



2024-34 Investment Planning and Advice

Porirua City Council

Step 2: Council direction on
detailed investment options

26 October 2023

Purpose and outcome sought

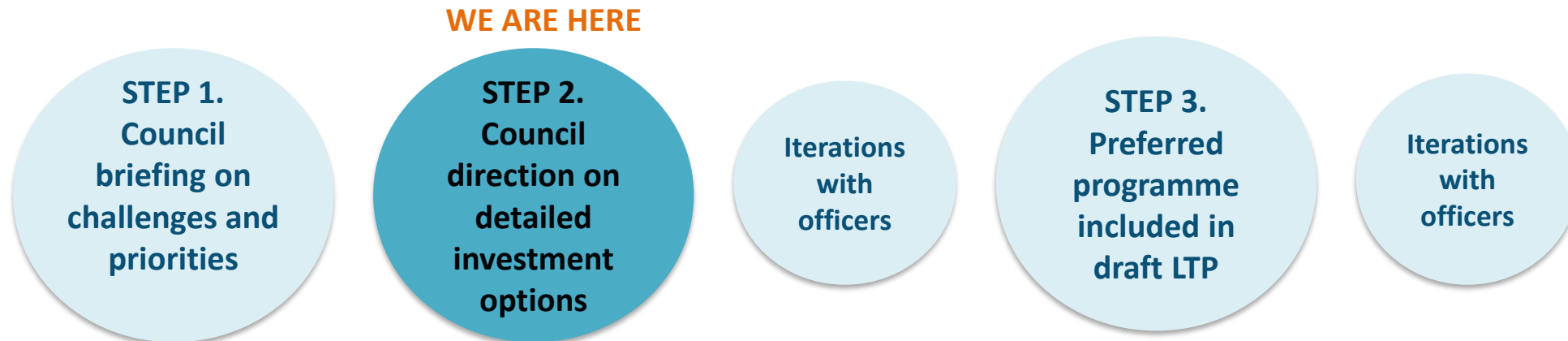
Supporting Porirua City Council’s vision for “a great place to live, work, and raise a family”

This advice is to present options with indicative budget levels, high-level activities and risks, for investing in your three waters assets and services. It is intended to assist you, as part of a staged process, in developing and making decisions on your 2024-34 Long Term Plan.

Wellington Water seeks your direction on:

- Council’s affordable funding level for three waters assets and services
- Council’s preferred option for investing in three waters assets and services

Recap – Where we are at in the process:



Five priorities guide 2024-34 three waters investment

The Wellington Water Committee has endorsed for inclusion in the 2024-34 investment planning advice for each council, the following regional strategic priorities. These priorities are a continuation of the investment direction for the region established in 2021-31 Long-Term Plans.

The region's three waters strategic priorities are:



Looking after existing infrastructure



Supporting a growing population



Sustainable water supply and demand



Improving environmental water quality



Achieving net zero carbon emissions



Each presents major challenges:

Water assets are ageing faster than rate of renewals

The extent and speed of growth is putting pressure on existing and future three waters infrastructure and services

We are facing acute water shortages, with demand increasing while supply is becoming more vulnerable

Blocked or directly discharging stormwater and wastewater networks risk returning unsafe, contaminated water to the environment

Risks from natural hazards and climate change are leaving communities and water assets vulnerable to disruption and economic loss

We also need to ensure resilience to natural hazards and the impacts of climate change are reflected.

Context and assumptions to investment options

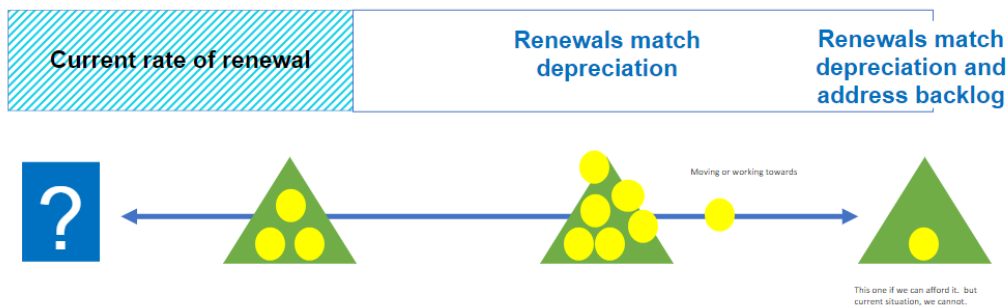
We have framed our advice to reflect the maximum we consider can be delivered over the 2024-34 investment period. This will be different to what is affordable to Council. We appreciate that Council will be facing financial pressures across all of its budgets and any increase in funding to your three waters assets and services will need to be considered alongside other Council priorities. The budgets proposed in this advice will be refined over the next stages of developing your LTP.

- Under current legislation, Councils are required to fund the first two financial years of water services in their 2024-34 LTPs. Year three will be funded by the new Water Services Entity. Funding and pricing plans for year 4 onwards would be set by the new entity
- We have provided a 10-year view of investment. This is the investment programme we would recommend regardless of who is making the funding decision - council or a new Water Services Entity
- Work already in progress and contractually committed forms the basis of budgets for the first few years of this 10-year period. However, decisions made by Council will influence the work that is investigated, designed and delivered in the longer term through any new entity
- Since the previous long-term planning process, we have delivered year-on-year increases across Capex programmes. While inflationary pressures have driven some of this increase, past performance shows a very strong record of growth in delivery where funding has been made available by our owner Councils
- Our advice continues this growth trend. Based on previous growth and market responsiveness to increased investment across our client councils, it is considered feasible that we could deliver 30% year on year increases, or approximately \$100m, over the next three years and beyond (subject to a number of assumptions). This represents the maximum we consider can be delivered across the region
- Despite the uplift in investment and delivery, there is more work than can be done even within a 30 year time frame.
- We have prioritised our recommended work programme based on:
 - The region's strategic priorities for water
 - Our recommendations on what is of most importance (in terms of risk) and is of highest criticality
 - What we have heard from you on your priorities
 - Compliance, consenting and regulatory requirements, as well as human health and safety needs that must be met
 - Increases needed to maintain current levels of service and to mitigate risks

