



Waitangitona Rating District 2023-2026 Asset Management Plan



West Coast Regional Council

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Table of Contents

Table of Contents	2
1.0 Purpose of this Document	3
2.0 Asset Management Objectives	3
3.0 Waitangitaona Rating District.....	4
4.0 Waitangitaona Rating District Background	4
5.0 Description of Assets.....	7
5.2 Asset Map	8
6.0 Existing Standard	9
7.0 Service Level	9
7.1 Maintenance Programme	9
7.2 Damage Exposure	10
7.3 Prudent Reserve.....	
8.0 Funding	12
8.1 Maintenance	12
8.2 Damage Repairs	12
8.3 Financial Reserves	12
8.4 Depreciation.....	12
9.0 Performance Measures	14
9.1 AMP Review and Monitoring	15

1.0 Purpose of this Document

The purpose of this document is to summarise the management philosophy that is applied to the Waitangitaona Rating District including the infrastructure assets and services. This approach ensures that acceptable levels of service are provided in the most cost-effective manner and contribute to the achievement of the community outcomes identified in the West Coast Regional Council's Long-Term-Plan (LTP).

This AMP defines the objectives and performance standards of the Waitangitaona Rating District for which the West Coast Regional Council bears the maintenance responsibility, including providing a basis upon which the effectiveness can be measured. The key purposes of this AMP are to:

- Provide a history of the Waitangitaona scheme.
- Convey the long-term strategy for the management of the Waitangitaona Rating District.
- Provide a tool to assist with management assets in a cost effective and sustainable manner.
- Manage the environmental, service delivery and financial risks of asset failure.
- Demonstrate that the service potential of the rivers and drainage assets is being maintained.

2.0 Asset Management Objectives

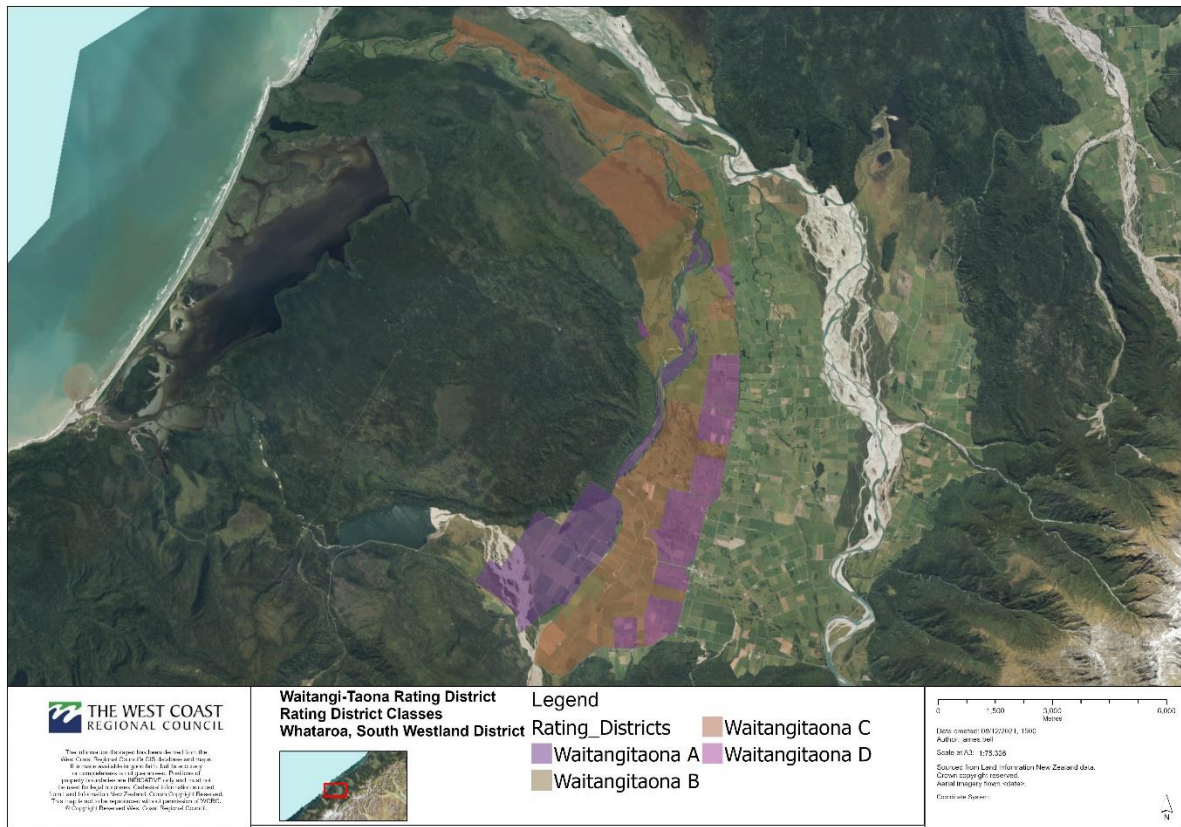
West Coast Regional Council recognises that the Waitangitaona Asset Management Plan is the fundamental driver of drainage and infrastructure for the scheme. This AMP has been developed in accordance with the Local Government Act 2002, with the first AMP completed in 2003 with three yearly updates or earlier where information indicates a significant change from what is stated in the current AMP.

