

**BEFORE THE HEARINGS PANEL
FOR PROPOSED PLAN CHANGE 3 TO THE KAIKOURA DISTRICT PLAN**

UNDER the Resource Management Act 1991 (RMA)
IN THE MATTER of Proposed Plan Change 3 to the Kaikoura District Plan

**STATEMENT OF EVIDENCE OF JANE ELIZABETH DOOGUE ON BEHALF
OF THE CANTERBURY REGIONAL COUNCIL**

29 October 2021

SUMMARY STATEMENT

The Canterbury Regional Council (**Regional Council** or **CRC**) submission was generally supportive of proposed Plan Change 3 to the Kaikoura District Plan (**PC3**) and therefore sought that many of the provisions be retained as notified. This was primarily on the basis that, in general, the provisions were clearly giving effect to the Canterbury Regional Policy Statement (**CRPS**) as required by the Resource Management Act 1991 (**RMA**).

The Regional Council also sought some amendments to PC3 where it considered that provisions could be clarified in order to give better effect to or more clearly implement the policies in the Natural Hazards chapter of the CRPS.

I have reviewed the s42A Report prepared by Ms Andrews for Kaikoura District Council and I generally agree with and support her recommendations. My evidence focuses on the recommendations that are important in giving effect to the CRPS, particularly where there has been opposition from other submitters. My evidence also addresses amendments sought in the Regional Council submission where the intent of the submission can be clarified in light of the comments and recommendations in the s42A Report.

These particular recommendations are mostly in relation to submissions (by the Regional Council and other submitters) on definitions of *Hazard Sensitive Buildings*, *High Flood Hazard Area*, and *Non-critical infrastructure*; specific objectives, policies and rules in Chapter 8: Natural Hazards, and in Chapter 13: Subdivision; and the natural hazards overlays.

I agree with the amended definitions of *Hazard Sensitive Buildings*, *High Flood Hazard Area*, as recommended by Ms Andrews in the s42A report. I do not support the definition of *Non-critical infrastructure* as recommended by Ms Andrews in the s42A Report because I consider that it could create uncertainty about what non-critical infrastructure is and is not.

I agree with the s42A report recommendation to insert a new overarching objective for the management of natural hazard risk as requested in the Regional Council's submission. I consider that it is therefore appropriate to delete Clause 3 from the proposed Objective 8.2.1.

I also agree with the insertion of a second new objective 8.2.4 and amendments to Policy 8.3.10 relating to natural hazard mitigation works.

I agree with the s42A report recommendation to retain proposed Clause 2 to Objective 8.2.2 relating to new critical infrastructure in High Flood hazard Areas.

In my view PC3 establishes an appropriate framework for managing flood risk, using the two flood assessment overlays, a definition of *High Flood hazard Area*, and a rule framework including a Flood Assessment Certificate. I consider that the framework will adequately ensure that High Flood Hazard Areas are avoided where necessary, and appropriate floor level heights are established to mitigate flood risk as appropriate. I consider that the approach taken strikes an appropriate balance between certainty and flexibility.

I agree with the amendments to Objective 1 and Policy 7 in the subdivision chapter as recommended in the s42A report. In my view the amendments will better ensure that within the Kaikoura District new subdivision is avoided in areas of unacceptable natural hazard risk, and mitigated appropriately in other areas.

I support the s42A recommendation to retain flood assessment overlays and the liquefaction, fault avoidance, and fault awareness overlays, as notified. I also support the introduction of a new debris inundation overlay to replace both the Landslide Debris Inundation Overlay and the Debris Fans Overlay.