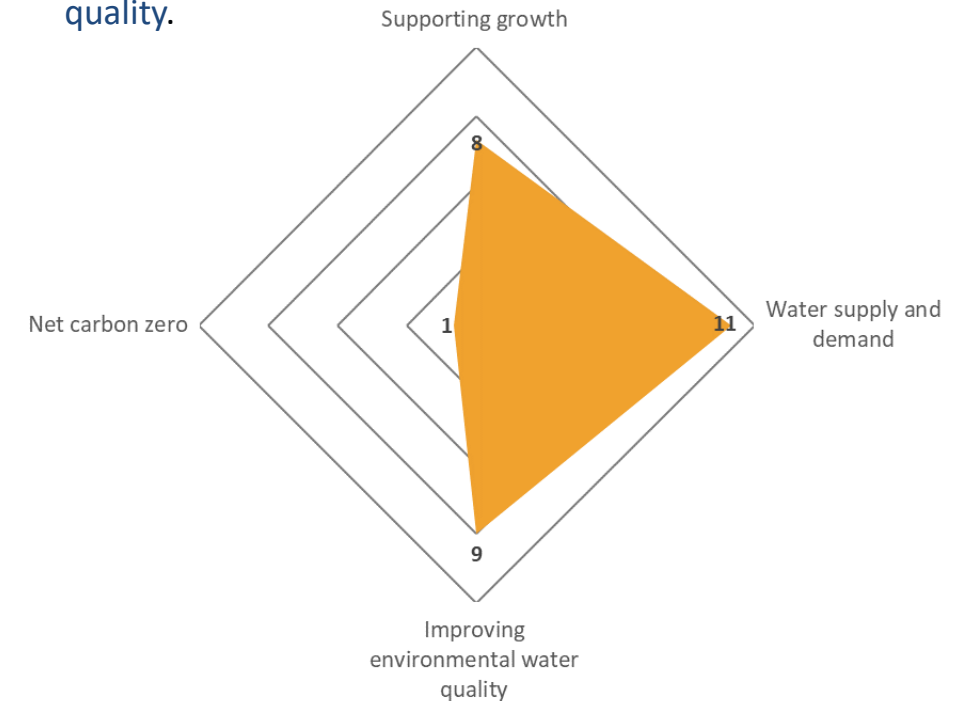
What we have heard

On 28 September 2023 we met with you to: outline the immediate long-term challenges facing your three water assets and services; understand the nature of investment needed over the next 10 years; and seek your direction on the desired outcomes for water in your community.

- We asked where you would like to set your renewal rate for 2024-26 – there was preference for an increase on the current rate to match depreciation
- 15 km of pipe renewals are required per year for 30 years to address the current backlog
- In the year ended 30 June 2023, PCC renewed 3.4km of pipe



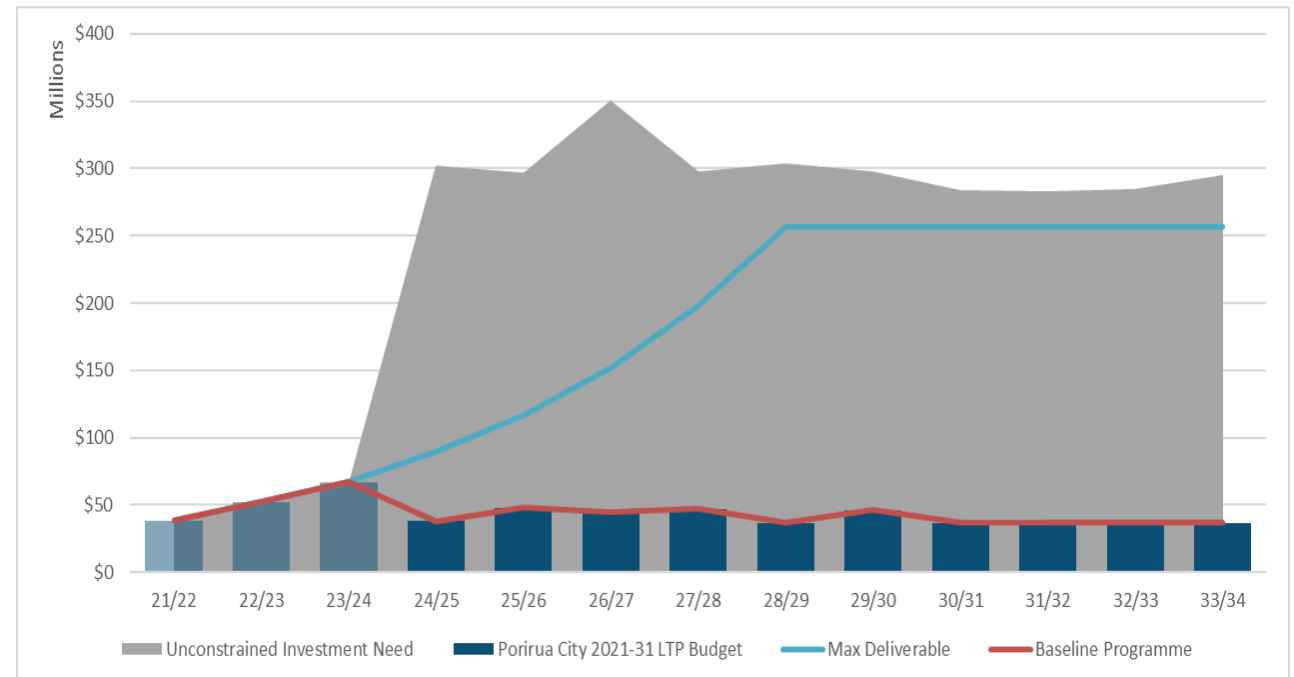
- Water supply and demand was identified as a priority but was mentioned to be closely linked to growth, followed by improving environmental water quality.



