains areas in Takapuna and Pakuranga which have been zoned for Terrace Housing and Apartments and are within the orange and yellow tsunami evacuation zones.

To minimize the risk to Auckland residents from tsunami Toka Tū Ake requests that the Auckland Unitary Council

- **Add tsunami hazard zones to planning maps; and**
- **Implement rules restricting intensification within tsunami evacuation zones, OR**
- **Ensure that areas of coastal intensification have adequate evacuation routes, which are safeguarded by controls to ensure their integrity for evacuation.**

---

<sup>1</sup> <https://data.gns.cri.nz/tsunami/wms.html>

<sup>2</sup> <https://ptdb.niwa.co.nz/#!/db?out=map&map=control&colorby=validity&view=-36.9054|175.0589|10||1420|849>

<sup>3</sup> Power WL, Burbidge DR, Gusman AR. 2022. The 2021 update to New Zealand's National Tsunami Hazard Model. Lower Hutt (NZ): GNS Science. 63 p. (GNS Science report; 2022/06). Doi.:10.21420/X2XQ-HT52.

<sup>4</sup> Dhellemmes et al, 2021. Tsunami awareness and preparedness in Aotearoa New Zealand: The evolution of community understanding. International Journal of Disaster Risk Reduction 65

<sup>5</sup> BIC 3 includes structures that, as a whole, may contain people in crowds or contents of high value to the community or pose risks to people in crowds. These include emergency medical and healthcare facilities, educational facilities, buildings where more than 300 people can congregate in one area, airport terminals, principal railway stations, facilities containing hazardous materials, power generating, water treatment and wastewater facilities, and structures with an occupancy load greater than 5000.

---

### Policy E36.3, and Standard E36.6.1.11. – Land Instability

Policy E36.3 (1) in proposed Plan Change 78 states that land which may be subject to natural hazards, taking into account the likely effects of climate change, is to be identified, including (c) land instability, with the intention of (4) controlling subdivision, use and development of land subject to natural hazards. Policies E36.3 (31), (32), and (33) again specify that land which may be subject to land instability is to be identified, and adverse effects of land instability hazards controlled by avoiding subdivision, use and development in these areas. However, the district plan does not include any land instability hazard overlay in the planning maps, or guidance on which areas may be at higher risk of land instability. It is unclear whether the Council requires a geotechnical report on any land to determine the level of land instability risk before subdivision, use or development occurs.

Land instability and the risk of landslides varies considerably with differing geology, ground water, slope and prior human use. Much of Auckland region is underlain by weak geological units such as the Waitemata Group which can be prone to failure in slopes as low as 20°, and the Northland Allochthon which can be prone to failure in slopes as low as 10°<sup>6</sup>. Plan Change 78 has rezoned land underlain by Waitemata Group in West Auckland and the North Shore as Residential – Mixed Housing Urban, and some areas as Terraced Housing and Apartments. The Warkworth and Silverdale areas are underlain by the very unstable Northland Allochthon and have been rezoned as Residential – Mixed Housing Urban. Intensification in these areas puts more people and property at risk from the effects of land instability. Without a regulatory, regional land-instability overlay, land instability risk may be inconsistently determined across the region, which may result in inappropriate development in high-risk areas.

To minimize the risk to Auckland residents from land instability, Toka Tū Ake requests that the Auckland Unitary Council:

- **Include a regulatory land-instability hazard overlay in the natural hazard maps.**

### Provision E36.3 (13) – Flooding

Flooding is one of the most frequently experienced natural hazards in Auckland.

In our understanding of Proposed Plan Change 78, provisions to control development in flood-prone areas include:

- buildings in the former Residential – Single House zone, which cannot achieve a suitable building platform outside the floodplain and/or cannot achieve safe egress during a flood event, are rezoned as low density residential, and;
- In existing urban areas new buildings are designed to accommodate more vulnerable activities to be located:
  - a) outside of the 1 per cent annual exceedance probability (AEP) floodplain;
  - b) or within or above the 1 per cent annual exceedance probability (AEP) floodplain where safe evacuation routes or refuges are provided.

Therefore, vulnerable activities are currently allowed in areas at risk from flood hazard, as long as a safe evacuation route is present.

In our opinion this approach does not sufficiently reduce the risk from flooding to these areas and their residents.

Flood hazard risk is predicted to increase in the near future due to rising sea-levels, associated rising ground-water levels, and more frequent and intense rain events. Flooding does not pose high risk to life or to the structural integrity of buildings, but frequent, repeated flood events can have a severe effect on the wellbeing of residents and incur a high financial cost to businesses and residents due to loss of business, loss of access to buildings, damage to property and furnishings, and clean-up costs (including removing contaminated silt from under houses which can become a health hazard).

