



# Proposed Plan Change 42 – Mangaroa and Pinehaven Flood Hazard Extents

## Section 32 Evaluation Report

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# 1. Introduction

- 1.1 The Upper Hutt City Council (UHCC) is proposing to undertake a plan change to address flood hazards within the Mangaroa River and Pinehaven Stream catchments.
- 1.2 This plan change is required to address the risk from flooding associated with the Pinehaven Stream and the Mangaroa River. Both of these water bodies have had flood hazard maps prepared.
- 1.3 The Flood Hazard Extent for the Pinehaven Stream is supported by the Pinehaven Floodplain Management Plan. In this plan, the Flood Hazard Extent and flood risks are identified, as well as potential structural and non-structural approaches to address this risk. This plan was developed collaboratively over the period 2009 to 2014 between Greater Wellington Regional Council (GWRC), UHCC and the community.
- 1.4 The Mangaroa River does not have a specific Flood Management Plan.
- 1.5 The current District Plan objectives, policies and rules do not recognise the identified Flood Hazard Extent and associated risk to development for either the Mangaroa River or the Pinehaven Stream. Consequently, further development undertaken in accordance with the existing District Plan provisions within either of these Flood Hazard Extents could unacceptably increase the risk to people and property from flooding.
- 1.6 This report has been prepared in accordance with the section 32 requirements of the Resource Management Act 1991 (the RMA), which includes an assessment against the relevant statutory requirements of the RMA, comprising the Part 2 purpose and principles, Part 4 functions & duties and Part 5 District Plan requirements.
- 1.7 In addressing the relevant section 32 matters of the RMA, this report has been structured as follows:
  - Statutory framework;
  - Background;
  - Consultation;
  - Resource management issues;
  - Flood hazard risk under the District Plan;
  - National, regional and local policy framework;
  - Review of current District Plan objectives and policies;
  - Proposed objective and policies for the plan change;
  - Options for achieving the objectives;
  - Proposed rules; and
  - Conclusion

## **2. Statutory Framework**

2.1 This plan change has been prepared under the requirements of the RMA. In particular, the Schedule 1 process for implementing plan changes.

### **Part 2 of the RMA**

2.2 Part 2 of the RMA outlines the purposes and principles of the Act. A section 32 report must consider the proposed plan change against Part 2 of the RMA to ensure that the purpose and principles are being achieved. Section 9 of this report assesses the proposed plan change against the relevant Part 2 matters.

### **Part 4 of the RMA**

2.3 In addition to the Part 2 purpose and principles, s31 (Part 4 of the RMA) identifies the required functional responsibilities of territorial authorities in order to give effect to the RMA. Section 31(1)(a) requires the establishment and review of objectives, policies, and methods to achieve integrated management.

2.4 In particular, s31(1)(b)(i) requires territorial authorities to control any actual or potential effects associated with of the use, development, or protection of land for the purpose of avoidance or mitigation of natural hazards. Section 10 of this report addresses the proposed rule framework to ensure the relevant Part 4 matters are satisfied.

### **Part 5 of the RMA**

2.5 Part 5 of the RMA sets out the responsibilities and requirements for territorial authorities including the requirements for formulating plans and ensuring they are consistent with higher order planning documents.

2.6 Section 73(4) requires territorial authorities to amend a District Plan to give effect to a regional policy statement. Section 74 requires a territorial authority to have regard to any management plans and strategies prepared under other Acts when changing a plan. Section 75(3) requires that District Plans must give effect to any National Policy Statement or Regional Policy Statement and must not be inconsistent with a Regional Plan. These sections require a territorial authority to have a District Plan that is in accordance with its functions under s31 of the RMA.

### **Section 32 of the RMA**

2.7 This report has been prepared in accordance with the requirements of s32 of the RMA, which requires an evaluation report be prepared before the notification of a plan change. Sections 32(1), 32(2), 32(3) and 32(4) specify that an evaluation report must satisfy the following requirements.

32(1) An evaluation report must—

- (a) examine the extent to which the objectives are the most appropriate way to achieve the purpose of this Act; and
- (b) examine whether, the provisions in the proposal are the most appropriate way to achieve the objectives by –
  - (i) identifying other reasonably practicable options for achieving the objectives; and
  - (ii) assessing the efficiency and effectiveness of the provisions in achieving the objectives; and
  - (iii) summarising the reasons for deciding on the provisions; and
- (c) contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.

32(2) An assessment under subsection 1(b)(ii) must –

- (a) identify and assess the benefits and costs of the environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions, including opportunities for –
  - (i) economic growth that are anticipated to be provided or reduced; and
  - (ii) employment that are anticipated to be provided or reduced; and
- (b) if practicable, quantify the benefits and costs referred to in paragraph (a); and
- (c) assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.

32(3) If the proposal (an amending proposal) will amend a standard, statement, regulation, plan, or change that is already proposed or that already exists (an existing proposal), the examination under subsection (1)(b) must relate to –

- (a) the provisions and objectives of the amending proposal; and
- (b) the objectives of the existing proposal to the extent that those objectives
  - (i) are relevant to the objectives of the amending proposal; and
  - (ii) would remain if the amending proposal were to take effect.

32(4) If the proposal will impose a greater prohibition or restriction on activity to which a national environmental standard applies than the existing prohibitions or restrictions in that standard, the evaluation report must examine whether the prohibition or restriction is justified in the circumstances of each region or district in which the prohibition or restriction would have effect.

### 3. Background

- 3.1 This section of the report provides the background information on both catchments and the processes undertaken to date. For ease of reading, this background section has been broken up into two parts, the Mangaroa River and the Pinehaven Stream, being covered separately.

#### **Mangaroa River**

- 3.2 The Mangaroa River drains a catchment of 103km<sup>2</sup> (10,300 hectares) and is approximately 20km long. The catchment runs from headwaters near Russells Road to its confluence with the Hutt River. The Mangaroa catchment lies on the eastern side of the Hutt River catchment and borders the Wainiuomata and Orongorongo catchments to the south and the Pakuratahi catchment to the northeast. The catchment is surrounded by numerous narrow, steep sided valleys which converge and flow onto the Mangaroa River floodplain and drain to the north-east.
- 3.3 The land use within the catchment is comprised of semi-rural development that is predominantly confined to the floodplain. This includes a mix of agricultural land, numerous lifestyle blocks and the small rural settlement of Mangaroa in the lower reaches of the catchment. This small settlement includes Mangaroa School, a local church, and several large non-residential buildings. Development within the catchment is typically low density; however, there is a small area of higher density development at the end of the catchment by State Highway 2. The valley sides above the Mangaroa floodplain are typically undeveloped, steep and covered in a mixture of native vegetation, regenerating scrub, or exotic pine.
- 3.4 The Mangaroa River is a typical rural river with natural banks and winds its way through the floodplain in a northerly direction before turning west to converge with the Hutt River. No physical flood protection measures confine the channel, although there are a number of culvert structures, service crossings, and potential obstructions along its length.

#### **Mangaroa Floodplain Planning Process**

- 3.5 In 2006 GWRC developed the Mangaroa River Flood Hazard Assessment, which focussed specifically on identifying those areas at risk to flooding and erosion hazards within the catchment. The Mangaroa River Flood Hazard Assessment provided an analysis of the existing hazards associated with the Mangaroa River to assist in the preparation of planning and policy controls for the Mangaroa Valley.
- 3.6 To implement the Mangaroa River Flood Hazard Assessment, UHCC prepared and notified Plan Change 15 in October 2012. As well as introduce new provisions for the Mangaroa Catchment based on the modelling undertaken, Plan Change 15 also sought to update and strengthen the existing provisions relating to the Hutt River (as recommended in the Hutt River Flood Management Plan). Hearings on Plan Change 15 were held in May 2013, with submissions generally focussed on four key areas; property values, modelling, consultation, and the proposed provisions. Overall, the hearing commissioner's report recommended that Plan Change 15 be granted.

- 3.7 Following the Commissioner's recommendation, the Council decided in September 2013<sup>1</sup> (ref 351/12/015) to undertake an independent review of the modelling results that informed the identification of the flood hazard in the Mangaroa catchment. It was intended that once the review had been undertaken Plan Change 15 would then be reheard. The independent assessment was completed and the flood hazard modelling was updated to confirm the extent of the flood hazard.
- 3.8 The updated modelling confirmed the Flood Hazard Extent for the Mangaroa River and inundation depths for a 100 year flood event. The modelling included the effects of climate change, blockage of structures across the river corridor and freeboard allocation. However, prior to re-hearing Plan Change 15, a new flood hazard plan change for the Pinehaven catchment was commenced, which presented an opportunity to ensure the policy framework for both plan changes were consistent.
- 3.9 While the provisions for Mangaroa and Pinehaven were initially drafted as separate plan changes, they have been subsequently combined. Accordingly, this plan change is the successor to Plan Change 15 and builds on the previous work to mitigate or reduce the potential of continued flood impacts on the community. Given the changes in the modelling since Plan Change 15, and the time that has lapsed since the plan change was placed on hold, it was decided to withdraw Plan Change 15 and commence with a new plan change. As with Plan Change 15, this new plan change seeks to introduce provisions into the District Plan to address the hazard risk associated with the Mangaroa River. However, the objectives, policies and rules proposed in this plan change have been updated and are therefore different than those proposed in Plan Change 15.

### **Pinehaven Floodplain Planning Process**

- 3.10 Following a period of flood events in 2004, 2005 and 2009 when streets and properties alongside the Pinehaven Stream were flooded, UHCC and GWRC formed a partnership and began engaging with the community as part of a process to understand the issue and its causes, and to work through options to address the flood hazard.
- 3.11 A Floodplain Planning Process was commenced to address the flood risk issues within Pinehaven and incorporated three distinct phases, culminating in the final Floodplain Management Plan.
- The first phase clarified the importance of defining and establishing the scale and significance of the flood risk to the community, and involved collecting information to determine the scale of the issue.
  - The second phase involved identifying and selecting the management options, which were compared and assessed against each other. Phase two involved a

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<sup>1</sup> Council meeting 25 September 2013, Item A8, File ref 351/12/015

series of engagements with the community and stakeholders and technical workshops involving a Project Steering Group made up of representatives from UHCC and GWRC.

- The third phase culminated in the Pinehaven FMP which established the Flood Hazard Extent through flood maps. The FMP recommended a number of structural and non-structural options to cumulatively address the flood hazard and achieve the overall purpose of reducing the risk to the community from future flood events.

3.12 The Project Steering Group selected the following objectives and target levels of service to guide the development of the Floodplain Management Plan:

- Objective 1 - An integrated long-term upgrade option to meet the UHCC target level of service for streams: provision of a 25 year channel capacity combined with the protection of building floor levels from inundation in the 100-year storm event (including the predicted mid-range impacts of climate change)
- Objective 2 - Preventing blockages and introducing non-structural planning controls to help prevent increases in flood risk from further development in the catchment.
  - Identify flood zonings
  - Zone and control important secondary overflow paths
  - Hydraulic neutrality or reduction in runoff requirements for new development
  - Source control measures for new buildings such as attenuation of peak flows in the catchment using onsite rainwater tanks
  - Enforcement of private stream crossings to address associated flooding

3.13 Hydraulic modelling was undertaken to establish the Flood Hazard Extent, inundation depths and features such as overflow paths associated with a 1 in 100-year flood event. The modelling also incorporated the effects of climate change (as forecast to 2090), blockage of structures across the stream and freeboard allocation. The identified flood extent of a 1 in 100-year event encompasses 546 residential zoned properties and 25 commercial business zone properties within Pinehaven.

3.14 The hydraulic modelling results confirmed that much of the Pinehaven Stream channel has less than a 1 in 5-year flood flow capacity. The numerous bridges and culverts further constrain the stream and are significant contributors to flooding. Furthermore there is a high potential for blockages in the narrow vegetated stream channel and the intakes of culverts or bridges. The modelling showed that, in places, blockages significantly increased the extent of flooding. In

addition, the modelling identified that changes in the upper sub-catchment area (predominantly undeveloped rural zoned land) would increase the flood risk to the downstream community.

- 3.15 The FMP identified that some of the existing flood risk in Pinehaven can be managed through structural upgrades, maintenance and emergency response measures. However physical works are only able to manage part of the flood risk in the catchment. The planned channel upgrades are to a 1 in 25 year flood event. This is well below GWRC's desired level of protection where residential floor levels would be above the 1 in 100-year flood event.
- 3.16 The Project Steering Group's preferred option was a combination of structural upgrades and non-structural or regulatory measures. This approach would see improvements to the capacity of the existing stream channel together with a plan change to address the flood risk area within the operative District Plan. This option was selected in 2012 after drawing on technical investigations, the multi-criteria analysis, and feedback from the Pinehaven community and affected private property owners in the area. The preferred option was then updated in 2013 to allow for an improved construction methodology for channel improvements that would reduce the impact on the stream channel.
- 3.17 The proposed Plan Change is the principal tool to achieve Objective 2 of the Pinehaven Floodplain Management Plan (2015). This plan change will introduce a variety of non-structural planning provisions to control development and activities in order to avoid, remedy, or mitigate flood risk to people and property within the identified Flood Hazard Extent.
- 3.18 The Pinehaven Stream Floodplain Management Plan (Pinehaven Stream FMP) was formally adopted on 29 June 2016 following a process of notification, submissions, independent expert reviews, and hearings. Accordingly, the flood modelling informing the FMP is now confirmed as fit-for-purpose and therefore able to inform this plan change.

### **Scope of the Plan Change**

- 3.19 The purpose of the Plan Change is to implement the planning measures required to address the flooding risk associated with the Pinehaven Stream and the Mangaroa River. These planning measures seek to:
- provide for the functioning of the Pinehaven Stream and Mangaroa River Floodplains
  - avoid development in high hazard areas and incorporate mitigation measures into developments and subdivision in lower hazard areas to ensure that the impact of flood events on people and property within the identified Flood Hazard Extents are either mitigated or avoided; and,
  - ensure development and activities within the Flood Hazard Extents do not exacerbate the impact of flood events on people and property.



3.20 The proposed plan change amends existing provisions and introduces new objectives, policies and rules to manage land use and subdivision activities in order to recognize and specifically address flood risk within the identified Flood Hazard Extents for the Pinehaven Stream and the Mangaroa River. While the catchments are distinctly different, they were drafted concurrently and share the same policy framework, which recognises high- and low-risk hazards and is tailored to address the key risks and main activities within each catchment. While the provisions are catchment-based, the consistent policy approach makes the consolidation of both catchments into a single plan change appropriate.

3.21 The Plan Change proposes to amend and update the following parts of the District Plan:

- Chapter 2 (General Procedures) – information requirements
- Chapter 9 (Subdivision and Earthworks) – objectives and policies
- Chapter 14 (Natural Hazards) - objectives policies
- Chapter 16 (Utilities) – objectives and policies
- Chapter 17 (Hazardous Substances) – policies
- Chapter 18 (Residential) – Subdivision rules
- Chapter 19 (Rural) – Subdivision rules
- Chapter 20 (Business) – Subdivision rules
- Chapter 23 (Earthworks) – rules
- Chapter 30 (Utilities) – rules
- Chapter 33 (Natural Hazards) – rules
- Chapter 34 (Hazardous Substances) – rules

3.22 Overall, the Plan Change ensures the following:

- the proposed provisions for the District Plan comply with the RMA requirements in terms of Council’s statutory responsibility both in terms of Section 31 of the Act and in terms of giving effect to the Regional Policy Statement;
- the proposed District Plan provisions, namely the proposed objective, policies, and rules, have been tested in terms of section 32 of the RMA and the provisions selected are considered the best way of meeting the purpose of the RMA
- the proposed objectives, policies and rules apply to the defined and modelled Flood Hazard Extents. The proposed objectives, policies, and rules have been drafted to avoid development in the high hazard areas and to incorporate mitigation measures for development in lower risk areas.

## 4. Consultation

4.1 Consultation was undertaken with the Pinehaven community in developing the draft Pinehaven Stream FMP. As such, the Pinehaven community were involved in the development of the solutions which have informed this Plan Change. The Pinehaven FMP consultation included:

- letter drop inviting residents to share their experiences on local flooding history.
- a drop-in session where residents had the opportunity to comment on draft flood hazard maps, and an open day to discuss and develop combinations of options
- individual meetings with property owners impacted by structural options, and
- a submission process when the draft FMP was notified in October 2014.

4.2 During the consultation of the FMP, the Project Steering Group met with representatives from Rangitāne, Wellington Tenth Trust, and Te Atiawa. It was determined that the Pinehaven catchment has significance as a waterway but was not known to be an area of historic cultural significance or current cultural significance to Māori.

4.3 In addition, the Council ran a focus group, which discussed the Pinehaven Stream component of the plan change alongside other relevant issues for the Pinehaven Community (for example the Guildford land swap). The purpose of this informal consultation was to:

- identify issues or concerns that the Council may not have been aware of
- maximise engagement as part of the Council's responsibility to be transparent with the community on matters that could impact on them
- give the community warning of the upcoming plan change
- provide a place for the community to discuss their views with the Council directly.

4.4 A workshop was also held with elected members of UHCC in November 2015 to inform what the proposed Plan Changes for both the Mangaroa River and the Pinehaven Stream Flood Hazard Zones would entail. The workshop presented the key flood hazard issues for the two catchments. Council were informed of what changes had been made to the flood modelling in response to the peer review undertaken for Plan Change 15 and were advised of the forward programme for the plan change to allow for notification.

4.5 A subsequent workshop was held with elected members of UHCC on 20th December 2016 to update the status of the plan change and the combining of the two catchments under a single plan change approach.

4.6 As the Pinehaven Stream and Mangaroa River Flood Hazard Extents were originally proposed to be addressed in separate plan changes, two separate letters were sent in relation to Council fulfilling its requirements under Schedule 1, Clause 3 of the RMA. These letters were sent on 12 February 2016 and 4 March 2016 and were sent to the following parties:

- Ministry for the Environment
- Department of Conservation
- Greater Wellington Regional Council
- Hutt City Council
- Kapiti Coast District Council
- Porirua City Council
- South Wairarapa District Council
- Wellington Tenth's Trust
- Orongomai Marae
- Te Runanganui o Taranaki Whanui ki te Upoko o Te Ika a Maui
- Te Runanga o Toa Rangatira Inc
- Port Nicholson Block Settlement Trust
- Ngati Kahungunu
- Rangitane o Wairarapa Incorporated.

4.7 Following the combining of these two plan changes into one, another letter in accordance with the Schedule 1, Clause 3 of the RMA was sent to the above parties in December 2016. No response from the above Clause 3 parties was received to the December 2016 letter.

4.8 GWRC and Wellington Water responded to the initial pre-notification consultation invitation. UHCC met with these parties on 7 March 2016 to discuss their feedback on the draft provisions of the Pinehaven and Mangaroa Plan Change. Following consideration of the feedback received, minor changes were made to the Plan Change.

4.9 Plan Change 15 (which related to the Mangaroa Flood Hazard Extent) was withdrawn on 2 March 2016. As part of this process, a letter was sent to all submitters informing them that the plan change was withdrawn and that it would be replaced with a new plan change. Submitters on Plan Change 15 were invited to contact the Council if they had any questions that required clarification. Several parties contacted the Council and the matters they raised have been considered in the preparation of this plan change.

## 5. Resource Management Issues

5.1 Section 31 of the RMA establishes the requirement to avoid and mitigate natural hazards as a key function of territorial authorities. It is acknowledged that, within the identified flood extent, there are areas of high hazard and lower hazard areas. The following key resource management issues have been identified.

- The function of the floodplain and the stream and river corridors to enable flood water to discharge during flood events needs to be maintained. Activities and development can compromise this function and exacerbate the flood risk to people and property.
- The varying scale and type of flood risk to existing and proposed development within the identified Flood Hazard Extents should be recognised and the higher and lower hazard areas and the risks that they present to people and property should be identified.
- Development in high hazard areas (being stream and river corridors and overflow paths) should be discouraged due to the risk to people and property, and risks should be mitigated in lower hazard areas, such as requiring floor levels above the 1 in 100-year flood event level.
- Earthworks within high hazard areas such as overflow paths can divert or obstruct flood water discharging during a flood event and therefore exacerbate the flood risk to people and property.
- Utility services (in particular stormwater, wastewater and water pipes) may contribute to blockages or impede flood flows where they cross the river or the stream, exacerbating the flood risk to people and property.
- Flood mitigation works within the stream or river corridors of Flood Hazard Extents have the primary objective of alleviating flood risk and should be supported.
- Hazardous substance activities within Flood Hazard Extents represent a risk to people and the environment if the storage and location does not sufficiently consider and mitigate the effect of flood.
- Erosion to the land along both sides of the Mangaroa River during flood events is a potential risk. Buildings and structures in identified locations may be at considerable risk, and earthworks within this area could exacerbate erosion. Buildings in these areas could also contribute debris to the river corridor during flooding and should be discouraged or avoided if the risk is considered unacceptably high.
- In the Mangaroa River Flood Hazard Extent, driveways and access routes within the Rural Zone need to be accessible during flood events to provide a means of evacuation for people. This can be achieved by avoiding high hazard areas and accessways being constructed above the 1 in 100-year event level in the lower hazard areas;

- In Pinehaven, driveway crossings and structures over the stream channel within the Flood Hazard Extent can collect debris and block or impede flood flows, exacerbating the flood risk to people and property.
- For the Pinehaven Stream, subdivision and changes in land use in the upper catchment can increase the stormwater runoff during flood events, increasing the volume of water discharged through the downstream catchment area. This exacerbates the flood risk to people and property downstream.

5.2 Currently, the District Plan is silent on the Flood Hazard Extent associated with the Pinehaven Stream and the Mangaroa River<sup>2</sup>.

5.3 Under the current District Plan provisions, the primary method available to take into consideration the identified Flood Hazard Extents is at the time of subdivision consent. This approach is indirect and lacks certainty or consistency by being applied individually to each application in the absence of a guiding policy framework. Further it is a risk as the Flood Hazard Extents are not identified or recognised within the District Plan, yet the Council must consider it as part of its statutory duties under Section 106 of the RMA. This approach provides the community with less certainty when undertaking developments, and does not represent best planning practice to address the Resource Management issues identified above.

5.4 The current approach also has considerable risks, as a proposal to build within the identified River or Stream Corridors, Overflow Paths, Ponding Areas, or Erosion Hazard Area is currently a Permitted Activity in the District Plan. As such, the Council is unable to use the resource management process to avoid or require mitigation for development within the Flood Hazard Extent. As such, it would be possible for buildings to be constructed which are at considerable risk from flooding, which is inconsistent with the outcomes sought under this Plan Change and does not address the identified Resource Management issues.

5.5 It is acknowledged that the current District Plan objectives and policies pertaining to natural hazards provide some limited support to the current approach undertaken by Council. However, given the broad applicability of these objectives and policies, the lack of supporting rules for either the Pinehaven Stream or the Mangaroa Flood Hazard Extents, and the lack of recognition of the variability of risk in the Flood Hazard Extents, it is considered that these existing provisions are not sufficient to ensure that Council meets its legislative requirements.