In order to fulfil the outcomes, vision, goals and objectives of these assets, the West Coast Regional Council have adopted a systematic approach to the long-term management of its assets and services on the Waitangitaona Rating District by preparing this AMP.

West Coast Regional Council is committed to best appropriate practice asset management in order to achieve the following key objectives:

- Meet the service expectations of the Waitangitaona community.
- Ensure maintenance activities achieve efficient results with optimal benefits.
- Demonstrate Council's approach to managing risk and meeting growth requirements towards a sustainable future.
- Comply with all statutory requirements.

3.0 Waitangitaona Rating District



4.0 Waitangitaona Rating District Background

A large slip occurred in the headwaters of the Waitangi-taona River (Gaunt Creek) in the early 1920's. The State Highway Bridge was built at the same time.

In 1931, \$12,000 was provided for the construction of a stopbank along the left bank downstream of the bridge to prevent the main flow of the river from leaving its course and ultimately flowing into Lake Wahapo.

In 1947 a further \$12,300 was spent on raising and extending this bank. The area protected was 500 hectares at peak flood time. Also, in 1947 the road bridge was raised by 1 metre because the waterway had been reduced by 50% due to aggradation from the slip material. The material in some places was higher than the surrounding land.

It was pointed out in 1948 that small scale works would not “tame” the Waitangi-taona River. As a consequence, a request was made to extend the left bank stopbank.

In February 1949, 100 metres of the left bank stopbank was breached. The previously placed willow mattresses held in place with rock and ex World War II torpedo nets were scoured out.

In March 1955 the left stopbank breached over 80 metres. Property, houses, and sheds were flooded. Two further floods partially destroyed the remedial works. 5,500m³ of fill was required to repair the damage.

In August 1955 a proposal to raise the left bank stopbank to provide a 2-metre freeboard was suggested. Spur groynes (crates) were proposed.

The Westland Catchment Board reported in 1959, that to raise the bank to restore freeboard due to aggradation and carry out full rock protection would cost at least \$63,000.

Also, in 1959 a report to the newspaper pointed out that only 5 farms were bearing the full cost of the works, 2 of which were receiving little or no benefit and to give these 2 farms protection an extension of 3.2 kilometres of stopbank would be required at a cost of \$24,000. This could be doubled if rock work was required for erosion protection. Some questions also arose on a comprehensive river scheme covering the right bank, but this was considered uneconomic at the time (i.e. 12.8 kilometres of stopbank being required costing a considerable sum).

By 1960 the protection works covered:

- (a) The right bank upstream of the bridge (1,040 lineal metres of stopbanking). This was maintained by the Works Department. This work had the effect of realigning the river into a smoother more direct line leading into the State Highway Bridge.
- (b) The left bank below the State Highway Bridge. \$20,000 had been spent on this bank and maintenance was reasonably high due to aggradation.

Severe flooding in March and April 1967 caused a major breach in the left bank stopbank approximately 200 metres below the road bridge. This breach flooded Muir's farm and continued to flow down into Lake Wahapo which rose 3 metres above normal and flooded the main highway. The breach was 220 metres wide and 3 metres high, resulting in Muir's farm being abandoned. Prior to the flood damage occurring an estimate had been prepared to strengthen the bank, but as local interest was not forthcoming the proposal lapsed.

At a public meeting on 11 April 1967, it was decided to approach the Soil Conservation and Rivers Control Council for advice. The flood itself was estimated at a 5-year return period flood.

