Proposed

Bay of Plenty Regional Council Flood Protection and Drainage Bylaws 2020

Made by the Governing Body of Bay of Plenty Regional Council

By resolution of Council

On

xx June 2020.

The Common Seal of the Bay of Plenty Regional Council was hereunto affixed to this Certified True Copy of the Bylaw.

Bay of Plenty Regional Council elected member of Council xxxx

Bay of Plenty Regional Council elected member of Council Xxx

These Bylaws came into force on xxxx 2020

Introduction 1.

This introduction does not form part of the Bylaws.

This Bylaws document is developed to protect and control drains and assets, including pumping stations, defences against water, river edge protection works and floodways managed by, or under the control of, the Bay of Plenty Regional Council.

The region's drains and assets have been constructed to increase productivity of land; and prevent damage, danger and distress to the community from river flooding and problems associated with a lack of drainage.

It is crucial that these assets are functioning properly when needed.

These Bylaws do not apply to any privately owned/managed drainage or flood protection systems or those that are managed by other local authorities.

The Bylaw document consists of three parts. Part I applies to all river and drainage schemes in the region (that are managed by, or under the control of, Bay of Plenty Regional Council).

Part II applies only to the lower reaches of the Rangitāiki. Tarawera and Kaituna Rivers where pumiceous soils dominate, and provide additional protection measures for drains and assets.

Part III identifies the region's designated floodways, spillways and ponding areas and provides additional protection measures for these areas.

Compliance with these Bylaws does not remove the need for activities to also comply with the Resource Management Act 1991 and the requirements of other regional and district plans.

Regulation of any adverse effects on the environment, of the construction or modification of drainage works and defences against water is provided by the operative Bay of Plenty Council Natural Resources Plan, which has been prepared under the Resource Management Act 1991.

While the purpose of this Bylaw is asset protection, the Bay of Plenty Regional Council will follow good environmental practice in its application. This Bylaw is intended to be used in conjunction with current national direction, other Bay of Plenty Regional Council statutory documents, and current industry standards.

At the time of writing the Minister for the Environment has released the Essential Freshwater management package. Essential Freshwater outlines proposed freshwater management mechanisms for driving improvements in water quality and water allocation.

Of particular note is the risk that pump stations operated by the regional council may be unable to operate in the future if the agricultural drainage water these pumps discharge to the receiving environment cannot meet the water quality standards set by the Minister.

As a minimum Bay of Plenty Regional Council would expect land owners to be complying with their current industry standards.

Regional Council's land management staff are available to assist landowners in adjusting their on farm practices so that drainage water entering the Council scheme drains is of appropriate quality.

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Draft Bay of Plenty Regional Council Flood Protection and Drainage Bylaws 2020

The Bay of Plenty Regional Council, pursuant to the powers contained in The Local Government Act 2002, makes these Bylaws.

The following statutes also give mandate to Bay of Plenty Regional Council to undertake management and control of flood protection and drainage assets:

The Land Drainage Act 1908

The Soil Conservation and Rivers Control Act 1941

The Public Works Act 1981.

2. Title

The title of these Bylaws is the **Bay of Plenty Regional Council Flood Protection and Drainage Bylaws 2020.**

Commencement

These Bylaws will come into force on the 1st day of July 2020

3. Purpose

The purpose of these Bylaws is to protect and control drains, pumping stations, defences against water, river edge protection works and floodways managed by, or under the control of, the Bay of Plenty Regional Council.

4. Definition of terms

Unless the context otherwise requires:

- Words importing the singular include the plural and vice versa;
- Words applying to any person include any body of persons, whether incorporated or not.
- References to a statute or section of a statute are also references to statutes or sections of statutes which amend or replace them.

"Asset" means, for the purposes of these Bylaws, the following, including:

Asset Group	Asset	
Erosion protection	Buffer zone	
	Edge planting	
	Fencing	
	Rock work	
	Rubble	
	Trenched willows	
	Gabion	
Pump Stations	• Pumps	
	Pump stations	
	Pump - electrical	
	Pump - electronics	
	Pump - ancillary	
Stopbanks	Stopbanks	
	Geotechnical treatments; including:	
	 Overlays 	
	 Pressure relief wells/trenches 	

	Wick drains
Structures	Bund
	• Crossing
	• Culvert
	Concrete wall
	• Dam
	Drop structure
	Fish containment screens
	Flood gate
	Radial gate
	Sluice gate
	Stop log
	Timber wall
	Headwalls
	Gauging station
	Rock groynes
	• Weir
Waterways	• Canals
	• Drains
	• pipes
Biological Weed control	Grass carp

For the avoidance of doubt, all assets referred to in these Bylaws are those that provide flood protection, water control or aid in the maintenance of assets in the Bay of Plenty regions rivers and drainage schemes, and are registered in the Bay of Plenty Regional Council Asset Register.

"Bank" means verge, embankment or edge of a watercourse.

"Bund" means a barrier or embankment constructed near or alongside a river or drain to contain and prevent high flows flooding onto adjacent land; and can be the result of river or drain dredging and piling of dredging alongside the river or drain.

"Construct" includes add to, alter, build, reconstruct, expand, or extend.

"Council" means the Bay of Plenty Regional Council, its predecessors and successors and includes any person duly authorised by the Council to exercise any of the powers conferred upon the Council by these Bylaws.

