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2024-34 Investment Planning and Advice

Wellington City Council

Step 2: Council direction on
investment options – pre reading

12 October 2023

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Purpose and outcome sought

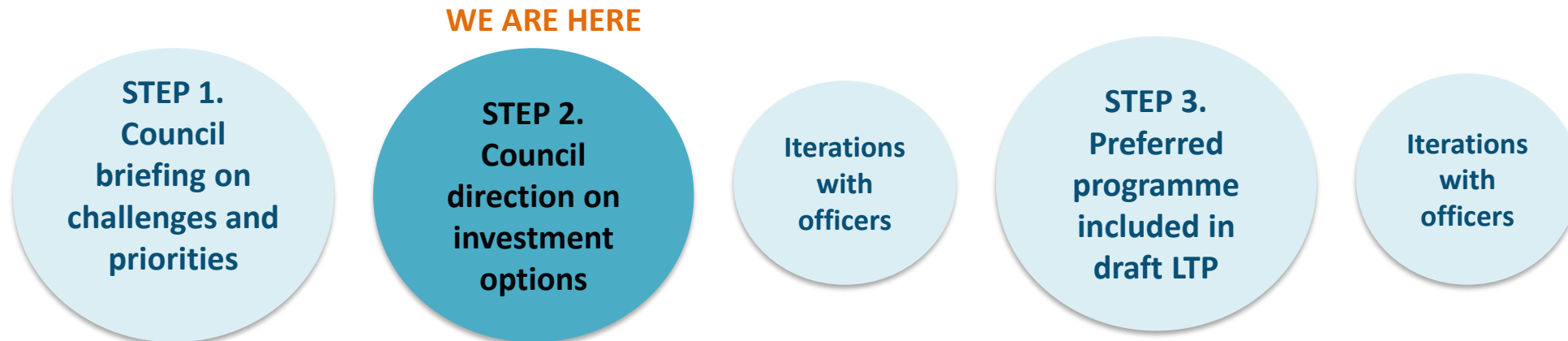
Supporting Wellington City Council's 2040 vision of 'an inclusive, sustainable and creative capital for people to live, work and play'

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:



The information and evidence we have to inform the 2024-34 Long Term Plan has improved

New knowledge gained, along with increased costs to meet levels of service, indicate that investment in three waters needs to increase

Since the 2021-31 Long Term Plan was developed, we have gained greater knowledge of Wellington City Council's three waters assets and future investment needs through:

- Asset condition and criticality assessments
- Growth studies
- Strategic studies
- Global stormwater and wastewater overflow consents
- Refinement of the age based network and pump station renewals profiling
- New methodology for measuring and reporting on leaks and faults in the network
- Technical studies (e.g. material deterioration rates)
- Centralised asset register
- Some engagement with Taranaki Whānui and Ngāti Toa Rangatira

We also have a solid base of investment needs in the 'unconstrained' investment database which was established through the National Transition Unit (NTU) asset management plan workstream. This forms the starting point for investment planning

Five priorities guide 2024-34 three waters investment

Te Mana o te Wai and five regional strategic priorities, endorsed by the Wellington Water Committee, guide the 2024-34 investment planning advice for each council. 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 24-34 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

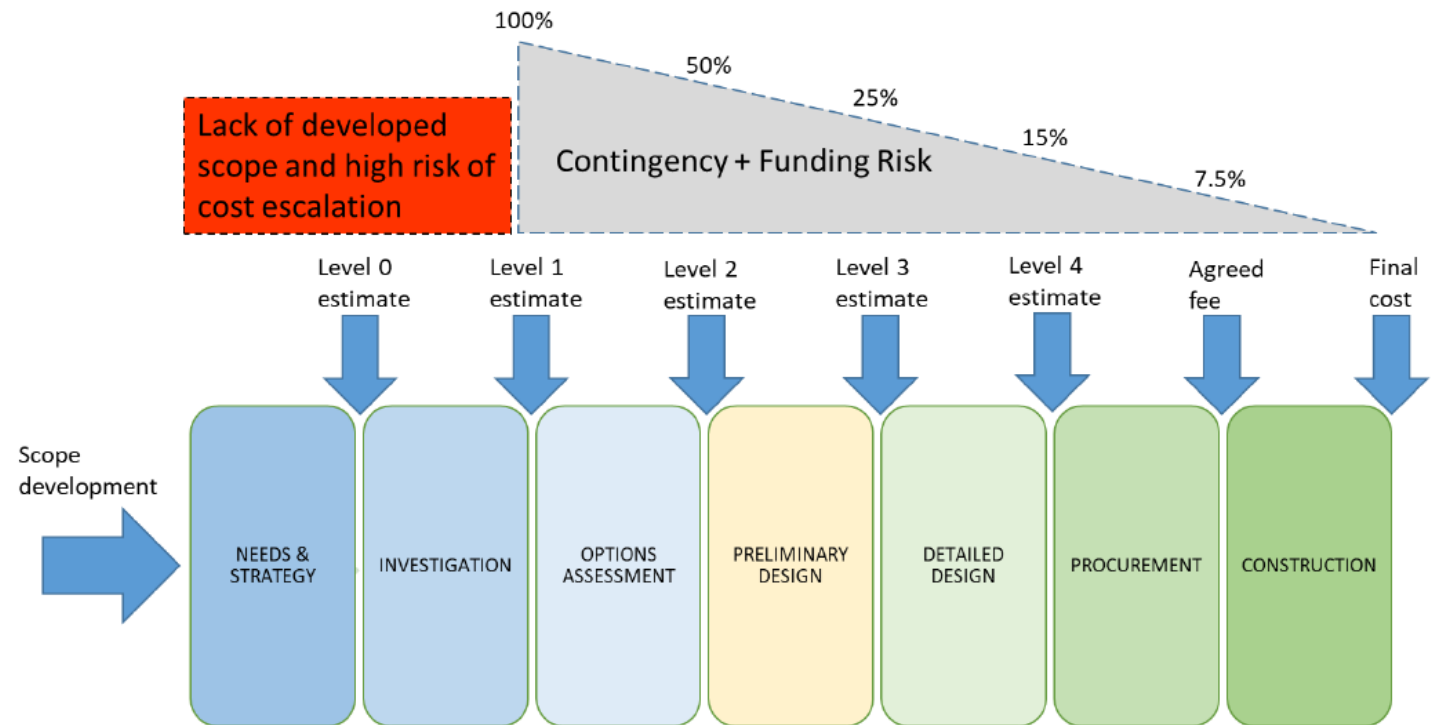
- Under current legislation, Councils are required to make funding decisions for the first two financial years of water services in their 2024-34 LTPs. Year three will be funded by the new Water Services Entity. Funding and pricing plans for year 4 onwards will be set by the new entity
- We have provided a 10-year view of investment to ensure consistency and alignment between your LTP and transition to the new entity – the investment programme we would recommend would be the same regardless of who was making the funding decision
- 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 the 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
 - 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

Cost Estimation

Wellington water has an established method of cost estimation

- Estimates used by Wellington Water, follow our Cost Estimation Manual requirements.
- Where projects are at early stages of development, there is a large degree of contingency and funding risk applied.
- Examples include investments in flooding risk identified through growth studies and investments for global waste water and storm water discharge consents.
- Figures used therefore have increasing uncertainty the further out a planned investment is.