5.6 The proposed approach in the plan change would be more overt, with both the Pinehaven Stream and Mangaroa River Flood Hazard Extents being identified on the District Plan maps, with supporting objectives, policies and rules in the District Plan which make it clearer to landowners, developers, consultants and council planners regarding the outcomes that are sought in the Flood Hazard Extents. This approach ensures that the identified Resource Management issues are appropriately addressed both within the District Plan, and at the time of considering any resource consent application.

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<sup>2</sup>Plan Change 15 sought the introduction of provisions to address flood hazards but was withdrawn in favour of this plan change.

- 5.7 For the Mangaroa River catchment, 11 subdivision applications were granted in 2013, six subdivision applications were granted in 2014 and in 2015, five subdivision applications were granted. In the Pinehaven Stream Catchment, four subdivision applications were granted in 2013, six were granted subdivision approval in 2014, and in 2015, five subdivision applications were granted.
- 5.8 Under the Upper Hutt District Plan, all subdivisions require resource consent. This means that the proposed rules do not introduce the requirement for subdivision to obtain resource consent. The proposed rules increase the matters that require consideration within the application. As such, it is expected that the proposed rules will not significantly increase the number of subdivision applications processed by Council.
- 5.9 A review of the building consents approved for 2013 – 2015 showed that for both the Pinehaven Stream and the Mangaroa River Flood Hazard Extents there were low numbers of new dwellings and external alterations that did not obtain resource consent (i.e. under the existing rules they are a permitted activity). Under the proposed rules, it is likely that some of these dwellings or alterations would require resource consent. This suggests that there is construction work that is being undertaken that is increasing the risk from flooding. While the proposed plan change would introduce the requirement for resource consent for these previously permitted works, providing the proposed building works are appropriately located in the Flood Hazard Extent and appropriate mitigation measures are incorporated into the development, then the resource consent provisions should not present a significant barrier.
- 5.10 The proposed rules for will only apply to the Pinehaven Stream and Mangaroa River Flood Hazard Extents and will not be applicable to any other river or stream. It is acknowledged that the proposed plan change would mean that more activities in these Flood Hazard Extents would need resource consent than the current rule framework. However, the requirement to avoid high hazard areas and control development in the lower hazard areas of the identified Flood Hazard Extent is consistent with the requirements of the Regional Policy Statement and is required to ensure that the identified Resource Management issues are addressed.
- 5.11 The proposed rules that control development of buildings and the undertaking of earthworks through the district wide chapters of the District Plan and thus apply equally across all zones.
- 5.12 The subdivision rules are zoned based within the District Plan and thus each relevant zone chapter in the Plan is amended to address the situation where subdivision is proposed that would create new undeveloped lots. Such lots need to consider the flood hazard risk issues so that new development potential is not created in inappropriate high hazard areas that would otherwise be discouraged through the land use provisions. The subdivision rules therefore support the land use provisions.
- 5.13 Access is also controlled within the rural zones to ensure future lots and new development maintain a resilient form of access to the surrounding road network during flood events.

Network utility structures and hazardous substances within the Flood Hazard Extent are also controlled.

5.14 A full analysis of the proposed rules is provided in section 10 of this report.

## 6. National, regional and local policy framework

- 6.1 The following section of this report considers the proposed plan change against the national, regional and local policy frameworks.

### Part 2 of the Resource Management Act

#### Section 5

- 6.2 Part 2 of the Resource Management Act 1991 outlines the purposes and principles of the Act. Section 5 sets out the purpose of the RMA, which is to promote the sustainable management of natural and physical resources.
- 6.3 This proposal is considered to be consistent with Section 5 of the Act. The Flood Hazard Extent identifies the area of inundation for a 1 in 100-year flood event for the Mangaroa River and Pinehaven Stream. It also identifies the high hazard components of the Flood Hazard Extent, such as the overflow paths and the river corridor. The proposed objectives, policies and rules seek to avoid or discourage development within the high hazard areas. Development within the lower hazard areas is less restricted, instead requiring preventative measures to minimize potential risk from future flood events.
- 6.4 It is acknowledged that the Plan Change will limit some private property rights. However, the proposed District Plan provisions will manage the use and development of resources while sustaining their potential to meet the reasonably foreseeable needs of future generations, by ensuring future development is not at an unreasonable risk from flooding. The provisions will also enable the community to provide for their social and cultural well-being and health and safety through the application of preventative measures such as requiring floor levels of buildings to be positioned above the 1 in 100-year flood event level.
- 6.5 Providing for the functioning of the floodplains during flood events will minimize the flood risk to the community. The plan change provisions propose to manage the impact of the built environment within the identified areas in a way that will enable the floodplains to function. Ensuring development does not impede the flow of flood waters will assist with mitigating the effect of flood events on the community and is consistent with the purpose and principles of section 5 of the RMA.
- 6.6 In recognition of the existing relationship between the floodplains and the built environment, the proposed plan change allows for some permitted development that will not significantly increase the risk to life or property or increase the flood hazard. This will ensure that property owners are still able to undertake some development without the need to obtain resource consent, thereby enabling private property owners to provide for their own economic, social, and cultural well-being while avoiding any discernible increase in flooding risk.
- 6.7 The proposed provisions support flood mitigation works in recognition of the benefit they have to the function of the floodplain and the reduction of risk to the community. This is consistent with the purpose of section 5, through protecting the physical resources in a way that enables



people and the community to provide for their social and cultural well-being, and health and safety.

- 6.8 The proposed plan change also addresses hydraulic neutrality within the upper sub-catchment of the Pinehaven Stream where development could result in increased run-off during storm events and exacerbate the flood risk to the existing Pinehaven community downstream. Requiring hydraulic neutrality is consistent with the section 5 purpose and principles as it ensures development will be managed in a way that enables people to provide for their social and economic well-being while also providing for the health and safety of the downstream community within this Flood Hazard Extent.

## Section 6

- 6.9 Section 6 of the Act identifies matters of National Importance. Section 6 of the Act states:

*6. In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:*

- a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development;*
- b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development;*
- c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;*
- d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers;*
- e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga;*
- f) the protection of historic heritage from inappropriate subdivision, use, and development;*
- g) the protection of protected customary rights.*

- 6.10 The section 6 matters that are applicable to this proposal are subsections 6(a), 6(d) and 6(e). Overall, the proposed objectives, policies, and rules are consistent with Section 6 of the Act.

Section 6(a):

- 6.11 The Mangaroa Flood Hazard Extent comprises the flat floodplain of the Mangaroa and Whitemans Valleys. Although the floodplain has been modified over time, it still retains a degree of natural character. The proposed plan change provisions are consistent with s6(a) in that they do not propose to change the natural character of the Mangaroa River and its margins. The provisions also seek to avoid inappropriate development, use and subdivision in the Mangaroa Flood Hazard Extent.
- 6.12 The Pinehaven Stream is a typical urban stream in that the channel is well defined and has many bridge and culvert structures, and service crossings along its length. There are also significant sections of the stream length that are culverted. As such, the natural character has been heavily modified over time to that of an urbanized natural character. The proposed plan change provisions are consistent with s6(a) in that they seek to protect the stream corridor by restricting further structures within the channel and avoiding inappropriate development and subdivision.

Section 6(d):

- 6.13 Existing access along the Mangaroa River is limited as the channel passes through many private rural properties. However, sections of the river do pass through public reserve land (for example, near the confluence of the Mangaroa and Hutt Rivers) and there are a series of Esplanade Strips and Reserves that provide access to the Mangaroa River. The proposed plan change does not seek to change the ability for Council to require Esplanade Strips, Reserves or land to be vested as reserve and this is recognised by the wording of the proposed subdivision rules (which relate to the location of building platforms) and through retaining the ability to create reserve lots as a Controlled Activity. As such, the current level of public access to the river is maintained which is consistent with s6(d).
- 6.14 Existing access along the Pinehaven Stream is limited; a consequence of its narrow and highly modified channel which passes through many private suburban properties. However, sections of the stream also pass through public reserve land (such as Pinehaven Reserve and Willow Park). The current level of public access to the stream will be maintained in order to remain consistent with s6(d).

Section 6(e):

- 6.15 The proposed regulatory measures will not restrict the existing relationship of Maori and their culture and traditions with either the Pinehaven Stream or the Mangaroa River, and therefore is consistent with s6(e).

Section 7

- 6.16 Section 7 of the RMA identifies the other matters that are required to be taken into account during decision-making, as outlined below.

*7. In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—*

- (a) *kaitiakitanga*:
- (aa) *the ethic of stewardship*:
- (b) *the efficient use and development of natural and physical resources*:
- (ba) *the efficiency of the end use of energy*:
- (c) *the maintenance and enhancement of amenity values*:
- (d) *intrinsic values of ecosystems*:
- (e) *[Repealed]*
- (f) *maintenance and enhancement of the quality of the environment*:
- (g) *any finite characteristics of natural and physical resources*:
- (h) *the protection of the habitat of trout and salmon*:
- (i) *the effects of climate change*:
- (j) *the benefits to be derived from the use and development of renewable energy*.

6.17 The Section 7 matters that are applicable to this proposal are 7(b), 7(f) and 7(i). The proposed plan change is considered to be consistent with these subsections.

- Section 7(b):  
The plan ensures that activities and development within the catchments are undertaken in a manner that is efficient by recognising and providing for flood risk to minimize potential effects. To date the development within the floodplains has had limited acknowledgement of the flood risk and examples of inappropriate development have occurred, resulting in inefficient use of resources.
- Section 7(c):  
The proposed provisions will be consistent with these subsections and accordingly maintain the quality of the environment.
- Section 7(d):  
The plan change incorporates the effects of climate change within the flood modelling to identify the extent of the flood area and therefore is consistent with 7(i).

## Section 8

6.18 Section 8 of the RMA requires that:

*In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi.*

6.19 Section 8 of the RMA requires that applications take into account the principles of the Treaty of Waitangi. As part of the consultation process, local iwi were invited to provide feedback on the plan change. The iwi have opted to not provide any feedback at this stage. However, regardless of this, it is considered that the proposal is consistent with Section 8 of the Act.

## Part 4 of the RMA

- 6.20 In addition to the Part 2 purpose and principles, s31 (Part 4 of the RMA) identifies the required functional responsibilities of territorial authorities in order to give effect to the RMA. Section 31(1)(a) requires the establishment and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district.
- 6.21 In particular, s31(1)(b)(i) specifically requires territorial authorities to control any actual or potential effects associated with the use, development, or protection of land for the purpose of avoidance or mitigation of natural hazards.
- 6.22 The proposed plan change will ensure the Council is meeting its regulatory responsibilities, under s31. The proposed Plan Change has been prepared in response to the flooding risk from the Pinehaven Stream and Mangaroa River. The Plan Change seeks to avoid development in high hazard areas and control development in lower hazard area.

## National Policy Statement for Urban Development Capacity

- 6.23 Section 75(3)(c) of the Resource Management Act 1991 states that a district plan change must give effect to any National Policy Statement.
- 6.24 The National Policy Statement pertaining to Urban Development Capacity 2016 is a relevant consideration. No other National Policy Statements are relevant to this proposed plan change.
- 6.25 The relevant policies that require consideration when assessing this proposal are policies PA1 – PA4. These are discussed in detail below:

*PA1: Local authorities shall ensure that at any one time there is sufficient housing and business land development capacity according to the table below:*

- (a) *Short term Development capacity must be feasible, zoned and serviced with development infrastructure.*
- (b) *Medium term Development capacity must be feasible, zoned and either:*
- *serviced with development infrastructure, or*
  - *the funding for the development infrastructure required to service that development capacity must be identified in a Long Term Plan required under the Local Government Act 2002.*
- (c) *Long-term Development capacity must be feasible, identified in relevant plans and strategies, and the development infrastructure required to service it must be identified in the relevant Infrastructure Strategy required under the Local Government Act 2002.*

- 6.26 The proposal is considered to be consistent with Policy PA1. While the proposed plan change restricts development in the high hazard areas, these areas are generally small in comparison

to the catchment as a whole. The proposed provisions will therefore not impact on a large area of potentially developable land. In general, high hazard areas do not tend to apply exclusively across the entire property; the property will generally also comprise lower hazard risk areas that can be developed subject to appropriate hazard mitigation measures.

6.27 The Council has recently adopted the *Land Use Strategy (2016 - 2043)* which identifies the intended future growth areas within the district. It identifies areas for intensification around existing neighbourhood centres and through edge expansion. The hazard areas include a portion of the Southern Growth Area identified for edge expansion and intensification at Silverstream. The proposed provisions are considered to be consistent with the Silverstream intensification site, as mixed use residential development is normally encouraged at first floor and above with ground floor preserved for commercial activities. This is consistent with the proposed provisions that discourage residential development at ground level where it is more susceptible to flood hazards.

6.28 In terms of the Southern Growth Area, the majority of the identified future growth areas are outside the Pinehaven catchment avoiding any conflict with the growth area.

6.29 Accordingly the proposed plan change is not considered to limit Council's ability to provide for short, medium or long term development.

*PA2: Local authorities shall satisfy themselves that other infrastructure required to support urban development are likely to be available.*

6.30 This policy is not applicable to this plan change.

*PA3: When making planning decisions that affect the way and the rate at which development capacity is provided, decision-makers shall provide for the social, economic, cultural and environmental wellbeing of people and communities and future generations, whilst having particular regard to:*

*(a) Providing for choices that will meet the needs of people and communities and future generations for a range of dwelling types and locations, working environments and places to locate businesses;*

*(b) Promoting the efficient use of urban land and development infrastructure and other infrastructure; and*

*(c) Limiting as much as possible adverse impacts on the competitive operation of land and development markets.*

6.31 The proposal is considered to be consistent with Policy PA3. The proposed objectives, policies and rules allow communities to provide for their social, cultural, and economic well-being by limiting the ability for development to occur in the high hazard areas of the identified Flood Hazard Extents. These high hazard areas present a significant threat to people and property. As such, avoiding development in these areas will reduce the potential consequences and recovery time from flood events for communities. The proposed plan change generally allows for

development in the lower hazard areas of the Flood Hazard Extents, provided appropriate mitigation measures are undertaken to address the flood hazard risk.

- 6.32 Because the proposed objective, policy and rule framework takes a risk-based approach, it will only restrict development on a small amount of land that is considered high-risk. As such, the proposed plan change does not significantly reduce the ability for people and communities to provide for a range of dwelling types.

*PA4: When considering the effects of urban development, decision-makers shall take into account:*

*(a) The benefits that urban development will provide with respect to the ability for people and communities and future generations to provide for their social, economic, cultural and environmental wellbeing; and*

*(b) The benefits and costs of urban development at a national, inter-regional, regional and district scale, as well as the local effects.*

- 6.33 The proposal takes into account Policy PA4. The proposed plan change objectives, policies and rules allow communities to provide for their social, cultural and economic well-being by limiting the ability for development to occur in the high hazard areas of the identified Flood Hazard Extents. These high hazard areas present a significant threat to people and property. As such, avoiding development in these areas reduces the potential consequences of and recovery time from flood events for communities. The proposed plan change generally allows for development in the lower hazard areas of the Flood Hazard Extents, providing appropriate mitigation measures are undertaken to address the flood hazard risk.

- 6.34 The proposed plan change does not impact on the benefits or costs of development at a national, inter-regional, regional or district scale.

#### **National Environmental Standards for Telecommunication Facilities 2016**

- 6.35 On January 1 2017, the National Environmental Standards for Telecommunication Facilities 2016 (NESTF 2016) replaced the National Environmental Standards for Telecommunication Facilities 2008 (NESTF 2008).

- 6.36 The purpose of the NESTF 2016 is to provide greater national consistency in the rules surrounding the deployment of telecommunications infrastructure, while ensuring environmental effects are minimised and managed appropriately. It will widen the scope of the NESTF 2008 framework by classifying more activities related to the installation of telecommunications infrastructure as permitted, resulting in reduced resource consent requirements. This means that subject to meeting prescribed conditions, network operators will not need to seek resource consent for the installation of a wider range of telecommunications equipment provided prescribed conditions are met.

6.37 Of relevance to this plan change, Section 57 (Part 4) of the NESTF 2016 states that a territorial authority cannot make a natural hazard rule that applies to an identified regulated activity. The regulated activities are identified within Part 3 of the NESTF<sup>3</sup>. The proposed provisions within this plan change (namely the relevant utilities chapters 16 and 30) have been drafted to ensure they are consistent with the requirements of the NESTF and do not impose control over the identified regulated activities.

### Wellington Regional Policy Statement

6.38 Section 75(3)(c) of the Resource Management Act 1991 states that a district plan change must give effect to any Regional Policy Statement (RPS).

6.39 The RPS for the Wellington Region sets out the regional approach for managing the environment and providing for growth and associated effects. The RPS identifies the significant resource management issues for the region and outlines the policies and methods required to achieve the integrated sustainable management of the region's natural and physical resources.

6.40 The objectives and policies of the RPS most relevant to this plan change are:

***Objective 19** - The risks and consequences to people, communities, their businesses, property and infrastructure from natural hazards and climate change effects are reduced.*

***Policy 29** - Regional and district plans shall:*

- (a) identify areas at high risk from natural hazards; and*
- (b) include policies and rules to avoid inappropriate subdivision and development in those areas.*

***Policy 51** - When considering an application for a resource consent, notice of requirement, or a change, variation or review to a district or regional plan, the risk and consequences of natural hazards on people, communities, their property and infrastructure shall be minimised, and/or in determining whether an activity is inappropriate particular regard shall be given to:*

- (a) the frequency and magnitude of the range of natural hazards that may adversely affect the proposal or development, including residual risk;*
- (b) the potential for climate change and sea level rise to increase the frequency or magnitude of a hazard event;*
- (c) whether the location of the development will foreseeably require hazard mitigation works in the future;*

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<sup>3</sup> Regulated activities do not include three waters infrastructure, comprising water supply, waste water or stormwater.

- (d) *the potential for injury or loss of life, social disruption and emergency management and civil defence implications – such as access routes to and from the site;*
- (e) *any risks and consequences beyond the development site;*
- (f) *the impact of the proposed development on any natural features that act as a buffer, and where development should not interfere with their ability to reduce the risks of natural hazards;*
- (g) *avoiding inappropriate subdivision and development in areas at high risk from natural hazards;*
- (h) *the potential need for hazard adaptation and mitigation measures in moderate risk areas; and*
- (i) *the need to locate habitable floor areas and access routes above the 1 in 100 year flood level, in identified flood hazard areas.*

6.41 Objective 19 seeks to reduce the risks and consequences from natural hazards. This objective is implemented by Policy 29, which directs regional and district plans to identify areas at high risk from natural hazards and include policies and rules to avoid inappropriate subdivision and development. The proposed plan change is consistent with the direction given by Objective 19 and Policy 29 as the District Plan flood hazard maps identify the higher risk areas within the 1 in 100-year flood extent based on extensive modelling. These flood maps have informed the development of the proposed objective, policy and the rule framework to ensure risk from inappropriate subdivision or development in high risk locations is avoided.

6.42 Policies 29 and 51 give clear direction that risk reduction is the preferred method to build resilient communities. It promotes a precautionary, risk based approach, taking into consideration the characteristics of the natural hazard, potential impacts and vulnerability of development. The proposed changes to the District Plan are considered consistent with this approach; the objectives, policies and rules provide clear direction that new development or earthworks should avoid high hazard areas. In lower risk areas, appropriate mitigation measures are required to be undertaken to ensure that the risk from flooding is appropriately addressed. Together, measures seek to ensure that the potential risk from flooding in the Pinehaven and Mangaroa catchments is not increased by future development.

6.43 Policy 51(i) specifically requires particular regard to be given to the need to locate floor levels of habitable buildings above the expected level of a 1 in 100-year flood or to minimize damages in identified Flood Hazard Extents. It also recognises that access routes should be located above this level to allow evacuation or emergency services access to and from a site. The proposed plan change is consistent with this policy through proposing rules that require buildings with floor levels and access ways that are above the minimum 1 in 100-year flood level.



6.44 The proposed model incorporates climate change and therefore is consistent with Policy 51.

6.45 The RPS notes that in areas at high risk from natural hazards, most forms of residential, industrial or commercial development would be considered inappropriate and should be avoided unless it is shown that the effects, including residual risk, will be managed appropriately. The proposed objectives, policies, and rules actively discourage development in the high hazard areas, while allowing development in the areas with a moderate risk, providing appropriate mitigation measures are incorporated into future developments.

***Objective 20** - Hazard mitigation measures, structural works and other activities do not increase the risk and consequences of natural hazard events.*

***Policy 52** - When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, for hazard mitigation measures, particular regard shall be given to:*

- (a) the need for structural protection works or hard engineering methods;*
- (b) whether non-structural or soft engineering methods are a more appropriate option;*
- (c) avoiding structural protection works or hard engineering methods unless it is necessary to protect existing development or property from unacceptable risk and the works form part of a long-term hazard management strategy that represents the best practicable option for the future;*
- (d) the cumulative effects of isolated structural protection works; and*
- (e) residual risk remaining after mitigation works are in place, so that they reduce and do not increase the risks of natural hazards.*

6.46 Objective 20 aims to ensure that activities, including hazard mitigation measures, do not increase the risk and consequences from natural hazards. Policy 52 implements this objective and in the first instance directs decision makers to consider soft engineering methods rather than hard engineering solutions. In the case of the Mangaroa River, there are very few existing structural works along its length and no future engineering measures are currently proposed to reduce the flood hazard associated with this river. The proposed plan change seeks to use a range of soft engineering methods (avoidance of high hazard areas, minimum floor levels, minimum finished levels for access ways) to address the risk associated with flooding. The proposed plan change does not actively encourage or promote hard engineering solutions for the Mangaroa River that would change current fluvial processes.

6.47 Pinehaven Stream is an urban waterbody and therefore has a highly modified channel with existing structural engineering solutions, crossings and culverts. This existing situation limits the ability to avoid structural intervention altogether in the implementation of Policy 52. However, the Pinehaven FMP has recommended an approach that limits the degree of structural improvements (improving the capacity of the channel) to a 1 in 25-year flood event. This limited structural approach is justified through the support of the proposed non-structural provisions in this plan change. The provisions proposed in this plan change will support this lower-level of structural upgrade to further reduce risk to the community. This approach enables

the scale and significance of the structural works to be reduced and thus is considered overall consistent with the identified objective and policy.

***Objective 21** Communities are more resilient to natural hazards, including the impacts of climate change, and people are better prepared for the consequences of natural hazard events.*

***Policy 62** Allocation of responsibilities for land use controls for natural hazards*

- 6.48 Policy 62 sets out district and regional responsibilities for developing objectives, policies, and rules for the control of land and avoidance on natural hazards. The proposed plan change is considered to be fulfilling these responsibilities.
- 6.49 The proposed plan change introduces a number of measures to ensure that future developments are not at increased risk from flooding from the Pinehaven Stream and Mangaroa River. This in turn allows for the formation of more resilient communities and ensures that the risks from flooding are not increased as a result of future development.