"Cropping" means to plant, grow and harvest cultivated plants.

"Crossing" Is any means by which any vehicle, livestock, or person may go over or through any drain, defence against water, or floodway; and includes a bridge, culvert or ford.

"Culvert" means a structure that allows water to flow under a road, railway, trail, or similar obstruction from one side to the other side. Typically embedded so as to be surrounded by soil, a culvert may be made from steel, plastic, reinforced concrete or other material.

"Defence against Water" includes any dam, bund, weir, bank, stopbank (and any associated geotechnical treatment), floodgate, groyne, pump station, and any structure or equipment of which has, or may have, the effect of stopping, diverting, controlling, restricting, or otherwise regulating the flow or spread, into or out of a watercourse, of water, including floodwaters, which is developed or retained for the purpose of flood mitigation.

"Discharge" includes emit, deposit, and allow to escape.

"Drain" means a watercourse or channel, either occurring naturally, or artificially constructed, or a modified watercourse, which is used to either lower the water table or divert (remove runoff) water.

"Dwelling" means any building or part of a building used, or intended to be used, for a

residential activity on a permanent basis, and may include an apartment, a semidetached or detached house, mobile and relocatable building, home unit, town house, papakāinga unit, kaumatua flat, rest home for the rehabilitation and care of any group and similar forms of permanent residential development.

"Earthworks" means any activity that disturbs soil, including but not limited to, any activity that exposes, disturbs, places, deposits or removes soil. See also the definition for "small-scale backyard cultivation".

"Erosion protection works" (also see 'Asset' definition above) means erosion protection assets which are used to:

- Protect stopbanks and natural channel banks from erosion.
- Maintain channel stability.
- Reduce sediment deposition.

"Floodgate" means a structure that restricts the direction of water flow.

"Floodway" means a defined corridor that confines floodwaters up to specific design level.

"Ford" means a shallow place where a watercourse can be crossed, usually in a stream, drain or river.

"Geotechnical Treatments" see "Assets" definition above.

"Grass carp" are fish whose scientific name is *Ctenopharyngodon idella*. These fish are used for biological weed control and are considered an Asset. (See Appendix I for grass carp description).

"Groyne" means a low wall or sturdy barrier built out into a river to control erosion.

"Notice" means signage, electronic mail, written letter, verbal notification.

"Occupier" in relation to any property, means the inhabitant/occupier of that property.

"Overgrazing: means the tracking, pugging or loss of grass thatch caused by stock that can weaken the integrity of the defence against water.

"Plant" (also "Planting") unless inconsistent with the context It is a living thing that grows in the ground such as a tree, shrub or other vegetative herb.

"Prior Written Authority" means any permission issued by the Council in respect of the requirements of these Bylaws.

"Pump Station" means an electrical pump system that is used to discharge drainage and flood flows in low lying areas.

"Rangitaiki Floodway" means the floodway shown in Schedule 1.

"Rangitaiki Spillway" means the spillway shown in Schedule 1.

"Small-scale Backyard Cultivation" means the disturbance of soil for the purpose of *small-scale* growing of crops (vegetables), ornamentals (flowers) and small shrubs in backyards; to a depth of no more than 300mm.

"Spillway" means a conveyance structure that allows passage for escape of surplus water from a waterway, in time of flood, to a floodway

"Stopbank" means an embankment bordering one or both sides of a river or drainage channel to contain flows. A stopbank is designed and constructed to provide a specific level of flood protection.

"Structure" means any building, equipment, apparatus or other fixture made by people and which is fixed to land.

"Weir" means a structure within a waterway to elevate water levels and/or control and measure flows within the waterway.

Part I — Bylaws applying to *all* drains, defences against water, erosion protection works and floodways managed by, or under the control of the Bay of Plenty Regional Council

5. Application of Part I

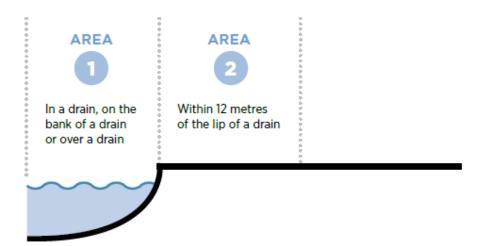
Part I of these Bylaws applies to all scheme assets including: stopbanks, erosion protection works, bunds, crossings, drains, pumps, structures and other scheme assets which are managed by, or under the control of, the Council.

Part I does not apply to stopbanks, erosion protection works, crossings, drains, pumps, structures and other scheme's assets which are not managed by, or under the control of, the Council.

Part I does not apply to any river edge where there are no defences against water, erosion protection, or any other Council asset.

5.1 Drains

FLOOD PROTECTION AND DRAINAGE BYLAW APPLICABLE AREAS – **DRAINAGE SCHEME DRAINS**



5.1.1 Except with the prior written authority of Council, no person will, in respect of any drain managed by, or under the control of, Council:

- a. Widen, deepen or otherwise alter any drain.
- b. Deposit or allow to be deposited into a drain any material that is likely to obstruct the free flow of water.
- c. Remove or interfere with any structure or equipment relating to any drain.
- d. Connect any pipe, channel or other conduit to any drain.

Explanation: With prior written authority installation of new subsoil drainage pipes is allowable, providing they are draining land that is already contributing to the receiving drain i.e. there is no diversion of water.

