

# **WAIKATO DISTRICT COUNCIL**

## **Hearings of Submissions on the Proposed Waikato District Plan**

### **Report and Decisions of Independent Commissioners**

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#### **Decision Report 29B: Natural Hazards and Climate Change – Flood Hazards, and Defended Areas**

**17 January 2022**

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##### **Commissioners**

Dr Phil Mitchell (Chair)

Mr Paul Cooney (Deputy Chair)

Councillor Jan Sedgwick

Councillor Janet Gibb

Ms Linda Te Aho

Mr Dynes Fulton

Mr Weo Maag

## **Consent**

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## **Glossary of Terms**

Waikato District Council	Council
The Waikato District Plan Hearings Panel	Panel
Proposed Waikato District Plan	PDP
Stage 2 Natural Hazards and Climate Change	Stage 2

## 1 Introduction

- 1.1 This report addresses the subject matter of the Stage 2 Natural Hazards and Climate Change provisions (Stage 2), specifically the flood hazard and defended area provisions, including the related submissions received by the Waikato District Council (Council) on Stage 2 of the Proposed Waikato District Plan (PDP). This report should be read alongside Hearing Report 29 which sets out the background and process followed for Stage 2.
- 1.2 With respect to flood hazards, the PDP includes provisions on floodplain management, high-risk flood areas and flood ponding. It also includes provisions on areas defended by stop banks on the Waikato River as part of a consideration of residual risk required in the Waikato Regional Policy Statement (RPS).
- 1.3 By way of the background, the PDP includes the following flood hazard mapping:
- a) The Flood Plain Management Area is defined as follows:

*“An area identified on the planning maps which is at risk of flooding in a 1% AEP flood event and is otherwise described as the 1% AEP floodplain”;*
  - b) The High Risk Flood Areas are contained within the 1% AEP floodplain (i.e., are a subset) but are specifically identified because they are areas where flood waters are deeper and/or faster flowing. The High Risk Flood Areas are defined in the PDP as follows:

*“An area identified on the planning maps, located within the Flood Plain Management Area, which is subject to river or surface flooding during an event with an annual exceedance probability of no more than 1%, and during such an event:*

    - (a) the depth of water exceeds one metre; or*
    - (b) the speed of flood waters exceeds two metres per second; or*
    - (c) the flood depth multiplied by the flood speed exceeds one.”*
  - c) The Flood Ponding Area is defined as follows:

*“Means an area shown on the planning maps as an identified flood ponding area or an area that experiences floodwater ponding in a 1% AEP rainfall event.”*
  - d) Defended Areas are also identified on the planning maps and have a separate set of provisions in the PDP relating to them. The section 42A report stated that the mapped areas included as Defended Areas have been provided by the Waikato Regional Council (WRC). The PDP defines Defended Areas as follows:

*“An area identified on the planning maps which would normally flood in a 1% AEP flood event but is protected from flooding by a flood protection scheme managed by the Waikato Regional Council, the Waikato District Council or the Crown.”*

## 2 Hearings arrangement and evidence presented

- 2.1 The specific hearing for the Stage 2 Natural Hazards and Climate Change provisions was held between 10 and 12 May 2021 via Zoom. All of the relevant information pertaining to the subject matter of this hearing (i.e., the section 42A report, legal submissions, and evidence) is contained on Council's website.
- 2.2 The following parties submitted evidence to us on the flood hazard and defended area provisions:

**Table 2: Hearing Appearances**

Submitter	Representative
Council	Ms Janice Carter (author of section 42A report)
Betsy and Noel Smith	Mr Noel Smith
Fleming Ranch Trust	Ms Teresa Fleming
Waikato Regional Council	Ms Sarah Gunnell and Mr James Beban
Ports of Auckland	Mr Mark Arbuthnot
Genesis Energy Limited	Mr Richard Matthews
Federated Farmers New Zealand	Mr Jesse Gooding
Mercury NZ Limited	Mr Angus McKenzie and Mr Grant Webby
Graham McBride	In person
Yeroon Hoan	In person
Kāinga Ora	Mr Douglas Allan (Legal Counsel) and Mr Craig Sharman
Daniel Parker	In person
Pokeno Village Holdings Limited	Mr Chris Scrafton
Ohinewai Lands Limited	Mr Mathew Twose
Ambury Properties Limited	Mr Stuart Penfold
Meremere Dragway Incorporated	Mr Ben Cochrane (Legal Counsel)

## 3 Overview of issues raised in submissions

- 3.1 In the section 42A report, Ms Janice Carter analysed submissions on the flood hazard and defended area provisions. In brief, the key matters raised by submitters and considered by Ms Carter include:

- a) Whether unmapped 1% AEP flood ponding areas should be included in the provisions;
  - b) Whether the term 'habitable building' should be used in respect to minimum floor level rules rather than 'buildings';
  - c) Whether a different freeboard is appropriate for less vulnerable activities;
  - d) Whether it is appropriate to exempt farm buildings and other smaller buildings from the minimum floor level rules;
  - e) Appropriate provisions for utilities and infrastructure;
  - f) Appropriate provisions for hazardous substances within the flood plain;
  - g) The accuracy of the modelling and mapping of the Flood Plain Management Area and High Risk Flood Area;
  - h) The method for identifying Defended Areas;
  - i) Recognition of the role of catchment management plans; and
  - j) Whether the approach is risk-based.<sup>1</sup>
- 3.2 In addition to the above, Council made a submission on the Stage 2 provisions. Council submitted that the Waipa River 1% AEP flood extent shown on the planning maps was affected by an error in the notified planning maps. The section 42A report noted that this affected many of the submissions and further submissions in relation to the Waipa River flood mapping.<sup>2</sup>
- 3.3 The Council's submission sought to amend the Floodplain Management Area by replacing the mapped area along the Waipa River between the Waikato District boundary and Saulbrey Road, with the corrected flood extent. The section 42A report recommended that this submission point be accepted.<sup>3</sup>
- 3.4 Given the number of submissions received we have structured the following sections thematically and included the analysis and recommendations of the section 42A report with the relevant submission points.

## 4 Matters raised at the hearing

### Activity status for non-compliance

- 4.1 Mr Mark Arbuthnot presented planning evidence on behalf of the Ports of Auckland Limited (POAL). In summary Mr Arbuthnot's evidence recommended that non-compliance with Rule 15.4.1 P1 – P5 be amended from a discretionary activity to a restricted discretionary activity. Mr Arbuthnot's evidence considered that Policy 15.2.1.12 supports a restricted discretionary activity status and that it sets out clearly the environmental outcome that is to be achieved (namely, the reduction in the potential for flood damage to buildings), the methods by which this is to be achieved (floor levels

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<sup>1</sup> Section 42A Report Hearing 27C: Flood Hazards and Defended Areas, dated 31 March 2021, Paragraph 55.

<sup>2</sup> Ibid Paragraph 434.

<sup>3</sup> Ibid Paragraph 475.

and freeboard), and the circumstances where alternative floor and freeboard levels will be appropriate. Mr Arbuthnot's evidence set out recommended matters of discretion.<sup>4</sup>

- 4.2 Mr Craig Sharman presented planning evidence on behalf of Kāinga Ora Homes and Communities (Kāinga Ora). In summary, Mr Sharman's evidence recommended that discretionary activity status for non-compliance with rules relating to flood hazards be changed to a restricted discretionary activity.<sup>5 6</sup>
- 4.3 Mr Sharman's evidence considered that the potential adverse effects for non-compliance with these rules are discrete and well understood, meaning it is possible to identify appropriate matters of discretion. Mr Sharman's evidence referred to matters of discretion which were supplied in the submission of Kāinga Ora.<sup>7</sup>
- 4.4 The section 42A report recommended rejecting the submission points of POAL, as at the time of preparing the report, POAL had not provided matters of discretion to be included with a restricted discretionary activity rule.<sup>8</sup>

#### **Flood Ponding Areas**

- 4.5 Mr Mark Arbuthnot on behalf of POAL recommended that provisions relating to the 1% AEP Flood Ponding Area should only apply to mapped areas in the PDP.
- 4.6 Mr Arbuthnot considered that the approach taken by the PDP requires expert input to determine the applicability of the Flood Ponding Area provisions. He stated that such an approach is not comprehensible to a reasonably informed layperson, and as a result, the PDP inappropriately places the burden on landowners and applicants to determine whether the Flood Ponding Area provisions apply to them.
- 4.7 In the rebuttal section 42A report, Ms Carter recommended accepting the submissions of POAL and the Dilworth Trust Board on this point. Ms Carter considered that that inclusion of unmapped flood ponding areas within the definition and rules is not justified by virtue of similar provisions being in the Operative Waikato District Plan.<sup>9</sup>

#### **Infrastructure and network utilities**

- 4.8 Mr Richard Mathews presented planning evidence on behalf of Genesis Energy Limited (Genesis). In summary, Mr Mathews covered the following matters:
- a) That the objectives and policies of Chapter 15 relate to both infrastructure and utilities; however, several permitted activity rules only apply to utilities. Mr Mathews considered that there is no effects management reason why the objectives and policies provide for both infrastructure and utilities equally, but some permitted activity rules only apply to utilities;<sup>10</sup>

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<sup>4</sup> Evidence in Chief of Mark Arbuthnot on behalf of Ports of Auckland Limited, dated 16 April 2021, Paragraph 5.16.

<sup>5</sup> Rule 15.4.3 D1 and D2 – Flood Plain Management Area and Flood Ponding Areas, Rule 15.5.3 D1 – High Risk Flood Area, Rule 15.5.4 – High Risk Flood Area.

<sup>6</sup> Summary Statement of Mr Craig Sharman on behalf of Kāinga Ora Homes and Communities, dated 5 May 2021, Paragraph 2.12

<sup>7</sup> Evidence in Chief of Craig Sharman on behalf of Kāinga Ora-Homes and Communities, dated 16 April 2021, Paragraph 10.9.

<sup>8</sup> Above n1 Paragraph 268.

<sup>9</sup> Rebuttal Section 42A Report Hearing 27C: Flood Hazards and Defended Areas, dated 3 May 2021, Paragraph 52.

<sup>10</sup> Summary Statement of Mr Richard Mathews on behalf of Genesis Energy Limited, dated 5 May 2021, Paragraph 13.

- b) Mr Mathews recommended that permitted activity rules 15.4.1 P5 and 15.4.1 P6 be amended to include reference to 'infrastructure' alongside 'utilities'; and
- c) Mr Mathews' evidence recommended that the same amendments be made to rules 15.5.1 P1 and 15.5.2 RD1 which relate to activities within a High Risk Flood Area.<sup>11</sup>

4.9 In the section 42A report closing remarks, Ms Carter has recommended deleting the words 'provided by network utility operators or requiring authorities' from clause (1) of the definition of 'utility'. Ms Carter considered that this recommendation would satisfy the alternative relief requested by Genesis as 'electricity generation infrastructure' would be effectively included in the 'utilities' definition.<sup>12</sup>

4.10 Mr Gary Scholfield tabled a letter on behalf of Powerco Limited. This letter set out general support for the recommended changes in the section 42A report.<sup>13</sup>

#### Natural Hazard Sensitive Land Uses and subdivision

4.11 Mr James Beban and Ms Sarah Gunnell presented their joint-planning evidence on behalf of the Waikato Regional Council (WRC). In summary, their evidence raised the following matters:

- a) Recommended that Policy 15.2.1.12 be amended to include the consideration of subdivision which may be located within the 1% AEP Flood Plain. Mr Beban and Ms Gunnell considered that this gives effect to Method 13.2.6 of the RPS, and from a practical implementation perspective, it is often more appropriate to integrate flood mitigation measures at the subdivision stage as opposed to the development stage;
- b) Recommended amendments to Policy 15.2.1.12 to include natural hazard sensitive land uses, in order to provide for the consideration of the change in use of existing buildings;
- c) Recommended the inclusion of a rule for natural hazard sensitive land uses as a non-complying activity in high risk flood area; and
- d) Stated that the rule framework of Defended Areas does not address consideration of residual risk in development and land use. Mr Beban and Ms Gunnell considered this is inconsistent with Policy 15.1.1.10 and they recommended a new restricted discretionary rule to ensure a consistent approach for subdivision and new buildings.<sup>14</sup>

4.12 In the rebuttal section 42A report, Ms Carter considered that the focus of Policy 15.2.1.12 is on reducing the potential for flood damage to buildings. Ms Carter referred to Objective 15.2.1 and Policy 15.2.1.6 which require the consideration of subdivision.

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<sup>11</sup> Ibid, Paragraph 14.

<sup>12</sup> Closing remarks, Section 42A Report Hearing 27C: Flood Hazards and Defended Areas, dated 21 May 2021, Paragraph 31.

<sup>13</sup> Letter from Mr Gary Scholfield regarding Proposed Waikato District Plan – Stage 2 – Hearing 27 Natural Hazards and Climate Change (formerly known as Stage 2 of the Proposed District Plan, dated 16 April 2021.

<sup>14</sup> Summary Statement of Mr James Beban and Ms Sarah Gunnell on behalf of the Waikato Regional Council, dated 5 May 2021, Paragraph 6.2.

- 4.13 Ms Carter retained her recommendation that the definition proposed by WRC for 'natural hazard sensitive activities' should not be included in the PDP. The rebuttal section 42A report considered the amendments to this definition by Mr James Beban and Ms Sarah Gunnell, including the removal of residential activities, papakainga and homestays. Ms Carter considered these amendments helpful, however stated that it does not solve the overall issue of selecting some activities over others, when in fact many activities will be 'sensitive' to natural hazards in one way or another. Ms Carter remained of the view that the main issue for the 1% AEP flood event in terms of land uses can be appropriately addressed by the PDP requiring a minimum floor level to reduce potential damage to buildings.<sup>15</sup>
- 4.14 With respect to the request for further controls within Defended Areas where there is residual risk arising from stop bank failure, Ms Carter raised concerns that there was no scope for the inclusion of a new rule in the PDP. Notwithstanding this, Ms Carter considered that the proposed rule is more onerous than the rule for new buildings in the Flood Plain Management Area. She noted that a lighter level of regulatory control is provided for in the Defended Areas, recognising that areas of residual risk are not at the same level of risk from flooding as the Flood Plain Management Area.<sup>16</sup>

#### Risk-based approach

- 4.15 Ms Catherine Somerville-Frost presented legal submissions on behalf of Mercury NZ Limited (Mercury). In summary, Ms Somerville-Frost submitted that:
- a) The PDP fails to adequately manage risk associated with flooding as a natural hazard;
  - b) That Council has not prepared the PDP using a risk-based approach to inform its decisions on where development and changes in land use and intensification should occur, given flooding risk. Ms Somerville-Frost submitted this is due to the staging of the PDP process, which has meant that land use provisions were effectively promulgated in isolation from consideration of flooding hazard risk; and
  - c) That Council officers have equated 'significant risk' with 'high risk', when Mercury's view is that the two are not always the same. Council's approach has led to a deficient risk management framework, with known areas of significant risk not being identified in the maps for plan users<sup>17</sup>.
- 4.16 Ms Somerville-Frost's submissions stated that in the absence of a comprehensive natural hazards risk assessment as the foundation of the PDP, Mercury sought:
- a) Spatial identification of flood hazards in Lake Waikare and the Rangiriri Spillway, through the mapping of the 1% AEP design flood level of RL 7.37m as part of the Flood Plain Management Area Overlay; and
  - b) Amendments to the policy framework and rules to help manage areas of significant risk within the Flood Plain Management Area.<sup>18</sup>

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<sup>15</sup> Above n9 Paragraph 26.

<sup>16</sup> Ibid Paragraph 66.

<sup>17</sup> Legal submissions on behalf of Mercury NZ Limited, dated 6 May 2021, Paragraph 4.

<sup>18</sup> Ibid Paragraph 26.



