



GREAT LAKE TAUPŌ
Taupō District Council

Plan Change 41: Fault lines

Section 32 Evaluation

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1 INTRODUCTION

Proposed Plan Change 41 ('PC41') to the Taupō District Plan seeks to remove the fault lines from the planning maps and references to the Fault line Hazard Area from the District Plan provisions.

The District Plan maps include fault lines which are very thin lines that were introduced into the District Plan around 1998. These originally were hand drawn, simplified and transferred into digital maps. The District Plan rules create a buffer 20m either side of lines as being unsuitable for building, and buildings within this area would require resource consent.

The Institute of Geological and Nuclear Sciences Limited, (GNS Science - Te Pu Ao) has recently undertaken an assessment of the fault lines, and as a result the identified fault hazard areas have changed, with new classifications, mapped hazard areas, some changes to fault alignments, the removal of some faults and the identification of some new fault lines. This means that the fault lines as currently contained on the planning maps are outdated and need to be removed.

The District Plan rules create a buffer 20m either side of lines as being unsuitable for any structure (excluding network utility lines, cables, and pipelines). Structures within 20m of the mapped fault line requires resource consent.

Removing the fault lines and associated provisions from the District Plan maps means that the more accurate GNS report can be relied upon for subdivision and development resource consents and building consents. Without fault lines being identified in the District Plan, the Building Act/ building consent process would be the primary mechanism for ensuring that the risks posed to buildings from potential fault lines are mitigated.

2 STATUTORY FRAMEWORK

2.1 Legislative Context

The preparation of PC41 has been undertaken in accordance with the First Schedule of the Resource Management Act 1991 (RMA). Of particular relevance to this plan change is section 5 of the RMA which defines sustainable management as managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their health and safety. Effective management of development in close proximity to fault lines will provide for the health and safety of people and their property.

In addition, section 6(h) of the RMA identifies the management of significant risk from natural hazards as a matter of national importance. Council is meeting its obligations by providing correct information to landowners and raising awareness of potential natural hazards through appropriate processes.

Sections 74 of the RMA sets out the requirements for changes to district plans, while section 75(3) and section 75(4) sets out the following matters:

(3) A district plan must give effect to—

- (a) any national policy statement; and*
- (b) any New Zealand coastal policy statement; and*
- (ba) a national planning standard; and*
- (c) any regional policy statement.*

(4) A district plan must not be inconsistent with—

- (a) a water conservation order; or*
- (b) a regional plan for any matter specified in section 30(1).*

These requirements are addressed in the following sections of this report. While section 75(3) requires the District Plan to give effect to national policy statements, there are no national policy statements of relevance to the management of fault lines.

Section 74(1) directs that Council must undertake changes to its district plan in accordance with s31, provisions under Part 2 and s32. PC41 is considered to be in accordance with s31(a) and (b) as managing development near fault lines is achieving integrated management of the effects of the use and development of the natural resources of the district and the control of any actual or potential effects of use or development. An evaluation of PC41 has also been undertaken in accordance with Section 32 of the RMA and is appended to this report.

Clauses 1 to 20A of the First Schedule to the RMA sets out the procedures for a plan change, including consultation and notification requirements. Clauses 3 and 3B set out the relevant procedures for consultation. Clause 3(1) states that during the preparation of a proposed policy statement or plan, the local authority concerned shall consult with the Minister for the Environment, other Ministers of the Crown who may be affected by the plan change, local authorities who may be so affected, and the Tangata whenua of the area who may be so affected, through iwi authorities, and the board of any foreshore and seabed reserve in the area. Clause 3(2) sets out that “a local authority may consult anyone else” in preparing a plan change, subject to Clause 3(4) which requires that such consultation must be undertaken in accordance with Section 82 of the Local Government Act 2002 (‘LGA’). Accordingly, Council must consult with the parties identified in clause 3(1) but retains discretion to consult with anyone else. If Council elects to undertake discretionary consultation, it must do so in accordance with the principles in section 82 of the LGA. Clause 3B relates to consultation with iwi authorities.

Details of the consultation undertaken for PC41 are provided in The Taupō District Plan Changes – Background and Engagement Summary Report which covers consultation and engagement for the full suite of plan changes 38-43. The consultation meets the requirements of the First Schedule.

Clauses 5 to 11 of the First Schedule set out procedures for notification, receipt of submissions, hearings and notification of decisions in relation to plan changes. In processing the plan change, it will be necessary for compliance to be achieved with the requirements of these provisions.

2.2 Relevant Planning Documents

A full assessment of the PC41 against the Regional Policy Statements is contained in Appendix B.

2.2.1 Waikato Regional Policy Statement

Pursuant to section 75(3)(c) of the RMA, a District Plan must give effect to any operative Regional Policy Statement. As Taupō District is covered by four different regional councils, each of the regional policy statement are considered below.

The amendments give effect to the Waikato Regional Policy Statement by ensuring that the effects of natural hazards on people, property and the environment are managed (RPS Objective 3.24), ensuring natural hazards are considered when planning subdivision, use and development (RPS Objective 3.12) and managing activities to reduce the risks from natural hazards. The plan change removes inaccurate information from the planning maps and consequently deletes provisions which relate to that mapped layer. The remaining provisions for subdivision still require the identification of any natural hazards and an assessment of how these may affect the stability of the land and suitability of any future building sites. The proposed amendment gives effect to the RPS by deleting incorrect mapping of fault lines. Reliance instead on the more accurate GNS report effectively manages the risk of natural hazards on property and people. The District Plan is therefore giving effect to these RPS provisions.