Summary Overview

The following table summaries Wellington Water’s full investment story for Porirua.

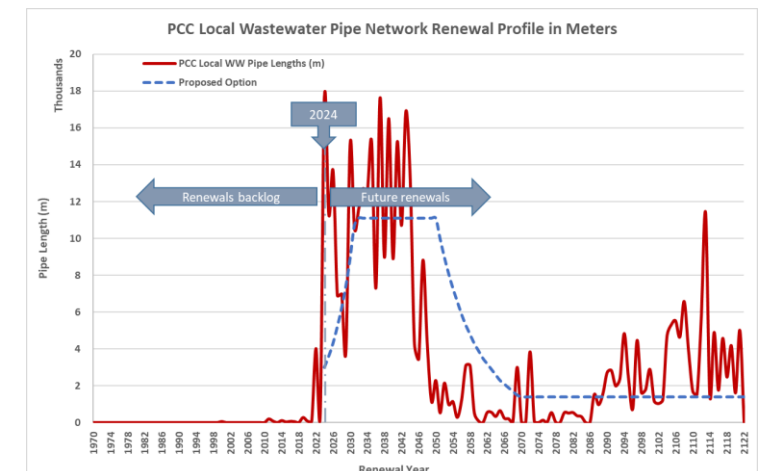
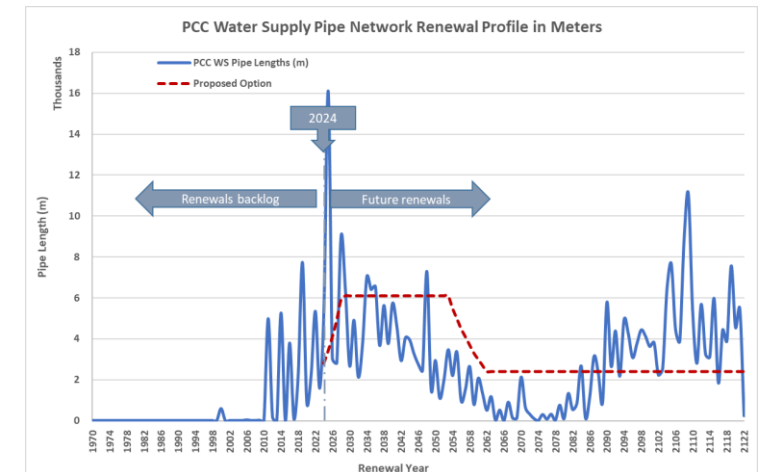
- The unconstrained investment need (grey) represents the total capital investment identified for operating, maintaining and meeting current and future water services needs.
- It is based upon the unconstrained investment list provided to the NTU in March 2023, and therefore covers all possible investment needs currently within Wellington Water’s systems, including those derived from condition assessment, growth studies, consenting, catchment management plans etc.
- The baseline programme (red line) reflects the 21-31 LTP budget levels, including adjustments approved by Council subsequently.
- The maximum deliverable (blue line) is the level of investment Wellington Water considers it can deliver (PCC’s proportional share of a regional deliverability view)



Renewals

Renewals are one solution to looking after existing infrastructure. Despite an uplift in renewals expenditure, the average age of the asset base continues to increase. To assure agreed levels of service and to operate within agreed risk tolerances, the required state is to continuously renew assets at the same rate as they deteriorate.

- Specific renewals budgets proposed are aimed at achieving a sustainable asset base that is renewed at a pace that matches deterioration. These budgets have been built from:
 - Requirements for treatment plants, reservoirs and storage, pump stations and pipe networks
 - Looking at forward requirements over the lifecycle of the asset base
 - Retain a level of budget for reactive renewals (based on history) to ensure that failed items can be replaced immediately
- To note:
 - Renewals needs are heavily dominated by pipe networks.
 - The recommended programme has been prioritised to achieve a balance between critical and non-critical assets
 - Deferral of renewal projects that make up the proposed budgets will lift the risk of increased service failures resulting in interrupted water supply and continued leakage, and unplanned overflows from wastewater pipes as well as elevated health and safety risks arising from collapsed or failed assets. Consequential rise in unplanned maintenance expenses



Operating Expenditure

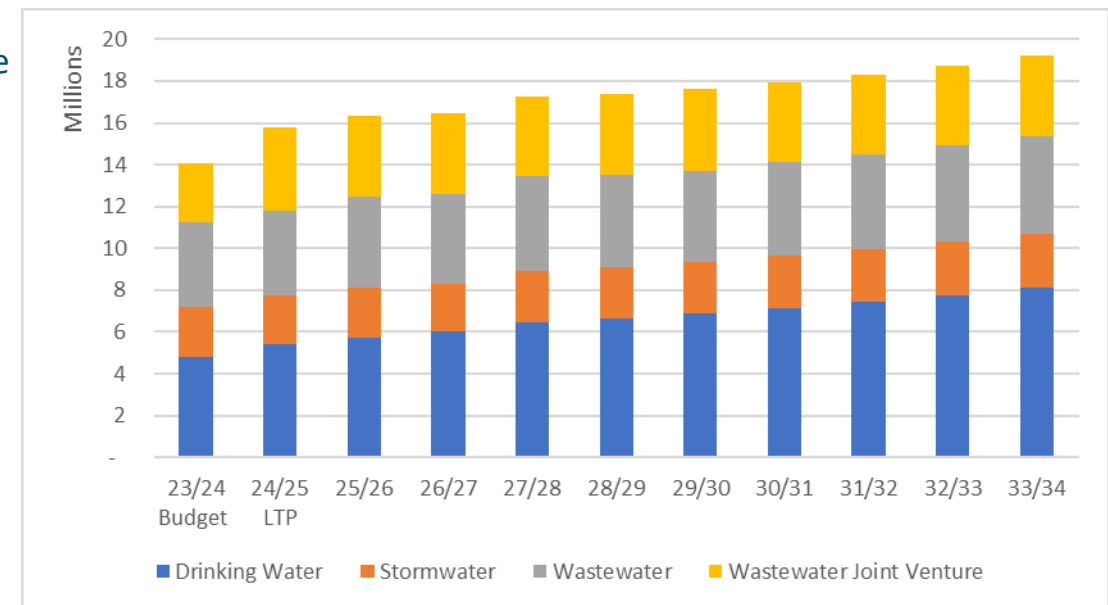
Within OPEX budgets there are a number of activities considered unavoidable that need to be covered by Council. These relate to activities that are mandatory or cannot be avoided or deferred as they are essential for the operation and maintenance of Councils assets. For example, costs required for the day-to-day operation of critical services where the consequence of failure is very high or for maintaining compliance with legislation, regulation, or industry standards.