- 4.17 Dr Webby presented hydraulic engineering evidence on behalf of Mercury. His evidence considered that the wording of Policy 15.2.1.1 equates 'significant risk' with 'high risk'.<sup>19</sup>
- 4.18 Dr Webby's evidence also considered that all High Risk Flood Areas are areas of 'significant risk', but that there are other floodable areas outside of High Risk Flood Areas which are also of 'significant risk'. He noted that this recognised by the H4 and H3 hazard categories defined in Figure 1. Mr Webby's evidence explained that these categories identify combinations of flood depth and flood velocity (speed), which are considered unsafe for people and vehicles and (H4) and unsafe for vehicles, children and the elderly (H3).<sup>20</sup>

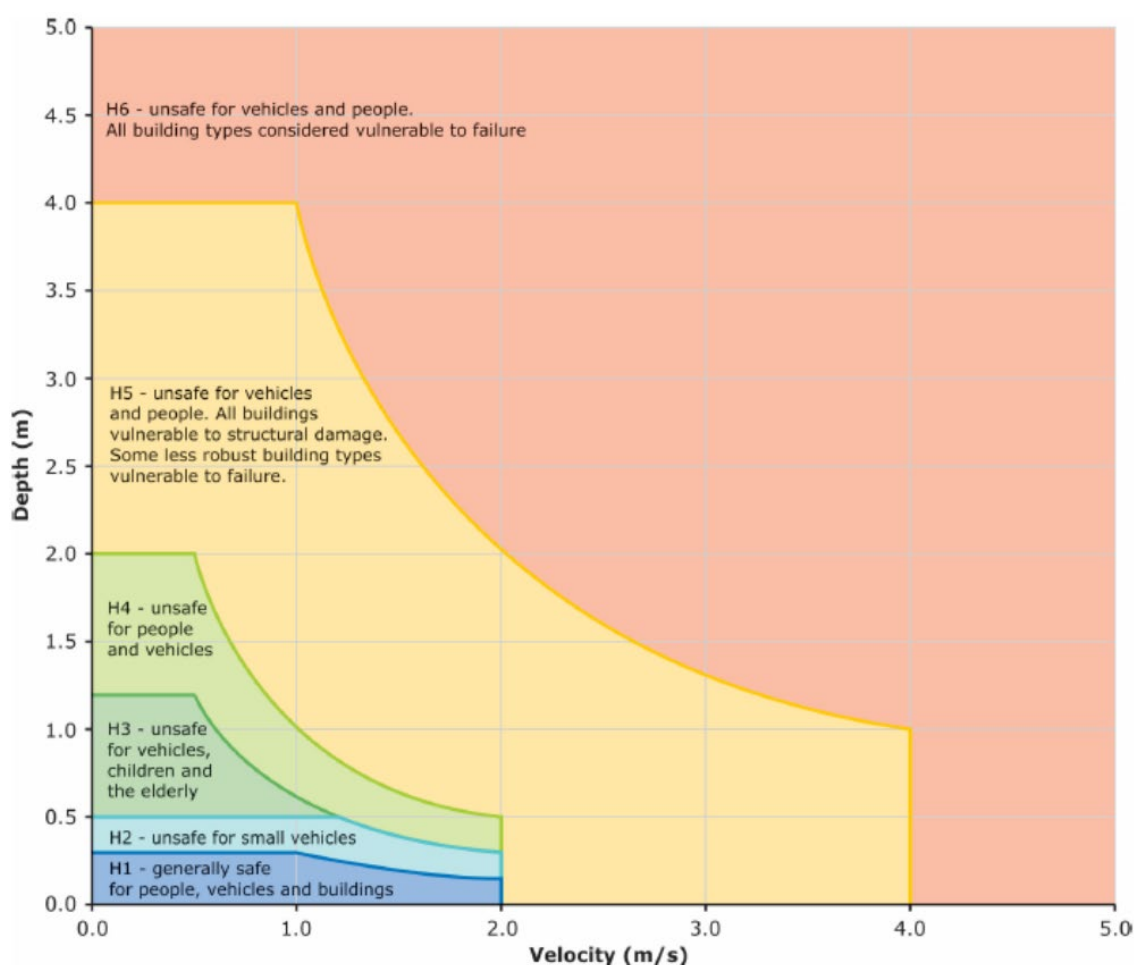


Figure 6.7.9. Combined Flood Hazard Curves (Smith et al., 2014)

### Figure 1: Combined Flood Hazard Curves

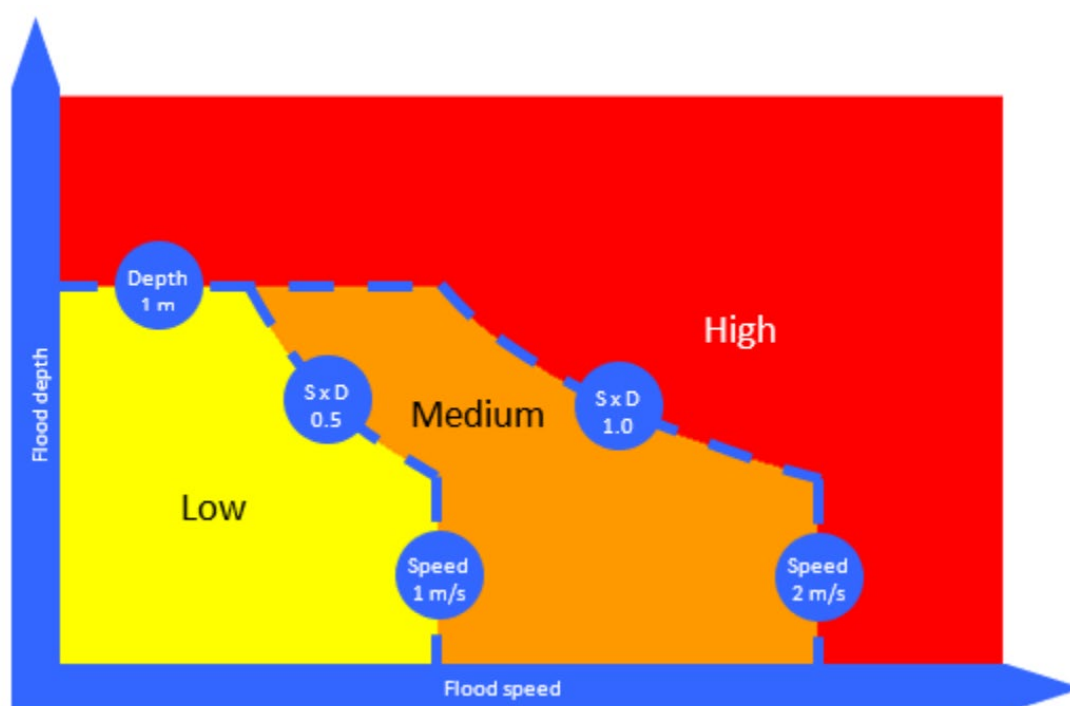
- 4.19 Dr Webby supported Mercury's submission on Policy 15.2.1.1 which sought to split the policy into two parts, with one policy for managing areas of significant flood risk and one policy for managing areas of high flood risk.<sup>21</sup>

<sup>19</sup> Evidence in Chief of Dr. Murray Webby on behalf of Mercury NZ Limited, dated 16 April 2021, Paragraph 6.6.

<sup>20</sup> Ibid Paragraph 6.7.

<sup>21</sup> Ibid Paragraph 6.8.

- 4.20 Mr Angus McKenzie presented planning evidence on behalf of Mercury. In summary, Mr McKenzie's evidence recommended policy and mapping changes to the PDP, to adequately recognise 'significant risk' areas associated with natural hazards within the Waikato District, and to ensure that the full extent of the Flood Plain Management Area is acknowledged.<sup>22</sup>
- 4.21 Mr McKenzie considered the current flood hazard mapping and the related planning framework within the PDP is inadequate.<sup>23</sup>
- 4.22 Ms Carter in the section 42A report closing remarks stated that the High Risk Flood Area is based on the definition of High Risk Flood Zone in the RPS. Ms Carter considered that any change to the High Risk Flood Area in the PDP will not be consistent with the RPS.<sup>24</sup>
- 4.23 Ms Carter stated that the flood classification used to determine the High Risk Flood Zone in the RPS and hence the High Risk Flood Area in the PDP is based on the flood hazard classification used by WRC, which is summarised in Figure 2.<sup>25</sup>



**Figure 2: Flood Hazard Classification used to define the High Risk Flood Zone classification in the RPS**

- 4.24 Ms Carter stated that the extents of the low and medium classification areas in Figure 2 are contained within the Flood Plain Management Area.

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<sup>22</sup> Evidence in Chief of Angus McKenzie on behalf of Mercury NZ Limited, dated 16 April 2021, Paragraph 2.2.

<sup>23</sup> Ibid Paragraph 4.6.

<sup>24</sup> Closing remarks, Section 42A Report Hearing 27C: Flood Hazards and Defended Areas, dated 21 May 2021, Paragraph 15.

<sup>25</sup> Ibid Paragraph 15.

4.25 The section 42A report closing remarks concluded that neither Dr Webby's diagram (Figure 1) nor WRC's High Hazard classification (Figure 2) refer to significant risk. Therefore, to ensure consistency and provide clarity, Ms Carter recommended that submissions in relation to this matter from Mercury and WRC be changed from reject to accept in part, and the respective policies 15.2.1.1, 15.2.1.2, 15.2.1.3 and 15.2.1.4 be amended to replace use of the words 'significant risk' with 'high risk'.<sup>26</sup>

#### Non-statutory layers and catchment management

4.26 Mr Chris Scafton presented planning evidence on behalf of Pokeno Village Holdings Limited (PVHL). In summary, Mr Scafton's evidence discussed the following points:

- a) That the PDP should recognise and require an integrated catchment management approach to stormwater management. Mr Scafton considered that greater clarity with regard to information required to support resource consent applications should be included in the PDP;<sup>27</sup> and
- b) That floodplain mapping be retained as a non-statutory layer as opposed to a statutory layer in the PDP. Mr Scafton's evidence considered that this approach allows for the floodplain mapping to be updated by the Council as required without the need for a Schedule 1 RMA process.<sup>28</sup>

4.27 With respect to catchment management plans, Ms Carter recommended that an information requirement relating to stormwater catchment management plans be included in Section 15.13.

4.28 The section 42A report did not support moving the flood modelling information to a non-statutory GIS viewer. Mr Carter considered that a non-statutory layer:

- a) Is potentially subject to multiple changes, and hence the permitted threshold can change when the maps are tweaked or updated;
- b) Is problematic, as it will allow the Council to update the flood maps without a statutory process and this may not be fair and transparent; and
- c) Does not provide the ability for affected landowners to submit in support or opposition, and there is no recourse to challenge the mapping in terms of RMA processes.<sup>29</sup>

4.29 Ms Carter considered that a statutory layer is more likely to be informed by evidence, because of the rigour of the process to place it within a statutory planning document.<sup>30</sup>

#### Mapping changes

##### *General – High Risk Flood Area*

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<sup>26</sup> Closing remarks, Section 42A Report Hearing 27C: Flood Hazards and Defended Areas, dated 21 May 2021, Paragraph 18

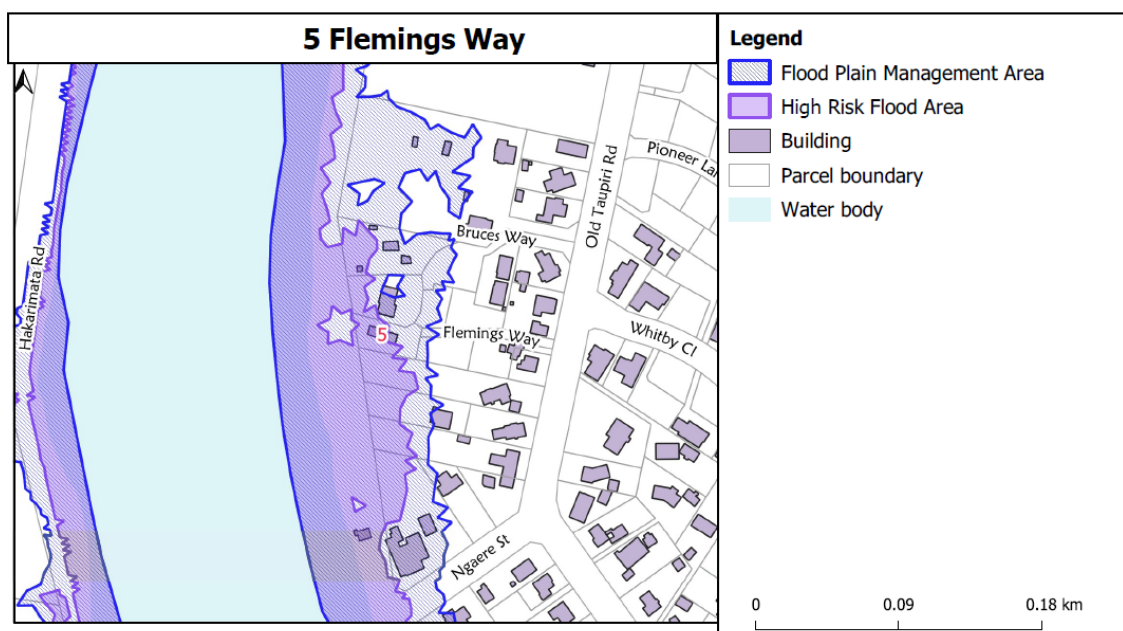
<sup>27</sup> Evidence in Chief of Chris Scafton on behalf of Pokeno Village Holdings Limited, Paragraph 3.1

<sup>28</sup> Ibid Paragraph 5.4.

<sup>29</sup> Above n1 Paragraph 466.

<sup>30</sup> Ibid Paragraph 467.

- 4.30 Mr Daniel Parker presented his submission with respect to his family's site at 5 Flemings Way, Ngaruawahia. Their site is identified as being within the High Risk Flood Area and Flood Plain Management Area on the planning maps.
- 4.31 Mr Parker expressed concern that a site visit had not been undertaken to ground truth this mapping. Mr Parker explained that they intend to extend their dwelling in future, and he considered that the human risk would remain the same, as the same number of people would be living in the house.



**Figure 3: Notified High Risk Flood Area**

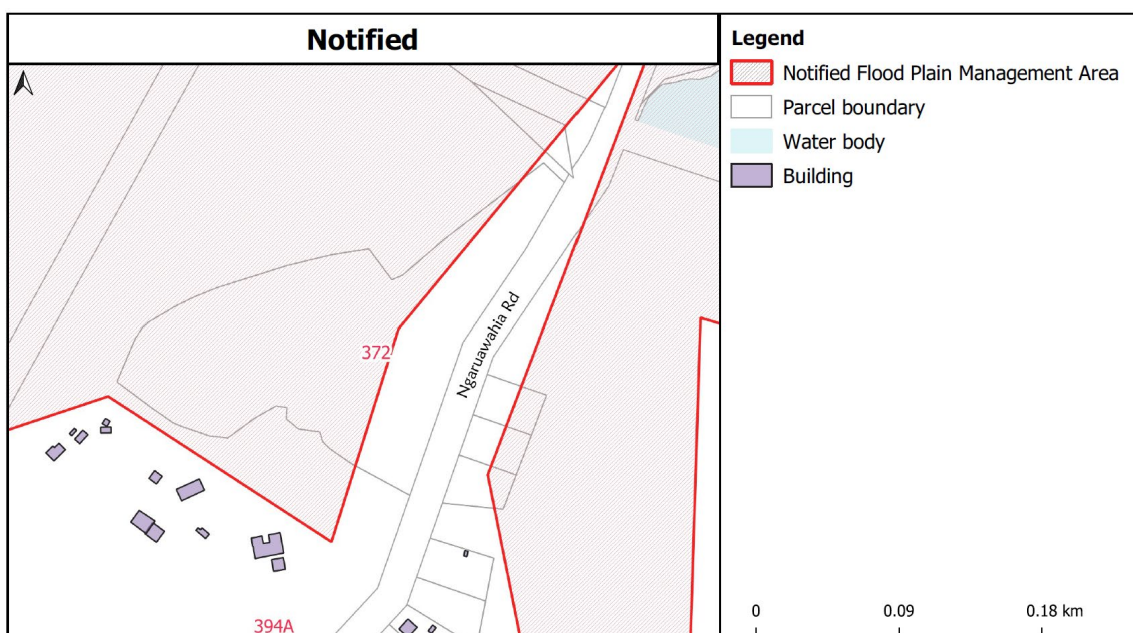
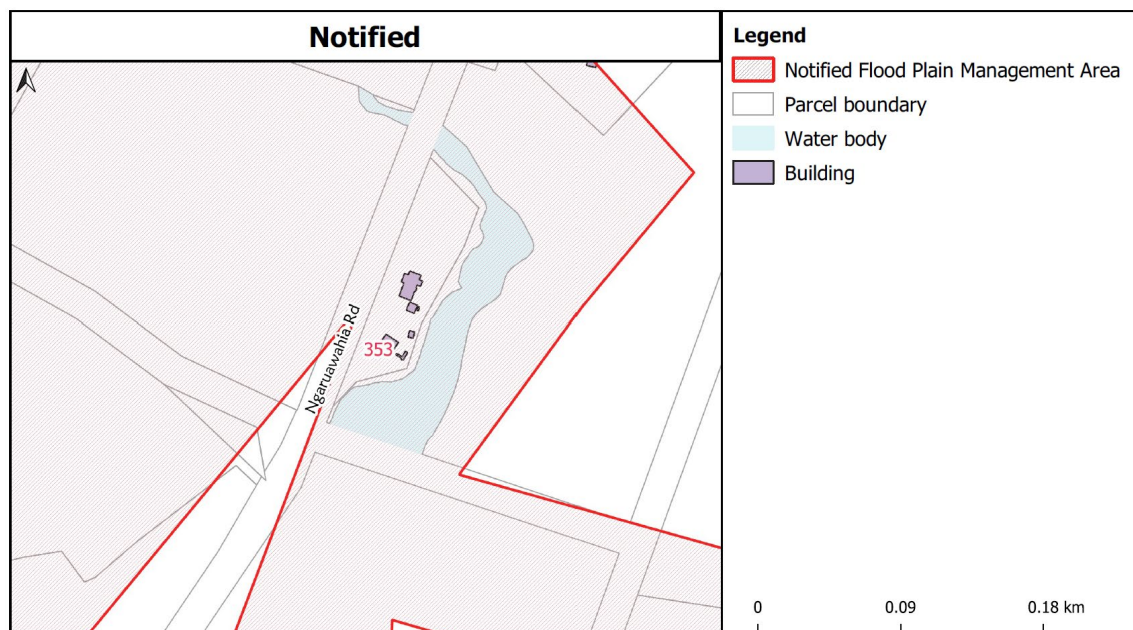
- 4.32 With respect to extending their dwelling, Mr Parker's submission specifically sought an amendment to Rule 15.5.2 RD2 to increase the maximum floor area provided for from 15 m<sup>2</sup> to 80 m<sup>2</sup>.
- 4.33 The section 42A report stated that the purpose of this rule is an acceptance that people sometimes need some potential to extend their homes. However, Ms Carter considered that in order for the risk to not be increased as per Policy 15.2.1.1, only a very small addition is considered appropriate. The section 42A report concluded that an 80 m<sup>2</sup> addition is too large and would see considerable increase in investment and intensification in the High Risk Flood Area.<sup>31</sup>

#### *General – Flood Plain Management Area*

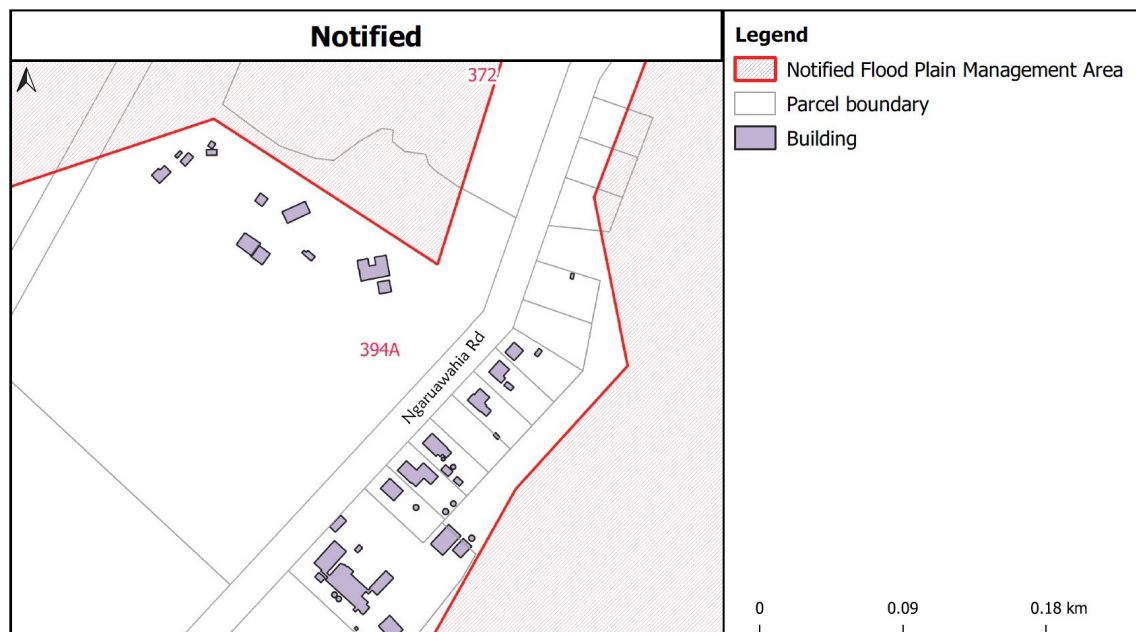
- 4.34 Mr Noel Smith presented the submission of Mrs Betsy Smith with respect to 353, 372 and 394A Ngaruawahia Road, which are identified within the Flood Plain Management Area. Mr Smith sought that a mechanism be included in the PDP to provide flexibility where a site has been included within the Flood Plain Management Area.

