

Proposed Plan Change 78 (PC78)

to the Auckland Unitary Plan (Operative in
part)

**SECTION 32 and sec77K / sec 77Q alternative process for existing qualifying
matters**

EVALUATION REPORT for qualifying matter s77I(a) and s77O(a)

(a) a matter of national importance that decision makers are required to recognise and
provide for under section 6

The management of significant risks from natural hazards – flooding

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Executive Summary

This report discusses the implications of modifying the building heights and densities required under the medium density residential standards (MDRS) of Schedule 3A of the Resource Management Act 1991 (RMA) and the implementation of Policy 3 of the National Policy Statement on Urban Development 2020 (NPS-UD) – updated May 2022 to accommodate the management of significant risks from flooding as a qualifying matter.

The management of significant risks from natural hazards is a matter of national importance under s6 of the RMA, and therefore a qualifying matter under sub-part 6, clause 3.32(1)(a) of the NPS-UD.

Given Auckland's topography and historical development practices, many areas in the region are vulnerable to flooding. Flooding risk is currently managed by the existing provisions in the Auckland Unitary Plan (AUP). These provisions seek to ensure that subdivision, use and development on sites that may be subject to such a hazard is appropriately assessed so that the level of potential flood risk is identified, with the extent of management or mitigation proposed being reflective of the level of risk present. These are supported by other provisions in the plan that also contribute to the management of flood risk, such as restrictions on maximum impervious areas and imposition of riparian and lakeside yards. In addition, the application of the Residential – Single House zoning has also been utilised to partly manage flood risks.

Three options were developed and evaluated in terms of their efficiency and effectiveness as well as their costs and benefits. Option 3 has been determined to be the preferred option to accommodate the management of significant risks from flooding as a qualifying matter.

Option 3 involves:

- Retaining all the relevant provisions in the AUP that relate to managing flood risk as a qualifying matter
- Using a zoning response to limit further intensification on existing Residential – Single House zoned sites that cannot achieve a suitable building platform outside of the floodplain or cannot achieve safe egress during a flood event
- Addition of a new objective and policy to provide policy support for the riparian and lakeside yards and their role in flood hazard management
- Consequential amendment to the definition of “floodplains” in Chapter J of the AUP

While application of Option 3 results in a reduction in development capacity anticipated under MDRS and Policy 3, it is considered that this loss does not outweigh the benefits associated with ensuring risk to people, property and the environment posed by flooding are appropriately managed or mitigated. The retention of the existing AUP provisions do not inherently restrict the density or height of development that could be established, and the application of a zoning response, which will limit permitted density and height, only applies to the sites that have been identified to be subject to the greatest increase in risk resulting from further intensification. It is considered that this option satisfies objectives 1 and 2 of the NPS-UD as well as s6(a) of the RMA.

Introduction

This report is prepared as part of the evaluation required by Section 32 and Sections 77I and 77Q of the Resource Management Act 1991 ('**the Act**') for proposed Plan Change 78 (**PPC78**) to the Auckland Unitary Plan (Operative in Part) (**AUP**).

The background to and objectives of PC78 are discussed in the overview report, as is the purpose and required content of section 32 and 77I / 77Q evaluations.

This report discusses the implications of applying the management of significant risks of flooding as a qualifying matter to the medium density residential standards (MDRS) of Schedule 3A of the RMA and the implementation of Policy 3 of the NPS-UD – updated May 2022.

An existing qualifying matter is a qualifying matter referred to in section 77I or 77O(a) to (i) that is operative in the relevant district plan when the IPI is notified.

- Sec 77I relates to relevant residential zones.
- Sec 77O relates to urban non-residential zones.

The Council may make the MDRS and the relevant building height or density requirements under policy 3 less enabling of development in relation to an area within a relevant residential zone or urban non-residential zone only to the extent necessary to accommodate 1 or more of the qualifying matters listed in 77I or 77O.

Integrated evaluation for existing qualifying matters

For the purposes of PC78, evaluation of the management of significant risks from flooding as an existing qualifying matter has been undertaken in an integrated way that combines sec 32 and 77K / 77Q requirements. The report follows the evaluation approach described in the table below.

Preparation of this report has involved the following:

- review of the AUP to identify all relevant provisions that apply this qualifying matter
- review of the AUP process, including Independent Hearing Panel evidence and recommendations on Topic 080 Rezoning and precincts (General) in relation to zoning and natural hazards
- assessment of the identified relevant provisions within the AUP relating to flooding against the Medium Density Residential Standards in accordance with Schedule 3A of the RMA
- engaging in discussions with and receiving technical input from Healthy Waters
- development of draft amendments to the operative district plan provisions of the AUP to implement this matter as a Qualifying Matter in accordance with s77K/s77Q
- review of the AUP to identify all relevant provisions that require a consequential amendment to integrate the application of this qualifying matter
- review of the AUP Maps to assess the spatial application of this qualifying matter
- section 32 options analysis for this qualifying matter and related amendments

The scale and significance of the issues is assessed to be large.

This section 32/77K/77Q evaluation report will continue to be refined in response to any consultation feedback provided to the council, and in response to any new information received.

Table 1 Integrated approach

Standard sec 32 steps	Plus sec 77K / 77Q steps for existing qualifying matter
<p>Issue</p> <p>Define the problem- provide overview/summary providing an analysis of the qualifying matter</p>	<p>Sec 77K or 77Q (1) (a)</p> <p>Describe the qualifying matter.</p> <p>Identify by location (for example, by mapping) where an existing qualifying matter applies</p>
<p>Identify and discuss objectives / outcomes</p>	<p>Sec 77K or 77Q(1) (c)</p> <p>Identify relevant RPS objectives and policies. Describe why the Council considers that 1 or more existing qualifying matters apply to these areas and why the qualifying matter is necessary.</p>
<p>Identify and screen response options</p>	<p>Sec 77k or 77Q (1) (b)</p> <p>Consider a range of alternative density standards for those areas having considered the particular MDRS standards and/or Policy 3 intensification requirements</p>
<p>Collect information on the selected option(s)</p>	<p>Sec 77K or Q (1) (d)</p> <p>Describe in general terms for a typical site the level of development that would be prevented by accommodating the qualifying matter, in comparison with the level of development that would have been permitted by the MDRS and policy 3 having regard to the modified zone, with regard to the identified density options</p>
<p>Evaluate option(s) - environmental, social, economic, cultural benefits and costs</p>	<p>Sec 77K or Q (1) (b)</p> <p>Provide a general assessment of the benefits and costs of the options in the light of the new objectives introduced by the NPS-UD and MDRS relating to well-functioning urban environments</p>
<p>Overall judgement as to the better option (taking into account risks of acting or not acting)</p>	<p>Conclusion as to the implications of the qualifying matter for development capacity to be enabled by NPS-UD/MDRS in the areas where the qualifying matter applies</p>

