



Hawke's Bay Three Waters

2021 update of financial analysis for three waters service delivery business case

August 2021

.

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Background

During 2019 and 2020 Morrison Low worked with the five councils of Hawke's Bay on a business case for three waters service delivery. That process was halted at the completion of the final report as the Government three waters reform programme got underway. Since the final report, the councils have completed the detailed Request for Information process, developed the 2021 Long Term Plans and the Government has now announced the proposed creation of four Water Services Entities¹, released data to support the proposed reforms including the local council dashboards and individual council reports and a \$2.5B support package to enable reform.

All Hawke's Bay Councils are proposed to be part of Entity C along with the local government areas stretching from Gisborne down the east coast of the North Island through to Wellington, the local government areas from Manawatu south on the west coast and either the entire Nelson, Tasman and Marlborough areas or parts of them.

Morrison Low has now used the updated information made available from those processes to revise the financial modelling of the 2020 report. This report only sets out the changes resulting from that analysis and compares the financial outcomes to the data released by DIA.

Summary of what has changed since the last report

This report builds on previous work undertaken by Morrison Low in May 2020. The report has now been updated to reflect new information from the Government's reform programme, draft 2021-2031 long term plans, and information included in the Hawke's Bay Councils responses to the Government's Request for Information that were finalised in late January 2021.

As a consequence:

- In our earlier reports we presented three waters household charges in nominal (inflated) terms as this was consistent with the underlying data provided. In developing household charges for this report we have used real (uninflated) household charges for easier comparison with the information provided by the Government and the analysis undertaken by WICS. In order for an easy comparison with previous reports we have also provided the inflated numbers in brackets in each case.
- This report focuses only on a comparison of a Hawke's Bay asset owning water entity with continued council service delivery. We have not considered a management entity, business unit or other potential service delivery models given the clear messaging from the Government that those options are not being proposed.
- Despite the above, we also note that the analysis in this report is limited to an entity entailing the councils of the Hawke's Bay region only. We note that all of the proposed entity configurations put forward in information from the Government to date has included a significantly larger cohort of councils, and accordingly, outcomes are likely to vary.

¹ In the 2020 report the recommended Water Services Entity was an asset owning CCO. That is now not an option but for simplicity of comparison we have referred to the Government's proposal as the 'Water Services Entity' and the Asset Owning option as the 'Hawke's Bay Water Services Entity'.

- There have been no changes to the base modelling assumptions or approach used in the development of the projected financial information in this report.
- Forecast financial performance, operating costs, and capital investment have been updated to reflect the latest information provided by councils. Changes to this information have resulted in changes in the financial modelling and projected outcomes. These are highlighted within the body of this report.
- Timing of the establishment of the entity has been revised until the 2024/25 financial year based on the Government’s timelines, and efficiencies do not commence until the 2025/26 financial year.

Ratepayer impacts have changed

- The key change is in which groups of ratepayers are forecast to have lower household costs under a Hawke’s Bay Water Services Entity
- In 2020 we projected that ratepayers of Central Hawkes Bay, Hastings and Wairoa would have lower charges under a Hawke’s Bay Water Services Entity. This updated analysis projects that Central Hawkes Bay and Wairoa ratepayers would have lower charges, but that Hastings and Napier ratepayers would not.
- We do note that the difference is within the range of the sensitivity analysis.

Table 1 Status quo and Hawke’s Bay services entity comparison

Council	2031 Updated (uninflated)	2031 Updated (inflated)	2031 Previous (inflated)
Central Hawke’s Bay	\$3,199	\$4,158	\$3,867
Hastings	\$1,381	\$1,795	\$1,901
Napier	\$1,427	\$1,855	\$1,531
Wairoa	\$3,869	\$5,028	\$4,380
Hawke’s Bay Water Services Entity	\$1,471	\$1,912	\$1,646

Comparison with Government analysis

Since the production of the 2020 report the Government has commissioned the Water Industry Commission of Scotland (“WICS”) to undertake a review and analysis of water reform opportunities in New Zealand. At the time of writing, DIA has proposed four Water Services Entities and has released the WICS analysis that supports that proposition. This includes estimated household charges in 2052 for each Council and in comparison, under the proposer Water Services Entity which would include Hawke’s Bay (Water Services Entity C).

