



Waioeka-Otara Rivers Scheme Advisory Group Meeting

**Wednesday 25 March 2020
at 10:30am**

Ōpōtiki District Council Chambers
108 St John Street
Opotiki

Waioeka-Otara Rivers Scheme Advisory Group Meeting

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Agenda

- 1 Welcome/karakia**
- 2 Apologies**
- 3 Notes of previous meeting held 25 September 2019**
- 4 Matters arising from previous meeting**
- 5 Performance assessment of critical assets**
- 6 River scheme planning (Asset Management Plan, Long Term Plan)**
- 7 Making room for the river – Waioeka and Otara rivers**
- 8 Operations update**
- 9 April 2017 Flood Repair Project update**
- 10 Engineering update**
- 11 Finance report**
- 12 General business**
 - a. Gravel management update
 - b. Review of the Floodway and Drainage Bylaw 2008
 - c. Infrastructure insurance
 - d. Advisory group membership September 2020 to September 2023

Notes of the Waioeka-Otara Rivers Scheme Advisory Group meeting held at Ōpōtiki District Council Chambers, Opotiki, on Wednesday 25 September 2019, commencing at 10:30am

Chair:	Councillor Bill Clark
Advisory Group:	Dean Petersen, Dave Wilson, Tania Te Whenua (part of meeting), Jessica Wiseman, Ari Erikson (Ōpōtiki District Council), Councillor Ken Young (Ōpōtiki District Council)
BOPRC Councillors:	Chairman Doug Leeder, Councillor Norm Bruning, Councillor Marr
BOPRC Staff:	Kirsty Brown (Acting Rivers and Drainage Assets Manager), Jo Heath (Asset Management Coordinator), Bruce Crabbe (Rivers and Drainage Operations Manager), Tony Dunlop (Flood Repair Project Engineer), Mark Townsend (Engineering Manager), Chris Ingle (General Manager, Integrated Catchments), Tim Senior (Land Management Officer), Hemi Barsdell (Asset Management Specialist)
Public:	Tracey Hillier (Ngāi Tamahaua), Tim Herewini (Ngāi Tamahaua)
Apologies:	Barry Hennessy, Robbie Petersen

1 Welcome

Councillor Clark welcomed everyone to the meeting.

Kirsty Brown introduced Hemi Barsdell who as has been appointed as Asset Management Specialist within the Rivers and Drainage Asset Management team.

2 Public Forum

Tim Herewini (Ngāi Tamahaua) addressed the meeting and expressed iwi concerns with river management, gravel extraction and resource consents. He summarised discussions between Ngāi Tamahaua and Regional Council and indicated that iwi want a joint river management agreement where Council achieves river scheme works through joint decision making that meets iwi/hapū priorities.

3 Apologies

Apologies received as recorded above.

4 Notes of previous meeting held 3 April 2019

Resolved

That the Waioeka-Otara Rivers Scheme Advisory Group:

- 1 Confirm the notes of the meeting held 3 April 2019 as a true and correct record.**

**Clark/D Petersen
CARRIED**

5 Matters arising from previous meeting

Kirsty Brown ran through the actions from the previous meeting:

- 10-year financial projections for all river schemes were provided to members following the April meeting and members were also referred to the Rivers and Drainage Asset Management Plan, Section 10.3 pp199-210
https://cdn.boprc.govt.nz/media/786843/rivers-and-drainage-asset-management-plan-2018_2068-final-print.pdf

There were no other matters arising.

6 Review of the Floodway and Drainage Bylaw 2008

Kirsty Brown spoke to the report provided in the agenda pack.

Key points included:

- The Floodway and Drainage Bylaw is the key tool Council has to protect its flood protection and drainage assets from damage and misuse.
- Staff are currently reviewing the bylaw rules and assessing what changes will need to be made to ensure the rules, and supporting science and technical information, are still relevant and fit-for-purpose.
- Workshops with advisory group members will be organised for October/November, and proposed variations to the bylaw will be presented in detail.
- Two potential controversial changes will be: the possible extension of the bylaw applicable areas to ensure specific geotechnical issues are managed appropriately; and restrictions on ploughing, cropping and fencing in close proximity to stopbanks.

Attendance: Mark Townsend joined the meeting at 10:51 am.

7 Operations update

Tony Dunlop delivered a presentation on scheme maintenance work – showing a range of operational and maintenance work and Bruce Crabbe spoke to the Works Programme report provided in the agenda pack.

Key points included:

- There has been a couple of decent annual flood events in the last 12-18 months and there are 12 flood damaged locations requiring significant repairs at an estimated cost of \$800k. This work is funded through the annual maintenance and operating budget and we are forecasting an overspend of \$700k at the end of 2019-2020. This will be funded through a loan.
- Most of the sites are high priority from a scheme perspective i.e. areas protecting stopbanks and we don't really have a choice but to do the work. Important to spend scheme money where there is the highest level of risk.

Discussion:

- Rivers naturally want to move and meander, and bank erosion is a natural process that is accelerated by flood events. Erosion is only a concern because we have developed the land for production and want to artificially restrain the river to utilise as much land as possible.

- Concern expressed that the longer sites are left unrepaired the worse they get and the repair cost increases.
- Councillor Young raised the question of at what stage do we stop trying to control nature and let the river have the room it needs. Suggested that the money used for erosion repair could go to purchasing land along the river.

Attendance: *Tania Te Whenua joined the meeting, and Councillor Young left the meeting, at 11:15am.*

- The effects of climate change were discussed. With climate change there are a lot of unknowns and the concept of retreat is very much a key philosophy of action for climate change. Council's River Scheme Sustainability project is looking at the sustainability of the river schemes over the next 100 years and considering various options for the future.
- Suggestion made to have sacrificial areas all along the river where in times of flood the river flows over farm land. The silt left behind is beneficial to soil health, it's just the debris and rubbish that is an issue. From a river management perspective this is a good solution – making room for the river - however we don't see many landowners volunteering their land as a flood flow path and there is always the expectation of compensation.

7.1 Assessment of river management methods

Tony Dunlop explained that Council contracted Gary Williams (G & E Williams Consultants) to undertake an assessment of river management methods in the Whakatāne-Tauranga and Waioeka-Otara schemes. Tony briefed the group on what Gary's assessment covered and the key findings.

Key points included:

- The Bay of Plenty Region is markedly affected by changes in climatic conditions, with a strong correlation with the Interdecadal Pacific Oscillation (IPO) cycle resulting in periods of generally quiescent conditions followed by periods of larger and more frequent flood events. The IPO is a 20-30 year cycle and we are currently leaving a flood intensive phase that started in 1998.
- River management needs to adapt to changing climatic drivers of river processes, and a more flexible and responsive approach that takes account of natural trends is recommended.
- A more resilient approach to river management, which is less constraining of river processes and provides more management options and flexibility, is needed. Gary is suggesting a model with a number of zones:
 - River corridor - the outer boundary demarcating the area that is river from land that is managed for productive human activities or for fixed assets. It includes reserve land for a more extensive vegetated buffer and forested river margin. This area provides space for the river to move within or expand as climatic conditions vary or become more intense with globally driven climate changes.
 - River management zone – the active river zone incorporating vegetated areas that will come and go, with erosion and re-establishment, acting as a buffer of flood flows.
 - Flexible fairway activity area – a moveable activity area within the river management zone where active channel management will be undertaken. Guidelines for management will indicate a width and general alignment of an activity area, within which the river processes of flood flows and sediment transport can take place.

8 Flood Repair Project update

Kirsty Brown spoke to the report provided in the agenda pack and delivered a presentation showing progress with the April 2017 Flood Repair Project.

Key points included:

- Two years through the four year project and 50% of sites across the region have been completed.
- Good progress has been made in the Waioeka-Otara scheme due to the security of suitable rock supply from Matawai.
- 55 sites from a total of 61 sites in the Waioeka-Otara rivers scheme have been completed (90%). The six remaining Waioeka-Otara sites will be completed by 30 June 2020.
- Overall programme budget is on track. Expenditure at end of 2017-2018 was overspent and the programme was ahead of programme. Expenditure at end of 2018-2019 was underspent due to rock supply constraints.
- Cost recoveries are on track with \$9m recovered to date from local authorities, NZTA, Ministry of Civil Defence and Emergency Management, and insurance progress payments. The repair work is being undertaken in a way that optimises recoveries to off-set cost to the schemes and ratepayers. Expecting to recover approximately \$16m of the \$45m project.

9 Engineering update

Mark Townsend spoke to the report provided in the agenda pack and delivered a presentation covering the following key topics:

9.1 Duke Street pump station

Modelling results indicated that the level of service is not being met and a number of options have been considered with Option 3, create more storage adjacent to Duke Street Pump Station, being determined as the most beneficial. This option does require a change to the level of service as some areas will have water ponded on them for longer than 30 hours (i.e. the existing level of service). A change to the level of service does require consultation and a review of the Rivers and Drainage Asset Management Plan.

9.2 Waioeka-Otara rivers capacity review

This work involves the 10-yearly review of the flood protection infrastructure to determine whether the accepted levels of service are being met. This capacity review has multiple components over a period of 4-5 years. The hydrological assessment scheduled for 2018-2019 was rescheduled to 2019-2020 as staff were diverted onto the Ngongotahā Flood Response project. Work will be undertaken in the first half of 2020.

10 Finance report

Kirsty Brown spoke to the finance report provided in the agenda pack and gave an overview of the scheme's revenue and expenditure for the 2018-2019 financial year, noting that the figures are draft until approved by Audit New Zealand and adopted by Council at their meeting on 26 September.

Key points included:

- Total revenue was \$1,483,000 - \$45,000 higher than budget.
- Total operating expenditure was \$1,370,000 - \$341,000 higher than budget.

- Capital revenue - made up of Ministry of Civil Defence and Emergency Management claim for flood repairs and a portion of insurance recoveries – was \$51,000 higher than budget reflecting the flood repair project being ahead of schedule in this scheme.
- Capital expenditure was \$1.3m higher than budget. This is due to the April 2017 Flood Repair Project completing more repair sites than planned because of a secure rock supply while other schemes are struggling to get suitable rock in the required volumes. The 2019-2020 Waioeka-Otara budget has been reduced accordingly.
- The scheme's flood damage reserve has been fully allocated.
- The scheme's works reserve has \$849,000 available.
- Outstanding loans of \$6.5m at the beginning of the year have been reduced to \$6.2m.
- Asset valuation increased by \$9.4m to \$44.7m due to higher construction costs and new assets created under the April 2017 Flood Repair project.

11 General business

11.1 Gravel management update

Mark Townsend spoke to the gravel management update provided in the agenda pack.

