



# **Waioeka-Otara Rivers Scheme Advisory Group Meeting**

**Wednesday 25 September 2019  
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**
- 2 **Apologies**
- 3 **Notes of previous meeting held 3 April 2019**
- 4 **Matters arising from previous meeting**
- 5 **Review of the Floodway and Drainage Bylaw 2008**
- 6 **Operations update**
- 7 **April 2017 Flood Repair Project update**
- 8 **Engineering update**
- 9 **Finance report**
- 10 **General business**
  - a. Te Rere Pa Road flooding
  - b. Gravel management update
  - c. Stopbank damage from grazing
  - d. Plan Change 12 update
  - e. River Scheme rating classification review

# Notes of the Waioeka-Otara Rivers Scheme Advisory Group meeting held at Ōpōtiki District Council Chambers, Ōpōtiki, on Wednesday, 3 April 2019 commencing at 10 am

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- Chair:** Councillor Bill Clark
- Advisory Group:** Dean Petersen, Dave Wilson, Tania Te Whenua, Barry Hennessy, Robbie Petersen, Councillor Ken Young (Ōpōtiki District Council)
- BOPRC Staff:** Kirsty Brown (Acting Rivers and Drainage Assets Manager), Jo Heath (Asset Management Coordinator), Bruce Crabbe (Rivers and Drainage Operations Manager), Geoff Stone (Area Engineer), Tony Dunlop (Flood Repair Project Engineer), Paula Chapman (Flood Repair Project Manager), Debbie Hyland (Finance and Corporate Planning Manager), Loris Hastie (Management Accountant), Mark Townsend (Engineering Manager), Chris Ingle (General Manager, Integrated Catchments), Kay Boreham (Marketing and Communications Advisor), Tim Senior (Land Management Officer), Ryan Standen (Regulatory Compliance Team Leader)
- Public:** Ian Connor, Tracey Hillier (Ngāi Tamahaua), Tim Herewini (Ngāi Tamahaua)
- Apologies:** Jessica Wiseman, Andy Dixon, Chairman Leeder, Councillor Norm Bruning, Councillor Tiipene Marr
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## 1 **Welcome**

Councillor Clark welcomed everyone to the meeting and acknowledged the members of public in attendance.

## 2 **Apologies**

Apologies received as noted above.

## 3 **Notes of previous meeting held 26 September 2018**

### **Resolved**

**That the Waioeka-Otara Rivers Scheme Advisory Group:**

- 1 **Confirm the notes of the meeting held 26 September 2018 as a true and correct record.**

**Clark/Wilson  
CARRIED**

## 4 Matters arising from previous meeting

Kirsty Brown ran through actions from the previous meeting:

- Ryan Standen from the Compliance Team will be presenting on forestry debris mobilisation refer agenda item 5.
- Legal opinion on 'Waioeka Floodway' to be covered in Operations update, agenda item 7.

## 5 Forestry debris mobilisation

Ryan Standen delivered a presentation on the National Environmental Standards for Plantation Forestry and the problems experienced on the East Coast.

### Key points included:

- Planning mechanisms for forestry are the Resource Management Act 1991, National Environmental Standard for Plantation Forestry, and regional plans and policies.
- The National Environmental Standard for Plantation Forestry provides a nationally consistent set of standards to manage the environmental effects of plantation forestry activities under the Resource Management Act 1991.
- Bay of Plenty region has the potential for an East Coast forestry event – similar erodible soils, high intensity rain events, long steep hills and debris.
- The main difference between the East Coast and Bay of Plenty regions is that the Bay of Plenty Regional Council has a compliance focus in the forestry sector with best practice stormwater processes in place and an emphasis on education and providing guidelines.
- Council's website has good information on exotic forestry, including guidelines and information about the National Environmental Standard for Plantation Forestry <https://www.boprc.govt.nz/forestry>.

### Discussion:

- Responsibility for clean-up was discussed. Ryan explained that if the source of the debris can be identified, the cost of clean-up can be recovered from the accountable forestry company but this can be very difficult to determine and prove.
- Protection of sites of cultural significance was discussed. Through the consent process Council can consider impacts on cultural sites but Heritage New Zealand is the agency with regulatory responsibility for this. Consents and Compliance staff work closely with Heritage New Zealand as well as iwi and hapū and are committed to working together and sharing knowledge.

**Attendance:** Ryan Standen left the meeting at 10:32 am.

## 6 Finance report

Debbie Hyland spoke to the finance report provided in the agenda pack and gave an overview of the scheme's revenue and expenditure to 31 January 2019.

### Key points included:

- Capital expenditure is higher than budgeted. This is due to the April 2017 Flood Repair Project completing more of the repair sites than planned. Rock supply has been available in the area (compared to some of the other catchments) and additional work has been undertaken and rock stockpiled in preparation of future work.

- Depreciation costs are higher due to the annual July 2018 valuation of scheme assets. Scheme assets are valued at \$44,792,000.
- The Waioeka-Otara works reserve is in deficit.
- The scheme has outstanding loans of \$5,849,000.

**Discussion:**

- Questioned whether the April 2017 floods would have implications regarding access to insurance and increase in premiums. Council do not have insurance information beyond the next financial year however premium increases are occurring across New Zealand following multiple natural disasters. In addition, following flood repair work completion, the scheme will have additional assets to insure.
- Debt projections were discussed. Advised that debt is reflective of capital works expenditure and is estimated on a ten year timeframe for the Long Term Plan. For future flood events, budget is added to the Flood Damage Reserve annually with a larger allocation every five years. This fund can only be used when a flood event reaches a set threshold.
- Prioritising and budgeting of work was discussed, specifically in comparison with other rivers schemes. The group were advised that the Rivers and Drainage Asset Management Plan (AMP) is the strategic document that schedules what maintenance and capital works need to be done within a scheme and when. The plan covers a 50-year timeframe (current AMP covers 2018-2068) and is reviewed every three years in parallel with the Long Term Plan. River scheme budgets are generated from the AMP and scheme work is funded 80% from targeted rates (from ratepayers within the catchment that receive benefit from the flood protection assets) and 20% from general rates. When there is a flood event, damaged sites are prioritised within each scheme and budget allocated accordingly.
- Members have been provided with the AMP Executive Summary and Waioeka-Otara information can be found in Section 12.4 on pages 22-24. The full document is available on Council's website <https://www.boprc.govt.nz/your-council/plans-and-policies/plans/asset-management/>.
- Noted that Council also has the Rivers Scheme Sustainability Project which is setting direction for sustainable management of the five major Rivers and Drainage Schemes for the next 100 years. The goal is to reduce long-term flood hazards while encouraging environmentally and economically sustainable land-use practices, raising awareness, and changing attitudes and behaviours in our communities.

**ACTION: Provide advisory group members with 10-year financial projections for all river schemes.**

## 7 River Scheme Governance/Continuous Improvement

Chris Ingle spoke to the River Scheme Governance and Continuous Improvement item of the agenda. At the September 2018 advisory group meeting Nic Newman (Principal Advisor) sought feedback from members on how the advisory group was working, with a report presented to Council on 13 December 2018 with the findings and recommendations. The Council report was circulated to Advisory Group members on 12 February 2019 with feedback on the recommendations now being sought.

**Attendance:** Debbie Hyland and Loris Hastie left the meeting at 11:00 am.

**Discussion:**

- Members sought clarity on the purpose of the advisory group. The group were referred to the advisory group's Terms of Reference as, 'Rivers Scheme Advisory Groups are informal groups to enable effective communication and liaison between Scheme ratepayers and Bay of Plenty Regional Council.' The group can make recommendations to council but has no authority to make decisions on Council matters.
- Members felt they receive a lot of information from Council but are not often asked for feedback or to provide advice.
- It was advised that the mechanism for questioning the direction of the Waioeka-Otara Rivers Scheme is the Asset Management Plan which is reviewed every three years and open for public submissions.