The WICS analysis has been completed using a different approach, and different assumptions to the analysis presented in this report. We note that despite the differences in our analysis and the WICS analysis are directionally consistent. That is, in both cases, it is anticipated that there are significant future three waters investment requirements to meet new standards and that this will lead to substantial increases in the cost of services. There is however a large variation between our estimates and that of WICS in the future estimated household costs for each Council.

Table 2 Comparison of Morrison Low and WICS forecast household costs (uninflated)

Council	2031 WICS	ML 2031
Central Hawke’s Bay	\$6,521	\$3,199
Hastings	\$3,583	\$1,381
Napier	\$1,793	\$1,427
Wairoa	\$8,801	\$3,869
Water Services Entity	\$1,260 ²	\$1,471

We have included a table below which summarises key differences in approach between our analysis and that completed by WICS and the implications of that when comparing the two pieces of analysis. Due to the technical nature of many of the WICS assumptions, we have prepared a separate, more detailed and technical, report on the impact of those and how they drive estimated future household costs.

Table 3 Differences in approach

	Morrison Low approach	WICS approach	Difference
Modelling period	We have adopted a 10 year modelling period that aligns with each council’s draft long term plan.	WICS have adopted a thirty year modelling period which reports household costs in 2051.	Most councils have signaled a large amount of investment planned beyond the ten year planning period which is likely to increase costs further over time. This is likely to result in Hawke’s Bay’s regional costs being substantially higher in 2051 than they will be in 2031.

² Estimated average three waters cost for Entity C are at 2051 as no 2031 figure has been provided

	Morrison Low approach	WICS approach	Difference
Efficiencies	We have assumed one-off permanent efficiencies from a Water Services Entity of between 10% - 11%, phased in over three years.	WICS appear to have assumed that under Entity C, savings of up to 45% could be achieved by 2051. The efficiencies are progressively introduced from 2025.	It is likely that entity C, a larger entity would be able to achieve efficiencies greater than Hawke's Bay entity. However, the scale of the efficiencies included in the WICS model is significantly greater than ours leading to lower household costs under the Water Services Entity model even with the increased investment highlighted below.
Capital investment	We have adopted Council's planned capital investment and adjusted it to include additional enhancement costs relating to WWTP and WTP upgrades that are known to be required.	WICS have capital investment scenarios based on population, land area and population density. It results in a significant uplift in expenditure at a national and in most cases at an individual council level.	Significant as capital expenditure drives operating costs, interest costs, and depreciation in the WICS model.
Operating costs	Our modelling relies on councils estimates for operating costs, with adjustments to standardise depreciation, and include additional compliance costs to meet drinking water standards and operate new treatment plants.	WICS have estimated future operating costs based on connection growth, additional depreciation, financing on growth, enhancement capital expenditure, and an additional operating cost equating to 3% of growth.	It is likely that WICS have estimated operating costs to be higher than we have allowed for within our modelling.
Debt	Our modelling includes sufficient debt to meet the forecast investment needs. Debt for an individual council is considered at total council debt level.	WICS modelling includes sufficient debt to meet the forecast investment needs. Debt to revenue is considered at three waters level and the debt/revenue ratio for each council is limited to 250%.	WICS approach significantly increases projected household costs as the total revenue requirement is driven by the need to keep a three waters debt/revenue ratio below 250%.

