



Three Waters Asset Management approach and LTP development

15 December 2020

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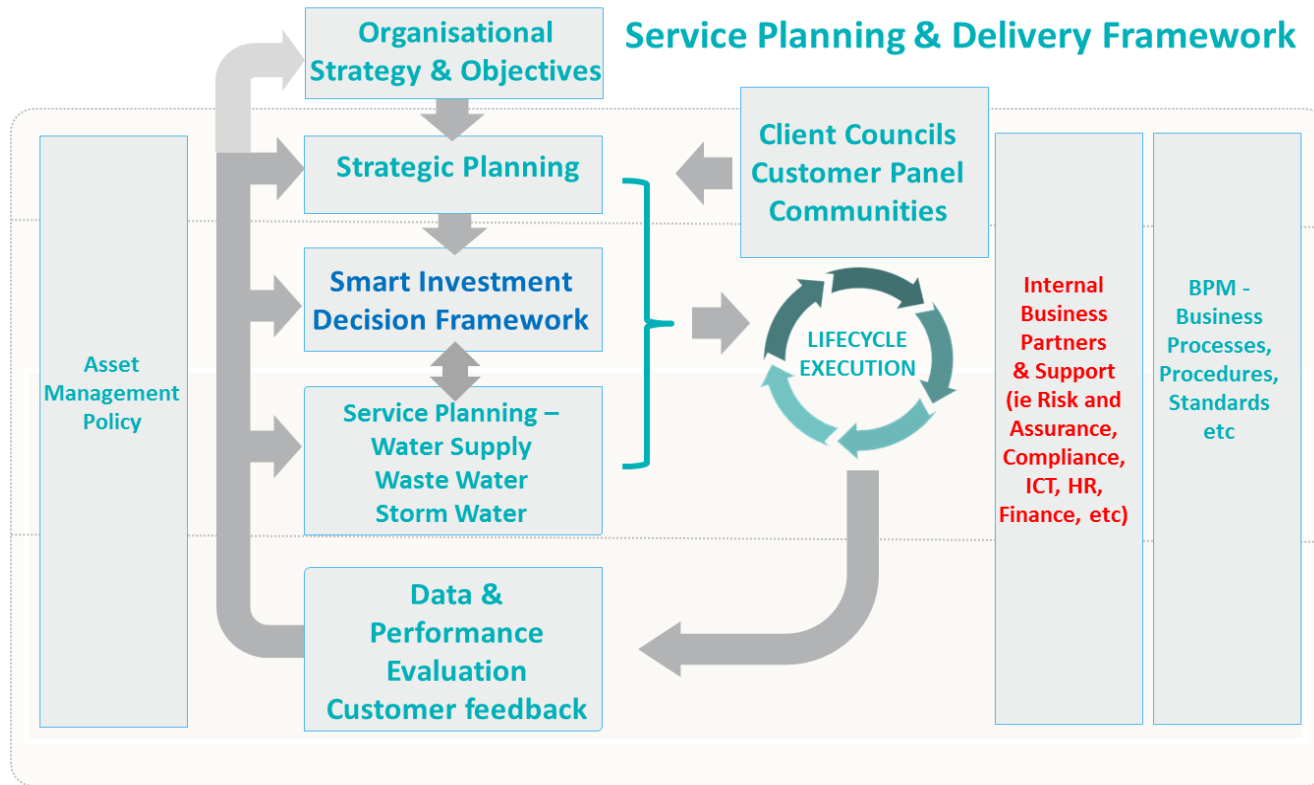


Our water, our future.

Purpose

- To outline the Wellington Water asset management approach for investment planning
- Demonstrate how this approach is used to advance the regions strategic priorities
- Describe how the LTP investment programme was developed

Asset Management Framework



An asset management system is a set of tools, including an Asset Management Policy, plans, business processes and information systems, which are integrated to give assurance that best value possible is realised from council assets, and asset management activities will be delivered.

Wellington Water is working towards being ISO55000 (Asset Management) certified by 2024.



Regional priorities for three waters investment



Looking after existing infrastructure

Looking after existing assets is foundational to a sound risk management approach. It reduces the risk of surprises that usually cost more, and have greater negative effects, than planned work does and emits more carbon.

Growth

Growth is inevitable and must be managed in a way that ensures it doesn't add to existing challenges for the three waters network.

Reducing water consumption

The other priorities are system wide issues that need addressing over the next 30 year:

Improving environmental water quality

- The region is near capacity for water supply
- Communities expect better environmental water quality than we have now
- Carbon emissions are a key contributor to climate change

Reducing carbon emissions

Localised issues

Individual activities associated with localised risks are still considered on a case by case basis

Linkage to WCC outcomes framework

- Shareholding councils have agreed the regional outcomes and strategic priorities for Wellington Water
- Although Wellington Water has a regional strategic framework the achievement of this supports the outcomes of WCC's framework
- Providing safe and reliable three waters services contributes to WCC being able to achieve the following community outcomes;
 - A sustainable, natural eco city
 - A people friendly, compact and accessible capital city
 - An innovative, inclusive quirky city
 - A dynamic and sustainable economy

2021-31 LTP Draft Outcomes Framework

Absolutely Positively
Wellington City Council
Me Heke Ki Pōneke



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LTP programme development process



Strategic linkage

- What outcome are to be achieved or what risks need to be managed
- What evidence is there to support investment need



Data collection

- One on one data collection process with business owners to determine activities and programmes needed in each investment area, this includes projects to collect more information if needed or develop options.
- Development of an unconstrained programme over a 30 year time horizon



Development of investment options

- Framework for assessing relative priority of activities and programmes
- Determine the priority of each activity
- Allows the development of scenarios to inform investment advice to Councils
- Allows informed decisions, balancing investment across multiple outcomes by understanding the benefits/risks associated with each decision.