Relevant provisions are contained in in:

- Policy 6.1 Planned and co-ordinated subdivision, use and development
- Policy 13.1 Natural hazard risk management approach
- Policy 13.2 Manage activities to reduce the risks from natural hazards
- Policy 13.3 High impact, low probability natural hazard events

2.2.2 Bay of Plenty Regional Policy Statement

RPS Objective 31 requires avoidance or mitigation of natural hazards by managing risk for people's safety and the protection of property and lifeline utilities. The approach to fault lines is to firstly control the use, development and protection of land through the subdivision process, and secondly through the building consent process. This is a risk based approach which focuses on those areas identified in the GNS report.

In accordance with RPS Policy NH 3B, the subdivision and Building Act processes will ensure that buildings within a faultline present a risk to people and property and requires a response to reduce risk.

Not all buildings and structures present the same risk on a fault line however, and Policy NH 6B provides an exception for the types of activities described to remain where they already exist, or establish in the future should the need arise. The plan change does not further constrain these types of activities.

Policy NH 7A requires that natural hazards and the locations where those natural hazards could affect people, property and lifeline utilities be mapped. The GNS assessment identifies faultlines. Although the plan change would result in these fault lines not being included in the District Plan, they are mapped and there are sufficient requirements in the subdivision and natural hazards parts of the plan, as well as the Building Act, to ensure fault lines are considered. In this respect, the District Plan is giving effect to Policy NH 10B.

2.2.3 Hawkes Bay Regional Policy Statement

The existing subdivision provisions enable consideration of fault lines and allow mitigation measures to minimise the risk to human safety and the environment from natural hazards. The deletion of the inaccurate fault lines from the planning maps ensures the most accurate information is used.

The District Plan provisions ensure that development is avoided in areas identified as being at unacceptable risk from fault lines. In this respect, PC41 gives effect to OBJ 31 which seeks the avoidance or mitigation of the adverse effects of natural hazards on people's safety, property, and economic livelihood.

2.2.4 Horizons Regional Policy Statement

While the deletion of the fault lines from the planning maps means that the District Plan is not raising public awareness of the risks of natural hazards, there are other non-regulatory ways of achieving this. Such methods include education, including information about what natural hazards exist in the Region, what people can do to minimise their own level of risk, and what help is available. The retention of the matters of control around natural hazards for subdivision will be effective in ensuring natural hazards are considered for subdivision applications.

PC41 gives effect to RPS Objective 9-1 which seeks to avoid or mitigate the adverse effects of natural hazard events on people, property, infrastructure and the wellbeing of communities. The District Plan manages future development in areas susceptible to fault lines in a way which ensures that any increase in risk to human life, property or infrastructure from natural hazard events is avoided where practicable, or mitigated where the risk cannot be practicably avoided. The focus on considering this issue at the time of subdivision reduces the future risk to people and property.

2.2.5 Iwi Management Plans

There are four iwi management plans:

- Ngati tahu Ngati Whaoa Iwi Management Plan
- Ngati Tuwharetoa Iwi Management Plan
- Te Rautaki Taiao a Raukawa
- Whakamarohitia ngā wai o Waikato Te Arawa River Iwi Trust Environmental Plan 2021

Having considered the content of the iwi management plans, PC41 is considered to take into

account the matters contained in the iwi management plans in accordance with section 74(2A) of the RMA.

Ngati tahu Ngati Whaoa Iwi Management Plan

The Plan states that building on land in natural hazard areas should be avoided where possible, rather than trying to mitigate or adapt later. PC41 supports this concept by deleting inaccurate fault lines from the planning maps, and replacing it with the more accurate GNS assessment which sits outside the District Plan. The consideration of natural hazards (and therefore the GNS assessment) through the subdivision process will reduce the risk of buildings being located on a fault line and therefore will reduce the risk to people and property.

Ngāti Tūwharetoa Environmental Iwi Management Plan

This plan lightly touches on natural hazards, and in particular seeks to promote and enhance partnerships between ngā hapū o Ngāti Tūwharetoa and central government, regional and district councils on all resource management issues including natural hazards.

Te Rautaki Taiao a Raukawa

The objectives in this plan are focused on understanding the potential effects and likelihood of natural disasters, and a commitment to build community resilience to deal with natural disasters. M7 supports local authorities requiring flood hazards to be identified, avoided, or mitigated in any intensification of land use. Accurate identification of fault lines is one of the most effective ways of reducing the risk to people and property. PC41 achieves this by replacing inaccurate identification of fault lines with more accurate robust information.

Whakamarohitia ngā wai o Waikato Te Arawa River Iwi Trust Environmental Plan

As the focus of this Plan is the health and wellbeing of the Waikato River, there are only few areas of relevance to PC41. Policy 5.4.4 requires plan prepared by local government to consider the risks associated with natural hazards on the cultural and social well-being of iwi affiliates, particularly:

- a. Sites and areas of cultural significance, including marae and urupā.
- b. Indigenous species and ecosystems, particularly our mahinga kai resources.
- c. Roading infrastructure and access to marae, papakāinga and urupā.

2.2.6 TD2050 - Growth Management Strategy

Taupō District 2050 – Taupō's Growth Management Strategy outlines where Council prefers future urban growth to occur and the nature and scale of such growth. While most of the fault lines are located in the rural environment, the Growth Management Strategy is largely focused on urban environments. Having said that, the Strategy assumes that identification of new land for development, and the process for developing land will follow a risk based approach in relation to natural hazards so that risks do not exceed acceptable levels. However it is possible that some land identified in the Strategy for urban development is constrained by the location of a fault line. This may affect the yield and development potential at a localised level.

2.2.7 Regional Plan

In accordance with Section 75(4)(b) of the RMA, an operative plan change must not be inconsistent with a regional plan for any matter under section 31. PC41 is not inconsistent with the regional plans that apply to Taupō District as the regional plans do not cover the management of fault lines.