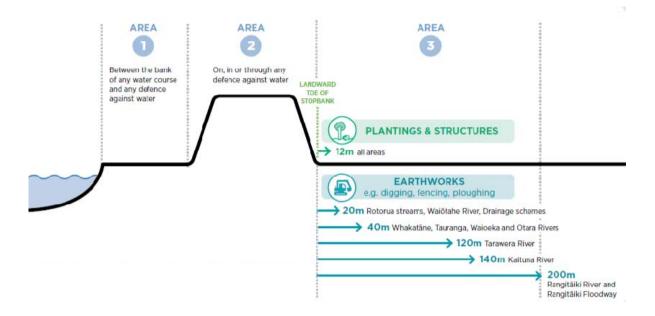
- e. Plant, or allow to grow, any tree, shrub, hedge, or any part thereof, within 12 metres of a drain (measured from the lip of the drain - Area 2 in diagram above).
- f. Allow any plant to grow over, or in any drain, or on the banks of a drain, that may impede the flow of water in the drain, or interfere with access along the drain for maintenance or inspection purposes (Area 1 in diagram above).
- g. Remove, damage or allow stock to damage, any plants that have been planted adjacent to a drain by Council to act as stabilization; or any fence that has been erected to protect those plants.
- h. Allow stock access to any drain or the bank of any drain.
- i. Construct or remove any structure in or under any drain, or on any bank of a drain or within 12 metres of a drain (measured from the lip of the drain).
- j. Construct or remove a bridge, culvert or crossing in or over any drain.
- k. Construct or form through repeated use, or remove or dismantle; a road or race for the passage of vehicles or stock within 12 metres of a drain.
- Undertake any works that will interfere with the access of Council staff to river and drainage scheme assets.
- m. Allow any object or structure to be located within 1.5 metres (vertical) above the normal drain water level.

Explanation: This clause applies especially to drains and canals that are maintained by the weedcutter boat and/or spray boat that requires a minimum clearance of 1.5 metres beneath obstacles overhanging the drain. Refer to Schedule 8: Drains maintained by weedcutter or spray boats.

- **5.1.2** Every owner and every occupier of land on which any Council managed or controlled drain is situated shall, if required by Council, remove any tree, plant or other material that obstructs or would be likely, by falling or otherwise, obstruct the free flow of water in that drain.
- **5.1.3** Council may, by written notice, require any owner, or any occupier, of land adjoining any drain within the time and in the manner stated in the notice, to erect fencing to prevent stock entering the drain.
- 5.1.4 All fenced crossings that may prevent access along drain margins to Council staff or contractors, shall have 3.6 metre wide (minimum) gateways to provide access for maintenance and inspection purposes.
- 5.1.4 Every owner and every occupier of land on which any Council managed or controlled drain is situated, shall not permit any dead stock or any part thereof to be or remain in any drain.
- 5.1.5 Every owner and every occupier of land on which any authorised drain crossing is situated, unless the crossing exists for the sole use of the Council, shall keep that crossing maintained to such a standard as will allow the safe passage over the crossing by Council staff and contractors and their equipment, machinery and vehicles.
- 5.1.6 Council may, by signage (written notice), conspicuously displayed adjacent to any drain, prohibit or restrict access to that drain if, in the opinion of Council, the restriction or prohibition is *necessary to protect the drain from damage.*
- 5.1.7 No owner or occupier shall damage, interfere with, or allow damage to occur to, any drain or drain bank.

5.2 Defences against water

DEFENCES AGAINST WATER - FLOOD PROTECTION AND DRAINAGE BYLAW APPLICABLE AREAS



5.2.1 Except with the prior written authority of Council no person will, in respect of any defence against water managed by or controlled by the Council:

- a. Widen, raise, lower, reduce in width, or otherwise alter or interfere with any defence against water.
- b. Plant or allow to grow any shrub, hedge, tree or part thereof:
 - i. Between the bank of any watercourse and any defence against water (Area 1 in diagram above)
 - ii. on, in or over any defence against water (Area 2 in diagram above)
 - iii. **within 12 metres** of the landward toe of any defence against water (Area 3 in diagram above).

Note: No person will undertake cropping for the purposes of hay, silage or maize in Area 1 without **prior written authority**. Any cropping in Area 2 is **not** permitted.

c. In the case of established trees, no tree shall be cut down or removed within 12 metres of the landward toe of any defence against water without prior written authority.

Explanation: Though it is not ideal to have trees planted near a defence against water; in the case of established trees, with established root systems, cutting down or removing these trees may affect the integrity of the soil system near a defence against water. Applying for a Bylaw Authority allows the Council to work with the landowner to discuss the best course of action for tree removal, root excavation and re-compaction.

- d. Dump or deposit any item:
- i. on any defence against water, or
- ii. between the bank of any watercourse and any defence against water.
- e. Remove or interfere with any structure or equipment in, on or under, any defence against water.
- f. Construct or remove any structure:
 - i. between the bank of any watercourse and any defence against water (Area 1 in diagram above)
 - ii. on or over any defence against water (Area 2 in diagram above)
 - iii. **Within 12 metres** of the landward toe of any defence against water (Area 3 in diagram above).
- g. Carry out any earthworks including for building foundations or digging a drain:
 - i. on or between the banks of any watercourse and any defence against water (Area 1 diagram above)
 - ii. on, over or through any defence against water (Area 2 in diagram above)
 - iii. in the specified Bylaw Applicable Area of any defence against water (Area 3 in the diagram above).