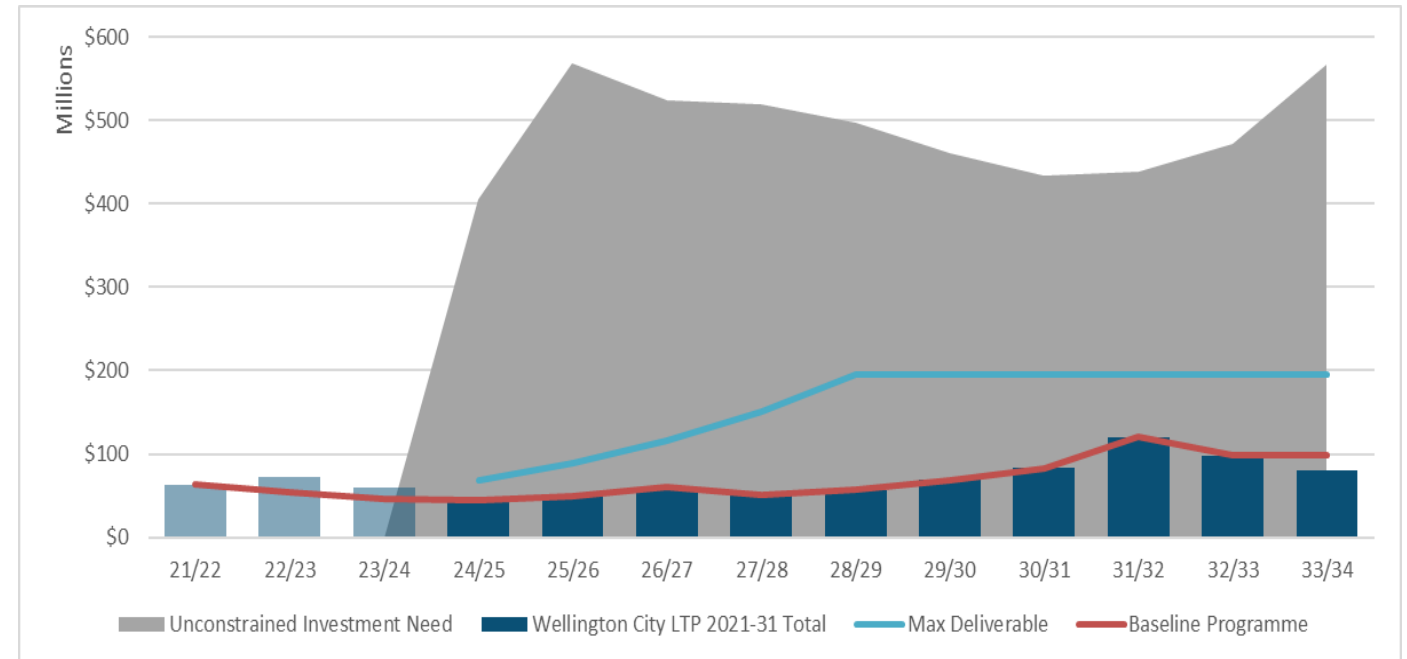
Figure 1: Illustration of scope and estimate development with contingency and risk



Summary Overview

The following table summaries Wellington Water's investment story for Wellington.

- The unconstrained investment need (grey) represents the total 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 (WCC's proportional share of a regional deliverability view)



Operating Expenditure

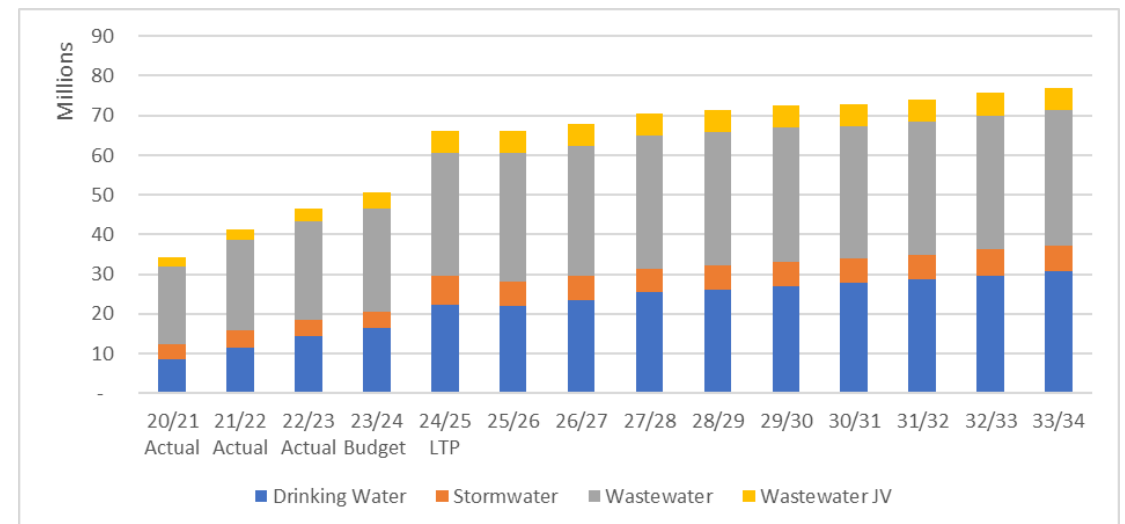
Within OPEX budgets there are a number of activities considered unavoidable that need to be covered by Council. These relate to activities that are mandatory or cannot be avoided or deferred as they are essential for the operation and maintenance of Councils assets. For example, costs required for the 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 budgets for Investigations and planned and reactive maintenance investment categories, however there are risks with any reductions or deferrals with expenditure likely to 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 WCC 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 24-34 operating expenditure against 23/24 budget and 20/21-22/23 actual expenditure



Recommended 2024-34 Operating Expenditure



Drivers for investment

	23/24 Baseline	Year 1 (24/25)	Year 2 (25/26)	Year 3 (26/27)	10-year total	
Monitoring & Investigations	\$5.1M	\$8.6M	\$10.2M	\$10.3M	\$110.7M	<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"> • Strategic interventions to manage water loss and active leakage control • Greenhouse Gas inventory audits, emissions monitoring and other investigations related to climate change • Measuring fugitive emissions from Moa Point and Western Wastewater Treatment Plants • Increased spend on inflow and infiltration roving crews, ensuring meeting Global Stormwater consent conditions and to reduce contamination in water ways • Intensification impact assessment and growth planning for the Southern, Western and remaining Northern catchments
Operations	\$0.4M	\$0.5M	\$0.5M	\$0.5M	\$4.8M	Includes the control systems covering the electrical, instrumentation and automation systems for Council’s stormwater, wastewater, and potable water assets.
Planned Maintenance	\$4.7M	\$9.4M	\$9.5M	\$10.5M	\$110.8M	<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"> • One-off backdated clean for the stormwater syphon • Completing critical water supply and wastewater valve and rising main inspections that were deferred from the 2023/24 program, and an additional 20% increase in the number of water supply valve and hydrant inspections
Reactive Maintenance	\$14.4M	\$19.6M	\$17.5M	\$18.1M	\$198.0M	<p>Maintenance budgets across Council’s distribution pump station, network, and reservoir assets are estimated based on delivery trends to date, the average age of assets and rates of renewal/replacement. For the 24-34 investment period increases have been reflected to account for ageing plant and previous year expenditure. Uplift on 23/24 budget levels due to:</p> <ul style="list-style-type: none"> • Increase in work to reduce the leakage rate and begin to return to drought resilience Level of Service through to 2035: <ul style="list-style-type: none"> ○ Drinking water repairs – Additional 1644 jobs in backlog closed (8724 closed jobs v 7080 under baseline budget) ○ Drinking water reinstatement jobs – Additional 700 jobs in backlog closed (2496 closed jobs v 1800 under baseline budget) • 15% increase in contingency for storm events
Treatment Plant	\$18.8M	\$21.2M	\$21.4M	\$21.6M	\$214.8M	Covers all activities relating to the operation of wastewater treatment plants including planned and reactive maintenance, operations, and investigations. Most of the recommended increase for the 24-34 period is from increased flows, a new gas contract starting in October 2023 and contract variation conditions. There is also an assumed cost increase of 30% increase in costs changed from PCC in line with their WWJV increase, however this cost may include capex.
Management & Advisory Services	\$7.1M	\$6.9M	\$6.9M	\$7.0M	\$74.9M	<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	\$50.5M	\$66.2M	\$66.1M	\$68.0M	\$714.0M	