Issues

- The management of significant risks from flooding is a qualifying matter under sections 77I(a) and 77O(a), as the management of significant risks from natural hazards is a matter of national importance under section 6 of the RMA.
- This qualifying matter applies to both relevant residential zones and urban non-residential zones.
- Flooding refers to the overflow of water that submerges land that is usually dry. This may be caused by overflow from waterbodies or from stormwater runoff exceeding the capacity of the constructed stormwater drainage systems. Flood risk is increased through climate change due to warmer temperatures and changes in frequency, depth, and duration of rainfall events. Auckland's topography and historical development practices means that many areas are vulnerable to flooding, and as such, this hazard can pose a significant risk to people, property, and the environment. Potential risks include people being stranded, injuries and illness, loss of life, damage to property and infrastructure, and environmental degradation.
- Risk from flooding in the urban area is currently managed by the provisions in Chapter E36 and E38 of the Auckland Unitary Plan. These provisions require a site-by-site analysis to be carried out when subdivision, use or development occurs on sites within a floodplain. This is to ensure that the level of flood risk is appropriately identified, and appropriate avoidance or mitigation measures are in place to address this risk. Earthworks affecting floodplains and overland flow paths are also managed by standards in Chapter E12.
- The relevant rules rely on identifying properties potentially affected by flooding. Auckland Council's GIS (GeoMaps) shows the currently identified and modelled 1% AEP floodplains and overland flow paths. These are non-statutory layers and are updated by council's Healthy Waters department on a regular basis.
- Risk from flooding is currently also partly managed by the application of the Residential – Single House zoning through application of identified criteria, such as if the site is not able to achieve a suitable building platform outside of the floodplain and did not already contain multi-unit development. This approach was refined through the AUPIHP hearing process.
- In addition to the above, there are other provisions in the AUP that also assist with the management of flood risk:
 - Provisions in Chapter E15 that manage vegetation alteration and removal in areas near streams and lakes so that their role in mitigating natural hazard risk can be assessed.
 - Riparian and lakeside yard provisions located across various zone chapters require a minimum setback from lakes and streams to provide protection from natural hazards.

- Maximum impervious area provisions located across various zone chapters specify the maximum proportion of impervious areas on a site to manage the amount of stormwater generated and associated flood risk.
- This qualifying matter seeks to ensure that the effects of flooding are appropriately managed and that flood risks are suitably considered for any subdivision, use and development on sites that may be subject to such a hazard or for activities that may exacerbate this hazard. Flooding is incompatible with the intensification required by MDRS and Policy 3 as the level of development enabled by these requirements may pose increased flood risks to people, property, and the environment. Additional assessment is required for certain activities and for subdivision, use and development on sites that may be subject to such a hazard to ensure that the level of potential flood risk is identified, with the extent of management or mitigation proposed being reflective of the level of risk present.

Objectives and Policies (existing)

- The relevant RPS objectives and policies in the AUP relating to the management of significant risks from flooding in existing urban areas are outlined in **Table 2** below:

Table 2 Relevant RPS objectives

RPS Chapter	Objective
B10.2.1 Natural hazards and climate change	<i>(1) Communities are more resilient to natural hazards and the effects of climate change</i>
	<i>(2) The risks to people, property, infrastructure and the environment from natural hazards are not increased in existing developed areas.</i>
	<i>(3) New subdivision, use and development avoid the creation of new risks to people, property and infrastructure.</i>
	<i>(4) The effects of climate change on natural hazards, including effects on sea level rise and on the frequency and severity of storm events, is recognised and provided for.</i>
	<i>(5) The functions of natural systems, including floodplains, are protected from inappropriate subdivision, use and development.</i>
	<i>(6) The conveyance function of overland flow paths is maintained.</i>
	Policy
B2.4.2 Residential growth	<p><i>(5) Avoid intensification in areas:</i></p> <p><i>(a) where there are natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage or special character; or</i></p> <p><i>(b) that are subject to significant natural hazard risks;</i></p>

	<i>where such intensification is inconsistent with the protection of the scheduled natural or physical resources or with the avoidance or mitigation of the natural hazard risks.</i>
B10.2.2 Natural hazards and climate change	<i>(1) Identify areas potentially affected by natural hazards, giving priority to those at high risk of being affected, particularly in the coastal environment.</i>
	<i>(2) Undertake natural hazard identification and risk assessments as part of structure planning.</i>
	<i>(3) Ensure the potential effects of climate change are taken into account when undertaking natural hazard risk assessments.</i>
	<i>(4) Assess natural hazard risks:</i> <i>(a) using the best available and up-to-date hazard information; and</i> <i>(b) across a range of probabilities of occurrence appropriate to the hazard, including, at least, a 100-year timeframe for evaluating flooding and coastal hazards.</i>
	<i>(5) Manage subdivision, use and development of land subject to natural hazards based on all of the following:</i> <i>(a) the type and severity of potential events, including the occurrence natural hazard events in combination;</i> <i>(b) the vulnerability of the activity to adverse effects, including the health and safety of people and communities, the resilience of property to damage and the effects on the environment; and</i> <i>(c) the cumulative effects of locating activities on land subject to natural hazards and the effects on other activities and resources.</i>
	<i>(6) Adopt a precautionary approach to natural hazard risk assessment and management in circumstances where:</i> <i>(a) the effects of natural hazards and the extent to which climate change will exacerbate such effects are uncertain but may be significant, including the possibility of low-probability but high potential impact events; or</i> <i>(b) the level of information on the probability and/or impacts of the hazard is limited.</i>
	<i>(7) Avoid or mitigate the effects of activities in areas subject to natural hazards, such as earthworks, changes to natural and built drainage systems, vegetation clearance and new or modified structures, so that the risks of natural hazards are not increased.</i>
	<i>(8) Manage the location and scale of activities that are vulnerable to the adverse effects of natural hazards so that the risks of natural hazards to people and property are not increased.</i>
	<i>(9) Encourage activities that reduce, or do not increase, the risks posed by natural hazards, including any of the following:</i> <i>(a) protecting and restoring natural landforms and vegetation;</i> <i>(b) managing retreat by relocation, removal or abandonment of structures;</i> <i>(c) replacing or modifying existing development to reduce risk without using hard protection structures;</i>