The specified margins for the Bylaw Applicable Areas being:

Waterway	Margin
	distance
Rangitaiki River (including Rangitaiki Floodway)	200m
Tarawera River	120m
Kaituna River	140m
Rotorua streams (Waingaehe, Puarenga, Utuhina,	20m
Mangikakahi, Otamatea, Waiowhiro, Ngongataha,	
Waitetī, Ōhau Channel	
Whakatāne, Tauranga, Otara and Waioeka	40m
Drainage scheme canals, drains and canals	20m

Explanation: For the purpose of small-scale, backyard *cultivation*, disturbing soil to a depth of **300mm** is permitted. Any digging deeper than 300mm into the soil profile cannot be carried out **except with prior written authority of Council**. This includes *urban* areas.

- h. Construct or remove any crossing in, over, through, along or under, any defence against water.
- i. Remove, damage, or allow stock to damage, any plants that have been planted adjacent to a river and are managed by the Council.
- j. Remove, damage, or allow stock to damage any fence that has been erected by Council for the protection of plants on a riverbank.
- k. Construct or form through repeated use, or remove a road or race for the passage of vehicles or stock on any defence against water.

5.2.2 No person will under any circumstance will:

- a. Damage, or allow damage to occur to any defence against water.
- b. Allow stock to damage or overgraze any defence against water.

Explanation: Stock on stopbanks is not ideal but grazing is sometimes used as a method to maintain the grass cover height e.g. long grass restricts inspections and condition assessments, is a fire hazard during summer, can hide rabbit holes and bank erosion. Controlled grazing by stock is allowable with **prior written authority.** Grazing by bulls, horses and pigs is not permitted.

- **5.2.3** Except with the prior written authority no person shall erect or permit to be erected any stopbank, or defence against water.
- **5.2.4** The Council may, by signage (a written notice), conspicuously displayed adjacent to any defence against water, prohibit or restrict access to that defence against water if, in the opinion of Council, the restriction or prohibition is necessary to protect the defence against water from damage.

6. Erosion Protection Works

Except with the prior written authority of the Council no person will, in respect of any erosion protection works managed or under the control of the Council:

- a. Remove, damage or allow stock to damage any erosion protection works that have been placed or planted adjacent to a river by the Council or its predecessors
- b. Dump or deposit any item on, in or beside an erosion protection works.

7 Grass Carp

Grass carp are used in some drains in the region as biological weed control and are considered a Council asset, therefore **no person will:**

- a. Catch, take, or harvest or engage in any activity which may reasonably be expected to result in the catching, taking or harvesting of grass carp from any drain, canal or river managed by or under the control of the Council
- b. Kill, maim, injure or engage in any activity, which may reasonably be expected to result in the killing, maiming or injury of grass carp in any drain, canal or river managed by or under the control of the Council.
 - See **Appendix I** for grass carp description.
- c. Interfere with any structure that contains or restricts grass carp in a release area of a drain, canal or river.

8 Pump Stations

- a. Council has full rights and powers to temporarily shut down pumping stations during high river and/or drain flows if it is considered that there is a risk of a seepage failure occurring in the adjoining stopbanks or stopbank foundations.
 - **Explanation:** The act of pumping during flood events increases the height difference between the floodwaters contained within stopbanks and the surrounding land. This increases seepage pressures through the stopbank foundations that could lead to a seepage failure of the stopbank structure. It also increases the risk of downstream banks overtopping and adversely affecting downstream properties.
- b. No person will interfere with the operation of pumping stations at any time.

9. Land Entry

9.1 Inspection

Council has full rights and powers to enter onto land to inspect any drain, watercourse or asset are managed or under the control of the Council.

9.2 Maintenance works

Council has full rights and powers, upon giving to the owner or occupier of any land not less than 48 hours prior notice, to enter upon that land for the purposes of carrying out spot spraying, mechanical cleaning and desilting of drains and carrying out minor earthworks and repairs on drains or structures that are managed or controlled by the Council.

9.3 Surveys

Council has full rights and powers to enter onto land to survey any drain, watercourse, defence against water or asset that is managed or controlled by the council.

9.4 Emergency Action

Council will, for the purpose of doing anything that it is authorised to do under these Bylaws, enter occupied land or buildings without giving prior notice, if:

- a. there is a sudden emergency causing, or likely to cause:
 - i. loss of life or injury to a person
 - ii. damage to property
 - iii. damage to the environment
- b. there is danger to any assets or adjoining property.

10. Maintenance of Bay of Plenty Regional Council drains by private individuals

Land owners who wish to avoid herbicide use for drain maintenance adjacent to or through their properties may undertake the drain clearance or employ contractors to do so subject to the following conditions:

- a. Prior written authority of the Council must be obtained.
- b. The works are to be carried out to a standard specified by the Council in the written authority.
- c. Signs are to be erected and maintained to clearly mark the areas where chemicals are not to be used. (This may be achieved by landowners erecting simple, obvious signs clearly marked 'Chemical Free Area').
- d. If the works are not carried out to the specified standard, Council may give notice under clause 8.1 Remediation may include the use of herbicides.