**8 Operations report**

Bruce Crabbe spoke to the maintenance works programme for 2018/2019 provided in the agenda pack, and Tony Dunlop delivered a presentation of annual maintenance work.

**Key points included:**

- Waioeka-Otara Rivers Scheme was hit by two significant flood events early last year (5 January and 12 February 2018). As a result there are flood repairs to do on top of general maintenance tasks. The group was advised that the annual flood damage budget of \$160,000 will not be sufficient to cover the repair works. Where possible, staff are planning to reduce expenditure in the maintenance programme and utilise the works reserve to fund the repairs.
- A legal opinion on the 'Waioeka Floodway' has been obtained and will be shared with Ian Connor after the meeting.
- Guidance was requested from the Advisory Group regarding an annual flood repair site on Pakihi Road, Otara River. River bank erosion is impacting on the road (an Ōpōtiki District Council asset) which also acts as a stopbank. Regional Council has suggested sharing the cost of repair with Ōpōtiki District Council. There are however issues with NZTA funding and Ōpōtiki District Council have advised they are unable to contribute. Regional Council's Rivers and Drainage Operations team have prioritised the site as high risk, and are uncomfortable leaving it unrepaired, so are recommending proceeding with the work.

**Discussion:**

- Concern expressed about the amount of rock being used and how it is affecting the natural character of the river. It was explained that rock work is only used when required from an engineering perspective. For example when other erosion protection measures have failed in the past or if there are conditions requiring hard engineering measures (e.g. site is subjected to high flood velocities or added pressures due to river channel alignment). Willows are used a lot and are the preferred species for erosion protection and river edge stabilisation. Native plantings are not useful for quick stabilisation of riverbanks but can be planted behind erosion protection plantings. River engineers do not like straight lines and during the repair works do try to maintain meanders and give the river room to move.
- Riverbed ripping to mobilise gravel was explained. The Waioeka and Otara rivers both have issues with high gravel beds building up in some areas and holes forming in the riverbed in other areas. Where there are gravel build-ups, the river gets pushed sideways and erodes the opposite bank. Beach ripping helps mobilise the gravel and gets it moving down through the system filling any holes along the way.

## 9 Flood Repair Project report

Paula Chapman and Tony Dunlop delivered a presentation providing an overview of the flood repair project including a summary of flood repair works completed to-date and work planned to the end of the financial year.

### Key points included:

- At the start of the project all the schemes were inspected to ascertain flood damage. Repair sites were documented, repair method recommended and a priority assigned based on the risk of the damage becoming worse, the consequence of that occurring, any impact to community assets, and the practical ability to complete the work required. Sections of river are re-inspected prior to work commencing to develop a detailed scope of works for each site and at this time some sites get reprioritised.
- This financial year the budget for the project is forecasted to be underspent due to rock supply constraints delaying programmed work in the Whakatāne-Tauranga and Rangitāiki-Tarawera schemes.
- As at 31 March 2019 repair works had been completed on 228 of the 520 flood damaged sites across the region.
- Progress in the Waioeka-Otara Rivers Scheme has been accelerated due to the secure rock supply from Matawai and is ahead of schedule with 47 sites completed, two more to be completed by the end of June and six no longer needing repair. The remaining 12 sites are to be completed in 2019-2020. Eighty percent of the Waioeka-Otara high priority sites have been completed.
- Currently reviewing lower priority sites to identify any changes. Some sites need to be reprioritised and others no longer needing repair can be removed from the programme.

### Discussion:

- Concern expressed regarding unrepaired sites getting worse. It was suggested that small jobs should get priority so they do not get worse requiring a bigger, more costly repair. Reassurance given that the sites are being monitored and reprioritised as necessary and that Operations staff are also working on annual flood damaged sites.
- The level of confidence Council has in their assessment of risk was questioned, considering the frequency of natural events like the April 2017 flood and the recent South Island West Coast floods. Flood protection assets provide a set level of service and there is methodology in place to assess and maintain that level of service. It was highlighted that the region is prone to natural hazard events and the risk of the unknown or unexpected happening is high.

## 10 Engineering update

Mark Townsend delivered a presentation covering the following topics:

### 10.1 Duke Street Pump Station upgrade

It was advised that the purpose of the Duke Street Pump Station is to prevent rural floodwater overflowing into the urban area. Assessment is currently underway to determine whether the pump station is meeting level of service, and if the current stopbank configuration is having an adverse effect on the urban area.

WSP Opus has undertaken the survey and developed a model. A workshop in February produced an options list for both urban and rural needs. The options will now be run

through the model. Construction is scheduled for 2019/2020 with a budget of \$1.5m. The rural options are:

- Raise/create Duke Street stopbanks
- Increase Duke Street pump station capacity
- Create more storage adjacent to Duke Street pump station

## 10.2 Waioeka-Otara Capacity review

It was advised that river scheme capacity reviews are carried out on a ten year cycle. They are a review of the capacity of the rivers infrastructure to determine whether the accepted level of service is being achieved. As a result of a capacity review upgrade work may be required.

The Waioeka and Otara rivers are currently being reviewed with the following timeframe and budget:

- 2018-2019 – Surveying and hydrology - \$200,000
- 2019-2020 – Modelling - \$100,000
- 2020-2021 – Modelling - \$100,000
- 2021-2022 – Design - \$100,000
- 2022-2023 - Physical works - \$1,620,000

The surveying is complete however are currently behind schedule with the hydrological assessments. These will not be completed this financial year but are scheduled to be undertaken during 2019.

## 10.3 Stopbank geotechnical investigations

Geotechnical assessments of stopbanks across the region are being undertaken to assess bank condition and foundations, and level of service provided. Engineering processes were different when the banks were originally built, with the standard methodology being to 'dredge and dump' from the river to create a bank. Geotechnical investigations fill gaps in knowledge and test what the stopbanks are constructed of and the ground structure beneath the banks.

Geotechnical assessment is programmed for the Otara River in 2019-2020 (including looking at concrete floodwalls) and the Waioeka River in 2020-2021.

## 10.4 Gravel build-up Waioeka Bridge

River cross-section survey information was shown for three sites (at the Waioeka Bridge, upstream of bridge and downstream of bridge). The surveys show that at the bridge there is aggradation on the true left (the obvious build-up that people comment about) and degradation on the true right. At the other two sites there is the expected cycles of aggradation followed by degradation when there is a flood event. It was advised that the survey results show that the gravel build up is currently not affecting the capacity of the river.

**Attendance:** Tim Senior left the meeting at 12:14 pm.



## 11 General business

### 11.1 Gravel management

Mark Townsend provided an updated gravel management.

#### Key points included:

- In the past gravel management within Council was spread across the Rivers and Drainage and Engineering teams. With recent staff changes this has been re-assessed and gravel management is now an Engineering team responsibility.
- In November 2018, a halt was placed on all commercial extraction from the Waioeka and Otara rivers (and also the Whakatāne and Tauranga rivers) until the relevant technical analysis was available through the NERMN report (Natural Environmental Regional Monitoring Network – river and stream channel monitoring). This report was in the process of being completed when the April 2017 floods occurred. The floods dramatically changed the rivers making a lot of the information in the draft report invalid and requiring cross-section surveys to be repeated.
- Cross-section surveys of the river beds are carried out every 2-3 years and analysis of this information is presented in the NERMN report. The NERMN report makes comment on the river reaches, highlights where there is aggradation (build-up) and degradation (loss), and provides recommendations for where gravel can be extracted and at what volume.
- It has been identified that the cross-section surveys do not show the full picture as they are just a point along the river so looking at using drone technology to fill the gaps.
- Recent surveys show that the amount of gravel available in the Waioeka River is generally less than previously available. In the Otara River there is no clear pattern, some areas have gravel aggradation and other areas are degrading.