State Highway 6 was blocked by floodwaters five times in 1967. \$48,000 was spent in the first year on State Highway repairs:

Bank Protection near State Highway bridge	\$4,000
Protecting bridge piles	\$10,000
Richardson Road stopbank	\$6,000
Raising bank at Lake Wahapo	\$15,000
Restoration and protection below Lake Wahapo Outlet	\$5,000
Miscellaneous	\$8,000

A report was commissioned by the Ministry of Works in October 1968. The recommendations were that:

1. The Westland Catchment Board be asked to prepare proposals for a Waitangi-taona River Control Scheme to direct and maintain the Upper Waitangi River on a course through Lake Wahapo.
2. With local approval set in motion the procedure to set up a separate rating area to finance the proposal.

On 24 February 1969, NWASCO advised the Westland Catchment Board "That the new course of the Waitangi-taona River be accepted as a natural feature and the Westland Catchment Board be advised to prepare a scheme proposal for the necessary river control works".

On 16 March 1971 the Westland Catchment Board purchased Mr Muir's property and on 13 September 1973 a preliminary estimate of \$300,000 was placed on the scheme proposal. The estimate involved 52,000m³ of fill on the right bank and 96,000m³ of stopbanking on the left bank. The balance of \$231,000 involved rock work, creek and channel clearing, land acquisition, fencing and control weirs at Lake Wahapo. The work was to be spread over a 15-year period.

In 1976 a revised estimate was proposed. This had the effect of raising the cost to \$472,000.

On 10 November 1982, the majority of ratepayers voted to request the Westland Catchment Board to proceed with a comprehensive scheme. A provisional classification was prepared on 26 April 1983. The Waitangi-taona Special Scheme and classification was adopted by the Westland Catchment Board on 23 May 1983 and approval to proceed with scheme works was approved by the Ministry of Works on the 31 May 1983. The design of stopbanks was based on an 800 cumecs flood event with 900mm freeboard.

With a classification in place a final scheme proposal was forwarded which involved a 3-year construction works programme.

On 19 December 1983 NWASCO approved a 70% subsidy rate for the Waitangi-taona Scheme.

Stage 1 was completed on 14 November 1984. The works involved:

- a. 12,470m³ of stopbanking;
- b. 2,500 tonnes of rockwork;
- c. 576 tonnes of rubble.

The total cost of \$44,140 completed by H. Langridge & Sons Ltd. Stage 2 involved the completion of right bank scheme works. This was carried out in 1985 and involved the following:

- a. All weather access formation
- b. 3 groynes (240 tonnes)
- c. Rock facing (2,400 tonnes of rock – 2,000 tonnes of rubble)
- d. Extension of stopbank to toe of hill (1,355 metres) 15,500m³
- e. 1,500 lineal metres of rear drain

2004 – Construction of a new deflector groyne took place – 190m in length

2009 – The above deflector groyne was extended by 150m

2012 – The above deflector groyne was extended by 300m

2019 - The above deflector groyne was extended by 200m

2023 - The above deflector groyne was extended by 50m

It is important to note that the left bank works are to be maintained solely by NZTA.

5.0 Description of Assets

Asset	Quantity	Unit	Rate
Rock	40,677	Tonne	\$50.00
Rubble	9,195	Tonne	\$32.50
Fill	136,800	m ³	\$26.00
Stockpiled rock	980	Tonne	\$50.00
Excavation	6500	M3	\$8.00
Asset Value			\$5,990,487.50
<i>On-costs (15%)</i>			\$898,573.13
<i>Resource Consents (2%)</i>			\$137,781.21
Assets Replacement Cost			\$7,026,841.84

5.2 Asset Map



Note: Not all assets have been added to the asset map due to having no spatial data to represent them at this current time.

6.0 Existing Standard

Cross-section and flood flow analysis undertaken for the Waitangitaona scheme indicates that it is capable of containing less than 990 cumecs, which is the 2008 estimate of the 1 in 50-year return period flood with 600mm freeboard. The rating district has accepted there is a need to eventually increase the level of protection afforded by the stopbank and are considering raising its height in the medium to long term future.

7.0 Service Level

The Levels of Service represented in this AMP are described and aligned with community values including affordability, quality, safety, community engagement, reliability, and sustainability. The scheme structures will be maintained to the dimensions that they were originally constructed.