11. Obstruction of officers and contractors

11.1 No person whether on private land or not, shall unreasonably obstruct or hinder any employee of the Council or any contractor engaged by the Council in the performance of anything which a Council employee or contractor is, or may be required to do in the discharge of his/her duties.

No person shall unreasonably obstruct or hinder any such employee or contractor from bringing onto any land, or from operating, any drain clearing equipment or machinery

which is being used, or is to be used, in the discharge of those duties.

12. Applying for Prior Written Authority

12.1 Written Authority

Prior Written Authority must be sought before undertaking any activity outlined in these Bylaws.

- a. An application to the Council for written authority under these Bylaws will be made in writing.
- b. Written authority under these Bylaws will be granted on such conditions, as the Council considers appropriate.
- c. Every person to whom written authority is granted will produce that authority for inspection on request by the Council.

12.2 Fees

- a. Council reserves the right to set and charge reasonable fees and charges under s150 of the Local Government Act 2002.
- b. Fees will be set annually under s82 of the Local Government Act 2002. Refer to **Schedule 7.**
- c. The Council may in its absolute discretion refund, remit or waive the whole or any part of such fees.

13 Compliance and enforcement

13.1 Remediation

- a. The Council may, by written notice, require any remediation considered necessary by the Council, in relation to the contravention of any provision of these Bylaws or any conditions of the relevant written authority granted by Council.
- b. The notice will advise the nature and steps to be taken within a specified period, to remedy the breach, at the cost of the person who committed the breach.
- c. If, after the specified period, the breach has not been remedied, Council reserves the right to undertake remedial work required in order to make good the breach.
- d. Remedial work may include, but it is not limited to, the removal or alteration of any unauthorised activity, works, vegetation or structures.
- e. If Council decides to undertake remedial work, Council has the right to recover from the person committing the breach reasonable costs incurred in connection with the remedial work, as per section 163 of the Local Government Act 2002.
- f. The undertaking of this remedial action by Council shall not relieve any person from liability to any penalty incurred by reason of the breach.
- g. These clauses are subject to the legal powers that allows Council to carry out emergency action as per Clause 9.4 above without giving prior notice.

13.2 Suspension of Written Authority

a. Council may, suspend any written authority granted under these Bylaws, if the holder of that authority contravenes or fails to comply with any condition of that authority.

- b. Council may suspend any written authority until:
 - i. The contravention has been remedied.
 - ii. After the authority holder objects to the suspension in accordance with Clause 9, the Council deems it reasonable to remove the suspension.
 - iii. If it is clear the contravention will not be remedied, the Council decides under Clause 13.3 to revoke the authority.
- c. The effect of a suspension is that the holder of the authority may not do anything that the authority previously authorised them to do, except to take measures to remedy the failure or contravention.

13.3 Revocation of Written authority

- a. Council may, in accordance with this clause, revoke any authority granted under this Bylaw if the holder of the authority contravenes or fails to comply with any condition of the authority and is still non-compliant following a period of suspension.
- b. Council will not revoke any such authority without giving the holder written notice which:
 - i. Sets out the respects in which the holder has contravened or has failed to comply with any condition of the written authority, and
 - ii. If the breach or failure is capable of remedy gives the holder a reasonable time within which to remedy it, and
 - iii. Warns the holder that the Council may revoke the written authority if the holder does not either:
 - a. Remedy the breach or failure within the time specified or within such further time as the Council may allow on application to be made within such time is as specified in the notice or
 - b. Object to the decision in accordance with clause 9.
- c. On receipt of a request by a holder for further time pursuant to Clause 13.3 (b)(iii)(a) or of a submission pursuant to Clause 13.3 (b)(iii)(b), the Council may at its sole discretion grant the further time sought or accept the submission made (as the case may be), or proceed to revoke the authority.

13.4 Offences

- a. Every person commits an offence against these Bylaws when they:
 - i. Commit a breach of any of the provisions of these Bylaws, or
 - ii. Cause or permit to be done, anything in contravention of these Bylaws, or
 - iii. Omit to do anything required by these Bylaws, or
 - iv. Fail to comply with any condition of a written authority, or written notice served under these Bylaws.
- b. Every person who commits an offence against these Bylaws is liable to the penalties as prescribed in section 242 of the Local Government Act 2002.

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13.5 Objection Process

- a. Any authority holder subject to these Bylaw may, within 10 working days of receiving any decision or authority in relation to these Bylaws, object in writing to Council in regard to that decision or authority, and has the right to be heard in support of that objection.
- b. The decision will be reviewed within Council by an authorised person, other than the original decision maker within 20 working days.

The Council in considering an objection shall have regard to:

- i. The evidence on which the decision or authority was based; and
- ii. The matters presented in support of the objection; and
- iii. Any other relevant matters.
- d. The Council may dismiss the objection or uphold the objection wholly or in part, and shall give the reasons for that determination to the authority holder.
- e. This clause is subject to the power to carry out emergency action as per Clause 9.4

Part II — Additional Bylaws Applying to the Lower Rangitaiki River, the Lower Tarawera River and the Lower Kaituna River

The lower reaches of the Kaituna, Rangitaiki and Tarawera Rivers have layers of pumiceous soils that are more susceptible to seepage and piping failures beneath the stopbanks during flood events. The purpose of these specific clauses is to minimise the risk of such failures occurring.

pumps, structures and other scheme assets in the Lower Tarawera, Lower Kaituna and the Lower Rangitaiki Rivers that are managed by, or under the control of, Council.