Controls on subdivision, use and development within the Flood Plain Overlay in Plan Change 78 are scattered between chapters, making it difficult to interpret. Some appear to contradict each other (e.g., E38.8.1.1. (2) states that *“all vacant sites must ... contain a rectangle of 15 metres by 20 metres, to accommodate a building that ... is located outside the 1 per cent annual exceedance probability floodplain”*, while E36.6.1.9 requires that *“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”*). Public engagement with the Auckland Unitary Plan is essential for correct implementation, and it is important that rules and standards do not contradict each other and are accessible to an average reader.

The Auckland Unitary Plan hazard maps do not differentiate between the hazard posed within floodplains or ponding areas where flood waters have low depth and low flow rate, and stream corridors or overland flow paths. Flood waters in overland flow paths are typically deeper and stronger flowing than in ponding areas, and the associated risk to life and property is higher in the event of a flood. Identifying these higher flow areas is important to ensure that

---

<sup>6</sup> Edbrooke, S. W., Mazengarb, C., & Stephenson, W. (2003). Geology and geological hazards of the Auckland urban area, New Zealand. *Quaternary International*, 103(1), 3-21.

intensification is not unnecessarily occurring within flow paths and the risks residents are exposed to are minimized.

Currently, Proposed Plan Change 78 includes the rezoning of many areas within the flood plain as Residential – Mixed Housing Urban, and some areas as Terraced Housing and Apartments (Figure 1). High density development such as this exposes many more people than necessary to the risk of repeated flooding.

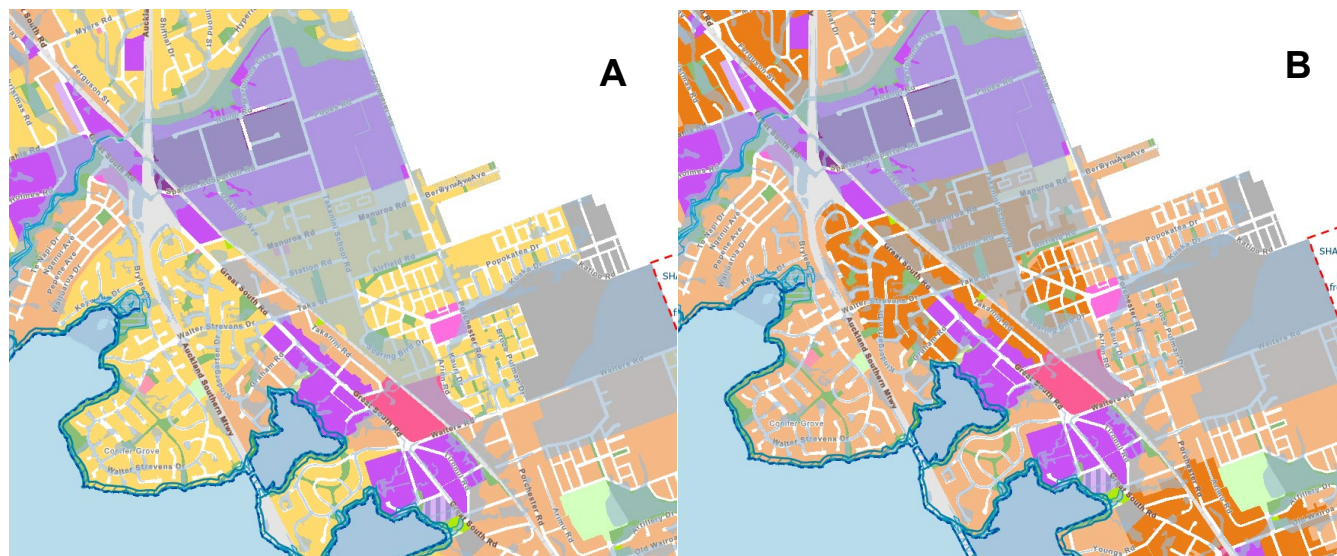


Figure 1: A) Current Auckland Unitary Plan zoning map of Takanini, with Flood Plain Overlay (light blue transparency). B) Proposed Plan Change 78 zoning map of Takanini showing area within the Flood Plain Overlay which has been rezoned as Terraced Housing and Apartments (orange).