Analysis of survey data undertaken post the April 2017 flood events has been completed. Overall in the Waioeka system there has been a net volume gain of 31,000 m³ (2014-2018). The quantity of gravel considered sustainable in the Waioeka is being reduced from 30,000 m³ to 20,000 m³ per annum.

Overall in the Otara system there has been a net volume gain of 61,000 m³ (2013-2018). There has been a noticeable build-up of gravel over the last five to six years and future extractions should be considered for river management purposes (e.g. overflow cuts), particularly where high beach armoured areas exist. It is recommended that gravel extraction in this river be increased to keep the river at a desirable bed level.

Kirsty Brown updated members on the renewal of the consents for gravel extraction from the Waioeka and Otara rivers. The consents expired last year and we have been operating under Section 124 of the Resource Management Act which allows work to continue under the existing consent conditions until a new consent is issued. The consent applications were notified and five submissions have been received. Two of the submissions were opposed to the granting of the consents. Meetings are underway with the submitters to understand and address their concerns.

11.2 Stopbank damage from grazing

Kirsty Brown delivered a presentation on damage to stopbanks over winter. Presentation showed several examples of stopbanks that had been overgrazed to the extent that there was no grass cover, and the stopbank and batters were muddy, pugged and rutted from stock and vehicle movement.

Key points included:

- This year has been particularly bad with stock and vehicle damage to some of our stopbanks.
- Exposing the stopbank like this weakens its integrity, making it vulnerable to slumping and failure.
- Council relies on landowners to proactively manage stopbanks on their property and it is disappointing to see our community assets in this state.
- Damage to stopbanks is covered by the Floodway and Drainage Bylaw 2008.

- Remediation of the Rangitāiki Plains cases shown was paid for by the landowners and was achieved by immediately removing the stock, blading the ruts, re-seeding the exposed areas and covering the area with hay.
- Vehicle damage of the Waioeka River stopbank by Tarawa Creek is yet to be remediated as staff are waiting for the site to dry out to enable appropriate repair.
- A brochure '*Stopbanks – a community asset*' has been produced and copies were provided to advisory group members.
- Staff recently discovered an extensive rabbit warren inside a section of Rangitāiki River stopbank. The maze of tunnels presented a significant risk to the integrity of the stopbank and the area (approximately 40 metres long) was repaired immediately.

11.3 Essential Freshwater

- Chris Ingle advised that staff are currently working through the implications for river scheme management as a result of the government's Essential Freshwater package released on 5 September. Anticipating that there will be a greater focus on water quality management, habitat management, and ecosystem health. The river schemes are not currently funded these areas of work.
- Scope of package includes – setting and clarifying policy direction, raising the bar for ecosystem health, supporting delivery of safe drinking water, better managing stormwater and wastewater, and improving farming practices.
- There will be funding implications for Regional Council and ratepayers.
- Tight submission timeframe with submissions closing 31 October. Regional Council will be making a submission.

11.4 River Scheme rating classification review

- Council is looking at the fairness of the current rating system and is scoping and prioritising schemes for a possible rating review.
- Process is about identifying areas of inequality and ensuring that those who get benefit from the flood protection and land drainage schemes are contributing appropriately.

Meeting closed at: 12:42pm

MEMORANDUM



To: River Scheme Advisory Groups

From: Hemi Barsdell
Asset Management Specialist

Date: 11 February 2020

File Ref: A3474745

Subject: Long Term Plan 2021-2031, Infrastructure Strategy 2021-2051, and Rivers and Drainage Asset Management Plan 2021-2071

Purpose

To inform Advisory Group members of the coming planning processes and to seek feedback.

Feedback Sought

Advisory Group members to inform Council staff around how they would like to contribute to the planning processes.

PLANNING PROCESSES

Long Term Plan (LTP) 2021-2031

The Long Term Plan (LTP) is Council's key strategic document. It sets out Council's priorities for the next ten years, including what will be done, how much it will cost and how it will be funded. It is reviewed every three years to make sure it is still relevant and accurate.

Planning will be undertaken throughout the current calendar year to determine the draft LTP 2021-2031. The process, including timelines is yet to be confirmed, but it is anticipated that the draft vision, outcome statements, objectives and budget figures will be confirmed by November 2020.

Public consultation will occur leading up to November 2020, with formal notification of the draft LTP 2021-2031 expected in February 2021. Council will ratify the LTP 2021-2031 in their June 2021 meeting.

The LTP 2021-2031 is important for rivers and drainage schemes because:

- It approves annual budgets for the coming ten years.
- It is a key planning document that provides mandate and direction for Council work programmes.

Council is aiming to have draft LTP 2021-2031 budget figures by August 2020.

Infrastructure Strategy

The Infrastructure Strategy is a requirement of the Local Government Act 2002 under section 101B. It is developed and adopted as part of the LTP and must cover a period of at least 30 consecutive financial years.

The purpose of the Infrastructure Strategy is to;

- Identify significant infrastructure issues.
- Identify the principal options for managing those issues and the implications of those issues.

Council's Engineering team leads the development of the Infrastructure Strategy.

Rivers and Drainage Asset Management Plan (AMP) 2021-2071

The AMP is a 50-year plan that expands on the Infrastructure Strategy, providing more information about the assets and the management thereof. The AMP is reviewed and updated every three years alongside the LTP process. Review and updating of the AMP is led by Council's Rivers and Drainage Assets team.

NEXT STEPS

- Presentation and discussion at the March 2020 advisory group meetings.
 - o Council staff receive feedback from advisory group members.
- March – August 2020: Workshop(s) and dialogue as appropriate between Council staff and advisory group members.
- September 2020: Advisory group meetings – opportunity for planning discussion follow-up.
- February 2021: LTP 2021-2031 (including Infrastructure Strategy and AMP) publicly notified.
- June 2021: LTP (including Infrastructure Strategy and AMP) adopted by Council.

Hemi Barsdell
Asset Management Specialist

MEMORANDUM



To: Waioeka-Otara Rivers Scheme Advisory Group

From: Bruce Crabbe
Rivers and Drainage Operations Manager

Date: 6 March 2020

File Ref:

Subject: **Making room for the river – river management guidelines for the Waioeka and Otara rivers**

At the September 2019 advisory group meeting we advised that Gary Williams (G & E Williams Consultants), a water and soil engineer, had been contracted to undertake a review of river management methods in the Whakatāne-Tauranga and Waioeka-Otara schemes.

At that time Gary had supplied a report on the Whakatāne and Tauranga rivers and was still working on the Waioeka and Otara rivers. A river management zone and river corridor assessment has now been undertaken for the Waioeka and Otara rivers and the report is attached.

Gary will be attending the advisory group meeting to present his findings.

Bruce Crabbe
Rivers and Drainage Operations Manager

MEMORANDUM

Date: 13 January 2020

To: Bruce Crabbe

Cc: Tony Dunlop

Of: Bay of Plenty Regional Council

SUBJECT: **RIVER MANAGEMENT – RIVER SPACE**
WAIOEKA - OTARA SCHEME

PAGES 1 + 5 + 2 sets of plans of the Waioeka River and the Otara River

Introduction

A reassessment of river management methods has been undertaken in response to the changes in river conditions that have occurred with climatic changes to a period of more frequent and intense storm events. The findings of this review are given in my report of August 2019 'Bay of Plenty Rivers – Review of Flood Damage & River Responses'. As part of this review, river management guidelines were drawn up for the uppermost reach of the Whakatane River scheme, showing a management zone with example management measures, and a wider river corridor that would give the river more space in which to move. The aim is to reduce management requirements or interventions, using margin vegetation and in-channel reshaping measures that work with the pattern of river movement and migration, and hence reduce the cost of river management. At the same time this gives rise to reserve areas to accommodate the effects of rare large floods, and the potential changes in river character and hence hazards arising from changes in the climate.

Following on from this review, a river management zone and river corridor assessment has been undertaken for the scheme lengths of the Waioeka and Otara rivers. The aim is again to provide more space for the river and reduce river management costs through a different approach using softer vegetation measures and channel alterations that work with the river form and processes. These rivers have been confined by river management to the area between stopbanks, and long lengths of rock works have been undertaken, progressively, to hold river bends and protect the stopbanks.

Given the on-going costs of extending and maintaining expensive rock works, and the increasing pressures from the more intense storms and flood events of the present climatic phase, which climatic changes are likely to make more intense over the longer term, a different approach is worth considering. This will require a wider space within which the dynamics of river processes, and their variability over time, can be accommodated.

To identify the impacts of a widening of the river area, draft guidelines have been drawn up on aerial base maps with legal boundary and contour information. These guidelines have been based on the floodplain topography, the character of the river and

its flood, sediment transport and channel forming processes, past channel positions and the position of stopbanks and legal boundaries. They have not been ground checked in the field, and are general lines for evaluation and consultation.

The base maps and information have been obtained from the Bay of Plenty Regional Council [BOP] website and its Bay Explorer maps. Earlier aerial photography has also been obtained through this website, to access the archived Retrolens images from the government LINZ database.

To compare the river channels over time, aerial photography of the 1940s, 1960s and 1970s has been overlaid onto the base map aerials.

The drawing up of the draft guidelines has been based on this information and past field inspections, reviews and investigations that have been undertaken over a long period of time. No fluvial processes investigations have been undertaken for the Waioeka and Otara rivers, as has been done for the Whakatane River. Similar investigations of river processes, flood flows and sediment transport, meander patterns and channel form, would provide technical information to better define appropriate management zones and channel patterns for the proposed management with a wider river corridor.

Waioeka River

River Character

The Waioeka River is the larger of the two rivers of the floodplain at Opotiki. It flows on the western side with a relatively straight path to the sea, but as a mobile gravel-bed river it has naturally meandered across a large part of this floodplain. The cadastral (legal) plans show old courses of the river, and the aerial photographic record of the last 50+ years shows the high mobility and changeability of the river channel across the floodplain.

At present the river flows along the western edge of the plains, and has been progressively confined, with the river channel having a much lesser meander curvature than in the past. The flood protection stopbanks have been constructed very close to the river channel, alongside the over-straight river meanders. Where the meanders are curving into the stopbanks there is continual pressure from the river as it attempts to re-establish the wider meander form of its natural character.

The present flood intense period is resulting in an increased supply of gravel bed material to the lower reaches, where it would naturally deposit and give rise to channel changes, with break-outs and new channels. The confinement of the gravel deposition is giving rise to an increasing asymmetry of the channel cross-section, with higher aggrading bars (or beaches) on the inner side of bends, and deeper, narrower low flow areas along the outer side.

Substantial rock linings have been constructed along the outer banks of bends, but they are being undermined and de-stabilised by the changing conditions with the more intense floods and increased supply of gravel bed material.