Programme for inclusion in the LTP

- Consultation with council to confirm final programme for inclusion in the LTP based on financial constraints
- This budget is included in the A3 AMP summary documents and Regional Service Plan
- Ongoing risks are documented

Investing in existing infrastructure

- Investment is needed to operate, maintain and renew infrastructure to ensure the community is provided a safe and reliable three water services.
- If investment is insufficient;
 - Renewal backlog increases raising the risk of failure - between 50%-60% of three waters assets are due to be replaced in the next 30 years (based on age)
 - There is a compounding decrease in service levels
 - Unplanned service disruption increase in frequency
 - Potential for high criticality asset failure increases
 - Increased operational response and corresponding compounding costs
 - Significant modification required for existing performance measures as funding does not enable them to be met

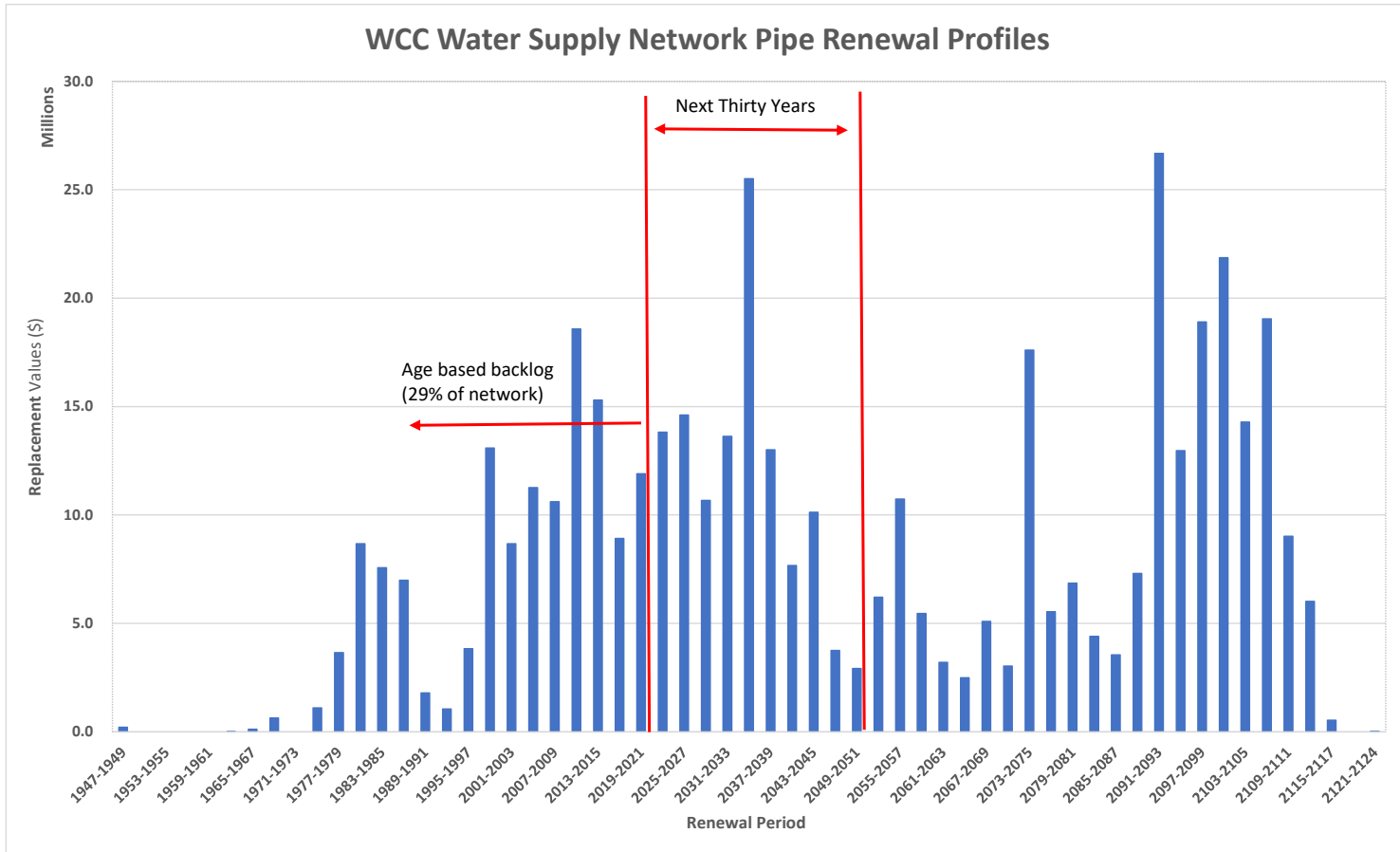
Looking after existing
infrastructure

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The Renewals Backlog Challenge



This graph shows the pending investment and backlog investment for the council’s water network based on the age profile of the pipes (this data only relates to pipes not pump stations and reservoirs):