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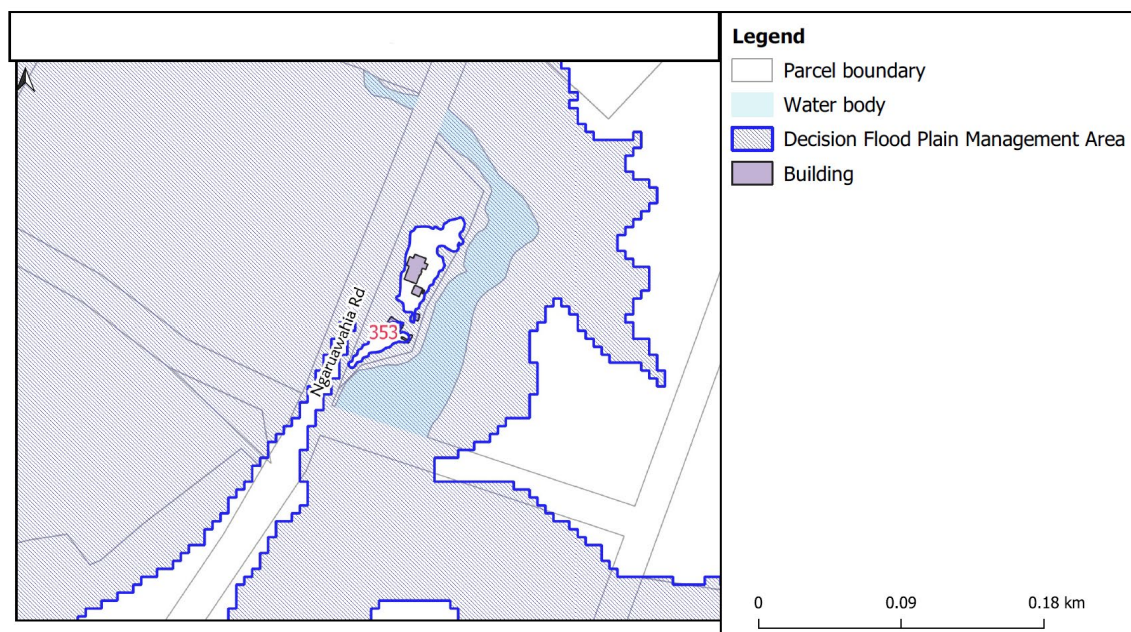
<sup>31</sup> Ibid Paragraph 316.

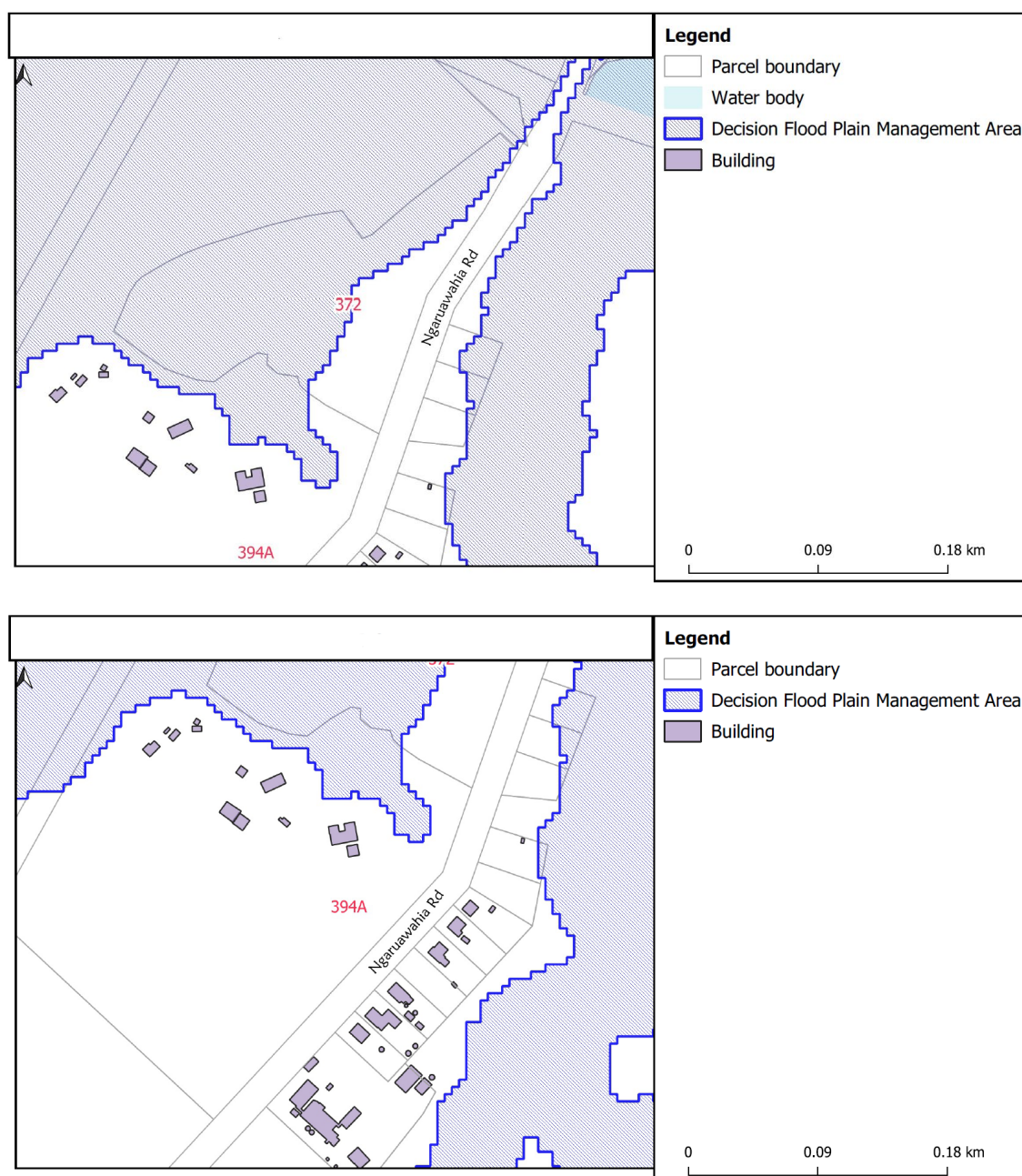






**Figure 4: Notified Flood Plain Management Area**





**Figure 5: Amended in WDC submission**

- 4.35 Mr Noel Smith further submitted in support of Council's submission to update the Waipa 1% AEP flood extent. Ms Carter recommended that this submission point be accepted.
- 4.36 The section 42A report stated that there are a number of submissions who request their properties be taken off the Waipa flood extent overlay but are still clearly well within the revised modelled flood extent. This included a submission point of Betsy and Noel Smith. The section 42A report recommended rejecting this particular submission point.<sup>32</sup>

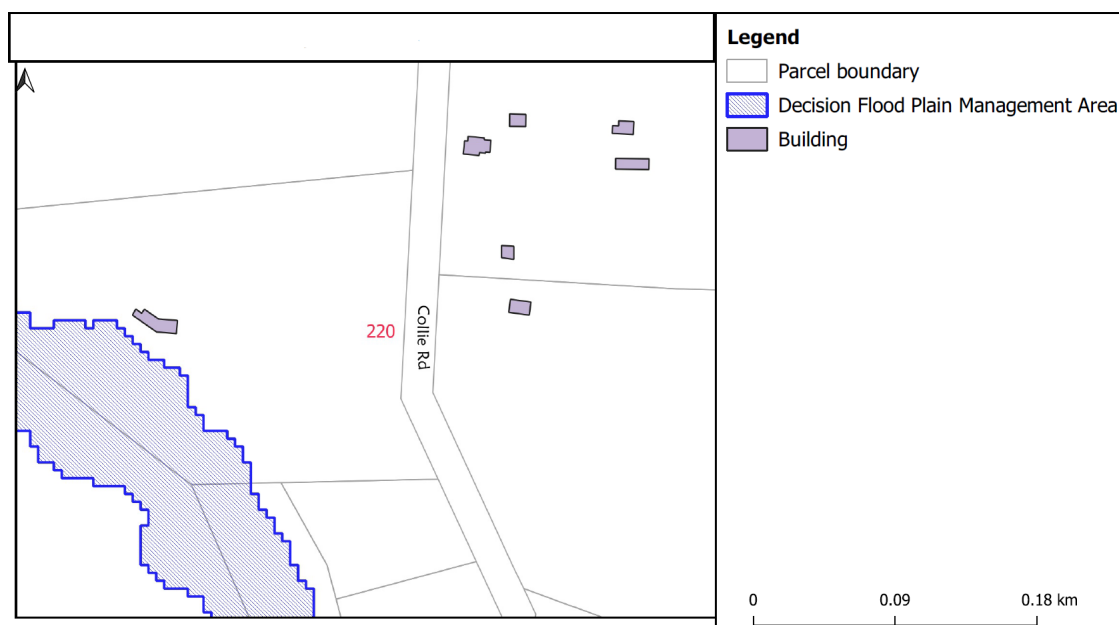
<sup>32</sup> Ibid Paragraph 433.

- 4.37 Ms Teresa Fleming presented the submission on behalf of Fleming Ranch Trust. They own 2 ha of Country Living zoned land on Old Taupiri Road near the Waikato River and intend to develop this in future. Ms Fleming expressed concern regarding the use of LIDAR and the accuracy of the mapping in the PDP. She sought that a method be included in the PDP to provide the ability to 'question' the mapping.
- 4.38 In terms of the provisions, Ms Fleming questioned the basis around floor height and that measuring this from a flood event is vague. Ms Fleming also questioned specific standards with respect to development and subdivision.
- 4.39 Ms Carter offered to meet with Ms Fleming to address a number of questions raised during her presentation.
- 4.40 Mr Graham McBride presented his submission on behalf of himself and Mrs Di McBride, with respect to their property at 220 Collie Road, Te Kowhai. In summary, Mr McBride submitted that the Flood Plain Management Area modelling is unreliable and dated, he stated that a LIDAR update is currently being undertaken.
- 4.41 Mr McBride presented photographs with respect to the Flood Plain Management Area and where this applied on his site. He noted that other properties which are at the same elevation as his site are not included within the Flood Plain Management Area.



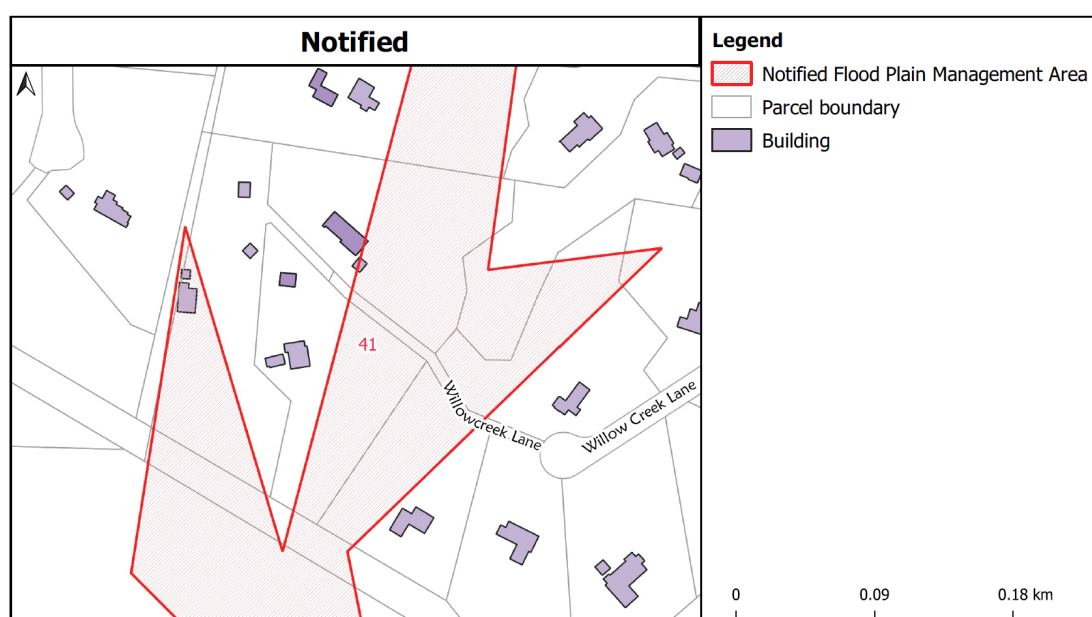
**Figure 6: Notified Flood Plain Management Area**



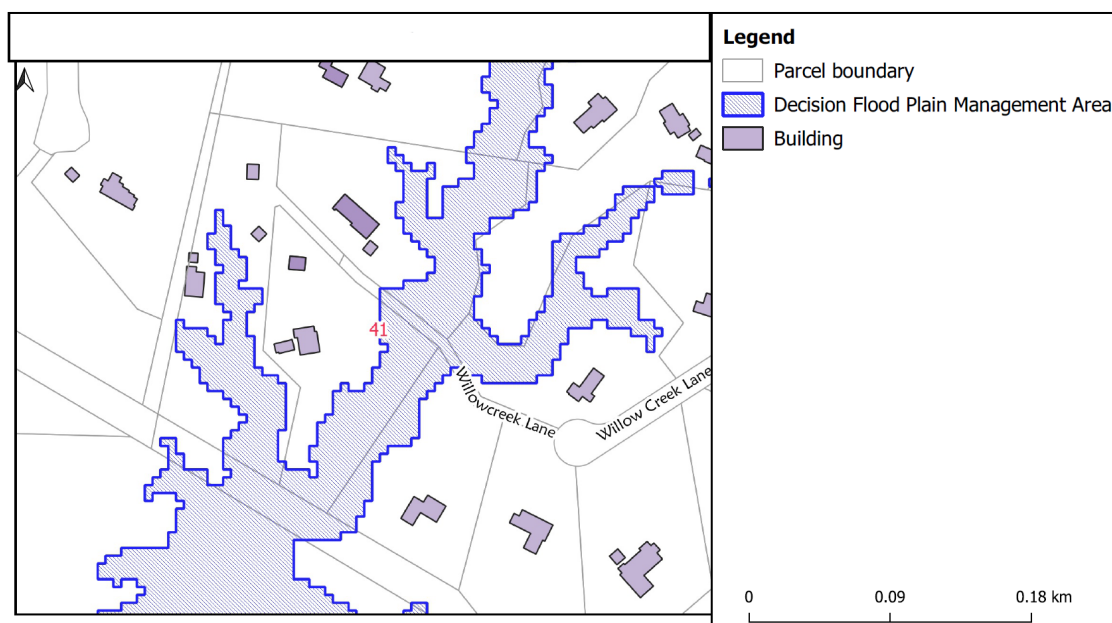


**Figure 7: Amended in WDC submission**

- 4.42 Mr McBride further submitted in support of Council's submission to update the Waipa 1% AEP flood extent. Ms Carter recommended that this submission point be accepted.
- 4.43 Mr Yeroon Hoan presented his submission with respect to his site at 41 Willowcreek Lane, Whatawhata which is within the Flood Plain Management Area, both as notified and in the revised mapping provided in Council's submission.
- 4.44 Mr Hoan submitted that half of the Flood Plain Management Area is on high ground where their houses are situated. He requested that the mapping reflect the contour of the land.



**Figure 8: Notified Flood Plain Management Area**



**Figure 9: Amended in WDC submission**

4.45 Mr Hoan further submitted in support of the Council's submission to update the Waipa 1% AEP flood extent. Ms Carter recommended that this submission point be accepted.

#### Lake Waikare Catchment – Flood Plain Management Area

4.46 Mercury's submission sought that the planning maps be amended to include the flood extent for Lake Waikare and the surrounding catchment below ground level of 8m RL in the Flood Plain Management Area.

4.47 Ms Somerville-Frost's legal submissions clarified Mercury's relief sought, being the identification of flood hazards in Lake Waikare and the Rangiriri Spillway, through the mapping of the 1% AEP design flood level of RL 7.37 m as part of the Flood Plain Management Area.<sup>33</sup>

4.48 On behalf of Mercury, Dr Webby stated that Lake Waikare forms a critical and integral component of the flood management system for the Lower Waikato Waipa River System. It temporarily stores excess volumes of floodwater in the Lower Waikato River and releases the stored volume slowly over time to provide flood relief for people and property further down river.<sup>34</sup>

4.49 Dr Webby's evidence noted that the design flood level of RL 7.37 m for Lake Waikare was last defined in 1983. This level was lower than the design flood level of RL 7.71 m determined in 1959 for the original design of the Lower Waikato Waipa Flood Control Scheme. It was also much lower than the peak flood level of RL 8.38 m which occurred

<sup>33</sup> Legal submissions on behalf of Mercury NZ Limited, dated 6 May 2021, Paragraph 26.1.