There is some discretion predominantly within the investigations, planned maintenance and reactive maintenance investment categories. However, there are risks with any reductions or deferrals, with expenditure likely be required in the future.

High-level factors influencing Council's recommended 24-34 OPEX budgets:

- Impact of inflationary factors driving up the cost of materials, labour, services, and utilities costs
- The need to increase the number of repairs undertaken to meet demand and minimise water loss, and increasing repair needs for ageing infrastructure resulting in higher operational costs.
- Impact of the bulk water levy, which hasn't been included in our advice, but will need to be factored into PCC considerations – we are speaking to the Greater Wellington LTP Committee late October. Preliminary estimates from Greater Wellington predict an increase of 13% or more on the bulk water levy

Proposed OPEX for 24-34 by water



Recommended 2024-34 Operating Expenditure



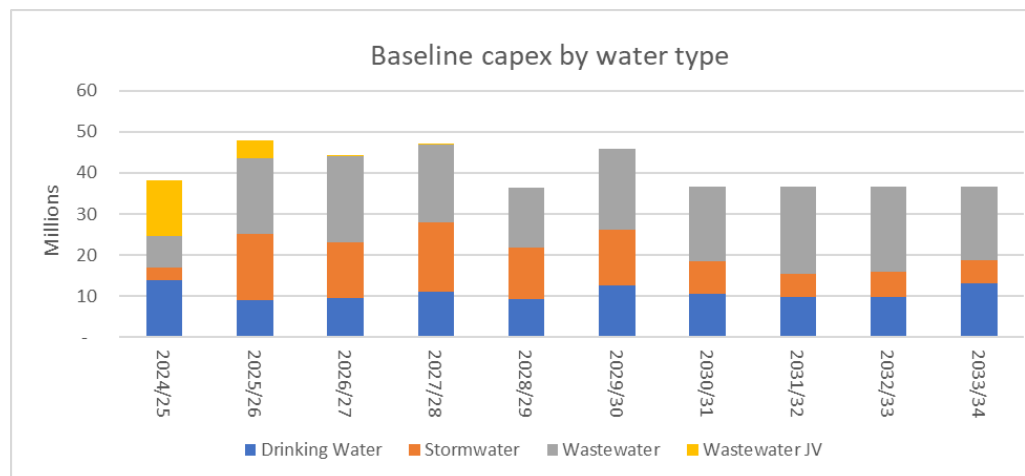
	23/24 Baseline	Year 1 (24/25)	Year 2 (25/26)	10-year total	Drivers for investment
Monitoring & Investigations	\$2.617M	\$4.077M	\$4.359M	\$45.495M	<p>Includes activities such as condition assessments, resource consent compliance monitoring, water sampling and monitoring, investigations, design studies, and asset management. Uplift on 23/24 budget levels due to:</p> <ul style="list-style-type: none"> Increased spend on wastewater Inflow and Infiltration roving crews to ensure meeting Global Stormwater consent conditions and to reduce contamination in water ways Growth Planning and growth studies need to be undertaken to identify infrastructure required to support growth planning (greenfield and brownfields) and unlocking growth in a systematic manner. To prepare Pump Station Facility Management Plans Strategic intervention for best practice water loss management and leakage control for drinking water Model maintenance improvements in stormwater Measurement of fugitive emissions from the Porirua WWTP Joint Venture Investigate climate risks for WWTP and WW network Joint Venture Joint Venture strategy & plan for re-use of biosolids – spread across the region
Operations	\$0.163M	\$0.185M	\$0.185M	\$1.891M	Includes the control systems covering the electrical, instrumentation and automation systems for Council’s stormwater, wastewater, and potable water assets.
Planned Maintenance	\$2.138M	\$2.398M	\$2.703M	\$29.916M	<p>Includes water and wastewater pump station, utility and network asset maintenance, and stormwater maintenance activities. Uplift on 23/24 budget levels due to:</p> <ul style="list-style-type: none"> Maintain BAU and manage backlog for drinking water Increase number of failing Area Water Meters Critical new activity to support raw water take re-consenting in 2035.
Reactive Maintenance	\$5.442M	\$4.743M	\$4.635M	\$52.128M	Expenditure in reactive maintenance can decrease from FY24/25 onwards. This is due to the progress in FY2022/23 and FY2023/24 that has been made to reduce the backlog in reactive maintenance jobs. From FY2024/25 onwards the focus will be on maintaining the reactive maintenance jobs at a sustainable level.
Treatment Plant	\$2.167M	\$2.879M	\$2.897M	\$29.072M	<p>Covers all activities relating to the operation of wastewater treatment plant and includes planned and reactive maintenance, operations, and investigations. Uplift on 23/24 budget levels due to:</p> <ul style="list-style-type: none"> Contract variation index + backdated claim Disposal costs increases
Management & Advisory Services	\$1.568M	\$1.526M	\$1.534M	\$16.539M	<i>NB. Does not include allowances for required investments in WWL systems and people in the event that transition to Entity G does not occur.</i>
TOTAL	\$14.096M	\$15.808M	\$16.314M	\$175.041M	

Summary Overview: Option One (CAPEX) - Continuation of LTP baseline



Option One represents a continuation of the current 2021-31 LTP, including any additions or adjustments made since.