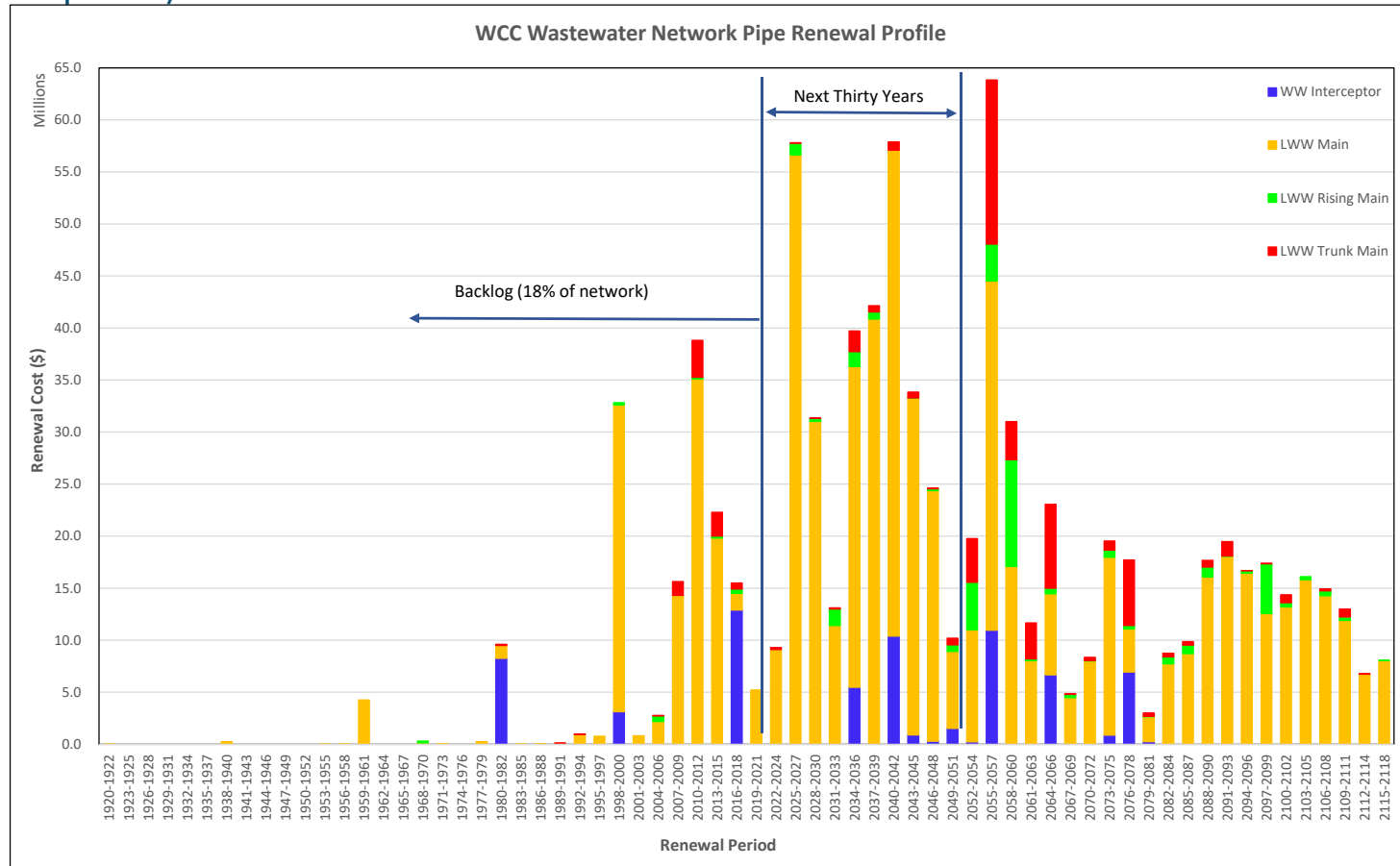
Looking after existing infrastructure

Our water, our future.

The Renewals Backlog Challenge



This graph shows the pending investment and backlog investment for the council’s wastewater network based on the age profile of the pipes (this data only relates to pipes not pump stations and treatment plants):



Looking after existing infrastructure

Investing in existing infrastructure – as reflected in LTP advice



Operational Investment;

- Increase investment in condition assessment starting with the highest criticality assets (kick start through additional funding in 20/21 and through stimulus funding).
- Work towards more planned maintenance to reduced reactive maintenance over time
- Targeted maintenance based on criticality of service
- Increase data integrity work to improve decision making
- Increased asset management maturity

Capital Investment;

- Prioritisation of renewals based on criticality and evidence (from operational investment in condition assessment and operational performance). This is intended to avoid the failure of critical assets but will mean low criticality assets (e.g. a water pipe servicing a cul de sac) could fail prior to being replaced.
- When assets are replaced there will be multiple benefits that address other priority areas e.g. resilience, reduction in water leaks, reduced inflow and infiltration.

Looking after existing infrastructure

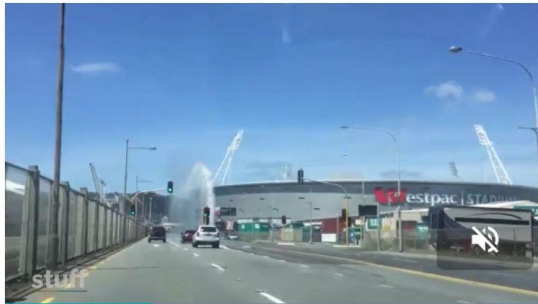
Our water, our future.