#### **Proposed Natural Resources Plan**

- 6.50 Section 74(2)(a) (ii) of the RMA requires Council to have regard to proposed regional plan of its region in regard to any matter of regional significance or for which the regional council has primary responsibility under Part 4.
- 6.51 The proposed Natural Resources Plan for the Wellington Region is a combined air, land, water and coastal plan. Once it is made operative it will replace the existing Regional Coastal Plan and the four current regional plans (Regional Air Quality Management Plan, Regional Freshwater Plan, Regional Plan for Discharges to Land and, Regional Soil Plan). However, all rules within the proposed Natural Resources Plan have immediate legal effect.
- 6.52 This Plan Change must have regard to the following objectives, policies and rules in the proposed Natural Resource Plan:

***Objective 20:** The risk, residual risk and adverse effects from natural hazards and climate change on people, the community and infrastructure are acceptable.*

- 6.53 Objective 20 acknowledges that the natural hazard risk to communities must be addressed, including the risk that remains after hazard management works are completed. The objective also acknowledges that climate change has the potential to exacerbate natural hazard risk and therefore must be taken into consideration when determining what risk is acceptable. The proposed plan change is consistent with this objective as its intent is to introduce objectives, policies and rules to recognise the flood risk presented by the Pinehaven Stream and Mangaroa River. The modelling that has been undertaken takes into account climate change and it is considered that the residual risk arising from the plan change provisions will be acceptable.

***Objective 21:*** *Inappropriate use and development in high hazard areas is avoided.*

6.54 The proposed plan change is consistent with this objective as its intent is to introduce objectives, policies and rules to avoid development in the high hazard areas of the Pinehaven Stream and Mangaroa River Flood Extents.

***Policy P15: Flood protection activities:***

*The use, maintenance and ongoing operation of existing catchment based flood and erosion risk management activities which manage the risk of flooding to people, property, infrastructure and communities are beneficial and generally appropriate.*

***Policy P16: New flood protection and erosion control***

*The social, cultural, economic and environmental benefits of new catchment based flood and erosion risk management activities are recognised.*

6.55 The proposed plan change is consistent with the policies 15 and 16 above. GWRC manages and maintains flood protection structures across the region. Policies 15 and 16 are relevant to the management of flood protection structures. These policies recognise the social, cultural, economic, and environmental benefits of both existing and new flood risk management activities. The Proposed Plan Change is consistent with these policies in that it identifies the benefit of physical flood protection activities. For example, provisions are proposed that enable earthworks in the Flood Hazard Extents that are associated with flood mitigation works.

***Policy 27: High hazard areas:*** *Use and development, including hazard mitigation methods, in high hazard areas shall be avoided except where:*

*(a) they have a functional need or operational requirement or there is no practicable alternative to be so located, and*

*(b) the risk to the development and/or residual risk after hazard mitigation measures, assessed using a risk-based approach, is low, and*

*(c) the development does not cause or exacerbate natural hazards in other areas, and*

*(d) interference with natural processes (coastal, fluvial and lacustrine processes) is minimised, and*

*(e) natural cycles of erosion and accretion and the potential for natural features to fluctuate in position over time, including movements due to climate change and sea level rise, are taken into account.*

6.56 The proposed plan change is consistent with this policy as its intent is to introduce objectives, policies, and rules to avoid development in the high hazard areas of the Pinehaven Stream and Mangaroa River Flood Extents. The proposed objective, policy and rule framework seeks to

ensure that activities do not increase the risk to neighbouring properties. While the proposed plan change does not discourage development in lower hazard areas, this development is controlled to ensure that any potential residual risk is at an acceptable level.

***Policy P29 Climate change:** Particular regard shall be given to the potential for climate change to cause or exacerbate natural hazard events that could adversely affect use and development including:*

- (a) coastal erosion and inundation (**storm surge**), and*
- (b) river and lake flooding and erosion or aggradation, and*
- (c) **stormwater** ponding and impeded drainage, and*
- (d) sea level rise, using the best available guidance for the Wellington Region.*

6.57 Policy 29 recognises the potential for climate change to increase the risk of natural hazard events. Although the plan change does not explicitly refer to climate change, the modelling and flood hazard maps which inform the plan change incorporate the possible impact of climate change on the hazard risk in the future. This plan change is therefore consistent with the above policy. The assumption incorporated into the modelling is that climate change will result in an increase in rainfall.

#### **District Plans in the Wellington Region**

6.58 Section 74(2)(c) of the RMA requires territorial authorities to consider the extent to which a Plan Change needs to be consistent with the plans or proposed plans of adjacent territorial authorities.

6.59 The Pinehaven and Mangaroa Flood Hazard Extents are predominantly contained within the jurisdiction of the Upper Hutt district<sup>4</sup>. Notwithstanding this, the proposal has been considered against the relevant provisions other district plans within the Wellington region, discussed briefly below.

6.60 Kapiti Coast District Council has identified the 1 in 100-year flood extent on planning maps, using hazard categories and descriptions including direct and residual flood risks, and specific zone controls. Activities are then managed with varying degrees of control dependent on risk. The Kapiti Coast District Plan also identifies the wider catchment-based issues that can exacerbate flood hazards.

6.61 The Porirua City Council's District Plan identifies flood hazards as one of the significant resource management issues within the district. Their policy framework addressing natural hazards includes a specific objective and policy within Chapter C12 regarding flooding. The planning maps identify a flood hazard overlay. The policy direction recognizes the importance of prevention through flood mitigation works to the Porirua Stream and reliance on stormwater

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<sup>4</sup> In the case of Pinehaven, the top of the catchment extends marginally into the adjacent Hutt City jurisdiction, on land zoned Passive Recreation.

infrastructure. The plan provisions primarily address flood risk through the subdivision process and building consent process.

- 6.62 The Wellington City Plan defines a Flood Hazard Area as the area of land that would be inundated during a 1 in 100-year flood event and identifies this on the planning maps. The policy framework requires the avoidance of development that will exacerbate natural hazards and the development of residential dwellings with floor levels below the 1 in 100-year flood level to be avoided.
- 6.63 The Hutt City District Plan contains a policy framework that recognizes flood risks and the effect of increased peak surface water runoff from development. While the 1 in 100-year flood extent is identified, it is limited to the Hutt River. The District Plan identifies a Primary and Secondary River Corridor and recognizes that locating significant buildings where people work, live or congregate, such as resthomes, schools, hospitals as inappropriate.
- 6.64 The proposed plan change notified more recently by Kapiti Coast District Council is discernibly different and much more detailed in its approach to managing flood hazards. The proposed plan has mapped the flood hazard in more detail and taken a risk based approach to managing subdivision and development across the flood hazard area.
- 6.65 It is therefore considered that the proposed plan change is not inconsistent with the plans of adjacent territorial authorities and represents advancement on the identification and approaches used to manage flood hazards in the Wellington and Hutt City District Plan. It is considered that the proposed plan change would not represent any significant challenges to those existing (or proposed) plan provisions.

#### **Upper Hutt Council Strategies and Policies**

- 6.66 Section 74(2)(b) (i) of the RMA requires Council to have regard to management plans and strategies prepared under other Acts. For the purposes of this plan change, the relevant strategies and policies are as follows:

- Civil Defence Emergency Management Group Plan 2013
- Land Use Strategy 2016 – 2043
- Sustainability Strategy 2012 – 2022

#### **Civil Defence Emergency Management (CDEM) Group Plan**

- 6.67 The CDEM Group Plan considers identifies the main natural hazard risks to the Wellington Region and proposes measures to reduce, respond, recovery and be in a state of readiness (otherwise known as the 4R's) to these natural hazards.

6.68 The CDEM Group Plan identifies floods as the second greatest risk to the Wellington Region from a natural hazard. The CDEM Group Plan:

*“...advocates where possible to take into account hazards and risks in land-use planning practices, and ensure relevant risk reduction policies are consistent with the RPS.”*

6.69 The proposed Plan Change is consistent with the CDEM Group Plan as it is proposing land use measures to reduce the risk to future development from flooding.

### **Land Use Strategy 2016 – 2043**

6.70 The Land Use Strategy identifies how Upper Hutt City is intended to grow and develop over the next 30 years. Within this document, it is recognised that constraints presented by natural hazards (including flooding) need to be considered with assessing areas for future urban development.

6.71 The Land Use Strategy identifies the Southern Growth Area (Guildford Timber Company Land above Pinehaven) as a future growth area. Within the Land Use Strategy, it is identified that there is a need for stormwater neutrality for this catchment. The proposed plan change introduces stormwater neutrality provisions to the upper reaches of this catchment. Silverstream is also identified as suitable for intensification. Mixed-use residential development generally discourages ground floor residential development which is consistent with the proposed provisions in this plan change.

6.72 The Land Use Strategy identifies the need to provide rural lifestyle blocks in the Mangaroa Valley. The proposed plan change allows for this development form to happen, providing future building platforms and access points are not located in high hazard areas.

6.73 Overall it is considered that the proposed Plan Change does not conflict with the Land Use Strategy.

### **Sustainability Strategy 2012 – 2022**

6.74 This Strategy identifies a number of projects that are proposed to be undertaken between 2012 and 2022 to improve the sustainability of Upper Hutt City. This strategy recognises the need for building resilient communities against natural hazards and mitigating natural hazard risk. However, the identified flood risk within the Mangaroa River and Pinehaven Stream are not addressed specifically in detail.

6.75 Regardless of the outcomes sought in this Plan Change, it does not conflict with the sustainability strategy.

## 7. Review of the current Objectives and Policies of the District Plan

### Review of current objectives

7.1 This section reviews the current objectives of the District Plan pertaining to flood hazards and explores whether these are sufficient to provide the required level of policy support to the proposed plan change.

7.2 The following objectives of the operative District Plan are relevant to this proposed plan change.

***Subdivision and Earthworks: Objective 9.3.1** – the promotion of subdivision and development that is appropriate to the natural characteristics, landforms, and visual amenity of the City, significant areas of indigenous vegetation and habitats of indigenous fauna, is consistent with the sustainable use of land, and has regard for walking, cycling and public transport.*

***Natural Hazards Objective 14.3.1** – The avoidance, remedying or mitigation of the adverse effects of natural hazards on the environment*

***Utilities Objective 16.3.3** – to recognize and provide for the sustainable, secure and efficient use, operation and development of network utilities within the City.*

***Hazardous Substances and Waste Management Objective 17.3.1** – The management of adverse effects from hazardous emissions and the storage, use, disposal or transportation of hazardous substances to minimize the risks to community health, safety and well-being and the life-supporting capacity of the environment.*

7.3 Objective 9.3.1 is a general objective which is intended to promote earthworks and subdivision that take into account the characteristics of the existing surroundings. However, the objective is not specific enough to ensure flood risk is appropriately considered in relation to the Flood Hazard Extents. Subdivision and earthworks may result in unacceptable risk for future development or obstruct or divert important flood and surface water flow paths exacerbating the flood risk to people and property.

7.4 Objective 14.3.1 broadly covers natural hazards and the need to avoid, remedy or mitigate their effects. However, the broad nature of this objective means that the specific risks presented by flood hazards are not identified. The nature of flood hazards in Mangaroa and Pinehaven are such that stronger and more specific direction is required through recognizing:

- the high and lower hazard areas within the Flood Hazard Extents
- the effect that development can have of the function of the floodplain to convey and discharge flood water (this includes the effects of land use changes in the upper catchment of the Pinehaven Stream) and

- different ways to mitigate the effect of flooding on people and property.

As such, additional objectives are required to ensure that the flood risk is appropriately recognised and provided for within the District Plan.

- 7.5 Objective 16.3.3 currently does not recognise that natural hazards can threaten the security and ongoing operation of utilities. As such, it does not provide specific direction to assess the risk of the proposed the location of utilities within natural hazard areas. It is important that natural hazards and the impact they can have on utilities are appropriately recognized as utilities provide lifeline services to communities that are often most required during natural hazard events.
- 7.6 Objective 17.3.1 is sufficiently broad to provide policy direction that hazardous substances should not be located within natural hazard areas. Therefore, it is considered that the current wording of this objective is appropriate and no changes are required.
- 7.7 While the current District Plan objectives provide some support for the outcomes sought through the proposed plan change, the existing objectives do not provide sufficient protection and guidance to the management of the flood hazard within the Mangaroa River or Pinehaven Stream catchments. Additional and more specific objectives are considered necessary to ensure there is an appropriate level of direction to achieve sought in relation to the flood hazard and future development within the Mangaroa River and Pinehaven Stream Flood Hazard Extents.

#### **Review of current policies**

- 7.8 This section considers the current policies of the District Plan and explores whether these are sufficient to provide the required level of support at a policy level to the proposed Plan Change.
- 7.9 The following policies of the operative District Plan may have some relevance to the Plan Change:

***Rural Zone Policy 5.4.3** - to provide for rural lifestyle subdivision which maintains the rural character and amenity values and avoids, remedies or mitigates the effects of natural hazards.*

***Subdivision and Earthworks Policy 9.4.1** - to ensure that earthworks are designed and engineered in a manner compatible with natural landforms, significant areas of indigenous vegetation and habitats of indigenous fauna, the amenity of an area, and the mitigation of natural hazards.*

***Subdivision and Earthworks Policy 9.4.3** - to promote a sustainable pattern of subdivision and development that protects environmental values and systems, protects the potential of resources, and has regard for walking, cycling, public transport and transportation networks.*



**Natural Hazards Policy 14.4.1** - to identify and mitigate the potential adverse effects of natural hazards that are a potentially significant threat within Upper Hutt.

**Natural Hazards Policy 14.4.2** - in areas of known susceptibility to natural hazards, activities and buildings are to be designed and located to avoid, remedy, or mitigate, where practicable, adverse effects of natural hazards on people, property and the environment.

**Utilities Policy 16.4.8** - recognise and provide for the:

- Need for new and the maintenance and upgrading of existing network utilities; and
- Technical and operational requirements and constraints of network utilities in assessing their location, design, development, construction and appearance; and
- Benefits that network utilities provide to the economic, social and cultural functioning of the City, Regional and Nation.

**Hazardous Substances and Waste Management Policy 17.4.1** - to ensure that facilities using, manufacturing, storing or disposing of hazardous substances are located, constructed and operated in a manner that will not adversely affect the environment.

- 7.10 Policy 5.4.3 specifically relates to the Rural Lifestyle sub-zone, which, for the purposes of this plan change, is only present in the Mangaroa Flood Hazard Extent. This policy outlines that the existence of potential natural hazards such as flooding and slope failure need to be recognized and taken into account in any development proposals. The Mangaroa Flood Hazard Extent passes through a number of different zones. Given the limited applicability of this policy to the Rural Lifestyle Sub-zone, it is considered to only have minimal relevance to the plan change and does not provide sufficient policy guidance to manage development in the Mangaroa Flood Hazard Extent.
- 7.11 Policy 9.4.1 recognises natural hazard risk needs to be appropriately mitigated when undertaking earthworks. Specifically it recognises that earthworks can alter stormwater and floodwater flows. However, this policy is limited in its ability to support the objectives in the proposed plan change as it does not recognize the varying levels of hazard risk within a Flood Hazard Extent. As such, a new policy is needed to recognise the variation in flood risk characteristics within a Flood Hazard Extent and to provide additional support to this existing policy.

- 7.12 Policy 9.4.3 broadly aims to improve the quality of subdivisions by directing decision-makers to consider the wider impacts of development. Currently, this policy does not recognise the potential for subdivision within hazard areas to increase risk from flooding. As such, the policy does not provide any direction for how development within identified hazard areas should be considered. Therefore, this this policy does not support this proposed plan change and further policy direction would be required to support the proposed rules.
- 7.13 Policy 14.4.1 sets the framework to identify and mitigate the adverse effects associated with natural hazards. This policy is intended to apply to all natural hazards, including flooding. This is useful for the proposed plan change at a broad policy level, as it requires the identification of all natural hazards. However, this policy seeks to only mitigate the effects associated with natural hazards and does not consider whether avoiding the hazard risk may be a more appropriate response in some areas. Furthermore, given the broad applicability of the policy, it does not recognise specific issues associated with flooding risk. Further policies would be required to support this existing policy to ensure that appropriate directive is provided to address the risks associated with the Flood Hazard Extents.
- 7.14 Policy 14.4.2 states natural hazards are to be avoided, remedied, or mitigated where practicable and therefore broadly support the proposed Plan Change. Like policy 14.4.1, this policy is very broad and thus limited in respect to recognising the specific risks present in the Mangaroa River or Pinehaven Stream Flood Hazard Extents and their related resource management issues. Specifically this policy does not recognise high hazard areas within the identified Flood Hazard Extents or provide for the floodplain to function. The policy also does not address the issue of blockages, the need for reliable access within the rural Mangaroa catchment, or increased stormwater run-off within the Pinehaven catchment. As such, further policies would be required to support this existing policy to ensure that appropriate directive is provided to address the risks associated with the Flood Hazard Extents.
- 7.15 Policy 16.4.8 does not currently recognise that utilities located within Flood Hazard Extents may be at risk from flooding and may also contribute to increasing the overall risk from flood hazards. Therefore, it does not support the proposed Plan Change and the policy needs to be amended to ensure that utilities cannot be located in any a Flood Hazard Extent without an assessment of the whether or not that location is appropriate.
- 7.16 Policy 17.4.1 provides general direction to avoid locating hazardous substances in locations that will cause adverse effects on the environment. To support the Proposed Plan Change more specific guidance needs to be provided to highlight the risk associated with storing or using hazardous substances within an identified Flood Hazard Extent.
- 7.17 As identified in Section 7 more specific objectives are required for the Proposed Plan Change in the District Plan. As such, more specific and new policies are also required to ensure appropriate management of the flooding hazard with the Mangaroa River and Pinehaven Stream catchments. Policies that specifically address the flood hazard risks for the two catchments are therefore proposed as part of this plan change.

## 8. Proposed Objectives and Policies for the Plan Change

### Proposed objectives

8.1 The Plan Change proposes the following additional new objectives within the District Plan:

*Objective 9.3.2 - To control subdivision within identified Flood Hazard Extents and Erosion Hazard Area to ensure the risks from flood hazards to building platforms and access in high hazard areas are avoided and the flood risk to people and property can be appropriately mitigated in the lower hazard areas.*

8.2 The existing objectives of the District Plan do not specifically recognize or provide for the issues related to flood hazards when subdivision is proposed. The existing relevant District Plan objectives are broad and have general applicability to natural hazards. This objective will ensure that where subdivision is proposed within either a Flood Hazard Extent or Erosion Hazard Area, the natural hazard constraints are considered and areas subject to high hazard are avoided. Subdivision within lower hazard areas will be able to be considered and assessed based on the suitability for future land use, the risk presented by the flooding hazard, and the measures to mitigate flood risk to people and property.

*Objective 9.3.3 - To control earthworks within identified Flood Hazard Extents and Erosion Hazard Areas to ensure that the function of the floodplain is not reduced and unacceptable flood risk to people and property is avoided.*

8.3 Earthworks can result in unacceptable risk for future development or obstruct or divert flood flow paths. This objective will ensure that where earthworks are proposed within the flood hazard or erosion hazard extents, the natural hazard constraints are considered and areas subject to high risk are avoided.

8.4 In the lower hazard areas, earthworks are generally enabled to allow people to provide for their social and economic well-being and in the Mangaroa River Flood Hazard Extent, to enable the provision of access above the 1 in 100-year flood level.

*Objective 9.3.4 - To control subdivision within the upper areas of the Pinehaven Catchment Overlay to ensure that peak stormwater runoff during both a 1 in 10-year and 1 in 100-year event does not exceed the existing run off and therefore minimise the flood risk to people and property within the Flood Hazard Extent.*

8.5 The existing District Plan objectives do not address the potential negative impacts subdivision can have in the upper Pinehaven catchment can have through increasing surface water run-off. Increased run-off can increase the flood risk downstream; stormwater neutrality is therefore appropriate in this area to mitigate the flood risk and support the proposed Plan Change.

*Objective 14.3.2 – Identify Flood Hazard Extents and Erosion Hazard Areas to avoid or mitigate the risk to people and property and provide for the function of the floodplain.*

- 8.6 This proposed objective is required to ensure development is avoided in the high hazard areas within the identified Flood Hazard Extents and Erosion Hazard Areas. This will support new policies that recognise and provide for the function of the floodplain, the high and lower hazard areas within the Flood Hazard Extents, and the effect land-use changes in the upper catchment can have on the downstream community (particularly in relation to the Pinehaven Stream).

*Objective 16.3.5 - To ensure the continued operation of network utilities in Flood Hazard Extents and to maintain the function of the floodplain to convey flood waters.*

Proposed PC38 (Utilities) removed all reference to the relationship between flood hazards and utilities within the operative District Plan. Consequently the District Plan is now silent on this issue which was previously addressed under the former operative Resource Management Issue 16.2.1 and Policy 16.4.1.

- 8.7 The current wording of the objectives pertaining to network utilities does not recognise that these structures have the potential to impede or block water flow during a flood event, particularly where they may cross either a river or stream channel. If a river or stream channel is blocked or water flow impeded, there is the potential for flood waters to be diverted or to backflow, thereby increasing the risk to surrounding properties. This objective ensures that adequate direction is provided to Council to consider the potential risk arising from the location of network utilities where they cross a river or stream corridor<sup>5</sup>.
- 8.8 This objective also recognises that for some network utilities, the appropriateness of locating within an identified Flood Hazard Extent needs consideration. This is due to network utilities having a critical role in the operation of a community. If network utilities are adversely affected by a flood event, then they can have consequently adverse effects both during the flood (such as contaminating flood waters) or after the flood (through loss of power to pump stations) affecting the recovery time for a local community. This objective therefore ensures that direction is provided to consider the potential risk arising from the location of network utilities in Flood Hazard Extents both during and after a flood event.

## 9. Proposed policies

- 9.1 The Plan Change proposes the following amendments to existing policies and additional policies within the District Plan:

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<sup>5</sup> The NESTF 2016 prevents territorial authorities from making natural hazard rules that apply to regulated activities. As such, the explanatory text to this objective clarifies the objective and associated provisions are limited to non-regulated activities under the NESTF.

***Policy 9.4.4*** – To avoid subdivision where building platforms would be located within high hazard areas of the identified Flood Hazard Extents and Erosion Hazard Areas.

- 9.2 Policy 9.4.4 provides clear direction that subdivisions that result in building platforms in the high hazard areas of the Flood Hazard Extents or Erosion Hazard Areas are avoided. The high hazard areas contain both fast and deep flowing water in a 1 in 100-year flood event, which have the potential to damage buildings and threaten lives. The directive identified in Policy 9.4.4 to avoid building platforms in high hazard areas is consistent with the Regional Policy Statement and provides direction for the consideration of applications in either the overflow path or the river corridor.

***Policy 9.4.5*** – To control subdivision where building platforms would be located within lower hazard areas of identified Flood Hazard Extents and Erosion Hazard Areas by requiring mitigation to minimise the risk to people and property.