Option One: Baseline				
	23/24 Budget	Year 1 24/25	Year 2 25/26	10-year total (\$m)
Drinking Water	\$19.0M	\$13.8M	\$9.0M	\$108.4M
Stormwater	\$11.4M	\$3.3M	\$16.2M	\$101.2M
Wastewater	\$16.6M	\$7.7M	\$18.4M	\$179.1M
Wastewater JV	\$20.0M	\$13.4M	\$4.4M	\$18.0M
TOTAL	\$67.0M	\$38.1M	\$48.0M	\$406.8M



Risks

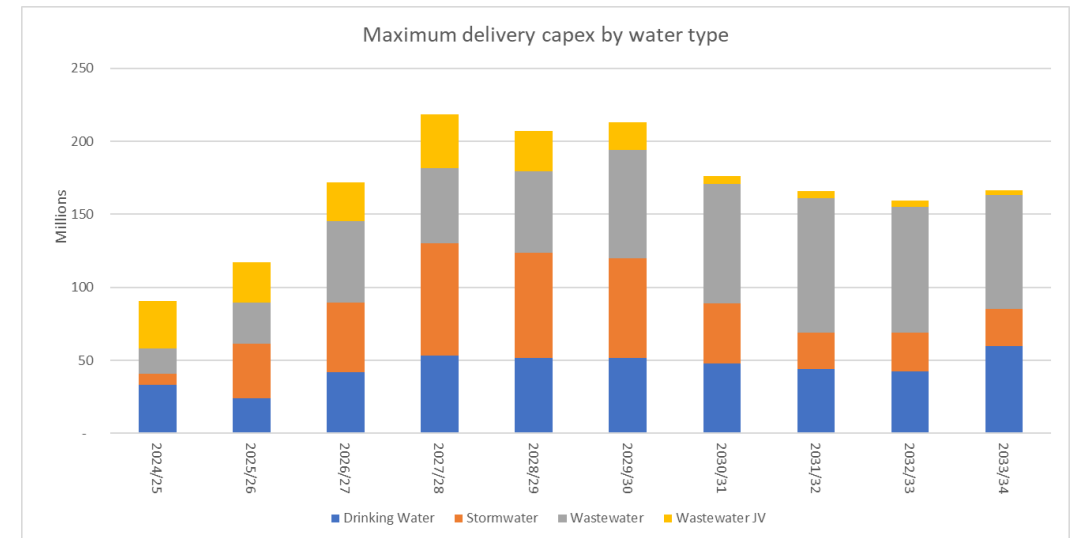
- Water demand for Porirua City is outstripping supply due to water loss in the network and growth. Networks are not optimised in accordance with Te Mana o te Wai
- Porirua City's infrastructure is aging impacting delivery of safe drinking water as well as having health, environmental, and cultural impacts. Unplanned spend is required to remediate critical three waters failures. For example rising main SH59 and reservoir condition
- The new wastewater treatment plant consent has potential to increase operating costs significantly. Porirua is completely reliant on landfill accepting WW sludge, non-compliant discharge comes with high risk of prosecution.
- Wellington Water is experiencing significant increases in the costs of material and labour due to higher than anticipated inflation and market capacity pressures. This has placed pressure on Council's capital delivery plan, meaning fewer projects may be delivered than initially planned
- An insufficient baseline increases the likelihood of not meeting WSE Act 2021 obligations, health and safety standards, and impacting works already in progress

Summary Overview: Option Two (CAPEX) – Maximum deliverable

Option Two represents the maximum programme WWL recommends can be delivered irrespective of total investment need, affordability and other constraints outside of WWL’s control.

Option Two: Maximum deliverable

	23/24 Budget	Year 1 24/25	Year 2 25/26	10-year total (\$m)
Drinking Water	\$24.4M	\$33.0M	\$24.3M	\$450.5M
Stormwater	\$15.7M	\$7.7M	\$37.4M	\$427.6M
Wastewater	\$15.1M	\$17.1M	\$28.0M	\$621.0M
Wastewater JV	\$29.2M	\$32.7M	\$27.2M	\$186.9M
TOTAL	\$84.3M	\$90.9M	\$117.0M	\$1,686M



Risks

- As with option 1 but lower
- Inflationary pressures putting pressure on scoped project budgets resulting in potential for rescoping projects, reallocating budgets from lower priority projects, or increasing budgets
- Potential for resource and supply chain constraints of both materials and personnel impacting the delivery of projects in delivery

Proposed investment by strategic priority: Looking after existing infrastructure



Existing assets and services need to be operated, maintained, and replaced to ensure they deliver the services expected by customers. The desired state is where the reliability of the network improves, and customers receive agreed levels of service across all three waters.