2.3 Building Act

Standard building designs are designed to meet earthquake shaking standards for a 1 in 500 year seismic event, but not for potential ground rupture or ground deformation associated with a fault line. Under Section 71 of the Building Act 2004:

A building consent authority must refuse to grant a building consent for construction of a building, or major alterations to a building, if the land on which the building work is to be carried out is subject or is likely to be subject to 1 or more natural hazards.

In the Building Act, a “Natural hazard” means any of the following:

- (a) erosion (including coastal erosion, bank erosion, and sheet erosion):*
- (b) falling debris (including soil, rock, snow, and ice):*
- (c) subsidence:*
- (d) inundation (including flooding, overland flow, storm surge, tidal effects, and ponding):*
- (e) slippage.*

Although the definition of Natural Hazard does not include fault line rupture and associated ground deformation, the fault line could result in subsidence or slippage. If so, whether or not fault lines classify as natural hazards under the Building Act comes down to a determination by the Council as Building Consent Authority on whether subsidence is a “likely” occurrence as evidenced by the presence of the fault line where: “likely” does not mean “probable”, as that puts the test too high. On the other hand, a mere possibility is not enough. What is required is “a reasonable consequence or [something which] could well happen”.

For some context on likelihood:

- Our current Building Act – Practice Note 1 states: “it is accepted practice to use the 1% probability of the occurrence (i.e. 1 in 100 years) of a natural hazard as an appropriate methodology to determine if the land is subject to a natural hazard.”
- The joint Australian/NZ standard AS/NZS 1170 (Standards Australia and New Zealand 2002) outlined a uniform risk approach used to reflect acceptable levels of safety. It underpins the Building code. For ultimate limit state (i.e. collapse avoidance) it sets the standard at a 1/500 earthquake event for ordinary buildings and houses (1 in 2500 years for critical post-disaster buildings – IL4).
- ‘Liquefaction’ and ‘lateral spread’ were recently (2019) explicitly excluded from the definition of good ground – this may be a reflection that with their low likelihood (perhaps relating to a 1 in 500 year earthquake event) previously they were not captured by this definition.

One issue is whether Council requires further assessment and engineering advice at the cost of the building applicant. Standard acceptable building designs apply where there is “good ground”. If not “good ground” a specialist engineering assessment to identify the risk and required mitigation is needed – for example additional foundation strengthening.

Good ground excludes:

Any ground which could foreseeably experience movement of 25 mm or greater for any reason including one or a combination of: land instability, ground creep, subsidence, liquefaction, lateral spread, seasonal swelling and shrinking, frost heave, changing ground water level, erosion, dissolution of soil in water, and effects of tree roots.

(NZS 3604:2011 the NZ standard for timber framed buildings and MBIE, Acceptable Solutions and Verification Methods For New Zealand Building Code Clause B1 Structure)

Although the explanation does not explicitly mention earthquake fault rupture and ground deformation, it comes down to a determination of whether an earthquake fault rupture event with a 500 to 2000 year recurrence interval is “foreseeable”.

Engineering advice, like the advice of GNS Science, is likely to be that buildings simply avoid faults where their location is known with a 20m buffer. However, stronger foundations may provide some mitigation for a small event, or on land that deforms near a fault - rather than buildings built on or across a fault.

Section 72 provides guidance on granting building consent for building on land subject to natural hazards:

Despite Section 71, a building consent authority that is a territorial authority must grant a building consent if the building consent authority considers that –

- (a) the building work to which an application for a building consent relates will not accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or any other property; and*
- (b) the land is subject or is likely to be subject to 1 or more natural hazards; and*

(c) it is reasonable to grant a waiver or modification of the building code in respect of the natural hazard concerned.

Section 73 requires that any building consent granted under section 72 must include as a condition of consent notification to the appropriate Minister and the Surveyor-General, and identification of the hazard.

When a property owner exercises his or her rights to build on land subject to a natural hazard, Council is protected against civil liability under Section 392 of the Building Act 2004, when it grants a building consent pursuant to section 72.

2.4 Taupō District Operative Plan Approach

The planning maps in the Taupō District Plan have a number of layers which identify information such as zoning, historic sites, utilities and hazards. Part of the Hazards information includes identified Fault Lines. These fault lines are shown as very thin lines that were introduced into the District Plan around 1998. These were originally hand drawn, simplified and transferred into digital maps. Following the GNS assessment, it is apparent that the fault lines on the planning maps do not reflect the actual uncertainty or potential risk area.

The District Plan rules create a buffer 20m either side of fault lines as being unsuitable for structures (excluding network utility lines, cables, and pipelines, (including support structures). Rule 4e.10.1 makes any structures (excluding network utility lines, cables, and pipelines, including support structures) within this area a discretionary activity as follows:

Any structure excluding network utility lines, cables, and pipelines, (including support structures), within 20 metres of a fault line identified on the Planning Maps, is a discretionary activity.

In the case of a structure being proposed within 20m of an identified fault line, the following Assessment Criteria applies:

- a. *Degree to which building, structural or design work to be undertaken can avoid or mitigate the effects of the natural hazard.*
- b. *The nature of the activity, its intended uses including whether the use is temporary or permanent and the degree to which other people are put at risk as a result of the activity.*
- c. *The type and nature of ground rupture or ground deformation likely to occur as a result of movement along the fault line.*
- d. *The distance of any proposed structure from the fault line.*

Policy 3q.2.3 for the Mapara Valley Structure Plan reflect a similar approach:

- vii. *Development should not be undertaken within 20 metres of an identified fault line.*

The explanation for this policy clarifies that the Mapara Valley Structure Plan Area contains numerous fault lines. The existence of these fault lines does not preclude development from occurring, but they are an important consideration when looking at the location of buildings and other structures.