	<p><i>(d) designing for relocatable or recoverable structures; or</i> <i>(e) providing for low-intensity activities that are less vulnerable to the effects of relevant hazards, including modifying their design and management.</i></p>
	<p><i>(10) Encourage redevelopment on land subject to natural hazards to reduce existing risks and ensure no new risks are created by using a range of measures such as any of the following:</i></p> <p><i>(a) the design and placement of buildings and structures;</i> <i>(b) managing activities to increase their resilience to hazard events;</i> <i>or</i> <i>(c) change of use to a less vulnerable activity.</i></p>
	<p><i>(11) Strengthen natural systems such as flood plains, vegetation and riparian margins, beaches and sand dunes in preference to using hard protection structures.</i></p>
	<p><i>(12) Minimise the risks from natural hazards to new infrastructure which functions as a lifeline utility by:</i></p> <p><i>(a) assessing the risks from a range of natural hazard events including low probability but high potential impact events such as tsunamis, earthquake and volcanic eruptions;</i> <i>(b) utilising design, location and network diversification to minimise the adverse effects on infrastructure and to minimise the adverse effects on the community from the failure of that infrastructure.</i></p>

- The relevant district level objectives and policies in the AUP relating to the management of significant risks from flooding in urban areas are found in E36 and E38 and are listed below:
 - Objective E36.2(2), E36.2(4), E36.2(5) & E36.2(6) and Policies E36.3(1), E36.3(3), E36.3(4), E36.3(13), E36.3(14), E36.3(15), E36.3(21), E36.3(22), E36.3(23), E36.3(24), E36.3(25), E36.3(26), E36.3(27), E36.3(28), E36.3(29) & E36.3(30).
 - Objective E38.2(10) and Policy E38.3(2)
- In summary, the relevant objectives and policies relate to:
 - Subdivision, use and development only occurring in urban areas where risks of adverse effects from natural hazards are not increased overall and where practicable are reduced, taking into account the likely long term effects of climate change
 - Ensuring the risk of adverse effects generated by infrastructure located in natural hazard areas are assessed and avoided or mitigated
 - Ensuring subdivision, use and development is managed to safely maintain the conveyance function of floodplains and overland flow paths
 - Identifying land which may be subject to natural hazards

- The matters that are to be considered as part of a risk assessment of proposals to subdivide, use or develop land that is subject to natural hazards
- The matters that are to be addressed when establishing new buildings designed to accommodate more vulnerable activities in floodplains
- Enabling buildings containing less vulnerable activities to locate in the floodplain within existing urban areas where flood hazard effects are avoided, remedied or mitigated.
- Ensuring all development in floodplains do not increase adverse effects from flood hazards or increased depths and velocities to other properties
- Requirements relating to storage and containment of hazardous substances in floodplains
- Providing for flood mitigation measures and the planting and retention of vegetation, where flooding hazards are not created, exacerbated, or increased
- Enabling the construction and maintenance of flood mitigation works and encouraging measures to increase resilience to flood damage
- Ensuring accessways are constructed so that flood risks are not increased
- Require subdivision in natural hazard areas to provide safe and stable building platforms and vehicle access.
- In addition to the above, there are policies in Chapter E15 and across the urban residential zones that are also relevant to the management of flooding risk:
 - Policies E15.3(1) & E15.3(2)
 - Policies H1.3(5), H3.3(6), H4.3(7), H5.3(7) & H6.3(8)
- In summary, the relevant policies relate to:
 - Protecting vegetation in sensitive environments, such as areas prone to natural hazards
 - Manage vegetation alteration and removal activities to address adverse effects on the mitigation of natural hazards
 - Restricting the maximum impervious area on a site in order to manage the amount of stormwater runoff generated.
- The current management approach used by the AUP is to require a resource consent for activities within floodplains, or activities that impact on the flow or capacity of overland flow paths. Consent is also required for vegetation alteration and removal in sensitive environments, and for development that cannot achieve the specified riparian and lakeside yard setback or exceed the

maximum impervious area thresholds. This enables consideration to be given to the potential flooding effects and for appropriate conditions to be imposed.

- A new objective and new policy are recommended in relation to riparian, lakeside and coastal yards. This matter is discussed in Option 3 below. No other amendments to the district level objectives and policies are proposed in response to the MDRS and Policy 3.

Development of Options

As discussed in the parent s32 analysis, the 'default base' for consideration of options no longer includes a status quo of the Auckland Unitary Plan (Operative in Part) as the IPI is required to incorporate the mandatory requirements of the Policy 3 of the NPS-UD – updated May 2022 and the MDRS of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021. Therefore, against this base the following three options were considered for the qualifying matter:

Option 1 – Retain the QM

This option would involve the retention of all the relevant provisions in the AUP that relate to managing flood risk as a qualifying matter. This includes the relevant district-wide provisions in Chapter E36 that manage buildings and activities in floodplains and in Chapter E38 that manage subdivision of land within floodplains. Other provisions, such as those relating to vegetation alteration and removal in sensitive environments, maximum impervious areas, and riparian and lakeside yard setbacks, would also be retained.