Councils in New Zealand will generally adopt one of three methods for determining the level of service provided by a scheme:

- Agreeing on a scope of physical works with the community without reference to a target capacity or return period (low risk schemes)
- Providing physical works with a level of performance provided in terms of a target capacity (medium risk schemes)
- Providing physical works with a level of performance in terms of a target return period (high risk schemes)

Each of the three methods for determining the level of service may be suitable for a given scheme, provided that communities understand event likelihood, scheme and property vulnerability, potential consequences, and residual risk.

Where council staff have recommended physical works or analysis that did not proceed due to community resistance to cost, then councils are only able to track their service delivery through measures around maintenance works programmes or a general description of channel condition.

The objective of the Waitangi-taona Rating District is to reduce bank erosion and flooding on the right bank between the State Highway bridge and lower hill of the Waitangi-taona River.

7.1 Maintenance Programme

An annual maintenance report is prepared each year in consultation with the Waitangitaona Rating District to adoption by the Council for inclusion in its annual budgets.

In preparing the annual maintenance report the following will be considered:

- An inspection to identify works requiring immediate repair.
- Works anticipated as being required given a 'normal' season.
- Flexibility to meet unbudgeted damages.

An annual report will be presented to the Rating District outlining the condition of the scheme assets and maintenance works and expenditure required for the coming financial year.

7.2 Damage Exposure

Erosion works are constructed in a very high energy environment with the purpose of resisting and absorbing some of that energy. It is considered that no matter what the standard of maintenance carried, it is likely that damage will occur from time to time.

An assessment of maximum damage potential was estimated as below:

Event size (AEP)	Value	Damage ratio	Damage exposure	Prudent Reserve	Prudent reserve contribution
10%	\$7,026,842	5%	\$351,342	\$351,342	100%
5%	\$7,026,842	10%	\$702,684	\$491,879	70%
2%	\$7,026,842	20%	\$1,405,368	\$702,684	50%

It has been deemed, within reason, that all Rating Districts have a prudent reserve target balance that contributes to at least 100% of the damage exposure for a 10% AEP event, 70% for a 5% AEP event and 50% for a 2% AEP event. These percentages define what is an appropriate and acceptable level of risk for Council and the community.

5.4 Prudent Reserve

Why do we need a prudent reserve?

- Minimise the financial impact of unplanned works, such as those caused by weather events
- Ensure the rating district is able to contribute funding that is sustainable and affordable
- Ensure Council's debt level is managed, and that borrowing is still available when required
- Ensure the debt levels of the rating district do not exceed the ability to fund the repayments

This target balance for the 'prudent reserve' for this rating district is \$350,000 as agreed by council. This prudent reserve is immediately available. It is likely the current reserve will only cover a portion of the actual cost of the potential damage that could occur.

If an event were to occur and the prudent reserve does not cover the full repair and rebuild cost of the assets, it is understood by the community that the remaining costs will be paid by loan or the rating district accounts will be in overdraft. In the instance of extreme weather events, NEMA funding and the Council's private insurance will be accessed for cost recovery if the criteria are met. The West Coast Regional Council's insurance policy has a \$250,000 excess. 40% of eligible rebuild costs will be met by this policy.

Below are the key criteria that needs to be met to access the NEMA funding, which can cover up to 60% of eligible rebuild costs

The provisions for government financial support to local authorities apply whether or not a state of emergency is, or has been, in force

Government assistance will not normally be available for assets which receive a subsidy from any other source, unless:

- *the local authority has adequately protected itself through asset and risk management including mitigation, where appropriate, and the proper maintenance of infrastructure assets, or*
- *the local authority has made sound financial provisions (such as the provision of reserve funds, effective insurance, or participation in a mutual assistance scheme with other local authorities) to a level sufficient to ensure that the local authority could reasonably be expected to meet its obligation to provide for its own recovery*

Threshold

Threshold for reimbursement; As with other response claims, Government policy is to reimburse 60 percent of the combined eligible costs (response and essential infrastructure costs), above the following thresholds:

- *0.0075 percent of the net capital value of the city council, district council or unitary authority involved*
- *0.002 percent of the net capital value of unitary authorities where the assets in question are of a type that ordinarily are managed by regional councils, or*
- *0.002 percent of net capital value in the case of regional councils*

8.0 Funding

8.1 Maintenance

Maintenance is funded by targeted rates, the level of rating being determined each year in the Annual Plan process. This involves:

- a) Preparation of an annual works programme and corresponding budget.
- b) Adoption of the annual works programme and budget.
- c) Discussion of the works report and budget with the ratepayers.
- d) Adoption of final budget in the Council's Annual Plan.

