
S 161 Building Act 2004

Policy on Dangerous Dams, Earthquake-Prone Dams and Flood-Prone Dams 2024



Document Owner:	Bay of Plenty Regional Council
Author:	Muhammad Arsalan Karim
Implementation Date:	27 th September 2024
Review Period:	5 Years
Next Review:	September 2029
Document Status:	Draft
Distribution:	General
File Reference:	A4656331

Contents

1. The Dangerous Dams Policy 2024	1
1.1. Introduction	1
1.2. Commencement and Review	1
2. The Policy Principles.....	2
3. The Policy Legal Framework.....	3
4. The Policy Regulatory Framework.....	4
4.1. Information on Dam Status.....	4
4.2. Working with dam owners.....	5
4.2.1. Identification of Owners of Classifiable Dams	5
4.2.2. Identification of Dangerous, Earthquake-prone and flood-prone dams.....	5
4.2.3. Action plan for Dangerous, Earthquake-prone and Flood-prone dams.....	6
4.2.4. Council’s Regulatory Responsibility.....	6
4.3. Council’s regulatory priorities	7
5. Application to Heritage Dams	8

1. The Dangerous Dams Policy 2024

The Bay of Plenty Regional Council has the statutory responsibility to develop, adopt, review, and implement policy on dangerous dams, earthquake-prone dams and flood-prone dams under its jurisdiction. This policy is developed and finalised as a review process¹ of the existing Dangerous Dams Policy 2006². The policy review is based on the Building (Dam Safety) Regulations 2022 developed as per section [402](#) of the Building Act 2004 and adopted by the New Zealand central government in May 2022.

The Building (Dam Safety) Regulations 2022, a catalyst for this policy review, prompted the council to incorporate regulatory procedures that help to identify, classify and enhance the technical, performance, and infrastructural quality of the dams in the BoP region. This is to ensure all classifiable dams suffer no failure or safety issue³ and do not pose a threat to the surrounding community, commercial or industrial facilities, cultural or historical sites, critical or major infrastructure, and natural environment and shall not be subject to any potential loss of life⁴.

For the purpose of this policy,

- the Building Act 2004 is hereinafter referred to as “the *Act*”.
- the Building (Dam Safety) Regulations 2022 is hereinafter referred to as “the *regulations*”.
- the Bay of Plenty Regional Council is hereinafter referred to as “*Council*”.

1.1. Introduction

In the context of dams of any kind across Aotearoa New Zealand, the *Act* deems all structures that meet the definition of a dam as buildings. The *Act* allows *regulations* to be developed to ensure efficient and effective performance of dams to minimise the impact on human, physical, and environmental resources in case of a dam’s failure or an impending safety issue.

The *regulation* provides guiding procedures to establish the regulatory framework of the policy on dangerous, earthquake-prone and flood-prone dams (2024) to ensure:

- All classifiable dams are classified (by their owners) to determine their level of potential impact,
- A dam safety assurance program is developed and is in place (by the dam owners) for all high or medium potential impact classifiable dams,
- Data on the classified dam’s impact level and dam safety assurance program is regularly collected, maintained and monitored by the dam owner, recognised engineer⁵ and the *Council*,
- *Council’s* approach and priority for ensuring the policy is implemented throughout the region, and
- Actions are taken to reduce the risk of dam failure and ensure dam safety procedures are in place.

1.2. Commencement and Review

This policy commences on 27th September 2024, and will be reviewed every five years or as when required earlier. The policy will remain in effect if it is in the process of review or is due for review.

¹ Refer sections [161](#) and [162](#) of the Building Act 2004.

² Adopted by Council in February 2007.