GIS mapping of the identified and modelled 1% AEP floodplain and overland flow paths would remain a non-statutory layer and sit outside of the AUP.

Under this Option, the MDRS and Policy 3 requirements would be modified and result in the following:

MDRS

- Development on a site within a floodplain may not be a permitted activity, with consent required under the relevant provisions in Chapter E36 if buildings or activities are proposed within the floodplain or if the activity affects overland flow paths.
- Subdivision of a site within a floodplain would require consent as a restricted discretionary activity instead of a controlled activity and would need to meet the relevant standards.
- The maximum impervious area threshold of 60% would apply.
- The permitted developable area of some sites near rivers, lakes and streams would be limited by the riparian and lakeside yard requirements and the presence of vegetation which may require a resource consent to alter or remove.
- Development standards outlined in the MDRS, such as 11m building height and 50% building coverage, would be applied without any modifications.

Policy 3

- Development on a site within a floodplain may not be a permitted activity, with consent required under the relevant provisions in Chapter E36 if buildings or activities are proposed within the floodplain or if the activity affects overland flow paths.
- The maximum impervious area threshold of 70% would apply for THAB zoned sites.
- The maximum building heights required under Policy 3 would be applied without any modifications.

Option 2 – Remove the QM

This option would remove all the relevant provisions in the AUP that relate to managing flood risk (as described in Option 1 above) with the application of the MDRS and Policy 3 in full without any modifications. As discussed earlier, there are objectives and policies in the Regional Policy Statement that relate to this qualifying matter, and therefore amendments would be required to this as part of a consequential plan change.

Under this Option, the MDRS and Policy 3 requirements would be applied in full and result in the following:

MDRS

- Development of up to three dwellings on a site would be a permitted activity, regardless of the presence of floodplains and overland flow paths.
- Subdivision of a site within a floodplain would require consent as a controlled activity
- No maximum impervious area threshold would apply. There would also be no controls applying to vegetation alteration or removal in riparian and lakeside areas.
- Development standards outlined in the MDRS, such as 11m building height and 50% building coverage, would be applied without any modifications. Development adjacent to rivers and lakes would rely on the MDRS yard provisions of 1m for rear or side yards.

Policy 3

- Development on a site would be a permitted activity, regardless of the presence of floodplains and overland flow paths.
- No maximum impervious area threshold would apply for THAB zoned sites.
- The maximum building heights required under Policy 3 would be applied without any modifications.

Option 3 – Strengthen the QM

This option would involve the retention of all the relevant provisions in the AUP that relate to managing flood risk as a qualifying matter (as described in Option 1 above), as well as including additional amendments or methods. These would include amending the MDRS and Policy 3 requirements further to manage flood risk, adding a new objective and policy to strengthen the riparian yards, and amending the definition of “floodplain”. The application of the MDRS and Policy 3 would be modified by these additions.

The additional amendments and methods to strengthen this qualifying matter are discussed in more detail below.

Amending MDRS and Policy 3 requirements further to manage flood risk

Many areas in the Auckland region are susceptible to flooding, and as such this hazard affects sites across all the various AUP zones. As an example, Table 3 below provides a breakdown of the existing AUP zoning for residential land parcels affected by MDRS and/or Policy 3 that are either fully or partially within a mapped floodplain.

Table 3 Existing AUP zoning of residential land parcels affected by MDRS and/or Policy 3 that are fully or partially within a mapped floodplain

Existing AUP residential zone	Number of parcels	Percentage
Residential - Terrace Housing and Apartment Building Zone	5484	8%
Residential - Mixed Housing Urban Zone	17694	25.9%
Residential - Mixed Housing Suburban Zone	33689	49.3%
Residential - Single House Zone	10930	16.8%
Total	67797	100%

Additional intensification, particularly in residential areas, that are subject to flooding increases the number of people and properties that are exposed to this hazard. Therefore, consideration has been given to whether additional modifications to the MDRS and Policy 3 requirements may be appropriate as another method to accommodate significant risks of flooding as a qualifying matter, particularly to ensure risk is not increased as a result of further intensification and to encourage development to occur outside of floodplains where possible. Four aspects of this approach were considered sequentially and outlined in the sections below.

Which areas would this approach apply to? – Description of Options

Option A1 – All zones that provide for residential activities

This option would modify the MDRS and Policy 3 requirements to sites affected by a floodplain that currently has a relevant residential or business zone that provides for residential activities.

Option A2 – All relevant residential zones

This option would modify the MDRS and Policy 3 requirements to sites affected by a floodplain that currently has a relevant residential zone.

Option A3 – Residential – Single House zone

This option would modify the MDRS and Policy 3 requirements to sites affected by a floodplain that currently has the Residential – Single House zone.

Which areas would this approach apply to? – Evaluation of Options

Option A1 – All zones that provide for residential activities

- Most of the business zones already provide for heights and densities that are similar or beyond that required by Policy 3. Similarly, most of the relevant residential zones enable intensification that is similar to or beyond the level that is required by MDRS. Therefore, modification of the MDRS and Policy 3 requirements for areas with these zones would not be an appropriate or efficient option as it would have limited to no effectiveness in managing risk associated with further intensification in some areas susceptible to flooding.

Option A2 – All relevant residential zones

- Most of these zones already enable intensification that is similar to or beyond the level that is required by MDRS. All these zones will however benefit from the height requirements under Policy 3. Therefore, modification of MDRS and Policy 3 requirements for areas with these zones will have some impact in managing risk associated with further intensification in areas susceptible to flooding. However, the appropriateness, effectiveness, and efficiency of this approach to manage risk would vary greatly dependent on the existing underlying zone and the MDRS or Policy 3 requirements that would apply to that area. Overall efficiency of this approach would also be hindered by the fact that each scenario would require a different response, with some scenarios providing limited benefit in comparison to the costs.