To minimize the risk to Auckland residents from flooding Toka Tū Ake requests that the Auckland Unitary Council:

- **Restrict more vulnerable activities within the Flood Plain Overlay.**
- **Avoid high density development (Terrace Housing and Apartment zone) within the Flood Plain Overlay.**
- **Identify stream corridors and overland flow paths within flood zones and add these to the regulatory natural hazard maps.**
- **Restrict medium and high density development within stream corridors and overland flow paths.**
- **Consolidate policies and rules controlling subdivision, use and development within the Flood Plain Overlay to one chapter, and eliminate contradicting rules and standards.**

#### Coastal Erosion Hazard Overlay

Proposed Plan Change 78 includes rezoning of properties within the Coastal Erosion Hazard Zone to Low-Density Residential, meaning only one structure is allowed, covering no more than 30% of the property. Toka Tū Ake EQC support this use of qualifying matters to avoid intensification in areas at risk from natural hazard. However, this rezoning only applies to properties currently zoned Residential – Single House, meaning that many properties within the Coastal Erosion Hazard Zone are now zoned as Residential – Mixed Housing Urban. If, as described in the section 32 report for this plan change, the best way of reducing risk from coastal erosion is to zone properties within the Coastal Hazard Erosion Zone as Low-Density Residential, we strongly recommend the consistent application of this zone over all residential properties within the hazard area.

It is not clear in the plan or in the section 32 report why it is not appropriate to rezone properties in the former Residential – Mixed Housing Suburban Zone to Low-Density Residential. If inappropriate development has already occurred in these areas, then rezoning will prevent further intensification from putting more people and property at risk from coastal erosion.

To minimize the risk to Auckland residents from coastal erosion Toka Tū Ake requests that the Auckland Unitary Council:

- **Rezone all properties within the coastal erosion hazard zone to low-density residential**

#### Policy E38 (33) – Medium Density Residential Standard Policies

*E38(33) Medium Density Residential Standards Policies Provide for subdivision as a controlled activity in zones*

---

where the Medium Density Residential Standards apply except where:

a) there is significant risk from natural hazards

“Significant” levels of natural hazards are not defined in the Plan and the term is therefore open to individual interpretation and inconsistent application.

Toka Tū Ake requests that **the level of risk at which Medium- and High-Density development is deemed inappropriate by the Council is determined by risk tolerance analysis and specified in the Plan.**

Objective H5.2 and H6.2 (Support)

*(5) Development does not adversely affect the environmental values of adjoining waterbodies including riparian, lakeside and coastal protection areas and does not increase the impact from natural hazard risks.*

*(6) Development contributes to a high-quality built environment that is resilient to the effects of climate change.*

Toka Tū Ake supports the development of high and medium density urban residential zones which do not increase the risks to residents and property from natural hazards. We support development of development which is resilient to the effects of climate change and the associated increase in risk from natural hazards.

---

I seek the following decision by Council:

Accept the proposed plan change / variation

Accept the proposed plan change / variation with amendments as outlined below ✓

Decline the proposed plan change / variation

If the proposed plan change / variation is not declined, then amend it as outlined below.

- **Add tsunami hazard zones to planning maps and implement rules restricting intensification within tsunami evacuation zones.**
- **Include a regulatory land-instability hazard overlay in the natural hazard maps.**
- **Restrict more vulnerable activities within the Flood Plain Overlay.**
- **Avoid high density development (Terrace Housing and Apartment zone) within the Flood Plain Overlay.**
- **Identify stream corridors and overland flow paths within flood zones and add these to the regulatory natural hazard maps.**
- **Restrict medium and high density development within stream corridors and overland flow paths.**
- **Rezone all properties within the coastal erosion hazard zone to low-density residential.**
- **The level of risk at which Medium- and High-Density development is deemed inappropriate by the Council is determined by risk tolerance analysis and specified in the Plan.**

---

I wish to be heard in support of my submission

I do not wish to be heard in support of my submission ✓

If others make a similar submission, I will consider presenting a joint case with them at a hearing

*J. H. H. H. H. H.*

Signature of Submitter  
(or person authorised to sign on behalf of submitter)

**29/09/2022**

Date

**Notes to person making submission:**

If you are making a submission to the Environmental Protection Authority, you should use Form 16B.

Please note that your address is required to be made publicly available under the Resource Management Act 1991, as any further submission supporting or opposing this submission is required to be forwarded to you as well as the Council.

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

I could /could not ☒ gain an advantage in trade competition through this submission.

***If you could gain an advantage in trade competition through this submission please complete the following:***

I am / am not directly affected by an effect of the subject matter of the submission that:

- (a) adversely affects the environment; and
- (b) does not relate to trade competition or the effects of trade competition.