	Morrison Low approach	WICS approach	Difference
Inflation	<p>Our modelling includes inflation as this is consistent with the base data provided.</p> <p>The numbers presented in this report have had inflation removed to enable better comparison with WICS data.</p>	<p>WICS average household charges are expressed in real terms (i.e. net of inflation).</p>	<p>Unlikely to have any significant impact.</p>
Connections	<p>Our charges are determined on a “per connection” basis and use connection numbers and additional connection forecasts from RFIs.</p>	<p>WICS charges are “household charges” and assume household connections based on population projections and a household density of 2.7.</p>	<p>Differences in approaches are likely to have resulted in our charges appearing lower than WICS.</p>
Depreciation	<p>We have used the average depreciation rate for assets in the Hawke’s Bay in our modelling.</p>	<p>WICS have assumed 30 year asset life for short lived assets, and 100 years for long lived assets, with a 10%/90% split in favor of long life assets.</p>	<p>Significant, review of models indicates that depreciation has increased for all four councils in the baseline as a result of WICS assumptions, then continues through the sustained capital investment forecast.</p>

Analysis of the updated information

Forecast investment in three waters

The Councils originally forecast a combined capital program for three waters over the 2018 - 2028 Long Term Plans (LTPs) of \$313 million. **The draft 2021 – 2031 Long Term Plans now include around \$811 million of capital investment in three waters.**

There are also impending requirements for investment in three waters that all New Zealand councils will face to meet changes in regulatory standards that the councils have not allowed for. These changes require safer drinking water and upgrades to wastewater treatment plants that discharge to the freshwater and marine environments. Like, the 2020 report Morrison Low’s estimate of the investment required starts with the council estimates but also considers additional costs including using information made available by the Department of Internal Affairs (DIA) for the costs of upgrading water and wastewater systems to meet the expected new standards. The total estimated investment required is estimated by Morrison Low to be **\$1.04 billion.**

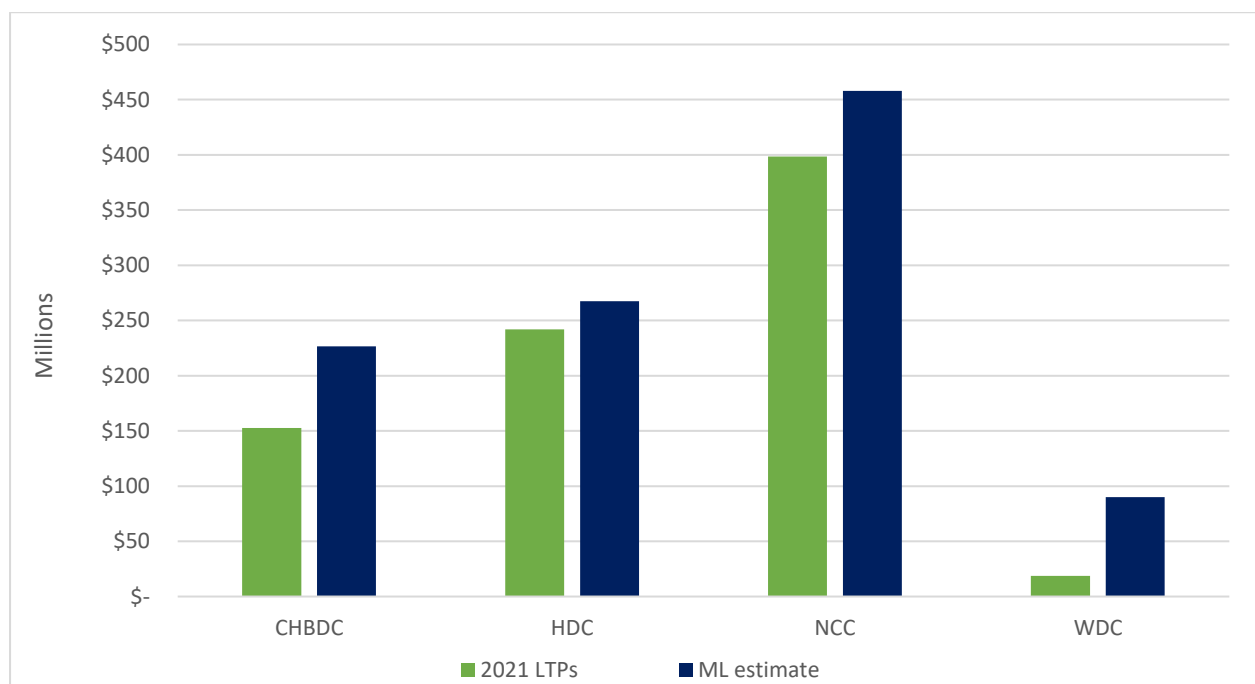
\$313M of three waters investment in three waters infrastructure originally forecast in 2018 – 2028 LTP

