

PROPOSED WAIKATO DISTRICT PLAN



NATURAL HAZARDS & CLIMATE CHANGE

27 July 2020

Proposed Waikato District Plan (Stage 2)

How to read this document:

- The following document replaces the place-holder for Chapter 15 in Stage 1 of the Proposed Waikato District Plan.
- The text is shaded orange to differentiate it from Stage 1 text in e-plan.

Chapter 15: Natural Hazards and Climate Change

15.1 Introduction

Stage 2 Content

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

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requires the use of the best information available to identify land that may be subject to natural hazards. This includes hazard maps, databases (such as the regional and district hazard registers) and technical reports held by the Council, and the interpretation of these by qualified and experienced professionals.

- (9) Climate change has the potential to increase risk through exacerbating natural hazards, but will also have effects on the environment beyond natural hazards. The Ministry for the Environment predicts the effects of climate change on the Waikato District to include overall warmer temperatures, fewer frosts, a decrease in spring rainfall, increased storm events (including extreme winds) and an average rise in mean sea level. This is likely to mean more frequent droughts leading to water shortages, more inland flooding and salt water intrusion in low-lying coastal areas and an increase in erosion and land instability. For this reason, an allowance for the projected effects of climate change has been included in the 2D flood modelling of key risk areas within this district plan (Horotiu - Huntly - Ohinewai). Specific provision has also been made within the Coastal Sensitivity Areas in respect to development that may be impacted by the projected effects of sea level rise over a 100 year timeframe.
- (10) The Floodplain Management Area is the 1% Annual Exceedance Probability (AEP) floodplain, and is identified through both 1D and 2D modelling, depending on the level of information available. Between Horotiu - Huntly – Ohinewai, where 2D modelling is available, High Flood Risk Areas have also been identified. These are areas within the flood plain where the depth of flood water in a 1% AEP flood event exceeds 1 metre and the speed of flood water exceeds 2 metres per second, which is considered to put the community at an unacceptable (or intolerable) level of risk in terms of the potential for loss of life, injury or serious damage to property. Subdivision and new activities within the High Flood Risk overlay are carefully regulated.
- (11) The planning maps identify only two flood ponding areas that experience floodwater ponding in a 1% AEP rainfall event. One of the areas is located in the southern part of Huntly adjacent to the river and the other is west of Huntly across the Waikato River adjacent to Lake Waahi and Lake Puketirini. The flood plain rules in this district plan apply to 1% AEP ponding areas including the two specifically identified in the district plan. Other 1% AEP ponding areas will be required to be identified by a suitably-qualified and experienced professional as part of an application for resource consent or a plan change.
- (12) Residual Risk Areas are areas of land that would be at risk from a natural hazard event if it were not for a structural defence such as a stopbank. In the district plan, these are areas of land protected by stopbanks with a design level of service of at least a 1% AEP flood event, and are generally located along the length of the Waikato River. For the purpose of the district plan, these areas have been called Defended Areas. The district plan includes provision for land protected by stopbanks to ensure that the residual risk is understood and considered as part of any subdivision or development proposals, or any proposal to rezone land to a more intensive land use.
- (13) The High Risk Coastal Hazard (Inundation) Area and High Risk Coastal Hazard (Erosion) Area overlays identify land where there is significant risk from either coastal inundation or coastal erosion with existing sea level and coastal processes. The Coastal Sensitivity Area (Erosion) and Coastal Sensitivity Area (Inundation) overlays identify land that is potentially vulnerable to either coastal erosion or coastal inundation over a 100 year period to 2120, assuming a sea level rise of 1.0 metre.
- (14) While liquefaction areas have not been identified on the planning maps, provisions in the district plan require this seismically-induced natural hazard to be assessed before new zonings or subdivision and development are undertaken. This will primarily be achieved through resource consent or plan change processes.

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

[1] MBIE module 3: Identification, Assessment and Mitigation of Liquefaction Hazards May 2016 Rev 0

15.2 Objectives and policies

Objective 15.2.1 - Resilience to natural hazard risk

Stage 2 Content

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

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

Stage 2 Content

- (a) Avoid new subdivision, use and development where they will increase the risk to people's safety, well-being and property in the following areas identified as being at significant risk from natural hazards:
- (i) High Risk Flood Area;
 - (ii) High Risk Coastal Hazard (Inundation) Area;
 - (iii) High Risk Coastal Hazard (Erosion) Area.