Specifically these areas include:

- On both Rangitaiki riverbanks, from approximately 700m above the State Highway Bridge at Te Teko to the mouth.
- On the Tarawera River on the true right of the river from the State Highway 30 bridge to the mouth and true left of the river from 800 metres downstream of the Tumurau Lagoon structure to the mouth.
- On the lower reaches of the Kaituna River below Maungarangi Road.

Note: Part I still applies to these areas.

Part II of this Bylaw does not apply to stopbanks, bunds, bank protection works, crossings, drains, pumps, structures and other scheme assets that are not managed by or under the control of the Council.

No person will, without the prior written authority of the Council undertake any of the following activities:

- a. Digging, maintenance or any other earthworks including building foundations:
 - within 200 metres of the landward toe of the prescribed Rangitaiki River stopbanks and the Rangitaiki Floodway stopbanks
 - within 120 metres of the prescribed Tarawera stopbanks
 - within 140 metres of the prescribed Kaituna stopbanks

Note: For the purpose of *small-scale, backyard cultivation*, disturbing soil to a depth of 300mm is permitted. Any digging deeper than 300mm into the soil profile cannot be carried out except with prior written authority of Council.

- b. Undertake earthworks for the fencing, replacement fencing, or for the purposes of intensifying infrastructure including (but not limited to), artificial or natural shelter belting, subsoil irrigation or drainage:
 - within 200 metres of the landward toe of the prescribed Rangitaiki River stopbanks and the Rangitaiki Floodway stopbanks
 - within **120 metres** of the prescribed **Tarawera stopbanks**
 - within **140 metres** of the prescribed **Kaituna stopbanks**

Note: Anyone undertaking new fencing or replacing old fencing within the Bylaw Applicable Area will need to work with Council on the best practice methods for fencing, which may include, but not limited to, filter collars for posts.

- d. Undertake any type of ploughing:
 - within 200 metres of the landward toes of the prescribed Rangitaiki River stopbanks
 - within 200 metres of the landward toe of the Floodway stopbanks
 - a. Within 120 metres of the landward toes of the prescribed Tarawera River stopbanks
 - b. within 140 metres of the landward toe of the Kaituna stopbanks.

Part III — Additional Bylaws Applying to Floodways, Spillways and Ponding areas

Part III of this Bylaw applies to Floodways, Spillways and Ponding areas, specifically:

• Rangitaiki Floodway (refer to Schedule 1 for map)

Waioeka Floodway (refer to Schedule 2 for map)

Mangorewa Floodway (refer to Schedule 3 for map)

Waingaehe Floodway (refer to Schedule 4 for map)

• Ngongataha Floodways (refer to Schedule 5 for map)

• **Te Rahu ponding Area** (refer to schedule 6 for map)

Floodways and Spillways

No person shall, without the prior written authority of the Council in respect of the Floodways or spillways:

- a. Plant any tree or construct any dwelling or structure, or deposit any material in the Floodway or spillway that is likely, in the opinion of the Council, to obstruct the free flow of water.
- b. Remove any plant cover from the ground within 20 metres of any spillway structure.

Explanation: For the avoidance of doubt, plant cover for Part III means any type of grass or low lying ground cover. This type of planting ensures ground protection of the floodway/spillway area without inhibiting the free flow of water in a flooding situation.

c. Carry out any earthworks or ploughing within 20 metres of any spillway structure.

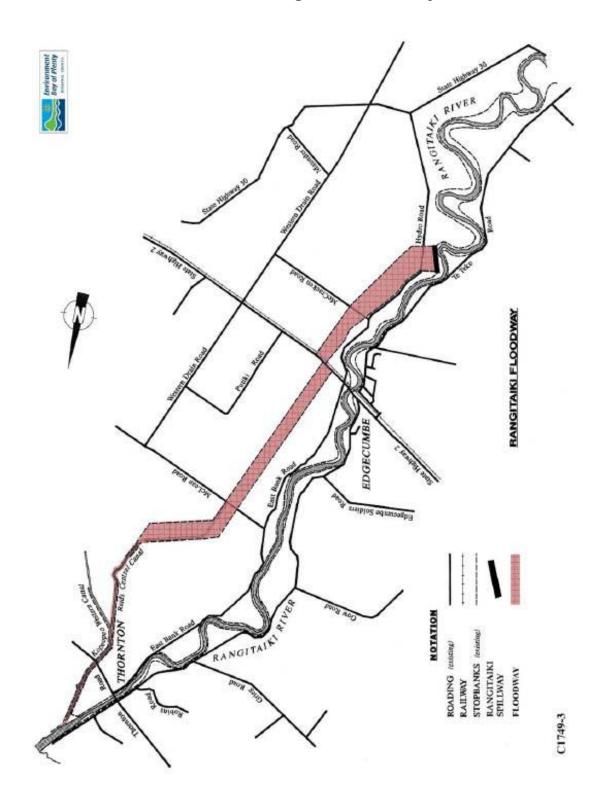
Te Rahu Ponding Area

No person shall, without the prior written authority of the Council in respect of the **Te Rahu Ponding Area** (refer to **Schedule 6** for map):