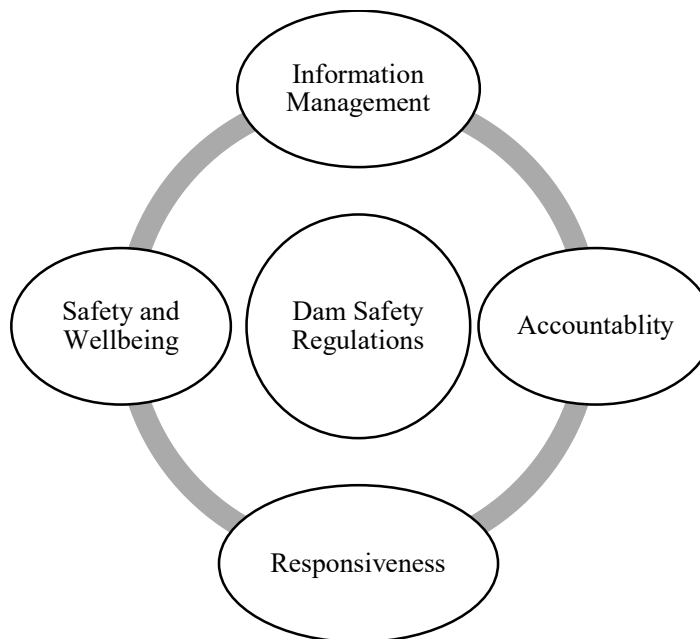
³ Dam Safety Issue has the meaning set out in [section 3\(2\)](#) of the Building Dam Safety *Regulations* 2022

⁴ The Building Dam Safety *Regulations* 2022 defines community, commercial and industrial facility, cultural or historical site, critical or major infrastructure and natural environment and potential loss of life⁴

⁵ A recognised engineer is explained in section [149](#) of the *Act*.

2. The Policy Principles

Council will employ the following four principles to ensure that the *regulations* are covered under the exercise of its dangerous dams, earthquake-prone dams and flood-prone dams policy functions.



- **Information Management** refers to collecting, recording and monitoring data on all classifiable dams across the region to classify dangerous dams and ensure dam safety,
- **Accountability** requires classified dam owners, recognised engineers and *Council* to understand and execute their responsibilities as laid down by the *Act* and the *regulations* to ensure dam safety,
- **Safety and Wellbeing** refers to the safety of the classified dam and the safety and wellbeing of cultural facilities, environment, critical and major infrastructure, community facilities and people in the vicinity of classified dams which is the core reason for this policy, and
- **Responsiveness** refers to clear guidelines and compliance procedures to be adopted by the dam owner, recognised engineer and *Council* to respond in cases of identified dangerous dams, the existence of a dam safety issue, or to reduce the risk of dam failure.

These principles shall be upheld by the dam owner, recognised engineer and *Council* while performing the following key functions:

1. It is the primary responsibility of the dam owner to assign a specific classification to their dam (according to section [8](#) of the *regulations*) using the methods of classification under section [9](#) of the *regulations*. Dam owners are to ensure:
 - All classifiable dams that are considered dangerous, earthquake-prone, and flood-prone according to the specified height and volume mentioned in [section 5](#) of the *regulations* are identified, monitored and reported; and,
 - the risk of harm to community facilities, cultural or historical infrastructure, critical or major infrastructure, environment and people is reduced or removed in case the dams is classified as high or medium potential impact.
2. The owner of a classifiable dam shall engage a recognised engineer and share this policy and the necessary provisions of the *Act* and the *regulation* with the recognised engineer for the purpose of supplying the dam owner with a:

- dam classification certificate: section [135\(1\)\(b\)](#) of the *Act* which must be supplied to *Council* by the dam owner in due time stipulated under section [135\(2\)](#) of the *Act*.
 - dam safety assurance program certificate: section [142\(1\)\(b\)](#) of the *Act* and supplied to the *Council* by the classified dam owner in due time stipulated under section [142\(2\)](#) of the *Act*. This certificate is required only if section [140\(1\)](#) of *Act* applies to the owner of the dam; and
 - annual dam compliance certificate: section [150\(2\)\(f\)](#) of the *Act* and supplied to *Council* by the dam owner in due time stipulated under section [150\(2\)\(a\)](#). This certificate is required only if section [140\(1\)](#) of *Act* applies to the owner of the dam.
3. The recognised engineer is bound under section [135A](#) of the *Act* to inform the owner and the *Council* if a classifiable dam is deemed dangerous by the engineer. A dangerous dam is defined under section [153](#) of the *Act*.
 4. It is the statutory responsibility, and the right, of *Council* to collect information and be informed on the state of all classifiable dams that fall under its jurisdiction and maintain a dam register under section [151](#) of the *Act*. The *Act* and the *regulations* allow the *Council* to adopt an approach under this policy:
 - that informs owners of classifiable dams about their responsibilities under the *Act* and the *regulation*. This information shall be shared by the *Council* through information packs, guidelines, and other suitable tools, including the council's website.
 - that publicises information about the safety risks of a dangerous dam, earth-quake prone dam and flood-prone dam (if the *Council* becomes aware or is informed on the existence of such dams) to all the persons and entities deemed potentially affected by the failure of such dams.
 - To perform its role and functions clearly stipulated for dam classification (sections [134A](#), [134C](#), [136](#) and [138](#) of the *Act*); for dam safety assurance program (sections [143](#) and [145](#) of the *Act*) and for dams that are deemed dangerous (sections [154\(1\)](#), and [155](#) to [160](#) of the *Act*).

3. The Policy Legal Framework

This document sets out the dangerous, earthquake-prone and flood-prone dams policy in accordance with the requirements of the *Act* and the *regulations*. The *regulations* and the *Act* can be accessed at www.legislation.govt.nz. This policy is bound and guided by the following legal provisions:

- a. For the purpose of this policy, the term 'dam' means a structure that is a dam as defined in section [7](#) of the *Act* and this policy applies to all such dams in the region, irrespective of their age and intended life span. Any subsequent change to the definition of dam in the *Act* will automatically apply to the policy.
- b. The definitions for what constitute a dangerous dam, earthquake-prone dam and flood-prone dam apply to this policy and are set out in sections [153](#), [153A](#) and [153AA](#) of the *Act*⁶.
- c. Section [19](#) of the *regulation*, which further prescribes the standard and criteria used in section [153](#) of the *Act* (in relation to moderate earthquake and moderate flood) and section [153A](#) of the *Act* (in relation to earthquake threshold event and flood threshold event), apply to this policy.
- d. Section [5](#) of the *regulation* which defines a classifiable dam (mentioned in section [134\(a\)](#) of the *Act*) to be: 4 m or more in height and holding 20,000 m³ or more in volume. Any further change to the meaning of the classifiable dam or to the height and volume of a classifiable dam in the *Act* or the *regulations* shall automatically apply to this policy.

⁶ This includes buildings in areas designated under subpart 6B in section [153AA](#) of the Building Act 2004.

- e. The dam safety provisions in [subpart 7 of Part 2](#) of the *Act*, apply to:
 - i. All Classifiable dams as defined in the *regulation*; or any definitions added to the *regulation* in the future.
 - ii. All Referable dams as defined in the *regulation*; or any definitions added to the *regulation* in the future⁷.
 - iii. All dams but only for the purposes of section [133B](#) (height measurement of dams) and sections [157](#) to [160](#) (measures by a regional authority to avoid immediate danger).

- f. The *regulations* further prescribe the qualification and competency of the recognised engineer in section [149](#) of the *Act*. These qualifications and competencies are made mandatory for the recognised engineer to:
 - audit and certify the dam classification (section [22](#) of the *regulation*)
 - audit, certify and review the dam safety assurance programs (section [23](#) of the *regulation*)

- g. The *Council* will follow the special consultative procedure set out in section [83](#) of the Local Government Act 2002 when developing and adopting this policy and will have regard to any relevant principles in the *Act*. This policy will be reviewed every five years and in the event of any significant changes to relevant sections of the *Act* or the *regulations*.

Council will uphold its obligations under Treaty settlement legislation when undertaking its functions in relation to dangerous, earthquake-prone and flood-prone dams.