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

Stage 2 Content

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

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

Stage 2 Content

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

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

Stage 2 Content

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

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

Stage 2 Content

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

Policy 15.2.1.6 - Managing natural hazard risk generally

Stage 2 Content

- (a) Provide for rezoning, subdivision, use and development outside High Risk Flood, High Risk Coastal Hazard (Inundation) and High Risk Coastal Hazard (Erosion) Areas where natural hazard risk has been appropriately identified and assessed and can be adequately avoided, remedied or mitigated and does not transfer or exacerbate risk to adjoining properties.

Policy 15.2.1.7 - Protection from risks of coastal hazards

Stage 2 Content

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

Policy 15.2.1.8 - Limitations on hard protection works for coastal hazard mitigation

Stage 2 Content

- (a) Ensure that where new hard protection structures and works are necessary to protect existing development on public or privately-owned land from coastal hazards, they are appropriately assessed and controlled and:
 - (i) have primarily a public and/or environmental benefit when located on public land;
 - (ii) are effective;
 - (iii) the economic, social and environmental benefits outweigh costs; and
 - (iv) do not transfer or increase risk to other people, property, infrastructure, the natural environment, historic heritage or Maaori Sites and Areas of Significance.
- (b) Ensure that when new hard protection structures are to be located in an area where an adaptive management strategy has been prepared to manage coastal hazards, they are consistent with that strategy.

Policy 15.2.1.9 - Natural features and buffers providing natural hazard protection

Stage 2 Content

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

Policy 15.2.1.10 – Areas defended by stopbanks adjacent to the Waikato River

Stage 2 Content

- (a) Control subdivision, use and development in areas identified as Defended Areas adjacent to the Waikato River by:
 - (i) assessing the potential risk of overtopping or structural failure of the stopbanks, and overwhelming of associated flood protection structures, before subdivision and development occurs; and
 - (ii) requiring that consideration be given to appropriate mitigation to reduce any residual risk identified; and
 - (iii) ensuring that any residual risk is not transferred to neighbouring sites.
- (b) Specify minimum setbacks for buildings and earthworks from stopbanks to:
 - (i) protect the structural integrity of the stopbanks; and
 - (ii) provide a buffer to reduce the potential risk to life and damage to property from deep and fast-flowing flood waters in the event of a breach.

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

Stage 2 Content

- (a) Avoid locating new subdivision, use and development in High Risk Flood, High Risk Coastal Hazard

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(Inundation) and High Risk Coastal Hazard (Erosion) Areas where a demand or need for new structural protection works will be required to reduce the risk from natural hazards to acceptable levels.

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

Stage 2 Content

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

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

Stage 2 Content

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

Policy 15.2.1.14 – Hazardous substances located within floodplain and flood ponding areas

Stage 2 Content

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

Policy 15.2.1.15 - Flood ponding areas and overland flow paths

Stage 2 Content

- (a) Manage stormwater hazards by requiring new subdivision and development within flood ponding areas and overland flow paths to adopt integrated catchment plan-based stormwater management methods which:
 - (i) maintain the flood storage capacity of natural floodplains, wetlands and ponding areas; and
 - (ii) retain the function and capacity of overland flow paths to convey stormwater run-off; and
 - (iii) do not transfer or increase risk elsewhere; and
 - (iv) promote low impact stormwater management practices with reference to the [Waikato Stormwater Management Guideline](#) and the [Regional Infrastructure Technical Specifications \(RITS\)](#); and
 - (v) minimise impervious surfaces.

Policy 15.2.1.16 - Development in the Coastal Sensitivity Areas

Stage 2 Content

- (a) In Coastal Sensitive Areas identified on the planning maps, control subdivision, use and development by

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ensuring that the subdivision, use or development is:

- (i) supported by a detailed site-specific risk assessment, which includes measures to address the effects of climate change; and
- (ii) designed, constructed and located to minimise the level of risk to people, property and the environment.

Policy 15.2.1.17 - Setbacks from the coast

Stage 2 Content

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

Policy 15.2.1.18 - Residential development potentially subject to fire risk

Stage 2 Content

- (a) In areas assessed or identified as being potentially subject to elevated fire risk, ensure that an appropriate buffer area or setback is provided around new residential subdivision and development.

Policy 15.2.1.19 - Development on land subject to instability or subsidence

Stage 2 Content

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

Policy 15.2.1.20 - Development of land in the Mine Subsidence Risk Area

Stage 2 Content

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

Policy 15.2.1.21 - Stormwater management in areas subject to risk of land instability or subsidence

Stage 2 Content

- (a) Avoid discharge of stormwater directly to ground on land that is potentially at risk of land instability or subsidence unless:
 - (i) an assessment has been undertaken by an appropriately-qualified geotechnical specialist, indicating that the site is suitable for the proposed discharges; and
 - (ii) any adverse effects on the site and receiving environment can be appropriately mitigated.