Option A3 – Residential – Single House (preferred)

- The Residential – Single House zone does not currently enable the level of intensification that is required by MDRS and Policy 3, and its application has been used (in part) as a method to manage flood risk in the AUP. These areas will be subject to the greatest increase in development potential, and associated with that, also the greatest increase in potential exposure to the hazard and therefore risk increase. Therefore, modification of MDRS and Policy 3 requirements for these areas currently with this zone would be the most effective and efficient approach to manage risk associated with further intensification.

Summary

- Options A1 and A2 are not considered appropriate as the modification of the MDRS and Policy 3 requirements will have limited effectiveness and efficiency in managing risk associated with further intensification in many of the zones due to the level of intensification already enabled under the AUP. Option A3 is considered the most appropriate option as the focus would be on managing intensification in those areas where the application of MDRS and Policy 3 requirements would result in the greatest increase in potential exposure to risk.

How should sites that would be subject to this approach be identified? – Description of Options

Option B1 – All sites

This option would modify the MDRS and Policy 3 requirements to any site that is fully or partially within a mapped floodplain.

Option B2 – Specific sites based on percentage criterion

This option would modify the MDRS and Policy 3 requirements for specific sites based on the proportion of the site that is affected by a mapped floodplain. The focus would be on sites that are heavily constrained by a mapped floodplain e.g. more than 75% of the site.

This would be carried out by identifying every Residential – Single House zoned site that is within or partially within a floodplain and then using the statistics and data available to determine what thresholds would be appropriate in different circumstances.

Option B3 – Specific sites based on suitable building platform criterion

This option would modify the MDRS and Policy 3 requirements for specific sites based on the amount of contiguous area of land that is not within a mapped floodplain. The focus would be on sites that are unable to achieve a suitable building platform outside of the floodplain.

This would be carried out by using a GIS analysis to identify all Residential – Single House zoned sites that did not meet this criterion, with further refinement on a site-by-site basis. Based on research from recent consent applications, it was concluded that a shape factor of 8m x 15m (120m²) would provide an appropriate starting point for calculation of a suitable flood-free building platform. This would also align with the dimensions under E38.8.1.1 for vacant lot subdivision, which would remain in place and unaffected by the MDRS requirements. When considering residual sites individually, an additional 20m² would be included to allow for the shape constraints of some of the parcels and access (e.g., ROW easements), as well as a proxy for other development standards that would need to be met for future development (e.g., yards). As a result, a 140m² contiguous area would be used as the site area for this criterion.

Option B4 – Specific sites based on access criterion

This option would modify the MDRS and Policy 3 requirements for specific sites based on ease of access during a flood event. This would focus on sites that cannot achieve safe egress during a flood event due to the presence of a floodplain at the site's access point or points.

For this criterion, Residential – Single House zoned sites would be identified if they either do not have flood-free access at their road boundary or if they have an accessway (private or shared) that is flooded, cutting off direct flood free-access to the road.

How should sites that would be subject to this approach be identified? – Evaluation of Options

Option B1 – All sites

- The extent to which a mapped floodplain affects a site varies significantly across the region – for Residential – Single House sites, the extent that a site is covered by a floodplain range from 100% to 0.01%. Therefore, modification of the MDRS and Policy 3 requirements for all sites that are fully or partially within a floodplain would not be appropriate, particularly as there are other existing AUP provisions proposed under Option 3 that would continue to manage flood risk. While it would be effective in

managing risk associated with further intensification in all these areas, a blanket reduction in development potential for all sites would not be an efficient method given that there would likely be greater overall costs than benefits, as a significant proportion of these sites would be able to accommodate further intensification while remaining clear of (or otherwise accommodating) the identified floodplain.

Option B2 – Specific sites based on percentage criterion

- Using a percentage criterion to identify sites that are more susceptible to flood risk would be a more efficient and appropriate approach than Option B1. This would ensure the focus to be on those sites that are most constrained by the existence of floodplains, and therefore areas where further intensification is likely to result in the greatest increase in risk.

However, the issue with this approach is that sites affected by mapped floodplains vary greatly in both overall site size and the extent to which they are affected by a floodplain. For example, in some cases even though a floodplain may cover 90% of a site, the site may still be large enough to sufficiently accommodate intensification to the level anticipated under MDRS or Policy 3 outside of the floodplain. Conversely, there are also scenarios where sites that only have 25% of their site area covered by a floodplain do not have sufficient land remaining to accommodate the level of anticipated intensification outside of the floodplain.

It is also noted that applying a percentage approach also does not allow for consideration of the position of the mapped floodplain on the site. For example, a site may have multiple small and separate areas that are clear of the floodplain that are each not large enough to accommodate development without encroaching into or being impacted by the floodplain.

If a simple methodology (e.g., different percentage thresholds based on different site area brackets) is adopted to apply this approach, then the effectiveness and accuracy would be limited as different scenarios are being captured into larger aggregates. A more complex methodology would need to be established to take into account these variables, but this then reduces efficiency and appropriateness of the approach.

Option B3 – Specific sites based on suitable building platform criterion (preferred)

- This option is similar to Option B2 as it also focuses on those sites that are most constrained by the existence of floodplains, except the criterion uses a contiguous land area as the identifying factor instead. This would be more efficient, effective, and accurate than Option B2 as it is based on a constant variable that can be applied across sites of different shapes and sizes, rather than a methodology that would be dependent on multiple variables.

Option B4 – Specific sites based on access criterion (preferred)

- As with Options B2 and B3, this option focuses on sites that are constrained by the presence of floodplains through assessing whether safe egress is achievable during a flood event. While this would be effective at managing the increased risk to the safety

of people, its overall effectiveness would be limited by the narrow scope of risk this method seeks to address. For example, sites that are constrained by floodplains, on which further intensification would increase the amount of people and property at risk to flooding, may not be identified through this method if their access points did not happen to also be within the mapped floodplain.

Summary

- The blanket approach under Option B1 is not considered appropriate given that the extent that a floodplain covers a site varies drastically across the Residential – Single House zone. Identifying the most constrained sites based on particular criterion would be more effective and efficient at managing flood risk associated with increased intensification. While Option B2 and Option B3 are similar, Option B3 is more efficient and accurate as the identification requirements would be more specific and clearer, with less variables to account for. Option B4 is limited by its scope, however it is not mutually exclusive with the other options and can be applied in conjunction. As such, the combination of Option B3 and B4 is considered to be the most appropriate option as the focus would be on managing intensification in those areas where future development would be most constrained by the presence of floodplains.