Introduction

- 1 My full name is Jane Elizabeth Doogue.
- 2 I am a Team Leader in the Planning Section at the Canterbury Regional Council (**Regional Council**), a position I have held since March 2021.
- 3 I have been an employee of the Regional Council for seven and a half years, mostly in planning roles. Prior to my current position I held positions of Senior Planner, Principal Planner, and Principal Strategy Advisor.
- 4 Prior to working as a planner I worked for six years in communications and community engagement roles in local government in Christchurch, New Zealand, and in Adelaide, South Australia.
- 5 I hold a Bachelor of Arts and a Bachelor of Commerce (Otago University, 1989), and a Master of Environmental Policy and Management (University of Adelaide, 2012). I have completed the Making Good Decisions course offered by Ministry for the Environment and Local Government New Zealand and I have been an Associate member of the New Zealand Planning Institute since 2019.
- 6 My relevant planning experience includes leading the Regional Council's involvement and input to district plan reviews and district plan changes undertaken by the ten territorial authorities in Canterbury. I provide regional policy advice to territorial authorities to ensure the Canterbury Regional Policy Statement (**CRPS**) is implemented through district plans, and to achieve integrated planning outcomes across the region.
- 7 I drafted the Regional Council's submission on proposed Plan Change 3 to the Kaikoura District Plan (**PC3**), and I have prepared this planning evidence on behalf of the Regional Council.

Code of Conduct

- 8 Although I am employed by the Regional Council, I can confirm that I have read and am familiar with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and I am giving this evidence as an independent expert. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving any oral evidence during this hearing. Except where I state that I am relying on the evidence of another person, my evidence is

within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Overview of the Regional Council's submissions

- 9 The Regional Council submitted in overall support of the notified provisions, noting that the proposed provisions were generally consistent with the CRPS.
- 10 While the Regional Council submitted in overall support of PC3, the submission made 32 specific submission points. Of the 32, 11 were substantive submission points seeking amendments to PC3 to ensure that the provisions are consistent with, and give effect to, the CRPS. The remaining 21 submission points were '*minor and less substantive points, provided to enable the Council [Kaikoura District Council (**KDC**)] to make improvements for consistency and clarity*'.

Scope of evidence

- 11 I have been asked to provide evidence in relation to PC3. My evidence addresses:
 - (a) the Regional Council's interest in PC3;
 - (b) the relevant statutory framework with a particular focus on the natural hazards chapter (Chapter 11) of the CRPS;
 - (c) A number of recommendations in the *Proposed Natural Hazards Plan Change 3 Section 42 Hearings Report for Hearing Commencing 9 November 2021, Report on Submissions and Further Submissions, Chapter 8: Natural Hazards (s42A Report)*, dated 15 October 2021. Specifically, the recommendations relating to:-
 - (i) Statutory framework;
 - (ii) Definitions of *Hazard Sensitive Building, High Flood Hazard* (including use of 500 year ARI), and *Non-critical infrastructure*;
 - (iii) Chapter 8 Natural Hazards: Objectives;
 - (iv) Chapter 8 Natural Hazards: Policies;
 - (v) Chapter 8 Natural Hazards: Rules;

- (vi) Chapter 13 Subdivision; and
- (vii) Natural hazards overlays.

- 12 In preparing my evidence I have reviewed the following documents:
- (a) the notified proposed provisions of PC3 and accompanying planning maps;
 - (b) the Section 32 Report for proposed Natural Hazards Plan Change 3 to the Kaikoura District Plan, prepared and notified by KDC (including the associated technical reports) (**s32 Report**);
 - (c) the CRPS;
 - (d) the submissions and further submissions on PC3;
 - (e) the evidence of Mr Nicholas Griffiths provided on behalf of both the Regional Council and KDC; and
 - (f) the s42A Report, which includes the planning evidence of Mr Matthew Hoggard on behalf of KDC, and is accompanied by the updated 'District-scale landslide risk analysis of debris inundation for the Kaikoura District' (GNS Science, 2021).

The Regional Council's interest in PC3

- 13 The Regional Council has a responsibility for the control of the use of land for the purpose of avoiding or mitigating natural hazards under the Resource Management Act 1991 (**RMA** or **Act**). This includes setting out the responsibilities of local authorities for managing natural hazards in the CRPS.
- 14 The main focus of the Regional Council's submission is to support KDC in implementing and giving effect to the CRPS and to ensure that the proposed provisions are consistent with the regional planning framework.
- 15 The Regional Council also has a significant role in providing technical information to territorial authorities on all types of natural hazards to assist with the development of district plans, plan changes and district development strategies.
- 16 Both myself and Mr Nick Griffiths have been involved in the development of PC3 on behalf of the Regional Council for the last three, and four

years respectively. Prior to notification of PC3, we worked collaboratively with KDC staff as members of the District Plan Working Group¹ to develop KDC's approach to PC3 and to develop and deliver the community risk workshops².