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Policy 15.2.1.22 - Liquefaction-prone land risk assessment

Stage 2 Content

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

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

Stage 2 Content

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

Objective 15.2.2 - Awareness of natural hazard risks

Stage 2 Content

A well-informed community that:

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

Policy 15.2.2.1 - Natural hazard risk information

Stage 2 Content

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

Policy 15.2.2.2 - Awareness of Community Response Plans

Stage 2 Content

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

Objective 15.2.3 - Climate change

Stage 2 Content

A well-prepared community that:

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

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- (b) has transitioned to development that prioritises lower greenhouse gas emissions.

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

Stage 2 Content

- (a) Ensure that adequate allowances are made for the projected effects of climate change in the design and location of new subdivision and development throughout the district, including undertaking assessments where relevant that provide for:
 - (i) the projected increase in rainfall intensity, as determined by national guidance, but being not less than 2.3°C by 2120;
 - (ii) the projected increase in sea level, where relevant, as determined by national guidance, but being not less than 1m by 2120;
 - (iii) in respect to new urban zoning, stress testing under the RCP 8.5 scenario for rainfall [1] and RCP 8.5H+ for sea level rise [2]; and
 - (iv) in respect to the coastal environment, increases in storm surge, waves and win

[1] Stress testing under the RCP 8.5 scenario for rainfall, see Ministry for the Environment, 2018: Climate Change Projections for New Zealand. September 2018. Publication No. MFE 1385.

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

Policy 15.2.3.2 - Future land use planning and climate change

Stage 2 Content

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

Policy 15.2.3.3 - Precautionary approach for dealing with uncertainty

Stage 2 Content

- (a) In areas throughout the district likely to be affected by climate change over the next 100 years, adopt a precautionary approach towards new subdivision, use and development which may have potentially significant or

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irreversible adverse effects, but for which there is incomplete or uncertain information.

Policy 15.2.3.4 - Provide sufficient setbacks for new development

Stage 2 Content

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

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

Stage 2 Content

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

15.3 How to use and interpret the rules

Stage 2 Content

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

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Rule 15.13.

15.4 Flood Plain Management Area and Flood Ponding Areas

15.4.1 Permitted Activities

Stage 2 Content

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

Activity		Activity-specific conditions
P1	Construction of a new <u>building</u> or an addition to an existing <u>building</u> , unless specified in P2 – P5 in Rule 15.4.1.	(a) The minimum floor level is at least 0.5m above the 1% AEP flood level; and (b) Compliance with condition (1) shall be demonstrated by a suitably qualified engineer with experience in hydrology.
P2	Additions to an existing <u>building</u> that does not increase the ground floor area of the <u>building</u> by more than 15m ² .	Nil
P3	<u>Standalone garage</u> with a <u>gross floor area</u> not exceeding 40m ² .	Nil
P4	(1) Construction of an <u>accessory building</u> without a floor; (2) Construction of a <u>farm building</u> without a floor.	Nil
P5	Construction, replacement, repair, maintenance, <u>minor upgrading</u> or upgrading of <u>utilities</u> .	Nil
P6	<u>Earthworks</u> associated with construction, replacement, repair, maintenance, <u>minor upgrading</u> or upgrading of utilities, including the formation and maintenance of access tracks.	Nil
P7	<u>Earthworks</u> to create a building platform for residential purposes.	Filling height is only to the extent necessary to achieve compliance with Rule 15.4.1 P1(a).

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P8	<u>Earthworks</u> not provided for under Rule 15.4.1 P6 or P7.	<p>(a) In the Residential, Village and Country Living Zones - a maximum volume of filling above natural ground level of 10m³ per <u>site</u>, and a maximum cumulative volume of filling and excavation of 20m³; or</p> <p>(b) In the Rural Zone - a maximum volume of filling above natural ground level of 100m³ per <u>site</u>, and a maximum cumulative volume of filling and excavation of 200m³ per site; or</p> <p>(c) All other zones - a maximum volume of filling above natural ground level of 20m³ per <u>site</u>, and a maximum cumulative volume of filling and excavation of 50m³ per site; and</p> <p>(d) Height and depth of earthworks in all zones</p> <p style="padding-left: 40px;">(i) a maximum height of 0.2m of filling above natural ground level; and</p> <p style="padding-left: 40px;">(ii) a maximum depth of excavation of 0.5m below natural ground level.</p>
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15.4.2 Restricted Discretionary Activities