### 11.2 Bylaw and policy reviews

Chris Ingle briefly spoke to the report provided in the agenda pack giving members notice that the Floodway and Drainage Bylaw 2008 is being reviewed and that Council is scoping and prioritising schemes for a rating review.

### 11.3 Communications update

Kay Boreham updated the group on communications activities across the Eastern Bay. Members were advised that the Council website had been upgraded and were encouraged to register for Project Page updates. The group was also advised that an action from the Rivers Scheme Governance report (covered in item 7) was to increase communication with advisory groups between meetings and the concept of a six-monthly electronic newsletter is being worked on.

**Meeting ended:** 12:30 pm.

## Meeting Action Sheet

### Waioeka-Otara Rivers Scheme Advisory Group Meeting

3 April 2019

Action	Person Responsible	Completed	Comment
Provide advisory group members with 10-year financial projections for all river schemes.	Debbie Hyland	✓	Circulated and also available in the Asset Management Plan, Section 10.3 pp199-210 <a href="https://cdn.boprc.govt.nz/media/786843/rivers-and-drainage-asset-management-plan-2018_2068-final-print.pdf">https://cdn.boprc.govt.nz/media/786843/rivers-and-drainage-asset-management-plan-2018_2068-final-print.pdf</a>

# MEMORANDUM



**To:** River Scheme Advisory Group Members

**From:** Kirsty Brown  
Rivers and Drainage Assets Manager

**Date:** 15 August 2019

**File Ref:** A3323946

**Subject:** Review of the Floodway and Drainage Bylaw 2008

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## Background

The Floodway and Drainage Bylaw was established for the protection of river and drainage scheme assets, such as pump stations, drains and stopbanks, from damage or misuse. It only applies to assets which are owned or under the control of Regional Council. The bylaw sets what can and cannot be done in the vicinity of scheme assets, the process for gaining 'bylaw authority' for works, and the remedies available to Council for non-authorized and non-compliant work.

The Local Government Act 2002 requires Council to undertake a comprehensive review of its bylaws ten years after the last review, and within a two year time frame from that review date. Review of the Floodway and Drainage Bylaw 2008 needs to be completed by June 2020.

## Identified issues

An internal review of the effectiveness of the existing bylaw is currently underway. Overall staff consider the bylaw rules effective for the protection of the rivers and drainage scheme assets. However, some key issues have arisen since the previous review including:

- Poor public and territorial local authority awareness of the bylaw's existence and requirements.
- Changes in land use, in particular conversions from dairy to kiwifruit.
- Possible need to increase bylaw applicable areas to ensure specific geotechnical issues are managed appropriately.
- The need for stronger restrictions on activities like ploughing and fencing that can accelerate seepage pressure development.
- Review of enforcement powers and processes.
- Review of application fees.
- Clarification of some of the bylaw's definitions.

## Consultation and community engagement

Early engagement is planned with River Scheme Advisory Groups and key stakeholders, including tangata whenua, territorial local authorities and landowners. Workshops will be arranged with advisory groups in October/November 2019 where the proposed changes and amendments to the bylaw will be presented and discussed in detail.

The input we will be seeking from advisory group members includes:

- Feedback and comments on the recommended changes and amendments.
- To discuss the bylaw review within your networks and provide feedback from the communities perspective.
- Support at community open days during the consultation process.

### **Timeframes**

Anticipated timeframes for the bylaw review programme are:

<b>Date</b>	<b>Stage required</b>
September 2019 - March 2020	Early engagement with key stakeholders - river scheme advisory groups, tangata whenua, territorial local authorities and landowners
February 2020	Public launch of review
February - March 2020	Council workshop to discuss recommendations and comments from early engagement and data gathering
March 2020	Adoption by Council to begin the formal Special Consultative Procedures
March - April 2020	Consultation events
May 2020	Hearings panel convened
Early June 2020	Deliberations panel convened
Late June 2020	Council adopts the bylaw

Kirsty Brown

**Rivers and Drainage Assets Manager**

# MEMORANDUM



**To:** Waioeka-Otara Rivers Scheme Advisory Group

**From:** Tony Dunlop  
**Flood Restoration Engineer/Area Engineer**

**Date:** 6 September 2019

**File Ref:** A3344322

**Subject:** Rivers and Drainage Operations update (as at August 2019)

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## 1 Waioeka-Otara Rivers Scheme – 2018-2019 maintenance

### 1.1 Waioeka River

- Ian Connor berm area cleared of willows and sprayed.
- Willow mulching and spraying weeds of river berm downstream of State Highway Bridge on town side to allow a more efficient flood fairway.
- 9.7 km of river beach spraying to control pampas grass and other invasive weeds.



*Photo 1: Whakatōhea site showing the difference when area is sprayed*

- 8.0 km of beach ripping to de-armour beaches and encourage gravel movement.
- Floodgated culvert checks and maintenance carried out.
- Flood flow diversion channel maintained at Robbie's Pit site to ease pressure on Whakatōhea frontage (refer Photo 2).



*Photo 2: Robbie's Pit overflow - before and after*

## 1.2 Otara River

- River beach spraying to control mainly pampas grass.
- Beach ripping/shaping to de-armour beaches and encourage gravel movement.
- Floodgated culverts, ongoing checks and maintenance.
- Flood flow diversion channel maintained at Carters site to ease pressure on I Browns left bank frontage (refer Photo 3).



*Photo 3: Carters overflow channel*

## 1.3 Drainage Scheme maintenance

Approximately 2.5 kms of various drain maintenance (spray/desilting) carried out.

## 1.4 Waioeka-Otara annual flood damage update

- Otara River – Rewa Hill Carter site, right bank 13.7 km trench willow works in place and toetoe and cabbage trees planted (refer Photo 4).
- Otara River – Gloyns, left bank, 16.1 km trench willows in place.
- Otara River - G Gault, right bank, 9.9 km rock works in place.

- Waioeka River - Anstis left bank, 5.6 km trench willow works in place with toetoe and cabbage trees planted.



*Photo 4: Carter/Rewa Hill annual flood damaged repairs*

## 2 Waioeka–Otago Rivers Scheme - 2019-2020 planned maintenance

### 2.1 Waioeka River

- Establish and maintain overflow diversions to ease/reduce velocities on river bank protections reducing the possibility of river channel degrading and causing slumping at Robbie's Pit, Beatties Pit (refer Photo 5) and Anstis Pit.



*Photo 5: Beatties – overflow diversion needed*

- Ongoing scheme drain desilting/ spraying - approximately 2.5 km.
- Floodgate checks and maintenance.
- Floodgated culvert outlet desilting and spraying.
- Ongoing weed control, including 9.7 km of beach weed spraying targeting pampas grass and other invasive weeds.

- Willow maintenance on the right bank berm downstream State Highway Bridge (town side).



*Photo 6: Anstis/Maxwell vegetation maintenance (pampas)*

## 2.2 Otara River

- 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 7: Rewa Hill overflow diversion required*

- 9.7 km of beach weed spraying targeting pampas grass and other invasive weeds
- Left bank, I Browns property - replant/re-trench willows to repair river bank slumping amongst willow protection (refer Photo 8).