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

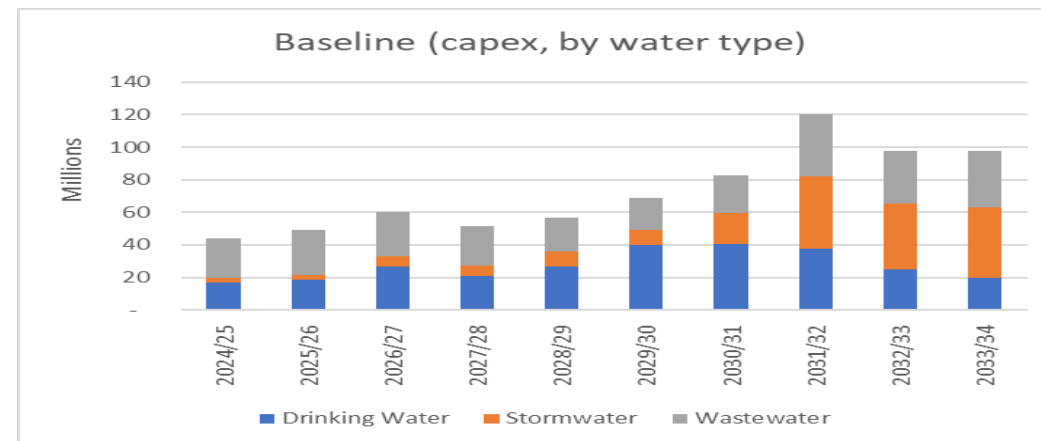


Option One represents a continuation of the current 2021-31 LTP, including any additions or adjustments made since.

Option One: WWL Baseline

	23/24 Budget	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total (\$m)
Drinking Water	\$16.3M	\$16.8M	\$18.6M	\$26.5M	\$272.1M
Stormwater	\$6.8M	\$3.1M	\$3.1M	\$6.6M	\$185.3M
Wastewater	\$36.5M	24.3M	\$27.4M	\$26.9M	\$271.5M
TOTAL	\$59.6M	\$44.2M	\$49.1M	\$59.9M	\$728.9M

* The 21-31 investment plan did not include growth investments, as these were to be developed as a result of studies completed during the initial years.



Risks

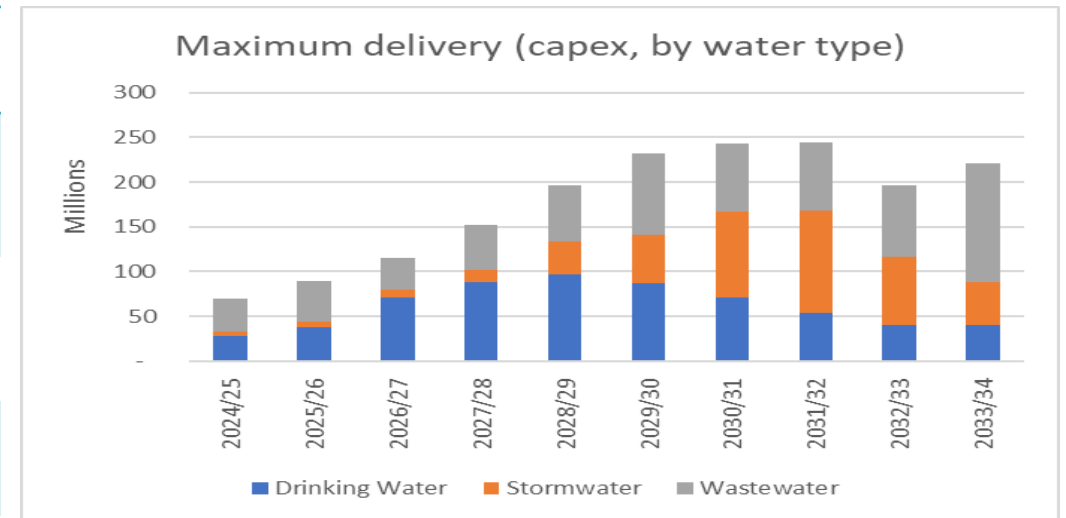
- Water demand for Wellington City is outstripping supply due to water loss in the network and growth. Networks are not optimised in accordance with Te Mana o te Wai
- Wellington’s infrastructure is aging impacting delivery of safe drinking water as well as having environmental and cultural impacts. Unplanned spend is required to remediate critical three waters failures
- Moa Point WWTP at capacity and at increased risk of not meeting capacity requirement and non-compliance. Wellington is completely reliant on Southern Landfill to accept 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	Year 3 26/27	10-year total (\$m)
Drinking Water	\$16.3M	\$28.3M	\$37.8M	\$71.4M	\$615.7M
Stormwater	\$6.8M	\$4.8M	\$5.7M	\$8.2M	\$456.8M
Wastewater	\$36.5M	\$36.3M	\$46.1M	\$36.3M	\$688.8M
TOTAL	\$59.6M	\$69.4M	\$89.6M	\$115.9M	\$1,761.3M



Risks

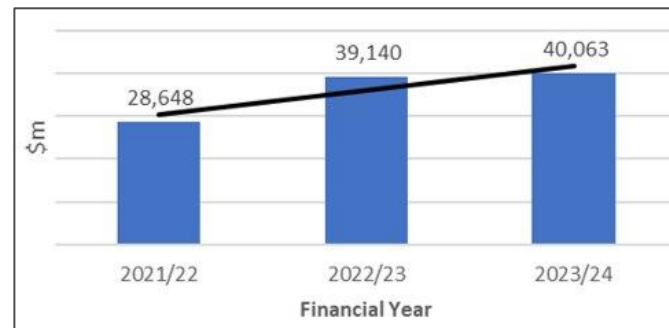
- As with option 1 but lower
- Inflationary pressures putting pressure on scoped project budgets resulting in potential for rescoping projects, reallocating budgets from lower priority projects, or increasing budgets
- Potential for resource and supply chain constraints of both materials and personnel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

Water assets are ageing faster than they're being renewed

Existing assets and services need to be operated, maintained, and replaced to ensure they deliver the services expected by customers.

What do we know?

- Based on condition assessments and asset knowledge, a desk-top study estimates approximately 43% of Wellington City's pipe network assets are due for renewal within the next 30 years (41.2 km per year) – a desktop assessment has been completed of all pipe assets utilising national and local knowledge of similar assets
- Investment in renewals has increased year on year but is still below the rate necessary to reduce the growing backlog
- We know more about the very high and high critical assets (including of the wastewater treatment plants) through condition assessment, and this will ensure renewals investment is targeted at the highest need assets.