Stage 2 Content

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

Activity	Matters of Discretion
RD1 Earthworks that are not a permitted activity under Rule 15.4.1 P6 or P7 or earthworks that exceed the activity specific conditions in Rule 15.4.1.P8.	<p>Discretion is restricted to:</p> <p>(a) Timing, location and scale of <u>earthworks</u>;</p> <p>(b) Adverse effects on:</p> <p style="padding-left: 40px;">(i) Existing overland flow paths and surface drainage patterns;</p> <p style="padding-left: 40px;">(ii) flood storage capacity;</p> <p style="padding-left: 40px;">(iii) runoff volumes;</p> <p style="padding-left: 40px;">(iv) adjoining properties, including the transfer of risk;</p> <p style="padding-left: 40px;">(v) <u>infrastructure</u> and flood protection works;</p> <p style="padding-left: 40px;">(vi) consideration of soil types and potential for erosion;</p> <p>(c) Mitigation including compensatory storage, or other flood management measures proposed.</p>

15.4.3 Discretionary Activities

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Stage 2 Content

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

D1	Construction of a new <u>building</u> and additions to an existing <u>building</u> which are not permitted by Rule 15.4.1 P1 – P5.
D2	<u>Subdivision</u> to create one or more additional vacant lot(s) other than a <u>utility allotment</u> , <u>access allotment</u> or subdivision to create a reserve allotment.
D3	A <u>hazardous facility</u>

15.5 High Risk Flood Area

Stage 2 Content

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

15.5.1 Permitted Activities

Stage 2 Content

- (a) The activities listed below are permitted activities within the High Flood Risk Area shown on the Planning Maps, if they meet the activity-specific conditions set out in this table.
- (b) Activities may also be restricted discretionary, discretionary or non-complying activities, as specified in Rules 15.5.2, 15.5.3 and 15.5.4.

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

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15.5.2 Restricted Discretionary Activities

Stage 2 Content

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

Activity		Activity-specific conditions
RD1	<p>(1) New <u>utilities</u> not provided for in Rule 15.5.1 P1(2).</p> <p>(2) Upgrading of existing utilities not provided for in Rule 15.5.1 P1(1).</p>	<p>Discretion is restricted to:</p> <p>(a) Functional and operational requirements to be located in the High Risk Flood Area;</p> <p>(b) The adverse effects on people and property from establishing or upgrading the utility in the High Risk Flood Area;</p> <p>(c) The potential for the development to transfer/increase flood risk to neighbouring properties;</p> <p>(d) Consideration of alternative locations;</p> <p>(e) Consideration of the projected effects of climate change;</p> <p>(f) Any mitigation measures to reduce the risk to people's safety, well-being and property.</p>
RD2	<p>One addition to a lawfully established building existing at [<i>the date this rule becomes operative</i>], where the addition does not increase the ground floor area of the existing <u>building</u> by more than 15m², unless provided for in Rule 15.5.2 RD1.</p>	<p>Discretion is restricted to:</p> <p>(a) The ability to manage flood risk through appropriate <u>building</u> materials, structural or design work or other engineering solutions;</p> <p>(b) The setting of an appropriate floor level for the addition, taking into consideration the location of the addition and the floor level of the existing <u>building</u>;</p> <p>(c) Any mitigation measures to reduce the risk to people's safety, well-being and property.</p>

15.5.3 Discretionary Activities

Stage 2 Content

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

Proposed Waikato District Plan

D1	<p>(1) <u>Subdivision</u> that creates one or more additional vacant lot(s) where:</p> <p style="margin-left: 40px;">(a) The additional lot(s) are located entirely outside the <u>High Risk Flood Area</u>; or</p> <p style="margin-left: 40px;">(b) The additional lot(s) are partially within the <u>High Risk Flood Area</u> and each additional lot(s) contains a net site area capable of containing a complying <u>building platform</u> entirely outside the <u>High Risk flood Area</u>.</p> <p>(2) This rule does not apply to subdivision for a <u>utility allotment</u>, <u>access allotment</u> or subdivision to create a reserve allotment.</p>
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15.5.4 Non-Complying Activities

Stage 2 Content

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

NC1	Construction of a new <u>building</u> or additions to an existing <u>building</u> , not provided for in Rule 15.5.1 P1 – P2 or Rule 15.5.2 RD1 and RD2.
NC2	<p>(1) <u>Subdivision</u> that does not comply with Rule 15.5.3 D1.</p> <p>(2) This rule does not apply to subdivision for a <u>utility allotment</u>, <u>access allotment</u> or subdivision to create a reserve allotment.</p>
NC3	<u>Emergency services facilities</u> and hospitals.