The avoidance of natural hazards is specifically identified as an issue in Issue 5 in Chapter 2 Significant Resource Management Issues. The District Plan recognises that the community and individuals of the district can be adversely affected when activities and development are located in areas subject to the effects of natural hazards or land instability.

There are other references to natural hazards more generally in the District Plan including Chapter 3I Natural hazards which:

- Describes active faulting in the district;
- Contains objectives which seek to:
 - Protect activities, development and life from the adverse effects of natural hazards (Objective 3I.2.1)
 - Ensure activities and development do not create, accelerate, displace, or increase the effects of a natural hazard (Objective 3I.2.2).
- Contains policies which:

- Control the design and location of activities and development within identified natural hazard areas, or areas which have significant potential to be affected by a natural hazard, to avoid or mitigate the effects of the natural hazard.
- Manage the location, design, and type of new activities and development to avoid or mitigate the adverse effects of erosion, ground rupture and deformation, hot ground and land instability on development and the community.
- Control the design and location of activities and development within identified natural hazard areas, or areas which have significant potential to be affected by a natural hazard, to avoid or mitigate the effects of the natural hazard.
- Manage the location, design, and type of new activities and development to avoid or mitigate the adverse effects of erosion, ground rupture and deformation, hot ground and land instability on development and the community.

Management of natural hazards occurs in various locations through the plan such as subdivision. Assessment of natural hazards for subdivision applications appears in the following rules:

Zone / Environment	Provision
3e.7 Structure plan Process	Matters to be considered in structure plan area assessment Hazards and land suitability <ul style="list-style-type: none"> • slope, geotechnical limitations, susceptibility to flooding, erosion, location of earthquake faults, geothermal hazards
Residential Environment Lake Ohakuri Development Zone Rural Environment Turangi and Mangakino Town Centre Environment Industrial Environment Taupō Town Centre Environment Taupō Industrial Environment and Centennial Industrial Environment	Control is reserved over the following matter for subdivision: <i>(b) The identification of any natural hazards or contaminated sites and how these may affect the stability of the land and suitability of any future building sites, including any information provided by a suitably qualified person whose investigations are supplied with the subdivision application.</i>
Kinloch Structure Plan Area	4a.4.2 Control is reserved over: <i>(g) Any potential adverse effects from Natural Hazards, including flood inundation or erosion from the District's waterways and Lakes</i>
Residential Environment	4a.7.17 Subdivision <i>b. Whether the design and layout of the subdivision avoids, remedies or mitigates any adverse effects resulting from identified natural hazards or land contamination, including an assessment of any information provided by a suitably</i>

	<p><i>qualified person whose investigations are supplied with the subdivision application.</i></p> <p><i>g. In respect to the New Residential Environment the appropriateness of the design, layout and density of the subdivision, having particular regard to any:</i></p> <p><i>iv. geotechnical and topographical considerations, (including potential liquefaction effects for subdivision within the Kuratau New Residential Environment),</i></p>
Rural environment	<p>4b.4 Assessment criteria - general criteria for Rural rules</p> <p><i>n. Any potential adverse effects from Natural Hazards, including flood inundation or erosion from the District's waterways and lakes</i></p>

Rule 9.2.2(xiv) requires information on any known natural hazards or hazard-prone areas to be supplied with applications where appropriate.

Rule 9.2.5(xi) requires information on any known natural hazards or hazard prone areas including areas of the allotment which have the potential for flooding, inundation, erosion, landslip or subsidence to accompany a subdivision consent application.

The is no mention of natural hazards in the earthworks provisions.

2.5 Technical Assessment

The assessment undertaken by GNS of the fault lines used LiDAR data, where available, to more accurately identify the location and potential hazards areas of suspected faultlines. The GNS report is attached in Appendix D.

The new mapping identifies the following zones.

Fault Avoidance Zones

These are areas where LIDAR data is available, and a fault line has been mapped with a high degree of accuracy (to within $\pm 3m$). Fault lines are areas where the ground has the potential to rupture due to earthquakes. This represents a potential hazard to building and development, in addition to general earthquake shaking which is a risk everywhere. The mapped faults in our district are all estimated (potentially conservatively) to have a recurrence interval of less than 2000 years. Some (we do not know which) may have recurrence intervals closer to 1000 or 500 years.

Due to the risk to buildings straddling a fault, in a large event where the fault may move 500mm or more, and often the low cost of avoiding these areas for new 'greenfield' development. GNS advises avoiding future habitable buildings and development where fault lines are known to be located. GNS recommends that these areas are avoided for new buildings and development in future, or the actual risk posed by the fault line be determined by further site investigation, to reduce the risk from a low-likelihood but potentially damaging earthquake event.

The Fault Avoidance Zone includes a 20m buffer that is provided either side of the identified fault deformation area to provide an allowance for a large event, nearby ground deformation, and to recognise that the soil on top of the rock may not follow the exact same line.

Fault Awareness Areas

These are areas that highlight that an active fault is known, or suspected, to be present, but existing mapping is not accurate enough to be sure of its exact location.

These areas have been identified using faults previously identified in GNS Science's active fault data base, and applying a buffer to recognize the uncertainty surrounding the mapped location of these fault lines. The awareness areas are typically 250m wide, and are expected to contain a ~70m avoidance zone, whose exact location is not known.