- 9.3 Policy 9.4.5 recognises that there are areas of lower hazard within the Flood Hazard Extents and Erosion Hazard Area. As such, some development within these areas is appropriate provided appropriate measures are incorporated into the development to mitigate the risk (for example, requiring floor levels above the 1 in 100-year flood extent). These lower hazard areas are characterised by either deep still water or shallow moving water. These characteristic do not present the same threat to people and property as the higher risk areas and the risk is able to be mitigated through various measures. The policy directive identified in 9.4.5 to undertake mitigation measures in areas lower hazard areas is consistent with the Regional Policy Statement and provides direction for the consideration of applications in either the identified ponding areas.

***Policy 9.4.6*** - Limit earthworks in the high hazard areas within identified Flood Hazard Extents and Erosion Hazard Areas to avoid an increase in risk from flood hazards to people and property.

- 9.4 Policy 9.4.6 recognises that earthworks in high hazard areas are inappropriate and can result in the diversion of flood waters, blocking of water flow, or reduce bank stability, which can increase the risk to neighbouring properties. To maintain the function of the floodplain it is important that the passage of flood waters is not impeded or blocked and as such a clear policy directive on this matter is required to support the proposed rules.

***Policy 9.4.7*** - To manage earthworks in the low hazard areas within identified Flood Hazard Extents and Erosion Hazard Areas to reduce the flood risk to people and property.

- 9.5 Policy 9.4.7 recognises that earthworks in lower hazard areas may be acceptable as there is less risk of the earthworks blocking water flow or diverting flood flows. In the Pinehaven Stream catchment, earthworks are likely to be required for alterations and additions to

existing buildings. In the Mangaroa River catchment, earthworks are likely to be required to ensure that future building platforms and access routes are above the 1 in 100-year flood level. As such, managing earthworks in these lower hazard areas will reduce the flood hazard risk to people and property, consistent with the overall policy framework for the Flood Hazard Extents.

***Policy 9.4.8** - Require earthworks within identified Flood Hazard Extents and Erosion Hazard Areas to be designed to minimise erosion and loss of sediment from the area of work to streams and rivers.*

- 9.6 Policy 9.4.8 directs that earthworks in the Flood Hazard Extent and Erosion Hazard Area need to be controlled to ensure that sediment runoff is minimalised. Sediment runoff has the potential to reduce the capacity of the river channel and exacerbate flood risk. Furthermore, while not within the scope of the plan change, it is recognised that there are amenity, ecological, and water quality benefits that are derived from controlling sediment runoff from earthworks.

***Policy 9.4.9** - Enable earthworks within identified Flood Hazard Extents and Erosion Hazard Areas that are directly associated with specific and planned flood mitigation works or floodplain management that are designed to reduce the flood risk to people and property or maintain the function of the floodplain.*

- 9.7 Policy 9.4.9 supports earthworks in the floodplain where they are expressly for the purpose of reducing the flood risk through mitigation works. Earthworks that are undertaken for the express purpose of reducing the flood risk have wider community benefits and therefore it is appropriate that these are supported and encouraged through the policy framework.

***Policy 9.4.10** - To ensure subdivision within the Pinehaven Catchment Overlay area is designed so that the stormwater runoff, during both a 1 in 10-year and 1 in 100-year event, from all new lots and future building areas shall be at a rate no greater than when compared to the pre-development situation.*

- 9.8 Policy 9.4.10 provides directive that subdivision in the Pinehaven Catchment Overlay Area (the upper Pinehaven catchment) needs to be controlled to ensure that stormwater runoff does not exacerbate the impact of flooding in the lower catchment. The upper catchment is currently mostly undeveloped and any new development has the potential to affect the resulting use of land and associated peak runoff.

#### Chapter 14 – Natural Hazards

- 9.9 The following new policies are proposed to support the proposed plan change;

***Policy 14.4.3** - Avoid development within high hazard areas of identified Flood Hazard Extents and Erosion Hazard Areas.*

9.10 Policy 14.4.4 directly links with Policy 9.4.4 by providing clear direction to avoid development in the high hazard area of the Flood Hazard Extents and Erosion Hazard Area. The high hazard areas contain both fast and deep flowing water in a 1-in-100 year flood event, or are at high risk of bank collapse, which both have the potential to damage buildings and threaten lives. The policy directive identified in both 9.4.4 and 14.4.3 is consistent with the Regional Policy Statement and directs consideration of applications in either the overflow path, the river corridor, of the stream corridor as well as for areas close to the river bank and are situated in the Erosion Hazard Area. The policy is to ensure that a “backdoor” is not created where a development may be more permissive under a land use consent than a subdivision consent or vice versa.

***Policy 14.4.4** - To control development (including buildings) within the lower hazard areas of identified Flood Hazard Extents and Erosion Hazard Areas by requiring mitigation to minimise the risk to people and property.*

9.11 Policy 14.4.4 also links with policy 9.4.5 as they both recognise that there are areas of lower hazard within the Flood Hazard Extent and Erosion Hazard Area. As such, some development within these lower hazard areas is appropriate; providing appropriate measures are incorporated into the development to mitigate the risk (for example floor levels above the 1-in-100-year flood extent). These lower hazard areas are characterised by slow moving or still water which can be deep or shallow. These characteristics do not present the same threat to people and property as the higher risk areas and the risk is able to be mitigated through various measures.

9.12 The policy directive identified in 14.4.4 to undertake mitigation measures in areas of lower hazard areas is consistent with the Regional Policy Statement and provides directive for the consideration of applications in the identified ponding area. The policy is to ensure that a “backdoor” or inconsistency is not created where a development may be more permissive under a land use consent than a subdivision consent or vice versa.

***Policy 14.4.5** – Enable planned flood mitigation works within identified Flood Hazard Extents that decrease the flood risk to people and property or maintain the function of the floodplain.*

9.13 Flood mitigation works are undertaken with the primary purpose of reducing the flood hazard risk to people and property within the identified Flood Hazard Extents. Policy 14.4.5 supports flood mitigation works as it is consistent with the purpose of providing for the continued function of the floodplain to discharge flood water and managing the effect of flood hazards on people and property, in this case through preventative mitigation works. This is consistent with proposed objectives 9.3.3 and 14.3.2.

***Policy 14.4.6** - Within the Pinehaven Flood Hazard Extent, reduce blockage potential from fences, buildings and driveways in high hazard areas through design controls on development.*

- 9.14 This policy recognises that driveway crossings and structures over the stream channel within the Flood Hazard Extent are a key issue in high hazard areas due to their potential to impede flood flows. The high hazard areas contain fast and deep flowing waters in a 1 in100-year flood event. The flood risk and damage to people and property can be exacerbated by blockages of debris accumulating against fences, buildings and driveways crossing the stream. The blockage potential is compounded by the character of the catchment being urbanised and confined.

*Policy 14.4.7 - Development within the Pinehaven Catchment Overlay is designed to ensure that the peak stormwater runoff, during both a 1 in 10-year and 1 in 100-year event, shall be at a rate no greater than when compared to the pre-development situation.*

- 9.15 Policy 14.4.7 directly links with Policy 9.4.10 as they both recognise development within the Pinehaven Catchment Overlay (which comprises the upper Pinehaven catchment) needs to be controlled to ensure that stormwater runoff does not exacerbate the impact of flooding in the lower catchment. The upper catchment is currently mostly undeveloped and any new development has the potential to affect the use of land and the resulting peak runoff. The reason for the linkage between the policies 9.4.10 and 14.4.7 is to ensure that a “backdoor” or inconsistency is not created where a development may be more permissive under a landuse consent than a subdivision consent or vice versa.

*Policy 14.4.8 - Within the Mangaroa Flood Hazard Extent enable access above the 1 in 100-year flood level where located within the lower hazard areas and avoid access when located in high hazard areas.*

- 9.16 Proposed Policy 14.4.8 supports and enables access routes to dwellings in the Mangaroa Flood Hazard Extent to be above the 1-in-100 year flood level when located in the lower hazard areas and seeks to avoid access ways being located in high hazard areas. The Mangaroa River catchment is largely rural and therefore in a 1-in-100 year flood event it is likely to be isolated. Having safe access above the 1-in-100 year flood level to and from dwellings will assist with evacuation, if required. The policy framework (and supporting rules), actively encourage the formation of these access ways where they are located in lower hazard areas as they will form an important aspect of the response measures when a flood event occurs. Similarly, this policy seeks to discourage and avoid the formation of access ways in the high hazard areas as they contain fast and deep water which could compromise these access ways, thereby presenting an immediate risk to people’s lives.

*Policy 14.4.9 - Within the Mangaroa Flood Hazard Extent enable non-habitable accessory buildings within the lower hazard areas.*

- 9.17 Policy 14.4.9 recognises that the Mangaroa Flood Hazard Extent is largely comprised of rural properties which contain a range of rural activities. These activities are often supported by accessory buildings, and it is appropriate to provide for these in the lower hazard areas. It is unlikely that these accessory buildings would present a blockage issue or would be



structurally compromised due to the low speeds or shallow nature of the water. It is acknowledged that there would potentially be damage to contents of the buildings and internal fixtures and fittings. However, this damage needs to be balanced against allowing for the local community to provide for their wellbeing by undertaking permitted activities.

#### Chapter 16 – Network Utilities

***Policy 16.4.18*** - Network utility structures crossing streams within identified Flood Hazard Extents must be installed in a way to avoid contributing to blockages or restricting flood flows or compromising flood mitigation works.

- 9.18 Proposed Policy 16.4.18 addresses risks created by 'Network Utility Structures' (as defined in the District Plan). This policy will ensure that the design and location of lateral infrastructure services do not contribute to blockages exacerbating the flood effect on people and property where they cross rivers and streams within the identified Flood Hazard Extents.
- 9.19 While the majority of the Mangaroa River Flood Hazard Extent is in a rural zone and thus largely unserved, there is some existing service infrastructure extending from the residential zone near the confluence of the Hutt River and the Mangaroa River. This extends up Maymorn Road along Parkes Line Road to the intersection with MacLaren Street and services the Rural Lifestyle area adjacent to the true right bank of the Mangaroa River. As such, this policy ensures that appropriate consideration is given to the flood hazard risk, should these services be proposed to be extended across the Mangaroa River.
- 9.20 This policy also recognises the need for Network Utility Structures to be designed in a manner that does not compromise flood mitigation works. This is to ensure that the installation of Network Utility Structures does not inadvertently increase the risk to the local community by compromising the protection provided by flood mitigation works. Provisions related to Network Utility Structures exclude regulated telecommunication activities in accordance with the National Environmental Standard for Telecommunication Facilities 2016.

***Policy 16.4.19*** - To control the location of network utilities in identified Flood Hazard Extents to ensure their operation is not compromised during a flood event

- 9.21 Network utilities provide important services to the communities they serve. It is important that network utilities are able to continue to operate during and after a flood event to help the community respond and recover. If a network utility is inappropriately located, and is damaged or destroyed by flooding, then there is the potential for significant and serious consequences including a deterioration in water quality (from wastewater) or the prevention of other utilities from operating (for example stormwater pump stations if there is a loss in power). This policy provides directive to ensure that the network utilities in Flood Hazard Extents are appropriately located and designed to allow their continued operation during a flood event.

No changes are proposed to the wording of the policies in chapter 17. However it is proposed to amend the explanation text under Policy 17.4.1. The purpose of this is to add to the explanatory text to highlight the high risk associated with storing or using hazardous substances within an identified Flood Hazard Extent. Generally such facilities should be discouraged from being located within Flood Hazard Extents, as they likely represent an unacceptable risk to the community and environment. Proposals must be assessed based on the scale and type of substances involved and the adequacy of the facilities design to avoid or mitigate the flood hazard effect.

## 10. Options for achieving the objectives

- 10.1 It is proposed to introduce five new objectives to address the relevant resource management issues. These objectives are as follows:

***Objective 9.3.2** - To control subdivision within identified Flood Hazard Extents and Erosion Hazard Area to ensure the risk from flood hazards to building platforms and access in high hazard areas are avoided and the flood risk to people and property can be appropriately mitigated in the lower hazard areas.*

***Objective 9.3.3** - To control earthworks within identified Flood Hazard Extents and Erosion Hazard Areas to ensure that the function of the floodplain is not reduced and unacceptable flood risk to people and property is avoided.*

***Objective 9.3.4** - To control subdivision within the upper areas of the Pinehaven Catchment Overlay to ensure that peak stormwater runoff during both a 1 in 10-year and 1 in 100-year event does not exceed the existing runoff and therefore minimise the flood risk to people and property within the Flood Hazard Extent.*

***Objective 14.3.2** – Identify Flood Hazard Extents and Erosion Hazard Areas to avoid or mitigate the risk to people and property and provide for the function of the floodplain.*

***Objective 16.3.5** – To ensure the continued operation of network utilities in Flood Hazard Extents and to maintain the function of the floodplain to convey flood waters.*

- 10.2 Section 32 of the Resource Management Act 1991 requires the following and evaluation report to:

(1) (a) examine the extent to which the objectives are the most appropriate way to achieve the purpose of this Act; and

(b) examine whether, the provisions in the proposal are the most appropriate way to achieve the objectives

10.3 Prior to the consideration of these options, the potential economic costs associated with the proposed objectives, policies and rules also need to be considered. For the purposes of this assessment, both land use and subdivision consent costs are considered.

## **Subdivision**

### Mangaroa Catchment

10.4 Under the existing rules of the District Plan, the rough cost of a subdivision consent in the Mangaroa Valley is between \$40,000 - \$60,000. This cost is comprised of the following:

- Survey fees
- Council resource consent, reserve and development contribution fees
- Legal fees, and
- Servicing costs.

10.5 The average land value for a new lot created is between \$430,000 and \$480,000. This means, that under the current cost structure, and assuming a subdivision cost of \$50,000, a landowner may result in a profit of approximately \$380,000 - \$430,000 as a result of undertaking a subdivision of a site. The costs associated with a subdivision in this scenario represent 12%-13% of the value of the lot that is created.

10.6 It is important to recognise that under the District Plan, all subdivision currently requires resource consent. This means that the proposed rules do not introduce the requirement for subdivision to obtain resource consent. The proposed rules only increase the matters that require consideration within the application.

10.7 Based on the proposed objectives, policies, and rules, it is expected that many of the existing subdivision costs will remain unchanged, when compared to the status quo. The exception is when the building platform would be located within the Erosion Hazard Area, or if earthworks are required to lift the building platform above or access the 1 in 100-year flood extent.

10.8 A hypothetical example of the implications of the costs associated with the proposed plan change for the Mangaroa Valley are provided below. This example uses industry costs associated with undertaking a subdivision and the importation of fill onto a site.

10.9 A subdivision within the Erosion Hazard Area will require an assessment of erosion hazard potential under the proposed Plan Change. It is estimated that the cost of this assessment would be approximately \$5000. This increases the cost of a subdivision up to approximately \$65,000, which means the costs associated with a subdivision, as a value of the lot that is created, increases up to 2%.

10.10 If earthworks are required to raise a driveway and building platform above the 1 in 100-year level, then there would be costs associated with this work. For the purposes of this assessment, it is assumed that the typical driveway length would be 3m wide by 25m long

(this length assumes that people in the rural zones prefer to be set back from the road frontage). It is also assumed that the height of the fill would be 1m to create a driveway above the 1 in 100-year flood level, resulting in 110m<sup>3</sup> of earthworks (including batters) being required.

10.11 The current national average size for new dwellings is approximately 200m<sup>2</sup>. As with the driveway, it is assumed for the purposes of this analysis that the dwelling platform needs to be raised 1 metre. It is also assumed that an extra 100m<sup>2</sup> will be provided around the dwelling for parking and outdoor living. This therefore gives a building platform of 300m<sup>2</sup>. This equates to 450m<sup>3</sup> of earthworks (allowing for batters).

10.12 Adding the earthworks for the building platform for the earthworks and driveway together, this gives a total of 560m<sup>3</sup> of fill required to be brought onto the site. The average price for fill is \$60m<sup>3</sup> or \$33,600 for the total earthworks. It is assumed that for the purpose of this assessment that all fill material is brought onto the site.

10.13 This means that the proposed plan change would result in an increase in the costs of subdividing a site from \$40,000 - \$60,000 to \$73,600 - \$93,600. A landowner may result in a profit of approximately \$306,400- \$336,400 as a result of undertaking a subdivision of a site under the proposed rules. Expressed as a percentage, the costs associated with a subdivision, increases a further 7.8% to 9.8% of the value of the lot that is created.

#### Pinehaven Stream Catchment

10.14 The existing District Plan provisions and RMA requirements for subdivision result in the approximate cost of a subdivision (including the cost of obtaining the subdivision consent) within Pinehaven being between \$40,000 - \$60,000. This cost includes:

- Survey fees;
- Council resource consent, reserve and development contribution fees;
- Legal fees, and,
- Servicing costs.

10.15 The properties in the Pinehaven Flood Hazard Extent generally have limited development potential due to either their existing size, the topography of the local environment, the position of existing dwellings on the property, or the underlying zone. Given the existing zones in the Pinehaven Flood Extent, the most common property size ranges between 400m<sup>2</sup> to 900m<sup>2</sup>. Given the site coverage requirements for the Residential and Residential Conservation zones, this would result in a maximum permitted building platform of between 140m<sup>2</sup> and 270m<sup>2</sup>.

10.16 The land value for a new lot created varies significantly depending on the topography of the site, the size of the lot, and its location within Pinehaven. Assuming the market value of a new undeveloped lot is \$200,000 and applying an average subdivision cost of \$50,000, then a landowner may expect a profit of approximately \$150,000 as a result of undertaking a

subdivision of an existing lot. The costs associated with a subdivision therefore represent 25% of the value of the new lot created.

- 10.17 As previously identified, all subdivision requires resource consent. This means that the proposed rules do not introduce the requirement for subdivision to obtain resource consent, rather they introduce new matters that must be considered within the application.
- 10.18 If earthworks are required to form a building platform above the 1 in 100-year flood level, then there would be additional compared to the existing District Plan provisions. Based on the permitted building platform size, the dwelling could have a ground floor area of between 140m<sup>2</sup> - 270m<sup>2</sup>. However, the national average dwelling size is approximately 200m<sup>2</sup>, and therefore a potential floor area could range between 120m<sup>2</sup> to 200m<sup>2</sup>. Assuming the dwelling platform needs to be raised 1.0m above the existing ground level (which is considered to be conservative) and that an extra 100m<sup>2</sup> is required around the dwelling for parking and outdoor living, then this results in a required building platform of between 240m<sup>2</sup> - 300m<sup>2</sup>. This equates to between 240m<sup>3</sup> - 300m<sup>3</sup> of earthworks.
- 10.19 The average cost for fill is \$60m<sup>3</sup>, resulting in an estimated cost of between \$14,400 to \$18,000 for the assumed earthworks.
- 10.20 This means that the proposed plan change would result in an increase in the costs of subdividing a site from between \$40,000 - \$60,000 to between \$54,400 - \$78,000. Consequently, a landowner may result in a profit of approximately \$122,000 - \$146,000 as a result of undertaking a subdivision of a site under the proposed rules. Expressed as a percentage, the costs associated with a subdivision would increase between 7% - 9% of the value of the new lot created. Accordingly, there is potential for increase in subdivision costs when compared to the existing situation. However, alternative mitigation measures may be able to be incorporated into development such as use of pile foundations which avoid the need for earthworks to create a building platform.

#### Potential subdivision benefits for Pinehaven and Mangaroa Flood Hazard Extents

- 10.21 What the subdivision costs for both Pinehaven and Mangaroa Flood Hazard Extents do not acknowledge is the potential benefits that come from having a dwelling above the 1 in 100-year flood extent. These benefits include:
- Reduced costs associated with the response measures required during a flood
  - Reduced risk of the dwelling being flooded (and the resulting repairs)
  - Reduced cost resulting from disruption to the community (eg people having to relocate due to flood damages).
- 10.22 While these benefits are unable to be quantified, it is considered that the value of these benefits offset the additional costs imposed on developments as a result of the proposed provisions.

10.23 Therefore, the additional subdivision costs arising from the proposed plan change are not expected to present a significant cost barrier that would prevent or impede development.

### **Land use Consent**

10.24 Under the current District Plan, land use consent is only required when a proposal does not comply with the permitted activity conditions. The proposed plan change would increase the requirements for land use resource consent applications when undertaking certain activities in the identified Flood Hazard Extents.

10.25 The current application cost for a land use consent at Upper Hutt City Council is \$813.50. Average building costs for a dwelling or additions to a dwelling are between \$2000 - \$2500 per m<sup>2</sup>, with an average dwelling of size 200m<sup>2</sup> costing \$400,000 - \$500,000. The resource consent application fee is likely to represent a very small percentage of the overall costs (in this example, 0.2%).

10.26 As with the subdivision cost estimation provided above, in an Erosion Hazard Area a specialist report that considers the erosion hazard potential of an area would be approximately \$5000. Equally, in the Pinehaven Catchment Overlay area, a specialist report that considers the stormwater neutrality of the site, plus the installation of a rainwater detention tank (if required) would equate to an additional \$5000. Both of these costs are relatively small, relative to the costs associated with construction (approximately 1% of an average 200m<sup>2</sup> dwelling).

10.27 As with the subdivision, the potential benefits that come from having a dwelling and access above the 1 in 100-year flood extent are not explicitly considered. These benefits include:

- Reduced costs for response measures required during a flood
- Reduced risk of the dwelling being flooded (and the resulting costs)
- Reduced cost resulting from disruption to the community (eg people having to relocate due to flood damages).

10.28 While these benefits are unable to be quantified, it is considered that the value of these benefits offset the additional costs imposed on developments as a result of the proposed provisions.

10.29 Therefore, it is considered that the additional costs of land use consent arising from the proposed plan are not expected to present a significant cost barrier that would prevent or impede development.

### **Property Prices**

10.30 A common concern regarding the implementation of natural hazard areas in a District Plan is the potential effects of the proposed hazard areas on property values. The effect of hazard areas on property prices is not a relevant resource management issue that Council can consider.

10.31 Most District Plans contain identified natural hazard areas, consistent with the legislative requirements under s31(b) of the RMA that places a duty on territorial authorities to mitigate against natural hazards. The Council is not aware of any research that suggests that lines in the District Plan either negatively or positively affect property prices. The Council is however aware of a number of high value suburbs that contain hazard lines. This suggests that people take into account a number of factors when valuing a property, with the potential hazard risk being consistent alongside other features associated with the property such as location, quality of the housing, surrounding amenity features, and aspect.

10.32 Equally, Council is required to disclose the information it has on the Pinehaven Stream and Mangaroa River Flood Hazard Extents in Land Information Memorandums (LIMs), whether it is denoted in the District Plan or not. As such, the process of including the Pinehaven Stream and Mangaroa Flood Hazard Extents in the District Plan does not result in additional information being provided in LIMs than what is already required. In fact, the proposed plan change provide greater clarity on the implications of the Flood Hazard Extent than what the existing situation is.