- 17 As stated in paragraph 2 of the Regional Council's submission '*in general the CRC supports the proposed plan change*'. Attachment 1 to the Regional Council's submission includes 32 submission points, comprising 21 '*minor and less substantive submissions points to enable the Council to make improvements for consistency and clarity*', and 11 submission points which the Regional Council considers are more substantive than those aforementioned in relation to implementing and better giving effect to the CRPS. Since the submissions period closed, I have met with KDC staff to discuss submission points numbered 16, 17, 25, 30 and 32 in the Regional Council's submission. Two meetings were held, which have been documented in the s42A Report (pages 142-146).

Statutory framework

- 18 PC3 addresses natural hazards including flooding, debris inundation, liquefaction, active faults, and wildfire. Coastal hazards are not within the scope of PC3.
- 19 The relevant statutory framework for PC3 has been set out in the s32 Report. Rather than repeating all of the relevant legislation here, I have listed the sections of legislation and policies that are most relevant to the points made in my evidence.

Section 75 of the RMA

- 20 This section of the Act requires that a district plan must give effect to any national policy statement, any New Zealand coastal policy statement, a national planning standard, and any regional policy statement. This section also requires that a district plan must not be inconsistent with a water conservation order, or a regional plan for any matter specified in section 30(1) of the Act.

¹ Refer s32 Report, page12

² Refer s32 Report, pages13-14

Section 62 of the RMA

- 21 Section 62 of the Act requires that a regional policy statement must state the local authority responsible in the whole or any part of the region for specifying the objectives, policies, and methods for the control of the use of land to avoid or mitigate natural hazards or any group of hazards.

Statement of responsibilities in Chapter 11 of the CRPS

- 22 The CRPS states that the Regional Council is responsible for controlling the use of land for managing natural hazards in areas within the beds of lakes and rivers, and within the coastal marine area. The Regional Council is also responsible for controlling land use within areas that are likely to be subject to coastal erosion and sea water inundation over the next 100 years.
- 23 Territorial authorities are responsible for controlling the use of land to manage natural hazards outside of the beds of lakes and rivers and landward of the coastal marine area. Joint responsibility exists for the control of the use of land, to avoid or mitigate natural hazards in areas subject to seawater inundation but only territorial authorities are responsible for developing rules.

CRPS Chapter 11

- 24 The policy framework in the operative CRPS for managing natural hazards is mostly contained within Chapter 11. This chapter sets out a risk-based approach for managing natural hazards in Canterbury, under which the risk is determined as a function of the likelihood and the consequences of a natural hazard occurring. A three-tiered management hierarchy is provided to implement this approach. It requires the avoidance of development in high risk or hazard prone areas as the first priority, mitigation where avoidance is not possible or where the residual mitigated risk from the natural hazard will be acceptable, and thirdly it provides for recovery from and response to the consequences of natural hazard events.
- 25 This approach is reflected in Objective 1 (11.2.1), which is to:

Avoid new subdivision, use and development of land that increases risks associated with natural hazards.

New subdivision, use and development of land which increases the risk of natural hazards to people, property and infrastructure is avoided or, where avoidance is not possible, mitigation measures minimise such risks.

- 26 CRPS Chapter 11 has specific policies for managing the risks associated with flooding, seawater inundation, coastal erosion, and earthquakes. All other natural hazards are addressed under a general risk management policy.
- 27 Policy 11.3.1 seeks to avoid new subdivision, use and development of land in high hazard areas. The definition of high hazard areas in relation to flooding³ includes:
- 1. flood hazard areas subject to inundation events where the water depth (metres) x velocity (metres per second) is greater than or equal to 1, or where depths are greater than 1 metre, in a 0.2% AEP flood event;*
- Furthermore,
- When determining high hazard areas, projections on the effects of climate change will be taken into account.*
- 28 A 0.2% Annual Exceedance Probability (**AEP**) flood event is equivalent to a 500 year Average Recurrence Interval (**ARI**) flood event. These terms can be used interchangeably.
- 29 Policy 11.3.1 provides two exceptions for areas outside of greater Christchurch⁴:-
- (a) First, where new subdivision, use and development is not likely to result in loss of life or serious injuries, is not likely to suffer significant damage or loss in the event of a natural hazard, is not likely to require new or upgraded hazard mitigation works, and, is not likely to exacerbate the effects of the natural hazard; and

³ For the purpose of this evidence relating to PC3 I have reproduced the parts of the definition that pertain to freshwater flooding because coastal hazards (including coastal inundation) are not within the scope of PC3.