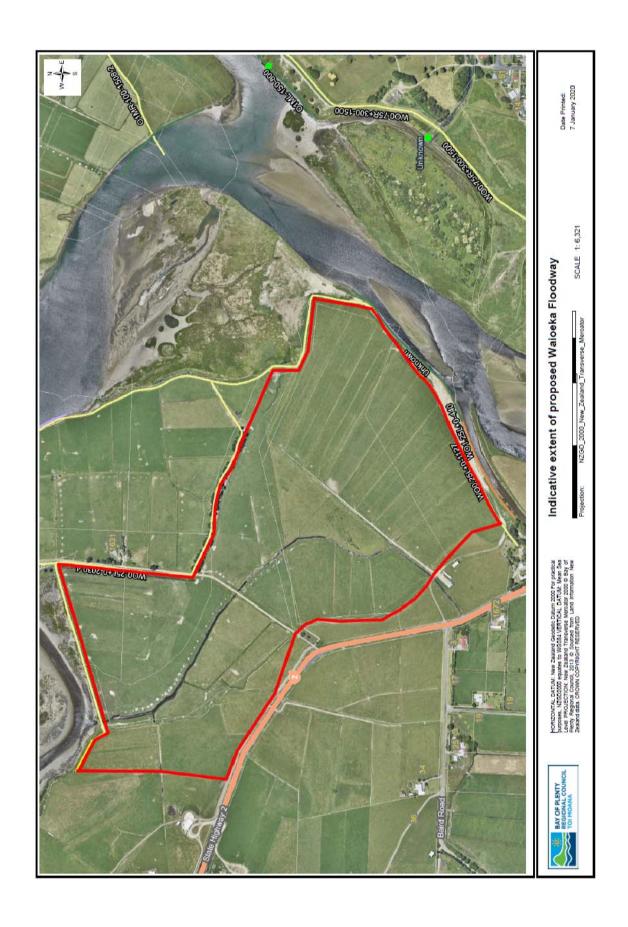
- a. Remove any plant cover from the ground within 20 metres of the spillway structure.
- b. Carry out any earthworks or ploughing within 20 metres of the spillway structure.
- c. Construct any dwelling within the Te Rahu Ponding Area.

Note: any farm buildings that are not dwellings will have no controls over floor levels and may be partially inundated by ponded water during flood events.