Investment in renewals is increasing but not at a rate necessary to reduce the growing backlog

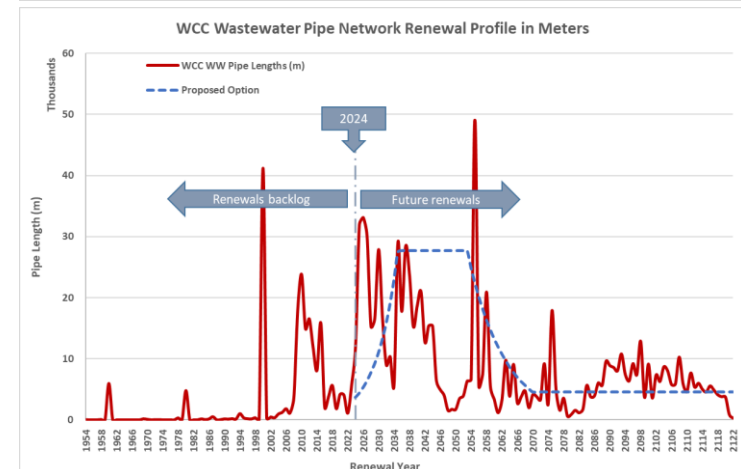
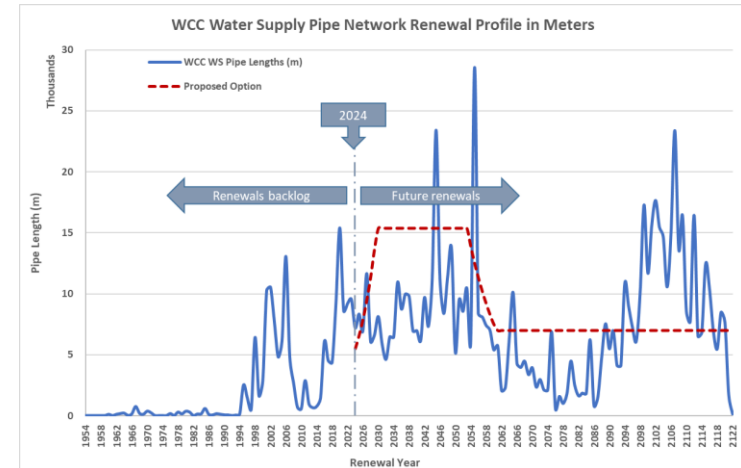
2024-34 investment need

- Continued investment in condition assessments and maintenance activities for the highest risk and priority very high and high criticality assets
- Significant and targeted replacement of the highest risk network assets using outcomes from the VHCA condition assessment programme and the latest condition and criticality assessments to minimise service failures
- Year-on-year increase in renewals to address the renewals backlog and support the water loss strategy to maintain existing service levels
- Significant investment is needed to address compliance, capacity, and emerging issues

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 are proposed 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 renewal 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
 - Pipe renewals are programmed for completion because we know the condition of the pipe or have a history of service failure. Renewal programming is based on our knowledge of condition – of which age is an important first consideration, but not the only consideration (see further information page 27 and 28 for condition images)



Proposed investment by strategic priority: Looking after existing infrastructure

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	Year 3 26/27	10-year total
Drinking Water	\$16.8M	\$14.3M	\$26.5M	\$165.5M
Stormwater	\$3.1M	\$3.1M	\$6.6M	\$163.9M
Wastewater	\$20.2M	\$27.4M	\$26.8M	\$226.8M
TOTAL	\$40.0M	\$44.8M	\$59.9M	\$556.2M

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

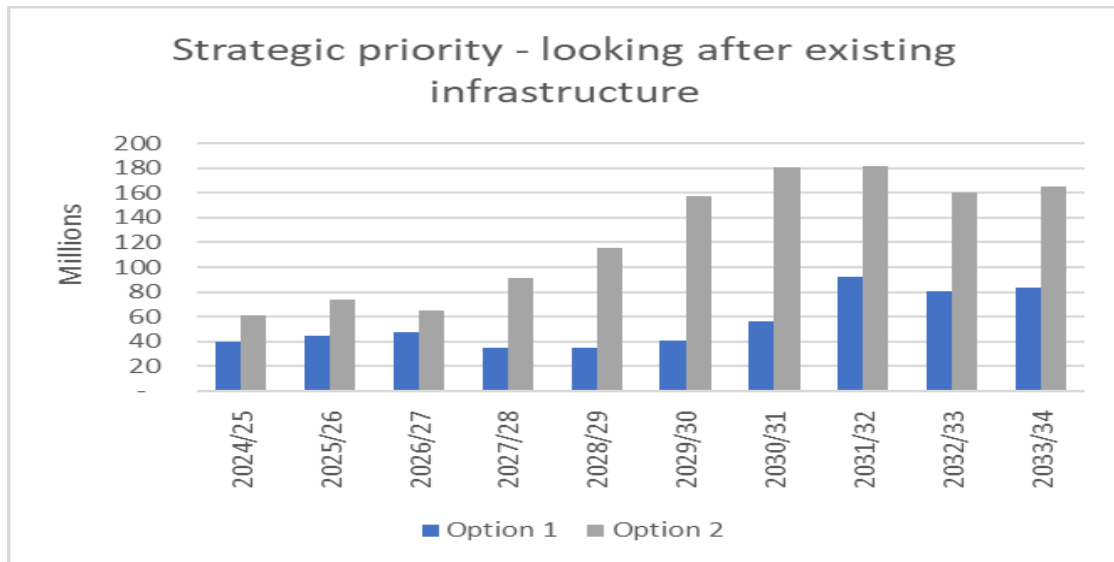
	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	\$26M	\$26M	\$30.4M	\$380.6M
Stormwater	\$4.8M	\$5.7M	\$6.9M	\$343.2M
Wastewater	\$29.9M	\$41.7M	\$27.8M	\$527.7M
TOTAL	\$60.6M	\$73.4M	\$65.1M	\$1,251.4M

Key projects: Option 1

- Complete CBD wastewater rising mains in Victoria St, Waring Taylor St and Kent Terrace
- Work on VHCA Eastern Suburbs trunk sewer (known to be in poor condition - including within airport) delayed for 3 years. No work commencing on design of replacement/refurbishment of main interceptor within Kilbirnie and western side of airport
- Critical watermains with known failure history in Broderick Rd, Kilbirnie Cres, Link Rd, and Wadestown Rd delayed until year 4 with subsequent impact on road reseal programmes
- Wastewater pump station renewals deferred with risks of pump failure and untreated sewage overflows to sea
- Funding targeted towards most urgent activity at Wastewater Treatment Plants

Option 2

- In addition to projects in Option 1, watermains in Broderick Rd, Kilbirnie Cres, Link Rd, and Wadestown Rd will be replaced in first 3 years
- All work in baseline completed and watermains above will be replaced within first 3 years
- Design work on Eastern Suburbs Trunk sewer and Kilbirnie interceptor commences but no construction until year 4 (completion by year 8)
- Moa Point and Western WWTP upgrades progressed.
- Increased quantity of network renewals achieved.



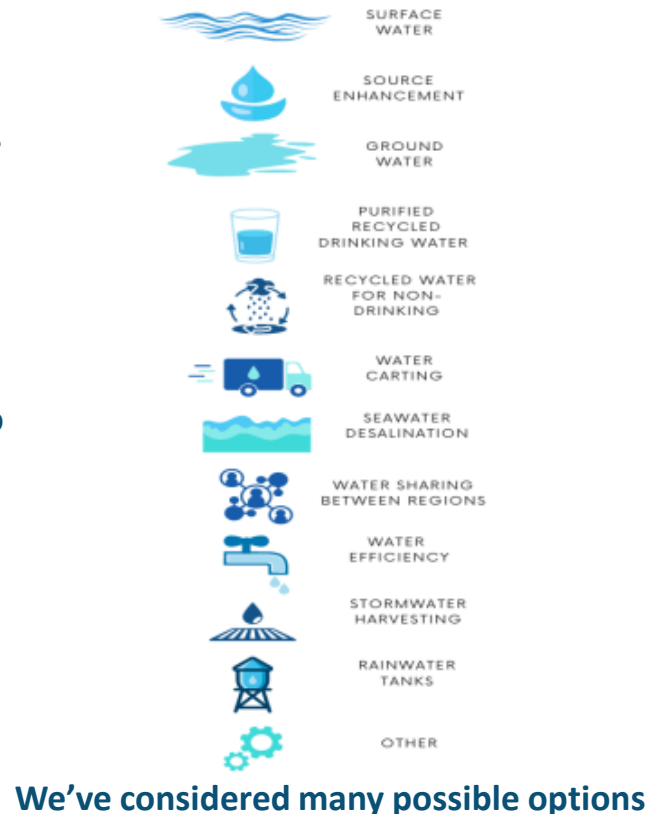
Metro Wellington is likely to face acute water shortages this summer and ongoing summers

Our communities want to have enough water when they need it, while Te Mana o te Wai is implemented by using it efficiently and leaving enough water in the rivers to sustain freshwater ecosystems.