Which additional MDRS and Policy 3 requirements should be modified? – Description of Options

Option C1 – Permitted density

This option would modify Clause 10 of the MDRS to limit the permitted density of the site to that currently provided for under the existing Residential – Single House zone. This would result in a modification from three dwellings to one dwelling as a permitted activity (with exceptions).

Option C2 – Maximum height

This option would modify Clause 11 of the MDRS and the height requirements under Policy 3 to the maximum building height that is currently provided for under the existing Residential – Single House zone. This would result in a modification from 11m + 1m to 8m + 1m in terms of maximum building height.

Option C3 – Maximum building coverage

This option would modify Clause 14 of the MDRS to the maximum building coverage that is currently provided for under the existing Residential – Single House zone. This would result in a modification from 50% to 35% in terms of maximum building coverage.

Which additional MDRS and Policy 3 requirements should be modified? – Evaluation of Options

Option C1 – Permitted density (preferred)

- An increase in density would likely result in an increase to the number of people (families) and buildings (homes) that would be exposed to flood risk beyond that

currently enabled. It may also increase the number and extent of buildings established on site, subsequently increasing the likelihood of buildings being established within a floodplain. Therefore, restricting permitted density on a site would be an appropriate and highly effective method to manage risk associated with further intensification.

Option C2 – Maximum height (preferred)

- An increase in building height may result in an increase to the number of people residing within the building due to the ability to provide additional habitable space. The ability to achieve safe egress may also be affected for those living at a higher elevation. As such, restricting maximum building height would be moderately effective in managing risk associated with further intensification.

Option C3 – Maximum building coverage (preferred)

- An increase in building coverage may result in an increase to the number of people residing on the property due to the ability to provide additional habitable space as well as the extent of building that would be exposed to flood risk beyond that currently enabled. It may also increase the number and extent of buildings established on site, subsequently increasing the likelihood of buildings being established within a floodplain. As such, restricting maximum building height would be moderately effective in managing risk associated with further intensification.

Summary

- Option C1 is considered to be the most appropriate and effective in managing increased risk as density directly impacts on the number of people (families) and buildings (homes) that would be exposed to flood risk. Options C2 and C3 are less effective in comparison, however they can be applied in conjunction and would be able to support the outcomes sought under Option C1. As such, the combination of all three Options is considered to be the most appropriate option. These would only apply to those sites that are significantly constrained by floodplains and the modifications would work in tandem to manage exposure to flood risk in these areas.

How should these modifications be achieved? – Description of Options

Option D1 – Incorporate into existing E36 provisions

This option would involve incorporating the modifications to the MDRS and Policy 3 requirements in the existing chapter that manages development in floodplains (E36 Natural hazards and flooding).

Option D2 – Addition of an overlay or standard variation controls

This option would involve the establishment of a new overlay or standard variation control to incorporate the modifications to the MDRS and Policy 3 requirements.

Option D3 – Zoning approach

This option would involve incorporating the modifications to the MDRS and Policy 3 requirements as part of a zone.

How should these modifications be achieved? – Evaluation of Options

Option D1 – Incorporate into existing E36 provisions

- Chapter E36 is a district-wide chapter that contains provisions which manage use and development in floodplains across the entire region. There is no direct correlation between these provisions and the underlying zone, with the provisions in Chapter E36 being independent, and applying in addition to, those in the underlying zone i.e., these provisions do not supersede the underlying zone provisions as they manage separate effects. Given that the modifications to the MDRS and Policy 3 requirements would be to provisions that are not covered by this chapter, it would not be appropriate to incorporate these modifications into Chapter E36.

Option D2 – Addition of an overlay or standard variation controls

- As the modifications to the MDRS and Policy 3 requirements would mean replacing or taking precedence over the equivalent provisions of the underlying zone, this could be achieved through creating a new overlay or new standard variation controls. The creation of an overlay would require the creation of a new corresponding chapter in the AUP, with new objectives and policies, as well as a new overlay layer to be mapped. The use of standard variation controls would require the creation of three separate standard variation controls that would need to be incorporated into the zones where they would apply.

Option D3 – Zoning approach (preferred)

- Using a zoning approach would be an appropriate and effective method to incorporate the modifications to the MDRS and Policy 3 requirements as it would enable direct replacement of the relevant provisions that would otherwise apply. It would require the creation of a new zone with a corresponding chapter containing new objectives and policies. The benefit of this option over Option D2 is that the zone would not have to be specific to managing flood risk only and could incorporate other qualifying matters that seek to also modify MDRS and Policy 3 requirements. This would avoid the creation of multiple new overlays or standard variation controls, and therefore avoiding overcomplicating the AUP.

Summary

- Option D1 is not considered to be appropriate as the modifications required would not fit into Chapter E36 given the nature of the provisions it contains and its relationship with the underlying zone. Options D2 and D3 would both be effective and appropriate. However, it is considered that Option D3 would be more efficient as it would be able to encompass modifications required by multiple qualifying matters through a single approach and avoids the need to create multiple new components to be inserted into the AUP.

Preferred approach for amending MDRS and Policy 3 requirements further to manage flood risk

Based on the evaluation above, the preferred approach would be to use zoning to modify permitted density, maximum height and maximum building coverage on sites currently zoned Residential – Single House that cannot achieve a suitable building platform outside of the floodplain and/or cannot achieve safe egress during a flood event.

Addition of new objective and policy in relation to riparian and lakeside yards

The AUP currently contains a standard in the relevant residential zones that require buildings to be set back from the edge of permanent and intermittent streams and lakes (as well as the coast). One of the purposes of this standard is:

- *to ensure buildings are adequately set back from lakes, streams and the coastal edge to maintain water quality and provide protection from natural hazards*

This standard is proposed to be retained to accommodate the management of significant risks of flooding as a qualifying matter as part of Option 3.