River Corridor

A river corridor was first drawn up based on the topography of the floodplain and the extent of the more recent channel changes and migrations. The western side boundary

generally followed the terraces at the edge of the floodplain. On the eastern side the extent of the corridor took account of the channels of the recent past, but not of older historical channels. The aim was to provide a wide corridor, but without extending across the floodplain that is potentially vulnerable to channel break-outs and new channel formation. Instead it provides a relatively consistent width corridor that relates to the character and mobility of the reach.

This corridor is shown on a set of arials notated as “WIDE RIVER CORRIDOR GUIDELINES”. The corridor has been drawn down to the S H 2 Bridge. Downstream of this bridge the river becomes estuarine and much less mobile, with different processes of river and sea activity.

This river corridor was then adjusted to be more consistent with a management zone along the river. This mostly involved reductions in width along the lower reaches, where the river would naturally be less mobile as it transitions to its mouth at the sea. In this area alternative channels would be the result of break-outs and channel formation and migration from further upstream.

Management Zone

Within the river corridor a management zone was drawn up around the existing river channel to provide buffer areas that would allow a less constraining and structurally controlling management approach. This zone has a consistent width and relates to the management of the river on its existing alignment. It is a management zone for the present river channel, accepting the past control over the river and constraint on its alignment.

This management zone and the adjusted river corridor are shown on the set of arials notated as “RIVER CORRIDOR & MANAGEMENT ZONE GUIDELINES”. The stopbanks that are within this management zone, and would potentially be set back as part of the softer management approach, are highlighted (with dashed black lines).

The management zone allows for some channel migration as well as flexibility in the management of river banks, using vegetation buffers and less rigid strengthening works. It provides for a channel management that can develop a channel pattern more able to transport the gravel bed material being supplied to the lower reaches, and spread the flood flow pressures across the channel. This would involve channel re-shaping to allow a more split channel form, which would activate more of the river bed in flood events.

Otara River

River Character

The Otara River flows along the eastern side of the floodplain, initially in a narrow valley, and then across the wider floodplain (that links across to the Waioeka River), before becoming a narrow meandering channel at a reducing grade down to the flat graded estuarine reaches. The steeper upper reaches of its floodplain length are a gravel deposition zone where the river channel naturally has a mobile semi-braided form. The aerial photographic record of the last 50+ years shows a high mobility and changeability of the river channel along this reach of the river. The cadastral (legal) plans show old historical courses of the river much further into the floodplain than the aerial photographic record.

Along the upper reaches the Otara River has been constrained and controlled, like the Waioeka River. It now has a narrower meandering form with a long shallow curvature around alternating bars. The inner bars (beaches) are much higher and longer than they would have been in the wider semi-braided form of the past, and the increasing supply of gravel bed material of the present climatic phase is exacerbating this trend. As with the Waioeka River, the channel cross-section is becoming more asymmetric, with an especially narrow flow channel around the outer side of bends.

There has been little use of rock along this upper scheme reach of the river in the past, but the increase in flood pressures has meant that more use is being made of rock linings, and the extension of linings.

The lower winding reach of the river is more stable but has a deeper channel, and the stopbanks around Opotiki township are on the edge of the river channel. Along this reach there are substantial rock linings, which require topping up or more extensive re-building and strengthening.

River Corridor

A river corridor has been drawn up first, based on the topography of the floodplain, the extent of the more recent channel changes and migrations, and the stability of the existing channel, which changes along the scheme length. The eastern side boundary follows the terraces at the edge of the floodplain in places, but some areas of floodplain have been excluded. On the western side the extent of the corridor took account of the channels of the recent past, but not of older historical channels. Along the lower reaches this corridor narrows as the river becomes more stable and takes on a narrower form with the flatter river grade.

This river corridor was drawn up to be consistent with a management zone, while providing reserve areas that relate to the river and its floodplain topography from past river activity and channel movements. There are, then, extensive areas of the floodplain that are potentially vulnerable to channel break-outs and new channel formation, beyond this river corridor. The aim is to provide a relatively consistent width corridor that relates to the character and mobility of the reach.

This corridor is shown on a set of aerials notated as "RIVER CORRIDOR GUIDELINES". The corridor has been drawn down to the S H 35 Bridge at Opotiki. Downstream of this bridge the river becomes estuarine and much less mobile, with different processes of river and sea activity.

Management Zone

Within the river corridor a management zone was drawn up around the existing river channel for the more mobile reach down to where the grade flattens and the river has a single channel form with a much slower movement. As with the Waioeka River, this zone provides buffer areas that would allow a more flexible and softer management approach. This zone has a consistent width and relates to the management of the river on its existing alignment. It is a management zone for the present river channel, accepting the past control over the river and constraint on its alignment.

This management zone and the river corridor are shown on the set of aerials notated as "RIVER CORRIDOR & MANAGEMENT ZONE GUIDELINES". The stopbanks along the upper reach of the scheme do not follow or relate to the present channel alignment. They have been constructed when the river had a different alignment, and the setback from the existing active channel varies greatly. Where stopbanks are within this

management zone, and would potentially be set back as part of the softer management approach, they are highlighted (with dashed black lines).

Comments

The cost of the construction and maintenance of stopbanks is a small part of the long-term cost of flood protection. Most of the cost is in protecting the stopbanks and other assets from erosion by floodwaters and channel migration. Thus setting back stopbanks to reduce river management costs can be very cost effective over the longer term. The greater setback from the active channel with wide berms also means that these flood defences are more secure and less likely to be breached or over-topped in large flood events. The residual risks of failure, above design standards, are thus lessened.

The wide berm land between the channel and set back stopbanks can still be used for farming purposes, along with the more vegetative approach to river management. Grazed pasture land has a low resistance to flood flows, and with well-aligned fences and shelter vegetation can minimise floodwater scouring while maximising flow capacity.

At the same time riparian vegetation along the channel edge and beside stopbanks can provide environmental and habitat benefits, along with its flood protection and river management functions. This riparian vegetation would also act as a debris screen and reduce sediment flows onto the farmed berm land, especially of gravel material.

The management zone with set back stopbanks provides a greater area for flood flows in large events, with a consistent width floodplain. Flood capacity along the flood defence system is then increased, with much greater flows being passed with small increases in height because of the berm width that would then be available. Given the likely increase in the intensity and frequency of storm events with a changing climate, this much greater reserve flood capacity is an important benefit.

There is a very complex pattern of legal boundaries along the rivers and adjacent floodplains. There are old natural feature boundaries from historical surveys (which technically move with the feature, in this case the river), esplanade strips and various types of public reserves, as well as private fee simple titles. As shown on the plans, these titles cross over the existing river channel, and old river boundaries bear no relationship to the present river alignment or active channel.

The stopbanks have been constructed on private land, without easements or public land purchase, although there are BOP reserves acquired under the Soil Conservation & Rivers Control Act. Any set back of stopbanks could also be constructed on private land, with the agreement of the current landowners. The setbacks, as shown on the plans or as might be adjusted, are in separate lengths, and any one length could be constructed as a separate work. The setbacks shown are on the outer bank of river bends, where the river is applying pressure and the existing stopbanks are vulnerable to breach failures. Future management measures to protect the stopbanks could then be contingent on the setting back of the stopbank. In this way a progressive retreat could be staged, and undertaken where there is landowner agreement to the re-location of the stopbank and a different, and less expensive, approach to managing the river.

In some cases stopbanks may be simply removed, as a set back stopbank would not protect much land. The floodplain area could then be farmed as floodplain land subject to periodic flooding, the frequency of which would depend on the relative levels and topography of the land. Stopbanks that are only just within the management zone

could be left, provided it was recognised that an alternative vegetative management approach would be undertaken. In places, the downstream end of a stopbank could be removed while retaining the upper length. In this case the existing bank would provide protection up until it was breached or overtopped, with floodwaters being able to return to the management zone and river channel through the lower end opening.

These specific circumstances are noted on the guideline plans.

In both rivers, the present intense flood period with its consequential increase in the supply and transport of gravel bed material, is putting pressure on the river channels, which have been straightened and controlled over a decades-long quiescent period. The rivers would naturally become wider with a more split channel form, and river management now has to respond to the change in flood and sediment transport regime.

Over the longer term, climate changes are likely to increase the intensity of the flood pattern, and this would increase the pressure for even wider braided channels.

A long-term strategy of retreat that gives the river more space and allows greater management flexibility using less costly measures, is thus likely to be well worthwhile, and is recommended.