<sup>34</sup> Evidence in Chief of Dr. Murray Webby on behalf of Mercury NZ Limited, dated 16 April 2021, Paragraph 2.8.

in the February 1958 flood. Dr Webby stated that the design flood level has not been reviewed since 1983.<sup>35</sup>

- 4.50 Dr Webby considered it imperative that the current design flood level for Lake Waikare of RL 7.37 m is retained as an interim base standard against which the effects of any future development within the local catchment are assessed, pending further review of the design flood level.<sup>36</sup>
- 4.51 The Department of Conservation made a similar submission requesting that RL 7.37 m be used as a basis for High Risk Flood Areas at Lake Waikare.
- 4.52 Mr Matthew Twose presented planning evidence on behalf of Ohinewai Lands Limited. In summary, Mr Twose's evidence set out support for recommendations made in the section 42 report, specifically, Mr Twose did not support changes proposed by Mercury to the planning maps to include land in the catchment surrounding Lake Waikare where ground levels are below 8 m RL. Mr Twose's evidence stated that:
- a) Further modelling would be required to identify and map any additional areas of land that fall within the 1% AEP floodplain. This exercise requires extensive hydrological assessment and analysis;
  - b) It is not appropriate to utilise generic metrics such as the 8 m RL as a substitute for this modelling exercise; and
  - c) The changes to the overlay potentially have significant consequences for Ohinewai Lands Limited's land holdings, and Mr Twose considered that Mercury has not provided any technical evidence to support their requested changes.<sup>37</sup>
- 4.53 Mr Stuart Penfold presented planning evidence on behalf of Ambury Properties Limited. In summary, Mr Penfold generally supported the recommendations made in the section 42 report.
- 4.54 Specifically, Mr Penfold did not support changes sought by Mercury and the Department of Conservation to the Flood Plain Management Area. Mr Penfold's evidence noted that relevant modelling and analysis has been completed as part of the APL rezoning proposal. This assessment showed that that development of the site would result in a negligible increase in water levels or flood extents within the site or on neighbouring land. Mr Penfold noted that while parts of the site will remain as being flooded in the 100-year event, this is restricted to low lying areas in the east that are proposed for stormwater management and ecological enhancement and are designed to accommodate those flood flows.<sup>38</sup>
- 4.55 Mr Penfold's evidence concurred with the recommendation in the section 42A report, that Mercury and the Department of Conservation's respective submissions which sought the additional mapping be rejected.

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<sup>35</sup> Ibid Paragraph 5.3.

<sup>36</sup> Ibid Paragraph 5.7.

<sup>37</sup> Evidence in Chief of Matthew Twose on behalf of Ohinewai Lands Limited, dated 16 April 2021, Paragraph 5.

<sup>38</sup> Evidence in Chief of Stuart Penfold on behalf of Ambury Properties Limited, dated 16 April 2021, Paragraph 2.8.

- 4.56 In the rebuttal section 42A report, Ms Carter considered that including the 8m RL to represent the 1% AEP Flood event in this location would not be consistent with the best practice flood modelling achieved to date for the main channel.<sup>39</sup> In Ms Carter's closing remarks statement, she remained of this view, however concurred with Mercury that the area around Lake Waikare is susceptible to flooding.<sup>40</sup>
- 4.57 The section 42A report closing remarks considered that the best outcome would be achieved by incorporating WRC's flood modelling of the area around Lake Waikare in the PDP by way of a variation or plan change when the modelling is complete.<sup>41</sup>

#### Meremere Dragway – Flood Plain Management Area

- 4.58 Mr Ben Cochrane filed legal submissions on behalf of the Meremere Dragway Incorporated (MDI). Mr Cochrane submitted that MDI sought the removal of the Flood Plain Management Area over land that is protected by the Meremere West Drainage Area, and instead include this land as a Defended Area in the PDP.<sup>42</sup>
- 4.59 Mr Cochrane submitted that there is nothing in the technical information provided by WRC which assesses the Lower Waikato Waipa Control Scheme stop bank design or its capacity to withstand a 1% AEP flood event. Furthermore, Mr Cochrane submitted that this information is not sufficient to justify the restrictions on MDI's use of the land.<sup>43</sup>
- 4.60 As alternative relief, MDI sought that a bespoke rule be included in the PDP that allows for the Defended Area rules to apply to land located within the Meremere West Drainage Area, if technical information is provided to Council stating that the Lower Waikato Waipa Control Scheme stop bank protects against a 1% AEP flood event.<sup>44</sup>
- 4.61 In the section 42A report closing remarks, Ms Carter reiterated that land within a Defended Area is required to be protected from a 1% AEP flood event. Therefore, stop banks must be both designed and maintained at that level of service to provide that guaranteed level of protection. Ms Carter set out that the Meremere West Stopbank Level of Service is to protect land from a 10% AEP design flood of the Waikato River, and therefore does not meet the criteria to be identified as a Defended Area. Mr Liefting of WRC stated that there is a considerable process to be undertaken by WRC for a change of Level of Service of the stop banks and change to the targeted rate for property owners.<sup>45</sup>
- 4.62 With respect to the alternative relief of a bespoke rule, Ms Carter agreed with our questioning that such a rule would still require certification by WRC. Ms Carter considered that if a change of Level of Service occurred in future, this could be considered through a resource consent process.<sup>46</sup> Overall, the section 42A report retained the recommendation that both the request to change the Flood Plain

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<sup>39</sup> Rebuttal Section 42A Report Hearing 27C: Flood Hazards and Defended Areas, dated 3 May 2021, Paragraph 15.

<sup>40</sup> Closing remarks, Section 42A Report Hearing 27C: Flood Hazards and Defended Areas, dated 21 May 2021, Paragraph 10

<sup>41</sup> Ibid Paragraph 12.

<sup>42</sup> Legal submissions of Meremere Dragway Incorporated, dated 5 May 2021, Paragraph 2.

<sup>43</sup> Ibid Paragraph 4.

<sup>44</sup> Ibid Paragraph 18.

<sup>45</sup> Above n40 Paragraphs 21 and 22.

<sup>46</sup> Ibid, Paragraph 23.

Management Area on the planning maps and inclusion of a bespoke rule in the PDP be rejected.

#### Hazardous substances

- 4.63 On behalf of POAL, Mr Arbuthnot considered that if we were minded to include the alternative version of the hazardous substances provisions from Hearing 8A in the PDP, he stated that these provisions would be sufficient to address the effects of natural hazards on hazardous facilities and do not require further replication in Chapter 15.<sup>47</sup>
- 4.64 Mr Jesse Gooding presented planning evidence on behalf of Federated Farmers of New Zealand (FFNZ). Mr Gooding's evidence covered the following matters:
- a) With respect to hazardous facilities and substances, Mr Gooding expressed concern regarding a proposal to include a definition Chapter 15 and the activities this may capture. As an alternative, he expressed support for the approach set out in the Proposed New Plymouth District Plan; and
  - b) In addition to above, Mr Gooding raised concerns with what earthworks could be undertaken in a Defended Area. Mr Gooding sought an additional permitted activity rule for rural ancillary earthworks.
- 4.65 Ms Carter clarified in the rebuttal section 42A report that the intention is that if we are of a mind to provide a specific Chapter 15 definition for hazardous facilities, that such a definition could focus on smaller volumes than those identified for major hazardous facilities. For instance, the storage of less than 100,000 L of petrol, or 50,000 L of diesel is a permitted activity anywhere in the district in the alternative version of the Hazardous Substances provisions, but Ms Carter noted that this could be considered too high a threshold in a flood hazard area, given the RPS directive within the 1% AEP flood plain and Policy 15.2.1.14.<sup>48</sup>

#### Other and General Agreement with s42A Recommendations

- 4.66 Ms Rebecca Eng tabled a letter on behalf Transpower. This confirmed the following matters:
- c) Support for the retention of the definition of 'minor upgrading'; and
  - d) That a specific reference to substations in the 'utility' definition is sought. Ms Eng noted that this submission point was accepted by the section 42A report author.<sup>49</sup>
- 4.67 Ms Alec Duncan tabled a letter on behalf of Ministry of Education. This letter set out support for the recommended changes in the section 42A report, primarily that the introduction of a 'natural hazard-sensitive land use' activity is unnecessary.<sup>50</sup>

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<sup>47</sup> Summary Statement of Mark Arbuthnot on behalf of Ports of Auckland Limited, dated 5 May 2021, Paragraph 1.9.

<sup>48</sup> Rebuttal Section 42A Report Hearing 27C: Flood Hazards and Defended Areas, dated 3 May 2021, Paragraph 42.

<sup>49</sup> Letter from Ms Rebecca Eng regarding Hearings on the Proposed Waikato District Plan, dated 20 April 2021.

<sup>50</sup> Letter from Ms Alec Duncan regarding Fire and Emergency New Zealand – Letter to be tabled at Hearing 27: Natural Hazards and Climate Change, dated 13 April 2021.

- 4.68 Ms Carolyn McAlley tabled planning evidence on behalf of Heritage New Zealand Pouhere Taonga. In summary, Ms McAlley generally supported the recommendations of the section 42A report.<sup>51</sup>
- 4.69 Ms Alec Duncan also tabled a letter on behalf of Fire and Emergency New Zealand. This letter set out general support for the recommended changes in the section 42A report.<sup>52</sup> Ms Duncan noted that the relief sought by Fire and Emergency New Zealand with respect to Policy 15.2.1.11 had not been considered in the section 42A report.

## **5 Panel decisions**

- 5.1 The section 42A report addressed over 300 submission points from 39 submitters and more than 350 further submissions points on Stage 2 the PDP. The section 42A author analysed these and made a recommendation for each submission to be accepted or rejected by us, along with some changes to the PDP text and planning maps. The author made additional comments in their closing remarks.
- 5.2 Given the sheer volume of submissions, we do not attempt to address every submission point individually and instead focus on them thematically by reference to the key changes sought by submitters.

### Activity status for non-compliance

- 5.3 We accept the recommendations of Mr Arbuthnot and Mr Sharman. We find that the environmental effects are well understood and can be expressed as matters of discretion for a restricted discretionary activity. Given this, we have amended the activity status for non-compliance with rules Rule 15.4.1 P1 – P5 from a discretionary activity to a restricted discretionary activity.
- 5.4 We also note that this amendment addresses the submissions of Mr Smith and Ms Fleming in part. Both submitters sought flexibility in the rule framework, in addition to amendments to the Flood Plain Management Area mapping. This amendment provides certainty and limits the assessment of resource consent applications to a defined set of matters, as opposed to a full discretionary resource consent application.

### Flood Ponding Areas

- 5.5 We accept the evidence of Mr Arbuthnot and recommendation of Ms Carter. We agree that the notified PDP provisions place the burden on landowners and applicants to determine whether the Flood Ponding Area provisions apply to them. We have amended the PDP provisions so that the Flood Ponding Area rules only apply to mapped areas.

### Infrastructure and network utilities

- 5.6 We accept the recommendation of Ms Carter. We find that this amendment satisfies the alternative relief requested by Genesis as ‘electricity generation infrastructure’ would be

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<sup>51</sup> Evidence in Chief of Ms Carolyn McAlley on behalf of Heritage New Zealand Pouhere Taonga, dated 16 April 2021, Paragraph 4.

<sup>52</sup> Letter from Ms Alec Duncan regarding Fire and Emergency New Zealand – Letter to be tabled at Hearing 27: Natural Hazards and Climate Change, dated 13 April 2021.

effectively included in the 'utilities' definition, and thus 'electricity generation infrastructure' would be captured by rules 15.4.1 P5 and 15.4.1 P6.

#### Natural Hazard Sensitive Land Uses

- 5.7 Mr Beban and Ms Gunnell recommended the inclusion of 'natural hazard sensitive land uses' in the policy framework, rules and definitions. Ms Carter raised concerns that the definitions select some activities over others, when in fact many activities will be 'sensitive' to natural hazards in one way or another.
- 5.8 We share these same concerns and reject the submission of WRC.
- 5.9 Mr Beban and Ms Gunnell recommended further controls within Defended Areas where there is residual risk arising from stop bank failure. Ms Carter was concerned that there was no scope for the inclusion of a new rule in the PDP.
- 5.10 Again, we agree with Ms Carter and reject the submission point of WRC. We were concerned that no scope was identified for this recommendation, and that landowners may not be aware of this proposed change to the rule framework for Defended Areas.

#### Risk based approach

- 5.11 We have considered the evidence before us and agree that the amendments recommended to the policy framework by Ms Carter go some way to resolving the matters raised by Dr Webby, including the concern regarding 'high risk' and 'significant risk' being used interchangeably. Given this, we have amended the policy framework to refer to 'high risk'.
- 5.12 We have also closely considered the two differing flood modelling curves / classifications included in evidence of Dr Webby and Ms Carter. However, we find the evidence of Ms Carter compelling. She concluded that the High Risk Flood Area is based on the definition of the High Risk Flood Zone in the RPS, and she considered that a change to the High Risk Flood Area for the PDP would not be consistent with the RPS. Ms Carter remained of the view that the flood hazard framework (High Risk Flood Area and Flood Plain Management Area) in the PDP must give effect to the RPS.
- 5.13 We accept the recommendations of Ms Carter. We consider that this framework gives effect to the RPS.

#### Non-statutory Layers and catchment management

- 5.14 Ms Carter recommended that an information requirement relating to stormwater catchment management plans be included in Section 15.13. She recommended rejecting the submission which sought flood hazard mapping be retained as a non-statutory layer.
- 5.15 We accept the recommendations of Ms Carter with respect to both matters and adopt her reason as set out in Paragraphs 4.28 and 4.29 of this Decision.

#### Mapping changes

##### *General - High Risk Flood Area and Flood Plain Management Area*

- 5.16 Mr Parker's submission sought an amendment to Rule 15.5.2 RD2 to increase the maximum floor area provided for from 15 m<sup>2</sup> to 80 m<sup>2</sup>. Ms Carter considered this amendment to be inconsistent with Policy 15.2.1.1 and recommended rejecting the submission.
- 5.17 We agree with Ms Carter, as we consider an 80 m<sup>2</sup> addition is too large and would see considerable increase in investment and intensification in the High Risk Flood Area.
- 5.18 Mr Smith, Ms Fleming, Mr McBride and Mr Hoan all presented their submissions with respect to the Flood Plain Management Area. Mr Smith, Mr McBride and Mr Hoan all supported Council's submission to update the Flood Plain Management Area mapping with respect to the Waipa River, however had residual concerns that the revised overlay still applied to their properties.
- 5.19 Mr Smith specifically sought flexibility in the rule framework; this was supported by Ms Fleming. As stated at Paragraphs 4.3 and 4.4 of this Decision, we have amended the activity status for non-compliance with the rules in the Flood Plain Management Area. This amendment provides certainty, and limits assessment of resource consent applications to a defined set of matters, as opposed to a full discretionary resource consent application.
- 5.20 Given this, we accept the submission of Council to amend the extents of the Flood Plain Management Area with respect to the Waipa River.

#### Lake Waikare Catchment – Flood Plain Management Area

- 5.21 We have considered the evidence of both Dr Webby and Mr Liefing. Dr Webby's evidence noted that the design flood level of RL 7.37m for Lake Waikare was last defined in 1983. Mr Liefing noted that the Lake Waikare 1% AEP level is not solely based on flows from the Waikato River as inflows, outflows and evaporation are taken into account to determine lake levels.
- 5.22 Mr Liefing referred to the 2005 report which estimated a new 1% AEP flow for the Waikato River and derived a new 1% AEP level for Lake Waikare of 6.70m RL. Mr Liefing also accepted that the 2005 report highlighted that changes in the hydrology and hydraulics of the Waikato River are likely and would affect the current understanding of a 1% AEP for both the Waikato River and therefore Lake Waikare.
- 5.23 The section 42A report closing remarks considered that the best outcome would be achieved by incorporating WRC's updated flood modelling of the area around Lake Waikare in the PDP by way of a variation or plan change when additional modelling is complete.
- 5.24 We concur with Ms Carter's recommendation and agree that the PDP would benefit from additional flood modelling for Lake Waikare given the potential changes raised by Mr Liefing. Whilst we cannot direct this future process, we do strongly recommend that a plan change is undertaken as soon as this information is available.
- 5.25 A future plan change process also addresses our other concern that a number of landowners have not had the opportunity to comment on Mercury's proposal, given this



was not mapped in their submission. We note that all landowners in the Flood Plain Management Area were provided with a letter at the time of notification of Stage 2, advising that their property was located within the flood hazard mapping.

- 5.26 Given the above, we have retained the Flood Plain Management Area surrounding Lake Waikare as in the notified PDP.

#### Meremere Dragway – Flood Plain Management Area

- 5.27 We agree with the recommendations and reasons of Ms Carter, that first, the Flood Plain Management Area remain as notified and second, that the request for a bespoke rule be rejected as this rule would still require certification by Council and WRC. Regardless, if a change of Level of Service occurred in future, this could be considered through a resource consent process.

#### Hazardous substances

- 5.28 We agree with Mr Arbuthnot that the provisions of Chapter 10, as amended by us, are sufficient to address the effects of natural hazards on hazardous facilities and do not require further replication in Chapter 15. We note that consideration of natural hazards is required as part of a risk assessment for a Significant Hazard Facility. Given this, we have removed the inclusion of hazardous substances from this chapter of the PDP.

## **6 Conclusion**

- 6.1 We accept and / or the section 42A report and the evidence filed by the submitters for the reasons provided in this Decision, collectively forming the section 32AA assessment informing this Decision.
- 6.2 Overall, we are satisfied that the flood hazard provisions as amended will provide a suitable framework for avoiding or mitigating risks from natural hazards on people, property, infrastructure and the environment from subdivision, use and development of land.