However, there are currently no district level objectives and policies within the zones that relate to the requirement for a riparian or lakeside yard. These yard requirements are therefore unsupported at a policy level when assessing development that results in an infringement. The provision of these yards also serves other purposes and relates to several other qualifying matters.

The addition of a new objective and policy to the revised residential zone provisions would be appropriate to reinforce the purposes of this standard.

The proposed objective is:

Development does not adversely affect the environmental values of adjoining water bodies including riparian, lakeside and coastal protection areas nor increase the impact from natural hazard risks.

The proposed policy is:

Require buildings to be setback from water bodies to maintain and protect environmental, open space, amenity values of riparian margins of lakes, streams and coastal areas and water quality and to provide protection from natural hazards.

Amendment of the definition of “floodplains”

The definition of “floodplain” under Chapter J of the AUP includes a note that states the following:

Note: The Council holds publicly available information showing the modelled extent of floodplains affecting specific properties in its GIS viewer for the one per cent annual exceedance probability (AEP) rainfall event (the floodplain maps). The floodplain map is indicative only although Council accepts its accuracy with regard to land shown on the floodplain map as being outside the floodplain. A party may provide the Council with a site specific technical report prepared by a suitably

qualified and experienced person to establish the extent, depth and flow characteristics of the floodplain.

When taking account of impervious areas that would arise from changes in land use enabled by the policies and zonings of the Plan, recognition should be given to any existing or planned flood attenuation works either existing or planned in an integrated catchment management plan.

Council will continually update the floodplain map to reflect the best information available.

It is proposed to make some amendments to this definition. In particular, the application of the MDRS and Policy 3 requirements would result in a greater development potential across residentially zoned land, and presumably greater density of building form on some non-residential land. As such, there would no longer be certainty that potential flooding would only be restricted to only those areas identified in the mapping as flooding might be experienced on land that is not currently shown in Geomaps as being within the floodplain. This amendment would accommodate the likelihood that additional areas might be subject to flooding as a consequence of the intensification requirements.

The note section of the definition is proposed to be amended to state the following:

Note: The Council holds publicly available information showing the modelled extent of floodplains, developed at a catchment level, ~~affecting specific properties in its GIS viewer for the one per cent annual exceedance probability (AEP) rainfall event (the floodplain maps)~~. ~~The floodplain maps is are~~ indicative only although Council accepts its accuracy with regard to land shown on the floodplain map as being outside the floodplain. A party ~~may~~ will usually be required to provide the Council with a site specific technical report prepared by a suitably qualified and experienced person to establish the frequency extent, depth and flow characteristics of the floodplain specific to their property and development proposal.

~~When taking Site assessments will need to take~~ account of impervious areas that would arise from changes in land use enabled by the policies and zonings of the Plan, and recognition should be given to any existing or planned flood attenuation works either existing or planned in an integrated catchment (or stormwater) management plan.

Council will continually update the floodplain maps to reflect the best information available.

Consequences for development potential

Option 1 – Retain the QM

The overall development potential of a typical site that may be subject to flooding would not be inherently restricted as the accommodation of the qualifying matter under this option does

not directly conflict with any of the MDRS and Policy 3 requirements. Although consents may be required to establish developments on these sites, the relevant AUP provisions that are proposed to be retained do not automatically preclude the opportunity of, for example, having three dwellings or buildings of at least six storeys being established on the site.

The proposed management method enables a site-specific analysis to be undertaken to ensure that any future development considers this hazard and that significant risk from flooding is considered in the earliest stages of the development process and appropriately managed or mitigated. For some sites, any development would require a consent as any building would be located in a floodplain, while for other sites, the presence of the qualifying matter would have no impact on development potential as the anticipated level of development provided for under MDRS and Policy 3 could still be established as a permitted activity. These provisions would affect both residential and non-residential zones, as they do currently under the AUP.

On less typical sites, the permitted developable area may also be limited by the presence of vegetation within the specified riparian and lakeside areas, the removal or alteration of which would require a resource consent. The presence of a river or lake may also restrict the permitted developable area of a site due to the riparian and lakeside yard controls.

Subdivision of sites within a mapped floodplain requires a restricted discretionary resource consent. This again enables site-specific analysis to be undertaken to ensure that flood hazards and associated risks are appropriately addressed as part of the subdivision process. Unlike a controlled activity, consent could be declined if warranted.

Given the need for a case-by-case assessment and the variability of whether additional related provisions would restrict the permitted developable area of a site or not, the level of development that may be prevented by the proposed retention of the existing relevant AUP provisions (as a qualifying matter) is therefore difficult to quantify.

Option 2 – Remove the QM

This option would have no consequences on development potential as the MDRS and Policy 3 requirements would be applied in full, with no further restrictions to accommodate this qualifying matter.

Option 3 – Strengthen the QM

As discussed under Option 1, it is difficult to quantify the level of development that may be prevented by the retention of the existing relevant AUP provisions (as a qualifying matter).

Consequences on development potential resulting from the additional amendments or methods proposed are discussed below.

Using the criterion described in the section above, the number of Residential – Single House zoned sites that would be subject to a zoning approach to manage flood risk would be 6378. The application of a zoning approach on these properties would mean that development would be restricted in terms of permitted density and built form, in addition to that restricted by the existing AUP provisions. Of this:

- 5601 of these sites would have been affected by MDRS only
- 527 of these sites would have also been affected by MDRS and Policy 3(c)
- 250 of these sites would have been affected by MDRS and Policy 3(d)

This would inherently result in a reduction of 12756 dwellings that would have otherwise been permitted by the underlying MHU or THAB zone. The reduction in permitted building height and permitted building coverage will also impact on development capacity.

The inclusion of a new objective and policy strengthening the role of riparian and lakeside yards in natural hazard management would not reduce development potential beyond that already restricted by the yard provisions that are proposed to be retained.

Amendments to the definition of “floodplain” means that development in areas that are outside of the mapped floodplain may also require resource consent under the relevant provisions for use and development in floodplains. The impact of this on development potential would be difficult to quantify due to the case-by-case assessment required.