\$605M of investment in three waters infrastructure during 2018-2028 LTP period estimated in June 2020

\$811M of investment in three waters infrastructure now estimated as required during 2021 - 2031 LTP

Figure 1 below compares projected investment scenarios for each council based on the LTPs and Morrison Low’s revised estimates of the capital expenditure required.

Figure 1 Council investment forecasts (LTP, RFI and Morrison Low 10 year)



WICS investment forecasts

WICS level of service and growth investment is predicated on assumptions drawn from their experience and related to population, land area and population density. This creates a total level of service and growth investment requirement over the 30-year period to 2051 that in most cases is significantly greater than what Councils or Morrison Low had previously forecast. As this is a key driver of future household costs, it has been separately shown in the table below along with total capital investment over the 30 years. Given the different timeframes between the WICs investment and the majority of the forecasts in **Figure 1**, a direct comparison is difficult.

Table 4 WICS projected investment requirement (30 years)

Council	Level of service & growth (\$M)	Total capital investment (\$M)
Central Hawke’s Bay	660	987
Hastings	1,901	3,126
Napier	695	1,341
Wairoa	384	987

Financial impacts

Enhanced status quo - ratepayer impacts

Figure 2 below provides the revised projections for the impact of the investment into people, processes and systems estimated as being required to meet the new standards. Like the 2020 report the impact is based on the average three waters rate for each of the four councils over the period 2021 – 2031. A key difference is that in **Figure 2** the projection does not include inflation. This has been done to provide consistency with the approach used by WICs that is relied on by DIA.

Figure 2 Enhanced status quo: estimated future costs (uninflated)