Gary Williams
FEngNZ

Water & Soil Engineer

**BAY OF PLENTY
RIVER SCHEMES**

REVIEW

GUIDELINES
for
RIVER CORRIDOR
and
MANAGEMENT ZONE

WAIOEKA RIVER

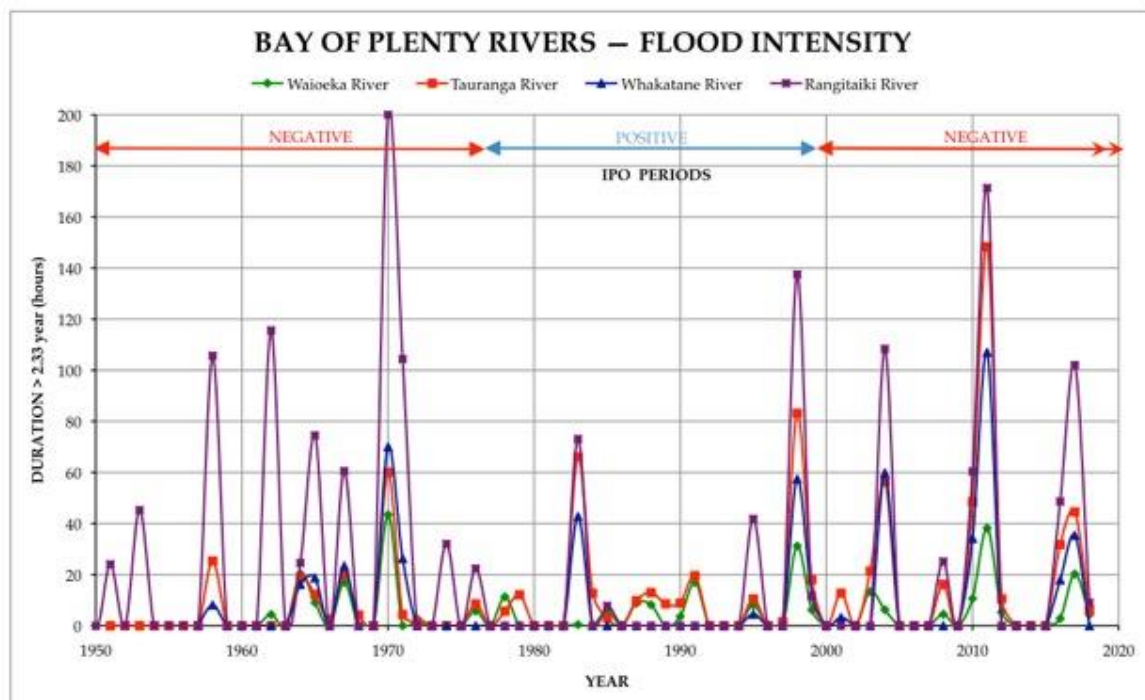
BAY OF PLENTY RIVERS – SCHEME LENGTHS

SCHEME LENGTHS

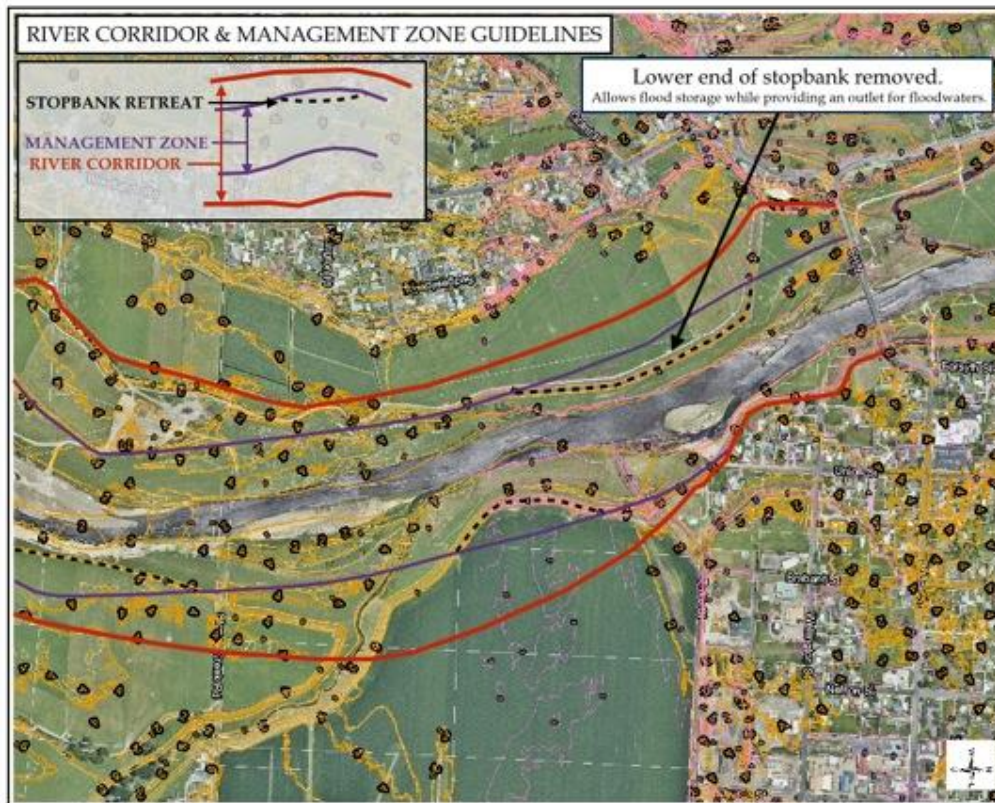
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- TAURANGA
- WAOEKA
- OTARA