Option 1: Baseline (\$m)

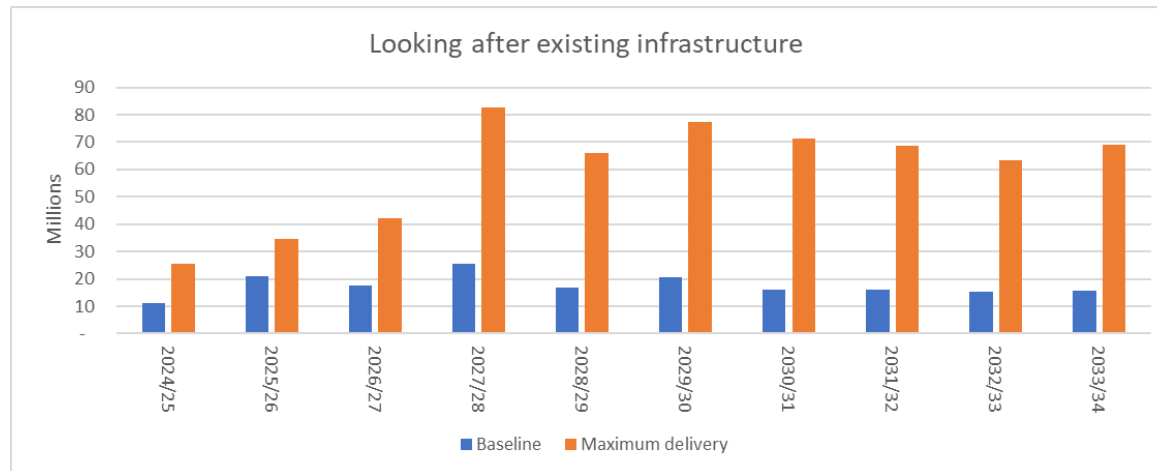
Focuses on immediate risk where high likelihood of critical failure only. Partial lift in renewals to work towards elimination of backlog of end-of-life assets within 30 years

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	\$4.1M	\$5.2M	\$34.7M
Stormwater	\$0.5M	\$1.9M	\$31.3M
Wastewater	\$6.4M	\$13.9M	\$109.5M
Wastewater JV	\$0.008	-	\$0.008
TOTAL	\$11.2M	\$21.0M	\$175.5M

Option 2: Maximum deliverable (\$m)

Replacement of assets with known failure history or poor condition only within first 10 years, looks to replace waterpipes in high leakage areas, and seeks to lift renewals to achieve elimination of backlog of end-of-life assets within 30 years

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	\$9.9M	\$12.5M	\$139.0M
Stormwater	\$1.3M	\$4.7M	\$143.0M
Wastewater	\$14.2M	\$17.2M	\$319.0M
Wastewater JV	\$1.1M	\$16.6M	\$140.3M
TOTAL	\$25.4M	\$34.4M	\$741.1M



Key projects: Option 1

- Battery Replacements Base stations
- Network WQ improvements - backflow prevention
- Reservoir safety improvements
- Security locks reservoirs
- Water pump station, reservoir, commercial meter, and district meter area REACTIVE renewals
- Water supply network control systems renewals
- Water hydraulic model update
- Health and safety and level service upgrade improvements
- Water network modelling
- VHCA reservoir water quality renewals
- Water pump station and district meter area PLANNED renewals
- Critical pump station ground stabilisation and structural upgrades
- Utilities reservoir renewals
- Buried reservoirs integrity improvements

Option 2

In addition to baseline:

- Network renewals

WWTP JV projects:

- Aeration feedline renewal
- Backup power supply
- Effluent outfall renewal
- Centrifuge replacement
- Odour treatment
- Consent renewal - Porirua WWTP lan occupation by outfall structure (exp. 2034)
- Process model development
- Critical spares
- Sludge reduction (i.E. Dryer)
- Solids handling upgrade
- PCC WWA JV network upgrades - trunk pipelines - PCC master planning

Proposed investment by strategic priority: Supporting a growing population



Water services exist to serve communities. As the number of people in towns and cities increases, the extent of water services must grow with them. The desired state is where growth can be achieved while ensuring target levels of service are met or exceeded

Option 1: Baseline (\$m)

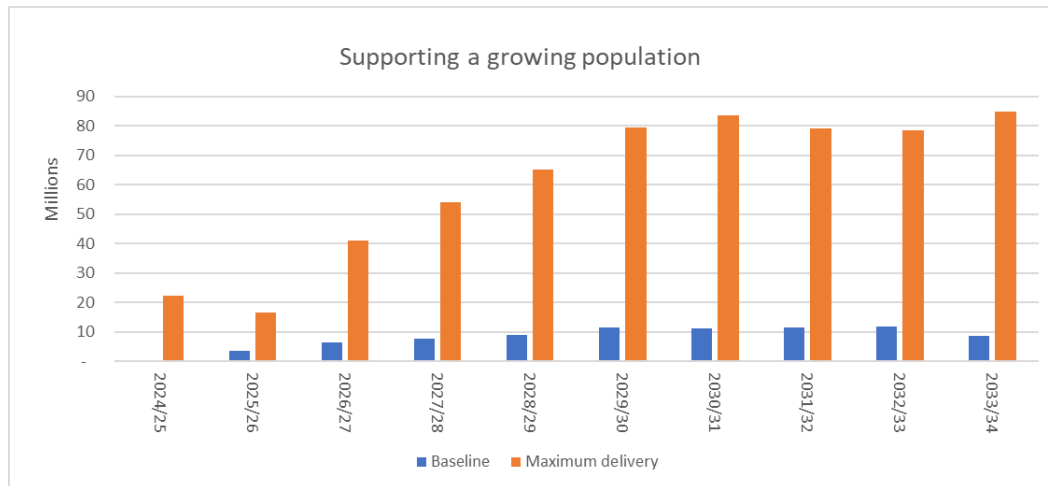
Minimal investment in growth projects.