Note: This policy does not specifically cover the risk to dams associated with other natural hazards and the consents required under the Resource Management Act 1991 and the *Act*.

4. The Policy Regulatory Framework

The regulatory framework of this policy defines *Council's* approach to perform its statutory functions and obligations under the *Act* and the *regulations* to ensure dam safety. *Council's* approach will be based on the following:

4.1. Information on Dam Status

Council shall have information on all classifiable dams that exist in the region. *Council* is bound under section [151](#) of the *Act* to receive and maintain the necessary and relevant information on dams from their owners that shall classify the dam as either “classifiable” or “non-classifiable” (under section [5](#) of the *regulation*). *Council* shall also closely monitor the information in the register and update it as the need arises. For monitoring purposes, *Council* shall prepare monitoring procedures.

Council shall also maintain the status of the classifiable dams assessed as dangerous, earth-quake-prone or flood-prone in the same register. Should the council receive information about a dangerous, earthquake-prone or flood-prone dam in the region, the Council will notify the chief executive of the Ministry of Business, Innovation and Employment, relevant territorial authority, civil defence and emergency management group, and relevant iwi authorities. The Council will notify Heritage New Zealand Pouhere Taonga if it becomes aware of a dangerous dam that is also a heritage dam.

⁷ The Building (Dam Safety) *Regulations* do not define a referable dam.

4.2. Working with dam owners

It is the responsibility of the dam owner to ensure:

- The classification of their dam,
- That a dam safety assurance program exists (if their dam is deemed dangerous, earthquake-prone or flood-prone) and is operational, and
- That *Council* receives the relevant certifications for their dams mentioned in the *Act* and the *regulations*.

Therefore, *Council's* primary responsibility is to work with the owners of classifiable dams to facilitate them in executing these responsibilities to ensure dam safety as well as safety of the people, environment, infrastructure and facilities. Hence this policy outlines the approach that shall be employed by *Council* to work with such dam owners.

4.2.1. Identification of Owners of Classifiable Dams

Whilst most classifiable dams will be the direct responsibility of the owner of the land on which they are located, there may be circumstances where a landowner will claim that they 'inherited' the dam and are therefore not responsible for either its construction or its maintenance after being classified as high or medium potential impact. It is likely however that there will be some cases where a landowner could claim that they purchased the land in circumstances where they could not reasonably have known there was a classifiable dam on the property.

The Council considers that landowners in this situation are in a practical sense no different to landowners who have constructed a dam, which is now subject to the provisions of the procedures. In both cases, it is the retrospective nature of this aspect of the legislation that creates the responsibility on the part of the owner regarding the safety of the dam.

Therefore, unless there is clearly a party other than the landowner who is responsible for any classifiable dam, *Council* will adopt the definition of 'owner' under section 7 and / or section 75 of the *Act* for the purpose of identifying the person/s responsible for such dam.

There may however be a small number of cases where a classifiable dam was built on a property without the approval of the landowner - this would probably only occur under the provisions of older mining legislation. Council will consider requests from such landowners for and explore alternative solutions in such cases.

4.2.2. Identification of Dangerous, Earthquake-prone and flood-prone dams

The *regulations* require the owners of all classifiable dams⁸ to employ procedures⁹ that classify their dam as high, medium or low potential impact. It is necessary for the owner and *Council* to know if a classifiable dam is dangerous, earthquake-prone or flood-prone and are likely to fail in the ordinary course of events, or a moderate earthquake or moderate flood¹⁰. The *Act* requires dam owners to immediately notify *Council* if they have reasonable grounds to believe that their dam is dangerous.