Ongoing risks that need to be managed

- The renewal backlog will increase
- Asset failures will not be eliminated
- Increase in reactive failure risk and unplanned operational expenditure
- Customer satisfaction will be affected
- Compliance with existing and future standards are at risk

Wellington water pipes leaking a million litres a day since November earthquake

Ged Cann · 19:05, Mar 12 2017



A burst water pipe erupts near Westpac Stadium in Wellington on Boxing Day 2016.

Earthquake-damaged pipes in Wellington's central business district are leaking an estimated one million litres of water every day, and have been since November.

Wellington Water infrastructure failures place staff numbers under the pump

Amber-Leigh Woolf · 18:11, Jan 24 2020



\$1 million to transport sludge

Tankers will be on the streets for about five weeks taking sludge from Moe Point to the Southern Landfill. ...

stuff

Looking after existing
infrastructure

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Planning for Growth

Draft Spatial Plan for Wellington City

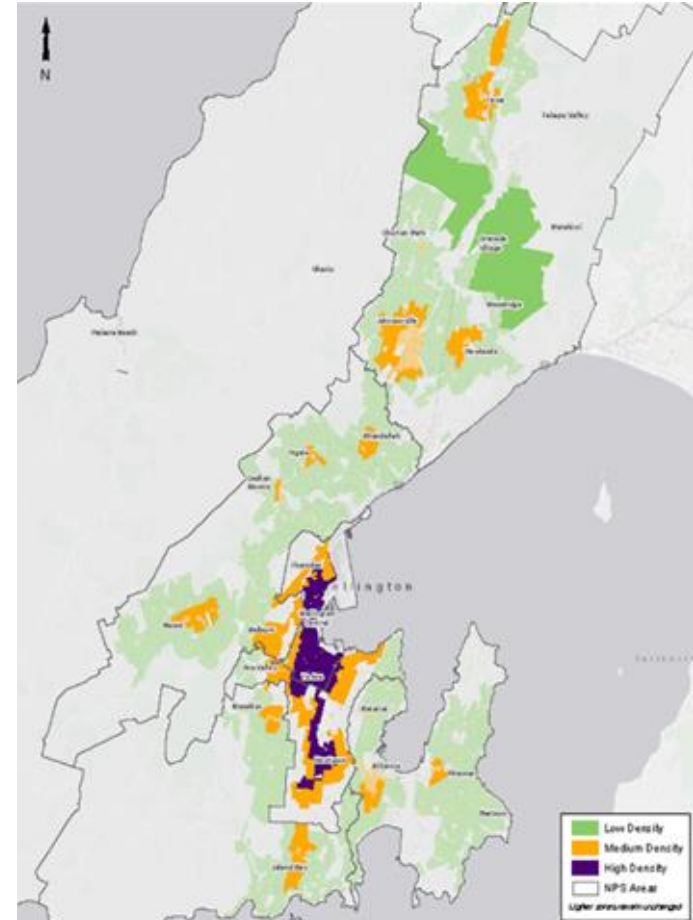


**Forecast *25% - *40% population
growth over next 30 years**

(* From WCC's Urban Growth Plan 2014-2043
and development of the Spatial Plan)

To decide on the best way to accommodate this growth Wellington Water have assessed the three water implications of the spatial plan

Initial growth planning completed to date across the city has identified capacity constraints across the three water networks for a multiple number of growth cells.



Growth

Our water, our future.

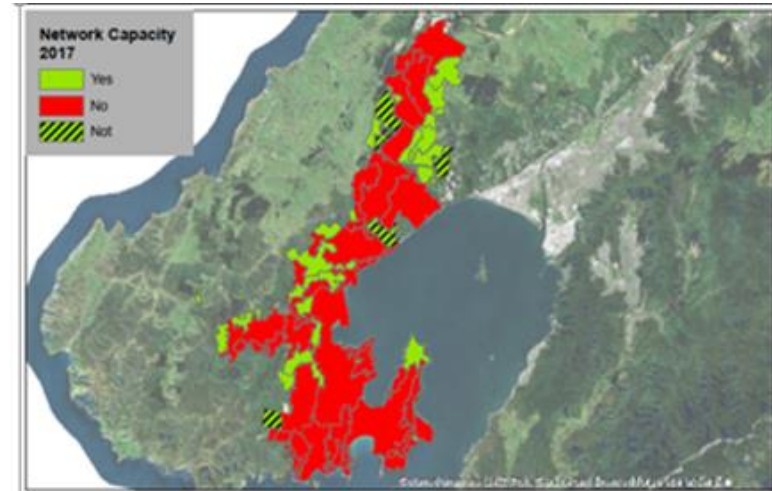
Growth is coming; but it cannot be at the expense of the environment

For the next 10 years council has prioritised investment for growth in the following areas;

- intensification in the CBD and
- alongside known transport routes
- responding to existing constraints (due to impacts of expected growth)

This primarily involves investment in network storage and upgrade for both the water supply and wastewater services.

Further investigation is also needed to strategically plan for growth and understand investment requirements and phasing.