15.6 Defended Area (Residual Risk)

15.6.1 Permitted Activities

Stage 2 Content

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

15.6.2 Restricted Discretionary Activities

Stage 2 Content

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

Activity	Matters of Discretion
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Proposed Waikato District Plan

RD1	<p>(1) Subdivision that creates one or more additional vacant lot(s).</p> <p>(2) Rule 15.6.2 RD1(1) does not apply to subdivision for a <u>utility allotment</u>, an <u>access allotment</u> or subdivision to create a reserve allotment.</p>	<p>Discretion is restricted to:</p> <p>(a) The actual level of service provided by the structural defence and associated flood protection works, including any change in the level of service anticipated due to climate change and sea level rise;</p> <p>(b) The impact of any planned improvements, maintenance or upgrading on the residual risk;</p> <p>(c) The effect of groundwater levels and variability in ground conditions on stop-bank security at and adjacent to the site to be subdivided;</p> <p>(d) the likely depth and duration of flooding as a result of a breach or overtopping event or flood ponding;</p> <p>(e) the location of the subdivision, including services such as wastewater, water supply and roading/access (including escape routes), in relation to potential breakout points (failure zone);</p> <p>(f) The adverse effects to people and property and overall vulnerability from potential failure or overwhelming of the structural defences and associated flood protection works relevant to the proposed new lot(s);</p> <p>(g) Potential for the development to transfer/increase flood risk/residual risk to neighbouring properties;</p> <p>(h) Any additional mitigation measures proposed or site features which reduce residual risk (e.g. natural high ground; evacuation plan).</p>
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15.6.3 Discretionary Activities

Stage 2 Content

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

D1	Construction of a new <u>building</u> or new <u>accessory building</u> , located within 50m of the toe of a stop-bank where the stop-bank is under the responsibility of the Council, the Waikato Regional Council or the Crown.
D2	<u>Earthworks</u> located within 50m of the toe of a stop-bank where the stop-bank is under the responsibility of the Council, the Waikato Regional Council or the Crown.

15.7 Coastal Sensitivity Area (Erosion) and Coastal Sensitivity Area (Open Coast)

15.7.1 Permitted Activities

Stage 2 Content

Proposed Waikato District Plan

- (a) The activities listed below are permitted activities within the Coastal Sensitivity Area (Erosion) and Coastal Sensitivity Area (Open Coast) shown on the Planning Maps, if they meet the activity-specific conditions set out in this table.
- (b) Activities may also be restricted discretionary activities or discretionary activities, as specified in Rules 15.7.2 and 15.7.3.

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

15.7.2 Restricted Discretionary Activities

Stage 2 Content

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

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

Stage 2 Content

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

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

15.8 Coastal Sensitivity Area (Inundation)

15.8.1 Permitted Activities

Stage 2 Content

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

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

15.8.2 Restricted Discretionary Activities

Stage 2 Content

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

Activity	Matters of Discretion
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Proposed Waikato District Plan

RD1	Construction of a new building or addition to an existing building not provided for in Rule 15.8.1 P1- P3 and not listed in Rule 15.8.3 D1.	<p>Discretion is restricted to:</p> <ul style="list-style-type: none"> (a) The ability to manage coastal hazard risk through appropriate building materials, structural or design work, engineering solutions including the ability to relocate the building, or other appropriate mitigation measures, including the setting of minimum floor levels where appropriate; (b) The application of mitigation through natural features and buffers where appropriate; (c) The ability to impose time limits or triggers to determine when the building and services to be removed or relocated; (d) The degree to which coastal hazard risk, including the effects of climate change over the period to 2120, has been assessed in a site specific coastal hazard risk assessment; (e) Suitability of the site for the proposed use and the ability to, provide servicing such as access, wastewater, stormwater and water supply; (f) Adverse effects to people and property and overall vulnerability from the establishment of the new building or additions to existing building; (g) Whether there is any suitable alternative location for the activity to locate within the site.
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15.8.3 Discretionary Activities

Stage 2 Content

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

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

15.9 High Risk Coastal Hazard (Erosion) Area

15.9.1 Permitted Activities

Stage 2 Content

(a) The activities listed below are permitted activities within the High Risk Coastal Hazard (Erosion) Area shown on the Planning Maps, if they meet the activity-specific conditions set out in this table.

(b) Activities may also be discretionary or non-complying activities, as specified in Rules 15.9.2 and 15.9.3.