The owner of the classifiable dam is required by the *Act* to engage a recognised engineer¹¹ to provide certifications for dam classification, dam safety assurance program and annual compliance. However, the *Act*

⁸ The meaning of Classifiable dam is provided in section 5 of the Building (Dam Safety) Regulation 2022

⁹ The procedures to classify a dam is provided in section 9 of the Building (Dam Safety) Regulation 2022

¹⁰ The definition of moderate earthquake and moderate flood is provided in section 19(1) of the Building (Dam Safety) Regulation 2022

¹¹ See the definition of recognised engineer in section 149 of the *Act* and the the qualification and competency of the recognised engineer relating to the type kind of certification and audit in section 22 and 23 of the *regulations*.

deems the recognised engineer responsible to inform *Council* and the dam owner if they believe the dam is dangerous.

4.2.3. Action plan for Dangerous, Earthquake-prone and Flood-prone dams

In case a dam is classified as high or medium potential impact and is deemed dangerous, earthquake-prone or flood-prone, *Council* shall work with the dam owner to ensure that a dam safety assurance program complying with activities and procedures mentioned in section [10](#) to [18](#) of the *regulations* is in place and operational. The dam owner is responsible for the development and operationalisation of the program according to the *regulations* and will take necessary steps in the prescribed timeframes to comply with the *Act* and the *regulations*.

If the dam safety assurance program for a dam classified as high or medium potential impact already exists and is operational, *Council* shall work with the dam owner to ensure that the program is updated, and the activities and procedures mentioned under section [10](#) to [18](#) of the *regulations* are included in the program.

In both cases, *Council* shall work with the dam owner and decide a timeframe as per section [142\(2\)](#) of the *Act* for full operationalisation of the dam safety assurance program according to the *regulations*. However, when setting a timeframe, *Council* will consider the state of the dam, and the likelihood and consequences of dam failure.

4.2.4. Council's Regulatory Responsibility

Council is responsible and mandated to intervene and take necessary action under section [154](#) to [160](#) of the *Act* in the following situations:

- a) For dangerous, earthquake-prone and flood-prone dams, only if:
 - The owner of the dam is not acting in accordance with an agreed action plan; or
 - Where there is no agreed action plan, or
 - Where it considers the agreed action plan requires review or amendment; or
 - Where ownership is not known or is disputed; or.
- b) For all classifiable dams, where there is or is likely to be a risk of immediate danger.

Before exercising any of its powers, *Council* will, unless the circumstances dictate otherwise (such as where there is immediate danger to the safety of persons, property, or the environment), seek to discuss options for action with the owner of the dangerous dam. This approach seeks to work with the dam owner to agree a mutually acceptable formal proposal with a defined timeframe for reducing or removing the danger. When setting a timeframe, *Council* will consider the state of the dam, and the likelihood and consequences of dam failure. Acceptable actions by the dam owner may include, but not be limited to, one or more of the following:

- Operational changes such as reducing the volume of impounded fluid or completely emptying the reservoir.
- Reconfiguring an existing spillway or creating a new or supplementary spillway to limit the maximum impounded volume and/or to safely route flood flows.
- Increased surveillance and monitoring.
- Development of emergency preparedness and response plans.

- Review of the dam safety assurance programme.
- Require the owner to engage a dam specialist to investigate and make recommendations with any report provided to the *Council*.
- Implementing measures to enable controlled, rapid emptying of the impounded fluid.
- Measures downstream of the dam to mitigate the impact of dam failure.
- Physical works including reconstruction or partial demolition of the dam.
- Decommissioning and/or removal of the dam.

The whole or part of any agreement between *Council* and the dam owner may be formalised in a Notice to Fix issued under section [164](#) of the *Act*. If agreement cannot be reached between *Council* and the dam owner, *Council* may exercise any of its statutory powers in sections [154](#) - [160](#) and section [164](#) of the *Act*.

For the purposes of section [164](#) of the *Act*, the term ‘dam warrant of fitness’ [section [164\(1\)\(b\)](#)] is taken to mean ‘annual dam compliance certificate’ as set out in section [26](#) of the *regulations*.