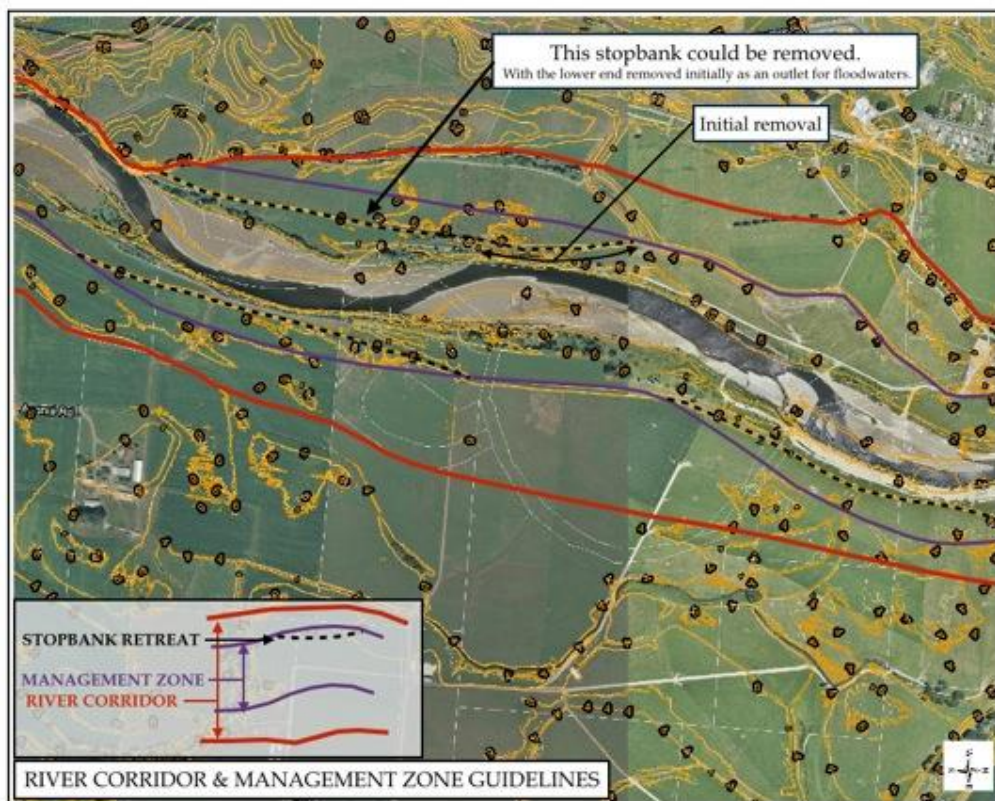
BAY OF PLENTY RIVERS – FLOOD INTENSITY



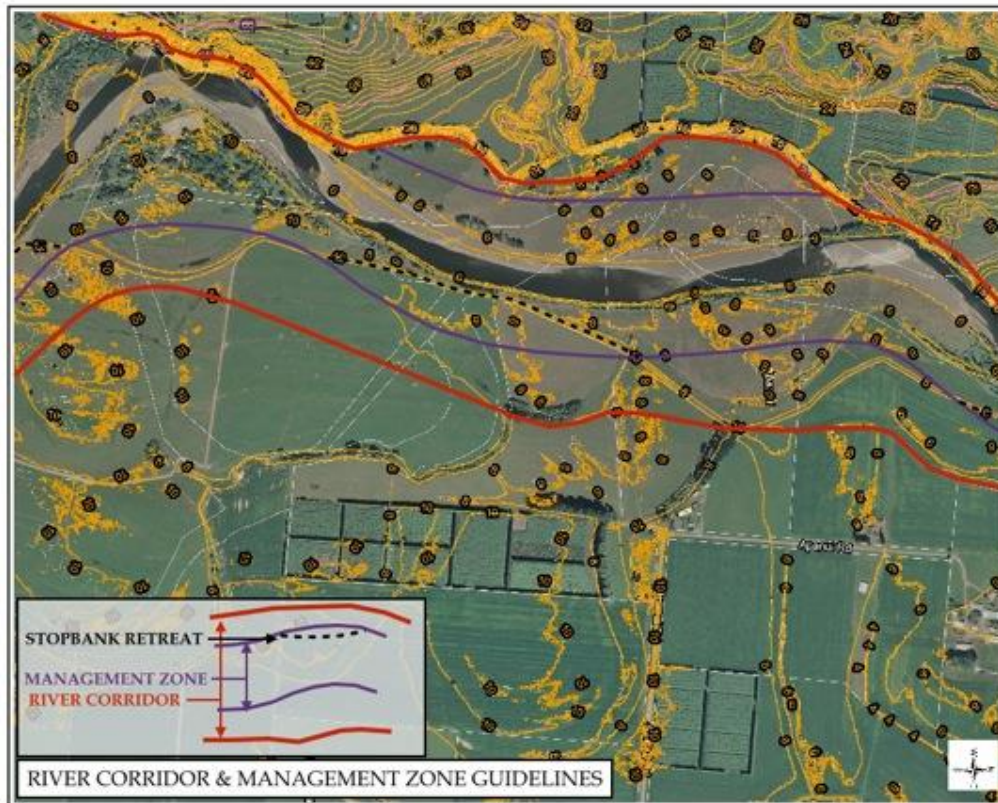
WAIOEKA RIVER – GUIDELINES



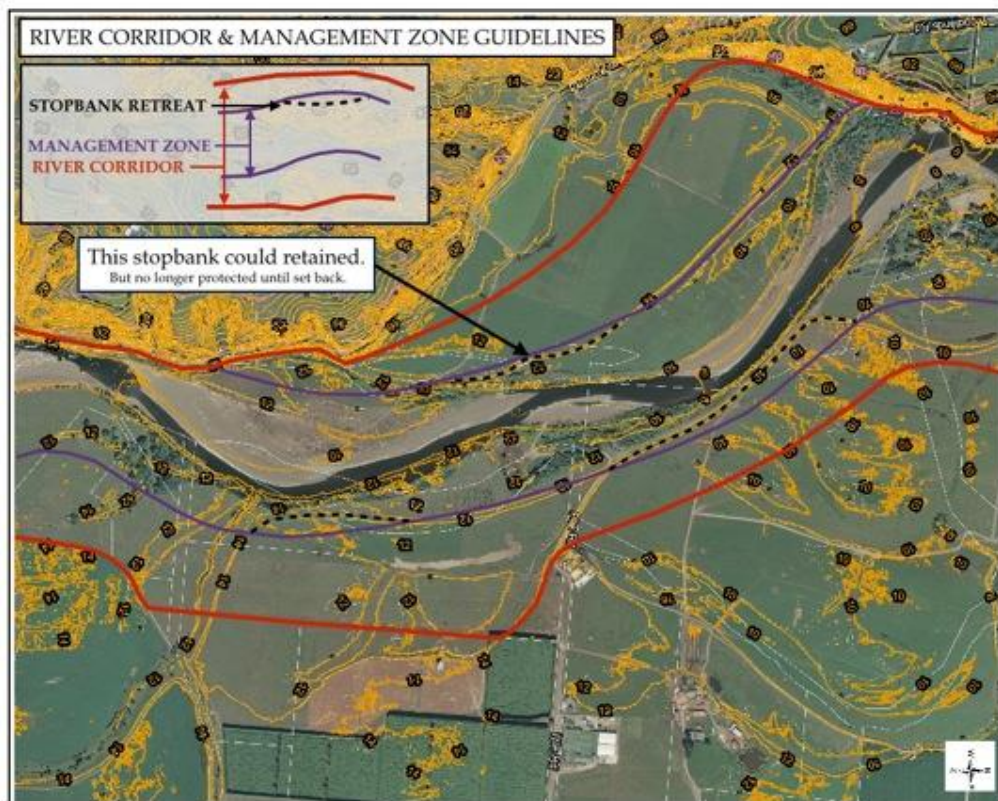
WAIOEKA RIVER – GUIDELINES



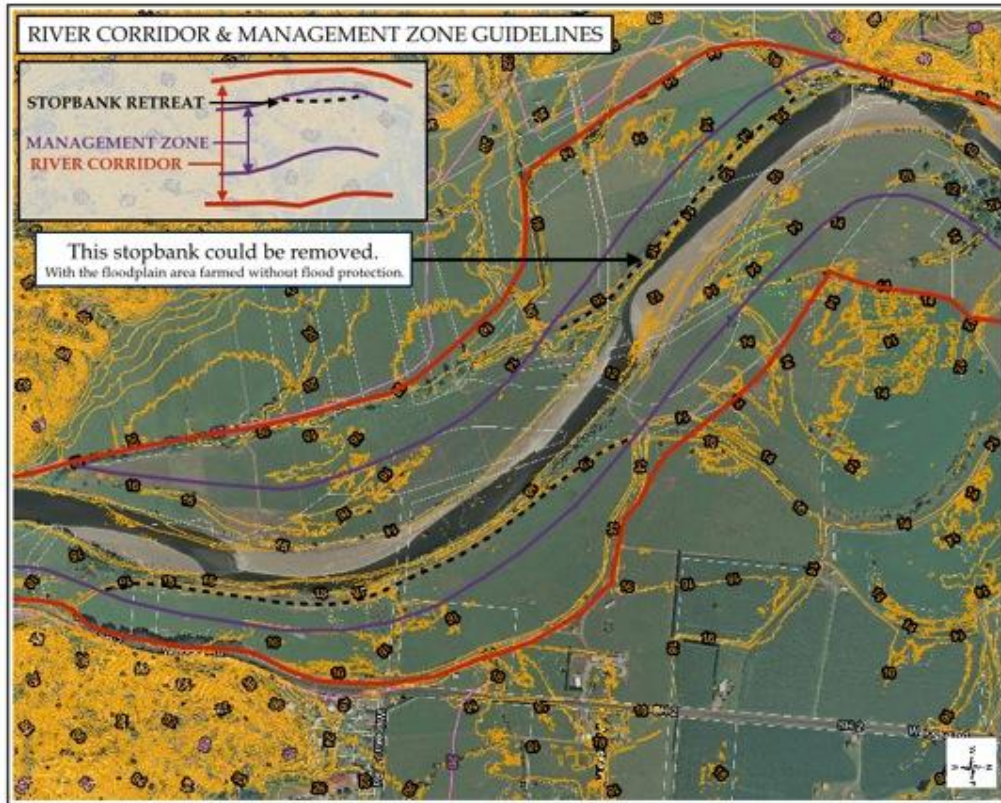
WAIOEKA RIVER – GUIDELINES



WAIOEKA RIVER – GUIDELINES



WADIOKA RIVER – GUIDELINES



**BAY OF PLENTY
RIVER SCHEMES**

REVIEW

GUIDELINES
for
RIVER CORRIDOR
and
MANAGEMENT ZONE

OTARA RIVER

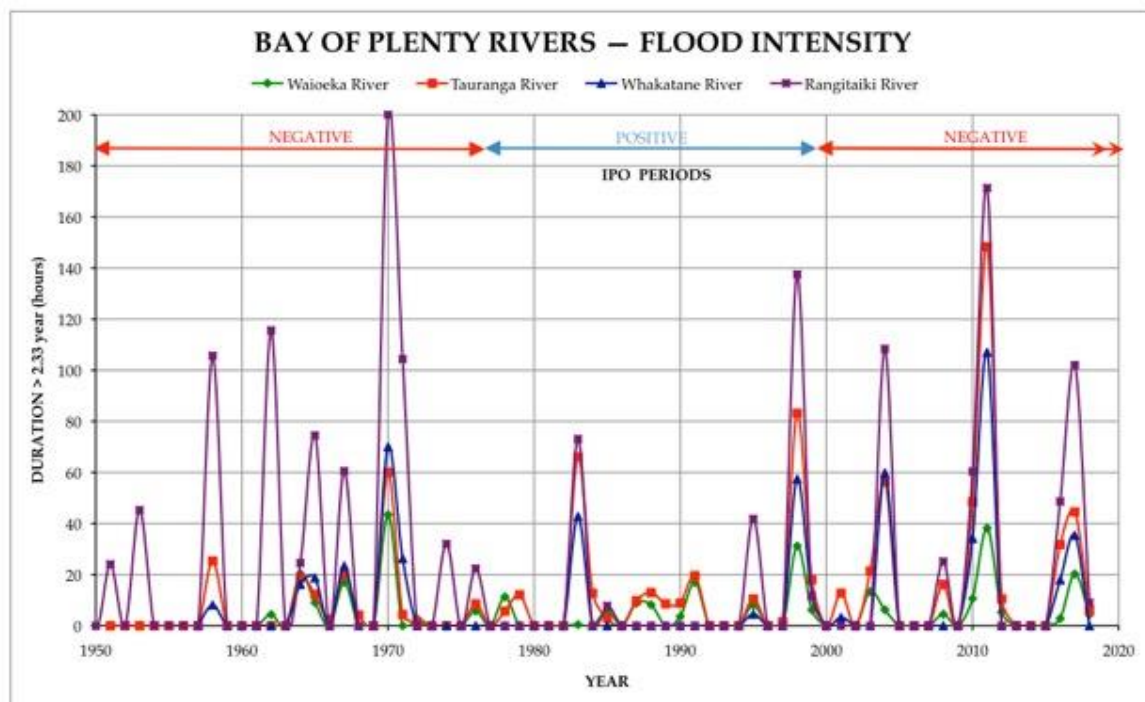
BAY OF PLENTY RIVERS – SCHEME LENGTHS

SCHEME LENGTHS

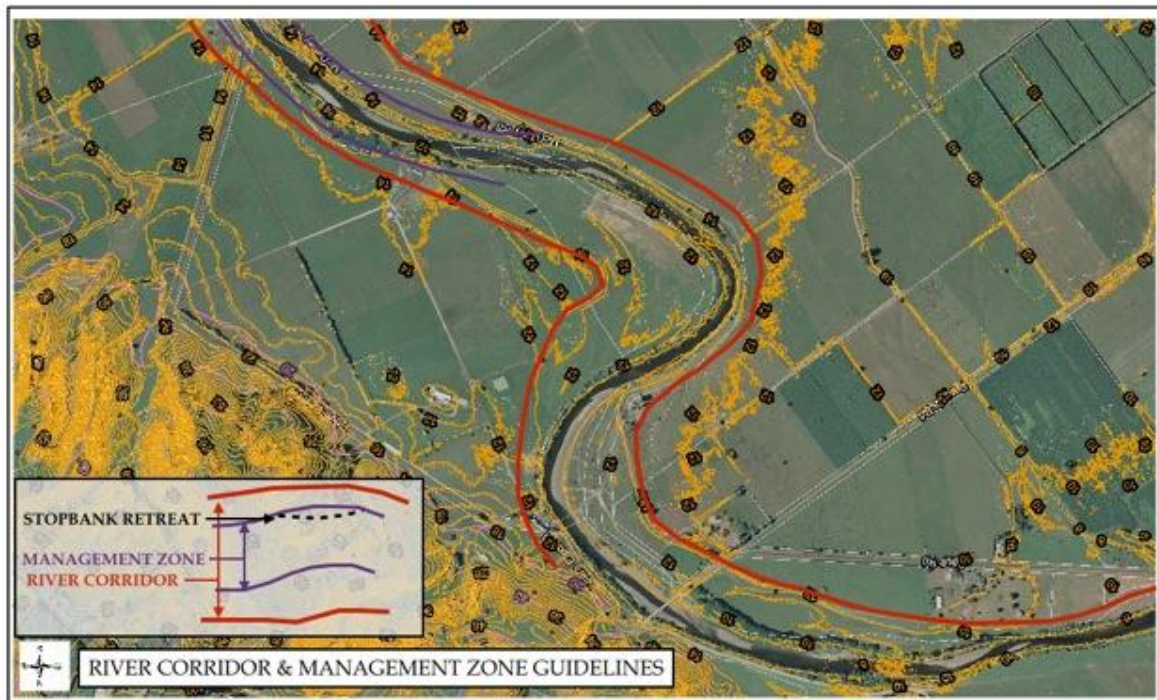
- WHAKATANE
- TAURANGA
- WAIOEKA
- OTARA