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	-	\$0.4M	\$7.8M
Stormwater	-	\$2.3M	\$21.0M
Wastewater	-	\$1.1M	\$53.5M
Wastewater JV	-	-	-
TOTAL	-	\$3.8	\$82.3M

Option 2: Maximum deliverable (\$m)

Significant investment in key infrastructure that supports growth in Porirua

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	\$22.3M	\$8.3M	\$266.9M
Stormwater	-	\$5.7M	\$92.0M
Wastewater	-	\$2.6M	\$242.1M
Wastewater JV	-	-	\$3.3M
TOTAL	\$22.3M	\$16.6M	\$604.2M



Key projects: Option 1

- Reactive growth projects for DW, SW and WW
- Plimmerton Farms North DW trunk mains
- Wetland 1 and 2 Western SW
- Omapere St and Champion St flooding
- Takapuwahia SW Pipe Upgrade
- Porirua CBD Flooding Stage 1 and 2
- Partial progress towards Eastern Porirua regeneration project for SW
- Bothamley sewer upgrade
- Pump station upgrades; Judgeford, Paremata, Whitby, Porirua city centre
- City centre WW pipe improvements
- Kenepuru WW network upgrade

Option 2

In addition to baseline:

- DW water trunk mains – high level Whitby, low level Plimmerton Farms, Porirua High Level to Whitby
- Takapuwahia Water Supply Storage
- Judgeford low level bulk water connection feed
- Whitby DW supply pipe upgrade
- Reservoirs - Low level at Aotea, Plimmerton Farms, Pukerua Bay high level, Judgeford Hills low level
- Whitby WW pipe upgrade
- Eastern Porirua Regeneration Project –WW, SW, DW
- WWTP JV Treatment System Modification (Ammonia)

Proposed investment by strategic priority: Sustainable water supply and demand

Our communities want to have enough water when they need it, while Te Mana o te Wai is enhanced by using it efficiently and leaving enough water in the rivers to sustain freshwater ecosystems. The desired state is where water isn't wasted, supply meets demand, and customers and the network are more resilient in times of shortage

Option 1: Baseline (\$m)

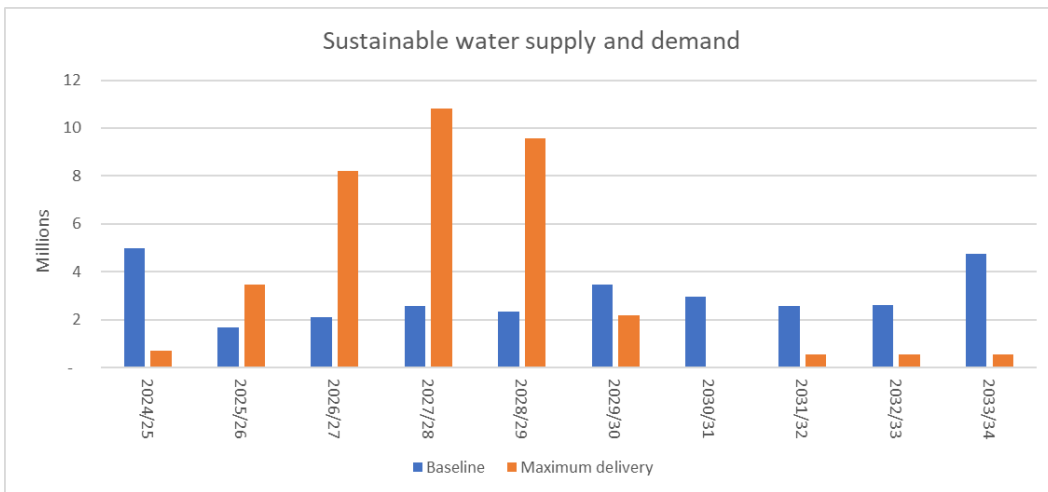
Provision for sustainable water supply and demand related activities.

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	\$5.0M	\$1.7M	\$30.0M
TOTAL	\$5.0M	\$1.7M	\$30.0M

Option 2: Maximum deliverable (\$m)

The water needs of communities are met while maintaining the health and mauri/manā of the source water. Predominant focus on supporting measures to reduce water demand and water leakage to address regional water shortage challenge.

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	\$0.7	\$3.5M	\$36.6M
TOTAL	\$0.7	\$3.5M	\$36.6M



Key projects: Option 1

- DMA Meter Fleet New Installs
- Smart Services
- Reservoirs Auto Shut Off Valves Upgrades
- Authorised Tanker Fill Points
- Smart DMA Actuated Boundary Shut Valves
- Year 1 of residential smart metering

Option 2

- Universal Residential Smart Metering

Proposed investment by strategic priority: Improving environmental water quality



Stormwater and treated wastewater are returned to the environment. Pollutants enter the water, making it unsafe for people and ecosystems. Stormwater management can also significantly modify the natural characteristics of creeks and streams. The desired state is improved water quality, Te Mana o Te Wai is implemented, mahinga kai regenerates, and regulatory requirements are met.

Option 1: Baseline (\$m)

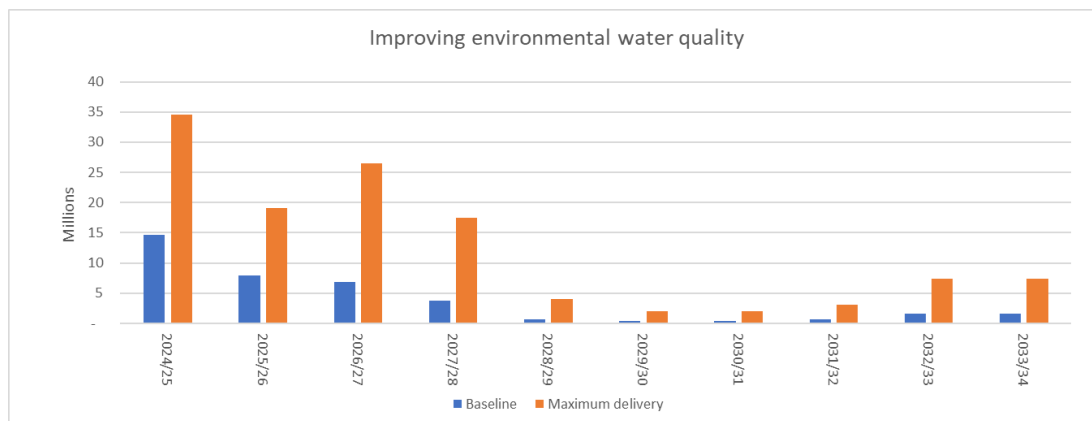
Provision for minimum level of activities to support improving environmental water quality. Does not reflect costs associated with global stormwater and wastewater consents. To note some activities delivering improved environmental water outcomes covered under Looking After Existing Infrastructure through renewals programme