*Photo 8: I Brown Trench willow and willow planting*

### 2.3 Annual Flood Damage

Due to a reasonable sized flood in July the rivers have sustained some considerable damage at 12 identified locations. One of the main reasons has been the movement of gravel and deposition on beaches with narrowing of channels, increasing velocities and causing lowering of the channel bed, causing river banks to slump.

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

- Otara River – Carters/I Brown Pit, 80 metres of rock slumping repairs caused by gravel build up on beach, narrowing channel.
- Otara River – Ernest site, 80 metres of rock slumping causing channel degradation (refer Photo 9).



*Photo 9: Ernest rock slumping*



*Photo 10: Ōpōtiki Wharf rock movement*

- Otara River - Ōpōtiki Wharf, 200 metres of rock movement requiring topping up/replenishment (refer Photo 10).
- Otara River, right bank - Thornton Orchard, 50 metres of raw bank erosion threatening existing rock work and stop bank.
- Otara River, Pakihi Road, damaged from February 2018 flood being discussed with Ōpōtiki District Council (refer Photo 11).
- Waioeka River, right bank - Riverloch Farms, 2 sites of 50 metres of channel narrowing causing rock slumping.



*Photo 11: Pakihi Road no repairs as yet*

### 3 Reactive maintenance

Considerable damage has been caused to the Waioeka River stopbank and berm, at Tarawa Creek outlet, by vehicles accessing the river in wet conditions. This is especially an issue during whitebaiting season. Such actions undermine the integrity of the stopbank and put the flood protection system at risk. Repairs are planned but can't be undertaken until site conditions dry out enough to allow heavy machinery access.



*Photo 12: Stopbank damage at Tarawa Creek outlet*

### 4 Performance assessment of scheme critical assets

Performance assessment of the scheme's critical assets has been completed. Critical assets are those that have a high consequence if they fail e.g. urban stopbanks. The performance assessment looks at asset condition and whether the asset is performing at the required level of service. Twenty-nine defects (issues requiring work) have been identified including issues like tree removal, surface damage on stopbanks, and river bank erosion. These will be prioritised and appropriate repair work programmed.

Tony Dunlop  
**Flood Restoration Engineer/Area Engineer**

**Waioeka - Otara Rivers Scheme Maintenance Works Programme: Financial Year 2018/2019**  
**Advisory Group Meeting - 25 September 2019**

9/09/2019

Objective ID: A3035698

Row	Work type	Reach	Location (LB=left bank, RB=right bank)	Annual Budget	Job estimate	Status
1	<b>General</b>					
2						
3	<b>Annual Flood Damage works</b>			<b>\$160,000</b>		
4	Otara R. Pakahi Rd - 200m rockworks (ODC 50%)	R4	LB 19.5km		\$99,000	Waiting on ODC - rock purchased and carted to stock pile
5	Otara R RB Gault's - 120 metres rockworks	R3	RB 9.9km		\$85,000	Completed
6	Otara R D Peterson - Pipe training groynes & planting	R4	RB 20.0km			2019/2020
7	Otara R Carters - Trenched willows- Cabbage trees planted	R4	RB 13.7km		\$15,000	Completed
8	Otara R. I Browns (Opposite Carter's Pit) - 100 metres rockworks	R4	LB 13.3km		\$75,000	Monitoring
9	Otara R. Gloyn's - Trenched willows	R4	LB 16.1km		\$18,000	Completed
10	Otara R Gault's (lower Farm ) - 150 metres trenched willows	R3	RB 9.4km			2019/2020
11	Otara R. I Browns (opposite Carter's lower pit)- Rockworks	R4	LB 12.4km			Monitoring
12	Waioeka R Anstis/Wilson -100 metres TW	R2	LB 5.6km		\$20,000	Completed
13	<b>Subtotal flood repairs</b>				\$312,000	
14						
15	<b>Fly tipping and rubbish collection/disposal</b>			<b>\$8,000</b>	\$2,000	Ongoing
16	<b>Pest control</b>			<b>\$8,000</b>	\$2,000	Ongoing
17						
18	<b>Drainage</b>					
19	<b>Aquatic weed spraying</b>			<b>\$10,200</b>		
20	Apanui Drain/Whakatōhea - spraying (G Nicol)	R1	RB 0.0-3.8 km		\$2,000	Sprayed Jan 2019
21	Mill Stream		L&RB various sites		\$2,000	Sprayed Jan 2019
22	Baird's Drain - spraying		L&RB various sites		\$2,000	Sprayed Jan 2019
23	Duke Street - spraying		RB 0.0-0.1 km		\$1,000	Sprayed Jan 2019
24	Mill Stream to Warrington's Road - spraying		L&RB 0.0-6.0 km		\$1,500	Sprayed Jan 2019
25	McCallion's Drain - spraying		L&RB 0.0-2.4 km		\$500	Sprayed Jan 2019
26	Te Rere Pa Drain - spraying		Various		\$1,000	Sprayed Jan 2019
27	Aerodrome Drain - spraying		L&RB 0.0-1.2 km		\$500	Sprayed Jan 2019
28	Vanstone's Drain - spraying		L&RB 0.0-1.2 km		\$500	Sprayed Jan 2019
29	Wingate's		L&RB 5.0-5.7 km		\$1,000	Sprayed Jan 2019
30	Baird's Rd Drain (Connor's)				\$4,000	Sprayed Jan 2019
31						
32	<b>Drain desilting</b>			<b>\$8,800</b>		
33	Duke Street Drain (G Nicol's before June 30)				\$7,000	Completed
34	Duke Street outlet	R1	RB 4.0 km		\$2,000	Completed
35	Twin culverts - I Brown	R4	LB 19.0 km		\$2,000	Completed
36	Various outlets	R2	Various		\$2,000	Ongoing
37	Various outlets	R3	Various		\$2,000	Ongoing
38	Baird's Road Drain (outlet)	R1			5,000	Completed
39	Duke Street Drain - Hedley's	R1			1,200	Completed
40						
41	<b>River</b>					
42	<b>Fairway weed spraying</b>			<b>\$17,500</b>		
43	Waioeka River	R1 & 2			\$6,000	In progress
44	Otara River	R3 & 4			\$6,000	Completed
45	Te Rere Pa - mulching	R3	LB 6.4-7.0 km			2019/2018
46	G. Nicol's/Whakatōhea	R2	RB 6.4-6.8km		\$7,000	Completed
47	Downstream Waioeka SH Bridge	R1	RB2.1-3.3km		\$5,000	Completed
48	Nut tree eradication	R1,2,3,4	Various locations		\$5,000	Ongoing
49	Matchett Road - Bamboo spraying	R2	RB 3.6 km		\$1,000	March/April 2019
50	Waioeka Pa outlet - spraying	R2	RB 12.0 km		\$1,000	Completed
51	Floodgated outlets	R1,2,3,4	Various locations		\$1,500	Ongoing
52	Waioeka confluence berm spraying - Connor	R1	RB		\$1,500	Completed
53						
54	<b>Willow Maintenance</b>			<b>\$67,000</b>		
55	Graham Hill/Keller's - willows/ Native shrubs	R4	RB 15.7 km			2019/2021
56	Riverloch- Whakatōhea	R2	RB 11.9-12.3			2019/2022
57	Maxwell - Willows	R2	LB 11.2-11.7		\$5,000	Completed
58	D Petersen	R4	RB 17.3 -17.7			2019/2020
59	Gault	R4	RB 10.5-10.8			2019/2021
60	Gault	R3	RB 7.8-8.5			2019/2022
61	Anstis/Wilson- 200 cabbage trees planted	R2	LB 5.4 -5.6km		\$1,000	Completed
62	Duke Street Outlet - Tree clearing	R1	RB 3.7-3.9km		\$8,000	April/May 2019
63	Waioeka R. Waikeke Farms - Mulching/layering/ willow transplanting	R4	RB 11.9 to 13.4km		\$18,000	Completed