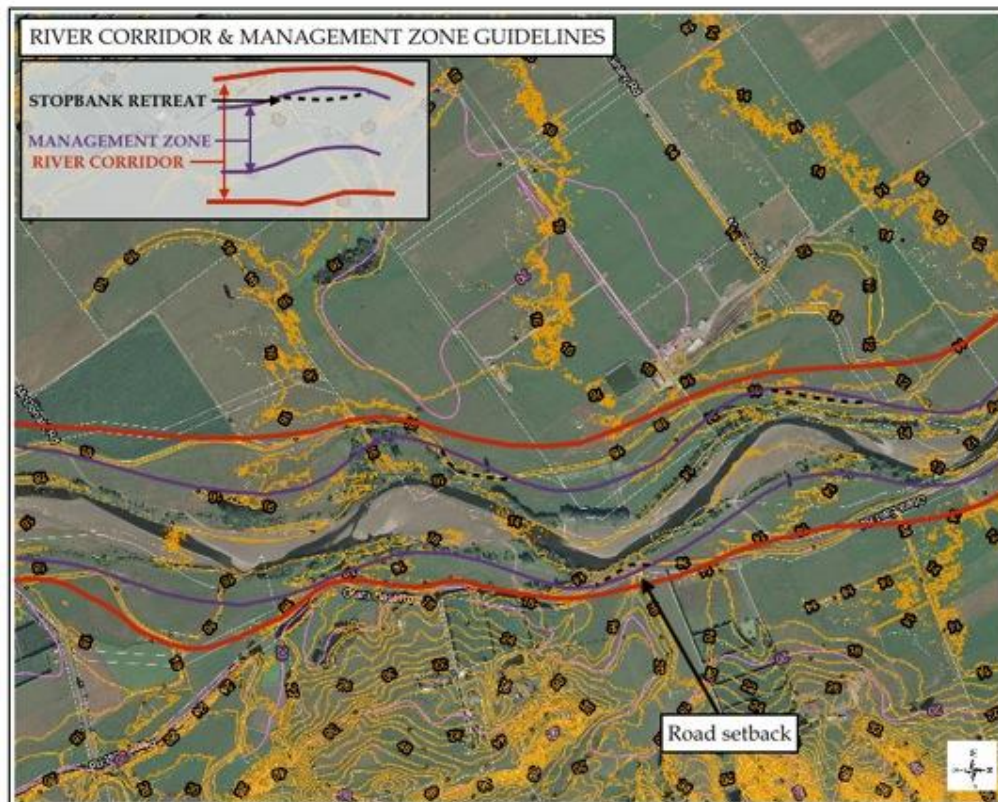
BAY OF PLENTY RIVERS – FLOOD INTENSITY



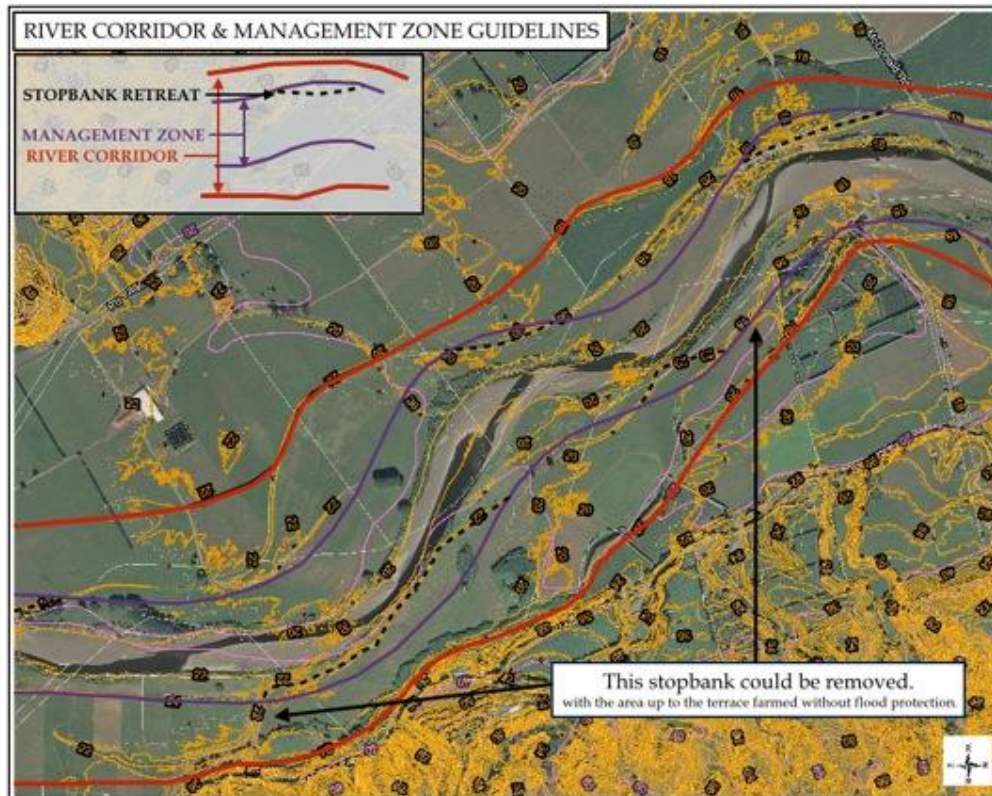
OTARA RIVER – GUIDELINES



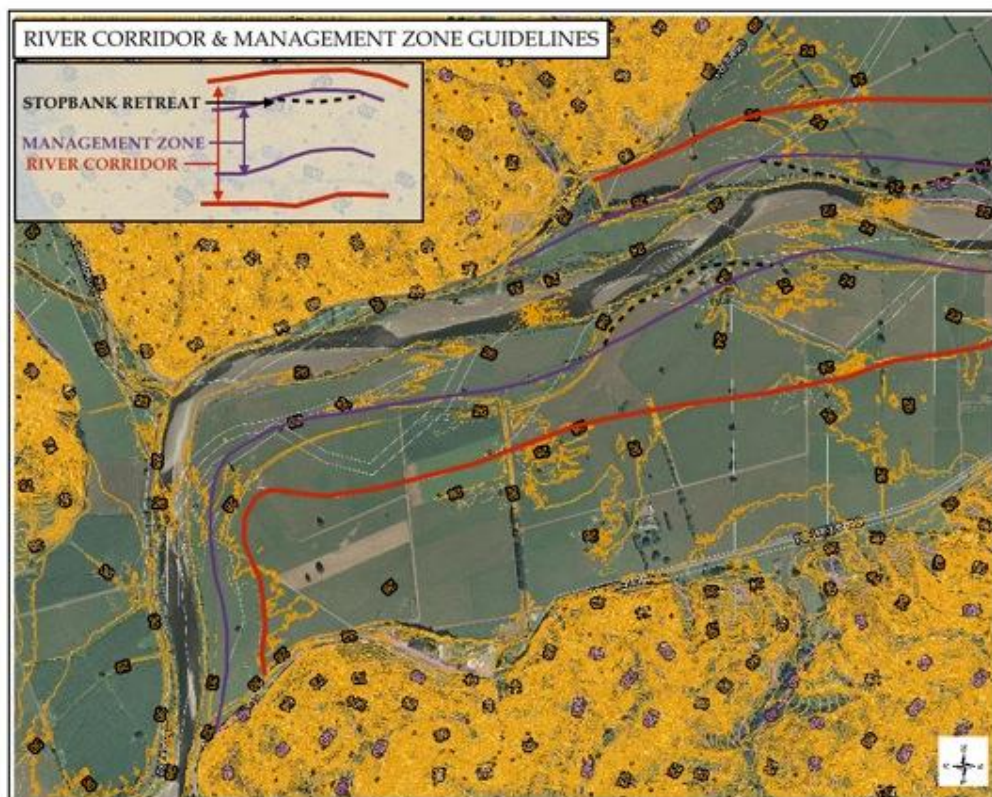
OTARA RIVER – GUIDELINES



OTARA RIVER – GUIDELINES



OTARA RIVER – GUIDELINES



MEMORANDUM



To: Waioeka-Otara Rivers Scheme Advisory Group

From: Tony Dunlop
Flood Restoration Engineer/Area Engineer

Date: 6 March 2020

File Ref: A3481460

Subject: Operations update

1 Waioeka River

1.1 Planned maintenance

- Establish and maintain overflow diversions to ease/reduce velocities on river bank protections, reducing the possibility of river channel degrading and causing river bank slumping at Robbie's Pit, Beatties/Nicols and Riverloch/Maxwells.

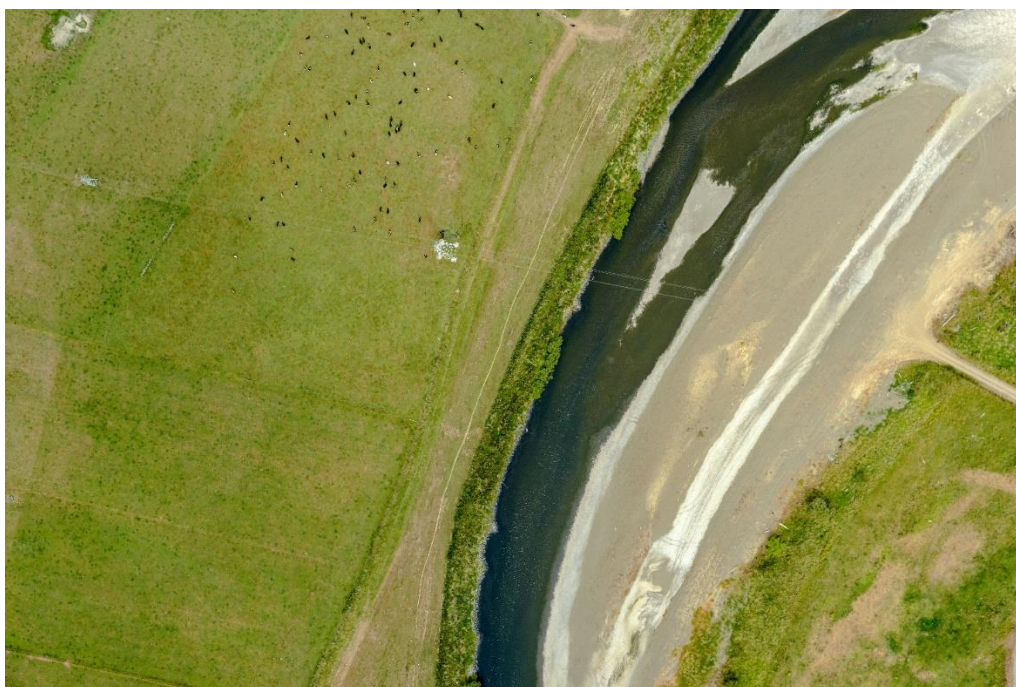


Photo 1 – Robbie's Pit overflow depression

- Ongoing scheme drain desilting/spraying - approximately 2.5 km. **Completed**
- Floodgate checks and maintenance. **Ongoing**
- Floodgated culvert outlet desilting and spraying. **Ongoing**
- Ongoing weed control, including 9.7 km of beach weed spraying targeting pampas grass and other invasive weeds. **Completed**
- Willow and vegetation maintenance on the right bank berm downstream State Highway bridge (town side). **Completed**

1.2 Reactive maintenance

At the September 2019 meeting we showed pictures of damage to the stopbank and berm at Tarawa Creek caused by a vehicle getting stuck and having to be towed out. Restoration of this site has now been completed.



Photo 2 and 3 - Stopbank damage at Tarawa Creek outlet (before and after)



1.3 Annual flood damage

- Riverloch Farms – right bank, two sites of 50 metres of channel narrowing causing rock slumping. **Pending suitable rock supply.**

2 Otara River

2.1 Planned maintenance

Establish and maintain overflow diversions to ease/reduce velocities on river bank protections reducing the possibility of river channel degrading and causing slumping at Carters lower site, Carters top site and Rewa Hill site.