### Consideration of options

10.33 During the preparation of this plan change the following four options were considered:

**Option 1:** Status quo (i.e. retain the existing Plan provisions)

**Option 2:** Non-regulatory approach through relying on other acts or non-statutory methods

**Option 3:** Amend the plan provisions to manage development and activities within the Mangaroa River and Pinehaven Stream catchments through inclusion of new objectives, policies and rules in the District Plan, to enable development while balancing the potential risk to people and property (Option 3 is the preferred option).

**Option 4:** Severely restrict or prohibit any further development within the Flood Hazard Extents.

*Table 1: Evaluation of the broad options*

<b>Option 1: Status quo (i.e. retain the existing Plan provisions)</b>
<p><b>Opportunities for Economic Growth and Employment</b></p> <ul style="list-style-type: none"> <li>Development and subdivision within the Mangaroa Flood and Pinehaven Flood Hazard Extents would not be limited by any further new measures to reduce flood risk. Subdivision in the Mangaroa and Pinehaven Flood Hazard Extents would be expected to continue, however this is generally positive for economic growth and potential employment opportunities, there are economic costs associated with having more</li> </ul>

properties and buildings at risk from flooding.

#### **Benefits**

- There is a financial benefit to affected landowners as they could continue to enjoy the existing development permitted by the relevant zone provisions without requiring further resource consents and associated costs.
- No plan change would be required, resulting in no additional costs for Council and the community.

#### **Costs**

- The flood risk to people and property within the Mangaroa and Pinehaven Flood Hazard Extents will not be reduced and would likely be increased by further development.
- The cost of future flood events to both existing and future development will not be mitigated and is likely to increase.
- The cost associated with the flood hazard mapping would be lost as the information would have limited application.
- The identified Flood Hazard Extents within Mangaroa and Pinehaven would not be supported with any provisions providing for the function of the floodplain or the flood risk to people and property, thereby failing to meet the Council's statutory responsibilities under the RMA to avoid or mitigate natural hazards.
- The District Plan would be inconsistent with the outcomes sought under the Regional Policy Statement.
- The value of the proposed structural upgrades to the Pinehaven Stream would be reduced.
- The investment into the development of the Pinehaven Floodplain Management Plan would be lost and the benefit of the proposed structural upgrades significantly undermined and therefore unlikely to proceed.

#### **Risks**

- The Flood Hazard Mapping for the Mangaroa River and the Pinehaven Flood Management Plan has identified properties at risk from flood events. If development is not controlled within the identified Flood Hazard Extents, there is a risk the number of properties and buildings within the hazard zone would increase, thereby increasing the risk to people and property.
- Retaining the status quo would allow development to continue that does not recognize or provide for the identified flood risk and thereby reducing the function of the floodplain and increasing the flood risk to people and property.
- This option would result in an inconsistency with the approach to reduce risks under the Wellington CDEM Group Plan and with the outcomes sought under the Regional Policy Statement.
- The identified Flood Hazard Extents for the Mangaroa River and Pinehaven Stream would not be supported with any provisions providing for the function of the floodplain or the flood risk to people and property, thereby failing to meet the responsibilities of the Council



under the RMA to avoid or mitigate natural hazards.

#### **Efficiency and Effectiveness**

- The efficiency of this option is low because the costs significantly outweigh the benefits.
- The effectiveness of this option is low because it would result in the District Plan failing to meet its statutory requirements to avoid or mitigate identified flood hazards and therefore also result in the relevant objectives and policies of the Regional Policy Statement not being met.

#### **Overall Assessment of Option**

- This option is not recommended as it does not recognise the identified Flood Hazard Extents in the District Plan. It is considered likely that this option would increase risk to people and property from flooding in the Mangaroa and Pinehaven Flood Hazard Extents. This would increase the potential losses in a flood event, increase the difficulty for the community to respond and recover from a flood, and decrease the resilience of the community.
- This option is also considered to have significant costs and the effectiveness and efficiency of this option is low.

#### **Option 2: Non- regulatory approach**

#### **Opportunities for Economic Growth and Employment**

- Ensures that the existing development provisions and opportunities within the Flood Hazard Extents are not altered or further constrained. This may enable some further development overtime that might not otherwise occur, and is therefore potentially positive for economic growth and potential employment opportunities.

#### **Benefits**

- There is a financial benefit to affected landowners as they would not require resource consent for development and development potential wouldn't be constrained due to flood risk, beyond the status quo.
- There may be some voluntary uptake of flood mitigation measures by individual property owners without the cost of undertaking the plan change.
- There would be a reduced risk to those who take up voluntary measures, reducing losses from flood events.

#### **Costs**

- In the absence of any district plan provisions, the non-statutory measures would be voluntary and could not be enforced. Piecemeal implementation of any non-statutory measures would be unlikely to achieve the level of mitigation required to reduce flood risks.
- Development could continue without the need to consider the flood risk, potentially increasing the flood impact on people and property.
- The District Plan would be inconsistent with the outcomes sought under the Regional Policy Statement.
- Places greater weight on the response and readiness approaches of the Wellington CDEM

Group Plan.

- There would be an unequal distribution of costs, with only those choosing to implement the mitigation measures bearing the costs, while benefits would be shared.
- For the Pinehaven Stream, the value of the investment in the structural upgrades to improve the capacity of the stream would be undermined and the overall success of the FMP objectives would be substantially reduced.

#### **Risks**

- There is a risk that relying on voluntary measures would result in piecemeal application of flood avoidance and mitigation measures within the Flood Hazard Extent. This would undermine the effectiveness of any flood mitigation measures and could result in development adversely affecting the function of the floodplain and placing buildings and structures in inappropriate locations, increasing risk to people and property from flood hazards and increasing the flood risk for adjacent properties.
- This approach would also potentially increase the response and recovery requirements under the Civil Defence Emergency Management Plan. Increased response and recovery requirements have financial implications and increases the cost to the local community.

#### **Efficiency and Effectiveness**

- The efficiency of this option is low because the costs significantly outweigh the benefits.
- The effectiveness of this option is low because it does not result in the existing and proposed objectives of the District Plan being met, and it also means that the objectives and policies of the Regional Policy Statement are not being met.
- Council would be unlikely to meet its statutory obligations under the RMA.

#### **Overall Assessment of Option**

- This option is not recommended as it relies on voluntary implementation of flood mitigation measures. In the absence of a compulsory flood risk management approach, the effectiveness of the mitigation would be significantly undermined. This option has a considerable risk in that there could be an unacceptable increase to the flood risk on people and property.
- This option is also considered to have significant costs and the effectiveness and efficiency of this option is low.

**Option 3: Amend the plan provisions to manage activities within the Pinehaven Stream and Mangaroa River catchment through inclusion of new policies and rules to meet the Council's statutory responsibilities to minimise the flood risk to people and property. (Recommended Option)**

#### **Opportunities for Economic Growth and Employment**

- Ensures that the potential for development, activities and subdivision within the Flood Hazard Extents can continue to be considered through the resource consent process while managing the potential effects on people and property.
- The financial cost of the resource consent process would be relative to the proposal and location within the Flood Hazard Extents and would likely be less than compared to the

cost of addressing post-flood damage and the cost of lost economic growth and employment opportunities.

- None of the proposed rules would limit employment opportunities within existing buildings.
- The resource consent application costs to establish a new lot or construct of an additional dwelling represents only a small proportion of the total costs to undertake either of these activities and therefore is not a significant cost constraint for either of these activities.

### **Benefits**

- Landowners would retain the ability to undertake certain activities on their property without the need for resource consent, where these activities do not significantly increase the risk from the flooding hazard.
- The function of the floodplain would be recognized and provided for, reducing the flood risk to the community.
- Development and subdivision would continue to be possible, subject to appropriately managing the flood risk.
- Structures and earthworks would continue to be considered through the resource consent process, while being designed in a way that reduces the risk to the community.
- Network Utility Infrastructure and the storage of hazardous substances within the Flood Hazard Extent are managed in a way that reduces the risk to the community.
- The provisions would be consistent with the obligations for territorial authorities under the RMA.
- The provisions would be consistent with the objectives and policies of the Regional Policy Statement.
- For the Pinehaven Stream Flood Hazard Extent, the provisions would be consistent with the Pinehaven FMP and support the investment of the structural improvements to the stream.
- For the Pinehaven Stream Flood Hazard Extent, the impact of development within the upper catchment and the potential adverse impacts on the community would be controlled through hydraulic neutrality provisions.

### **Costs**

- A cost would be imposed on affected landowners associated with the preparation and lodgement of resource consent applications, however this is expected to be a relatively small proportion of resource consents.
- There are costs associated with the implementation of mitigation measures.
- There is the potential that some properties may not be able to be developed further given the flood risk. As such there is opportunity cost for these owners.
- The costs associated with the Plan Change process.

### **Risks**

- The risk of not acting means areas identified within the 1 in 100-year Flood Hazard Extents will continue to be developed without recognizing and providing for the potential increase in risk to people and property. Buildings and structures could be located within high hazard areas exacerbating the flood risk and increasing the potential consequences to building damage and peoples lives in a flood event.

### **Efficiency and Effectiveness**

- The efficiency of this option is high because the benefits significantly outweigh the costs.
- The effectiveness of Option 3 is high because it likely to result in the existing and proposed objectives of the District Plan being met, and it also means that the objectives and policies of the Regional Policy Statement are met.
- The Councils statutory requirements would be met.

### **Overall Assessment of Option**

- This option is recommended as it results in provisions that recognize and provide for the identified Flood Hazard Extents. There is a risk that if this option is not implemented people and property will continue to be at risk and may increase the susceptibility and scale of the impact through the current operative provisions.
- This option would be consistent with the obligations for territorial authorities under the RMA to avoid or mitigate natural flood hazards and is consistent with the objectives and policies of the Regional Policy Statement.

### **Option 4: Prohibit any further development within the Flood Hazard Extents.**

#### **Opportunities for Economic Growth and Employment**

- There would be some lost economic growth and employment opportunities by prohibiting any further development within the Flood Hazard Extents.
- Prevention of further development or subdivision could increase the market value of the existing properties representing an economic gain to existing property owners through the restrictive provisions (as views would be maintained and the risk of being built out removed). Some properties however may reduce in value depending on the limitation to redevelop especially where they are susceptible to a lower flood hazard.
- There would be loss opportunity costs to property owners where they are unable to undertake works on their property associated with improving housing quality or undertake development that appropriately recognises the flood hazard risk.

#### **Benefits**

- Development in high-risk flood hazard areas would be prevented.
- There would be certainty for developers and the community as applications could not be accepted by the consent authority.
- For the Pinehaven Stream Flood Hazard Extent, the objectives of the FMP would be achieved through preventing any further development and therefore minimizing the future flood risk to people and property.

- For the Pinehaven Stream Flood Hazard Extent, there would be no need to require hydraulic neutrality or other standards as any development would be prohibited.

**Costs**

- Costs of preparing and processing the plan change would be significant and the likelihood of the provisions uncertain given the degree of opposition submitters would be expected to raise.
- Landowners would be unable to alter or subdivide their existing properties in high hazard areas and as such there would be opportunity costs.
- The replacement of existing buildings would be severely restricted to that provided through the existing use rights provisions in s10 of the RMA, this would prevent raising floor levels above the 1 in 100-year flood levels contrary to the Regional Policy Statement.

**Risks**

- The prohibition of development would be severely restrict the ability of the community to provide for its social and cultural well-being potentially conflicting with the purpose of Part 2 of the RMA by not providing for the sustainable management of a resource.

**Efficiency and Effectiveness**

- The efficiency and effectiveness of this option is low as the cost would be significant with a low probability of success to achieve the level of prohibition required. Further the prohibition of development would be contrary to the purpose and principles of Part 2 of the RMA and conflict with the objectives and policies of the Regional Policy Statement.

**Overall Assessment of Option**

- This option is not recommended as it has a very low likelihood of being supported by the community and adopted in full. It would potentially prevent development and works that would reduce the flood risk to people and property. It would be inconsistent with the objectives and policies of the Regional Policy Statement and would conflict with the purpose and principles of the RMA.
- The costs associated with this option are greater that the benefits of implementing this option.

## 11. Proposed Rules

- 11.1 The Plan Change will introduce a number of new rules that will control development in relation to the Pinehaven and Mangaroa Flood Hazard Extents. The proposed rules are catchment-based, and therefore tailored to address the identified issues within the Mangaroa River and Pinehaven Stream catchments. Different rules for each catchment recognise the the different land use activities and types of flood hazards present: Mangaroa is a predominantly rural catchment while Pinehaven is a developed urban catchment. The rule structures are consistently applied across the various relevant activity chapters of the District Plan and elevate the consent activity status depending on the degree of risk associated with the proposed activity.
- 11.2 Activities within ponding areas can generally mitigate against the effect of flooding through minimum design and location requirements and are therefore identified with a lower-level activity status. Proposals within higher-risk areas of the Flood Hazard Extent such as the overflow path or erosion hazard areas have a higher resource consent activity status and proposals within the river corridor are identified as Non-Complying Activities to signal that such proposals are unacceptable due to the risk to people and property. The requirement to avoid high hazard areas and control development in the lower hazard areas of the identified Flood Hazard Extent is consistent with the requirements of the Regional Policy Statement and is required to ensure that the identified Resource Management issues are addressed.
- 11.3 The controls over buildings, structures and earthworks within the identified Flood Hazard Extent are addressed within the district-wide chapters 23 (Earthworks) and 33 (Natural Hazards). However, the rules controlling subdivision must be addressed separately within each zone-based chapter as the District Plan does not provide a district wide subdivision chapter. Subdivision within an identified Flood Hazard Extent is specifically managed in order to avoid new undeveloped lots being created which may subsequently conflict with the development provisions within Chapter 33 (that is, the creation of new undeveloped lots within flood hazard areas). This requires the flood hazard risk to be addressed at the time of the subdivision either for the undeveloped lot or as a comprehensive application that includes land use consent for the development under the Chapter 33 land use provisions. Network utility structures and hazardous substances within the Flood Hazard Extent are also controlled through specific subdivision provisions.
- 11.4 This section of the report will describe the rules on a catchment basis.

### **Mangaroa Flood Hazard Extent**

- 11.5 The Plan Change will introduce a number of new rules that will control development in relation to the Mangaroa catchment. These rules are summarised below, firstly with a summary of the escalating activity status by activity groupings, and then on a chapter-by-chapter basis together with an explanation as to why they are required.

## *Proposed New Rules by Activity*

### *Buildings*

- 11.6 Under the proposed Plan Change, accessory buildings would continue to be permitted within the Ponding Area of all underlying zones. Accessory buildings are currently permitted in the District Plan. Where located within the Erosion Hazard Area they would require consent as a Restricted Discretionary Activity to allow the assessment of the erosion risk to the proposed location and thus the suitability of the proposal.
- 11.7 New dwellings, extensions to existing dwellings, caretakers accommodation in the Business Industrial Zone, and otherwise permitted non-residential buildings within the Ponding Area would require resource consent as a Restricted Discretionary Activity under the proposed Plan Change. Development would require the minimum finished floor level to be above the 1 in 100-year flood level. Such proposals would be assessed in terms of the ability to mitigate against the flood hazard within these lower-hazard areas.
- 11.8 New dwellings, extensions to existing dwellings, caretakers accommodation in the Business Industrial Zone, and otherwise permitted non-residential buildings, where the finished floor level would be below the 1 in 100-year flood level, would be treated as a Discretionary Activity. The same would apply to development located within an overflow path in order to determine the effect on the overflow path and potential risk to the proposed building.
- 11.9 Buildings proposed within the high hazard area would be Non-Complying Activities to signal such development is not supported in due to the associated risks to structures, people and property.

### *Access*

- 11.10 New primary access routes on rural zoned properties connecting the building platform to the road network are required to be above the 1 in 100-year flood level to retain the ability for people to evacuate during flood events. These accesses are identified as a Permitted Activity where the minimum level is achieved and the access is located within the lower hazard Ponding Area or Erosion Hazard Area. Where the minimum level is not achieved, consent is required as a Restricted Discretionary Activity.
- 11.11 Accessways that pass through an Overflow Path are Discretionary Activities as such paths may obstruct flood water escaping. Where these accessways are within a River Corridor, they are identified as a Non-Complying Activity to signal such proposals are considered inappropriate within high hazard areas, as they are unlikely to provide sufficient safe access during a flood event.

### *Subdivision*

- 11.12 Subdivision within the Ponding Area or Erosion Hazard Area, where new undeveloped lots are proposed, would be treated as a Restricted Discretionary Activity within the Rural Zone, Residential Zone and the Business Zone. Such proposals would be required to identify suitable building platforms and show that they will not be located in the River Corridor. The ability for the dwelling to be constructed above the 1 in 100-year flood level, as well as the effect on the function of the floodplain and potential erosion risk, would all be assessed.
- 11.13 Subdivision within the River Corridor, or below the minimum lot area specified within the Residential and Business Zones, would be treated as Non-Complying Activities to signal new lots within the high-hazard area are not supported and that undersized lots (increasing Residential and Business Zones density) are discouraged within identified Flood Hazard Extents.
- 11.14 For subdivisions in the Rural Zone, where the proposed building platform for new lots was is identified in the Overflow Path or River Corridor, or the accessway was is within the River Corridor then the proposal is identified as a Non-Complying Activity. Subdivision in the Business Zone where within the River Corridor would also be identified as a Non-Complying Activity.

### *Earthworks*

- 11.15 Earthworks would continue to be a Permitted Activity within the Ponding Area of the Rural Zones should they comply with the permitted standards. Earthworks would elevate to a Restricted Discretionary Activity where located within the Residential Zone or the permitted standards for the underlying zone were not met.
- 11.16 Earthworks associated with Flood Mitigation Works would be Permitted Activities as such works are principally focused on reducing the flood hazard risk to people and property and thus are supported by the plan change.
- 11.17 Earthworks with the Erosion Hazard Area are identified as Restricted Discretionary Activities in order to allow for the assessment of erosion risk associated with the works.
- 11.18 Earthworks within an Overflow Path are identified as a Discretionary Activity in order to allow the assessment of the effect of obstructing or diverting flood water during flood events. Where within a River Corridor the earthworks would be a Non-Complying Activity to reflect the high hazard area.

### *Flood Mitigation Works*

- 11.19 Flood Mitigation Works within the Mangaroa Flood Hazard Extent are proposed as a Permitted Activity to support such works which are primarily focused on reducing the risk to the community within the Flood Hazard Extent.



*Network Utilities*

11.20 'Network Utility Structures' would be permitted where they either cross the Mangaroa River underground or are positioned above the 1 in 100-year flood level. Where this standard is not met, such proposals would be treated as a Restricted Discretionary Activity. 'Network Utilities' would continue to be treated as Discretionary Activities.

*Hazardous Substances*

11.21 The existing provisions of the District Plan identify storage of hazardous substances as a Discretionary Activity. This would remain the same activity status where located within the Flood Hazard Extent with reference to the potential flood hazard risk.

***Proposed New Rules by District Plan Chapter for the Mangaroa Flood Hazard Extent***

11.22 The proposed rules are detailed below on a chapter by chapter basis; including:

- an explanation on the escalating activity status
- the relationship between the land use and subdivision provisions, and
- the relationship between the district wide and zone based chapters of the District Plan.

**Proposed Rules Chapter 18 (Residential Zone)**

<b>Chapter 18 (Residential Zone)</b>	
<b>Restricted Discretionary Activity</b>	<b>Standard</b>
Subdivision within the Ponding Area or Erosion Hazard Area of the Mangaroa Flood Hazard Extent, which results in any undeveloped lots that contain no dwelling or non-residential building, and complies with the requirements of Rule 18.5, is a Restricted Discretionary Activity.	<p>Standards</p> <ul style="list-style-type: none"> <li>● Suitable future building platform area must be identified and must not be located within the River Corridor.</li> <li>● Where located within the Erosion Hazard Area, provision of a report by a suitability qualified and experienced person assessing the erosion risk to the proposed building platform in accordance with the requirements of 2.6.9D</li> </ul> <p>Matters of Discretion</p> <ul style="list-style-type: none"> <li>● The matters listed in Rule 18.6</li> <li>● The appropriateness of the proposed building platform in terms of area and location and erosion risk in relation to the flood hazard.</li> <li>● Ability for a future dwelling to be constructed above the 1 in 100-year flood level.</li> </ul>

	<ul style="list-style-type: none"> <li>• The effect of the future development of the building platform on the function of the floodplain.</li> <li>• Consent notice restricting the future development to the identified platform.</li> <li>• Matters addressing the standards for access under Rule 18.9 where any standards are not met.</li> </ul>
<b>Non-Complying Activity</b>	
<p>Subdivision within the Mangaroa Flood Hazard Extent which results in any new undeveloped lots that contain no dwelling, where one or more of the following occurs:</p> <ul style="list-style-type: none"> <li>• Does not comply with the requirements of Rule 18.5.</li> <li>• The proposed building platform is located within a river corridor.</li> </ul>	See policies.

11.23 Subdivision resulting in a vacant allotments creates the potential for future development. If the flood risk from new subdivision is not addressed it can result in in new lots being created without consideration of the suitability of the lot for future development in relation to the flood risk.

11.24 This consideration of flood risk is only necessary for subdivision that creates vacant allotments. Where subdivision is proposed around existing lawful buildings, then the existing Controlled Activity status prevails. This is due to any development within the Flood Hazard Extent being controlled through the proposed provisions within Chapter 33 (Natural Hazards), which applies at a district wide level.

11.25 Subdivision within the Residential Zone resulting in any vacant allotments in the ponding and erosion hazard area is identified as a Restricted Discretionary Activity. The matters of discretion consider the ability of the proposed lot to contain a suitable future building platform above the 1 in 100-year flood level. For subdivision within the Erosion Hazard Area, an erosion risk assessment must be provided with the subdivision application to consider the risk of the future lot to erosion from the Flood Hazard Extent. This would also be supported by s106 of the RMA when considering natural hazard risk to new lots and provides for site specific assessments to determine suitability. Proposals within the Erosion Hazard Area that do not provide a risk assessment report will be treated as a Discretionary Activity, allowing an unrestricted assessment of the proposal.

11.26 Subdivision proposals that do not meet the minimum lot area standards or are proposed within the higher risk River Corridor area are elevated to Non-Complying Activity status to signal these are not anticipated by the plan and not supported by the proposed objectives and policies. As there are no Overflow Paths identified within the Residential Zone, then there is no need for the Plan Change to propose a rule that controls subdivisions within that area of the Flood Hazard Extent.

11.27 The proposed rules ensure that the suitability for future building platforms where subdivision would result in undeveloped lots within the Flood Hazard Extent. Subdivision within high-hazard areas of the Flood Hazard Extent is considered inappropriate and discouraged by the rule hierarchy. This is achieved through elevating the activity status depending on the location of the application site within the Flood Hazard Extent.