Water Supply networks at or approaching capacity now

Reducing our water consumption - the need for investment

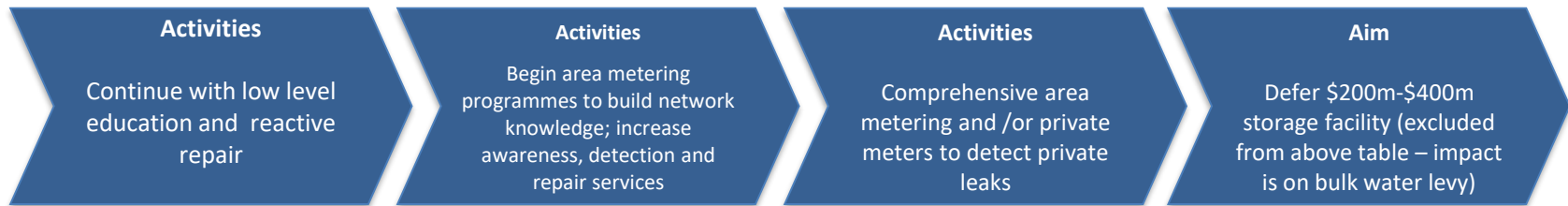
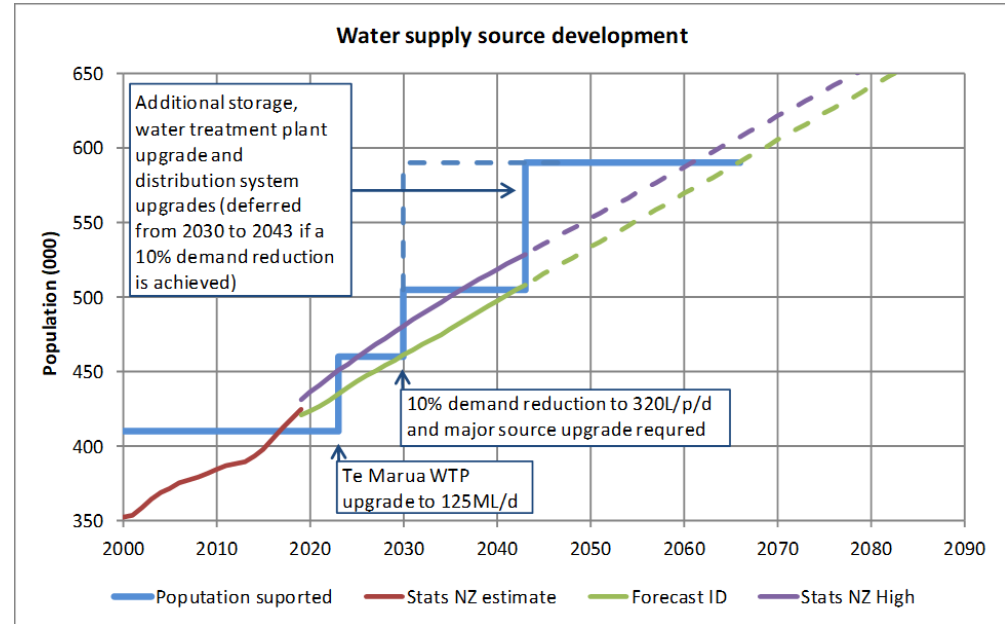


After a period of declining water consumption, demand is again on the rise. Regionally, we're close to full allocation of current drinking water supplies.

There is high levels of leaks – but not great information on where they're occurring, creating a highly reactive and less efficient state of network management. More meters – any meters – will give us better information on usage.

The regional policy position is to “conserve” water, not build new supplies. Investment is needed to reducing both network and private leaks.

The risk of doing too little is increased service interruptions (watering restrictions) and the cost of a new facility is brought forward.



Reducing water consumption

Investing in improving environmental water quality



Community expectations supported by national standards are increasing pressure on city councils to stop urban water pollution.

Urban streams are polluted by wastewater leaks from both public and private pipes, and by pollutants entering stormwater network.

It has taken a long time for streams to degrade and will take a long time to restore them. The target of C level water quality for urban streams will take investment in both public and private pipes.

Further work is required in understanding the problem, to identifying solutions and developing work programmes for consideration in future LTPs and annual plans.

Improving environment water quality is an important lens (alongside asset criticality) in the prioritisation of wastewater pipe renewals.



Improving environmental water quality

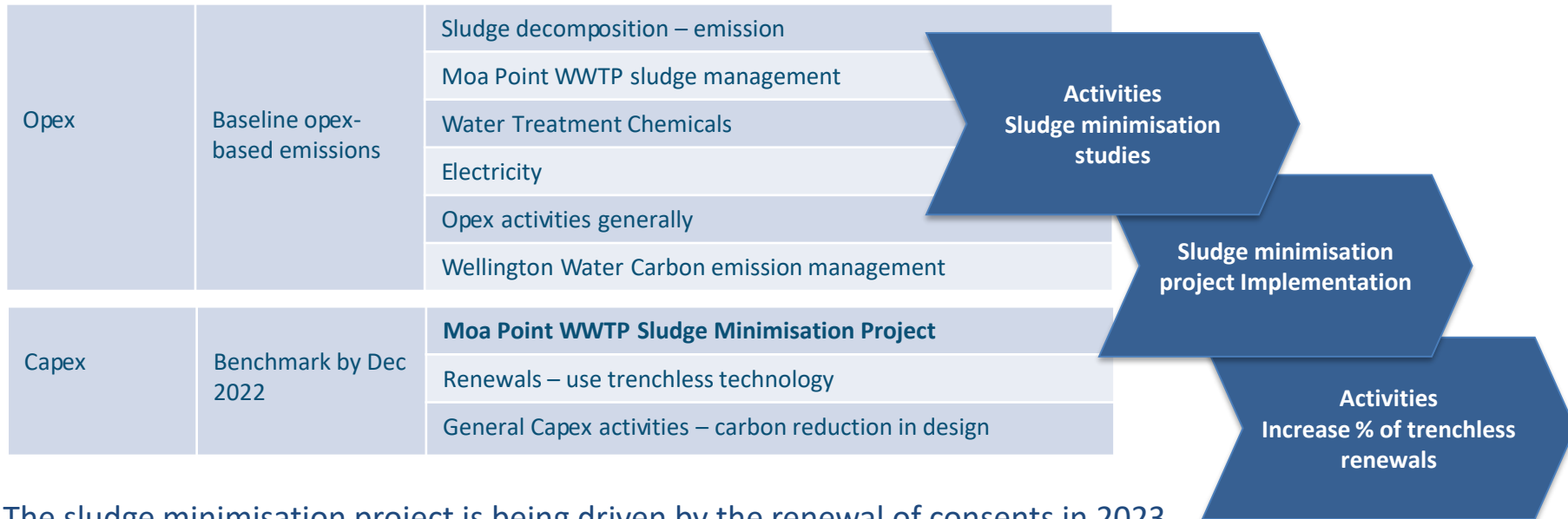
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Investing in reducing carbon emissions