This adds another degree of uncertainty on the determination of whether the hazard is 'likely'. If the

actual area to be avoided can be anywhere within the identified 250m zone, the likelihood of a 25m wide house being in that zone is 38%.¹

GNS recommends that more work be undertaken before any future new significant building and development in these areas (such as schools, power stations, or new multi-lot housing developments) to identify the location of the actual fault to reduce the risk from a low-likelihood but potentially significant earthquake event. However, there may be instances where the fault is visible, and a site visit may be able to identify if a building would be located on or near it. Such an assessment at low cost would add value, especially if the fault can be easily avoided.

Comparison with the District Plan mapping

The new information illustrated that the current information on the planning maps is outdated and not fit for purpose and alternative methods to address the issue need to be considered.

2.6 Engagement

Section 3 of the RMA sets out the consultation requirements as below:

3(1) During the preparation of a proposed policy statement or plan, the local authority concerned shall consult –

- (a) the Minister for the Environment; and*
- (b) those other Ministers of the Crown who may be affected by the policy statement or plan; and*
- (c) local authorities who may be so affected; and*
- (d) the tangata whenua of the area who may be so affected, through iwi authorities; and*
- (e) any customary marine title group in the area.*

3(2) A local authority may consult anyone else during the preparation of a proposed policy statement or plan

Section 3(1) above is mandatory while Section 3(2) is at the discretion of the Council. In this instance, Council undertook discretionary consultation in relation to this amendment.

Drop-in sessions were held in areas affected by the new fault line mapping between Tuesday 20 October 2020 and Saturday 24 October 2020 at the following locations:

- Kinloch Hall
- Acacia Bay Community Hall
- Omori-Kuratau Community Centre

Key matters discussed with property owners included what this meant for their safety, assets, Land Information memoranda, property values, insurance, future building and development. Council staff also discussed the intention to put these into the District Plan (which is why Council undertook the mapping in the first place).

There was some feedback that property owners would prefer this in the District Plan rather than identified on Land Information Memoranda, and supported using the same approach as for recent flooding plan changes.

2.6.1 Iwi Authority Consultation

¹ Likelihood of house and fault avoidance zone overlapping = (House width + Fault zone width) / Awareness areas width. This is a simplified formula derived by determining the probability of a point falling within an interval width

Clause 3 of Schedule 1 of the RMA sets out the requirements for local authorities to consult with tangata whenua through and iwi authorities. Details of the consultation undertaken for PC41 are provided in The Taupō District Plan Changes – Background and Engagement Summary Report which covers consultation and engagement for the full suite of plan changes 38-43.

2.6.2 Governance

Details of the consultation undertaken for PC41 are provided in The Taupō District Plan Changes – Background and Engagement Summary Report which covers consultation and engagement for the full suite of Plan Changes 38-43.

3 SECTION 32 EVALUATION

3.1 Key Resource Management Issues

Inaccuracy of information on the planning maps

The District Plan maps include identified Fault Lines which are outdated and inaccurate as illustrated by the GNS assessment. The Rule in Section 4e.10 requires any structure excluding network utility lines, cables, and pipelines, (including support structures) within 20m of an identified fault line to be subject to a resource consent. The provisions in the Operative District Plan mean that landowners may be required to undertake additional reporting when it may not be necessary. Conversely, areas that are in close proximity to an unmapped fault line may be missed, leading to increased risk to people and property.

The District Plan has a role in protecting both the community and the environment from natural hazards

The community and individuals of the district can be adversely affected when activities and development are located in areas subject to the effects of fault lines. The risks of fault lines can also be increased or altered by land use activities.

Appropriate levels of protection for communities needs to be established along with ensuring activities and developments do not increase the level of threat, or increase the potential for hazards to occur.

Council has obligations under section 6 of the RMA as a matter of national importance to provide for the management of significant risks from natural hazards.

3.2 Scale and Significance

The proposed amendments will have a reasonable degree of significance as fault lines are identified throughout the Taupō District, although mainly in the rural environments. Should owners wish to build areas in the vicinity of any fault line, they may need to undertake their own investigations and identify if there is any risk of a potential fault line when considering placement of buildings. This is similar to the approach of the Operative District Plan if landowners wished to build in close proximity to the fault lines identified in the planning maps.

Using the GNS assessment as a basis will result in a more accurate identification of where the fault lines are located.

3.3 Evaluation of the Objectives

There are no proposed objectives or amendments to objectives and thus an assessment of the objectives against the Purpose of the Act is not required.

3.4 Assessment of the Provisions

This section will consider whether, having regard to their efficiency and effectiveness, the proposed provisions are the most appropriate way to achieve the Objectives. The provisions relate to the following objectives:

- 3I.2.1 Protection of activities, development and life from the adverse effects of natural hazards.
- 3I.2.2 Activities and development do not create, accelerate, displace, or increase the effects of a natural hazard.

Identification of Provision Options

Option 1: Status Quo

This option would require no changes to the District Plan and would continue the current approach to managing the issue.

Option 2: Replace the current fault line on the planning maps with the GNS maps and amend the associated provisions

This option would require changes to the District Plan maps and provisions. The District Plan would provide an additional tool for managing buildings in close proximity to faultlines, alongside Building Act controls. The existing faultlines would be deleted from the maps and replaced with the GNS faultlines. The provisions would be amended to reflect the new mapping approach and definitions, but retaining the same controls and intent, with buildings within identified risk area requiring resource consent.

Option 3: Removal of the fault lines from the District Plan maps

This option would require all faultlines to be deleted from the planning maps, and the rules relating to buildings within 20m of the faultlines to be deleted from the District Plan also. The Building Act / building consent process would be the primary mechanism for managing the risks associated with buildings in close proximity to the faultlines.