What do we know?

- Water use in the Wellington metropolitan area continues to increase and is at an all-time high, primarily due to water loss across the network
- Approximately 31% of water being supplied to Wellington’s communities is being lost through leaks in the public network
- Our supply capacity is no longer sufficient to meet summer peak demand due to treatment and distribution constraints
- To implement Whaitua recommendations, less water will be available during summer

Our current approach is no longer working – doing just one thing is no longer an option. Action on all fronts is needed



2024-34 investment need

A collective regional response is required over the next 10 years, with all councils acting together to:



Keep the water in the pipes



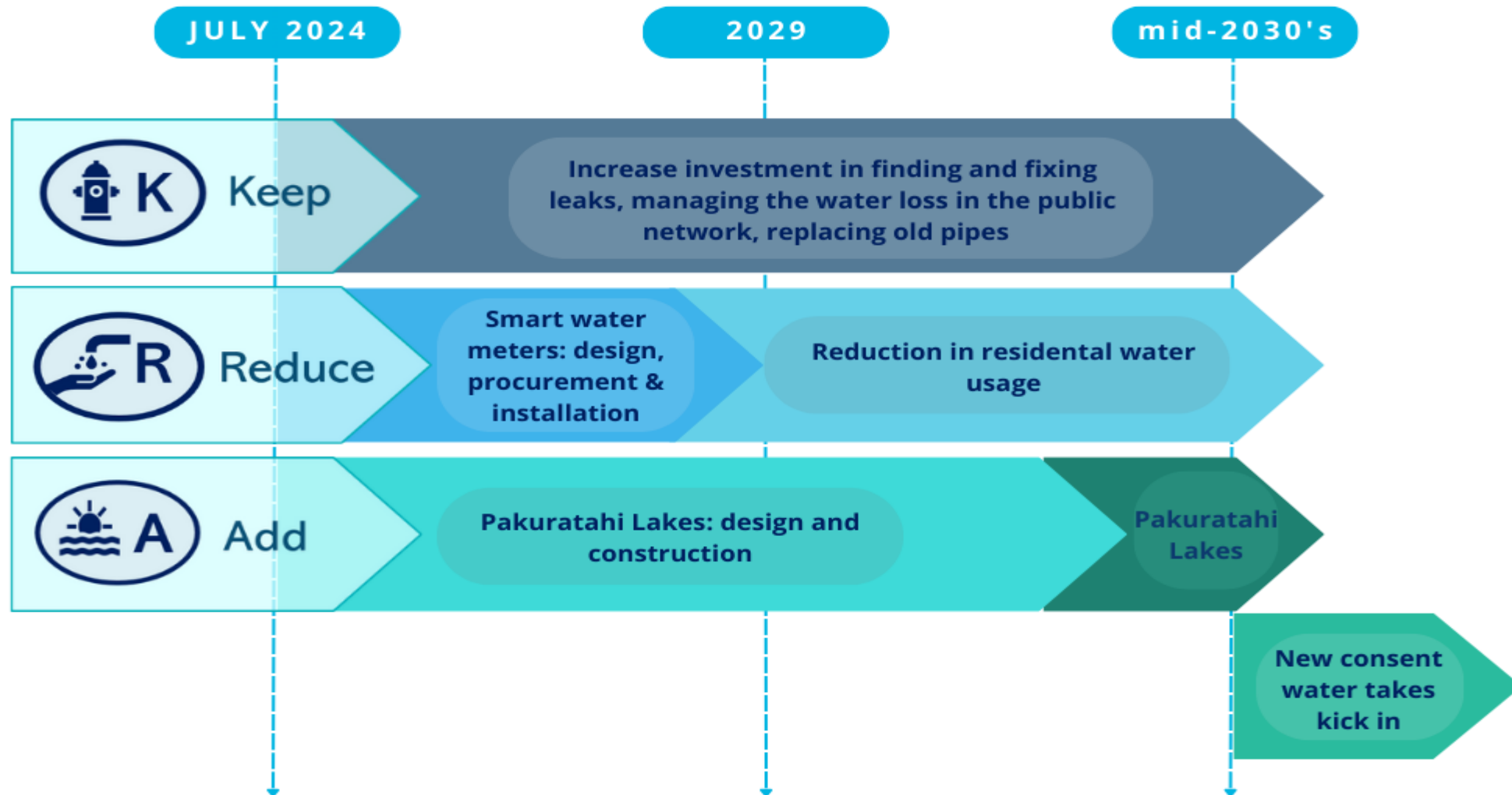
Reduce water demand through water metering



Add more storage lakes so we have increased back up supply in the summer

Wellington City Council has a significant role in this.

Phasing of recommended actions that need to start now



Proposed investment by strategic priority: Sustainable water supply and demand

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)

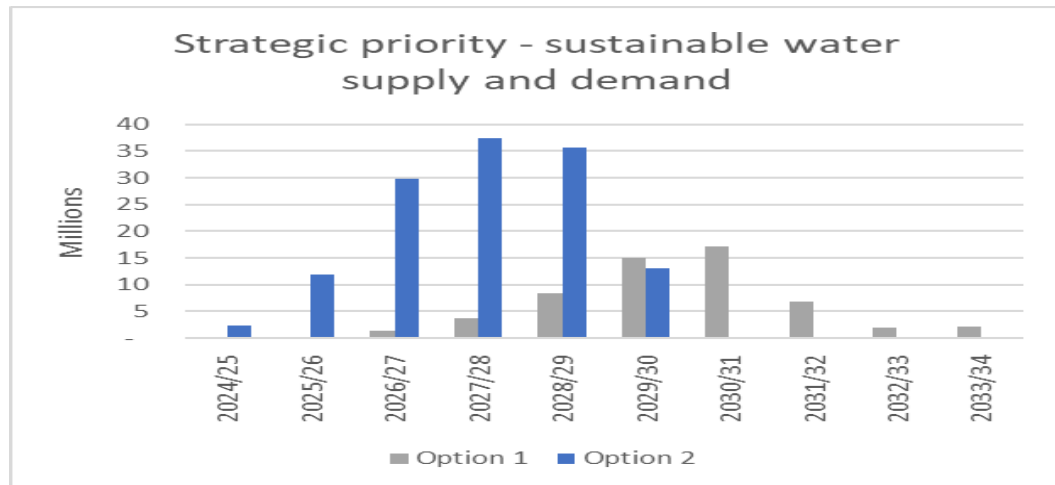
Little activity planned to sustainable water supply and demand

	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	\$0.008M	-	\$1.4M	\$56.8M
Stormwater	-	-	-	-
Wastewater	-	-	-	-
TOTAL	\$0.008M	-	\$1.4M	\$56.8M

Option 2: Maximum deliverable (\$m)

The water needs of communities are met while maintaining the health and mauri/mana of the source water. The primary activity here is installing water meters from 2026 onwards

	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	\$2.3M	\$11.8M	\$29.8M	\$130.8M
Stormwater	-	-	-	-
Wastewater	-	-	-	-
TOTAL	\$2.3M	\$11.8M	\$29.8M	\$130.8M



Key projects: Option 1

- Commercial water meter renewal

Option 2

- From 2024, Universal Residential Smart Metering (\$124m).