⁴ greater Christchurch includes the territorial authorities of Christchurch City, Waimakariri District and Selwyn District. Kaikoura District is therefore outside of greater Christchurch.

- (b) Secondly, for new development within an area zoned or identified in a district plan for urban residential, industrial or commercial use, at the date of notification of the CRPS (18 June 2011), in which case the effects of the natural hazard must be mitigated.⁵
- 30 Policy 11.3.1 does not require that high hazard areas are mapped in district plans, but that district plans must include objectives and policies, and may include methods to avoid new subdivision, use and development that does not meet the criteria set out in Policy 11.3.1 clauses (1) to (5) for known high hazard areas excluding those areas subject to coastal erosion within the next 100 years and within the beds of lakes and rivers.⁶ High hazard areas could be mapped as part of district plan provisions to implement this policy, but it is not a requirement. PC3 implements this policy by identifying areas that may be susceptible to flooding (the Urban Flood Assessment Overlay and Non-urban Flood Assessment Overlay) and using a Flood Assessment Certificate process to further assess whether the level of flooding a site (or part of it) may experience meets the definition of a High Flood Hazard Area.
- 31 Policy 11.3.2 manages flooding outside of high hazard areas where flooding is expected to occur in a 200 year ARI event.⁷ Outside of high hazard areas (which are addressed under Policy 11.3.1), Policy 11.3.2 similarly seeks to avoid new subdivision, use and development in areas subject to a 200 year ARI event, unless there is no increased risk to life, and the subdivision, use or development is of a type that is not likely to suffer material damage in an inundation event, or is ancillary or incidental to the main development. The policy also enables a mitigation pathway if new buildings have an appropriate floor level above the 200 year ARI design flood level, and hazardous substances will not be inundated during a 200 year ARI flood event. The Regional Council is

⁵ CRPS, Policy 11.3.1, Clause (5)

⁶ CRPS, Policy 11.3.1, Method 7.a.

⁷ A 200 year ARI flood event is expected to occur once in every 200 years on average. This means there is a 1 in 200 chance of the event occurring (or 0.5% chance of occurring) in any given year. Cf. the 500 year ARI flood event that is used in the high hazard definition, where there is a 1 in 500 chance of the event occurring (or 0.2% chance of occurring) in any given year.

required to provide guidance about what those appropriate floor levels will be.

- 32 Under Policy 11.3.2, the CRPS provides discretion for territorial authorities to adopt a standard for setting minimum floor levels that is higher than the 0.5% AEP (200 year ARI) design flood level specified in Policy 11.3.2. Kaikoura District Council has exercised its discretion to adopt a 0.2% AEP (500 year ARI) in PC3. I note that Mr Matthew Hoggard's evidence (paragraphs 5.1 to 5.3) explains the rationale for Kaikoura District Council's use of this higher standard.
- 33 Policy 11.3.3 requires that *'new subdivision, use and development of land on or close to an active earthquake fault trace, or in areas susceptible to liquefaction and lateral spreading, shall be managed in order to avoid or mitigate the adverse effects of fault rupture, liquefaction and lateral spreading'*.
- 34 District plans are required to manage new subdivision, use and development of land in areas on or adjacent to a known active earthquake fault trace and in areas known to be potentially susceptible to liquefaction and lateral spreading.⁸ The Regional Council is required to assist in the delineation of fault avoidance zones along known active fault traces and the areas susceptible to liquefaction and lateral spreading.⁹
- 35 Policy 11.3.4 requires that that new critical infrastructure is located outside of known high hazard areas unless there is no reasonable alternative. It also seeks that district plans should ensure that where critical infrastructure is located in high hazard areas, that it will be able to be maintained and reinstated, if necessary, within a reasonable timeframe.
- 36 Policy 11.3.5 requires that a general risk management approach is taken for the management of all other areas or natural hazards that are not addressed by policies 11.3.1, 11.3.2, and 11.3.3. On the basis of considering risk as the likelihood of a natural event occurring and the likely consequences if it does, the policy requires that any unacceptable

⁸ CRPS Policy 11.3.3 (Methods 4 & 5).