When the land is subject to a natural hazard the building consent authority must refuse to grant a building consent for the construction of a building, or major alterations, unless the building consent authority is satisfied that adequate provision has been or will be made to protect the land, building work, or other property from the natural hazard or hazards (Section 71), or the provisions of section 72 of the Building Act have been met.

Table 1: Assessment of Provision Options– How effective are the provisions in achieving the objective

<u>Option</u>	<u>Source</u>	<u>Relevance</u>	<u>Recommendation</u>
Option 1: Status Quo	Operative District Plan	Current information in District Plan maps is known to be incorrect. The presence of fault lines even if incorrect draws attention to the issue.	Discard – information is incorrect and not fit for purpose.
Option 2: Replacement of the current fault line on the planning maps with the GNS data	GNS report	District Plan maps more accurately reflect the extent and risk of fault lines.	Discard Inclusion in the District Plan it does not allow easy updating as further

		<p>The fault line will be removed from properties where it is incorrect– removing unjustified impacts on people’s plans and decisions.</p> <p>Fault lines may be added to properties where they are not currently demarcated on the planning maps.</p>	<p>refined information becomes available.</p> <p>Risks are already managed through building act / consent controls and subdivision controls.</p> <p>The costs of additional regulatory processes and duplication of these controls outweighs any benefits from inclusion in the plan.</p>
Option 3: Removal of the fault lines from the District Plan maps	Council staff	<p>Simplified District Plan maps.</p> <p>Ability to update information without requiring a plan change.</p>	Preferred option.

Preferred Provision Option

Removal of the fault lines from the District Plan maps	
Benefits and Costs of Effects (s32(2)(a))	
Benefits	Costs
Environmental	
District Plan maps will no longer be inaccurate for fault lines.	Inherent risk that the presence of a fault line is not identified through the subdivision or Building Consent process and increases the risk to people and property
Economic	
<p>Reduction of red tape and costs for many ‘mum and dad’ type landowners.</p> <p>Streamlined and simple process for updating fault line information in the future as more accurate information is available</p> <p>Some properties will have their fault hazard removed, with potential impacts on insurance or property value, or risk of liability to Council due to out of date information</p> <p>Reduced liability for Council due to the more accurate report from GNS</p>	<p>Additional costs to landowners if fault line is identified and additional technical reports are required².</p> <p>Risk that the issue will not be identified until a building consent application is lodged with Council, leading to increased costs and delays for the applicant.</p> <p>Risk that the presence of a fault line is not identified on LIM reports and potential for the issue to be overlooked by potential purchasers</p> <p>Increased insurance costs for landowners with the new fault lines on their properties²</p>

² Note that additional costs and constraints exist regardless, given that they sit on property LIMs already.

Decreased insurance costs for those landowners whose fault lines are being removed	Additional costs of building design and construction due to the presence of fault lines
Increased value of properties which do not have a fault line	Decreased value of properties for properties with a fault line ²
Ability to update fault line information without requiring the costs of a plan change	
Social	
Increased risk that fault line mapping is not known by prospective property purchasers.	The risk associated with activities other than building and subdivision is not managed
Decreased risk to the health and safety of people and property with the accurate identification of the fault lines.	Lack of visibility of the information by the public
Cultural	
Health and safety risks reduced by not putting marae and papakainga on faultlines	Marae and papakāinga development may be constrained by the location of fault lines ² .
Economic Growth and Employment Opportunities (s32(2)(a)(i)(ii))	
The proposed amendment is not likely to result in any significant economic or employment opportunities. Some properties may more easily developed from the removal of an out of date and incorrect fault line that is currently identified on the site.	
The efficiency and effectiveness of provisions (s 32(1)(b)(ii))	
<u>Efficiency:</u> This approach is pragmatic and practical. It allows development to occur while taking into account any hazards. The amendment may mean less resource consents as the information will be more accurate. The deletion of the fault lines from the planning maps and reliance on an external documents allows efficient updating of information in the future.	
<u>Effectiveness:</u> The proposed amendments will be effective at ensuring the best possible data is available on fault lines. The amendments rely on existing provisions in the District Plan and building consent processes to ensure fault lines are considered at appropriate stages of development.	
Risk of acting or not acting if there is uncertain or insufficient information (s32(2)(c)):	
The most significant uncertainty is the accuracy of the GNS assessment. All building consent and subdivision applications will be relying on the accuracy of that report. Without fault lines being identified in the District Plan, the Building Act/ building consent process would be the primary mechanism for ensuring that the risks posed to buildings from potential fault lines are mitigated. The subdivision process will be the primary mechanism for ensuring newly created lots can be built upon.	
The risk of not acting is that buildings are located in fault risk areas due to the incorrect identification of the fault lines on the planning maps. This could lead to Council being held liable, and increases the risk to people and property. Conversely, not acting may also result in the construction of buildings being prevented on sites where there is no fault line, but the planning maps identify that there is a fault line present.	
The risk of acting is that the fault lines are not entirely correct and buildings are either unreasonably prevented from being constructed, or are allowed and therefore increase the risk to people and property.	
Overall, it is considered that the risks of not acting outweigh those of acting.	
Appropriateness:	

The amendment is appropriate to enable flexible and adaptive management of the fault line risk. The proposed amendment is the most effective and efficient way to achieve Objectives 3I.2.1 and 3I.2.2.

G. Reasons for deciding on the provisions (s32(1)(b)(iii))

PC41 is appropriate as it:

- Is a streamlined and simple plan change;
- Simplifies District Plan maps;
- Removes inaccuracies from the planning maps;
- Removes constraints to development for sites that have an out-of-date fault line currently mapped;
- Decreases costs for landowners with out of date fault lines to prove there is no fault line present;
- The amendments rely on existing subdivision provisions in the District Plan and the building consent processes to ensure fault lines are considered at appropriate stages of development; and
- Achieves Part 2 of the Act, in that it is enabling people and communities to provide for their social, economic, and cultural well-being and for their health and safety.