62	Ian Browns - layering	R3	LB 11.0-13.3 km			2019/2020
63	Carter's Pit - Clearing	R4	RB 13.2km			Completed
64	Otara R Gault's - Willow layering	R3	RB 9.5 to 10.2km		\$6,000	Completed
65						
66	<b>Rock replenishment</b>				<b>\$77,100</b>	
67	Moody Otara SH	R3	RB 3.2km			2019/2020
68						
69	<b>Fencing</b>				<b>\$20,700</b>	
70	Various repairs	All	Various locations		\$4,000	Ongoing
71						
72	<b>Beach shaping/channel alignment/overflow channels</b>				<b>\$90,600</b>	
73	Beach ripping Waioeka	R1	Various locations		\$5,000	completed
74	Beach ripping Otara	R2	Various locations		\$10,000	completed
75	Beach ripping Otara	R4	Various locations		\$10,000	Completed.
76	Overflow channel maintenance - Keller's	R4	13.2-14.3-12.6 km		15,000	Investigation /communication
77	Overflow channel maintenance - Carter's	R4	13.2-14.3-12.6 km		10,000	Ongoing
78	Overflow channel maintenance - Beattie's, Maxwell's & Whakatōhea	R2	6.6-5.8-10.4km		40,000	Ongoing
79	Overflow maintenance Robbie's Pit	R2	LB 5.0 to 5.4km		6,000	Ongoing
80	Nicol's, Widen channel /floodway	R2	6.8 to 7.2km		\$12,000	May/June
81	Waioeka Duke St - strip vegetation from island	R1	RB 3.7km			Completed.
82	Island SH Waioeka Bridge - Lower level & strip vegetation	R1	LB 3.2 to 3.6 km		\$20,000	Partially completed
83						
84	<b>Stopbank/floodgates miscellaneous maintenance</b>				<b>\$48,800</b>	
85	Stopbank mowing ODC - 50%	R1&3			\$4,000	Ongoing
86	Spraying floodwalls - ODC	R3	LB 3.4-3.6 km		\$4,000	Ongoing
87	Floodwall maintenance - sealant replacement	R3	LB 3.4-3.6 km		\$1,000	
88	Maxwell's/Anstis/Waikeke Farms - Weed spraying	R2	Various		\$1,000	In progress
89	P Anstis/Whakatōhea/various - Weed spraying	R1	Various		\$1,000	in progress
90	Moody's/Wingate's/Gault's/Te Rere Pa/ODC - weed spraying	R3	Various		\$1,000	Ongoing
91	SH2 culvert at 2.85km. Progressing culvert leakage with NZTA	R1	LB 2.85km			Investigations with NZTA
92	Baird's Rd Drain Outlet Flood Gate Replacement	R1			\$12,000	2019/2020
93						
94	<b>Duke Street Pump Station</b>				<b>\$2,100</b>	\$3,600
95	Pump inspections				<b>\$600</b>	\$600
96	Pump six-month inspection				<b>\$800</b>	\$1,000
97	2.5 year maintenance					March/April 2019
98	5 year maintenance				<b>\$4,200</b>	All pumps lifted & serviced
99	Miscellaneous repairs/maintenance				<b>\$2,100</b>	\$2,100
100	Electricity				<b>\$9,500</b>	\$9,500
101						
102	<b>Annual Works Budget</b>				<b>\$376,000</b>	
103	<b>Estimated Annual works Job Costs</b>					<b>\$286,000</b>
104	<b>Annual flood damage budget &amp; costs</b>				<b>\$160,000</b>	<b>\$312,000</b>
105	<b>Total Estimated Costs</b>				<b>\$536,000</b>	<b>\$598,000</b>

## Waioeka - Otarā Rivers Scheme Maintenance Works Programme: Financial Year 2019/2020

6/09/2018

Objective ID: A3147626

Row	Work type	Reach	Location (LB=left bank, RB=right bank)	Annual Budget	Job estimate	Status/notes
1	<b>General</b>					
2	<b>Annual Flood Damages</b>			<b>\$160,000</b>		
3	Waioeka R, Riverloch Farms - rock slumping- 80m	R2	RB 9.6km		90,000	High priority
4	Waioeka R. Riverloch Farms - rock slumping- 50m	R2	RB10.5km		85,000	High priority
5	Waioeka R. Whakatōhea Farms - rock slumping- 40m	R2	RB 5.0km		45,000	High priority
6	Waioeka River Nicol's - rock slumping- 40 metres	R2	RB 6.6km		45,000	High priority
7	Otarā R. Ōpōtiki Wharf to Princes Street- 200m rock	R3	LB 0.3km		180,000	High priority
8	Otarā R. Tarawa Creek Outlet to Wharf - 100m rock	R3	LB 0.1		40,000	High priority
9	Otarā R. I Browns (opposite Carter's Pit) - 60m rockworks	R4	LB 13.5km		\$60,000	Completed
10	Otarā R. A Ernest (opposite Rewa Hill)- Rockworks	R4	LB 12.4km		\$75,000	High- In Progress
11	Otarā R. Pakahi Rd - 200m rockworks	R4	LB 19.5km		\$71,000	Medium (rock stockpiled 2018-2019)
12	Otarā R. Gault's (lower Farm ) - 150m trenched willows	R3	RB 9.4km		\$15,000	Low priority
13	Otarā R. D Peterson - Training groynes & planting	R4	RB 20.0km		\$60,000	Low priority
14	Otarā R. Rewa Hill - Trench willows & groynes	R4	RB14.7km		\$20,000	Low priority
15	<b>Subtotal flood repairs</b>				<b>\$786,000</b>	
16						
17	<b>Fly tipping and rubbish collection/disposal</b>			<b>\$8,000</b>	\$8,000	
18	<b>Pest control</b>			<b>\$8,000</b>	\$8,000	
19						
20	<b>Drainage</b>			<b>\$10,200</b>	11,000	
21	Apanui Drain/Whakatōhea - spraying (contact G Nicol)	R1	RB 0.0-3.8 km			
22	Mill Stream		L&RB various sites			
23	Baird's Drain - spraying		L&RB various sites			
24	Duke Street - spraying		RB 0.0-0.1 km			
25	Mill Stream to Warrington's Road - spraying		L&RB 0.0-6.0 km			
26	McCallion's Drain - spraying		L&RB 0.0-2.4 km			
27	Te Rere Pa Drain - spraying		Various			
28	Aerodrome Drain - spraying		L&RB 0.0-1.2 km			
29	Vanstone's Drain - spraying		L&RB 0.0-1.2 km			
30	Wingate's		L&RB 5.0-5.7 km			
31	Baird's Rd Drain (Connor's)					
32						
33	<b>Drain desilting</b>		Where required	<b>\$8,800</b>		
34	Various outlets	R2	Various		\$6,000	
35	Various outlets	R3	Various		\$6,000	
36						
37	<b>Rivers</b>			<b>\$17,500</b>	18,000	
38	Beach spraying	R1,2,3,4	Various beaches			
39	Nut tree eradication	R1,2,3,4	Various locations			
40	Matchett Road - Bamboo spraying	R2	RB 3.6 km			
41	Waioeka Pa outlet - spraying	R2	RB 12.0 km			
42	Floodgated outlets	R1,2,3,4	Various locations			
43	Waioeka confluence berm spraying - Connor's	R1	RB			
44						
45	<b>Planting (Willows/native shrubs - Toi Toi &amp; cabbage trees)</b>	R2		<b>\$22,800</b>	\$18,000	
46	Anstis rockworks	R2	LB 6.9-7.1			
47	Whakatōhea	R2				
48	Nicoll's	R2				
49	Waikere	R2				
50	Otarā East Bridge - Native shrubs planted	R3	LB 9.8 to 10.1km			
51	Otarā R. Right bank, Carters (Doc Lease)- Native shrubs	R3	RB 13.3 to 13.5km			
52	Waioeka & Otarā Various willow pole planting where required	all	Various		\$6,000	
53						