**For the Hearings Panel**



**Dr Phil Mitchell, Chair**

**Dated: 17 January 2022**

# Chapter 15: Natural Hazards and Climate Change

## 15.1 Introduction

1. The Natural Hazards and Climate Change chapter identifies risks associated with natural hazards and manages land use in areas subject to risk from natural hazards. It identifies areas where certain types of new development will be avoided because of the natural hazards present, but also recognises that there is existing development, including infrastructure, already located on land subject to natural hazards. These areas will require management through mitigation and adaptation to ensure that the risk of damage to property, or injury or loss of lives is not increased.
2. This chapter sets out a two-tiered approach where natural hazard risk from subdivision, use and development is to be avoided within the following identified high risk natural hazard areas:
  - a. High Risk Flood Area;
  - b. High Risk Coastal Inundation Area; and
  - c. High Risk Coastal Erosion Area.
3. Outside of these areas, subdivision, use and development is provided for where natural hazard risk can be adequately avoided, remedied or mitigated and the risk is not exacerbated or transferred to adjoining sites.
4. The following natural hazards areas have been identified and mapped in the district plan:

<b>Overlay</b>	<b>Description</b>
<b><u>Flood hazards</u></b>	
<u>High Flood Risk Areas</u>	<u>Identifies areas within the floodplain where the depth of flood water in a 1% AEP flood event exceeds 1 metre and the speed of flood water exceeds 2 metres per second, or the flood depth multiplied by the flood speed exceeds one.</u>
<u>Flood Plain Management Area</u>	<u>Identifies the 1% Annual Exceedance Probability (AEP) floodplain and has been developed through both 1D and 2D modelling, depending on the level of information available.</u>
<u>Flood Ponding Areas</u>	<u>Identifies areas that experience floodwater ponding in a 1% AEP rainfall event.</u>
<u>Residual Risk Areas / Defended Areas</u>	<u>Identifies areas of land that would be at risk from a natural hazard event if it were not for a structural defence such as a stopbank.</u>
<b><u>Coastal hazards</u></b>	
<u>High Risk Coastal Inundation Area / High Risk Coastal Erosion Area</u>	<u>Identify land where there is significant risk from either coastal inundation or coastal erosion with existing sea level and coastal processes.</u>
<u>Coastal Sensitivity Area (Erosion) / Coastal Sensitivity Area (Inundation)</u>	<u>Identify land that is potentially vulnerable to either coastal erosion or coastal inundation over a 100 year period to 2120, assuming a sea level rise of 1.0 metre.</u>
<b><u>Subsidence risk</u></b>	
<u>Mine Subsidence Risk Area</u>	<u>Identifies an area where subsidence has occurred at Huntly due to former underground coal mining.</u>

- (1) ~~The Natural Hazards chapter identifies risks associated with natural hazards and manages land use in areas subject to a the risk from natural hazards. It identifies areas where certain types of new development will be avoided because of the natural hazards present, but also~~

~~recognises that there is existing development, including infrastructure and historic heritage, already located on land subject to natural hazards, and that in some circumstances new infrastructure development in natural hazard areas may be appropriate where the criteria in the plan are met. These areas will require management through mitigation and adaptation to ensure that the risk of damage to property, historic heritage or sites and areas of Significance to Maaori or injury or loss of lives is not increased.~~

- ~~(2) Maaori freehold land has particular considerations when addressing the potential impact of natural hazards and climate change. This issue has been recognised in this chapter.~~
- ~~(3) This district plan adopts a risk-based approach to natural hazard management. The risk that natural hazards pose to the Waikato District is made up of several factors including:
  - ~~(a) the nature, magnitude and extent of the hazard;~~
  - ~~(b) the anticipated frequency or probability of the hazard event occurring; and~~
  - ~~(c) the exposure and vulnerability of the environment to the hazard, including the likely community losses/damages that could occur.~~~~
- ~~(4) An understanding of both the scale and likelihood of the natural hazard event, and the likely consequences to the community, are central to the risk-based approach. From a district plan perspective, a risk-based approach requires identification and management of activities based on the level of risk to which they are exposed (e.g. farming may be acceptable in a high flood risk area, whereas residential development may not). The level of control over activities in the district plan is therefore related to the level of risk, and whether such risks are considered acceptable or not.~~
- ~~(5) More frequently occurring natural hazards in the Waikato District include flooding, coastal erosion and land instability (land slips and subsidence). The Waikato and Waipa Rivers for instance, flow through the district and can carry large flood flows. The coastal margins are subject to storm events, and sandy areas are particularly vulnerable to erosion by such events. In addition, flood ponding often occurs after heavy rainfall in the Waikato basin.~~
- ~~(6) New Zealand in general is a high earthquake hazard region and earthquake (and associated fault movement, ground shaking and liquefaction) considerations are integral to the design of the built environment<sup>1</sup>. Location of faults in Waikato District may be problematic, due to alluvial sediment and associated processes masking fault traces. While liquefiable soils are generally found within Holocene sediments in river valleys, more work is required within the Waikato District to determine areas where the liquefaction risk is high.~~
- ~~(7) Less frequent natural hazards in the Waikato District, such as wild fires, tsunamis, extreme wind events and drought, may not need a district plan response. Emergency management by groups such as Civil Defence play a significant role, using hazard management tools such as education and advocacy, warning systems and emergency preparedness. There are also non-statutory instruments or processes, such as civil defence recovery plans, and programmes to increase community preparedness, including contingency planning. Insurance and emergency services also play an important role.~~
- ~~(8) High quality up-to-date information is important for natural hazard risk management. The district plan requires the use of the best information available to identify land that may be subject to natural hazards. This includes historical flood data and photographic evidence of flood or high flow events, hazard maps, databases (such as the regional and district hazard registers) and technical reports held by the Council, and the interpretation of these by qualified and experienced professionals.~~

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<sup>1</sup> MBIE module 3: Identification, Assessment and Mitigation of Liquefaction Hazards May 2016 Rev 0

- (9) ~~Climate change has the potential to increase risk through exacerbating natural hazards, but will also have effects on the environment beyond natural hazards. The Ministry for the Environment predicts the effects of climate change on the Waikato District to include overall warmer temperatures, fewer frosts, a decrease in spring rainfall, increased storm events (including extreme winds) and an average rise in mean sea level. This is likely to mean more frequent droughts leading to water shortages, more inland flooding and salt water intrusion in low-lying coastal areas and an increase in erosion and land instability. For this reason, an allowance for the projected effects of climate change, based on the RCP 6.0 scenario over a 100-year period to 2120, has been included in the 2D flood modelling of key risk areas within this district plan.~~  
~~The key risk areas are located from (Horotiu — Huntly — Ohinewai) and include the Flood Plain Management Area, the High Risk Flood Area and two Flood Ponding Areas. No climate change allowance is included in the 1D modelling for the remainder of the Flood Plain Management Areas. Specific provision has also been made within the Coastal Sensitivity Areas in respect to development that may be impacted by the projected effects of sea level rise over a 100-year timeframe~~
- (10) ~~The Flood Plain Management Area is the 1% Annual Exceedance Probability (AEP) floodplain, and is identified through both 1D and 2D modelling, depending on the level of information available. Between Horotiu — Huntly — Ohinewai, where 2D modelling is available, High Flood Risk Areas have also been identified. These are areas within the floodplain where the depth of flood water in a 1% AEP flood event exceeds 1 metre or and<sup>9</sup> the speed of flood water exceeds 2 metres per second or the flood depth multiplied by the flood speed exceeds one,~~ which is considered to put the community at an unacceptable (or intolerable) level of risk in terms of the potential for loss of life, injury or serious damage to property. Subdivision and new activities within the High Flood Risk overlay are carefully regulated.
- (11) ~~The planning maps identify only two flood ponding areas that experience floodwater ponding in a 1% AEP rainfall event. One of the areas is located in the southern part of Huntly adjacent to the river and the other is west of Huntly across the Waikato River adjacent to Lake Waahi and Lake Puketirini. The flood plain rules in this district plan apply to 1% AEP ponding areas including the two specifically identified in the district plan. Other 1% AEP ponding areas will be required to be identified by a suitably qualified and experienced professional as part of an application for resource consent or a plan change.~~
- (12) ~~Residual Risk Areas are areas of land that would be at risk from a natural hazard event if it were not for a structural defence such as a stopbank. In the district plan, these are areas of land protected by stopbanks with a design level of service of at least a 1% AEP flood event, and are generally located along the length of the Waikato River. For the purpose of the district plan, these areas have been called Defended Areas. The district plan includes provision for land protected by stopbanks to ensure that the residual risk is understood and considered as part of any subdivision or development proposals, or any proposal to rezone land to a more intensive land use.~~
- (13) ~~The High Risk Coastal Hazard (Inundation) Area and High Risk Coastal Hazard (Erosion) Area overlays identify land where there is significant risk from either coastal inundation or coastal erosion with existing sea level and coastal processes. The Coastal Sensitivity Area (Erosion) and Coastal Sensitivity Area (Inundation) overlays identify land that is potentially vulnerable to either coastal erosion or coastal inundation over a 100-year period to 2120, assuming a sea level rise of 1.0 metre.~~
- (14) ~~While liquefaction areas have not been identified on the planning maps, provisions in the district plan require this seismically induced natural hazard to be assessed before new~~

~~zonings or subdivision and development are undertaken. This will primarily be achieved through resource consent or plan change processes.~~

- ~~(15) Areas of slope instability can occur within the district. To comprehensively identify these areas over the entire district is not practical, given the size of the district and the changing circumstances in which slope instability occurs (often after high rainfall or seismic events). Consequently, assessment matters are included in the subdivision rules that require a geotechnical investigation to confirm that a building platform is stable before subdivision or development takes place.~~
- ~~(16) Subsidence has occurred at Huntly due to former underground coal mining and is identified as a Mine Subsidence Risk Area. Risk to new dwellings in this area is regulated through a discretionary activity resource consent process.~~
- ~~(17) Wind and seismic loadings are controlled by the Council under the Building Act 2004. The risk of fire hazard is controlled by the Waikato Regional Council, the Department of Conservation and the Waikato District Council through legislation other than the RMA, using both regulation and by increasing public awareness through information.~~
- ~~(18) Methods to increase resilience to projected changes in climatic conditions will increasingly be incorporated into all aspects of land use planning and natural hazard management. Further to this, there will be an increased focus on environmental protection and facilitating inland migration of biodiversity. Methods in this district plan will include promoting low impact urban design and green infrastructure, and increased coastal hazard setbacks to provide a more sustainable and adaptive approach to development.~~

## 15.2 Objectives and Policies

### Objective 15.2.1 – Resilience to natural hazard risk

~~A resilient community where the risks from natural hazards on people, property, infrastructure and the environment from subdivision, use and development of land are avoided or appropriately mitigated.~~

Objective 15.2.1: In an identified high risk natural hazards area, the risks associated with natural hazards on people, property and infrastructure from subdivision, use and development of land are avoided.

Objective 15.2.X: Subdivision, use and development within areas at risk from natural hazards are managed so that natural hazard risks on people, property and infrastructure are avoided, remedied or mitigated.

#### Policy 15.2.1.1 - New development in areas at ~~significant~~ high risk from natural hazards

~~(a) Avoid new subdivision, use and development where they will increase the risk to people's safety, well-being and property in the following areas identified as being at significant high risk from natural hazards:~~

- ~~(i) High Risk Flood Area;~~
- ~~(ii) High Risk Coastal Hazard (Inundation) Area;~~
- ~~(iii) High Risk Coastal Hazard (Erosion) Area.~~

- (a) Avoid subdivision, use and new development in the following high risk natural hazard areas:
  - (i) High Risk Flood Area;
  - (ii) High Risk Coastal Inundation Area;

- (iii) High Risk Coastal Erosion Area,  
where there is an increase in risk to people and property.

**Policy 15.2.1.2 - Changes to existing land use activities and development in areas at significant high risk from natural hazards**

- (a) In areas of High Risk Flood, High Risk Coastal ~~Hazard~~ (Erosion) and High Risk Coastal ~~Hazard~~ (Inundation), ensure that when changes to existing land use activities and development occur, a range of risk reduction options are assessed, and development that would increase risk to people's safety, well-being and property is avoided.

**Policy 15.2.1.2A Small scale non-habitable structures in areas subject to high risk from natural hazards.**

- (a) Enable small scale accessory and farm buildings to be located within areas at high risk from natural hazards, including High Risk Flood, High Risk Coastal Inundation and High Risk Coastal Erosion, provided the risks to people, property and the environment beyond the site are managed to acceptable levels.

**Policy 15.2.1.3 - New emergency services and hospitals in areas at significant high risk from natural hazards**

- (a) Avoid locating new emergency service facilities and hospitals in areas which are at significant high risk from natural hazards, including High Risk Flood, High Risk Coastal ~~Hazard~~ (Inundation) and High Risk Coastal ~~Hazard~~ (Erosion), unless, considering engineering and technical constraints or functional and operational requirements, they cannot be reasonably located elsewhere and will not increase the risk to or vulnerability of people or communities.

**Policy 15.2.1.4 - New and upgrading of infrastructure and utilities in areas subject to significant high risk from natural hazards**

- (a) Enable the construction of new infrastructure, utilities and ancillary activities and upgrading of existing infrastructure and utilities, in areas at significant high risk from natural hazards, including High Risk Flood, High Risk Coastal ~~Hazard~~ (Inundation) and High Risk Coastal ~~Hazard~~ (Erosion) areas only where:
  - (i) the infrastructure and utilities are technically, functionally or operationally required to locate in areas subject to natural hazards, or it is not reasonably practicable to be located elsewhere; and
  - (ii) any increased risks to people, property and the environment are mitigated to the extent practicable; and
  - (iii) the infrastructure and utilities are designed, maintained and managed, including provision of hazard mitigation works where appropriate, to function to the extent practicable during and after natural hazard events.

**Policy 15.2.1.5 - Existing infrastructure and utilities in all areas subject to natural hazards**

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

**Policy 15.2.1.6 - Managing natural hazard risk generally**

- (a) ~~Provide for rezoning, subdivision, use and development outside High Risk Flood, High~~

~~Risk Coastal Hazard (Inundation) and High Risk Coastal Hazard (Erosion) Areas where natural hazard risk has been appropriately identified and assessed and can be adequately avoided, remedied or mitigated and does not transfer or exacerbate risk to adjoining properties.~~

- (a) Outside of high risk natural hazard areas, provide for subdivision, use and development where:
  - (i) natural hazard risk has been appropriately identified and assessed;
  - (ii) the risk can be adequately avoided, remedied or mitigated;
  - (iii) the risk does not transfer to adjoining sites; and
  - (iv) the risk is not exacerbated.

#### **Policy 15.2.1.7 - Protection from risks of coastal hazards**

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

#### **Policy 15.2.1.8 – Limitations on hard protection works for coastal hazard mitigation**

- (a) Ensure that where ~~new~~ hard protection structures and works are ~~necessary~~ proposed to protect existing development on public or privately-owned land from coastal hazards that the following is achieved, they are appropriately assessed and controlled and:
  - (i) The structures have primarily a public and/or environmental benefit when located on public land;
  - (ii) The structures are effective considering a range of coastal hazard events including the effects of climate change and the activities or development they are designed to protect;
  - (iii) the economic, social and environmental benefits outweigh costs; ~~and~~
  - (iv) risk to people, property, infrastructure, the natural environment, historic heritage or ~~Māori Sites and Areas of Significance to Māori~~ is not transferred or increased;
  - (v) structures are located as far landward as practicable; and
  - (vi) public access both to and along the coastal area and to the coastal marine area are provided for where the structure is located on public land.
- (b) Ensure that when new hard protection structures are to be located in an area where an adaptive management strategy has been prepared to manage coastal hazards, they are consistent with that strategy;
- (c) Where adaptive management strategies have been prepared, plan change or resource consent processes should have regard to these strategies.

#### **Policy 15.2.1.9 Natural features and buffers providing natural hazard protection**

- (a) Protect, maintain and, where appropriate, enhance the integrity of natural features and buffers which provide a natural defence against the effects of natural hazards and sea level rise, including natural ponding areas, coastal dunes, intertidal areas, wetlands, waterbody margins, riparian/coastal vegetation and floodways.
- (b) Enable natural systems to adapt and respond to natural coastal processes including the effects of climate change.

#### **Policy 15.2.1.10 Areas defended by stopbanks adjacent to the Waikato River**

- (a) Control subdivision, use and development in areas identified as Defended Areas adjacent to the Waikato River by:
  - (i) assessing the potential risk of overtopping or structural failure of the stopbanks, and



- overwhelming of associated flood protection structures, before subdivision, use and development occurs; and
  - (ii) requiring that consideration be given to appropriate mitigation to reduce any residual risk identified to acceptable levels; and
  - (iii) ensuring that any residual risk is not transferred to neighbouring sites; and
  - (iv) recognising the functional needs and operational needs of the National Grid.
- (b) Specify minimum setbacks for buildings and earthworks from stopbanks to:
- (i) protect the structural integrity of the stopbanks; and
  - (ii) provide a buffer to reduce the potential risk to life and damage to property from deep and fast-flowing flood waters in the event of a breach.

**Policy 15.2.1.11 - New development that creates demand for new protection structures and works**

- (a) Avoid locating new subdivision, use and development in High Risk Flood, High Risk Coastal ~~Hazard (Inundation)~~ and High Risk Coastal ~~Hazard (Erosion)~~ Areas where a demand or need for new structural protection works will be required to reduce the risk from natural hazards to acceptable levels.

**Policy 15.2.1.12 Reduce potential for flood damage to buildings located on the ~~Waikato and Waipa River~~ floodplains and flood ponding areas**

- (a) Reduce the potential for flood damage to buildings located on the ~~Waikato and Waipa River~~ floodplains and flood ponding areas by ensuring that the minimum floor level of building development is above the design flood levels/ponding levels in a 1% AEP flood event, plus an allowance for freeboard, unless:
  - (i) the building ~~development~~ is of a type that is not likely to suffer material damage during a flood; or
  - (ii) the building is a small-scale addition to an existing building; or
  - (iii) the risk from flooding is otherwise avoided, remedied or mitigated.