Driving down carbon emissions usually comes with reducing cost. However, there are a number of activities to undertake first, to ensure investment is aligned.

Activities identified to reduce carbon emissions in the three waters include:















The sludge minimisation project is being driven by the renewal of consents in 2023 (mixing ratios) and the need to decouple sludge treatment from the Southern Landfill.

A business case is currently being developed that compares the preferred option against the next two best options, with the final business plan due by the end of March 2021

Reducing carbon emissions

Addressing localised risks

- There are areas of risk that are carried outside of the top five regional priorities, these include;
 - Flood mitigation
 - Resilience
 - Firefighting water supply improvements
- There will be some investment in these areas depending on the risk that a specific project is addressing
- For those not there is not sufficient funding the risks will remain
- Risk reduction can be partially achieved through the renewal of assets

Safe and healthy water	Respectful of the environment	Resilient networks support our economy
 <p>We provide safe and healthy drinking water</p>	 <p>We manage the use of resources in a sustainable way</p>	 <p>We minimise the impact of flooding on people's lives and proactively plan for the impacts of climate change</p>
 <p>We operate and manage assets that are safe for our suppliers, people and customers</p>	 <p>We will enhance the health of our waterways and the ocean</p>	 <p>We provide three water networks that are resilient to shocks and stresses</p>
 <p>We provide an appropriate region-wide fire-fighting water supply to maintain public safety</p>	 <p>We influence people's behaviour so they are respectful of the environment</p>	 <p>We plan to meet future growth and manage demand</p>
 <p>We minimise public health risks associated with wastewater and stormwater</p>	 <p>We ensure the impact of water services is for the good of the natural and built environment</p>	 <p>We provide reliable services to customers</p>

Regional Service Plan – Parts in context



Regional Investment Statement

- Strategic view of the emerging three waters challenges that we face in the Wellington region over the next 30 years.

Part 1: SAMP

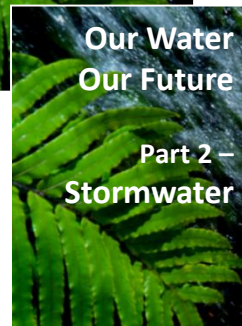
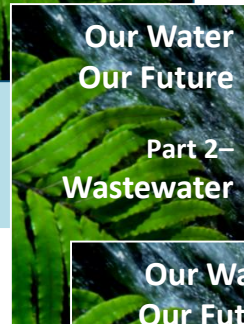
- Strategic direction
- How we do “asset management”
- Policies and process
- Strategic info across 3 waters
- Improvement plan

Parts 2: Network Plans

- Network specific plans
- Regional view of information you would expect to find in traditional “Asset Management Plans”

Parts 3: Council Investment Plans

- Links to council strategic direction
- Council specific issues, options and risks
- Performance overview
- Budgets by service goals and priority area
- Budgets by LGA categories (Renewals, Growth, LoS)



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Any questions?

Appendices

AMP Summary documents



Drinking Water - Summary AMP

Date: 10 December 2020

DRAFT

Key Information

- The focus of our three waters strategy is looking after existing assets. Asset assets (pipes, pump stations, treatment plants) get older, they become more vulnerable to failing. For example, with water pipes collapsing and causing flooding, sewer main bursting and causing leaks. These events can have a negative impact on both the community and the environment. Our approach focuses on long term investment of the asset, planning for renewal or a plan that starts asset deterioration over time or the "Backlog of the asset".
- Increased open spending is needed to be directed of reducing risk over time by funding preventative maintenance, data management and asset management performance that we cannot currently achieve. This will improve our planned network capacity value for money.

Summary of assets

The total replacement value of the Drinking Water assets is approximately \$1124 million per the September 2020 Valuation. This is made up of the following assets:



Asset quantities above are from Wellington Water records

Draft financial summary as at 10 Dec 2020



Levels of service

The following is the current list of performance measures as per the 2018 LTP. These will be reviewed as part of the 2021 LTP process to take into account the Government review of DIA measures, upcoming potential Three Waters reform and to ensure alignment with desired level of service and investment decision making.