Activity	Activity-specific conditions
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Proposed Waikato District Plan

P1	<p>(1) Construction of an accessory building without a floor; and</p> <p>(2) Construction of a farm building without a floor.</p>	<p>(a) The gross floor area of the building does not exceed 40m².</p>
P2	<p>(1) Repair, maintenance or minor upgrading of existing utilities.</p> <p>(2) New telecommunication lines, poles, cabinets and masts/ poles supporting antennas.</p>	Nil
P3	Maintenance or repair of an existing lawfully established coastal protection structure.	Nil
P4	Earthworks for an activity listed in Rule 15.9.1 P1 - P3, including the maintenance and repair of access tracks.	<p>(a) The maximum volume of filling does not exceed 10m³ per site; and</p> <p>(b) The maximum depth of any excavation or filling does not exceed 0.5m above or below ground level.</p>

15.9.2 Discretionary Activities

Stage 2 Content

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

D1	Earthworks not provided for in Rule 15.9.1 P4.
D2	<p>(1) Relocation of an existing building within the same site where:</p> <p style="padding-left: 40px;">(a) The building is relocated landward of its existing position.</p>
D3	<p>(1) Replacement of an existing building within the same site where:</p> <p style="padding-left: 40px;">(a) The replacement building is located landward of the existing building that it replaces; and</p> <p style="padding-left: 40px;">(b) The replacement building is relocatable on a suspended timber floor; and</p> <p style="padding-left: 40px;">(c) The gross floor area of the replacement building is no larger than the existing building that it replaces.</p>
D4	Construction of a new coastal protection structure.
D5	Construction of new utilities not provided for in Rule 15.9.1 P2

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D6	Upgrading of existing utilities not provided for in Rule 15.9.1 P2.
D7	<p>(1) Subdivision that creates one or more additional vacant lot(s) where:</p> <p style="margin-left: 40px;">(a) The additional vacant lot(s) are located entirely outside the High Risk Coastal Hazard (Erosion) Area; or</p> <p style="margin-left: 40px;">(b) The additional lot(s) are partially within the High Risk Coastal Hazard (Erosion) Area and each additional lot(s) contains a net site area capable of containing a complying building platform entirely outside the High Risk Coastal Hazard (Erosion) Area.</p> <p>(2) Rule 15.9.2 D7(1) does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.</p>

15.9.3 Non-Complying Activities

Stage 2 Content

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

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

15.10 High Risk Coastal Hazard (Inundation) Area

15.10.1 Permitted Activities

Stage 2 Content

(a) The activities listed below are permitted activities within the High Risk Coastal Hazard (Inundation) Area shown on the Planning Maps, if they meet the activity-specific conditions set out in this table.

(b) Activities may also be discretionary or non-complying activities, as specified in Rules 15.10.2 and 15.10.3.

Activity	Activity-specific conditions
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P1	<p>(1) Construction of an accessory building without a floor;</p> <p>(2) Construction of a farm building without a floor.</p>	<p>(a) The gross floor area of the building does not exceed 40m².</p>
P2	<p>(1) Operation, repair, maintenance or minor upgrading of existing utilities.</p> <p>(2) New telecommunication lines, poles, cabinets and masts/poles supporting antennas.</p>	Nil
P3	Maintenance or repair of an existing lawfully established coastal protection structure.	Nil
P4	Earthworks for an activity listed in Rule 15.10.1 P1 - P3, including the maintenance and repair of access tracks.	<p>(a) The maximum volume of filling does not exceed 10m³ per site; and</p> <p>(b) The maximum depth of any excavation or filling does not exceed 0.5m above or below ground level.</p>

15.10.2 Discretionary Activities

Stage 2 Content

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

D1	Earthworks not provided for in Rule 15.10.1 P4.
D2	<p>(1) Replacement and relocation of an existing building within the same site where:</p> <p style="padding-left: 40px;">(a) There is no increase in the ground floor area of the building.</p>
D3	Construction of a new coastal protection structure.
D4	Construction of new utilities not provided for in Rule 15.10.1 P2.
D5	Upgrading of existing utilities not provided for in Rule 15.10.1 P2.

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D6	<p>(1) Any subdivision which creates one or more additional vacant lot(s) where:</p> <p style="margin-left: 40px;">(a) The additional vacant lot(s) are located entirely outside the High Risk Coastal Hazard (Inundation) Area; or</p> <p style="margin-left: 40px;">(b) The additional lot(s) are partially within the High Risk Coastal Hazard (Inundation) Area and each additional lot(s) contains a net site area capable of containing a complying building platform entirely outside the High Risk Coastal Hazard (Inundation) Area.</p> <p>(2) Rule 15.10.2 D6(1) does not apply to subdivision for a utility allotment, access allotment or subdivision to create a reserve allotment.</p>
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15.10.3 Non-Complying Activities

Stage 2 Content

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

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

15.11 Mine Subsidence Risk Area

15.11.1 Permitted Activities

Stage 2 Content

(a) The activities listed below are permitted activities within the Mine Subsidence Risk Area shown on the Planning Maps if they meet the activity-specific conditions set out in this table.