**Policy 15.2.1.13 Control filling of land within the 1% AEP floodplain and flood ponding areas**

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

**~~Policy 15.2.1.14 Hazardous substances located within floodplain and flood ponding areas~~**

- ~~(a) Ensure that the location and storage of hazardous substances within the 1% AEP floodplain and flood ponding areas do not create an unacceptable hazard to people, property, or the environment.~~

**Policy 15.2.1.15 ~~Flood ponding areas and overland flow paths~~ managing flood hazards through integrated catchment management**

- (a) Manage ~~stormwater~~ flood hazards by requiring new subdivision and development within floodplains, flood ponding areas and overland flow paths to adopt integrated catchment plan-based ~~stormwater~~ management methods which:
  - (i) maintain the ~~flood storage capacity~~ function of natural floodplains, wetlands and ponding areas including flood storage capacity; and
  - (ii) retain the function and capacity of overland flow paths to convey stormwater run-



off; and

- (iii) do not transfer or increase risk elsewhere within the catchment; and
- (iv) ~~promote low impact best practice~~ stormwater management practices with reference to the Waikato Stormwater Management Guideline and the Regional Infrastructure Technical Specifications (RITS); and
- (v) minimise impervious surfaces.

#### **Policy 15.2.1.16 – Development in the Coastal Sensitivity Areas**

- (a) In coastal sensitive areas ~~identified on the planning maps~~, control subdivision, use and development by ensuring that the subdivision, use and development is:
  - (i) supported by a detailed site specific risk assessment, which includes measures to address the effects of climate change; and
  - (ii) designed, constructed and located to minimise the level or risk to people, property and the environment.

#### **Policy 15.2.1.17 - Setbacks from the coast**

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

#### **Policy 15.2.1.18 Residential development and subdivision potentially subject to fire risk**

- (a) In areas assessed or identified as being potentially subject to elevated fire risk, ensure that an appropriate design and layout, including a buffer area or setback, is provided around for new residential subdivision and development, and the following matters are considered:
  - (i) Access for emergency service vehicles;
  - (ii) Provision of and access to emergency firefighting water supply;
  - (iii) Separation and management of vegetation (with regard to slope, aspect, management regimes and use of less flammable vegetation); and
  - (iv) The design and materials of any buildings.

#### **Policy 15.2.1.19 – Development on land subject to instability or subsidence**

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

#### **Policy 15.2.1.20 – Development of land in the Mine Subsidence Risk Area**

- (a) On land identified within the Mine Subsidence Risk Area, ensure that:
  - (i) an assessment by an appropriately qualified engineer occurs before subdivision, use or development takes place to confirm that the land is suitable for development; and
  - (ii) buildings are designed and constructed, and uses appropriate materials, to effectively minimise the risk of damage to the buildings from ground subsidence.

#### **Policy 15.2.1.21 – Stormwater management in areas subject to risk of land instability or subsidence**

- (a) Avoid discharge of stormwater directly to ground on land that is potentially at risk of land instability or subsidence unless:
  - (i) an assessment has been undertaken by an appropriately qualified geotechnical

- specialist, indicating that the site is suitable for the proposed discharges; and
- (ii) any adverse effects on the site and receiving environment can be appropriately mitigated.

#### **Policy 15.2.1.22 – Liquefaction - susceptible ~~prone~~ land risk assessment**

- (a) On land assessed as potentially susceptible ~~prone~~ to liquefaction, ensure that:
  - (i) an assessment by a geotechnical specialist occurs before new subdivision, use or development takes place; and
  - (ii) the level of assessment reflects the type and scale of the subdivision, use or development and the overall vulnerability of the activity to the effects of liquefaction; and
  - (iii) the assessment confirms that the land is suitable for the proposed development.

#### **Policy 15.2.1.23 – Control activities on land susceptible to damage from liquefaction**

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

#### **Objective 15.2.2 - Awareness of natural hazard risks**

Ensure communities respond effectively and efficiently to natural hazards.

~~A well-informed community that:-~~

- ~~(a) is aware of, and understands, which natural hazards affect the district; and~~
- ~~(b) is able to effectively and efficiently respond to, and recover from, natural hazard events.~~

#### **Policy 15.2.2.1 - Natural hazard risk information**

- (a) Enable people to be informed and have access to information on the natural hazards affecting their properties and surrounding area, including through:
  - (i) provision of Land Information Memoranda;
  - (ii) natural hazard technical information, including the projected effects of climate change, risk registers and mapping on the Council's website, the Waikato Regional Council Hazards Portal, this district plan and accompanying planning maps;
  - (iii) education, provision of information and community engagement; and
  - (iv) alignment with the work of other agencies including iwi and the Waikato Regional Council.

#### **Policy 15.2.2.2 - Awareness of Community Response Plans**

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

#### **Objective 15.2.3 - Climate change**

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

~~A well-prepared community that~~

- ~~(a) is able to adapt to the effects of climate change; and~~

~~(b) Has transitioned to development that prioritises lower greenhouse gas emissions.~~

#### **Policy 15.2.3.1 - Effects of climate change on new subdivision and development**

- (a) Ensure that adequate allowances are made for the projected effects of climate change in the design and location of new subdivision and development including new urban zoning throughout the district, including undertaking assessments where relevant that provide for:
  - (i) the projected increase in rainfall intensity, as determined by national guidance, ~~but being in the event of a temperature rise of~~ assuming a temperature increase of not less than 2.3°C by 2120;
  - (ii) the projected increase in sea level, where relevant, as determined by national guidance and the best available information, but being not less than 1m by 2120;
  - (iii) in respect to new urban zoning, stress testing under the RCP 8.5 scenario for rainfall<sup>2</sup> and RCP 8.5H+ for sea level rise;<sup>3</sup> ~~and~~
  - (iv) in respect to the coastal environment, increases in storm surge, waves and wind; and.
  - (v) the ability for natural systems to respond and adapt to the projected changes included in (i) to (iv) above.

#### **Policy 15.2.3.2 - Future land use planning and climate change**

- (a) Increase the ability of the community to adapt to the effects of climate change when undertaking future land use planning by:
  - (i) ensuring the potential environmental and social costs of climate change, including effects on indigenous biodiversity (inland migration), historic heritage, ~~Māori Sites and Areas of Significance~~ sites and areas of Significance to Māori, mahinga kai, public health and safety, public access to the coast and waterway margins, and the built environment are addressed.
  - (ii) encouraging the incorporation of sustainable design measures within new subdivision, land use and development, including:
    - (A) low impact, stormwater management, urban design and green infrastructure;
    - (B) of relocatable buildings and structures in areas potentially at risk due to sea level rise or increased flood levels;
    - (C) efficient water storage;
    - (D) provision of renewable energy generation; and
    - (E) transferring to activities with lower greenhouse gas emissions.
  - (iii) providing ongoing monitoring of changes to the environment due to climate change; and
  - (iv) facilitating community discussion on adaptive pathways to manage the risks associated with climate change and incorporating them, where appropriate, into the district plan through plan changes.

#### **Policy 15.2.3.3 Precautionary approach for dealing with uncertainty**

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

<sup>2</sup> Stress testing under the RCP 8.5 scenario for rainfall, see Ministry for the Environment, 2018: Climate Change Projections for New Zealand. September 2018. Publication No. MFE 1385.

<sup>3</sup> Stress testing under the RCP 8.5H+ scenario for sea level rise, see Ministry for the Environment, 2017: Coastal Hazards and Climate Change – Guidance for Local Government. December 2017. Publication No. ME 1341.

#### **Policy 15.2.3.4 - Provide sufficient setbacks for new development**

- (a) Protect people, property and the environment from the projected adverse effects of climate change, including sea level rise, by providing sufficient setbacks from water bodies and the coast when assessing new development.
- (b) Ensure that, in establishing development setbacks for new development, adequate consideration is given to:
  - (i) the protection of natural ecosystems, including opportunities for the inland migration of coastal habitats;
  - (ii) the vulnerability of the community;
  - (iii) the maintenance and enhancement of public access to the coast and public open space;
  - (iv) the requirements of infrastructure; and
  - (v) natural hazard mitigation provision, including the protection of natural defences.

#### **Policy 15.2.3.5 - Assess the impact of climate change on the level of natural hazard risks.**

- (a) For all new subdivision, use and development requiring rezoning or a resource consent, ensure that account is taken of the projected effects of climate change over the next 100 years when assessing any identified risks from natural hazards, and their effects on people, property, infrastructure and the environment.
- (b) Ensure that, when assessing the effects of climate change on the level of natural hazard risk in accordance with Policy 15.2.3.5(a) above, the allowances in Policy 15.2.3.1(a)(i)-(iv) are applied.
- (c) Where the assessment required by Policy 15.2.3.5(a) ~~and Policy 15.2.3.5(b)~~ indicates that natural hazards are likely to be exacerbated by climate change, ensure that subdivision and development are designed and located so that any increased and cumulative risk from natural hazards is managed to acceptable levels and any intolerable risks are avoided or reduced to tolerable or acceptable levels to avoid, or appropriately mitigate, any increased and cumulative risk, including increased risk of flooding, liquefaction, coastal inundation, coastal erosion, slope instability, fire, and drought.

### **15.2 How to use and interpret the rules**

- (a) The activities covered by the rules in this chapter are also subject to the rules in the relevant zone chapters and the district-wide rules in Chapter 14 Infrastructure and Energy.
- (b) Where subdivision is specified, a subdivision consent is also required under the provisions of the relevant zone chapter, and the district-wide rules in Chapter 14 Infrastructure and Energy will also apply.
- (c) The rules in this chapter apply alongside the National Environmental Standards for Electricity Transmission 2010 (NESETA).
- (d) The rules in this chapter do not apply to:
  - (i) any activity which is a regulated activity under the National Environmental Standards for Telecommunication Facilities 2016 (NESTF);
  - (ii) plantation forestry activities regulated under the National Environmental Standards for Plantation Forestry (NESPF).
- (d) The information requirements for resource consent applications in respect to natural hazards are set out in Rule 15.13.

#### **Advice note**

Effects on archaeological sites, both recorded (identified by the New Zealand Archaeological Association) and unrecorded, are regulated under the Heritage New Zealand Pouhere Taonga

Act 2014. Heritage New Zealand Pouhere Taonga must be contacted regarding development and the need to undertake an archaeological assessment to determine the need for an archaeological authority. In the event of an accidental discovery, the Heritage New Zealand Pouhere Taonga Lower Northern Office must be contacted immediately.

## 15.3 Flood Plain Management Area and Flood Ponding Areas

### 15.4.1 Permitted Activities

- (a) The activities listed below are permitted activities within the Flood Plain Management Area or in a Flood Ponding Area shown on the Planning Maps ~~or in a Flood Ponding Area~~, if they meet the activity-specific ~~conditions~~ standards set out in this table.
- (b) Activities may also be restricted discretionary or discretionary activities, as specified in Rules 15.4.2 and 15.4.3.

Activity		Activity-specific <del>conditions</del> <u>standards</u>
P1	Construction of a new building, or reconstruction of or an addition to an existing building, unless specified in P2 – P5 in Rule 15.4.1.	(a) The minimum floor level is at least 0.5m above the 1% AEP flood level; and (b) Compliance with <del>condition</del> <u>standard</u> (1) shall be demonstrated by a suitably qualified engineer with experience in hydrology.
P2	Additions to an existing building that does not increase the ground floor area of the building by more than 15m <sup>2</sup> .	Nil
P3	Standalone garage with a gross floor area not exceeding 40m <sup>2</sup> .	Nil
P4	(1) Construction of an accessory building without a floor; (2) Construction of a farm building without a floor.	Nil
P5	Construction, replacement, repair, maintenance, minor upgrading or upgrading of utilities.	Nil

P6	Earthworks associated with construction, replacement, repair, maintenance, minor upgrading or upgrading of utilities, including the formation and maintenance of access tracks.	Nil
P7	Earthworks to create a building platform for residential purposes.	Filling height is only to the extent necessary to achieve compliance with Rule 15.4.1 P1(a).
P8	Earthworks not provided for under Rule 15.4.1 P6 or P7.	<p>(a) In the <del>Residential, Village and Country Living Zones</del> – <u>GRZ – General residential, MRZ – Medium density residential, LLRZ – Large lot residential, SETZ – Settlement and RLZ – Rural lifestyle zones</u>, a maximum volume of filling above natural ground level of 10m<sup>3</sup> per site, and a maximum cumulative volume of filling and excavation of 20m<sup>3</sup>; or</p> <p>(b) In the <u>GRUZ – General Rural Zone</u> – a maximum volume of filling above natural ground level of 100m<sup>3</sup> per site, and a maximum cumulative volume of filling and excavation of 200m<sup>3</sup> persite; or</p> <p>(c) All other zones – a maximum volume of filling above natural ground level of 20m<sup>3</sup> per site, and a maximum cumulative volume of filling and excavation of 50m<sup>3</sup> per site; and</p> <p>(d) Height and depth of earthworks in all zones</p> <p>(i) a maximum height of 0.2m of filling above natural ground level; and</p> <p>(ii) a maximum depth of excavation of 0.5m below natural ground level.</p> <p><u>Where a site is located partly within the Flood Plain Management Area or Flood Ponding Area this rule only applies to that part of the site within the Flood Plain Management Area or Flood Ponding Area.</u></p>

## 15.4.2 Restricted Discretionary Activities

- (a) The activities listed below are restricted discretionary activities within the Flood Plain Management Area or in a Flood Ponding Area shown on the Planning Maps ~~or in a Flood Ponding Area~~.
- (b) Discretion to grant or decline consent and impose conditions is restricted to the matters of discretion set out in the following table.
- (c) ~~Any application arising from this rule shall not be limited or publicly notified.~~

Activity		Activity-specific conditions-standards
RD1	Earthworks that are not a permitted activity under Rule 15.4.1 P6 or P7 or earthworks that exceed the activity specific conditions standards in Rule 15.4.1.P8	<b>Discretion is restricted to:</b> <ul style="list-style-type: none"> <li>(a) Timing, location and scale of earthworks;</li> <li>(b) Adverse effects on: <ul style="list-style-type: none"> <li>(i) Existing overland flow paths and surface drainage patterns;</li> <li>(ii) flood storage capacity;</li> <li>(iii) runoff volumes;</li> <li>(iv) adjoining properties, including the transfer of risk;</li> <li>(v) infrastructure and flood protection works;</li> <li>(vi) consideration of soil types and potential for erosion;</li> </ul> </li> <li>(c) Mitigation including compensatory storage, or other flood management measures proposed.</li> </ul>
RD2	<u>Construction of a new building, or reconstruction of, and additions to an existing building which are not permitted by Rule 15.4.1 PI – P5</u>	<b>Discretion is restricted to:</b> <ul style="list-style-type: none"> <li>(a) <u>Assessment of risk from the 1% AEP flood event.</u></li> <li>(b) <u>Alternative locations within the site outside of the 1% AEP floodplain or flood ponding area.</u></li> <li>(c) <u>The type of building development proposed and whether it is likely to suffer material damage during a flood.</u></li> <li>(d) <u>Ability to manage risk through building materials, structural or design work, engineering solutions or other appropriate measures.</u></li> <li>(e) <u>Other mitigation measures to reduce the potential for flood damage to buildings.</u></li> </ul>

### 15.4.3 Discretionary Activities

- (a) The activities listed below are discretionary activities within the Flood Plain Management Area or Flood Ponding Area shown on the Planning Maps ~~or in a Flood Ponding Area.~~

<del>D1</del>	<del>Construction of a new building and additions to an existing building which are not permitted by Rule 15.4.1 PI – P5.</del>
<del>D2</del> D1	Subdivision to create one or more additional vacant lot(s) other than a utility allotment, access allotment or subdivision to create a reserve allotment.
<del>D3</del>	<del>A hazardous facility</del>

### 15.4 High Risk Flood Area

The High Risk Flood Area is located within the Flood Plain Management Area. The rules in this section are to be read in conjunction with the rules for the Flood Plain Management Area and Flood Ponding Areas (Rule 15.4).

#### Permitted Activities

- (a) The activities listed below are permitted activities within the High Flood Risk Area\_

shown on the Planning Maps, if they meet the activity-specific ~~conditions~~ standards set out in this table.

- (b) Activities may also be restricted discretionary, discretionary or non-complying activities, as specified in Rules 15.5.2, 15.5.3 and 15.5.4.

Activity		Activity-specific <del>conditions</del> <u>standards</u>
P1	<p>(1) Repair, maintenance or minor upgrading of existing utilities.</p> <p>(2) <del>New Construction,</del> <u>replacement or upgrading of telecommunication lines, poles, cabinets and masts/poles supporting antennas.</u></p> <p>(3) <u>Construction, replacement or upgrading of electricity lines, poles, cabinets, and supporting structures.</u></p>	Nil
P2	<p>(1) Construction of an accessory building without a floor;</p> <p>(2) Construction of a farm building without a floor.</p>	Nil

### 15.5.1 Restricted Discretionary Activities

- (a) The activities listed below are restricted discretionary activities within the High Risk Flood Area.
- (b) Discretion to grant or decline consent and impose conditions is restricted to the matters of discretion set out in the following table.

Activity	Activity-specific <del>conditions</del> <u>standards</u>
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RD1	<p>(1) New utilities not provided for in Rule 15.5.1 PI(2) <u>or PI(3)</u>.</p> <p>(2) Upgrading of existing utilities not provided for in Rule 15.5.1 PI(1).</p>	<p><b>Discretion is restricted to:</b></p> <ol style="list-style-type: none"> <li>1. Functional and operational requirements to be located in the High Risk Flood Area;</li> <li>2. The adverse effects on people and property from establishing or upgrading the utility in the High Risk Flood Area;</li> <li>3. The potential for the development to transfer/increase flood risk to neighbouring properties;</li> <li>4. Consideration of alternative locations;</li> <li>5. Consideration of the projected effects of climate change;</li> <li>6. Any mitigation measures to reduce the risk to people's safety, well-being and property.</li> </ol>
RD2	<p>One addition to a lawfully established building existing at 17 January 2022 where the addition does not increase the ground floor area of the existing building by more than 15m<sup>2</sup>, unless provided for in Rule 15.5.2 RD1.</p>	<p><b>Discretion is restricted to:</b></p> <ol style="list-style-type: none"> <li>(a) The ability to manage flood risk through appropriate building materials, structural or design work or other engineering solutions;</li> <li>(b) The setting of an appropriate floor level for the addition, taking into consideration the location of the addition and the floor level of the existing building;</li> <li>(c) Any mitigation measures to reduce the risk to people's safety, well-being and property.</li> </ol>

### 15.5.2 Discretionary Activities

DI	<p>(1) Subdivision that creates one or more additional vacant lot(s) where:</p> <ol style="list-style-type: none"> <li>(a) The additional lot(s) are located entirely outside the High Risk Flood Area; or</li> <li>(b) The additional lot(s) are partially within the High Risk Flood Area and each additional lot(s) contains <del>a net site</del> <u>an</u> area capable of containing a complying building platform entirely outside the High Risk Flood Area.</li> </ol> <p>(2) This rule does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.</p>
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### 15.5.3 Non-Complying Activities

(a) The activities listed below are non-complying activities in the High Risk Flood Area.