⁹ CRPS Policy 11.3.3 (Methods 1 & 2).

risk is avoided. In the case of uncertainty, the policy also requires that a precautionary approach should be adopted.

- 37 Any other relevant CRPS policies are discussed in my evidence in the context of responding to the recommendations of the s42A Report.

Recommendations in the s42A Report

- 38 I generally agree with the analysis and recommendations of the s42A Report made by Ms Andrews on the amendments that have been sought by submitters. The following sections of my evidence focus on the recommendations that are important in giving effect to the CRPS, or for achieving more consistency with the CRPS, particularly where the Regional Council or other submitters have sought amendments. These sections relate to:

- (a) Statutory framework
- (b) Definitions of *Hazard Sensitive Building*, *High Flood Hazard* (including use of 500 year ARI), and *Non-critical infrastructure*
- (c) Chapter 8 Natural Hazards: Objectives
- (d) Chapter 8 Natural Hazards: Policies
- (e) Chapter 8 Natural Hazards: Rules
- (f) Chapter 13 Subdivision
- (g) Natural hazards overlays

Statutory framework

- 39 The Statutory Framework section in the s42A Report appropriately includes reference to the CRPS. I agree with Ms Andrews that the CRPS is relevant to PC3. However I do not agree with her assertion in paragraph 23 that the CRPS provides for management of natural hazards to an acceptable level or where this is not practical, it directs avoidance of activities. Ms Andrews implies that the hierarchy in the CRPS is to manage in the first instance, and then to avoid. This is inconsistent with the hierarchy established in the CRPS for the management of natural hazards, which is to avoid development in high risk or hazard prone areas in the first instance, to mitigate secondly, and to recover and respond thirdly (refer paragraphs 24 and 25 of my

evidence). While I acknowledge that this section of the s42A Report does not include recommendations on the specific provisions of PC3, and nor does Ms Andrews' assessment of the CRPS in this section affect her recommendations on the provisions elsewhere in the s42A Report, I considered it important to clearly state the hierarchy in the CRPS.

Definition of 'Hazard Sensitive Building'

- 40 The definition of Hazard Sensitive Building is fundamental to the risk-based approach taken by KDC in PC3. The Regional Council supported the notified definition, with a minor amendment for grammatical correctness.
- 41 In response to submissions, the s42A Report recommends amending the definition to include both animal shelters with a dirt/gravel or similarly unconstructed floor, and critical and non-critical infrastructure, where they are used as part of the primary activities on the site, as exemptions from being included as hazard sensitive buildings.
- 42 I agree with the amendments because in my opinion such animal shelters and infrastructure (without habitable rooms and not serviced with a sewage system and connected to a potable water supply) are unlikely to expose people or significant assets to an unacceptable level of risk.

Definition of 'High Flood Hazard' and the use of 500 year ARI

- 43 The definition of High Flood Hazard Area in PC3 is fundamental to giving effect to the framework established in the CRPS for managing flood risk, and the approach taken by KDC in PC3. The CRPS definition of high hazard area includes flooding events equal to or greater than specified magnitudes in a 500 year ARI event (equivalent to a 0.2% AEP event) (refer paragraph 28 of my evidence). The notified version of PC3 contains a definition of High Flood Hazard Area that gives effect to the CRPS. I therefore agree with the recommendation of Ms Andrews in paragraph 75 of the s42A Report to reject the amendments sought in the submissions of D.Kitchingham, K.Finerty, and M Egan to refer to High Flood Hazard Area using a 200 year ARI instead of 500 year ARI.
- 44 I also agree with the s42A Report author's recommendation to amend the definition of High Flood Hazard Area to use the term 'Average

Recurrence Interval (ARI)', rather than 'Annual Exceedance Probability (AEP)'¹⁰ to be consistent with terminology used throughout the rest of PC3. The s42A Report recommends accepting the Regional Council's submission, however the recommended wording change is incorrect which appears unintentional. In line with the Regional Council's submission, the preferred definition should read:

'means an area subject to inundation events where the water depth (metres) x velocity (metres per second) is greater than or equal to 1 or where depths are greater than 1 metre, in a 500 year ARI flood event'.