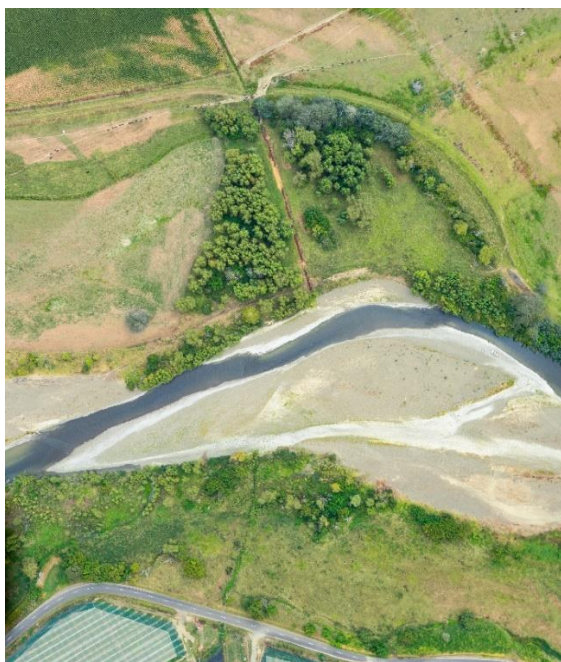


Photo 4 – Carters overflow diversion required

- 9.7 km of beach weed spraying targeting pampas grass and other invasive weeds. **In Progress**
- Te Rere Marae drainage - upgrade Aerodrome drains (marked in red in Photo 5 below) to ensure they operate more effectively in heavy rain fall events and prevent frequent flooding around the Marae. **Programmed for March/April 2020**



Photo 5 – Te Rere Pā drainage improvements

- Otara River berm area Ōpōtiki Pony Club – mulched vegetation and trees to allow for a more effective floodway. **Completed**



Photo 6 – Ōpōtiki Pony Club site on RHS



Photo 7 – Area after vegetation had been mulched

- Left bank, I Browns property - replant/re-trench willows to repair river bank slumping amongst willow protection. **Works programmed for March/April 2020**

2.2 Annual flood damage

The following key sites needed urgent attention to prevent major erosion and damage occurring to existing assets:

- Carters/I Brown Pit - 80 metres of rock slumping repairs caused by gravel build up on beach, narrowing channel. **Completed**
- Ernest site - 80 metres of rock slumping causing channel degradation. **Completed**



Photo 8 and 9 – Ernest rock slumping – before and after



Photo 10 - Ernest rock works – note vegetation growth and gaps in rock (eel habitats)

- Ōpōtiki Wharf - 200 metres of rock movement requiring topping up/replenishment. **Programmed March 2020**



Photo 11 – Ōpōtiki wharf rock movement

- Thornton Orchard – right bank, 50 metres of raw bank erosion threatening existing rock work and stop bank. **Pending on suitable rock supply**
- Pakihi Road - damage from February 2018 flood threatening security of the road. **Completed**



Photo 12 and 13 – Pakihi Road (before and after)

Tony Dunlop
Flood Restoration Engineer/Area Engineer

Flood Repair Project

Two extreme weather events in early April 2017 brought prolonged torrential rain to the Bay of Plenty. The resulting record high river levels and extensive flooding caused significant damage to river and drainage networks and assets across the region.



Repairing the damage



520
repair sites



Total budget
in excess of
\$45m



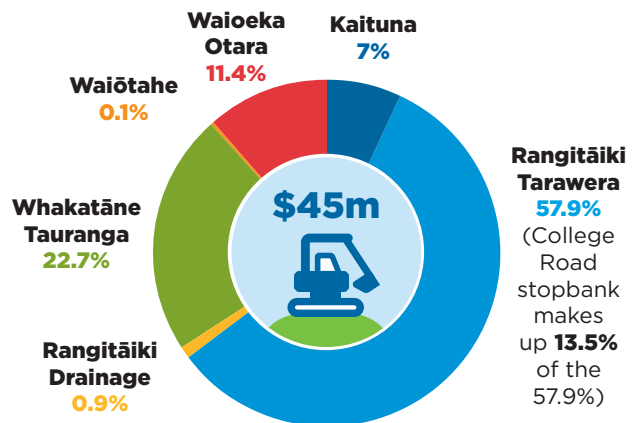
All repairs to
be completed by
30 June 2021

67% of **high priority** sites
are complete

We're repairing the
damage to protect our
**people, property
and livelihoods**

Repair costs by River Scheme

The **Rangitāiki-Tarawera Rivers Scheme**
was the worst affected, accounting for
more than half the repair budget.



Tracking our progress

Rangitāiki Tarawera 224 sites 89 complete ✓	Whakatāne Tauranga 108 sites 59 complete ✓	Waioeka Otara 59 sites 55 complete ✓
Rangitāiki Drainage 53 sites 52 complete ✓	Kaituna 45 sites 12 complete ✓	Waiōtahe 31 sites All sites complete ✓
298 SITES 57% completed as at 31 December 2019		
College Road stopbank realignment COMPLETE ✓		

What's happening in 2019-2020



2019-2020 budget
11.4million

To complete:

Rangitāiki Drainage **pump station repairs**

100% of Rangitāiki
Drainage sites

90% of high
priority sites

Repairs
to a further
148
sites across
the region

MEMORANDUM



To: Waioeka-Otara Rivers Scheme Advisory Group

For period 1 September 2019 to 29 February 2020

From: Paula Chapman
Project Manager - Flood Recovery

Date: 6 March 2020

File Ref: A3491460

Subject: Status Report - April 2017 Flood Repair Project

April 2017 flood event - background

In early April 2017, the Eastern Bay of Plenty was hit by ex-Tropical Cyclone Debbie. The cyclone brought with it prolonged torrential rain, resulting in rising river levels across all the rivers and waterways in the region. The cyclone dropped considerable rainfall over the entire Bay of Plenty area which produced record high river levels and flows. In the Rangitāiki, flows reaching the Matahina Dam were 20% higher than ever recorded. Flows in the Whakatāne River were captured as 34% higher than previously recorded.

The event resulted in significant damage to river and drainage networks and assets across the region, from the Kaituna in the west through to the Waioeka-Otara catchment in the east.

1 Programme update

1.1 Programme update summary

- The flood recovery project is two and a half years into the estimated four year programme. Physical repair works have been steady across the programme as conditions and material availability have allowed.
- As at 29 February 2020, repair works are complete for 318 (61%) sites, from the total programme of approximately 520 sites. This work includes many of the highest priority works. In the case of the Waioeka-Otara Rivers Scheme, 56 sites from a total programme of 61 sites (92%) have been completed (this includes ten sites which have been assessed as low priority and not needing work and will be monitored until the end of the programme).
- The project team is reviewing the remaining sites left in the programme in this scheme to determine if others are no longer required and can be removed from the programme.
- The process for claiming eligible costs from central government has been established. Current claims are for essential infrastructure repairs. Claim 10 was received in December 2019 and Claim 11 is currently being drafted. The total amount received from central government to date is close to \$7 million.

- Communication and stakeholder engagement has been a feature of the project due to the high level of public and stakeholder interest in the recovery from the April 2017 floods, and this will continue.
- Two progress payments for Infrastructure Insurance have been received totalling \$3,000,000.
- A second progress payment of \$189,653 has also been received to support Council's Material Damage insurance claim.

1.2 Environment and Heritage

- Priority assessment has occurred for known sites of cultural significance. Staff continue to liaise with Iwi and hapu stakeholders to inform site works.
- Works comply with the Natural Hazards Plan, Bay of Plenty Regional Council policies and bylaws for the Rivers and Drainage activities.

1.3 Communications, community and stakeholder engagement

- An increase in Regional Council communications staff resource has supported the delivery of the project. Council continues to input into the regular established newsletters, such as the Edgecumbe Collective Newsletter and the Regional Council website to keep the community informed on work plans and progress. The project page is now included on Council's web site and interested people can follow the page to ensure they receive regular updates <https://www.boprc.govt.nz/floodrepairs>.

1.4 Procurement

- Work to date has centred mostly on high priority repair projects. The total programme is made up of multiple smaller projects and these have been delivered utilising established Rivers and Drainage Panel Supplier contract agreements. The panel approval process ensures contractors are capable of the work and hold the necessary accreditations and insurance cover. Existing contracts were renewed for a further three years in February 2019 and where resource gaps were evident new suppliers were invited to join the panel.
- The shortage of suitable graded rock supply has constrained the programme of works in the Eastern Bay of Plenty, specifically work on the Whakatāne River and the lower Rangitāiki and Tarawera rivers.

1.5 Programme Delivery

<ul style="list-style-type: none"> • A total of 520 sites have been identified in the repair programme across the region, 61 are associated with the Waioeka-Otara Rivers Scheme
<ul style="list-style-type: none"> • Across the programme 318 sites have been completed, 56 of these are in the Waioeka-Otara Rivers Scheme
<ul style="list-style-type: none"> • It is anticipated that the remaining sites in the Waioeka-Otara Rivers Scheme, where work is needed, will be completed this financial year
<ul style="list-style-type: none"> • 148 sites are targeted for completion across the total programme in 2019/20.
<ul style="list-style-type: none"> • Total programme completion date remains at 30 June 2021. This is currently being reviewed

Key sites completed over the last period include:

WO107 Waioeka Island, WO109 Duke Street, WO116 Whakatohea, WO143 Moody/Rutledge and WO117 Nicol.

Key work over the next 6 months includes:

Repairs at WO160 Gault and a review of all remaining sites.

1.6 Financial

Forecast costs - total programme

Estimated total programme cost Waioeka-Otara Rivers Scheme	\$6,145,000
Estimated betterment value	\$2,116,320

2017/2018 - actual costs

Expenditure budget – for infrastructure works	\$882,124
Total expenditure at 30 June 2018 – for infrastructure works	\$2,371,870

2018/2019 - budget vs actual

Expenditure budget – for infrastructure works	\$1,234,200
Total expenditure at 30 June 2019 – for infrastructure works	\$2,942,622

2019/2020 – budget vs actual

Expenditure budget – for infrastructure works	\$700,000
Expenditure at 31 January 2020 - for infrastructure works	\$51,603

2 Programme risks and issues

Risk/Issue	Description	Action/management	Owner
Ground conditions	Wet conditions restrict work programme	Undertake soft engineering works and rock stockpile work during winter months Undertake drain bank repairs in summer	BOPRC
Weather	Future weather events will exacerbate damaged sites	Complete site works in priority order as this factors in risk and consequence	BOPRC MCDEM Insurer
Weather	Severe weather event may cause new damage	Review works programme against new works project in new locations	BOPRC MCDEM Insurer
Rock material availability	Suitably graded rock supply is restricted and the operating environment is variable	Working with new rock sources to supply suitable material for works in Ōpōtiki, Rangitāiki and Kaituna Encourage new rock sources to enter Council's prequalified panel supplier schedule Investigate opportunities to support new quarry's in the Eastern Bay of Plenty	BOPRC
Resource	Staff resource is limited for oversight of on-site works	Additional in-house resource seconded to supervise some sites. Additional contract resource for rock grading/audits and works completion asset capture	BOPRC
Programme length	Property owners want works associated with their property undertaken first	Implement communications and engagement plan Direct communication with property owners	BOPRC
Insurance	Claim limits for individual works are not known	Aon insurance specialist supporting claim process	BOPRC Aon
Cost	Cost exceeds budget	Work closely with MCDEM and Insurers, maximise contributions from other stakeholders	BOPRC Aon MCDEM Insurer

3 Recoveries

- Loss adjustors have been assigned for our infrastructure claim and our material damage claim. Staff are working with insurance specialists Aon to progress the claims process. Progress payments have been received for Infrastructure Insurance (\$3,000,000) and Material Damage (\$304,653) claims.
- The project team is working with the Central Government (Ministry of Civil Defence and Emergency Management (MCDEM)) representative and is comfortable with the process adopted.