Urban growth is putting pressure on three waters services

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.

What do we know?

- By 2048, Wellington City's population is projected to grow by between 50,000 to 80,000 people
- Growth studies have been completed for priority areas of Johnsonville, Tawa, CBD and Newtown
- The majority of investment identified in these studies is to restore levels of service, rather than specifically enabling growth



Developers have a role to play in contributing to growth driven infrastructure needs

2024-34 investment need

- Significant three water investment will be required over the next 30 years to support the city's growth and bring existing networks to target levels of service
- Further growth studies are planned for the Southern, Western and remaining Northern catchments
- Assessments to understand the impacts of housing intensification in main urban centres and around transport corridors

Proposed investment by strategic priority: Supporting a growing population



The desired state is where growth can be achieved while ensuring target levels of service are met or exceeded

Option 1: Baseline (\$m)

Minimal provision for growth projects

	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	-	\$4.2M	\$3.6M	\$43.0M
Stormwater	-	-	\$0.08M	\$0.5M
Wastewater	\$4.2M	\$0.04M	\$3.5M	\$23.0M
TOTAL	\$4.2M	\$4.2M	\$7.1M	\$66.5M

Option 2: Maximum deliverable (\$m)

Significant investment in key infrastructure that supports growth in Wellington

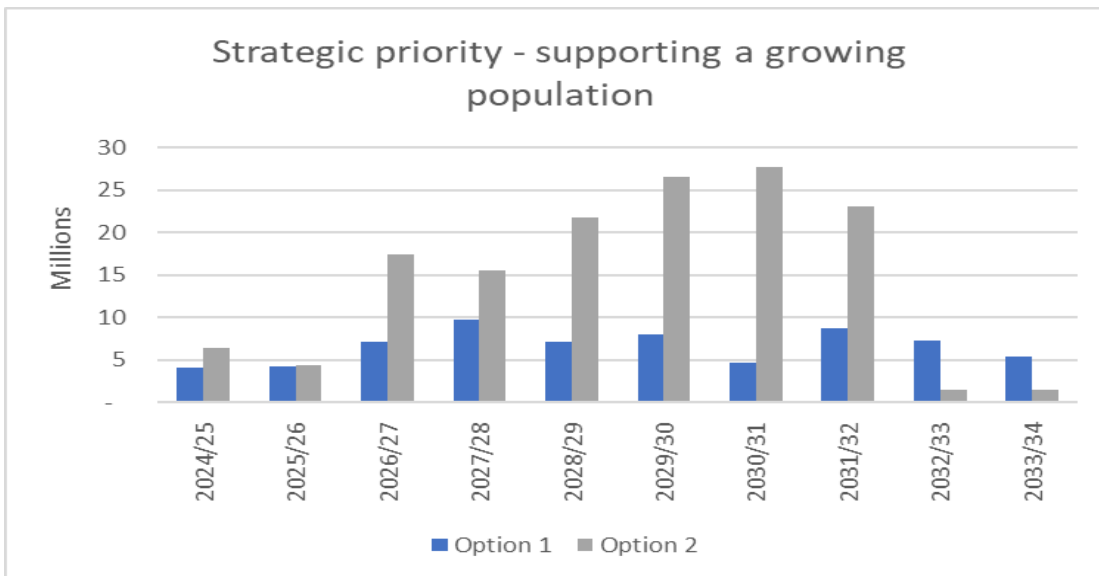
	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	-	-	\$9.4M	\$89.2M
Stormwater	-	-	-	\$0.9M
Wastewater	\$6.4M	\$4.4M	\$8M	\$55.8M
TOTAL	\$6.4M	\$4.4M	\$17.6M	\$145.9M

Key projects: Option 1

- Note that growth was excluded in the 21-31 LTP while growth studies were completed
- Drinking water, wastewater and stormwater reactive development projects
- Water supply Zone Management Planning
- Miramar stormwater pump station
- Central Wellington Wastewater Storage

Option 2

- Taranaki WW pipes upgrade
- Wakefield WW rising mains
- Aro (Moe-i-te-ra) and Bell Road Reservoirs including Inlet Outlet Mains
- Water Supply upgrades



The quality of water in the environment must be improved

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.

What do we know?

- Leaking, blocked or directly discharging stormwater and wastewater networks return unsafe, contaminated water to the environment
- Mana whenua iwi and our communities want our fresh and coastal waters to be healthy and clean
- The Government has put in place regulation that puts the health and wellbeing of water first, with Te Mana o te Wai at the heart of water management
- Global Stormwater Consent and Wastewater Network Overflow Consent have been lodged



Objective to improve waterway and ocean health

2024-34 investment need

- We need to change the way we manage stormwater and wastewater networks to reduce the frequency of wastewater overflows and reduce contaminants in stormwater entering the environment
- Improving the networks to support water quality targets will take decades and significant investment
- Ongoing investment to progressively implement the consents through activity such as:
 - source control and constructed wetlands for stormwater contaminants, and
 - inflow and infiltration programmes, storage tank, pump station and pipe upgrades, and treatment plant improvements for wastewater

Proposed investment by strategic priority: Improving environmental water quality

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)

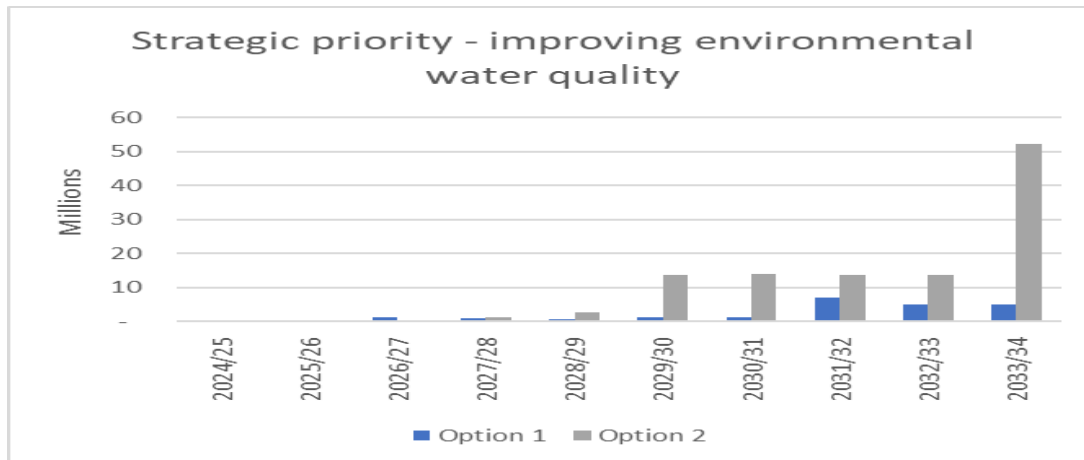
Provision for minimum level of activities to support improving environmental water quality.

	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	-	-	-	-
Stormwater	-	-	-	\$1.0M
Wastewater	-	-	1.3M	\$21.6M
TOTAL	-	-	\$1.3M	\$22.6M

Option 2: Maximum deliverable (\$m)

Major projects aimed at improving environmental water quality. Note some activities delivering improved environmental water outcomes covered through the Moa Point WWTP upgrades

	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	-	-	-	-
Stormwater	-	-	-	\$6.5M
Wastewater	-	-	\$0.4M	\$105.2M
TOTAL	-	-	\$0.4M	\$111.7M



Key projects: Option 1

Limited funding focused on wastewater overflow and stormwater quality in later years

Key projects: Option 2

- Removal of constructed overflows (from 28/29)
- Stormwater Subcatchment Management Plan associated with discharge consent deferred to 27/28
- Wastewater Overflow Subcatchment Reduction Plan associated with wastewater network overflow consent deferred to 27/28

Projects currently not prioritised within 24-34 LTP / risks

Insufficient funding to meet consent requirements resulting in consent breaches
No funding to engage meaningfully with Mana Whenua

Breach of conditions when granted due to deferral and inability to deliver against conditions
Stormwater activities not prioritised.
Some activities required

The impacts of natural hazards and climate change are becoming more prominent

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.