Definition of non-critical infrastructure

- 45 PC3 included a definition of *Critical Infrastructure* which mirrors the definition in the CRPS and was supported by the Regional Council's submission of general support. KDC's submission requested the insertion of a new definition for *Non-critical infrastructure*. I agree with the KDC submission and the s42A Report that it would be helpful to plan users to include a definition of *Non-critical infrastructure*. However, in my opinion, the proposed new definition creates some uncertainty about what non-critical infrastructure is and is not. For example, some of Kaikoura's infrastructure, such as the South Bay Harbour and non-strategic road networks, would not fall within the definition of *Critical Infrastructure* or the definition of *Non-critical infrastructure* requested in KDC's submission.
- 46 Given that a definition of infrastructure is provided in Section 2 of the RMA, and an appropriate definition of *Critical Infrastructure* is included in PC3, I consider that an appropriate definition of *Non-critical infrastructure* is simply '*infrastructure (as defined by the RMA), that does not meet the definition of Critical Infrastructure*' (as defined in PC3). In my opinion, achieving clear definitions of both *Critical Infrastructure* and *Non-critical infrastructure* would give better effect to the CRPS, particularly Policy 11.3.4.

Chapter 8 Natural Hazards: Objectives

- 47 The Regional Council's submission sought the insertion of two new objectives. It requested a new Objective 8.2.1 as an overarching

¹⁰ Refer paragraph 28, AEP and ARI have the same meaning

objective for all natural hazards, whereby the outcome sought is management of all natural hazard risk (including in areas not identified by an overlay) to acceptable levels. This was discussed with KDC staff including Ms Andrews at a pre-hearing meeting on 1 October 2021, where it was agreed that KDC would recommend accepting the relief sought. The s42A Report reflects that agreement. I consider that the insertion of new Objective 8.2.1 gives better effect to the CRPS, particularly Policies 5.3.2¹¹, 11.3.1, 11.3.2, 11.3.3 and 11.3.5.

- 48 As a result of the insertion of new Objective 8.2.1 as described in paragraph 47 above, the Regional Council requested that the notified version of Objective 8.2.1 be amended to become Objective 8.2.2 with a focus on flooding. Ms Andrews recommends amending the heading for Objective 8.2.1, however she has not recommended deleting Clause 3 from notified Objective 8.2.1. I consider that the addition of new Objective 8.2.1 renders Clause 3 of the notified Objective 8.2.1 (and Clause 3 of new Objective 8.2.2) redundant, because it seeks a similar overarching outcome – that natural hazard risk will be avoided or mitigated to acceptable levels.
- 49 CRPS Policy 8.3.4 requires new critical infrastructure to be located outside high hazard areas unless there is no reasonable alternative. Critical infrastructure must also be designed to maintain, as far as practicable, its integrity and function during natural hazard events. In my view Clause 2 of Objective 8.2.2 as notified gives effect to this policy. The submission by Spark requests that this clause be deleted to enable the asset owner (rather than KDC) to determine the risk profile to the infrastructure. I consider that providing the relief sought by Spark would be inconsistent with RPS Policy 11.3.4. I therefore support the s42A Report (paragraph 115) in which Ms Andrews recommends rejecting the relief sought by Spark and retaining Clause 2 to notified Objective 8.2.2 (which is Objective 8.2.3 in the s42A Report).
- 50 A second new Objective 8.2.4 was sought by the Regional Council in relation to natural hazard mitigation works where the outcome sought is

¹¹ Policy 5.3.2 Development Conditions, is '*to enable development including regionally significant infrastructure which (2) avoid or mitigate (2a) natural and other hazards, or land uses that would likely result in increases in the frequency and/or severity of hazards*'.

that communities avoid relying on hazard mitigation works to enable new development in the first instance, and that where new mitigation works are unavoidable, they do not have significant effects on the environment. This was discussed with KDC staff including Ms Andrews at a pre-hearing meeting on 1 October 2021. The s42A Report reflects the agreement reached, and I support Ms Andrews recommendation to accept the relief sought. I consider that the insertion of new Objective 8.2.4 gives better effect to the CRPS particularly Policies 11.3.1, 11.3.2, and 11.3.7.