4 CONCLUSION

The District Plan maps include fault lines which are very thin lines that were introduced into the District Plan around 1998 and are known to be inaccurate, as evidenced by the recent assessment by GNS.

After undertaking an evaluation as required by Section 32 of the RMA, the proposed amendments to the planning maps and provisions are considered to be the most appropriate way for achieving Objectives 3I.2.1 and 3I.2.2, having considered:

- (i) other reasonably practicable options for achieving the objective; and
- (ii) assessing the efficiency and effectiveness of the provisions in achieving the objective.

APPENDIX A - SIGNIFICANCE OF THE EFFECTS

Pursuant to section 32(1)(c), an evaluation report must contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal (section 32(1)(c)). This means that the scale and significance of the effects of the Proposal is the key factor influencing the level of detail required for a section 32 evaluation.

Considerations and criteria for determining scale and significance		Ranking High/Medium/Low
1. Reasons for the change	The planning maps are incorrect, and thus the provisions are resulting in increased risk to people and property in some areas and increasing costs unnecessarily for other landowners.	Medium
2. Degree of shift from the <i>status quo</i> (<i>status quo</i> defined as the current approach)	PC41 will result in changes to the planning maps, and also a rule in section 4e.10 Fault Line Hazard Area. It means that more emphasis will be on the subdivision and building consent process to identify fault lines and respond appropriately.	Medium
3.Environmental effects	The removal of this incorrect information is unlikely to result in detrimental environmental effects.	Low
4. Economic effects	The increase is likely to be beneficial to landowners in that they may not need a resource consent therefore reducing their building costs. While some properties will experience a decrease in value due to new identification of faultlines, others will increase in value with the incorrect fault lines being removed.	Medium
5.Cultural effects	No cultural effects.	Low

6.Social effects	<p>Increased risk that fault line mapping is not known by prospective property purchasers.</p> <p>The risk associated with activities other than buildings and subdivision is not managed</p> <p>Decreased risk to the health and safety of people and property with the accurate identification of the fault lines.</p>	Medium
7. Who and how many will be affected?	This will apply to all landowners within the district who are in the locality of a fault line – both the landowners who are currently identified as having a fault line and the newly identified sites.	Medium
8. Degree of impact on, or interest from iwi/Māori	Only where Māori owned land is impacted by either the removal of the fault lines from the planning maps, or the identification of new sites by GNS.	Low

APPENDIX B – ASSESSMENT OF PROVISIONS AGAINST HIGHER ORDER DOCUMENTS

Waikato Regional Policy Statement			
Objective	Policy	RPS Implementation methods	Plan change provisions
<p>3.10 Sustainable and efficient use of resources</p> <p>Use and development of natural and physical resources, excluding minerals, occurs in a way and at a rate that is sustainable, and where the use and development of all natural and physical resources is efficient and minimises the generation of waste.</p>	6.1 Planned and co-ordinated subdivision, use and development	<p>6.1.8 Information to support new urban development and subdivision</p> <p>(e) potential natural hazards and how the related risks will be managed</p>	The plan change removes inaccurate information from the district planning maps and consequently deletes provisions which relate to that mapped layer. The remaining provisions for subdivision still require the identification of any natural hazards and an assessment of how these may affect the stability of the land and suitability of any future building sites. The District Plan is therefore giving effect to these RPS provisions.
<p>3.24 Natural hazards</p> <p>The effects of natural hazards on people, property and the</p>	<p>Policy 13.1 Natural hazard risk management approach</p> <p>Policy 13.2 Manage activities to reduce the risks from natural hazards</p>	<p>Development Principles 6A (h)</p> <p>13.1.1 Risk management framework</p> <p>13.2.1 Control of subdivision within areas of intolerable risk</p>	The proposed amendment gives effect to the RPS by deleting incorrect mapping of fault lines. Reliance instead on the more accurate GNS report effectively manages the risk of natural hazards on property and people.

<p>environment are managed by:</p> <p>a) increasing community resilience to hazard risks;</p> <p>b) reducing the risks from hazards to acceptable or tolerable levels; and</p> <p>c) enabling the effective and efficient response and recovery from natural hazard events.</p>	<p>Policy 13.3 High impact, low probability natural hazard events</p>	<p>13.2.8 Control of subdivision, use and development for other natural hazards and associated risk</p> <p>13.3.1 Planning for readiness, response and recovery</p>	
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Bay of Plenty Regional Policy Statement