NC1	<p>Construction of a new building or additions to an existing building, not provided for in Rule 15.5.1 PI – P2 or Rule 15.5.2 RD1 and RD2.</p>
NC2	<p>(1) Subdivision that does not comply with Rule 15.5.3 DI.</p> <p>(2) This rule does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.</p>

NC3	Emergency services facilities and hospitals.
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## **15.5 Defended Area (Residual Risk)**

### **15.6.1 Permitted Activities**

- (a) Activities are permitted activities within the Defended Area identified on the planning maps, unless specified in Rules 15.6.2 or 15.6.3 below, or as otherwise specified in the relevant zone chapter or the district-wide rules in Chapter 14 Infrastructure and Energy.

### **15.6.2 Restricted Discretionary Activities**

- (a) The activities listed below are restricted discretionary activities within the Defended Area shown on the Planning Maps.
- (b) Discretion to grant or decline consent and impose conditions is restricted to the matters of discretion set out in the following table.
- (c) Activities may also be discretionary activities, as specified in Rule 15.6.3.

<b>Activity</b>	<b>Matters of Discretion</b>
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RDI	<p>(1) Subdivision that creates one or more additional vacant lot(s).</p> <p>(2) Rule 15.6.2 RDI(1) does not apply to subdivision for a utility allotment, an access allotment or subdivision to create a reserve allotment.</p>	<p><b>Discretion is restricted to:</b></p> <p>(a) The actual level of service provided by the structural defence and associated flood protection works, including any change in the level of service anticipated due to climate change and sea level rise;</p> <p>(b) The impact of any planned improvements, maintenance or upgrading on the residual risk;</p> <p>(c) The effect of groundwater levels and variability in ground conditions on stop-bank security at and adjacent to the site to be subdivided;</p> <p>(d) the likely depth and duration of flooding as a result of a breach or overtopping event or flood ponding;</p> <p>(e) the location of the subdivision, including services such as wastewater, water supply and roading/access (including escape routes), in relation to potential breakout points (failure zone);</p> <p>(f) The adverse effects <del>to</del> <u>on</u>:</p> <p>(i) people and property,</p> <p>(ii) <u>historic heritage and sites and areas of significance to Māori</u>, and</p> <p>(iii) overall vulnerability from potential failure or overwhelming of the structural defences and associated flood protection works relevant to the proposed new lot(s);</p> <p>(g) Potential for the development to transfer/increase flood risk/residual risk to neighbouring properties;</p> <p>(h) Any additional mitigation measures proposed or site features which reduce residual risk (e.g., natural highground; evacuation plan).</p>
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### 15.6.3 Discretionary Activities

- (a) The activities listed below are discretionary activities within the Defended Area.

D1	Construction of a new building, <u>or reconstruction of</u> , or new accessory building, located within 50m of the toe of a stop-bank where the stop-bank is under the responsibility of the Council, the Waikato Regional Council or the Crown.
D2	<p>(a) Earthworks located within 50m of the toe of a stop-bank where the stop-bank is under the responsibility of the Council, the Waikato Regional Council or the Crown.</p> <p>(b) <u>This rule does not apply to earthworks associated with utilities where the written approval of the authority managing the stop-bank has been obtained.</u></p>

### ~~15.7 Coastal Sensitivity Areas – Coastal Sensitivity Area (Erosion) and Coastal Sensitivity Area (Open Coast)~~

#### ~~15.7.1 Permitted Activities~~

- ~~(a) The activities listed below are permitted activities within the Coastal Sensitivity Area (Erosion) and Coastal Sensitivity Area (Open Coast) shown on the Planning Maps, if~~

~~they meet the activity-specific conditions set out in this table.~~

- ~~(b) Activities may also be restricted discretionary activities or discretionary activities, as specified in Rules 15.7.2 and 15.7.3.~~

<b>Activity</b>		<b>Activity-specific conditions</b>
P1	Additions to an existing lawfully established building	<del>(a) The gross floor area of all additions to the building from [date this rule becomes operative] do not exceed a total of 15m<sup>2</sup>.</del>
P2	<del>(1) Construction of an accessory building without a floor; (2) Construction of a farm building without a floor.</del>	Nil
P3	<del>Construction, upgrading, minor-upgrading, replacement, repair and maintenance of utilities.</del>	Nil
P4	<del>Maintenance or repair of an existing lawfully established coastal protection structure.</del>	Nil

#### **~~15.7.2 Restricted Discretionary Activities~~**

- ~~(a) The activities listed below are restricted discretionary activities in the Coastal Sensitivity Area (Erosion) and Coastal Sensitivity Area (Open Coast).~~
- ~~(b) Discretion to grant or decline consent and impose conditions is restricted to the matters of discretion set out in the following table.~~

<b>Activity</b>	<b>Matters of Discretion</b>
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RD1	Construction of a new building or additions to an existing building not provided for in Rule 15.7.1 P1-P3 and not listed in Rule 15.7.3 D1.	<p><b>Discretion is restricted to:</b></p> <ul style="list-style-type: none"> <li>(a) The ability to manage coastal hazard risk through appropriate building materials, structural or design work, engineering solutions or other appropriate mitigation measures, including the ability to relocate the building;</li> <li>(b) The application of mitigation through natural features and buffers where appropriate;</li> <li>(c) The ability to impose time limits or triggers to determine when the building and services to be removed or relocated;</li> <li>(d) The degree to which coastal hazard risk, including the effects of climate change over a period to 2120, has been assessed in a site specific coastal hazard risk assessment;</li> <li>(e) Suitability of the site for the proposed use, including the provision for servicing such as access, wastewater, stormwater, and water supply;</li> <li>(f) Adverse effects to people and property and overall vulnerability from the establishment of the new building or additions to an existing building and any mitigation measures to reduce risk;</li> <li>(g) Whether there is any suitable alternative location for the activity to locate within the site;</li> <li>(h) Coastal Sensitivity Area (Open Coast) only the setting of minimum floor levels in areas subject to inundation.</li> </ul>
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### 15.7.3 Discretionary Activities

- (a) The activities listed below are discretionary activities in the Coastal Sensitivity Area (Erosion) and Coastal Sensitivity Area (Open Coast):

D1	Construction of a new coastal protection structure;
D2	Subdivision to create one or more additional vacant lot(s) other than a utility allotment, <del>access allotment or</del> subdivision to create a reserve allotment.

### 15.8 Coastal Sensitivity Area (Inundation)

- (a) The activities listed below are permitted activities within the Coastal Sensitivity Area (Inundation) shown on the Planning Maps if they meet the activity-specific conditions set out in this table.
- (b) Activities may also be restricted discretionary activities or discretionary activities, as specified in Rules 15.8.2 and 15.8.3.

#### 15.8.1 Permitted Activities

Activity	Activity-specific conditions
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P1	Additions to an existing lawfully established building	(a) The gross floor area of all additions to the building from <del>[date this rule becomes operative]</del> do not exceed a total of 15m <sup>2</sup> .
P2	(1) Construction of an accessory building without a floor; (2) Construction of a farm building without a floor.	Nil
P3	Construction, upgrading, minor upgrading, replacement, repair and maintenance of utilities.	Nil
P4	Maintenance or repair of an existing lawfully established coastal protection structure.	Nil

### 15.8.2 Restricted Discretionary Activities

- (a) ~~The activities listed below are restricted discretionary activities in the Coastal Sensitivity Area (Inundation).~~
- (b) ~~Discretion to grant or decline consent and impose conditions is restricted to the matters of discretion set out in the following table.~~

Activity		Matters of Discretion
RD1	Construction of a new building or additions to an existing building not provided for in Rule 15.8.1 P1-P3 and not listed in Rule 15.8.3 D1.	<p><b>Discretion is restricted to:</b></p> <p>(a) <del>The ability to manage coastal hazard risk through appropriate building materials, structural or design work, engineering solutions including the ability to relocate the building, or other appropriate mitigation measures, including the setting of minimum floor levels where appropriate;</del></p> <p>(b) <del>The application of mitigation through natural features and buffers where appropriate;</del></p> <p>(c) <del>The ability to impose time limits or triggers to determine when the building and services to be removed or relocated;</del></p> <p>(d) <del>The degree to which coastal hazard risk, including the effects of climate change over the period to 2120, has been assessed in a site specific coastal hazard risk assessment;</del></p> <p>(e) <del>Suitability of the site for the proposed use and the ability to, provide servicing such as access, wastewater, stormwater and water supply;</del></p> <p>(f) <del>Adverse effects to people and property and overall vulnerability from the establishment of the new building or additions to existing building;</del></p> <p>(g) <del>Whether there is any suitable alternative location for the activity to locate within the site.</del></p>

### **15.8.3 Discretionary Activities**

(a) ~~The activities listed below are discretionary activities in the Coastal Sensitivity Area (Inundation):~~

<del>D1</del>	<del>Construction of a new coastal protection structure</del>
<del>D2</del>	<del>Subdivision to create one or more additional vacant lot(s) other than a utility allotment, access allotment or subdivision to create a reserve allotment.</del>

## **15.7A Coastal Sensitivity Areas**

### **15.7A.1 Permitted Activities**

- The activities listed below are permitted activities within the Coastal Sensitivity Area (Erosion) and the Coastal Sensitivity Area (Inundation) as shown on the Planning Maps, if they meet the activity-specific standards set out in this table.
- Activities may also be restricted discretionary activities or discretionary activities, as specified in Rules 15.7A.2 and 15.7A.3.

<b>Activity</b>		<b>Activity-specific standards</b>
<u>P1</u>	<u>Additions to an existing lawfully established building.</u>	<u>1. The gross floor area of all additions to the building from 17 January 2022 do not exceed a total of 15m<sup>2</sup>.</u>
<u>P2</u>	<ol style="list-style-type: none"> <li><u>Construction of an accessory building without a floor;</u></li> <li><u>Construction of a farm building without a floor.</u></li> </ol>	<u>Nil</u>
<u>P3</u>	<u>Construction, upgrading, minor upgrading, replacement, repair or maintenance of utilities excluding hard protection structures.</u>	<u>Nil</u>
<u>P4</u>	<u>Maintenance or repair of an existing lawfully established hard protection structure.</u>	<u>Nil</u>
<u>P5</u>	<u>Construction of a new building, or reconstruction of, or additions to existing buildings in the RPZ -</u>	<u>1. Compliance with the requirements of any consent notice for the certificate of title pursuant to section 221 of the Resource Management Act 1991 containing specific design or location requirements for buildings.</u>



	<u>Rangitahi Peninsula zone and Coastal Sensitivity Area (Erosion) on a certificate of title which was created by subdivision consent granted between 28 September 2015 and 17 January 2022</u>	
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### **15.7A.2 Restricted Discretionary Activities**

1. The activities listed below are restricted discretionary activities in the Coastal Sensitivity Area (Erosion)-and the Coastal Sensitivity Area (Inundation).
2. Discretion to grant or decline consent and impose conditions is restricted to the matters of discretion set out in the following table.

<b><u>Activity</u></b>		<b><u>Matters of Discretion</u></b>
<b><u>RDI</u></b>	<u>Construction of a new building or additions to an existing building not provided for in Rule 15.7A.1 P1-P3 and P5 and not listed in Rule 15.7A.3D1.</u>	<p><b><u>Discretion is restricted to:</u></b></p> <ul style="list-style-type: none"> <li>(a) <u>The ability to manage coastal hazard risk through appropriate building materials, structural or design work, engineering solutions, and other appropriate mitigation measures, including the ability to relocate the building;</u></li> <li>(b) <u>the setting of minimum floor levels where appropriate;</u></li> <li>(c) <u>The application of mitigation through natural features and buffers where appropriate;</u></li> <li>(d) <u>The ability to impose time limits or triggers to determine when the building and services to be removed or relocated;</u></li> <li>(e) <u>The degree to which coastal hazard risk, including the effects of climate change over a period to 2120, has been assessed in a site specific coastal hazard risk assessment;</u></li> <li>(f) <u>Suitability of the site for the proposed use, including the provision for servicing such as access, wastewater, stormwater, and water supply;</u></li> <li>(g) <u>Adverse effects to people and property and overall vulnerability from the establishment of the new building or additions to an existing building</u></li> <li>(h) <u>Any mitigation measures to reduce risk; and</u></li> <li>(i) <u>Whether there is any suitable alternative location for the activity to locate within the site.</u></li> </ul>

RD2	<p>(1) Any subdivision to create any <u>additional vacant lots where the additional vacant lot(s) are located partially or entirely within the Coastal Sensitivity Area (Inundation), Coastal Sensitivity Area (Erosion):</u></p> <p>(2) <u>Rule 15.7A.2 RD2(1) does not apply to subdivision for a utility allotment, access allotment or subdivision creating a reserve allotment.</u></p>	<p><b>Discretion is restricted to:</b></p> <p>(a) <u>Whether the vacant lot(s) are capable of containing a complying building platform entirely outside the Coastal Sensitivity Area (Inundation), or the Coastal Sensitivity Area (Erosion); or</u></p> <p>(b) <u>Where the vacant lot(s) are not capable of containing a complying building platform entirely outside of the Coastal Sensitivity Area (Inundation), or the Coastal Sensitivity Area (Erosion):</u></p> <p>(i) <u>The degree to which coastal hazard risk, including the effects of climate change over a period to 2120, has been assessed in a site specific coastal hazard risk assessment;</u></p> <p>(ii) <u>Suitability of the vacant lot for the likely future uses, including the provision for servicing such as access, wastewater, stormwater, and water supply;</u></p> <p>(iii) <u>The degree to which alternative subdivision layout(s) have been investigated to avoid or mitigate coastal hazards;</u></p> <p>(iv) <u>Adverse effects to people, property and the environment and overall vulnerability from the likely future uses, including any mitigation measures to reduce risk;</u></p> <p>(v) <u>The setting of minimum floor levels in areas subject to inundation.</u></p>
RD3	<p><u>Construction of a new hard protection structure, or any extension to, or upgrade or replacement of an existing hard protection structure.</u></p>	<p><b>Discretion is restricted to:</b></p> <p>(a) <u>Whether structures have primarily a public and/or environmental benefit when located on public land;</u></p> <p>(b) <u>The extent to which the structure is effective, considering a range of coastal hazard events including the effects of climate change and the activities or development they are designed to protect;</u></p> <p>(c) <u>The extent to which economic, social and environmental benefits outweigh costs;</u></p> <p>(d) <u>Whether risk to people, property, infrastructure, environment, historic heritage or sites and areas of significance to Māori is not transferred or increased;</u></p> <p>(e) <u>The extent to which structures are located as far landward as practicable;</u></p> <p>(f) <u>Whether public access both to and along the coastal area and to the coastal marine area are provided for where the structure is located on public land; and</u></p> <p>(g) <u>Whether an adaptive management strategy has</u></p>

		<u>been prepared to manage coastal hazards, and whether the structure is consistent with that strategy.</u>
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## 15.9 High Risk Coastal ~~Hazard~~ (Erosion) Area

### 15.9.1 Permitted Activities

- (a) The activities listed below are permitted activities within the High Risk Coastal ~~Hazard~~ (Erosion) Area shown on the Planning Maps, if they meet the activity-specific ~~conditions~~ standards set out in this table.
- (b) Activities may also be discretionary or non-complying activities, as specified in Rules 15.9.2 and 15.9.3.

Activity		Activity-specific <del>conditions</del> <u>standards</u>
P1	(1) <del>Construction of an accessory building without a floor; and</del> (2) <del>Construction of a farm building without a floor.</del>	(a) The gross floor area of the building does not exceed 40m <sup>2</sup> .
P2	(1) Repair, maintenance or minor upgrading of existing utilities <u>excluding hard protection structures.</u> (2) <del>New</del> <u>Construction, operation, replacement</u> or upgrading of telecommunications lines, poles, cabinets and masts/poles supporting antennas. (3) <u>New electricity lines, poles, cabinets and masts/ poles supporting antennas.</u>	Nil
P3	Maintenance or repair of an existing lawfully established <del>coastal</del> <u>hard</u> protection structure.	Nil
P4	Earthworks for an activity listed in Rule 15.9.1 P1 - P3, including the maintenance and repair of access tracks.	(a) The maximum volume of filling does not exceed 10m <sup>3</sup> per site; and (b) The maximum depth of any excavation or filling does not exceed 0.5m above or below ground level.

### 15.9.2 Restricted Discretionary Activities

- (a) The activities listed below are discretionary activities in the High Risk Coastal

## Erosion Area.

<u>RD1</u>	<u>Construction of a new hard protection structure, or any extension to, or upgrade or replacement of an existing hard protection structure.</u>	<u>Discretion is restricted to:</u> <ul style="list-style-type: none"> <li>(a) <u>Whether structures have primarily a public and/or environmental benefit when located on public land;</u></li> <li>(b) <u>The extent to which the structure is effective, considering a range of coastal hazard events including the effects of climate change and the activities or development they are designed to protect;</u></li> <li>(c) <u>The extent to which economic, social and environmental benefits outweigh costs;</u></li> <li>(d) <u>Whether risk to people, property, infrastructure, environment, historic heritage or sites and areas of significance to Maaori is not transferred or increased;</u></li> <li>(e) <u>The extent to which structures are located as far landward as practicable;</u></li> <li>(f) <u>Whether public access both to and along the coastal area and to the coastal marine area are provided for where the structure is located on public land; and</u></li> <li>(g) <u>Whether an adaptive management strategy has been prepared to manage coastal hazards, and whether the structure is consistent with that strategy.</u></li> </ul>
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### **15.9.3 Discretionary Activities**

- (a) The activities listed below are discretionary activities in the High Risk Coastal ~~Hazard~~(Erosion) Area.