Row	Work type	Reach	Location (LB=left bank, RB=right bank)	Annual Budget	Job estimate	Status/notes
54	<b>Tree maintenance: layering/mulching/clearing/replanting</b>			<b>\$44,200</b>		
55	Gault's - Layering/transplanting	R3	RB 13.1 to 13.2km		9,000	
56	Carters/Doc land - Mulching	R4			6,000	
57	Otara R. Right bank, Petersen's - clear large poplars	R4	RB 19.1-19.3km		\$6,500	
58	Otara R. Left Bank, I Browns - replanting/trenching willows to repair stopbank slumping	R4	LB12.6 & 13.3km		\$17,000	
59						
60	<b>Rock replenishment</b>			<b>\$77,100</b>		
61	Otara River, Moody Trust - 120 metres	R3	RB		\$75,000	
62						
63	<b>Fencing</b>			<b>\$20,700</b>		
64	Various	All	Various locations		\$4,000	
65						
66	<b>Beach shaping &amp; channel maintenance</b>			<b>\$90,600</b>		
67	Waioeka R. SH Bridge, Island maintenance	R1			\$8,000	
68	Beach ripping	R2,4	Various locations		\$12,000	
69	Overflow channel/channel widening, Rewa Hill	R4	RB		\$18,000	
70	Overflow channel maint. - Carter's lower & top beach	R4	RB13.2-14.3km		12,000	Carters completed
71	Overflow channel/channel widening, Nicol's/Beatties	R2	LB		30,000	
72	Overflow channel maintenance Nicol's/Anstis	R2	RB		15,000	
73	Overflow channel maintenance - Maxwell's/ Riverloch	R2	6.6-5.8-10.4km		27,000	
74	Overflow channel maint. - Whakatōhea/Robbie's Pit	R2			20,000	Completed
75						
76	<b>Condition assessment defects repairs</b>	R1,2,4	Various locations		20,000	
77						
78	<b>Stopbanks</b>					
78	<b>Minor floodgates inspection/repairs</b>			<b>\$11,800</b>		
79	Floodgate outlet inspections/maintenance	All	Various locations		\$12,000	
80						
81	<b>Stopbank miscellaneous maintenance</b>			<b>\$37,000</b>		
82	Spraying floodwalls - Urban area	R1&3			\$4,000	
83	Floodwall maintenance - sealant replacement (tbc)	R3	LB 3.4-3.6 km		\$4,000	
84	Baird's Rd Floodgate replacement	R1				In progress
85						
86	<b>Duke Street</b>			<b>\$2,100</b>	\$3,600	
86	<b>Pump Station</b>			<b>\$600</b>	\$600	
87	Pump six-month inspection				800	
88	2.5 year maintenance			<b>\$800</b>		
89	5 year maintenance			<b>\$4,200</b>		
90	Miscellaneous repairs/maintenance			<b>\$2,100</b>	\$2,100	
91	Electricity			<b>\$9,500</b>	\$9,500	
92						
93	<b>Annual operational maintenance budget</b>			<b>\$376,000</b>		
94	<b>Estimate of scheduled annual maintenance</b>				<b>\$409,600</b>	
95	<b>Annual flood damage budget &amp; estimates</b>			<b>\$160,000</b>	<b>\$786,000</b>	
96	<b>Total Estimated Operating Costs</b>			<b>\$536,000</b>	<b>\$1,195,600</b>	
97	<b>Over expenditure forecast</b>				<b>-\$659,600</b>	
98						
99	<b>Capital Works</b>					
100	Baird's Rd Drain Culvert repairs - Culvert leakage (being Investigated)					

# MEMORANDUM



**To:** Waioeka-Otara Rivers Scheme Advisory Group  
For period 1 March 2018 to 30 August 2019

**From:** Paula Chapman  
**Project Manager - Flood Recovery**

**Date:** 5 September 2019

**File Ref:** A3350552

**Subject:** **Status Report - April 2017 Flood Repair Project**

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## **April 2017 Flood Event**

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.

## **1.0 Programme Update**

### **1.1 Programme update summary**

- The flood recovery project is two 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 30 August 2019 repair works are complete for 264 (51%) 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 55 sites from a total programme of 61 sites (90%) have been completed (this includes nine sites which have been assessed as not needing work and will be monitored until the end of the programme).
- Gary Williams of Waterscape (specialist consulting engineer in the field of water and soil engineering) visited last month to provide input and feedback for some of the high priority repair works along with general river management advice. Some of his findings will be presented at the advisory group meeting.
- Progress in this scheme has been accelerated due to the secure rock supply from Matawai. Of the high priority sites in this scheme 88% have been completed.



- The most visible repair associated with the total project is the College Road stopbank rebuild which was completed in December.
- The project team is reviewing lower priority sites to determine which are no longer required and can be removed from the programme.
- The process for claiming eligible costs from central government has been established. The most recent claims are for essential infrastructure repairs and the project team is working on Claim Eight.
- 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.
- A progress payment for Infrastructure Insurance has been received (\$2,000,000) and a second payment has been requested.
- A progress payment of \$115,000 has also been received to support Council's Material Damage insurance claim and a second payment has been requested.

## **1.2 Health and Safety**

- Projects are managed and delivered in keeping with Council's standard Health and Safety policies, processes and contractor requirements. SHE (Safety, Health and Employment) certification is a requirement for the Rivers and Drainage Panel Contractors. On site Health and Safety site audits are standard practice for commissioned works. To date no health and safety concerns have been raised across the programme.

## **1.3 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, BOPRC policies and bylaws for the Rivers and Drainage activities.
- The team is working with Coastal Catchments (Land Management) to identify opportunities to work together to increase inanga and tuna habitat.

## **1.4 Quality**

- Sections of river are re-inspected prior to developing the detailed work scope for each site. Job specifications and design are included as part of a standard approval and procurement process. Due to the passage of time more often than not high priority sites are showing increased levels of damage compared to initial assessments and estimates.
- Job completion includes the capture of new or repaired assets into Council's Asset Management System.
- Dedicated administration resource is supporting the planning, procurement and funding recovery process.

## 1.5 Communications / Community and Stakeholder Engagement

- An increase in BOPRC communications staff resource has supported the delivery of the project. Council continues to input into the regular established newsletters, such as the Edgumbe 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/our-projects/april-2017-flood-repair-project/>

## 1.6 Procurement

- Work to date has centered 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.
- Kaituna rock work is supported by Poplar Lane (Papamoa) and Kaitemako Quarry (Welcome Bay).
- Rakauoa Quarry (Matawai) is currently supplying all Ōpōtiki and Tauranga River sites, and Alan Rust Quarry (Te Mahoe) the upper Rangitāiki River work.
- 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.