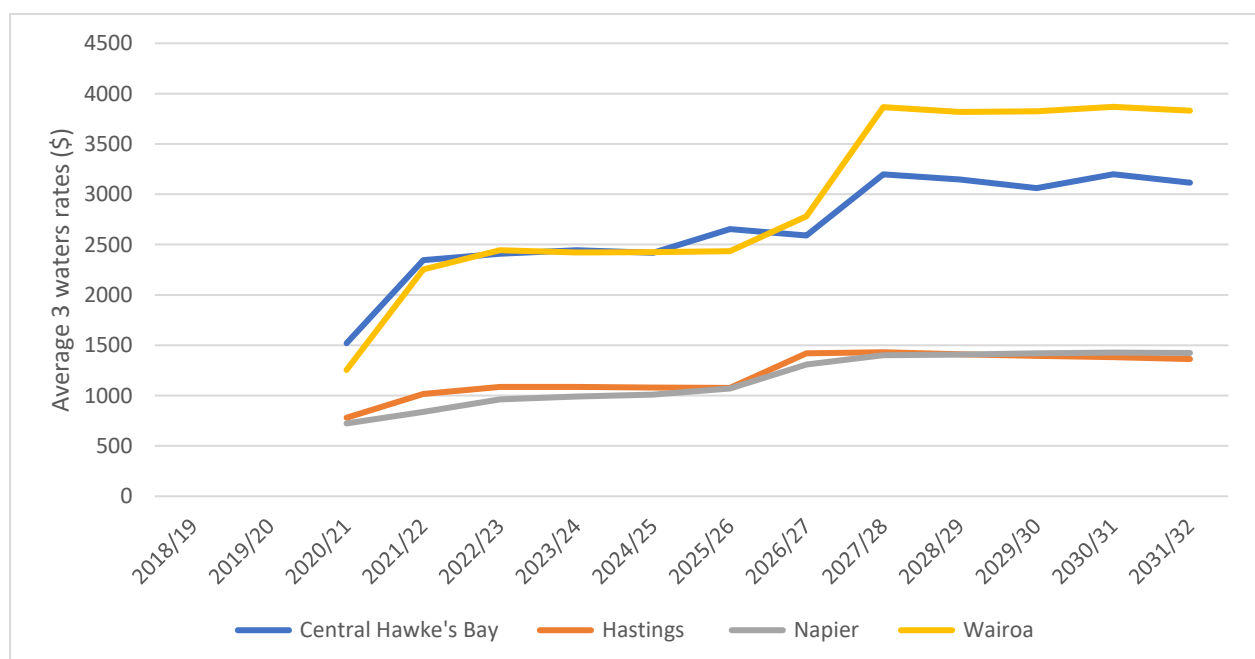


Table 5 below provides the 2031 data for comparison and compares that to the forecast recently provided by WICS.

Table 5 Enhanced status quo: Morrison Low and WICS estimated future cost comparison (uninflated)

Council	2031 WICS	2031 Morrison Low
Central Hawke's Bay	\$6,521	\$3,199
Hastings	\$3,583	\$1,381
Napier	\$1,793	\$1,427
Wairoa	\$8,801	\$3,869

In order to help with a comparison to the previous report, **Table 6** (which follows) highlights the estimated costs at 2031 and provides a comparison with the previous reports estimates.

Table 6 Enhanced status quo: Morrison Low estimated future cost comparison

Council	2031 Updated (inflated)	2031 Previous (inflated)
Central Hawke's Bay	\$4,158	\$3,867
Hastings	\$1,795	\$1,901
Napier	\$1,855	\$1,531
Wairoa	\$5,028	\$4,380

To keep consistency with the 2020 report we have also reported the estimated impacts on ratepayers by reference to the same affordability metrics used in that report.

The international affordability metrics for water and wastewater cited by Water New Zealand³ consider a range of spending between 2% to 5% of household income on water and wastewater as being unaffordable. The WICS analysis is not available at the individual service level so it's not possible to compare a cost for just water and wastewater. **Table 7** below compares the current affordability challenge with the future projection. It demonstrates that at 2031 Wairoa exceeds, and Central Hawke's Bay is close to, the highest benchmark of 5%.

Table 7 Estimated two waters residential rate affordability metric: enhanced status quo (2031)

Council	2020/21 (previous)	2030/31 (previous)	2020/21 (updated)	2030/31 (updated)
Central Hawke's Bay	2.7%	4.4%	2.1%	4.9%
Hastings	1.1%	1.9%	1.0%	1.8%
Napier	1.0%	1.5%	0.9%	1.9%
Wairoa	2.1%	5.9%	2.1%	7.2%

³ Water New Zealand 2017-18 National Performance Review report

This affordability measure considers average (median) household income at a council level. We note that this means half of all households fall below this level of income so their proportion of household income being spent on water and wastewater would be much greater than the average. For fixed income households large future price rises would be especially challenging.

Water Services Entity

Morrison Low financial savings

The 2020 Morrison Low report identified that a Hawke’s Bay Water Services Entity was the option that could lead to the greatest savings by achieving operational efficiencies, improved asset management and delivery of the capital programme. **Table 8** below updates the projected savings that we estimate could be achieved by a Hawke’s Bay Water Services Entity.

Table 8 Comparison of financial performance of service delivery models

	Debt (2031) \$m	Cumulative capital spend (2031) \$m	Annual operating cost (2031) \$m
Enhanced status quo	\$736	\$1,042	\$143.9
Hawke’s Bay Water Services Entity	\$690	\$997	\$134.1

The 6.8% projected savings are achieved by 2031, with efficiencies being progressively introduced to the model following the creation of the Hawke’s Bay Water Services Entity. They translate into lower ratepayer charges and an increased ability to respond to costs arising from further regulation, new standards or unforeseen investment requirements.