Outcome	Service	Service Objective	Performance Measure	Annual Target	YTD Value	YTD Status
Safe and healthy water	Water Supply	To measure the quality of water supplied to residents	Compliance with Drinking Water Standards for NZ 2005 (revised 2008) (Part 4 bacterial compliance criteria)	100%	100%	🟢
		To achieve a high overall level of customer approval of the water service	Compliance with Drinking Water Standards for NZ 2005 (revised 2008) (Part 5 protocol compliance criteria) Number of complaints per 1000 connections about: a) drinking water clarity d) drinking water pressure or flow b) drinking water taste e) drinking water continuity of supply c) drinking water colour f) response to drinking water complaints Community satisfaction with water supply	<10 >90 %	12.8 Not Due	🟢 🟡
Responsible of the environment	Water Supply	To minimise demands on the region's water resources	Average drinking water consumption/resident/day	<165 L/p/d	164	🟢
		To minimise water loss from the network	Percentage of real water loss from networked reticulation system	<17 %	19%	🔴
Real time response to customer emergency	Water Supply	To provide a reliable water supply	Water supply interruptions (measured as customer hours)	<2	0.35	🟢
		Median response times	Median response times for: attendance for urgent callouts	<10 mins	144 mins	🔴
			Median response times for: resolution of urgent callouts	<4 hrs	18.5 hrs	🔴
			Median response times for: attendance for non-urgent callouts	<16 hrs	166 hrs	🔴
	Median response times for: resolution of non-urgent callouts	<5 days	9.92 days	🔴		

🟢 On Track/Achieved 🔴 Off Track/Not Achieved 🟡 Not Due/Not Applicable/Not Available 🟠 In Review

Key challenges / top priorities

- Looking after existing infrastructure:** This is foundational to a sound risk management approach. It reduces the risk of surprises that usually cost more, and have greater negative effects, than planned work does and emits more carbon.
- Growth:** Growth is inevitable and must be managed in a way that ensures it doesn't add to existing challenges for the three waters network.
- System wide issues that need addressing over the next 30 years:**
 - Reducing water consumption:** We're near capacity for water supply
 - Improving environmental water quality:** Society expects better water quality than we have now
 - Reducing carbon emissions:** Carbon emissions are a key contributor to climate change
- Localised issues:** Individual activities associated with localised risks are still considered on a case by case basis

Consequences

Our three waters networks are aging, and it's starting to show...

- Service requests are growing 10% annually
- Repair costs are also increasing - more work, more complex, more compliance
- The risk of asset failure increase day by day

This is taking place in the context of both national change...

- Higher standards for environmental water quality and drinking water extraction
- Drinking water regulation and compliance - Te mana Arowai Act
- Expectation that we reduce our contribution to carbon emissions

And local change...

- Increased customer expectations of service, performance and responsiveness
- A supply network that is nearing capacity for current levels of service
- A growing population (which only three years ago was static)

Decisions

We're entering a critical 30 year period that asks for tough decisions now. A step change is needed to make a difference. Trade-offs need to be made on where to invest. Investment options have been developed and Wellington Water engaged with Council to develop an optimised three water programme for your LTP by:

- Better understanding current council priorities and strategic direction
- Providing the logic for our recommended approach
- Discussing how these investment decisions affect Wellington City's broader objectives
- Confirming investment direction and settings for year 2021-31 LTP

AMP Summary documents



Date: 10 December 2020

Key challenges, and consequences on funding and LoS

Detailed investment needs have been identified through a rigorous planning framework. Under each strategically focussed "area of investment", we have identified the drivers, portfolios and sub-elements that individual activities belong to. Each of these has been prioritised using a common set of criteria and have formed the basis for three investment options as are summarised below. Improvement of performance and reduction of risk under each option assumes adoption of investment over the indicated timeframe. These three options have been presented to Council through a series of workshops. As at the time of writing, Council has chosen to progress an "Enhanced" option which is based on Option 1, modified to fund renewals at a reduced level based on the 2018 LTP.