## 1.7 Programme Delivery

<ul style="list-style-type: none"> <li>• A total of 520 sites have been identified in the repair programme across the region, 61 are associated with the Waioeka-Otara Rivers Scheme</li> </ul>
<ul style="list-style-type: none"> <li>• Across the programme 264 sites have been completed, 55 of these are in the Waioeka-Otara Rivers Scheme</li> </ul>
<ul style="list-style-type: none"> <li>• 145 sites were originally programmed for completion in 2018/19, however only 130 were completed due to the constrained rock supply, 28 of those being in the Waioeka-Otara Rivers Scheme</li> </ul>
<ul style="list-style-type: none"> <li>• 148 sites are targeted for completion across the total programme in 2019/20 year.</li> </ul>
<ul style="list-style-type: none"> <li>• All remaining sites in the Waioeka-Otara Rivers Scheme will be completed this financial year</li> </ul>
<ul style="list-style-type: none"> <li>• Total programme completion date remains at 30 June 2021</li> </ul>

Key sites complete 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.

## 1.8 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
Expenditure 30 June 2019 – for infrastructure works	\$2,942,622

### 2019/2020 – Budget vs Actual

Expenditure Budget – for infrastructure works	\$700,000
Expenditure 31 July 2019 – for infrastructure works	\$0

## 2.0 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 (Rakuroa Quarry in Matawai) and Rangitāiki (Ywari Quarry in Manawahe), and Kaituna (Kaitimako) 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

### **3.0 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 (\$2,000,000) and Material Damage (\$115,000) claims.
- The project team is working with the central government (MCDEM) representative and is comfortable with the process adopted to date.

### **4.0 Expected Progress within the Next 6 Month Period**

- Complete 95% of the Waioeka-Otara Rivers Scheme sites
- Monitor Waioeka-Otara Rivers Scheme sites that do not require repair works
- Receipt of MCDEM Claim 8, and Claim 6 (Part 2 Edgecumbe)
- Complete Rangitāiki desilting and drain bank repair work
- Submit request for a further infrastructure insurance progress payment

Paula Chapman  
**Project Manager Flood Recovery**

# 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**



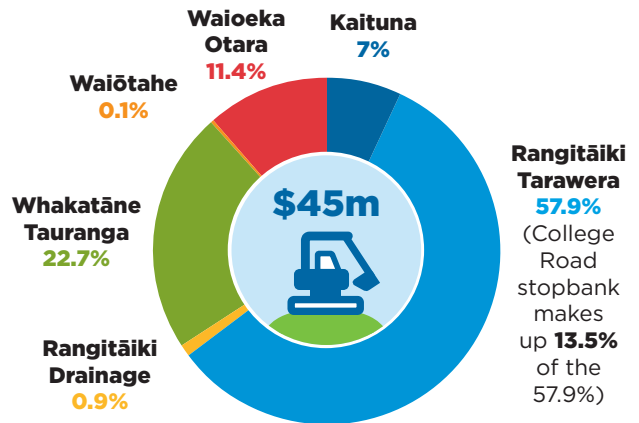
**All repairs** to  
be completed by  
**30 June 2021**

**63%** 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

<b>Rangitāiki Tarawera</b> 224 sites <b>70 complete</b> ✓	<b>Whakatāne Tauranga</b> 108 sites <b>40 complete</b> ✓	<b>Waiōka Otara</b> 59 sites <b>50 complete</b> ✓
<b>Rangitāiki Drainage</b> 53 sites <b>49 complete</b> ✓	<b>Kaituna</b> 45 sites <b>9 complete</b> ✓	<b>Waiōtahe</b> 31 sites <b>All sites complete</b> ✓
<b>249 SITES 48%</b> completed as at <b>30 June 2019</b>		College Road <b>stopbank realignment</b> <b>COMPLETE</b> ✓

## What's happening in 2019-2020



2019-2020 budget

**11.1million**

### 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

**From:** Mark Townsend  
Engineering Manager

**Date:** 5 September 2019

**File Ref:** A3357618

**Subject:** Engineering Update

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## 1.0 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 160mm 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 storm event.

As previously reported the modelling work to inform the possible upgrade of the Duke Street Pump Station has been completed. The results indicated that the level of service is not currently being met and a number of options resulting from a workshop in February 2019 have been modelled to meet the standard as follows:

1. Raise/create Duke Street stopbanks – modelling shows that for the agreed level of service this is not required.
2. Increase Duke Street Pump Station capacity – increasing the pump capacity from 1000 litres per second to 2000 litres per second achieves the agreed level of service.
3. Create more storage adjacent to the Duke Street Pump Station – modelling shows that water will only pond in a few areas for greater than the 30 hours.

It has been determined that it would be most beneficial to pursue Option 3. 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).

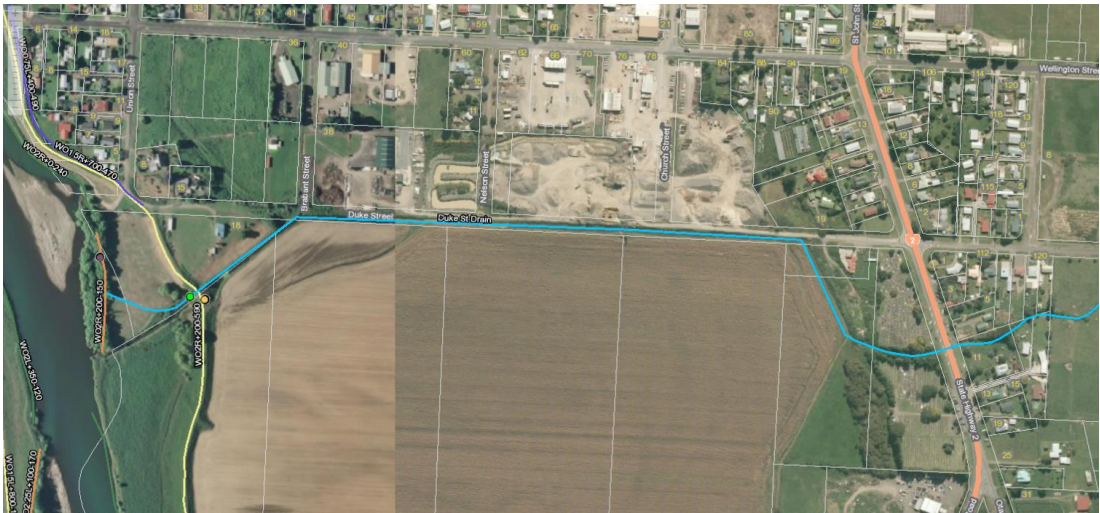


Figure 1: Duke Street Pump Station and surrounds

## 2.0 Waioeka Otaru Rivers 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. The surveying work, undertaken by Council's Surveying Team, is complete. Hydrology work has been delayed on this project as staff were diverted onto the Ngongotahā Flood Response project. The hydrology work has been rescheduled to be undertaken this financial year.