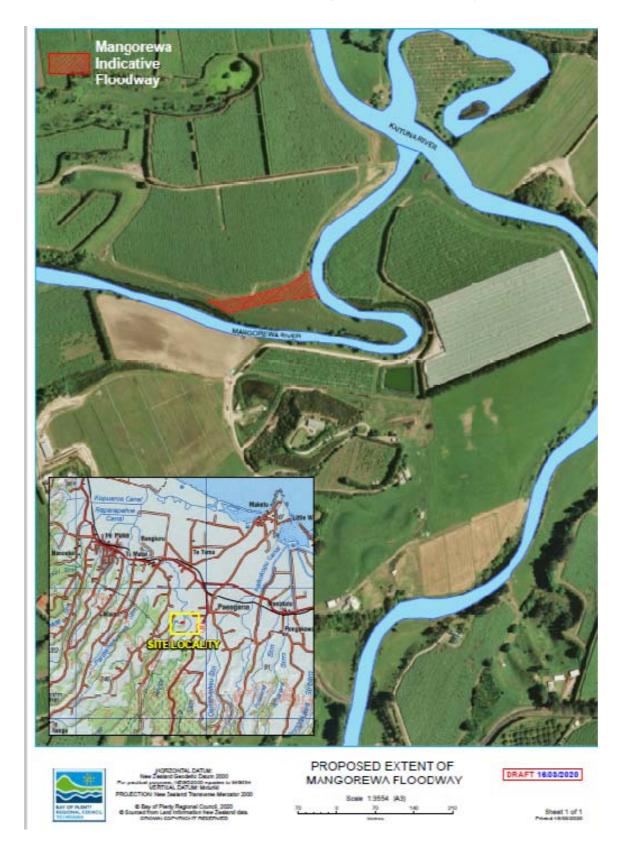
Schedule 1: Rangitaiki Floodway



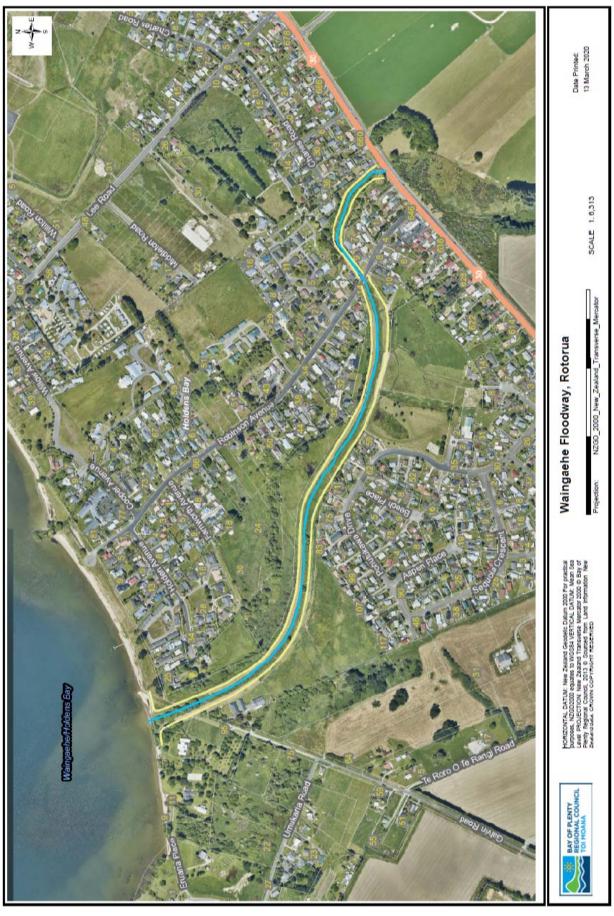
Schedule 2 - Waioeka Floodway



Schedule 3 – Mangorewa Floodway



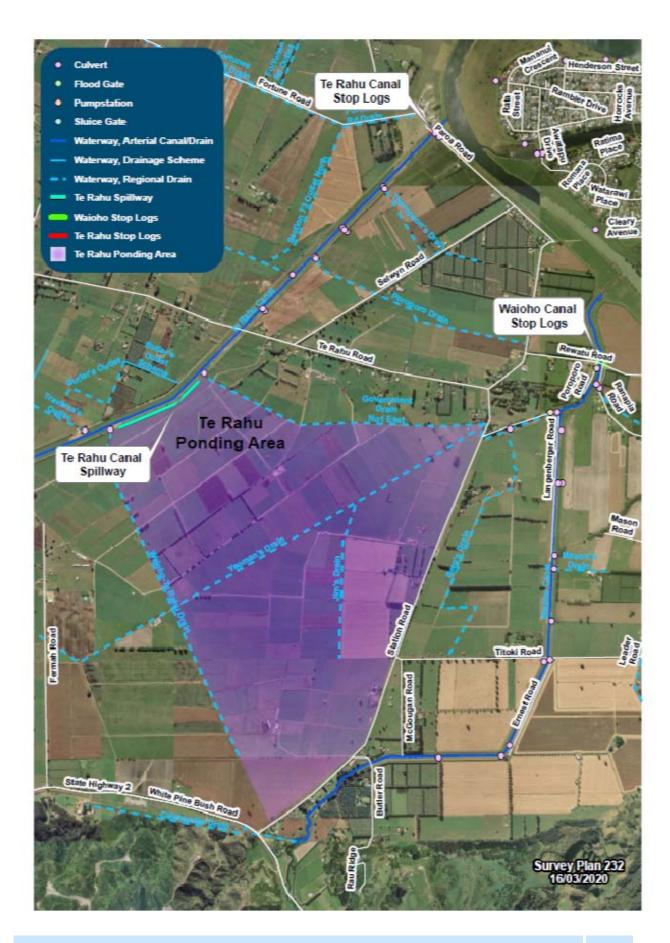
Schedule 4 - Waingaehe Floodway



Schedule 5 – Ngongataha Floodway



Schedule 6 - Te Rahu Ponding Area



Schedule 7 - Schedule of Fees

Proposed Schedule of Fees	All fees are exclusive of GST.
Standard Application Fee	For routine authority applications: \$0.00
Other Functions or Services	Authority applications that are not routine and require technical investigation (e.g. engineering design and/or surveying and site visits) will be recovered at the actual and reasonable costs.

Schedule 8 - Weedcutter and Spray boat capable drains

Rangitāiki Drainage Scheme

- Awaiti Canal
- Omeheu Canal
- Awakaponga Canal
- Awakaponga Drain
- Kopeopeo West Canal
- Kopeopeo East Canal
 - Eastern Drain
 - Section 109 Canal
 - Tumurau Canal
 - Western Dain
 - Collins Drain
 - Orini Canal
 - Te Rahu Canal

Kaituna

- Ford Road Drain
- Pah Road Drain
- Kaituna Road Drain
- Bell Road No.1 Drain
 - Kopuaroa Canal
 - Potters Drain
- Ohineangaanga Canal
 - Raparapahoe Canal
 - Cruickshanks Drain
 - Diagonal Drain
 - Managh's Drain
 - Waiari Canal
 - Factory Drain

Appendix 1 - Grass carp (Ctenopharyngodon idella)



Grass carp are a handsome, robust fish and commonly exceed 500 mm in length.

Their backs are a dark bronze colour, but this gradually fades to silver on the belly. The margins of their large scales are outlined in a darker colour, giving them a crosshatched appearance. Grass carp have no barbells, but can be distinguished from goldfish by the short dorsal fin with only 7-9 rays.

Grass Carp are used as biological control agents and are an effective method of control for aquatic pest weeds and nuisance algae's within New Zealand.

In fact they are frequently a more economic method for control than any of the alternatives such as manual harvesting or the use of chemical herbicides. In addition the on-going cost of managing a water body where Grass Carp have been stocked is negligible and when compared to the use of mechanical harvesters, suction dredging or chemical herbicides where repetitive applications or removals are required (typically every summer) comes out economically favourable for the use of Grass Carp.

Grass carp are sourced from independent breeders and stocked into specific drains. Stock that are provided are free of known diseases and other potential pest organisms and are often sterile. They are also only stocked in enclosed drains to ensure an ecological effects on populations are prevented.