D1	Earthworks not provided for in Rule 15.9.1 P4.
D2	(1) Relocation of an existing building within the same site where: (a) The building is relocated landward of its existing position.
D3	(1) Replacement of an existing building within the same site where: (a) The replacement building is located landward of the existing building that it replaces; and (b) The replacement building is relocatable <del>on a suspended timber floor</del> ; and (2) The gross floor area of the replacement building is no larger than the existing building that it replaces.
<del>D4</del>	<del>Construction of a new coastal protection structure.</del>
D5	Construction of new utilities not provided for in Rule 15.9.1 P2.
D6	Upgrading of existing utilities not provided for in Rule 15.9.1 P2.

D7	<p>(1) Subdivision that creates one or more additional vacant lot(s) where:</p> <p><del>(a) The additional vacant lot(s) are located entirely outside the High Risk Coastal Hazard (Erosion) Area; or</del></p> <p><u>(a)</u> The additional lot(s) are partially within the High Risk Coastal Hazard (Erosion) Area and each additional lot(s) contains a net site area capable of containing a complying building platform entirely outside the High Risk Coastal Hazard (Erosion) Area.</p> <p>(2) Rule 15.9.2 D7(1) does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.</p>
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#### 15.9.4 Non-Complying Activities

- (a) The activities listed below are non-complying activities in the High Risk Coastal Hazard ~~(Erosion)~~ Area.

NC1	Construction of a new building or additions to an existing building, not provided for in Rule 15.9.1 P1 – P2 or Rule 15.9.2 D2- D6
NC2	<p>(1) Subdivision to create one or more additional lot(s) that does not comply with Rule 15.9.2 D7.</p> <p>(2) Rule 15.9.3 NC2(1) does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.</p>
NC3	Emergency services facilities and hospitals.

#### 15.10 : High Risk Coastal Hazard ~~(Inundation)~~ Area

##### 15.10.1 Permitted Activities

- (a) The activities listed below are permitted activities within the High Risk Coastal Hazard ~~(Inundation)~~ Area shown on the Planning Maps, if they meet the activity-specific ~~conditions~~ standards set out in this table.
- (b) Activities may also be discretionary or non-complying activities, as specified in Rules 15.10.2 and 15.10.3.

Activity		Activity-specific <del>conditions</del> <u>standards</u>
P1	<p>(1) Construction of an accessory building without a floor; and</p> <p>(2) Construction of a farm building without a floor.</p>	(a) The gross floor area of the building does not exceed 40m <sup>2</sup> .

P2	<p>(1) Repair, maintenance or minor upgrading of existing utilities <u>excluding coastal protection structures.</u></p> <p>(2) <u>New Construction, operation, replacement</u> or upgrading of telecommunications lines, poles, cabinets and masts/poles supporting antennas.</p> <p>(3) <u>New electricity lines, poles, cabinets and masts/ poles supporting antennas.</u></p>	Nil
P3	Maintenance or repair of an existing lawfully established coastal protection structure.	Nil
P4	Earthworks for an activity listed in Rule 15.9.1 P1 - P3, including the maintenance and repair of access tracks.	<p>(a) The maximum volume of filling does not exceed 10m<sup>3</sup> per site; and</p> <p>(b) The maximum depth of any excavation or filling does not exceed 0.5m above or below ground level.</p>

### 15.10.2 Restricted Discretionary Activities

- (a) The activities listed below are discretionary activities in the High Risk Coastal Inundation Area.

RD1	<u>Construction of a new hard protection structure, or any extension to, or upgrade or replacement of an existing hard protection structure.</u>	<p>Discretion is restricted to:</p> <p>(a) <u>Whether structures have primarily a public and/or environmental benefit when located on public land;</u></p> <p>(b) <u>The extent to which the structure is effective, considering a range of coastal hazard events including the effects of climate change and the activities or development they are designed to protect;</u></p> <p>(c) <u>The extent to which economic, social and environmental benefits outweigh costs;</u></p> <p>(d) <u>Whether risk to people, property, infrastructure, environment, historic heritage or sites and areas of significance to Maaori is not transferred or increased;</u></p> <p>(e) <u>The extent to which structures are located as far landward as practicable;</u></p> <p>(f) <u>Whether public access both to and along the coastal area and to the coastal marine area are provided for where the structure is located on public land; and</u></p> <p>(g) <u>Whether an adaptive management strategy</u></p>
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		<u>has been prepared to manage coastal hazards, and whether the structure is consistent with that strategy.</u>
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### 15.10.3 Discretionary Activities

- (a) The activities listed below are discretionary activities in the High Risk Coastal Hazard~~(Inundation)~~ Area.

D1	Earthworks not provided for in Rule 15.10.1 P4.
<del>D2</del>	<del>(1) Replacement and relocation of an existing building within the same site where:</del> <del>(a) There is no increase in the ground floor area of the building.</del>
<del>D32</del>	<del>Construction of a new coastal protection structure.</del>
D43	Construction of new utilities not provided for in Rule 15.10.1 P2.
D54	Upgrading of existing utilities not provided for in Rule 15.10.1 P2.
D65	(1) Subdivision that creates one or more additional vacant lot(s) where: <del>(a) The additional vacant lot(s) are located entirely outside the High Risk Coastal Hazard (Inundation) Area; or</del> (a) The additional lot(s) are partially within the High Risk Coastal Hazard (Inundation) Area and each additional lot(s) contains a net site area capable of containing a complying building platform entirely outside the High Risk Coastal Hazard <del>(Inundation)</del> Area. (2) Rule 15.10.2 D6(1) does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.
D76	<u>Construction of a new building or additions to an existing building, not provided for in Rule 15.10.1 P1 – P2 or Rule 15.10.2 D2 - D54.</u>

### 15.10.4 Non-Complying Activities

- (a) The activities listed below are non-complying activities in the High Risk Coastal Hazard~~(Inundation)~~ Area.

NC1	<del>Construction of a new building or additions to an existing building, not provided for in Rule 15.10.1 P1 – P2 or Rule 15.10.2 D2 – D5</del>
NC2	(1) Subdivision to create one or more additional lot(s) that does not comply with Rule 15.10.2 D6. (2) Rule 15.10.3 NC2(1) does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.
NC3	Emergency services facilities and hospitals.

## 15.11 Mine Subsidence Risk Area

### 15.11.1 Permitted Activities



- (a) The activities listed below are permitted activities within the Mine Subsidence Risk Area shown on the Planning Maps if they meet the activity-specific ~~conditions~~ standards set out in this table.
- (b) Activities may also be restricted discretionary activities or discretionary activities, as specified in Rules 15.11.2 and 15.11.3.

Activity		Activity-specific <del>conditions</del> <u>standards</u>
P1	Additions to an existing building	(a) Additions do not increase the gross floor area of the building by more than 15m <sup>2</sup> ; and (b) Additions do not result in the length of any wall of the building exceeding 20m.
P2	Standalone garage	(a) The gross floor area of the building does not exceed 55m <sup>2</sup> ; and (b) The maximum length of any wall does not exceed 20m.
P3	Construction, replacement, repair, minor upgrading, upgrading or maintenance of utilities <u>and associated earthworks</u>	Nil
P4	Earthworks	(a) The maximum volume of filling does not exceed 20m <sup>3</sup> per site; and (b) The maximum depth of any excavation or filling does not exceed 1m above or below ground level.

#### **Rule 15.11.1A Controlled Activities**

- (a) The activity listed below is a Controlled Activity in the Mine Subsidence Risk Area.

Activity		Matters of Control
CI	<u>The construction or alteration of a building that is not provided for under Rule 15.11.1 where a Consent Notice is registered against the Record of Title confirming that a geotechnical assessment has been approved at the time of subdivision and the approved geotechnical report confirms that the ground is suitable for building development and the building development is in accordance with any recommendations of the geotechnical report.</u>	(a) <u>The degree to which the requirements and recommendations of the geotechnical report approved at the time of subdivision have been incorporated in the building design.</u> (b) <u>Whether confirmation is provided from a suitably experienced and qualified geotechnical engineer that confirms the proposed building development is consistent with the recommendations and requirements of the geotechnical report approved at the time of subdivision.</u>

### 15.11.2 Restricted Discretionary Activities

- (a) The activities listed below are restricted discretionary activities in the Mine Subsidence Risk Area.
- (b) Discretion to grant or decline consent and impose conditions is restricted to the matters of discretion set out in the following table.

Activity		Matters of Discretion
RD1	Earthworks that do not comply with Rule 15.11.1 P4.	<b>Discretion is restricted to:</b> <ul style="list-style-type: none"> <li>(a) Location and scale of earthworks;</li> <li>(b) Geotechnical and geological stability of the site following the completion of earthworks;</li> <li>(c) Risk to people and property from subsidence as a result of earthworks.</li> <li>(d) Any other mitigation measures to reduce risk.</li> </ul>
<u>RD2</u>	<u>Construction of a building, or reconstruction of, or accessory building or the reconstruction of or additions to an existing building not provided for in Rule 15.11.1 P1-P3 or C1.</u>	<b>Discretion is restricted to:</b> <ul style="list-style-type: none"> <li>(a) <u>Construction standards and materials.</u></li> <li>(b) <u>Suitability of the site for development.</u></li> <li>(c) <u>The potential effects on health and safety.</u></li> </ul>

### 15.11.3 Discretionary Activities

- (a) The activities listed below are discretionary activities in the Mine Subsidence Risk Area.

<del>D1</del>	<del>Construction of a building or additions to an existing building not provided for in Rule 15.11.1 P1-P3.</del>
<del>D2</del> <u>D1</u>	Subdivision to create one or more additional vacant lot(s) other than a utility allotment, access allotment or subdivision to create a reserve allotment.

## 15.12 Liquefaction

### 15.12.1 Overview of method

- (1) Areas in the district susceptible to liquefaction have not been identified on the planning maps as a natural hazard overlay as is the case with the other natural hazards in this chapter. Where specific land uses have already been identified as restricted discretionary activities in the activity status tables in the relevant zone, liquefaction risk has been added as a matter over which the Council will reserve its discretion, where it is considered relevant for that activity. To satisfy the requirements of sections 104 and 106 of the RMA, identification of appropriate mitigation may be required where the site and proposed development are considered vulnerable to liquefaction based on site-specific characteristics. It is expected that best practice geotechnical and engineering methods will be used to

ensure that the site is suitable for the intended use.

- (2) Where potential liquefaction risk is identified as a matter that the Council restricts its discretion to, the additional matters outlined in Rules 15.12.2 and 15.12.3 below apply where relevant.

### **15.12.2 Additional matters of restricted discretion for subdivision to create one or more additional vacant lots – liquefaction risk**

- (1) Where potential liquefaction risk is identified as a matter that the Council will restrict its discretion to in a subdivision rule elsewhere in this Plan, and where that proposal involves subdivision to create one or more additional vacant lots, the Council restricts its discretion to the following additional matters (note: these matters will also be relevant to the assessment of a discretionary or non-complying resource consent application where a potential liquefaction hazard has been identified on a site):
  - (a) Geotechnical assessment and/or investigation of any potential liquefaction hazard on the site at a level sufficient to confirm the level of risk and its suitability for the proposed activity (see information requirements in section 15.13);
  - (b) Measures proposed to mitigate the effects of liquefaction hazard if present including:
    - (i) Location, size, layout and design of allotments, structures, and building platforms, including consideration given to alternative siting away from where liquefaction risk is greatest;
    - (ii) Location, timing, scale and nature of earthworks;
    - (iii) Provision for ground strengthening and foundation design;
    - (iv) Provision for resilient services and infrastructure, including wastewater, water supply, roads and access;
    - (v) Setbacks in relation to waterways, waterbodies or any steep change in ground elevation, sloping ground or free face, or alternative geotechnical measures to address any identified potential for lateral spread;
    - (vi) Effects on adjoining properties.

### **15.12.3 Additional matters of restricted discretion for new land use (e.g., multi-unit development) – liquefaction risk**

- (1) Where potential liquefaction risk is identified as a matter that the Council will restrict its discretion to in a rule elsewhere in this Plan for new land use, the Council restricts its discretion to the following additional matters (note: these matters will also be relevant to the assessment of a discretionary or non-complying resource consent application where a potential liquefaction hazard has been identified on a site):
  - (a) Geotechnical assessment and/or investigation of any potential liquefaction hazard on the site at a level sufficient to confirm the level of risk and its suitability for the proposed activity (see information requirements in section 15.13);
  - (b) Measures proposed to mitigate the effects of liquefaction hazard, if present,

including:

- (i) Location, size, layout and design of buildings, structures, car parking areas, access and provision for resilient infrastructure and services, including wastewater, stormwater and water supply;
- (ii) Location, timing, scale and nature of earthworks;
- (iii) Provision for ground strengthening and foundation design;
- (iv) Setbacks in relation to waterways, waterbodies or any steep change in ground elevation, sloping ground (or free face, or alternative geotechnical measures to address any identified potential for lateral spread);
- (v) Consideration given to ease of repair (including access to repair damaged structures) of liquefaction-induced damage;
- (vi) Effects on adjoining properties.

### **15.13 Information Requirements for all resource consent applications addressing natural hazards**

#### **15.13.1 General**

- (1) The following documents, to the extent relevant to the proposal:
  - (a) Geotechnical assessment, including identification and assessment of any potentially liquefaction prone land and land subject to slope instability;
  - (b) An assessment of natural hazard risk, including the type of natural hazards present, such as flooding, slope stability, liquefaction, subsidence and coastal hazards. The assessment shall include the level of risk and any increase in risk as a result of the proposal associated with each hazard. Where applicable, the projected effects of climate change over the period to 2120 must be included;
  - (c) Remediation and mitigation measures necessary to make the site and any proposed buildings suitable for the proposed use, such as minimum floor levels, foundation design for relocatability, and appropriate time limits and/or triggers for the removal of any building and onsite wastewater disposal systems.
- (2) Plans identifying:
  - (a) Topographical features within the site and surrounding area;
  - (b) The location of natural hazards on all or part of the site.
- (3) Consideration of the information contained in the following stormwater catchment management plans, or any approved updated version, where relevant:
  - (a) Ngaruawahia Catchment Management Plan, March 2015;
  - (b) Tamahere Stormwater Catchment Management Plan and Report, 2011
  - (c) Port Waikato Stormwater Catchment Management Plan and Report, 2004;
  - (d) Pokeno Catchment Management Plan, 2010;
  - (e) Te Kauwhata Catchment Management Plan, 2009;
  - (f) Tuakau Catchment Management Plan, Draft 2014.

#### **15.13.2 Liquefaction Potential**

- (1) For land use resource consent applications where the additional matters the Council will restrict its discretion to include liquefaction, as per Rule 15.12.3, the following

information is required:

- (a) A preliminary geotechnical assessment in sufficient detail to determine:
    - (i) the liquefaction vulnerability category, being either “liquefaction damage is unlikely” or “liquefaction damage is possible”, as shown in Table 4.4 in “Preliminary Document: Planning and engineering guidance for potentially liquefaction prone land – Resource Management Act and Building Act aspects. Pub MfE and MBIE, September 2017”; or
    - (ii) whether or not the site is susceptible to liquefaction using an alternative accepted method, observation, or desktop study.
  - (b) Where a “liquefaction damage is possible” category has been identified for the site as per 15.13.2(1)(a)(i) above, or an alternative accepted method, observation or desktop study indicates that the site is susceptible to liquefaction as per 15.13.2(1)(a)(ii) above, the assessment will be required to determine the liquefaction vulnerability in more detail, and in proportion to the scale and significance of the liquefaction hazard, and must:
    - (i) Identify any areas which require particular ground strengthening or other mitigation measures, and recommendations for such mitigation; and
    - (ii) Identify areas to be excluded from built development, due to liquefaction hazard constraints (which includes lateral spread), or which require geotechnical setbacks; and
    - (iii) Indicate options and recommended locations for the proposed activities and infrastructure recommended by the geotechnical engineer.
  - (c) All geotechnical assessments in respect of liquefaction risk are to be prepared by a suitably qualified and experienced engineer with experience in geotechnical engineering or a Professional Engineering Geologist (IPENZ registered).
- (2) For subdivision consent applications that create one or more additional vacant lots as per Rule 15.12.2:
- (a) an assessment in accordance with 15.13.2(1)(a) above will be required to be provided.
  - (b) Where a “liquefaction damage is possible” category has been identified for the site as per 15.13.2(1)(a)(i) above, or an alternative accepted method, observation, or desktop study indicates that the site is susceptible to liquefaction as per 15.13.2(1)(a)(ii) above, the subdivision application will be required to include sufficient information and proposed measures to satisfy that liquefaction risk can be adequately avoided, remedied or mitigated, including the potential effects of lateral spread.
  - (c) Subdivision plans shall show, to the extent relevant or appropriate to the scale and significance of the liquefaction hazard identified:
    - (i) any areas which require particular ground strengthening or other mitigation
    - (ii) measures, and recommendations for such mitigation; and
    - (iii) any areas which should be excluded from built development due to geotechnical constraints, or which require geotechnical setbacks; and
    - (iv) any features of subdivision layout recommended by the geotechnical engineer, for example any recommended locations for proposed activities and other infrastructure as a result of geotechnical constraints.
  - (d) All geotechnical reports in respect of liquefaction potential are to be prepared by a suitably qualified and experienced engineer with experience in geotechnical

engineering or Professional Engineering Geologist (IPENZ registered).

#### **15.13.3 ~~Country Living Zone~~ RLZ – Rural lifestyle zone - Tamahere**

- (1) Any resource consent in relation to land located in the ~~Country Living Zone~~ Rural lifestyle zone in Tamahere will be required to include details of ponding of stormwater and overland flow paths as a result of a 1% AEP storm event (with rainfall events adjusted for climate change), as well as mitigation measures taking account of information that the Council holds in respect to the Tamahere stormwater catchment area.

#### **15.13.4 Defended Areas**

- (1) For any Restricted Discretionary Activity land use and subdivision applications within the Defended Area, the following information is required to the extent relevant to the scale of the proposal:
- (a) a risk assessment, carried out by a suitably-qualified and experienced risk assessment practitioner, which identifies the nature and level of residual risk, and details of appropriate methods to further reduce residual risk, where appropriate.

#### **15.14 Definitions**

<b>The provisions notified under this heading are addressed in Decision Report 30: Definitions</b>
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