4 Expected progress within the next six month period

- Complete all of the required April 2017 repair work in the Waioeka-Otara Rivers Scheme.
- Monitor Waioeka-Otara Rivers Scheme sites that do not require repair works.
- Submit and receive MCDEM Claim 11.

Paula Chapman
Project Manager Flood Recovery

MEMORANDUM



To: Waioeka-Otara Rivers Scheme Advisory Group

From: Mark Townsend
Engineering Manager

Date: 5 March 2020

File Ref: A3493024

Subject: Engineering update

1 Duke Street Pump Station upgrade

Budget 2019-2020: Construction \$1.5m

The purpose of this project is to ensure the Duke Street Pump Station is meeting its agreed level of service. The standard required is to clear flood waters within 30 hours when 160 mm falls within 24 hours. This level of service was set up in 1983 by the East Cape Catchment Board. It is roughly equivalent to a 1 in 10 year (10% AEP (annual exceedance probability)) storm event.

As previously reported the preferred solution is to adjust the agreed level of service. Modelling shows that water will only pond in a few areas for greater than the 30 hours. What is being proposed accepts that some areas will have water ponded on them for longer than 30 hours, in this case 42 hours. This would bring this small drainage area closer to the rest of the region's drainage scheme levels of service (72 hours).

The benefits of this approach is the significant saving to the River Scheme.

2 Waioeka-Otara capacity review

Budget 2019-2020: Hydrology and modelling \$104,000

This work involves the 10-yearly review of the capacity of the rivers infrastructure to determine whether the accepted levels of service are being met.

Hydrology work has been carried out by WSP (ex Opus) and is currently being reviewed. The subsequent hydraulic modelling work will be put out to tender shortly and a panel contract member selected with the capacity review expected to be complete by June 2021.

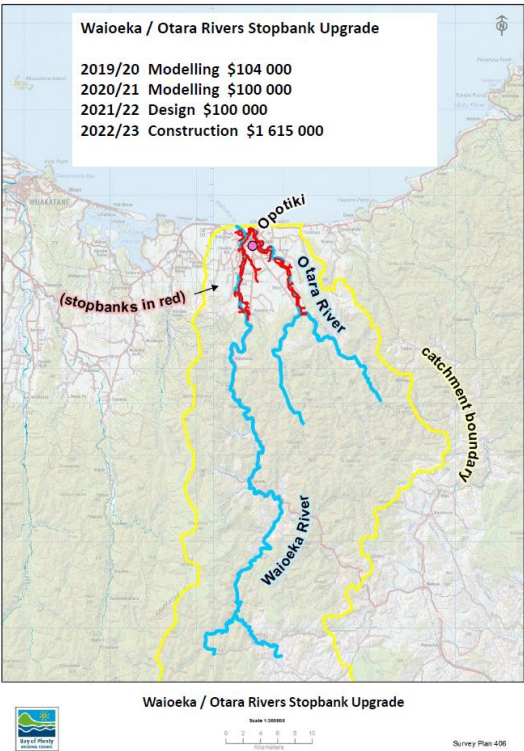


Figure 1: Waioeka-Otara stopbank upgrade

3 Peterson-Connor stopbank raising

Budget 2019-2020: Construction \$104,000

Resource consent is being processed for this stopbank raising/reinstatement work that is mainly for improving protection against sea storm surges. Discussions have taken place with affected land owners and initial discussions have begun with some hapū contacts.

Additional culverts are planned in the proposal to improve discharge of floodwater on occasions when the floodway is in use. Strengthening and protection of Baird's Drain outlet structure will also be incorporated in the proposed works. Concurrently, there is a high level assessment of alternative options being considered.



Figure 2 – Areas of proposed work Peterson-Connor

Bay of Plenty Regional Council Toi Moana

Statement of revenue and expense - Waioeka-Otara Rivers Scheme

For the 6 months ending 31 December 2019

Run: 28-Jan-2020

Variance Indicators					
Low		Medium		High	
<10%	▶	10% to 30%	▶	>30%	▶

Line

2019/20		Variance		Variance comments	2020/21
Budget	Actual	\$	Variance indicator		Draft Annual Plan \$000
\$000					

Operating revenue by class

1	General rates	72	72	0	-	▶		172
2	Targeted rates	715	715	0	-	▶		1,663
3	External interest income	0	0	0	-			11
4	Other revenue	0	0	0	-			0
5	Revaluation and asset disposal gains	0	109	109	Higher	▶	Gain on disposal of assets	0
6	Investment income	108	108	0	-	▶		244
7	Total revenue	895	1,004	109	Higher	▶		2,090

Operating expenditure by class

8	Administration expenses	0	1	(1)	Higher	▶		1
9	Other expenses	16	82	(67)	Higher	▶	Additional materials to repair damage caused by July 2019 event	147
10	Consultancy fees	0	17	(17)	Higher	▶	Critical asset assessment undertaken by consultant	0
11	Contract work	87	140	(52)	Higher	▶	Additional repair works caused by July 2019 event have been undertaken	829
12	Finance costs	184	113	71	Lower	▶	Lower capital spend year to date than applied to budget borrowing costs	262
13	Depreciation and asset disposal	71	71	(0)	Higher	▶		146
	Subtotal - expenditure	358	424	(66)	Higher	▶		1,385
14	Net overhead charges and recoveries	170	146	24	Lower	▶		368
15	Total operating expenditure	528	570	(42)	Higher	▶		1,753
16	Total operating surplus (deficit)	367	434	67	Favourable	▶		337

Capital revenue by class

17	Capital funding	292	722	430	Higher	▶	Central Government contributions for works completed	597
	Total capital revenue	292	722	430	Higher			597
18	Total surplus (deficit)	659	1,156	497	Favourable	▶		934

Bay of Plenty Regional Council Toi Moana

Statement of revenue and expense - Waioeka-Otara Rivers Scheme

For the 6 months ending 31 December 2019

Run: 28-Jan-2020

Variance Indicators					
Low <10%	▶	Medium 10% to 30%	▶	High >30%	▶

Line

2019/20		Variance		Variance comments	2020/21
Budget	Actual	\$	Variance indicator		Draft Annual Plan \$000
\$000					

Capital expenditure by project

19	Waioeka Otara Capital Renewal	21	3	18	Lower	▶	Resource consent consultation is underway for the stopbank renewal project however it is unlikely that physical works will be undertaken this financial year and funds may need to be carried forward to 2020/21	107
20	Waioeka Otara Capital New	497	7	490	Lower	▶		0
21	Waioeka Otara Flood Damage Repairs	210	52	158	Lower	▶	Works are slightly behind programme but still expected to be close to budget at year end	0
22	Total capital expenditure	728	61	667	Lower	▶		107

Reserves

	Opening Balance \$000	Net Movement \$000	Closing Balance \$000	
23	0	0	0	
24	(1,033)	(628)	(1,661)	Funds available
25	(849)	(347)	(1,196)	Funds available
26	(1,882)	(976)	(2,857)	Funds available
27	6,213	(1,274)	4,938	
28	Asset Valuation			
	44,792	3,942	48,734	

MEMORANDUM



To: Waioeka-Otara Rivers Scheme Advisory Group

From: Mark Townsend
Engineering Manager

Date: 5 March 2020

File Ref: A3493201

Subject: Gravel management update

1 General

Gravel extraction quantities within the Waioeka-Otara Rivers Scheme are detailed below. The floods experienced in April 2017 were a major influence on gravel river beds with significant changes observed. Cross section surveys were undertaken following the flood event to identify changes that have taken place.

2 Extraction

Waioeka River – The quantity considered sustainable in the Waioeka is 20,000 m³ per annum (reduced from 30,000 m³ per annum). Additional to this are significant quantities in the Waioeka Gorge on high beaches which should be lowered and loosened to facilitate travel of gravel downstream to the farmland reach.

Otara River – There are variables over the length the Otara River. Overall, within the design width, there has been a net volume gain of approximately 61,000 m³ (2013-2018). This is additional to the gains experienced in the periods 2010–2013, 2007-2010 and further back to 1996. Future extractions should be considered for river management purposes (overflow cuts), particularly where high beach armoured areas exist.

Last year Bay of Plenty Regional Council placed a moratorium on gravel extraction from the Waioeka and Otara rivers until completion of an investigation, by Council, into recent practices associated with gravel extraction from the rivers. The moratorium has since been lifted and the results of the investigation passed to the NZ Police.

Council staff have been actively involved in talking with Whakatōhea hapū about the work of Regional Council, including work undertaken by Rivers and Drainage activity. While the discussions have not focused specifically on gravel extraction to date it is anticipated that future meetings will assist in understanding significant sites, and hapū values, that need to be provided for with regard to gravel extraction.

3 Consents

The Rivers and Drainage section currently holds resource consents to extract up to 50,000 cubic metres per annum of gravel for river management purposes from both the Waioeka (RC 61321) and Otara (RC 61322) rivers. Both consents expired in April 2019 and renewal consent applications have been lodged meeting Section 124 Resource Management Act requirements. This provides for consent holders to continue to operate under expired consents while replacement applications are processed.

Staff had an initial meeting with the two opposing submitters in August 2019. Their concern is about the extraction quantities proposed in the consent, and a perception that extraction is commercially driven. Further meetings are planned.

4 **Waioeka-Otara Rivers Scheme gravel extraction summary**

1 June 2019 – 31 January 2020

River	Site	Confirmed quantity (m ³)
Otara River	Carter's Pit	90
	St Johns Street	210
	Ford Street	200
Total		500
Waioeka River	Riverlock	756
Total		756

Mark Townsend
Engineering Manager

MEMORANDUM



To: River Scheme Advisory Groups

From: Kirsty Brown
Rivers and Drainage Assets Manager

Date: 5 February 2020

File Ref:

Subject: River Scheme Advisory Group membership

Under the advisory groups' Terms of Reference, members are appointed for a period of three years with a maximum term of six years. The first triennium is due to end in September 2020.

Staff are very pleased with how the advisory groups are working and are keen for members to continue in their positions for a further three year term.

We are recommending that:

- Members advise whether they wish to continue for the additional three year term (to September 2023).
- We advertise for nominations to fill any vacancies created by current members not wanting to continue for a further three years.

Kirsty Brown
Rivers and Drainage Assets Manager