Policies

- 51 The submission by Spark requests that Policy 8.3.8 be deleted to 'recognise that the risk to critical infrastructure from a natural hazard is best managed by the asset owner'. Consistent with my view on Spark's submission on Objective 8.2.2 (refer paragraph 49 of my evidence), I consider that providing the relief sought by Spark would be inconsistent with CRPS Policy 11.3.4. I therefore support the s42A Report (paragraph 150) in which Ms Andrews recommends rejecting the relief sought by Spark, and retaining Policy 8.3.8.
- 52 The Regional Council sought amendments to Policy 8.3.10 in relation to new sensitive buildings in the Urban Flood Assessment Overlay, to ensure that new development does not rely on new or upgraded community scale mitigation works. The Regional Council sought these amendments to give better effect to the CRPS, particularly Policies 11.3.1, 11.3.2 and 11.3.7. This was discussed with KDC staff including Ms Andrews at a pre-hearing meeting on 1 October 2021. The s42A Report reflects the agreement reached, and I support Ms Andrews recommendation to insert additional Clause 3 to Policy 8.3.10.
- 53 Federated Farmers have requested that KDC remove Policy 8.3.12 relating to Flooding outside of High Flood Hazard Areas. The Regional Council's submission was supportive of this policy as notified because it provides policy direction for managing areas within the district that are subject to moderate flooding. Policy 8.3.12 logically follows the policies relating to flooding within High Flood Hazard Areas (which are addressed by Policies 8.3.10 within the Urban Flood Assessment Overlay, and 8.3.11 within the Non-urban Flood Assessment Overlay). I note also that not all of the district has been addressed by the mapping of the two flood overlays (refer to the evidence of Mr Nick Griffiths). The

policy as notified would therefore apply to areas of the district that are susceptible to moderate flooding both within and outside of the overlays.

- 54 It is unclear from the s42A Report and Ms Andrews' recommended amendment to Policy 8.3.12 what the policy now applies to – areas susceptible to flooding in the entire district outside of High Hazard Areas and within the overlays, or, a narrower scope under which it is applicable to areas only within the two flood overlays and not within High Hazard Areas.
- 55 I support Ms Andrew's recommendation to retain Policy 8.3.12. However if there are implications of narrowing its application to areas only within the two flood overlays (as Ms Andrews may be recommending), or by removing it in its entirety (as requested by Federated Farmers), then I would not support the recommended amendment or requested removal of the policy.

Rules

Flood hazard rules

- 56 PC3 establishes a framework for managing flood risk which relies on the following key elements:
- An Urban Flood Hazard Assessment Overlay and a Non-urban Flood Hazard Assessment Overlay, to indicate areas that are susceptible to flooding¹²
 - A definition of High Flood Hazard Area
 - A Flood Assessment Certificate
 - A rule framework which relies on a Flood Assessment Certificate to ensure that High Flood Hazard Areas are avoided, and establishes appropriate floor level heights to mitigate the 500 year ARI flood event.
- 57 I note that the Ministry of Education has a number of concerns about the PC3 framework. Questions include whether the flood overlays are statutory or not, and the financial costs of the certification process. I

¹² Not all of the district has been addressed by the mapping of the two flood overlays (refer to evidence of Mr Nick Griffiths)

understand that the Ministry's key concerns are that properties that are at risk of flooding are not identified until a site-specific flood assessment has been undertaken, and that the separate certification process does not provide certainty about the natural hazard risk to their properties or the development potential. The Ministry of Education also recommends that the proposed flood overlay[s] is non-statutory to enable it to be regularly updated with new information.