**Proposed Rules Rural Zone (Chapter 19)**

<b>Rural Zone (Chapter 19)</b>	
<b>Restricted Discretionary Activity</b>	<b>Standard</b>
Subdivision within the Ponding Area and Erosion Hazard Area of the Mangaroa Flood Hazard Extent, which results in any undeveloped lots that contain no dwelling or non-residential building.	<p>Standards:</p> <ul style="list-style-type: none"> <li>• Where the proposed building platform is located within the Erosion Hazard Area, provision of a report by a suitability qualified and experienced person to determine the erosion risk is required in accordance with 2.6.9D.</li> <li>• Suitable future building platform area for the dwelling must be identified and must not be located within an overflow path or river corridor.</li> <li>• Access serving the building platform is above the 1 in 100-year flood level and does not cross an overflow path or river corridor.</li> <li>• Complies with the standards of Rule 19.5.</li> </ul> <p>Matters of Discretion:</p> <ul style="list-style-type: none"> <li>• The matters contained in Rule 19.6.</li> <li>• The appropriateness of the proposed building platform in terms of area and location in relation to the flood hazard and/or erosion risk and any recommendations of the report required by 2.6.9D.</li> <li>• Ability for a future dwelling to be constructed above the 1 in 100 year flood level.</li> <li>• The effect of the future development of the building platform on the function of the floodplain.</li> </ul>

	<ul style="list-style-type: none"> <li>• Consent notice restricting the future development to the identified platform.</li> <li>• The suitability of the proposed access to the future building platform to facilitate access during a 1 in 100-year flood event and does not obstruct or divert floodwater flows within the Flood Hazard Extent.</li> </ul>
<b>Discretionary Activity</b>	
<p>Subdivision within the Ponding Area and Erosion Hazard Area of the Mangaroa Flood Hazard Extent which results in any undeveloped lots that contain no dwelling or non-residential building, where one or more of the following occurs:</p> <ul style="list-style-type: none"> <li>• The proposed access is below the 1 in 100-year flood level.</li> <li>• The proposed access is located within an overflow path.</li> <li>• The proposed lots do not comply with standard 19.5.</li> </ul>	<p>Matters of Consideration:</p> <ul style="list-style-type: none"> <li>• An assessment of the proposed access to the building platform to achieve suitable access during a 1 in 100-year flood event, and its effect on obstructing or diverting overflow paths or floodwater flows within the Flood Hazard Extent.</li> <li>• The ability of the building platform to accommodate a future building with a finished floor level above the 1 in 100-year flood level.</li> <li>• Suitability of the proposed lot areas to accommodate future activities.</li> <li>• A consent notice restricting the future development to the identified platform area.</li> </ul>
<b>Non-Complying Activity</b>	
<p>Subdivision within the Mangaroa Flood Hazard Extent which results in any new undeveloped lots that contain no dwelling, where one or more of the following occurs:</p> <ul style="list-style-type: none"> <li>• The proposed building platform is located within an overflow path or river corridor;</li> <li>• Access to the building platform is within a river corridor.</li> </ul>	<p>See policies.</p>

11.28 The proposed rule structure for subdivision within the Rural Zone is consistent with that applied to the residential zone. Where subdivision would result in vacant allotments it is controlled, and discouraged where subdivision is proposed within the higher-risk areas of the Flood Hazard Extent. This is to ensure that the constraints of the site are considered at the time of the subdivision and avoid resulting in new lots within high hazard areas. The activity

status starts at Restricted Discretionary Activity and elevated through Discretionary to Non-Complying Activity for proposals within high hazard areas of the identified Flood Hazard Extent.

11.29 For the Rural Zone, access to the proposed building platform is also controlled to ensure a suitable access to the public road is maintained above the 1 in 100-year flood level and that it does not cross a high hazard area such as an identified overflow path or river corridor. This reflects the remote nature of the Rural Zone and supports greater resilience for access and safe retreat during storm flood events. Where a site is located within the Erosion Hazard Area there is ability for the subdivision to still be considered as a Restricted Discretionary Activity, provided an erosion risk report assessing the risk to the building platform within this area is provided.

11.30 Subdivision within the Ponding or Erosion Hazard Area of the Flood Hazard Extent is identified as a Restricted Discretionary Activity. These are lower hazard areas and therefore mitigation through design and location can be achieved through the subdivision consent process. The matters of discretion include confirming the location and ability for a future building platform to be constructed above the 1 in 100-year flood level, ability to provide suitable access, and the effect of the building platform on the flood hazard and adjacent sites.

11.31 Where subdivision within the Ponding or Erosion Hazard Area of the Flood Hazard Extent does not meet the standards for a Restricted Discretionary Activity, or proposes an access within an Overflow Path, then they would be considered as a Discretionary Activity. Subdivisions are Non-Complying Activities if the building platform is located within an Overflow Path or River Corridor or the access passes through the River Corridor. By using this activity status, the District Plan is discouraging applications where the access or future building platform would be located in high hazard Flood Hazard Extents placing people and property in areas with unacceptably high hazard.

**Proposed Rules Business Zone (Chapter 20)**

<b>Business Zone (Chapter 20)</b>	
<b>Restricted Discretionary Activity</b>	<b>Standard</b>
Subdivision within the Erosion Hazard Area of the Mangaroa Flood Hazard Extent, which results in any undeveloped lots that contain no building, and complies with the requirements of Rule 20.5.	<p>Standards</p> <ul style="list-style-type: none"> <li>• Suitable future building platform area must be identified and must not be located within the River Corridor.</li> <li>• Where the proposed building platform is located within the Erosion Hazard Area, provision of a report by a suitability qualified and experienced person to determine the erosion risk to the proposed building platform is required in accordance with 2.6.9D.</li> </ul>

	<p>Matters of Discretion:</p> <ul style="list-style-type: none"> <li>• The matters contained in Rule 20.6.</li> <li>• The appropriateness of the proposed building platform in terms of area and location in relation to the flood hazard and any recommendations of the report required by 2.6.9D.</li> <li>• The ability for a future building to be constructed above the 1 in 100-year flood level.</li> <li>• The effect of the future development of the building platform on the function of the floodplain.</li> <li>• A consent notice restricting the future development to the identified platform.</li> <li>• The suitability of the proposed access to the future building platform to facilitate access during a 1 in 100-year flood event and that does not obstruct or divert floodwater flows within the Flood Hazard Extent.</li> </ul>
<b>Non-Complying Activity</b>	
<p>Subdivision within the Mangaroa Flood Hazard Extent which results in any undeveloped lots that contain no building, where one or more of the following occurs:</p> <ul style="list-style-type: none"> <li>• Does not comply with the requirements of Rule 20.5;</li> <li>• The proposed building platform is located within a river corridor.</li> </ul>	<p>See policies.</p>

11.32 The subdivision rules for the Business Industrial Zone are consistent with those proposed for the Rural and Residential Zones. There is no ponding risk identified within this zone and therefore the rules address subdivision where it may include the River Corridor or Erosion Hazard Area.

11.33 Subdivision within the Mangaroa Flood Hazard Extent where it would result in undeveloped lots is a Restricted Discretionary Activity.

11.34 Proposals for subdivision that result in undeveloped lots which are below the minimum lot area or within the river corridor are discouraged by identifying them as Non-Complying Activities. Such proposals would increase the density within Flood Hazard Extents would

potentially locate them within areas of unacceptably high risk to both people and property, and could adversely affect the function of the floodplain.

#### *Anticipated Outcomes*

11.35 The anticipated outcomes of the proposed changes to rules for subdivision within the zone rules chapters are that:

- Future development will not be adversely impacted by a 1 in 100-year flood within the Pinehaven and Mangaroo Flood Hazard Extents.
- Future development will not be adversely impacted by erosion hazards within the Mangaroo Flood Hazard Extent.

#### **Chapter 21 (Open Space Zone)**

11.36 There are sections of the Open Space Zone within the Mangaroo Flood Hazard Extent that are adjacent to the boundary of the Mangaroo River. The proposed rules within Chapter 33 control development within the Flood Hazard Extent and thus will also apply to proposals within the Open Space Zone avoiding the need for any new controls for development in Chapter 21.

11.37 The District Plans subdivision rules are zoned based, which has required proposed new rules within each of the relevant zone based chapters for the rural, residential and business zones. However, the rule structure within the Open Space Zone is different, identifying five subdivision rules. The primary rule is that all subdivisions, unless otherwise identified by the other four rules, are Non-Complying Activities. This adequately captures subdivisions within the Flood Hazard Extent and allows the flood hazard objectives and policies to be considered as the subdivision policy framework applies district wide, despite the rules being applied at a zone based level.

11.38 Of the other four subdivision rules, one provides for subdivision around existing lawful buildings as a Controlled Activity. In the case where the buildings already exist, this does not conflict with the proposed Flood Hazard provisions. However, where a vacant lot would result, then such subdivisions would become Non-Complying activities. Equally, attempting to develop ahead of the subdivision would result in the proposal being captured by the Chapter 33 development provisions when located within the Flood Hazard Extent.

11.39 The other three rules address subdivision would not conflict with the flood hazard provisions as they relate to creating reserves, updating unit titles and access standards. These are either captured by the proposed flood hazard provisions or do not conflict with the flood hazard plan change.

**Proposed Rules Chapter 23 (Earthworks)**

<b>Earthworks (Chapter 23)</b>	
<b>Permitted Activity</b>	<b>Standard</b>
Earthworks within the Ponding Area of the Mangaroa Flood Hazard Extent, except in the Residential Zone, are a Permitted Activity where the proposal complies with the relevant zone standards for Permitted Activities.	<ul style="list-style-type: none"> <li>• Must not be within the Erosion Hazard Area, River Corridor or Overflow Path.</li> <li>• Must not be located in a Residential Zone.</li> <li>• Complies with the relevant zone standards for Permitted Activities.</li> </ul>
Earthworks associated with flood mitigation works within the Mangaroa Flood Hazard Extent.	<ul style="list-style-type: none"> <li>• Must be undertaken by Greater Wellington Regional Council, Upper Hutt City Council or their nominated contractor for the express purpose of mitigating the identified flood hazard.</li> </ul>
<b>Restricted Discretionary Activity</b>	
Earthworks within the Ponding Area (excluding the Erosion Hazard Area) of the Mangaroa Flood Hazard Extent where one of the following applies: <ul style="list-style-type: none"> <li>• The proposal does not meet the Permitted Activity earthworks standards for the relevant zone, or</li> <li>• The proposal is within the Residential Zone.</li> </ul>	<p>Standard</p> <ul style="list-style-type: none"> <li>• Must not be within the Erosion Hazard Area, an Overflow Path or the River Corridor.</li> </ul> <p>Matters of Discretion</p> <ul style="list-style-type: none"> <li>• Height of cut or fill and area of earthworks above ground level</li> <li>• Earthworks stability</li> <li>• Erosion and sediment control</li> <li>• Effect on the flood risk to people and property</li> <li>• Permanent surface treatment of earthwork area</li> <li>• Avoiding, remedying or mitigating effects related to the standard in question.</li> <li>• Financial contributions</li> </ul>
Earthworks within the Erosion Hazard Area of the Mangaroa Flood Hazard Extent.	<p>Standards:</p> <ul style="list-style-type: none"> <li>• Where the proposal is located within the Erosion Hazard Area, provision of a report by a suitability qualified and experienced person to determine the erosion risk is required in accordance with the requirements of 2.6.9D.</li> <li>• Must not be within the River Corridor or an Overflow Path (but includes ponding areas within the Erosion Hazard Area).</li> </ul>



	<p>Matters of discretion:</p> <ul style="list-style-type: none"> <li>• Effect on slope stability and appropriateness of the works based on the recommendations of the report required by 2.6.9D.</li> <li>• Height of cut or fill and area of earthworks above ground level.</li> <li>• Erosion and sediment control.</li> <li>• Effect on the flooding risk to people and property.</li> <li>• Permanent surface treatment of earthwork area.</li> </ul>
<b>Discretionary Activity</b>	
Earthworks within an Overflow Path of the Mangaroa Flood Hazard Extent	<p>Matters of Consideration:</p> <ul style="list-style-type: none"> <li>• Effect on the diversion or obstruction of floodwaters in the Overflow Path and proposed measures to mitigate the effect on the function of the floodplain.</li> <li>• Effect of the flood risk to people and property.</li> </ul>
<b>Non-Complying Activity</b>	
Earthworks within the River Corridor of the Mangaroa Flood Hazard Extent	See policies.

11.40 The only provision related to earthworks and natural hazards within the current District Plan is permitted activity standard 23.7, which states earthworks shall not be undertaken within 10m of any water body or within the 1 in 100-year flood level of the Hutt River. Proposals not complying with this standard are elevated to a Restricted Discretionary Activity. The provisions are therefore very limited when applied to the Mangaroa Flood Hazard Extent. The 10m setback would be a blunt tool, with no clear policy direction on the resource management issue. Further, any earthworks within the Mangaroa Flood Hazard Extent (1 in 100-year flood level) outside the 10m setback are not captured by the rule.

11.41 The rule structure for controlling earthworks within the Mangaroa Flood Hazard Extent applies a specific framework that differs between the rural zones and the residential zone to reflect the different characteristics and development densities of these zones. This allows the operative permitted activity standards for earthworks in the District Plan to be controlled depending on the underlying zone and the effect on the flood risk within the higher-risk areas. Earthworks within lower-hazard areas of the flood extent in the Rural Zones are generally acceptable. However, given the density of development this is not the same for Residential Zone properties within the Flood Hazard Extent.

11.42 The Plan Change proposes to permit earthworks outside the residential zone where they comply within the underlying standard and are not located within the higher risk areas comprising the erosion hazard area, overflow path or river corridor. This enables the existing permitted standards for earthworks within the rural zones within the lower risk hazard area

(ponding area) only. Furthermore, this avoids conflicting with the proposed access provisions for rural zoned properties and supports the delivery of resilient access by not requiring additional consents.

- 11.43 Earthworks within the Residential Zone are identified as a Restricted Discretionary Activity. This reflects the more intensive built area and greater potential for earthworks to divert water and increase the risk to adjacent people and property. This is also consistent with the proposed activity status and provisions for earthworks within the Pinehaven Stream Flood Hazard Extent (as described in more detail below). This status will also capture those activities that do not comply with the permitted activity conditions within the rural zones and remains limited to sites within the lower hazard areas.
- 11.44 Provision is made to consider proposed earthworks within the Erosion Hazard Area as a Restricted Discretionary Activity. This is subject to an erosion risk report being provided to assess the suitability of the earthworks and corresponds to the same activity status for buildings within this hazard area (Restricted Discretionary Activity within Chapter 33). Where such a report is not provided, the activity is elevated to a Discretionary Activity. The matters of discretion include consideration of slope stability and the effect on the function of the floodplain. Earthworks within identified Overflow Paths are also identified as Discretionary Activities given the importance of these areas to convey flood water and thus avoid exacerbating the flood risk to people and property. This allows assessment of the effect on the diversion or obstruction of the Overflow Path and matters to mitigate the impact.
- 11.45 Earthworks within the River Corridor are identified as a Non-Complying Activity signalling they are discouraged and not supported by the policy framework due to the high risk that earthworks can have in this hazard area. This is also consistent with the activity status for other activities located within the River Corridor.
- 11.46 Flood mitigation works are proposed as a Permitted Activity to reflect the importance such works have as the primary purpose is to improve the function of the floodplain and reduce the flood hazard risk to people and property.

#### *Anticipated outcomes*

11.47 The anticipated outcomes of the proposed changes to rules for earthworks are:

- Earthworks will not result in an increase in the flood hazard risk.
- Greater Wellington and Upper Hutt City Council retain their ability to maintain flood mitigation works.

**Proposed Rules Network Utilities (Chapter 30)**

<b>Network Utilities (Chapter 30)</b>	
<b>Permitted Activity</b>	<b>Standard</b>
Network Utility Structures	<p>Permitted Activity Standard 30.8a:</p> <ul style="list-style-type: none"> <li>• Network utility structures (excluding cabinets) crossing a river or stream within an identified flood hazard must be underground or positioned above the 1 in 100-year flood level.</li> </ul>
<b>Restricted Discretionary Activity</b>	
Network Utility Structures	<p>Addition of Matters to 30.13:</p> <p>Except in the case of cabinets, where located within an identified Flood Hazard Extent:</p> <ul style="list-style-type: none"> <li>• Whether the utility or network utility structure will be adversely impacted during a flood event;</li> <li>• Where proposed to cross a river or stream, whether the Network Utility Structure will adversely contribute to blockages or obstructing flood flows;</li> <li>• Whether the utility will adversely impact the Flood Hazard Extent, exacerbating the effect on people and property on adjacent sites and/or adversely affect the function of the Flood Hazard Extent.</li> </ul>

11.48 The District Plan is silent on the relationship between flood hazards and utilities. New utilities such as transformers and substations are susceptible to flood hazards and can also impact on the function of the floodplain, especially in the case of lateral services crossing river corridors and potentially contributing to blockages during flood events.

11.49 The District Plan already identifies “new and upgraded transformers, substations and switching stations distributing electricity and ancillary buildings” together with “water and wastewater treatment plants” as Discretionary Activities in all zones, providing for assessment of such proposals. This activity status is also appropriate for addressing such proposals within identified Flood Hazard Extents and therefore the Plan Change need only add the natural hazard consideration to the existing matters of discretion to ensure these matters are considered.

11.50 Infrastructure services (comprising wastewater, stormwater and water supply) crossing the river corridor can contribute to blockages by collecting flood debris during storm events, unless they are placed under the river or make use of an existing river crossing such as a bridge. Where such service infrastructure does not cross the river, it would not impose a risk

within the Flood Hazard Extent and is therefore identified as a Permitted Activity, subject to meeting the specified standards.

11.51 The proposed rules encourage network utility structures to be underground or use existing bridge crossings over the Mangaroa River to avoid contributing to potential blockages in the river corridor. The existing rules only control “Network Utilities”, which are separately defined and do not capture lateral service connections. The Plan Change proposes to add a permitted activity standard supporting crossings where underground or above the 1 in 100-year level. Proposals that do not meet this standard will be captured by the existing Restricted Discretionary Activity rule where it is proposed to add the need to consider the effect of the proposal on the Flood Hazard Extent to the existing matters of discretion (at 30.13). This includes whether the utility will be susceptible to the flood risk or whether the utility will exacerbate the flood risk to people and property.

11.52 Wastewater treatment plants and electricity transformers are already identified as a Discretionary Activity and the matters of discretion already specifically refer back to the Restricted Discretionary Activity matters of discretion. As such, the proposed changes to the Restricted Discretionary matter will ensure that the flood risk is also appropriately considered for these activities.

*Anticipated outcomes*

11.53 The anticipated outcomes for the proposed changes to rules for Network Utilities are:

- Network utilities do not contribute to blockages or obstruct flows that exacerbate the flood hazard.
- Network utilities are not situated where they will be adversely affected during a flood event.

**Proposed Rules Natural Hazards (Chapter 33)**

<b>Natural Hazards (Chapter 33)</b>	
<b>Permitted Activity</b>	<b>Standard</b>
Within the Ponding Area of the Mangaroa Flood Hazard Extent (outside the Erosion Hazard Area), the construction of a new, or alteration and addition to an existing, accessory building is a Permitted Activity where the proposal complies with the relevant zone standards for permitted activities.	<ul style="list-style-type: none"> <li>• The construction or additions and alterations are not within the river corridor, overflow path or Erosion Hazard Area.</li> <li>• The construction or additions and alterations comply with the relevant zone standards for permitted activities.</li> </ul>
Within the Ponding or Erosion Hazard	<ul style="list-style-type: none"> <li>• The access is above the 1 in 100-year flood level.</li> </ul>

<p>Area within the Mangaroa Flood Hazard Extent, the primary driveway or vehicle access serving the dwelling is a Permitted Activity.</p>	<ul style="list-style-type: none"> <li>• Does not cross an overflow path or river corridor.</li> </ul>
<p><b>Restricted Discretionary Activity</b></p>	
<p>Within either the Ponding or Erosion Hazard Area of the Mangaroa Flood Hazard Extent, where one or more of the following occurs:</p> <ul style="list-style-type: none"> <li>• The construction of new dwellings.</li> <li>• The alteration and addition to existing dwellings.</li> <li>• The construction of accessory buildings in the Erosion Hazard Area.</li> <li>• The construction of otherwise permitted non-residential buildings.</li> <li>• Residential accommodation for caretaker activities in the Business Industrial Zone</li> </ul>	<p>Standards:</p> <ul style="list-style-type: none"> <li>• Finished Floor Level above the 1 in 100-year event level for: <ul style="list-style-type: none"> <li>○ the construction of new dwellings</li> <li>○ the alteration and addition to existing dwellings,</li> <li>○ construction of otherwise permitted non-residential buildings;</li> <li>○ residential accommodation for caretaker activities in the Business Industrial Zone</li> </ul> </li> <li>• Building must not be located within an overflow path or river corridor.</li> <li>• Where the proposal is located within the Erosion Hazard Area, provision of a report by a suitably qualified and experienced person is required to determine the erosion risk in accordance with the requirements of 2.6.9.D.</li> </ul> <p>Matters of Discretion:</p> <ul style="list-style-type: none"> <li>• Assessment of the appropriateness of the proposed building location in terms of area and position in relation to the flood hazard and erosion risk and any recommendations of the report required by 2.6.9D.</li> <li>• Where residential accommodation is proposed, the susceptibility of the activity and whether appropriate mitigation can be achieved.</li> </ul>
<p>Within the Ponding or Erosion Hazard Area of the Mangaroa Flood Hazard Extent, the primary driveway or vehicle access serving the dwelling where below the 1 in 100-year flood level is a Restricted Discretionary Activity.</p>	<p>Matter of Discretion:</p> <ul style="list-style-type: none"> <li>• The suitability of the proposed access to facilitate evacuation during a 1 in 100-year flood event.</li> </ul>

Discretionary Activity	
<p>Within either the Ponding or Erosion Hazard Area of the Mangarua Flood Hazard Extent, where one or more of the following occurs, and which have a finished floor level below the 1 in 100-year flood level;</p> <ul style="list-style-type: none"> <li>• the construction of new dwellings</li> <li>• the alteration and addition to existing dwellings</li> <li>• construction of otherwise permitted non-residential buildings</li> <li>• residential accommodation for caretaker activities in the Business Industrial Zone.</li> </ul>	<p>Matters of Consideration:</p> <ul style="list-style-type: none"> <li>• An assessment of the appropriateness of the proposed building location in terms of area and position in relation to the flood hazard and erosion risk.</li> <li>• Where residential accommodation is proposed, the susceptibility of the activity and whether appropriate mitigation can be achieved.</li> <li>• An assessment of the effect of the building on the function of the floodplain and whether it would unacceptably obstruct or divert floodwater flows within the Flood Hazard Extent.</li> <li>• The suitability of the proposed access during a 1 in 100-year flood event, and its effect on obstructing or diverting overflow paths or floodwater flows within the Flood Hazard Extent</li> </ul>
<p>Within the Overflow Path of the Mangarua Flood Hazard Extent, where one or more of the following occurs:</p> <ul style="list-style-type: none"> <li>• the construction of new dwellings</li> <li>• the alteration and addition to existing dwellings</li> <li>• construction of accessory buildings</li> <li>• construction of otherwise permitted non-residential buildings.</li> </ul>	<p>Matters of Consideration :</p> <ul style="list-style-type: none"> <li>• An assessment of the appropriateness of the proposed building location and floor level in terms of area and position in relation to the flood hazard and erosion risk.</li> <li>• Where residential accommodation is proposed, the susceptibility of the activity and whether appropriate mitigation can be achieved.</li> <li>• Assessment of the effect of the building on the function of the floodplain and whether it would unacceptably obstruct or divert floodwater flows within the Flood Hazard Extent.</li> <li>• The suitability of the proposed access during a 1 in 100-year flood event, and its effect on obstructing or diverting overflow paths or floodwater flows within the Flood Hazard Extent.</li> </ul>
<p>Within the Overflow Path within the Mangarua Flood Hazard Extent, the primary driveway or vehicle access serving the dwelling is a Discretionary Activity.</p>	<p>Matter of Consideration:</p> <ul style="list-style-type: none"> <li>• The suitability of the proposed access to facilitate evacuation during a 1 in 100 year flood event.</li> </ul>
Non-Complying Activity	
<p>Within the River Corridor of the Mangarua Flood Hazard Extent, where</p>	<p>See policies.</p>

one or more of the following occurs:

- The primary driveway or vehicle access serving the dwelling is located in the River Corridor
- The construction of new dwellings;
- the alteration and addition to existing dwellings
- Construction of accessory buildings
- Construction of otherwise permitted non-residential buildings
- Residential accommodation for caretaker activities in the Business Industrial Zone

11.54 The Mangaroa Flood Hazard Extent is not zone based, but instead represents the identified 1 in 100-year flood extent. As such, it overlays five different district plan zones. To address this, the plan change proposes using the existing citywide provisions within the Natural Hazards Chapter (Chapter 33) to capture the majority of built development (both habitable and non-habitable) within the Flood Hazard Extent.