WICS financial savings

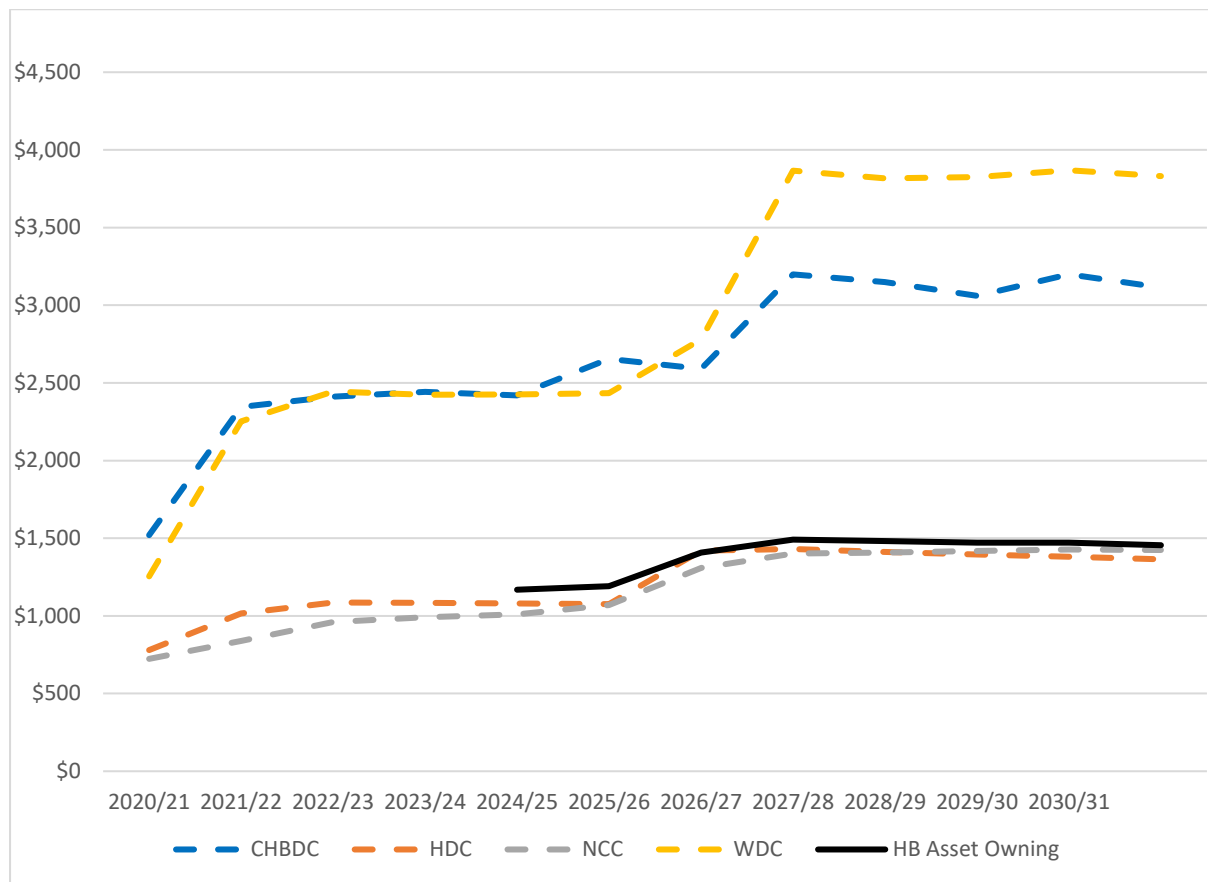
The WICS modelling projects efficiency savings being realised by the water services entities from 2025, compounding each year to achieve the up to 45% savings. The assumption is based on the experience of Scottish Water and the actual savings that it has achieved in real terms.

Ratepayer impacts

The difference between the estimated average three waters rate for each council and a Hawke’s Bay Water Services Entity is set out in **Figure 3** below. Under the model with an immediate adoption of a consistent charge across the region when the Hawke’s Bay Water Services Entity is created the impact is passed on to three waters customers immediately. This means from day one, the ratepayers of Central Hawke’s Bay and Wairoa are expected to see a reduction in their three water costs. Ratepayers in Napier and Hastings will not however see a reduction in water charges within the 10-year modelling period set out in this report.