What do we know?

- Levels of flood protection are highly variable across the region, and parts of Wellington City are subject to flooding
- Council has acknowledged there is a climate emergency and signed up to Net Carbon Zero by 2050
- Wellington City contributes around 40% of Wellington Water's operational inventory carbon emissions with most of these coming from the Moa Point, Karori (Western) and Porirua Wastewater Treatment Plants
- There are opportunities to reduce emissions when renewing assets



Community water stations are part of ensuring a resilient water network

2024-34 investment need

- To ensure 10-year level of service against flooding risk is achieved, continued investment in initiatives to address existing flooding issues in Wellington is required
- Investment is needed for both immediate flood protection and long-term climate resilience
- Continue to investigate opportunities to reduce carbon emissions from assets, particularly at the Moa Point, Karori (Western) and Porirua Wastewater Treatment Plants

Increasing resilience to natural hazards and the impacts of climate change

The desired state is resilient infrastructure that provides essential water services safely during an emergency event.

Option 1: Baseline (\$m)

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

	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	-	-	\$0.9M	\$6.8M
Stormwater	\$0.0004M	\$0.0005M	\$1.5M	\$20.0M
Wastewater	-	-	\$0.01M	\$0.06M
TOTAL	\$0.0004M	\$0.0005M	\$2.5M	\$26.8M

Option 2: Maximum deliverable (\$m)

Activities included aimed at improving network resilience

	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Drinking Water	-	-	\$1.8M	\$15.0M
Stormwater	-	-	\$1.4M	\$106.2M
Wastewater	-	-	-	\$0.1M
TOTAL	-	-	\$3.2M	\$121.3M

Key projects for delivery: Option 1

- Stormwater network renewals

Option 2

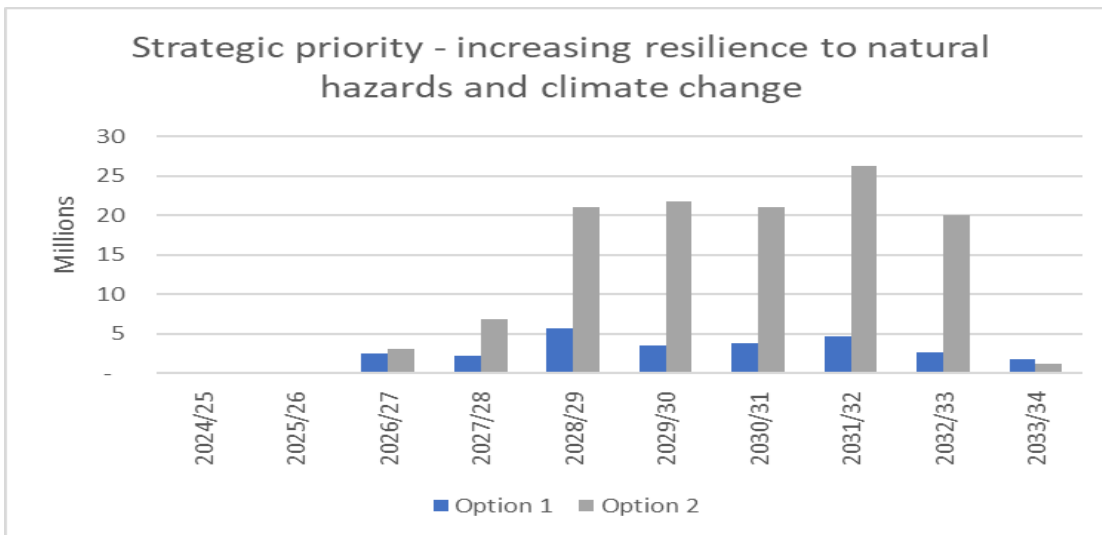
- Wrights Hill, Grenada North, Ngaio reservoir seismic improvements from 2026
- Stormwater (Tawa) and flooding resilience (Hataitai, Lyall Bay and Kilbernie) upgrades
- Carbon Modelling

Projects currently not prioritised within 24-34 LTP / risks

Projects to address the impacts of climate change and flood risk not delivered

- Stormwater model build and mapping
- Stormwater control system upgrades

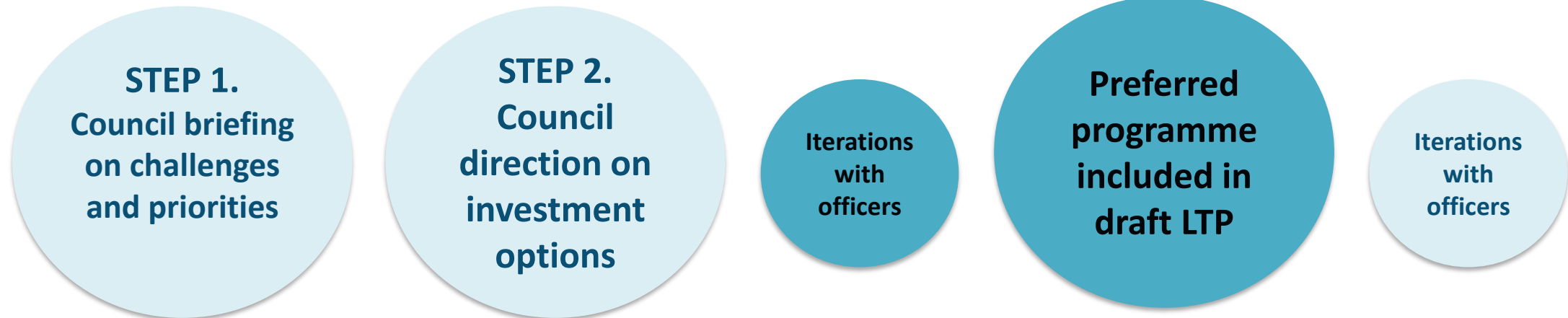
A number of projects to address flooding have been deferred more than five years to start at the end of the LTP period.