11.55 The existing rules in relation to flood hazards in the District Plan are limited and do not adequately address the increased risk to people and property when located within identified Flood Hazard Extents. The existing rules do not discourage development within the identified high hazard areas or require mitigation for new development to avoid unacceptable risk to people and property.

11.56 The overall rule structure proposed within the Plan Change seeks to control development within the Flood Hazard Extent by enabling development within the lower-hazard areas, subject to appropriate mitigation being provided and discouraging buildings within the higher risk areas where the flood risk to people and property is considered too high. Accessory buildings and access ways above the 1 in 100-year flood level within the rural zone are supported through permitted activity provisions while development in the high hazard areas are identified as a Non-Complying Activity, signalling that development in these areas represents an inappropriate risk to people and property and can adversely affect the function of the floodplain.

11.57 The Ponding Area within the Mangaroa Flood Hazard Extent is considered to represent a lower risk to people and property, as development can generally mitigate against the flood hazard through ensuring the finished floor level is above the 1 in 100-year flood level. The risk within the Erosion Hazard Area varies, so that development may be appropriate dependent on a site specific erosion assessment to determine the erosion risk to the site during a flood event.

- 11.58 Accordingly, the construction of new buildings, or additions to existing buildings, are proposed to be captured as a Restricted Discretionary Activity. This would apply across all zones and require buildings to have a finished floor level above the 1 in 100-year flood level and be located outside the high-hazard areas. Where buildings are proposed within the Erosion Hazard Area, the proposal would still be assessed as a Restricted Discretionary Activity, subject to an erosion risk report being provided. Proposals that fail to meet these standards would be elevated to full Discretionary Activity status to assess the appropriateness of the proposed building location in terms of area and position in relation to the flood hazard and the effect of the building on the function of the floodplain.
- 11.59 Accessory buildings are proposed to be permitted activities where they comply with the permitted standards of the relevant underlying zone and are only located within the ponding area of the Flood Hazard Extent. As non-habitable structures, accessory buildings are less sensitive to flood risk. Within the rural zones, accessory buildings would have little discernible effect given the scale and extent of the ponding areas within the Mangaroa Flood Hazard Extent. Therefore it is considered the existing permitted standards do not need to be further restricted. Only a marginal area of the residential zone is identified within the ponding area and therefore controlling accessory buildings is considered unnecessary given the limited effect they would have on the ponding area. However, accessory buildings within the Erosion Hazard Area are identified as Restricted Discretionary Activities to allow for the consideration of the erosion risk to the site.
- 11.60 The Overflow Paths are areas identified where flood water during a storm event will pass over land before returning to the river further downstream. Overflow Paths are moving areas of water that are potentially fast and/or deep and often surrounded by ponding water. They therefore represent a higher risk to people and property. Equally they are an important function of the floodplain enabling the flood water to discharge from the catchment and should not be obstructed by development or diverted onto adjacent property. The existing rules in the District Plan do not control development in relation to overflow paths and therefore uncontrolled development in these areas could exacerbate the flood risk to people and property within the surrounding area. Accordingly, the Plan Change proposes that buildings, including accessory buildings and non-residential buildings when located within an Overflow Path, be captured as a Discretionary Activity to consider the effect of the building on obstructing the overflow path and the assess the risk to the proposed building.
- 11.61 The River Corridor is the highest risk within the Flood Hazard Extent. It represents the most dynamic zone, where the course of the river can fluctuate, where flooding regularly occurs and where flood water is primarily channelled and thus is generally fast and deep. Development is at high risk in this area and strongly discouraged by the proposed policy framework within the Plan Change. Accordingly, a proposed rule identifies any development within this area as a Non-Complying Activity to be supported by clear policies.
- 11.62 In addition to using the district wide rules within Chapter 33 (Natural Hazards) to manage development in the Flood Hazard Extent, the proposed Plan Change also introduces rules



managing accesses within the rural zones. This is to be consistent with the Regional Policy Statement, in particular Policy 51, which requires access routes to be located above the identified 1 in 100 flood level to facilitate evacuation from buildings within Flood Hazard Extents. The rural zones are generally characterised by large properties and isolated dwellings. The importance of resilient access during flood events is therefore an important factor.

- 11.63 To support resilient access routes, the Plan Change proposes the primary access or driveway serving a dwelling be identified as a Permitted Activity where they are located above the 1 in 100-year flood level and do not cross a high hazard area such as an overflow path or river corridor. This activity status aligns with the earthworks permitted provision as it is likely such accesses would use earthworks. The permitted activity status avoids the need for resource consent and thereby helps achieve the desired level of access to support the objectives of the plan.
- 11.64 Where the proposed access does not meet the permitted standard (i.e. below the 1 in 100-year level) within the ponding or erosion hazard area, then the activity would be treated as a Restricted Discretionary Activity in order to consider the appropriateness of the proposed access. Where located in an Overflow Path, then the access would be a Discretionary Activity in order to consider the appropriateness of the access but also the effect on obstructing or diverting flood waters. This is consistent with the activity status for buildings within the overflow path.
- 11.65 Access ways that cross the River Corridor are discouraged by the proposed Plan Change and are identified as a Non-Complying Activity due the risk, the effect on the function of the river corridor and that during a flood event would unlikely provide the primary purpose of a safe evacuation route.
- 11.66 Flood mitigation works are proposed to be Permitted Activities in recognition of the direct benefit they have to improving the capacity and function of the floodplain and thereby minimizing the flood risk to the community.

#### *Anticipated Outcomes*

- 11.67 The anticipated outcomes of the proposed changes to rules for Natural Hazards Chapters are that:
- the function the of the floodplain is maintained
  - resilient communities are able to recognise and provide for flood hazard risks
  - people and property will avoid high hazard areas and will reduce the flood risk through mitigation in the lower hazard areas
  - future development will not be adversely impacted by erosion prone land during flood events.

**Proposed Rules Hazardous Substances (Chapter 34)**

<b>Hazardous Substances (Chapter 34)</b>	
<b>Discretionary Activity</b>	<b>Standard</b>
The storage, use, handling and production of hazardous substances within an identified Flood Hazard Extent as shown on the Planning Maps in Part 5 of the District Plan.	Add to 34.5 (Matters for consideration);  3. Susceptibility of the site to natural hazards... “including flood hazards”. “An assessment of the scale and probability of flood hazards occurring, the potential impact of a breach and how the facility is designed to avoid flood water mixing with hazardous substances and escaping from the site”.

11.68 The storage, use and handling of hazardous substances is identified as a Discretionary Activity within the operative District Plan. While Discretionary, and therefore unrestricted in terms of the matters the Council may consider for any application, it is recommended that for clarity a further matter of consideration is added to 34.5 to highlight the susceptibility of the activity to inundation or the risk of flood waters mixing with hazardous substances and the appropriateness of the mitigation measures.

11.69 Anticipated outcomes of the proposed changes to rules for Hazardous Substances are:

- There is no contamination of land from hazardous substances during a flood event.

**Definitions**

11.70 The following new definitions are proposed to support the new policy framework and provide clarity to the proposed rule framework.

<b>Definitions</b>	
<b>Erosion Hazard Area</b>	The area identified with the District Plan (Part 5) Hazard Maps that are at risk from erosion caused by the flood hazard.
<b>Flood Hazard Extent</b>	The area identified within the District Plan (Part 5) Hazard Maps. This identifies the area susceptible to the average flood return interval of 100 years (1 in 100-year flood), incorporating climate change to 2090. The Flood Hazard Extent comprises a High and Lower Hazard Area: <ul style="list-style-type: none"> <li>• High Hazard Area comprises the stream and river corridor, overflow paths and some parts of the Erosion Hazard Area.</li> <li>• Lower Hazard Area comprises the ponding area and some parts of the Erosion Hazard Area.</li> </ul>

<b>Flood mitigation works</b>	Work undertaken by local and regional authorities such as Greater Wellington Regional Council and Upper Hutt City Council or their nominated contractors where the primary purpose is to improve the ability and capacity of a stream or river to convey flood flows, often in accordance with a relevant adopted Floodplain Management Plan.
<b>Overflow path</b>	The area defined on the District Plan (Part 5) Hazard Maps. The overflow paths are areas identified as conveying moving water across land during a flood event and may be fast and/or deep.
<b>Ponding area</b>	The area defined on the District Plan (Part 5) Hazard Maps comprising areas of still or slow moving water during a flood event.
<b>River corridor</b>	The area defined on the District Plan (Part 5) Hazard Maps comprising the open river channel and land immediately adjacent to the river.

### **Pinehaven Catchment**

The Plan Change will introduce a number of new rules that will control development in relation to the Pinehaven catchment. These rules are summarised below, firstly with a summary of the escalating activity status by activity groupings and then on a chapter by chapter basis, together with an explanation as to why the new rules are required.

#### ***Activity Status***

##### ***Buildings***

11.71 Under the proposed plan change, the additions and alterations to existing buildings including accessory buildings, and construction of new accessory buildings, would be a Permitted Activity within the Ponding Area of the Pinehaven Flood Hazard Extent. This provides landowners a permitted level of development which would have little effect on flood risk as long as the extensions were no greater than 20m<sup>2</sup>, maintained the existing floor level and were positioned outside the identified high hazard areas.

11.72 New buildings or extensions to existing dwellings exceeding 20m<sup>2</sup>, including accessory buildings (less than 20m<sup>2</sup>), would be treated as a Restricted Discretionary Activity. Proposals would be required to achieve a finished floor level above the 1 in 100-year flood level for residential buildings, and above the 1 in 25-year flood level for commercial buildings in the Business Zone. Proposals not meeting these standards would be elevated to Non-Complying Activity status to signal such proposals are not supported by the District Plan as the risk to people and property would be too high, especially where insufficient mitigation was proposed.

11.73 Buildings proposed within an Overflow Path would be treated as a Discretionary Activity to allow the assessment of the potential effects on obstructing the flow of flood water, the risk to the proposed building and the effect of diverting water onto adjacent properties.

#### *Subdivisions*

11.74 Subdivision creating undeveloped lots within the Ponding Area of the Pinehaven Flood Hazard Extent is a Restricted Discretionary Activity within the Residential and Business Zones. The lower hazard area means that the risk can be mitigated through the identification of a suitable building platform and that the flood hazard risk is considered at the time of subdivision.

11.75 Subdivision that results in an undeveloped lot in the Residential or Business Zone that is below the permitted minimum lot area or within a higher risk hazard area is a Non-Complying Activity to signal such proposals are not supported within the Flood Hazard Extent due to the high risk to people and property and the function of the floodplain.

11.76 Subdivision within the Pinehaven Catchment Overlay in the Rural and Residential Zones is a Restricted Discretionary Activity. This requires hydraulic neutrality to be achieved by the new lots in order to avoid increasing the stormwater runoff into the floodplain and exacerbating the effect of the flood risk to people and property downstream. Proposals that do not meet the standard for hydraulic neutrality are elevated to Non-Complying Activities and are not supported by the proposed objectives and policies of the plan change.

#### *Earthworks*

11.77 Earthworks no greater than 20m<sup>2</sup> in area, where directly associated with the permitted minor additions and alterations to buildings (up to 20m<sup>2</sup> in area), are Permitted Activities. Any other earthworks within the Ponding Area are Restricted Discretionary Activities, reflecting the urbanised environment and the effect earthworks can have on exacerbating flood risk to adjacent people and property.

11.78 Earthworks in higher-risk areas such as the stream corridor, building setback line and within overflow paths are identified as Non-Complying Activities due to the high hazard risk of these areas and the effect such works can have on exacerbating the hazard risk to people and property.

#### *Structures and Fences*

11.79 New driveways and bridges over the Pinehaven Stream are identified as a Controlled Activity. Council may place conditions that require design of the crossing to avoid obstruction of flood water flows. No fences (excluding required support rails) are allowed to be constructed along the bridge crossing.

11.80 Fences within an Overflow Path are treated as a Restricted Discretionary Activity to allow an assessment of whether the fence would obstruct the flow of flood water. The design is required to avoid blocking or diverting the Overflow Path.

11.81 Any building, structure or fence where located within the higher risk areas comprising the stream corridor are Non-Complying Activities and discouraged by the proposed objectives and policies of the plan change due to the high hazard risk in these locations.

*Flood Mitigation Works*

11.82 Flood Mitigation Works within the Pinehaven Flood Hazard Extent are proposed as a Permitted Activity to support such works which are primarily focused on reducing the risk to the community within the Flood Hazard Extent.

*Network Utility Structures*

11.83 Network Utility Structures would be permitted where they crossed the Pinehaven Stream underground or above the 1 in 100-year flood level. Where this standard is not met such proposals would be treated as a Restricted Discretionary Activity. Utilities within the Flood Hazard Extent would continue to be treated as Discretionary Activities.

*Hazardous Substances*

11.84 The existing provisions of the District Plan identify storage of hazardous substances as a Discretionary Activity. This would remain the same activity status where located within the Flood Hazard Extent with reference to the potential flood hazard risk.

***Proposed New Rules by District Plan Chapter***

11.85 The proposed rules are detailed below on a chapter by chapter basis; including;

- an explanation on the escalating activity status
- the relationship between the land use and subdivision provisions
- the relationship between the district wide and zone based chapters of the District Plan.

**Proposed Rules Subdivision (Chapter 18)**

<b>Residential Zone (Chapter 18)</b>	
<b>Restricted Discretionary Activity</b>	<b>Standard</b>
Subdivision within the Ponding Area of the Pinehaven Flood Hazard Extent, which creates any undeveloped lots that do not contain a dwelling, and complies with the	Standards <ul style="list-style-type: none"> <li>• Suitable future building platform area must be identified and must not be located within an overflow path or stream corridor.</li> </ul>

requirements of Rule 18.5	<p>Matters of Discretion</p> <ul style="list-style-type: none"> <li>• the matters listed in Rule 18.6</li> <li>• the appropriateness of the proposed building platform in terms of area and location in relation to the flood hazard</li> <li>• ability for a future dwelling to be constructed above the 1 in 100 year flood level</li> <li>• the effect of the future development of the building platform on the Flood Hazard Extent</li> <li>• consent notice restricting the future development to the identified platform.</li> <li>• matters addressing the standards for access under Rule 18.9 where any standards are not met.</li> </ul>
Subdivision of a site within the Pinehaven Catchment Overlay	<p>Standard</p> <ul style="list-style-type: none"> <li>• Achieves hydraulic neutrality.</li> <li>• Provision of a report by a suitably qualified and experienced person providing an assessment of the ability for the site to achieve hydraulic neutrality in accordance with the requirements of 2.6.9E</li> <li>• Compliance with the standards of Rule 18.5</li> </ul> <p>Matters of Discretion</p> <ul style="list-style-type: none"> <li>• The matters listed in Rule 18.6</li> <li>• Ability for the subdivision and proposed design to ensure peak flow of stormwater discharge will be no greater than pre-subdivision levels, and achieving hydraulic neutrality</li> <li>• The effect of the subdivision on the Pinehaven Flood Hazard Extent.</li> <li>• Consent notice restricting the future development of the lot to the design and recommendations of the hydraulic neutrality report.</li> <li>• Matters addressing the standards for access under Rule 18.9 where any standards are not met.</li> </ul>
<b>Non-Complying Activity</b>	
Subdivision within the Pinehaven Flood Hazard Extent which creates any undeveloped lots that do not	See policies.

contain a dwelling, and does not: <ul style="list-style-type: none"> <li>• comply with the requirements of Rules 18.5, or</li> <li>• meet the standard of Rule 18.37.</li> </ul>	
Subdivision of a site within the Pinehaven Catchment Overlay that does not meet the standard Rule 18.38 or Rule 18.5	See policies.

11.86 Subdivision resulting in a vacant allotment creates the potential for future development. If flood risk is not addressed within the subdivision provisions then it can result in inappropriate new lots that have not considered the suitability for future development in relation to the flood risk. Addressing these constraints needs to be completed earlier as part of the subdivision assessment. This is only necessary for subdivision that creates vacant allotments. Such subdivision is proposed to be treated as a Restricted Discretionary Activity with matters of discretion that address the ability of the proposed lot to contain a suitable future building platform and the ability for a building to be constructed above the 1 in 100-year flood level. This would also be supported by s106 of the Act when considering natural hazard risk to new lots. Proposals that do not meet these standards elevate to Non-Complying status to signal the inappropriateness of such new allotments in the Flood Hazard Extent.

11.87 The upper area of the Pinehaven catchment is predominantly undeveloped. An area based on the upper sub-catchments has been identified as the Pinehaven Catchment Overlay. Changes to the land within these areas due to the steepness and ability to increase runoff could have significant adverse effects on the peak runoff during a storm event, increasing the flood risk to the community within the 1 in 100-year flood extent downstream. Accordingly, subdivision proposals within the identified overlay area are required to achieve hydraulic neutrality to avoid increased peak runoff. Proposals that don't meet this standard are elevated to Non-Complying status.

**Proposed Rules Subdivision Rural Zone (Chapter 19)**

<b>Rural Zone (Chapter 19)</b>	
<b>Restricted Discretionary Activity</b>	<b>Standard</b>
Subdivision of a site within the Pinehaven Catchment Overlay	Standard: <ul style="list-style-type: none"> <li>• Achieves hydraulic neutrality.</li> <li>• Provision of a report by a suitably qualified and experienced person providing an assessment of the ability for the site to achieve hydraulic neutrality in accordance with the requirements of 2.6.9E.</li> </ul>

	<ul style="list-style-type: none"> <li>• Compliance with the standards of Rule 19.5.</li> </ul> <p>Matters:</p> <ul style="list-style-type: none"> <li>• The matters listed in Rule 19.6</li> <li>• The matters and recommendations within the hydraulic report provided by a suitably qualified and experienced person assessing the ability for the site to achieve hydraulic neutrality as per the requirements identified in Chapter 2.6.9E.</li> <li>• Effect on the Pinehaven Flood Hazard Extent.</li> <li>• Consent notice restricting the future development of the lot to the design and recommendations of the hydraulic neutrality report.</li> <li>• Matters addressing the standards for access under Rule 19.8 where any standards are not met.</li> </ul>
<b>Non-Complying Activity</b>	
Subdivision of a site within the Pinehaven Catchment Overlay that does not meet the standard for a Restricted Discretionary Activity is a Non-Complying Activity.	See policies.

11.88 The upper area of the catchment comprises both rural and residential zoned land. As the subdivision rules are zone based, the hydraulic neutrality provisions applied in the Residential Zone (Chapter 18) need to also be applied to the Rural Zone rules in Chapter 19 and the Business Commercial Zone rules in Chapter 20, in order to capture hydraulic neutrality within these zones.

**Proposed Rules Subdivision Business Commercial Zone (Chapter 20)**

<b>Business Commercial Zone (Chapter 20)</b>	
<b>Restricted Discretionary Activity</b>	<b>Standard</b>
Subdivision within the Ponding Area the Pinehaven Flood Hazard Extent, which results in any undeveloped site that contains no building, and complies with the requirements of Rule 20.5, is a Restricted Discretionary Activity.	<p>Matters of Discretion:</p> <ul style="list-style-type: none"> <li>• the matters contained in Rule 20.6</li> <li>• the appropriateness of the proposed building platform in terms of area and location in relation to the flood hazard</li> <li>• ability for a future building to be constructed</li> </ul>



	<p>above the 1 in 25-year flood level</p> <ul style="list-style-type: none"> <li>• the effect of the future development of the building platform on the function of the floodplain</li> <li>• consent notice restricting the future development to the identified platform</li> <li>• matters addressing the standards for access under Rule 20.8 where any standards are not met.</li> </ul>
<b>Non-Complying Activity</b>	
Subdivision within the Pinehaven Flood Hazard Extent which results in any undeveloped lots that contain no building, and does not comply with the requirements of Rule 20.5.	See policies.

*Anticipated Outcomes*

11.89 The anticipated outcomes of the proposed changes to rules for subdivision within the zone rules chapters are:

- Future development will not be adversely impacted by a 1 in 100-year flood within the Pinehaven Flood Hazard Extent.
- Future development will not be adversely impacted by increased stormwater run-off from the upper catchment.

**Proposed Earthworks Rules (Chapter 23)**

<b>Earthworks (Chapter 23)</b>	
<b>Permitted Activity</b>	<b>Standard</b>
<p>Within the Ponding Area of the Pinehaven Flood Hazard Extent, earthworks directly required for the building platform associated with the alteration and addition to existing buildings, including new accessory buildings, are a permitted activity provided they are 20m<sup>2</sup> or less in area.</p> <p>11.90</p>	<p>Standards:</p> <ul style="list-style-type: none"> <li>• Earthworks must be directly associated with the building platform of the proposed extension or alteration or new accessory building, provided for as a permitted activity under Rule 33.2, and cannot exceed 20m<sup>2</sup> in area.</li> <li>• Must not be within the stream corridor or overflow path.</li> </ul>
Earthworks associated with flood	<ul style="list-style-type: none"> <li>• Must be undertaken by Greater Wellington</li> </ul>

mitigation works within the Pinehaven Flood Hazard Extent.	Regional Council, Upper Hutt City Council or their nominated contractor and be for the express purpose of mitigating the identified flood hazard and, where applicable, achieving the design and objectives of the relevant floodplain mitigation plan.
<b>Restricted Discretionary Activity</b>	
All earthworks not associated with permitted building extensions (up to 20m <sup>2</sup> ) or flood mitigation works within the ponding area of the Pinehaven Flood Hazard Extent	<p>Standards:</p> <ul style="list-style-type: none"> <li>• Must not be within the stream corridor or an overflow path.</li> </ul> <p>Matters of Discretion:</p> <ul style="list-style-type: none"> <li>• Height of cut or fill and area of earthworks above ground level.</li> <li>• Earthworks stability.</li> <li>• Erosion and sediment control.</li> <li>• Effect on the flooding risk to people and property.</li> <li>• Permanent surface treatment of earthwork area.</li> <li>• Avoiding, remedying or mitigating effects related to the standard in question.</li> <li>• Financial contributions.</li> </ul>
<b>Non-Complying Activity</b>	
Earthworks within the Pinehaven Flood Hazard Extent (excluding those associated with flood protection works), which are within the overflow path or stream corridor.	See policies.