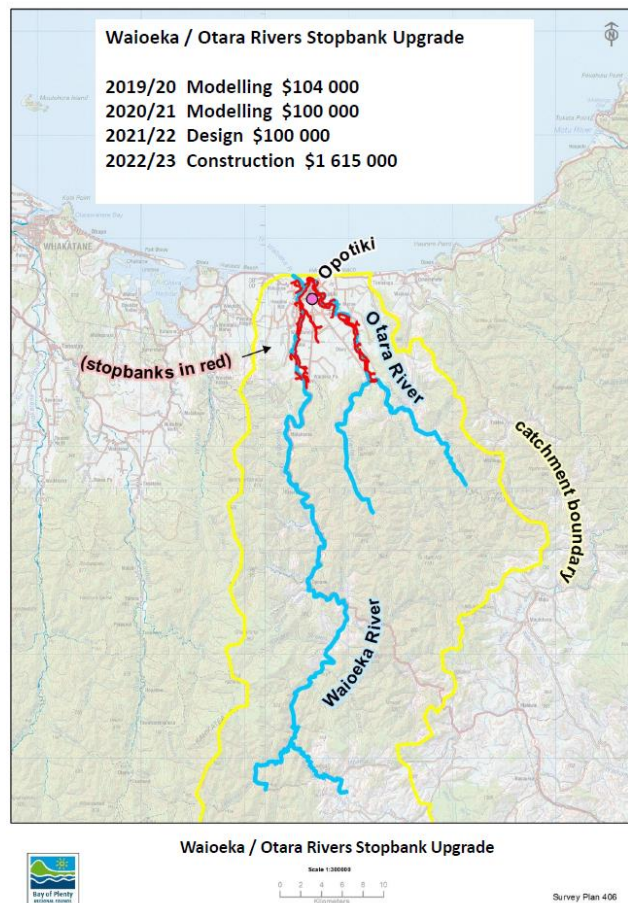


Figure 2: Waioeka-Otara stopbank upgrade

### 3.0 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. 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.



Figure 3 – Areas of proposed work Peterson-Connor

Mark Townsend  
Engineering Manager





















# Bay of Plenty Regional Council Toi Moana

## Statement of revenue and expense - Waioeka-Otara Rivers Scheme

For the 12 months ending 30 June 2019

Run: 06-Aug-2019

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




Line	2018/19		Variance			Variance comments	2019/20
	Budget	Actual	\$	Variance indicator			Annual Plan
	\$000						\$000
<b>Operating revenue by class</b>							
1	General rates	106	106	0	-		143
2	Targeted rates	1,161	1,161	0	-		1,432
3	External interest income	5	12	7	Higher		0
4	Operating grants and subsidies	4	0	(4)	Lower		0
5	Other revenue	0	25	25	Higher		0
6	Fees and charges	0	17	17	Higher		0
7	Revaluation and asset disposal gains	0	0	0	-		0
8	Investment income	161	161	0	-		216
9	<b>Total revenue</b>	<b>1,438</b>	<b>1,483</b>	<b>45</b>	Higher		<b>1,791</b>
<b>Operating expenditure by class</b>							
10	Administration expenses	1	0	1	Lower		1
11	Other expenses	99	115	(16)	Higher		729
12	Consultancy fees	0	20	(20)	Higher		0
13	Contract work	284	258	27	Lower		395
14	Finance costs	216	214	2	Lower		368
15	Depreciation and asset disposal	98	345	(247)	Higher		142
16	<b>Subtotal - expenditure</b>	<b>699</b>	<b>953</b>	<b>(254)</b>	Higher		<b>1,635</b>
17	<b>Net overhead charges and recoveries</b>	<b>330</b>	<b>417</b>	<b>(87)</b>	Higher		<b>341</b>
18	<b>Total operating expenditure</b>	<b>1,029</b>	<b>1,370</b>	<b>(341)</b>	Higher		<b>1,976</b>
19	<b>Total operating surplus (deficit)</b>	<b>409</b>	<b>113</b>	<b>(296)</b>	Unfavourable		<b>(185)</b>

# Bay of Plenty Regional Council Toi Moana

## Statement of revenue and expense - Waioeka-Otara Rivers Scheme



For the 12 months ending 30 June 2019

Run: 06-Aug-2019





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

	2018/19		Variance		Variance comments	2019/20
	Budget	Actual	\$	Variance indicator		Annual Plan
	\$000					\$000

### Capital revenue by class

20	Capital funding	581	632	51	Higher		Central Government contributions in keeping with repairs being ahead of programme	585
<b>21</b>	<b>Total capital revenue</b>	<b>581</b>	<b>632</b>	<b>51</b>	Higher			<b>585</b>
<b>22</b>	<b>Total surplus (deficit)</b>	<b>990</b>	<b>745</b>	<b>(245)</b>	Unfavourable			<b>399</b>

### Capital expenditure by project

23	Waioeka Otara Capital Renewal	302	104	198	Lower		\$100,000 of works carried forward to Annual Plan 2019/20 further request to be made	208
24	Waioeka Otara Capital New	102	69	33	Lower			1,657
25	Waioeka Otara Flood Damage Repairs	1,234	2,839	(1,604)	Higher		Additional works were able to be undertaken in 2018/19 and the 2019/20 budget has been reduced to reflect this	700
<b>26</b>	<b>Total capital expenditure</b>	<b>1,638</b>	<b>3,012</b>	<b>(1,374)</b>	Higher			<b>2,566</b>

### Reserves

	Opening Balance \$000	Movement \$000	Closing Balance \$000
27 Flood Damage Reserve	(297)	297	0
28 Asset Replacement Reserve	0	(665)	(665) Funds available
29 Works Reserve	(643)	(206)	(849) Funds available
<b>30 Internal Loans</b>	<b>6,496</b>	<b>(283)</b>	<b>6,213</b>

	1/07/2017 \$000	Movement \$000	1/07/2018 \$000
31 <b>Asset Revaluation</b>	<b>35,304</b>	<b>9,488</b>	<b>44,792</b>

# MEMORANDUM



**To:** Waioeka-Otara Rivers Scheme Advisory Group

**From:** Mark Townsend  
**Engineering Manager**

**Date:** 5 September 2019

**File Ref:** A3357596

**Subject:** **Gravel Management Update**

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## 1.1 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 and analysis of that data is now complete.

## 1.2 Extraction

**Waioeka River** – The quantity considered sustainable in the Waioeka is being reduced from 30,000 to 20,000 m<sup>3</sup> 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. Overall, within the design width, there has been a net volume gain of approximately 31,000 m<sup>3</sup> (2014-2018). While there were losses in some specific cross sections there was an overall gain.

**Otara River** – There are variables over the length the river. Overall, within the design width, there has been a net volume gain of approximately 61,000 m<sup>3</sup> (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.

With a small extraction rate and substantial deposition on the floodplain and in the main channel over the past years, it is recommended that extraction should be increased in this river to keep the river at its desirable bed level.

Bay of Plenty Regional Council has placed a moratorium on gravel extraction from the Scheme. An investigation was initiated by Council into recent practices associated with gravel extraction from the Waioeka and Otara Rivers. As a result of that information the NZ Police are now conducting enquiries into potentially unlawful activities. Council made the decision at that time to suspend gravel extraction activities in the Waioeka-Otara Rivers Scheme until the investigation is completed. That moratorium is still in place and Council are talking with hapū to consider options for future gravel management.

## 1.3 Consents

The Rivers and Drainage section currently holds resource consents 61321 and 61322 to extract up to 50,000 cubic metres per annum of gravel for river management purposes from both the Waioeka and Otara 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 being processed.

Five submissions were received on the application to renew consents. Two were opposed and staff have had an initial meeting with the submitters on the 21 August 2019 for the specific purpose of understanding concerns. There is concern about the quantities proposed in the consent and there is a perception that extraction is commercially driven. A further meeting is planned.

#### 1.4 Waioeka-Otara Rivers Scheme gravel extraction summary

1 July 2018 – 30 June 2019

River	Site	Confirmed quantity (m <sup>3</sup> )
Otara River	Carter's Pit	5,755
	EBC	150
		<b>5,905</b>
Waioeka River	Michael's Pit	1,821
	Hughes Pit	10,208
	Whakatōhea Farms site	1,110
	Robbies Pit	4,254
	Hughes Pit	7,150
	Grahams Bridge	4,928
	Grahams Bridge – Upper pit LB	9,015
		<b>38,486</b>

Mark Townsend  
**Engineering Manager**