Next steps

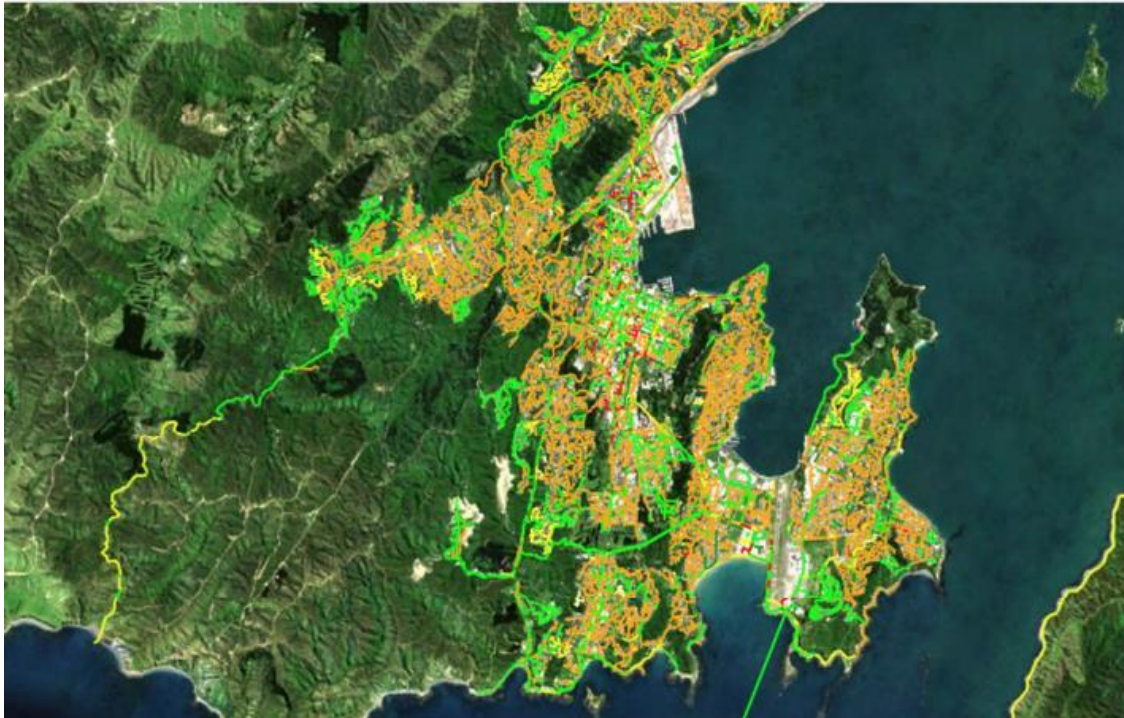
The process from here

November 2023



Attachments and further information

Condition Maps – Wastewater



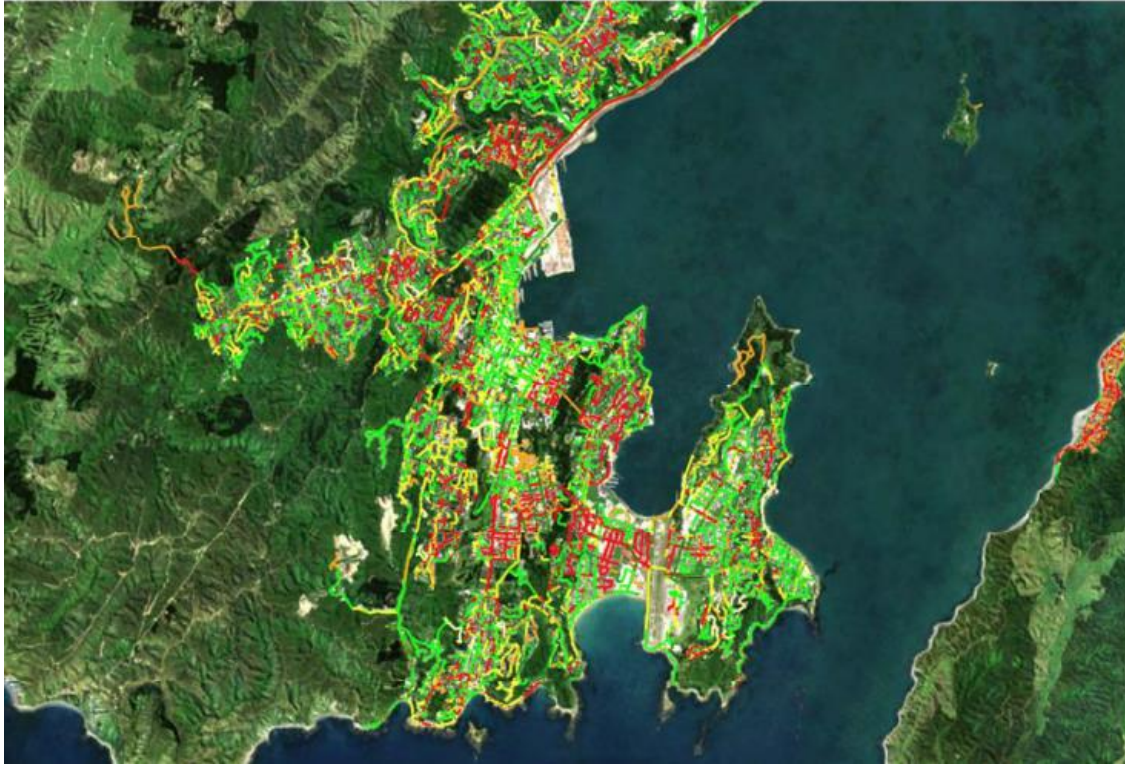
Wellington Central and South: Wastewater Condition



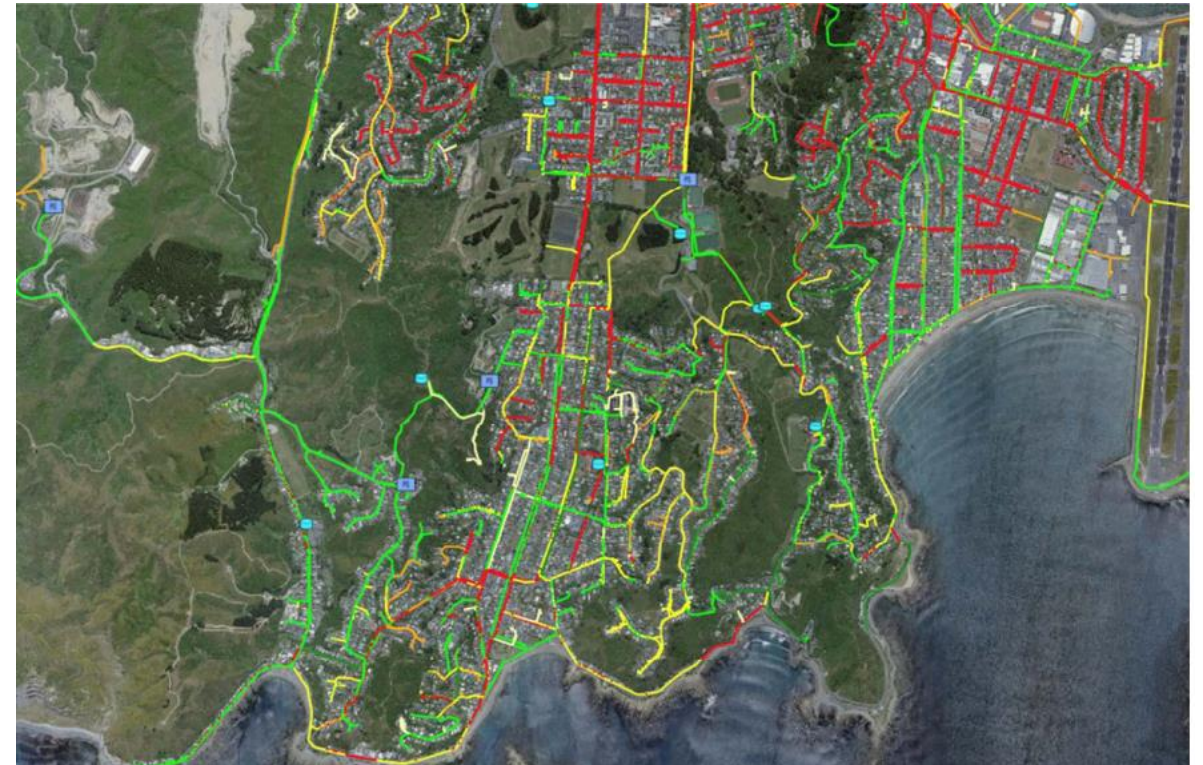
Wellington Central North and West: Wastewater Condition

- Condition grades
1. dark green (very good)
 2. green (good)
 3. yellow (moderate)
 4. orange (poor)
 5. red (very poor)

Condition Maps – Water Supply



Wellington Central and South: Water Supply Condition



Wellington Central South and West: Water Supply Condition

Condition grades

1. dark green (very good)
2. green (good)
3. yellow (moderate)
4. orange (poor)
5. red (very poor)