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	-	-	-
Stormwater	-	\$0.1M	\$4.5M
Wastewater	\$1.2M	\$3.4M	\$16.1M
Wastewater JV	\$13.4	\$4.4	\$18.0M
TOTAL	\$14.6	\$7.9M	\$38.7

Option 2: Maximum deliverable (\$m)

Major projects aimed at improving environmental water quality.

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	-	-	-
Stormwater	-	\$0.2M	\$21.0M
Wastewater	\$2.9M	\$8.2M	\$60.0M
Wastewater JV	\$31.7M	\$10.7M	\$43.3
TOTAL	\$34.6M	\$19.1M	\$123.6M



Key projects: Option 1

- SW Subcatchment Asset Management Plan - Porirua A
- Partial delivery of freshwater management tool
- Smart WW Manhole Sensor Trial
- Rawhiti Road Wastewater Pump Station Upgrades
- PCC WW modelling
- Drainage Investigations Improve I&I
- Partial delivery of Paremata WW Trunk Upgrade Stage 2

Option 2

- In addition to baseline:
- Full delivery of freshwater management tool
 - SW Subcatchment Asset Management Plan - Taupo
 - Full delivery of Paremata WW Trunk Upgrade Stage 2
 - WWJV Porirua Central City Wastewater Storage tank

Increasing resilience to natural hazards and the impacts of climate change



Water services are at risk from natural hazards such as earthquakes and landslides and from more intense rainfall events and sea level rise caused by climate change. The desired state is resilient infrastructure that provides essential water services safely during an emergency event.

Option 1: Baseline

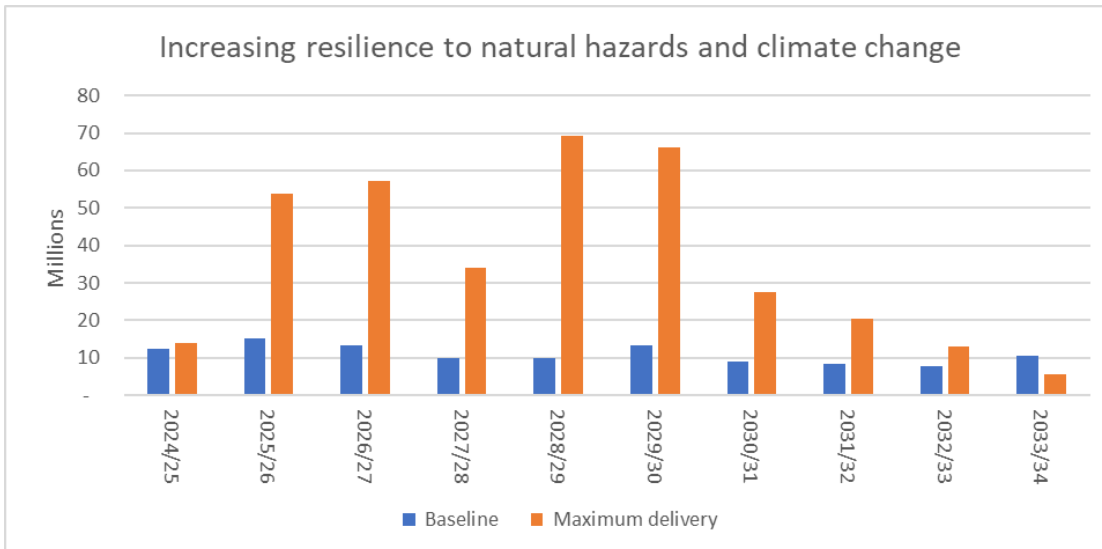
Minimal activities aimed at ensuring resilience of water services following a major emergency

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	\$9.6M	\$3.4M	\$66.0M
Stormwater	\$2.7M	\$11.9M	\$44.4M
Wastewater	-	\$0.004M	\$0.02M
TOTAL	\$12.3M	\$15.3M	\$110.3M

Option 2: Maximum deliverable

Activities included aimed at improving network resilience

	Year 1 24/25	Year 2 25/26	10-year total
Drinking Water	\$0.5M	-	\$8.0M
Stormwater	\$6.4M	\$26.8M	\$172.3M
Wastewater	-	\$0.01	\$0.1M
TOTAL	\$7.0M	\$26.8M	\$180.4M



Key projects: Option 1

- Capital carbon modelling DW, SW
- Firefighting upgrades and hydrant management
- PCC SW Control Systems Renewals
- Flooding projects: Duck Creek, Papakowhai, School Road, Acheron, Eskdale/Conclusion - Phase 2, Paremata, Plimmerton, Pope St/SH59, SH59/New World Paremata, Paremata School
- Kenepuru Drive SW Improvements
- PCC Stormwater Modelling
- Elsdon Hockey Turf flood management
- Hongoeka SW Catchment
- Stage 1 of Karehana SW Catchment

Option 2

- Capital carbon modelling WW
- Stormwater Dissipation Chambers
- Whitehouse Road Flood Mitigation
- Taupo Stream SW Catchment Improvements
- Stage 2 of Karehana SW Catchment

Next steps

The process from here

November 2023