11.91 The only control related to earthworks and natural hazards within the current District Plan is the Permitted Activity standard 23.7, which states earthworks shall not be undertaken within 10m of any water body or within the 1 in 100-year flood extent of the Hutt River. Proposals not complying with this standard are elevated to a Restricted Discretionary Activity. The provisions are therefore very limited when applied to the Pinehaven Flood Hazard Extent. The 10m setback would be a blunt tool with no clear policy direction on the resource management issue. Furthermore, any earthworks within the Pinehaven Flood Hazard Extent but outside the 10m setback are not captured by the rule.

11.92 The permitted level of earthworks provided for by the District Plan are permissive, allowing for filling of a site up to 0.5m high over an area of 150m<sup>2</sup> every 12 months. These permitted

provisions do not take into account the effect on the flood risk and are not restricted from being undertaken within the higher-risk areas such as the overflow paths.

11.93 The proposed amendments introduce a control in the form of a Restricted Discretionary Activity rule for any earthworks within the Flood Hazard Extent in order to consider the impact on the flood risk to people and property. The matters also require assessment of the erosion and sediment control measures to reduce loss of sediment to the stream. The purpose is to assess the impact of the proposed earthworks both within the site and on adjacent property.

11.94 A Permitted Activity standard is proposed to reflect a new permitted activity rule in Chapter 33 which allows for extensions to existing dwellings up to 20m<sup>2</sup> (this is addressed further below). The purpose is to avoid a conflict where earthworks to create the building platform for the extension would trigger the need for a resource consent, despite the addition being provided for as a permitted activity. The reason is that additions to existing buildings and the earthworks associated with them, where they are no greater than 20m<sup>2</sup>, are not considered to have a significant effect on the flood risk.

11.95 Earthworks proposed within the higher risk areas are identified as a Non-Complying Activity. This is to signal that earthworks within the stream corridor and overflow path are not generally considered appropriate due to the potential to impede the flow of flood water, constraining the function of the floodplain and thus increasing the flood risk to people and property. An exemption is for flood mitigation works undertaken by the territorial or regional authorities for the specific task of improving and maintaining the stream corridor and thus minimizing the flood risk to the community. This is provided for as a Permitted Activity.

11.96 Flood mitigation works are proposed as a Permitted Activity to reflect the importance such works have as the primary purpose is to improve the function of the floodplain and reduce the flood hazard risk to people and property.

*Anticipated outcomes*

11.97 The anticipated outcomes of the proposed changes to rules for earthworks are:

- Earthworks will not result in an increase in the flood hazard risk to people and property.
- The ability for Greater Wellington and Upper Hutt City Council to maintain flood mitigation works is supported.

**Proposed Network Utilities Rules (Chapter 30)**

<b>Network Utilities (Chapter 30)</b>	
<b>Permitted Activity</b>	<b>Standard</b>
Network Utility Structures	Permitted Activity Standard 30.8a <ul style="list-style-type: none"> <li>• Network utility structures (excluding cabinets)</li> </ul>

	crossing a stream within an identified flood hazard area must be underground or positioned above the 1 in 100-year flood level.
<b>Restricted Discretionary Activity</b>	
Network Utility Structures (excluding cabinets) that are not underground or not positioned above the 1 in 100-year flood level.	<p>Addition Matters to 30.13:</p> <p>Except in the case of cabinets, where located within an identified Flood Hazard Extent:</p> <ul style="list-style-type: none"> <li>• Whether the utility or network utility structure will be adversely impacted during a flood event.</li> <li>• Where proposed to cross a river, whether the Network Utility Structure will adversely contribute to blockages or obstructing flood flows.</li> <li>• Whether the utility will adversely impact the flood hazard area, exacerbating the effect on people and property on adjacent sites and/or adversely affect the function of the flood hazard area.</li> </ul>

11.98 Plan Change 38 amended the network utilities chapter of the District Plan. This removed all references to flood hazards in relation to utilities. Consequently, the District Plan is now silent on this issue which was captured under the former operative resource management issue 16.2.1 and Policy 16.4.1.

11.99 It is proposed to return the recognition of the relationship between flood hazards and utilities (which was removed under PC38). This requires retaining the policy recognition so the rules in Chapter 33 are supported. It is noted that PC38 identifies “new and upgraded transformers, substations and switching stations distributing electricity and ancillary buildings” together with “water and wastewater treatment plants” as Discretionary Activities in all zones.

11.100 The proposed plan change as it relates to the Pinehaven Flood Hazard Area, considers electricity transformers, water and wastewater treatment plants as most at risk. Therefore, rather than capture all “utilities” within the Flood Hazard Extent under a broad rule in Chapter 33, it is instead proposed to add to the matters of discretion under Chapter 30 to recognise the issue of flooding where located in a Flood Hazard Extent.

11.101 Proposed infrastructure services across a stream can contribute to blockages unless placed under the stream or above the 1 in 100-year flood level. Otherwise they do not impose a risk within the Flood Hazard Extent and therefore a permitted activity subject to achieving the specified standard.

11.102 Where such infrastructure does not comply then it is determined as a Restricted Discretionary Activity. Wastewater treatment plants and electricity transformers are already a Discretionary Activity. Therefore, it is proposed to add to the 30.13 matters of consideration two additional matters to address utilities within the Flood Hazard Extent: whether the utility will be

susceptible to the flood risk or whether the utility will exacerbate the flood risk to people and property.

*Anticipated outcomes*

11.103 The anticipated outcomes for the proposed changes to rules for Network Utilities are:

- Network utilities do not contribute to blockages or obstruct flows that exacerbate the flood hazard risk to people and property.
- Network utilities are not situated where they will be adversely affected during a flood event.

**Proposed Natural Hazards Rules (Chapter 33)**

<b>Natural Hazards (Chapter 33)</b>	
<b>Permitted Activity</b>	<b>Standard</b>
Within the Ponding Area of the Pinehaven Flood Hazard, the alteration and addition to existing buildings, or construction of accessory buildings are a Permitted Activity provided the gross floor area is less than 20m <sup>2</sup> and the proposal complies with the relevant zone standards for permitted activities.	Standards <ul style="list-style-type: none"> <li>• Additions and alterations that are not below the floor level of the existing building, and do not exceed 20m<sup>2</sup> in area.</li> <li>• Must not be within the stream corridor or an overflow path.</li> <li>• Only one addition to the existing building following the date of notification of this plan change.</li> </ul>
<b>Controlled Activity</b>	<b>Standard</b>
Driveways and bridges over the Pinehaven Stream.	Standard <ul style="list-style-type: none"> <li>• Only one crossing per property.</li> <li>• No fences (excluding required support rails) are to be constructed along the bridge crossing.</li> </ul> Matters of Control <ul style="list-style-type: none"> <li>• Design of the crossing to avoid obstructing stream corridor from conveying flood water.</li> </ul>
<b>Restricted Discretionary Activity</b>	<b>Standard</b>
Within the Ponding Area of the Pinehaven Flood Hazard Extent the construction of new buildings, or	Standards <ul style="list-style-type: none"> <li>• Finished Floor Level above the 1 in 100-year flood level for residential activities.</li> </ul>

<p>alteration and addition to existing buildings, including accessory buildings over 20m<sup>2</sup>, which are not Permitted Activities are a Restricted Discretionary Activity.</p>	<ul style="list-style-type: none"> <li>• Finished Floor Level above the 1 in 25-year flood level if a commercial activity within the Business Commercial Zone.</li> <li>• The buildings, additions or alterations must not be within the stream corridor or an overflow path.</li> </ul> <p>Matters of Discretion</p> <ul style="list-style-type: none"> <li>• Building floor level</li> <li>• Building location within the site</li> <li>• Building floor area</li> <li>• Effect of displacement of flood waters from the site</li> </ul>
<p>Visitor accommodation or residential accommodation activities within the Business Commercial Sub-Zone of the Pinehaven Flood Hazard Extent.</p>	<p>Standards:</p> <ul style="list-style-type: none"> <li>• Activities must be in buildings with a Finished Floor Level above the 1 in 100-year flood level.</li> </ul> <p>Matters of Discretion:</p> <ul style="list-style-type: none"> <li>• Where residential accommodation is proposed, the susceptibility of the activity to flood hazards and whether appropriate mitigation can be achieved.</li> </ul>
<p>Any part of a fence within an Overflow Path of the Pinehaven Flood Hazard Extent.</p>	<p>Standard:</p> <ul style="list-style-type: none"> <li>• The design of the fence must not obstruct the direction or route of the overflow path.</li> </ul> <p>Matters of discretion:</p> <ul style="list-style-type: none"> <li>• Effect on the overflow path's ability to convey flood water. Along the identified route shown on the relevant hazard map</li> </ul>
<p>Any Building within the Pinehaven Catchment Overlay must achieve hydraulic neutrality for stormwater runoff.</p>	<p>Standard</p> <ul style="list-style-type: none"> <li>• Achieves hydraulic neutrality.</li> <li>• Provision of a report by a suitably qualified and experienced person providing and assessment of the ability for the site to achieve hydraulic neutrality in accordance with the requirements of 2.6.9E.</li> </ul> <p>Matters of Discretion:</p> <ul style="list-style-type: none"> <li>• To avoid, remedy or mitigate the effects of any</li> </ul>

	<p>increase in risk to people or property as a result of the peak runoff.</p> <ul style="list-style-type: none"> <li>• Ability for the proposed development and proposed design to ensure peak flow of stormwater discharge will be no greater than pre-subdivision levels and thus achieve hydraulic neutrality.</li> <li>• Mitigation measures proposed to achieve hydraulic neutrality.</li> <li>• Effect on the Pinehaven Flood Hazard Extent.</li> </ul>
<b>Discretionary Activity</b>	
Any part of a building within an identified Overflow Path of the Pinehaven Flood Hazard Extent.	<p>Matters of Consideration:</p> <ul style="list-style-type: none"> <li>• Effect on the overflow path's ability to continue conveying flood water.</li> <li>• Any increase in risk to people or property as a result of the building location.</li> </ul>
<b>Non-Complying Activity</b>	
Within the Pinehaven Flood Hazard Extent, any Permitted, Controlled or Restricted Discretionary Activity which fails to comply with any of the relevant Permitted Activity conditions, Controlled or Restricted Discretionary Activity Standards or Terms and is not identified as a Discretionary Activity.	See policies.
Any building, structure or fence within the stream corridor of the Pinehaven Flood Hazard Extent (except where provided for under the rule for driveways and bridges as a Controlled Activity).	See policies.

11.104 The identified Flood Hazard Extent is not zone based, but instead based on the identified 1 in 100-year flood extent. It therefore overlays five different District Plan zones. To address this, the plan change proposes to use the existing citywide provisions within the Natural Hazards chapter (Chapter 33) to capture the majority of built development within the Flood Hazard Extent. The structure of the District Plan provides for zone based and citywide provisions and

contains existing cross references to ensure citywide provisions are also addressed within the zone.

11.105 Within the Pinehaven Flood Hazard Extent, new buildings and alterations and additions to existing buildings, including accessory buildings, are proposed to be captured under a new rule as a Restricted Discretionary Activity. Additions to existing buildings below 20m<sup>2</sup> in floor area are proposed to be Permitted Activities. This enables landowners to retain some flexibility to undertake alterations to their property without requiring consent in recognition that the effects on the flood risk would be indiscernible. Larger additions would require the finished floor level to be raised to above the 1 in 100-year flood level.

11.106 The standard would also restrict potential 'development creep' through a series of incremental 20m<sup>2</sup> applications by allowing only a single addition.

11.107 Accessory buildings are permitted by the existing operative District Plan provisions. The risk to accessory buildings is not considered as high economically and comparatively less than the impact to habitable buildings. However, if uncontrolled they could increase the flood risk as the permitted activity provisions allow up to 35% site coverage. As such where they are over 20m<sup>2</sup> they would be assessed as a restricted discretionary activity.

11.108 Buildings within an overflow path are proposed to be Discretionary Activities in order to consider the effect of the structure on the ability of the overflow path to function. It also allows for consideration of the effect of the flood hazard on the proposed building and whether the flood risk to people and property is increased.

11.109 Buildings and structures within the higher risk areas (the Stream Corridor) are proposed to be Non-Complying Activities to signal the inappropriateness of buildings in these areas. These high hazard areas convey fast flowing, deeper flood water, and are susceptible to erosion during an event. Buildings or structures in these areas can impede flood flows, assist in blockages and diversion of water and constrain the function of the floodplain and its ability to drain flood water, thereby increasing the risk to people and property. The identified area is narrow and does not unduly constrain the ongoing ability for development to continue within lower hazard areas in Pinehaven.

11.110 The Regional Policy Statement requires buildings to be constructed above the 1 in 100-year flood level to minimise the flood risk to people and property. The proposed provisions within the citywide Natural Hazards chapter of the District Plan refer to buildings in order to capture all building (residential or non-residential) in accordance with the definition of "Buildings" in Chapter 35 of the District Plan. Construction of new buildings or additions over 20m<sup>2</sup> need to be assessed on the effect they may have on the Flood Hazard Extent and on adjoining property. The assessment also needs to consider the level of risk to the new building or addition from flood hazards. The proposed provisions therefore require residential buildings to be constructed above the 1 in 100-year flood level as part of the standard for Restricted Discretionary Activities. Proposals that do not meet this standard would be elevated to Non-Complying to signal the inappropriateness of such development.



11.111 Commercial buildings are generally considered to have a lower risk to life compared to residential buildings, due to being generally non-habitable building. However, the physical building has the same effect on the displacement of water regardless of the activity it supports and therefore it is still appropriate to capture and assess these buildings in terms of the effect on the flood risk. However, a lower finished floor level is considered acceptable for commercial buildings, as the current level of service for the commercial area is for a 1 in 10-year flood level. Furthermore, the commercial area represents a small part of the Flood Hazard Extent. The standard for Restricted Discretionary Activities reflects this by providing for non-residential buildings only needing to achieve a minimum floor level above the 1 in 10-year flood level.

11.112 The finished floor level for any buildings must be above the 1 in 100-year flood level if residential use is proposed. This is to recognise the operative Business Zone rules (20.2) where ground floor residential use of a commercial zoned property can be considered as a Discretionary Activity. In that case the floor level would need to meet the 1 in 100-year level to avoid unacceptable risk to future occupants. Non-compliance with this standard is elevated to Non-Complying status as it is not considered an acceptable level of risk.

11.113 Buildings within the Pinehaven Catchment Overlay are identified as a Restricted Discretionary Activity to support the subdivision provisions requiring hydraulic neutrality. Development within this overlay area could increase the flood risk through increased surface water runoff during a flood event and therefore increase the risk to the community downstream. The standards require the application to confirm the design measures to achieve hydraulic neutrality.

11.114 Fences within an overflow path are proposed to be a Restricted Discretionary Activity to consider the impact they may have on impeding flood water flows. As overflow paths are higher risk areas, fences may be appropriate subject to their design to avoid unacceptably impeding flood water flow. The standard requires the design to avoid obstructing the flow of flood water. Where proposals do not meet this standard they will be elevated to Non-Complying Activity status. Impeding the ability of the overflow paths would increase the flood risk to people and property which is not considered appropriate.

11.115 The Pinehaven Stream has numerous driveways crossing the stream providing vehicle access to properties. The majority of these have not required resource consent from Regional Council due to the design being less than 6.0m in length. In the absence of any other planning controls the designs have not provided for the flood levels or risk that multiple crossings present to facilitating blockages and impeding the flow of flood water. Some driveways also include fences which further serve to impede the flow of flood water and increase the flood risk to people and property.

11.116 Accordingly, the plan change provisions propose assessing driveways and bridges as a Controlled Activity. This is in recognition that every lot must have physical and legal access but can still present a flood risk. Therefore where crossings meet the design standard to avoid

unacceptably impeding the flow flood water can be treated as a Controlled Activity and must be approved. Non-compliance within the standard would elevate the activity to Non-Complying. The standard has not been identified a permitted activity as compliance with the standard would be difficult to record to ensure it is being achieved.

11.117 To reflect the importance of avoiding inappropriate development within the higher risk areas, a Non-Complying Activity rule is proposed capture any building, structure or fence within the Stream Corridor. This signals the high level of risk and discourages proposals within this area, directing property owners to consider the less restrictive provisions for development outside the high hazard area.

*Anticipated Outcomes*

11.118 The anticipated outcomes of the proposed changes to rules for Natural Hazards Chapters are:

- The function the of the floodplain is maintained
- Communities are resilient and recognise and provide for flood hazard risks
- People and property will avoid high hazard areas and will reduce the flood risk through mitigation in the lower hazard areas.
- Future development will not be adversely impacted by increased stormwater run-off from the upper catchment.

**Proposed Rural Zone Rules (Chapter 34)**

<b>Rural Zone (Chapter 34)</b>	
<b>Discretionary Activity</b>	<b>Standard</b>
The storage, use, handling and production of hazardous substances within an identified Flood Hazard Area as shown on the Planning Maps in Part 5 of the District Plan.	Add to 34.5 (Matters for consideration);  3. Susceptibility of the site to natural hazards “including flood hazards”.... “An assessment of the scale and probability of flood hazards occurring, the potential impact of a breach and how the facility is designed to avoid flood water mixing with hazardous substances and escaping from the site”.

11.119 The storage, use and handling of hazardous substances is identified as a Discretionary Activity within the operative District Plan. While a Discretionary Activity (and therefore unrestricted in terms of the matters the Council may consider for any application), it is recommended that for clarity a further matter of consideration is added to 34.5 to highlight the susceptibility of the activity to inundation or the risk of flood waters mixing with hazardous substances and the appropriateness of the mitigation measures.

*Anticipated Outcomes*

11.120 Anticipated outcomes of the proposed changes to rules for Hazardous Substances are:

- There is no contamination of land from hazardous substances during a flood event.

**Definitions**

11.121 The following new definitions are proposed to support the new policy framework and provide clarity to the proposed rule framework.

<b>Definitions</b>	
<b>Flood Hazard Extent</b>	<p>The area identified within the District Plan (Part 5) Hazard Maps. This identifies the area susceptible to the average flood return interval of 100 years (1 in 100-year flood), incorporating climate change to 2090. The Flood Hazard Extent comprises a High and Lower Hazard Area;</p> <ul style="list-style-type: none"> <li>• High Hazard Area comprises the stream and river corridor, overflow paths and some parts of the Erosion Hazard Area.</li> <li>• Lower Hazard Area comprises the ponding area and some parts of the Erosion Hazard Area.</li> </ul>
<b>Flood mitigation works</b>	<p>Work undertaken by local and regional authorities such as Greater Wellington Regional Council and Upper Hutt City Council or their nominated contractors where the primary purpose is to improve the ability and capacity of a stream or river to convey flood flows, often in accordance with a relevant adopted Floodplain Management Plan.</p>
<b>Hydraulic neutrality</b>	<p>The principle of managing stormwater runoff from all new lots or development areas through controlled disposal or stored on-site and released at a rate that does not exceed the peak stormwater runoff when compared to the pre-development or pre-subdivision situation.</p>
<b>Overflow path</b>	<p>The area defined on the District Plan (Part 5) Hazard Maps. The overflow paths are areas identified as conveying moving water across land during a flood event and may be fast and/or deep.</p>
<b>Pinehaven Catchment Overlay</b>	<p>The area defined on the District Plan (Part 5) Hazard Maps comprising the upper sub-catchments of the Pinehaven Stream catchment.</p>
<b>Ponding area</b>	<p>The area defined on the District Plan Part 5 Hazard Maps comprising areas of still or slow moving water during a flood event.</p>
<b>Stream corridor</b>	<p>The area defined on the District Plan (Part 5) Hazard Maps</p>

comprising the open stream channel.

## 12. Conclusion

12.1 Proposed Plan Change 42 is a Council initiated Plan Change. The proposed plan change amends existing provisions and introduces new objectives, policies, and rules to manage land use and subdivision activities in order to recognize and specifically address flood risk within the identified Flood Hazard Extents for the Mangaroa River and Pinehaven Stream.

12.2 The proposed provisions seek to avoid development in the identified high hazard areas and to mitigate the risk from flooding in the lower risk areas.

12.3 The Plan Change proposes to amend and update the following parts of the District Plan:

- Chapter 2 (General Procedures) – information requirements
- Chapter 9 (Subdivision and Earthworks) – objectives and policies
- Chapter 14 (Natural Hazards) - objectives policies
- Chapter 16 (Utilities) – objectives and policies
- Chapter 17 (Hazardous Substances) – policies
- Chapter 18 (Residential) – Subdivision rules
- Chapter 19 (Rural) – Subdivision rules
- Chapter 20 (Business) - Subdivision rules
- Chapter 23 (Earthworks) – rules
- Chapter 30 (Utilities) – rules
- Chapter 33 (Natural Hazards) – rules
- Chapter 34 (Hazardous Substances) – rules

12.4 The scope of the changes also ensure the statutory responsibilities under the RMA and other relevant legislation related to natural hazards and flood risk are appropriately addressed within the District Plan. Overall, the Plan Change ensures the following;

- The contents of the District Plan chapters comply with the RMA requirements in terms of Council's statutory responsibility both in terms of Section 31 of the Act and in terms of giving effect to the Regional Policy Statement.
- The proposed District Plan provisions, namely the proposed objectives, policies, and rules, have been tested in terms of section 32 of the RMA and the provisions selected are the best way of meeting the purpose of the RMA.

- The proposed objectives, policies, and rules apply to a defined Flood Hazard Extent that has been modelled taking into account climate change. The proposed objectives, policies, and rules have been drafted to avoid development in the high hazard areas and to incorporate mitigation measures for development in lower risk areas.

12.5 It is considered that this option presents the most appropriate balance between reducing the flooding risk from the Mangaroa River and Pinehaven Stream, and retaining private property rights. It is also considered that the proposed plan change is consistent with the relevant provisions of the RMA and the Regional Policy Statement.

12.6 Based on the findings of this report it is considered that the proposed measures are the most effective and efficient approach for Council to meet its statutory requirements.