(b) Activities may also be restricted discretionary activities or discretionary activities, as specified in Rules 15.11.2 and 15.11.3.

Activity		Activity-specific conditions
P1	Additions to an existing building.	<p>(a) Additions do not increase the gross floor area of the building by more than 15m²; and</p> <p>(b) Additions do not result in the length of any wall of the building exceeding 20m.</p>

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P2	Standalone garage	(a) The gross floor area of the building does not exceed 55m ² ; and (b) The maximum length of any wall does not exceed 20m.
P3	Construction, replacement, repair, minor upgrading, upgrading or maintenance of utilities.	Nil
P4	Earthworks	(a) The maximum volume of filling does not exceed 20m ³ per site; and (b) The maximum depth of any excavation or filling does not exceed 1m above or below ground level.

15.11.2 Restricted Discretionary Activities

Stage 2 Content

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

Activity		Matters of Discretion
RD1	Earthworks that do not comply with Rule 15.11.1 P4.	Discretion is restricted to: (a) Location and scale of earthworks; (b) Geotechnical and geological stability of the site following the completion of earthworks; (c) Risk to people and property from subsidence as a result of earthworks; (d) Any other mitigation measures to reduce risk.

15.11.3 Discretionary Activities

Stage 2 Content

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

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

15.12 Liquefaction

15.12.1 Overview of method

Stage 2 Content

- (1) Areas in the district susceptible to liquefaction have not been identified on the planning maps as a natural hazard overlay as is the case with the other natural hazards in this chapter. Where specific land uses have already been identified as restricted discretionary activities in the activity status tables in the relevant zone, liquefaction risk has been added as a matter over which the Council will reserve its discretion, where it is considered relevant for that activity. To satisfy the requirements of sections 104 and 106 of the RMA, identification of appropriate mitigation may be required where the site and proposed development are considered vulnerable to liquefaction based on site-specific characteristics. It is expected that best practice geotechnical and engineering methods will be used to ensure that the site is suitable for the intended use.
- (2) Where potential liquefaction risk is identified as a matter that the Council restricts its discretion to, the additional matters outlined in Rules 15.12.2 and 15.12.3 below apply where relevant.

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

Stage 2 Content

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

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

Stage 2 Content

- (1) Where potential liquefaction risk is identified as a matter that the Council will restrict its discretion to in a rule elsewhere in this Plan for new land use, the Council restricts its discretion to the following additional

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matters (note: these matters will also be relevant to the assessment of a discretionary or non-complying resource consent application where a potential liquefaction hazard has been identified on a site):

- (a) Geotechnical assessment and/or investigation of any potential liquefaction hazard on the site at a level sufficient to confirm the level of risk and its suitability for the proposed activity (see information requirements in section 15.13);
- (b) Measures proposed to mitigate the effects of liquefaction hazard, if present, including:
 - (i) Location, size, layout and design of buildings, structures, car parking areas, access and provision for resilient infrastructure and services, including wastewater, stormwater and water supply;
 - (ii) Location, timing, scale and nature of earthworks;
 - (iii) Provision for ground strengthening and foundation design;
 - (iv) Setbacks in relation to waterways, waterbodies or any steep change in ground elevation, sloping ground (or free face, or alternative geotechnical measures to address any identified potential for lateral spread);
 - (v) Consideration given to ease of repair (including access to repair damaged structures) of liquefaction-induced damage;
 - (vi) Effects on adjoining properties.

15.13 Information requirements for all resource consent applications addressing natural hazards

15.13.1 General

Stage 2 Content

- (1) The following documents, to the extent relevant to the proposal:
 - (a) Geotechnical assessment, including identification and assessment of any potentially liquefaction-prone land and land subject to slope instability;
 - (b) An assessment of natural hazard risk, including the type of natural hazards present, such as flooding, slope stability, liquefaction, subsidence and coastal hazards. The assessment shall include the level of risk and any increase in risk as a result of the proposal associated with each hazard. Where applicable, the projected effects of climate change over the period to 2120 must be included;
 - (c) Remediation and mitigation measures necessary to make the site and any proposed buildings suitable for the proposed use, such as minimum floor levels, foundation design for relocatability, and appropriate time limits and/or triggers for the removal of any building and onsite wastewater disposal systems.
- (2) Plans identifying:
 - (a) Topographical features within the site and surrounding area;
 - (b) The location of natural hazards on all or part of the site.