- 58 The proposed Urban Flood Hazard Assessment Overlay and Non-urban Flood Hazard Assessment Overlay are proposed to be statutory layers - they were notified as part of PC3 as additional planning map layers, along with the other natural hazard overlays. The two overlays broadly identify areas where the potential for flooding may exist. Flood modelling was undertaken by the Regional Council for parts of the Kaikoura district. The model results have informed the two flood overlays in PC3 where available, but do not form part of PC3 as statutory layers. Mr Nick Griffiths has provided further details on the technical aspects of the flood mapping that was used as the basis for the overlays.
- 59 Results of the flood modelling undertaken by the Regional Council provide an indication of potential high hazard areas, and flood depths. The model results are accessible to the public online via the Canterbury Maps platform. Therefore, the Ministry of Education and other landowners can get an indication of whether their land could be in a high flood hazard area prior to obtaining a Flood Assessment Certificate.
- 60 In my opinion, requiring a Flood Assessment Certificate within three years of the time of development ensures that a site-specific assessment is undertaken using the most up to date knowledge and information available. The Flood Assessment Certificate will be used to ensure that high hazard areas are avoided and set a minimum finished floor level for areas where mitigation is necessary and appropriate.
- 61 With reference to the Ministry of Education's submission, I consider that PC3 with its two flood overlays, together with public access to the most up to date flood model results and non-statutory information outside of the Kaikōura District plan (refer to the evidence of Mr Nick Griffiths), strike an appropriate balance between certainty and flexibility required by the Ministry of Education.

62 In my view PC3 establishes an appropriate rule framework for managing flood risk and gives effect to CRPS flood policies 11.3.1 and 11.3.2.

Chapter 13: Subdivision

Objective 1 and Policy 7

63 The Regional Council submission requested amendments to Objective 1 and Policy 7 to better give effect to the CRPS, in particular the hierarchy approach requiring the avoidance of development in high risk or hazard prone areas in the first instance, and then management to acceptable levels for areas that are not deemed high hazard (refer paragraphs 24 and 25 of this evidence). The requested amendments were discussed with KDC staff including Ms Andrews at a pre-hearing meeting on 1 October 2021. The s42A Report reflects the agreement we reached.

64 I agree with the s42A Report to amend Objective 1, including insertion of new Clause 2 (which was opposed in Federated Farmers' further submission). Clause 2 as suggested by the Regional Council aims to manage natural hazard risk for new subdivision in the entire district (in areas not meeting the definition of High Flood Hazard Areas) to acceptable levels. In my view it is appropriate that this objective applies to new subdivision in the entire district. I consider that the amendment requested by the Regional Council would give better effect to the CRPS, particularly policies 11.3.1, 11.3.2, and 11.3.5.

65 I also agree with the s42A Report to amend Policy 13.2.2, including insertion of new Clause 4 (which was opposed in Federated Farmers' further submission). Clause 4 was suggested by the Regional Council to ensure that subdivision in areas subject to natural hazard risk that are not identified by the Natural Hazard Overlays is appropriately managed. In my view subdivision in all areas of the district that are subject to natural hazard risk should be managed. Mr Nick Griffiths in his evidence (at paragraph 13) states that natural hazard assessments for the Kaikoura district have focused on the areas where future development is most likely to occur and that the entire Kaikoura district has not been assessed for natural hazards. In my view it is appropriate that Policy 13.2.2 applies to new subdivision in the entire district. I consider that the Regional Council requested amendment would give better effect to the CRPS, particularly policies 11.3.1, 11.3.2, 11.3.5, and 11.3.7.

66 I note that there are several typographical errors in Appendix 1, under Policy 13.2.2 where the author has inadvertently numbered the clauses 6-10 instead of 1-5, and has omitted the words '*natural hazard mitigation works*' at the end of Clause 5.

Natural hazard overlays

67 I support the s42A recommendation to retain the flood assessment overlays and the liquefaction, fault avoidance, and fault awareness overlays, as notified.

68 I also support the introduction of a new debris inundation overlay to replace both the Landslide Debris Inundation Overlay and the Debris Fans Overlay, to reflect the further investigations recently completed by GNS Science. I rely on the evidence of Mr Nick Griffiths and Mr Matthew Hoggard to explain the appropriateness of the further investigations undertaken and the development of the new debris inundation overlay.

Dated this 29th day of October 2021



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Jane Elizabeth Doogue