In a situation where a classified dam is dangerous, *Council* may:

- Erect a hoarding or fence to prevent people from approaching the dam nearer than is safe.
- Attach a notice on or near the dam (or affected downstream areas) that warns people not to approach.
- Give written notice to the owner requiring work to be carried out on the dam, and within the time stated in the notice to remove or reduce the danger.
- Notify potentially affected community, commercial and industrial facilities and owners of cultural and historical sites and critical or major infrastructure downstream of a dangerous, earthquake-prone or flood-prone dams.
- Publish information about any dangerous, earthquake-prone or flood-prone dams in its region; and
- Work with other authorities like the civil defence emergency management group to take advise or liaise on action to be taken in respect to the dangerous dam.

In a situation where *Council*'s Chief Executive considers that, because of the state of the dam, immediate danger to the safety of persons, property, or the environment is likely, then he/she may:

- Cause any action to be taken necessary to remove that danger; and
- Recover the costs of taking any action from the dam owner.

Once *Council* is satisfied the danger has been appropriately and adequately reduced or removed, *Council* will give notice to those previously advised parties that the dam is no longer dangerous.

4.3. *Council's regulatory priorities*

Public safety is the highest priority and then damage or loss of property, environment and economic welfare followed by any heritage matters that might be present. The aim of the policy is for *Council* to employ an approach that reduces the risk of dam failure or dam safety issue to resist an unsatisfactory situation rather than to respond to an emergency that may arise as a result of dam failure. The *Act* and the *regulations* allow *Council*

to adopt an approach that helps achieve a reduction in existing risks whilst still being able to deal with risks that emerge in the future.

Council will use the following risk-based matrix to prioritise its actions and approach in relation to dangerous, earthquake-prone and flood-prone dams and will act initially for dams that fall in the category of urgent, followed by very high priority, high priority and then moderate priority.

Dam Type	Potential Impact Classification	Earthquake and Flood Probability	Dam Safety Assurance Program	Priority
Dangerous	High / Medium	100-year ARI / 50-year ARI	Does not exist / Exists	Urgent
Earthquake-prone or Flood-prone	High	500-year ARI	Does not exist	Very High
			Exists	High
	Medium	250-year ARI	Does not exist	High
			Exists	Moderate

In the event of there being a dangerous dam, earthquake-prone dam or flood-prone dam, *Council* will always give precedence to the requirement to reduce or remove the danger.

5. Application to Heritage Dams

Council recognises the need to retain heritage values of the dam itself, but also the need to reduce or remove any risk posed by a heritage dam which has been classified as dangerous, earthquake-prone or flood-prone. Section 4(2)(l) of the *Act* also recognises “the need to facilitate the preservation of buildings of significant cultural, historical, or heritage value”. Therefore, when considering heritage dams under this policy, account will be taken of the need to facilitate the preservation of parts of the dams with significant heritage value.

Heritage dams as defined in section 7 of the *Act* means a dam that is included on:

- a) the New Zealand Heritage List/Rārangi Kōrero maintained under section 65 of the Heritage New Zealand Pouhere Taonga Act 2014; or
- b) the National Historic Landmarks/Ngā Manawhenua o Aotearoa me ōna Kōrero Tūturu list maintained under section 81 of the Heritage New Zealand Pouhere Taonga Act 2014.

When dealing with heritage dangerous dams, *Council* will:

- Unless the circumstances dictate otherwise (such as where there is immediate danger to the safety of persons, property, or the environment), seek to discuss options for action with the owner of the dangerous dam.
- Seek advice from the Heritage New Zealand/Pouhere Taonga before any actions are undertaken by *Council* under sections 153 - 160 of the *Act*.
- Engage suitably qualified professionals with engineering expertise and heritage expertise to advise and recommend actions.
- Have regard to the priorities set out in clause 4.3 of this policy when considering recommendations; and
- Ensure copies of all notices served for heritage dangerous dams, earthquake-prone dams and flood-prone dams will be provided to Heritage New Zealand/Pouhere Taonga.

Council will record the heritage listing of all dangerous, earthquake-prone and flood-prone dams it is made aware of in its register of dams and supply this information to the relevant territorial authority for inclusion on any relevant Land Information Memorandum.