We note however that the “gap” between projected three waters charges under the entity model and the enhanced status quo continuously narrows for Napier and Hastings ratepayers over our modelling period and by 2031 is within the range of the sensitivity analysis. **We note that the WICS modelling projects Entity C would have an average three waters household cost in 2051 of \$1,260.** There is no WICS Water Services Entity data available to compare costs at 2031.

Figure 3 Comparison of rates impact for Hawke’s Bay Water Services Entity and enhanced status quo⁴



Wider impacts

While we have not reconsidered the remainder of the report it is important to highlight the financial analysis was only one part of the business case and the benefits, risks and issues arising from potential change in three waters service delivery are much broader than just ratepayer impacts. They include aspects like






- valuing water,
- supporting & rural communities,
- capability & capacity and
- enabling a meaningful role for Māori.

These were encapsulated in the investment objectives and the principles developed through engagement with the Māori committees. These are set out below as a reminder that the considerations of the benefits, risks and issues of three waters reform are much wider than just financial.

⁴ The Hastings average rate, and to a lesser extend Central Hawkes Bay and Wairoa average rates appear to be dropping in the latter years, this is because we have removed inflation and the number of connected properties is increasing.

Figure 4 Investment objectives

Figure 5 Principles

<p>To provide three water services in a way that is affordable and effective</p>	 <p>The three waters service's model must address the challenge of providing for an effective, affordable service in a fiscally responsible way.</p>	<p>Value Te Ao Māori</p>	<p>Incorporating and implementing mātauranga Māori, culture and values (i.e. Te Aranga Design Principles) are a core element for any potential framework to realise and enhance the region's commitment to Māori to protecting/enhancing water.</p>
<p>To provide services that are safe, reliable and resilient</p>	 <p>Access to safe and reliable three waters service are fundamental to all the urban and rural communities of Hawke's Bay.</p>	<p>Value water</p>	<p>Wai is the essence of all life and the world's most precious resource. It is of high importance to Māori, as it is the life giver of all things, a precious taonga, part of our whakapapa.</p>
<p>To provide services through a model that enables a meaningful role for Māori</p>	 <p>The Local Government Act requires a local authority to provide opportunities for Māori to contribute to its decision making processes.</p>	<p>Whakapapa – genealogical links</p>	<p>Recognise and respect the relationship and whakapapa (genealogical link) that mana whenua has with water.</p>
<p>To provide services through a model that has the value of water at the centre</p>	 <p>Water is vital to community life and as such three water services are part of a holistic water system.</p>	<p>Te mauri o te wai – the life force of water</p>	<p>Mauri is the integrated and holistic well-being and life support capacity of water. The well-being/healthiness of the water, the land and the people are intrinsically connected.</p>
<p>To provide three waters services in a way that supports our urban and rural communities</p>	 <p>The services influence how people across Hawke's Bay live, work, gather, socialise, recreate and value environmental amenity.</p>	<p>Holistic approach to water</p>	<p>Although the project is based around the review of the service and delivery of the three waters (infrastructure), the proposed model needs to take into account a holistic water approach: there is only one water.</p>
<p>To provide three waters services that build enduring capability and capacity</p>	 <p>The three waters model must be capable of, and have the capacity to, deliver quality sustainable planning, management and operation of three water services now and into the future.</p>	<p>Enabling of Te Tiriti o Waitangi</p>	<p>Involving mana whenua in governance and decision making required to ensure Te tiriti o Waitangi obligations are met, as well as making sure they are able to actively exercise kaitiakitanga in a practical way.</p>
		<p>Mana motuhake - identity, self-determination</p>	<p>The identity of mana whenua in Hawke's Bay should not be lost in any potential model. But inclusion and co-governance whilst keeping their identity is an opportunity.</p>