15.13.2 Liquefaction Potential

Stage 2 Content

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

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

15.13.3 Country Living Zone - Tamahere

Stage 2 Content

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

15.13.4 Defended Areas

Stage 2 Content

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

15.14 Definitions

Coastal Sensitivity Area (Erosion)

Coastal Sensitivity Area (Erosion)

Stage 2 Content

Means an area identified on the planning maps that is potentially vulnerable to coastal erosion over the period to 2120, assuming sea level rise of 1.0 m.

Coastal Sensitivity Area (Inundation)

Coastal Sensitivity Area (Inundation)

Stage 2 Content

Means an area identified on the planning maps that is potentially vulnerable to coastal inundation over the period to 2120, assuming sea level rise of 1.0 m.

Defended Area

Defended Area

Stage 2 Content

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

Emergency service facility

Emergency service facility

Stage 2 Content

Means a fire station, ambulance station, police station or an emergency co-ordination facility.

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Farm building

Farm building

Stage 2 Content

For the purposes of Chapter 15, means a building that supports the primary use of the site for farming. It excludes residential units.

Flood plain management area

Flood plain management area

Stage 2 Content

Means an area identified on the planning maps which is at risk of flooding in a 1% AEP flood event and is otherwise described as the 1% AEP floodplain.

Flood ponding area

Flood ponding area

Stage 2 Content

Means an area shown on the planning maps as an identified flood ponding area or an area that experiences floodwater ponding in a 1% AEP rainfall event.

High risk flood area

High risk flood area

Stage 2 content

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

- (a) the depth of flood waters exceeds one metre; or
- (b) the speed of flood waters exceeds two metres per second; or
- (c) the flood depth multiplied by the flood speed exceeds one.

High Risk Coastal Hazard (Erosion) Area

High Risk Coastal Hazard (Erosion) Area

Stage 2 Content

Means an area identified on the planning maps which is currently at risk from coastal erosion with existing sea level and existing coastal processes.

High Risk Coastal Hazard (Inundation) Area

High Risk Coastal Hazard (Inundation) Area

Stage 2 Content

Means an area identified on the planning maps which is currently at risk from coastal inundation with existing sea level and coastal processes.

Mine Subsidence Risk Area

Mine Subsidence Risk Area

Stage 2 Content

Means an area identified on the planning maps which is currently at risk of surface subsidence as a result of historic underground coal mining operations.

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Minor upgrading

Minor upgrading

Stage 2 Content

For the purposes of Chapter 15 means an increase in the capacity, efficiency or security of existing utilities where this utilises existing structures and networks and/or structures and networks of a similar scale and character.

Risk assessment

Risk assessment

Stage 2 Content

Means the overall process of risk identification, risk analysis and risk evaluation.

Standalone Garage

Standalone Garage

Stage 2 Content

Means a roofed and enclosed building which is detached from the main residential unit and designed to accommodate one or more motor vehicles.

Utility

Utility

Stage 2 Content

For the purpose of Chapter 15 Natural Hazards means:

- (1) Transformation, transmission, generation or distribution of electricity provided by network utility operators or requiring authorities, including:
 - (a) transmission lines and electricity distribution lines and associated equipment; and
 - (b) private connections to such utilities;
- (2) Telecommunication and radiocommunication facilities, including:
 - (a) transmitting/receiving devices such as aerials, antennas, dishes (including cables), insulators, castings, tunnels and associated equipment; and
 - (b) support structures such as towers, masts and poles, accessory buildings and private receiving dish antennas;
- (3) Storage tanks and pipes for the distribution or transmission of petroleum or natural or manufactured gas, including necessary incidental equipment provided by network utility operators or requiring authorities, and private connections to such utilities;
- (4) Reticulated water for supply or irrigation, stormwater management basins, swales or drainage systems, and reticulated sewerage, including:
 - (a) private stormwater facilities connecting to such utilities; and
 - (b) necessary incidental equipment, including water storage tanks and pumping facilities; and
- (5) Meteorological facilities, navigation aids and beacons, including approach control services within the meaning of the Civil Aviation Act 1990.

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- (6) Flood management infrastructure including stopbanks and erosion protection structures associated with flood management where owned or operated by the Waikato Regional Council, the Waikato District Council or the Crown.
- (7) Public roads and railway lines.