The aim of maintenance is to ensure the infrastructure assets are kept at a standard where they can always perform to their service level. Where rock is required to be placed on an existing infrastructure under direct attack from the river, the protection required to maintain the existing infrastructure at its same service potential would be charged to the scheme maintenance account.

Capital works are generally defined as works which increase the service level of the scheme. Such work would include increasing the design standard or the area covered by a scheme and works to increase security or performance of an erosion control system or structure over and above that identified in the asset plan.

8.2 Damage Repairs

Routine damage repairs are funded by a combination of:

- a) Carrying out work as scheduled in annual works programme.
- b) Reprioritising works identified in the annual works programme.
- c) Use of financial reserves.

Major damage repairs would be funded by loans raised by the Council and repaid by targeted rating over a number of years.

8.3 Financial Reserves

Financial reserves are held within the rating district account to provide the following:

- a) Meet the costs of unscheduled works.
- b) Enable an immediate response to flood damage repairs.
- c) Prevent major fluctuation in rating levels annually.

The levels of financial reserves held in the rating account are determined by the estimated damage exposure and the likely need for un-programmed works.

8.4 Depreciation

The bulk of WCRC's assets comprise bulk formation of excavation, fill and heavy rock protection. These assets are considered to have an infinite Useful Life (UL) with a strategy to maintain in perpetuity. The predominant mechanisms for deterioration are slumping and or storm or flood event damage. In these circumstances the performance and level of service is brought back to specification by remedial and / or emergency works from operational and maintenance budgets. Otherwise, these assets do exist in perpetuity.

From 2023 WCRC have recognized the difference between operational and maintenance expenditure (typically to remediate after an event) and capital expenditure that improves performance or level of service, or reduces risk. The former are not capitalised, the latter are capitalised and are added to the asset register and valuation.

Assets with an infinite Useful Life do not depreciate, so these assets are valued separately as non-depreciating.

Asset components in this category include:

- Excavation
- Cleanout (of natural water courses for utilisation as drains)
- Fill
- Rock protection
- Top course, differentiated from normal road assets in that life and deterioration mechanisms are the same as for the stopbanks they traverse
- Bedding gravel and filter fabric noting that even if fabric deteriorates it would not be replaced unless the stopbank itself was being replaced, or it was being replaced as part of an event remedy operation and maintenance.

Around 3.4%, by replacement cost value, of WCRC's assets are of a nature that will deteriorate, have a limited useful Life, and hence are depreciating. These include:

- Culverts and associated assets
- Constructed assets such as concrete flood walls in Greymouth
- Miscellaneous assets.

9.0 Performance Measures

The following procedures may be adopted to ensure the adequacy of maintenance.

Period	Procedure	Performance Measure
Annually	Produce annual works report for the rating district assets to include type of work to be undertaken, quantities, location, and costs.	No reports of channel or creek requiring repairs without an agreed programme of remedial work in progress. Asset maintenance is current as per level of service.
	Organise contracts for agreed scheme work, oversee contract completion and report to Council.	
	Report on works undertaken during the previous financial period to the rating district ratepayers and Council.	
Triennially	Re-measure cross section river profiles to determine whether the riverbed is stable, or aggrading, and to identify management issues or options.	Report to Council and ratepayers on revaluation of assets and the Plan review.
	Revaluation of the asset schedule to include any additional excavation and channel clearance and bank protection works over the three-year period.	
	Review this Asset Management Plan	
10-yearly	Flood modelling will be undertaken to identify a range of level of services.	Report to council and ratepayers.

9.1 AMP Review and Monitoring

This plan is a living document, which is relevant and integral to daily activity. To ensure the plan remains useful and relevant the following on-going process of AMP monitoring and review activity will be undertaken:

- Formal adoption of the AMP by the West Coast Regional Council.
- Review and formally adopt Levels of Service to comply with the Rating District committee
- Revise this AMP three yearly prior to Long Term Plan (LTP) to incorporate and document changes to works programmes and outcome of service level reviews.
- Quality assurance audits of asset management information to ensure the integrity and cost effectiveness of data collected.
- Peer review and external audits will be undertaken to assess the effectiveness with which this plan meets corporate objectives. Periodic internal audits will be undertaken to assess the adequacy of asset management processes, systems and data and external audits will be undertaken to measure asset management and performance against 'best practice'.