<p>Objective 31</p> <p>Avoidance or mitigation of natural hazards by managing risk for people's safety and the protection of property and lifeline utilities</p>	<p>Policy NH 1B: Taking a risk management approach</p> <p>Policy NH 2B: Classifying risk</p> <p>Policy NH 3B: Natural hazard risk outcomes</p> <p>Policy NH 4B: Managing natural hazard risk on land subject to urban development</p> <p>Policy NH 6B: Exemptions from the natural hazard risk management approach</p> <p>Policy NH 7A: Identifying areas susceptible to natural hazards</p>	<p>Method 1A: City and district plan implementation (phased)</p> <p>Method 3: Resource consents, notices of requirement and when changing, varying, reviewing or replacing plans</p> <p>Method 23B: Investigate and apply measures to reduce natural hazard risk</p> <p>Method 73: Provide information and guidance on natural hazards</p> <p>Method 23A: Review hazard and risk information</p>	<p>The approach to fault lines is to control the use, development and protection of land through the subdivision process, and secondly through the building consent process. This is a risk based approach which focuses on those areas identified in the GNS report.</p> <p>In accordance with Policy NH 3B, the subdivision and Building Act processes will ensure that buildings within a faultline present a risk to people and property and requires a response to reduce risk.</p> <p>Not all buildings and structures present the same risk on a fault line however, Policy NH 6B provides an exception for the types of activities described to remain where they already exist, or establish in the future should the need arise. The plan</p>
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	<p>Policy NH 8A: Assessment of natural hazard risk at the time of plan development</p> <p>Policy NH 9B: Assessment of natural hazard risk at the time of subdivision, or change or intensification of land use before Policies NH 7A and NH 8A have been given effect to</p> <p>Policy NH 10B: Assessment of natural hazard risk at the time of subdivision, or change or intensification of land use after Policies NH 7A and NH 8A have been given effect to</p> <p>Policy NH 12A: Managing natural hazard risk through regional, city and district plans</p> <p>Policy NH 13C: Allocation of responsibility for natural hazard identification and risk assessment</p> <p>Policy NH 14C: Allocation of responsibility for land use control for natural hazards</p>		<p>change does not further constrain these types of activities.</p> <p>Policy NH 7A requires that natural hazards and the locations where those natural hazards could affect people, property and lifeline utilities be mapped. The GNS assessment identifies faultlines. Although the plan change would result in these fault lines not being included in the District Plan, they are mapped and there are sufficient requirements in the subdivision and natural hazards parts of the plan to ensure fault lines are considered. In this respect, the District Plan is giving effect to Policy NH 10B.</p>
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Hawkes Bay Regional Policy Statement

<p>OBJ 31</p> <p>The avoidance or mitigation of the adverse effects of natural hazards on people's safety,</p>	<p>Policy 55 Role of non-regulatory methods</p>		<p>The existing subdivision provisions enable consideration of fault lines and allow mitigation measures to minimise the risk to human safety and the environment from natural hazards. The deletion of the inaccurate fault lines from the planning</p>
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property, and economic livelihood			maps ensures the most accurate information is used.
<p>OBJ UD1</p> <p>Establish compact, and strongly connected urban form throughout the Region, that:</p> <p>(e) avoids or mitigates increasing the frequency or severity of risk to people and property from natural hazards.</p>	<p>POL UD10.4 Notwithstanding Policy UD10.1, in developing structure plans for any area in the Region, supporting documentation should address:</p> <p>(h) How any natural hazards will be avoided or mitigated;</p>		<p>The District Plan provisions ensure that development is avoided in areas identified as being at unacceptable risk from fault lines.</p>
Horizons Regional Policy Statement			
<p>Objective 9-1: Effects of natural hazard events</p> <p>The adverse effects of natural hazard events on people, property, infrastructure and the wellbeing of communities are avoided or mitigated.</p>	<p>Policy 9-1: Responsibilities for natural hazard management</p> <p>Policy 9-4: Other types of natural hazards</p>	<p>Method 9-1 Hazards Research</p> <p>Method 9-3 Natural hazard information and advice</p> <p>Method 9-4 Public information - natural hazard</p>	<p>While the deletion of the fault lines from the planning maps means that the District Plan is not raising public awareness of the risks of natural hazards, there are other non-regulatory ways of achieving this. Such methods include education, including information about what natural hazards exist in the Region, what people can do to minimise their own level of risk, and what help is available. The retention of the matters of control around natural hazards for subdivision will be effective in ensuring natural hazards are considered for subdivision applications.</p> <p>The District Plan manages future development in areas susceptible to fault lines in a way which ensures that any increase in risk to human life, property or</p>

infrastructure from natural hazard events is avoided where practicable, or mitigated where the risk cannot be practicably avoided. The focus on considering this issue at the time of subdivision reduces the future risk to people and property.

APPENDIX C – PROVISION CASCADE

Issue to be addressed	Objective	Policies	Rules	Standards / Assessment Criteria
<p>Inaccuracy of information on the planning maps</p> <p>The District Plan has a role in protecting both the community and the environment from natural hazards</p>	<p>3l.2.1 Protection of activities, development and life from the adverse effects of natural hazards.</p>	<ul style="list-style-type: none"> i. Control the design and location of activities and development within identified natural hazard areas, or areas which have significant potential to be affected by a natural hazard, to avoid or mitigate the effects of the natural hazard. ii. Manage the location, design, and type of new activities and development to avoid or mitigate the adverse effects of erosion, ground rupture and deformation, hot ground and land instability on development and the community. 	<p>Subdivision rules</p>	<p>Control is reserved over the following matter for subdivision: (b) The identification of any natural hazards or contaminated sites and how these may affect the stability of the land and suitability of any future building sites, including any information provided by a suitably qualified person whose investigations are supplied with the subdivision application. Kinloch Structure Plan Area</p> <p>4a.4.2 Control is reserved over: (g) Any potential adverse effects from Natural Hazards, including flood inundation or erosion from the District's waterways and Lakes</p>
	<p>3l.2.2 Activities and development do not create, accelerate, displace, or increase the effects of a natural hazard.</p>	<ul style="list-style-type: none"> i. Ensure that activities do not alter or change the nature of a natural hazard event, increase the intensity of a natural hazard event or increase the risk of the event occurring. 		

		<ul style="list-style-type: none"> ii. Ensure that activities and structures do not increase the risk to the community or the environment from the effects of natural hazards. iii. Ensure that where development occurs within areas subject to the effects of natural hazards, property owners and/or occupiers are informed of and manage the risk. iv. Control the location and presence of hazardous substances in areas subject to natural hazards to ensure that there is no increase in the effects of the natural hazard or risk to the community from hazardous substances. 		
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APPENDIX D – GNS REPORT