Evaluation of options

Options considered for an assessment of the management of significant risks of flooding as a qualifying matter have been discussed above.

Option 3 is considered the preferred option as it continues to allow risk from flooding to be assessed appropriately on a case-by-case basis and seeks to further ensure that risk from flood hazard is not increased as a result of intensification. The use of a zoning approach on sites subject to the greatest increase in development potential will assist in managing the number of people and property exposed to this risk, while the other amendments will strengthen the ability for flood risk to be considered and assessed. While this option will reduce development potential on these sites, the zoning approach will only be applied to sites that have been identified to be constrained by the presence of floodplains and therefore is considered to yield greater benefits compared to costs. The costs and benefits of the options are expanded below:

The management of significant risks from flooding	Option 1 (Retain QM)	Option 2 (Remove QM)	Option 3 (Strengthen QM)
Costs of applying the option – broader social, economic, environmental, cultural	<p>This option would have moderate economic costs from potential loss in overall development capacity.</p> <p>Enabling further intensification on sites susceptible to flooding risk via changes to the underlying zoning can set development expectations that can undermine the</p>	<p>This option would result in significant social and cultural costs as the removal of the relevant AUP provisions would increase the exposure to flood risks to people and communities, which would negatively impact their health and safety.</p> <p>This option would also result in significant</p>	<p>As per Option 1, except the loss of development capacity would be higher given the additional modifications to MDRS/Policy 3 requirements for some areas.</p>

	management of hazard risk and may compromise the ability to achieve good integrated site design. This can then result in future economic and social costs to those who own or live on these sites and may also result in cumulative costs on the environment.	economic and environmental costs due to increase in the risk of flood damage to buildings and developments, and the potential for degradation of the environment.	
Costs of applying the option – housing supply / capacity	The incorporation of the relevant existing AUP provisions would not inherently reduce housing supply/capacity beyond that anticipated by MDRS/Policy 3 but may result in an overall reduction in supply/capacity as a result of management or mitigation of flood risks.	The application of MDRS/Policy 3 requirements in full means that there will be no costs in relation to housing supply or capacity. However, the enabled housing may be subject to flood hazards that are not appropriately managed or mitigated, and therefore likely to have hidden costs.	As per Option 1, except the reduction in housing supply/capacity would be higher due to the application of a zoning approach, which would inherently limit development capacity on specific sites that met the determined criteria only
Benefits of the option – broader social, economic, environmental, cultural	Areas susceptible to flooding would be identified and site-specific assessments would be required to ensure that the implications of this hazard are considered. This would ensure that flood risks to people and property would be appropriately avoided or at least mitigated and would support more sustainable environmental outcomes. This option also supports the well-being of people and communities and provides for their health and safety.	This option would reduce consenting requirements and streamline the process.	As per Option 1, except there would be further benefits by enabling lower development capacity on sites that are constrained by floodplains, and therefore reducing the amount of people and extent of property on sites that are more likely to be exposed to flood risks. This approach would also set lower development expectations on these sites and encourage more integrated development outcomes. The other amendments would also strengthen the ability for flood risk on people, property and the environment to be considered.

Risk of acting or not acting

Section 32(2)(c) of the RMA requires this evaluation to assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions. The information about flooding as a qualifying matter, including the modelled extent of floodplains and overland flow paths, already forms the basis against which the relevant AUP provisions apply. There is also supporting information including catchment sizes and extents, as well as

more detailed data for particular areas. It is considered that this information is considered certain and sufficient for its assessment as a qualifying matter under s6(a) of the RMA.

Overall conclusion

The management of significant risks of flooding is a matter of national importance under the RMA. It is deemed a qualifying matter in accordance with s771(a) and s770(a) of the RMA.

Additional development potential in areas susceptible to flooding results in increased risks to people, property, and the environment. Site-specific assessment will continue to be required at the pre-development stage to enable risks associated with this hazard to be adequately considered, and that appropriate mitigation or management measures are in place to ensure that the health and safety of people and communities are not compromised. Utilising a zoning approach for existing Residential – Single House sites that have their developable area or access constrained by floodplains will further support this qualifying matter by limiting the increase in the number of people and properties exposed to this risk and to encourage development to occur outside of the floodplain where possible. The inclusion of a new objective and policy for yards in residential zones, and the amendment to the definition of “floodplain” in Chapter J, will also strengthen this qualifying matter and enable the impacts of this hazard to be assessed accordingly.

Information Used

Name of document, report, plan etc.	How did it inform the development of the plan change
Auckland Unitary Plan (Operative in Part 2016)	Outlines existing provisions in the AUP that currently manage flood risk
Geomaps	Geomaps contains a GIS layer which shows the location and extent of modelled floodplains and overland flow paths
Statement of evidence of David William Arthur Mead on behalf of Auckland Council – Zoning and natural hazards, 3 December 2015	Provides context on the management of flood risk and the use of zoning to manage risk in the AUP
AUP Independent Hearing Panel Evidence and recommendations for Topic 022 Natural hazards and flooding and 026 General - others	Provides context on the management of flood risk and the use of zoning to manage risk in the AUP
Natural Hazard Risk Management Action Plan	Summarises Auckland’s risk from natural hazards and identifies across-Council actions which need to be undertaken to mitigate these risks.

Consultation

Schedule 1 of the Act sets out the relevant consultation requirements. Mana whenua have been engaged in the preparation of the IPI plan change at various stages in the process as required by Schedule 1 of the Act.

The Council provided an opportunity to the Auckland community to comment on its ‘preliminary response’ proposals during the period 19 April to 9 May 2022. The consultation documentation included Information Sheet #6: Qualifying matters (Part 1).

This information sheet described what a qualifying matter is and which qualifying matters were specifically identified by the government in the NPS-UD and the RMA, and that these specifically identified qualifying matters may make the MDRS and Policy 3 less enabling of development only to the extent necessary to accommodate one or more of the listed qualifying matters. The government-specified qualifying matters under s771(a) and s770(a) ‘a matter of national importance that decision makers are required to recognise and provide for under section 6’