Long term performance improvement Decreasing backlog / risk Increased compliance Demand and capacity optimised Capitalising gains	RISK LEVEL	Performance deterioration Growing backlog / risk Complexity at risk Extra capacity needed for high demand Limited capability
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Area of investment	Key service goals impacted	Option 1	Option 2	Option 3	If we meet our strategic goals T2030...	What we will do and how we will do it (based on chosen funding allocation)	Timeframe for investment	Residual risks of chosen funding allocation	Option 1 (modified)	Option 2	Option 3
Looking after existing Infrastructure – Renewals		All activities included			Network resilience continues to improve and customers receive agreed levels of service across all waters.	We will renew and upgrade the network, according to performance and criticality. Better data capture including an increase in condition assessments will give us more high quality information, and enable smarter, more effective investments.	Ongoing 30 year investment strategy to maintain reliable services	<ul style="list-style-type: none"> Increase the renewal backlog therefore increase risk of failure, compounding decrease in service levels and increased unplanned service disruption Potential for high criticality asset failure increases Increased operational response and corresponding compounding costs Funding does not enable existing performance measures to be met consistently 	➔	➔	➔
Looking after existing Infrastructure – Must do's		All activities included									
Reducing water consumption		Priorities 1 – 5	Priorities 1 – 5		Water isn't wasted and no new water source is needed. Customers and the network are more resilient in times of shortage.	We want to reduce total water usage by 40 litres per person per day. We will reduce leaks in the network. We will reduce network pressure, distribute district meters and other leakage technologies, educate and work with our customers to change their behaviour.	Required in the next 5-6 years but will be ongoing as growth progresses	<ul style="list-style-type: none"> There is a risk that there will be insufficient demand and leakage reduction to defer investment in new water infrastructure by GWLIC. Universal water metering funding has not been included in the funding allocation. 	➔	➔	➔
Improving environmental water quality		Priority 1 only	Priorities 1 – 3	Priorities 1 – 5	Water quality improves, "no swim" days reduce, Te Mana o te Wai is enhanced. Regulatory requirements are met.	N/A for drinking water	N/A for drinking water		➔	➔	➔
Reducing carbon emissions		Priority 1 only	Priorities 1 – 3	Priorities 1 – 5	Infrastructure and services adopt to the changing environment, and corresponding land use planning decisions. Carbon emission targets are met.	We will design and invest in reducing emissions for a carbon neutral future, while also reducing costs. We will complete risk and vulnerability assessments, support Councils with land use and planning, and community engagement.	NZ Zero Carbon Act requires to manage our climate risks over the next 30 years	<ul style="list-style-type: none"> Based on the current investment profile we will not meet the requirements for Zero carbon by 2050 Expectations of the community may not be met 	➔	➔	➔
Localised issues (eg: Resilience, Flooding & Firefighting)		Priority 1 only	Priorities 1 – 2	Priorities 1 – 3	In the event of a seismic event, 80% of customers can receive 80% of their normal supply within 30 days.	Assets that require strengthening have been sequenced based on priority and funding availability. We will continue to work with customers educating them on opportunities to improve household resilience.	The 80-30-30 strategy is an ongoing 30 year programme	<ul style="list-style-type: none"> Minimal investment is included means it will take longer to improve seismic strengthening especially for reservoir and pump station assets. 	➔	➔	➔
					Level of flood risk to homes and businesses in the region will be known and acceptable.	N/A for drinking water	N/A for drinking water				
Growth		Council-led			Growth is achieved at the agreed level of service, and existing levels of service do not deteriorate.	We need to ensure Council's LTP's include provisions for infrastructure to support growth. We will establish long term catchment plans and work with councils to change regional and local policies and plans.	Need to ensure service levels don't deteriorate over time as population increases (3 to 30 years)	<ul style="list-style-type: none"> Development occurs in areas where there is insufficient capacity or planning is not able to be completed 	Council-led decision		
Open	Across all service goals	Aligned to priorities above			We have a capable, adaptive and collaborative workforce using innovative practices and exchange of knowledge to drive optimal performance.	We will focus on growing our people and capability, partnering and collaborating well with others, getting better at demonstrating value for money and telling a better company performance story.	Building WWL capability over the next 5 years must be a priority		➔	➔	➔

AMP Summary documents



Wastewater - Summary AMP

Date: 30 December 2020

Key Information

- The focus of our three waters strategy is looking after existing assets. As our assets (pipes, pump stations, treatment plants) get older, they become more vulnerable to failing. For example, wastewater pipe collapses and cracks, sewers get their metal bursting and causing leaks. These events can have a negative impact on both the community and the environment. Our approach focuses on moving from replacement of the asset, planning for renewals or a pipe that starts start deterioration over time or the "blockade of the asset".
- Increased spend is needed to be able to reduce risk over time by finding preventive maintenance, data management and asset management performance that we cannot currently achieve. This will improve our planned renewals (paper) value for money.



Summary of assets

The total replacement value of the Wastewater is approximately \$1562 million per the September 2020 Valuation. This is made up of the following assets:



Asset quantities above are from Wellington Water records

Draft financial summary as at 10 Dec 2020



Note: Cost estimates for Level of Service projects are +/- 20%. Renewals profile excludes contingencies and risk (see cover)

Levels of service

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Outcome	Service	Service Objective	Performance Measure	Annual Target	YTD Value	YTD Status
Keep the city's environment safe	Wastewater	To maintain and promote appropriate standards of water quality and wastewater health in the city's coastal and river environments	The number of dry weather sewerage overflows from the Council's sewerage system expressed per 1000 sewerage connections to the sewerage system	0	0.47	🔴
		To comply with all relevant legislation	Compliance with resource consents for discharge from its wastewater system	0	0	🟢
Realise water services supporting our economy	Wastewater	Median response times	Attendance time: from the time that the Council receives notification to the time that service personnel reach the site Resolution time: from the time that the Council receives notification to the time that service personnel confirm resolution of the blockage or other fault	<+60 mins	140 mins	🔴
		Reliability of the network	Number of wastewater reticulation incidents per km of reticulation pipeline (blockages)	<+0.3	0.46	🟢
		To achieve a relatively high overall level of customer approval of the wastewater service	The total number of complaints received by the council about any of the following: sewage odour; sewage system blockages; sewage system faults; council's response to issues with its sewage system. Expressed per 1000 connections	<+0	17.2	🟢
		Customer satisfaction with wastewater service		>75 %	Not Due	🟡

🟢 On Track/Achieved 🔴 Off Track/Not Achieved 🟡 Not Due/Not Applicable/Not Available 🟣 Baseline

Key challenges / top priorities

Looking after existing infrastructure: This is foundational to a sound risk management approach. It reduces the risk of surprises that usually cost more, and have greater negative effects, than planned work down and emits more carbon.

Growth: Growth is inevitable and must be managed in a way that ensures it doesn't add to existing challenges for the three waters network.

System wide issues that need addressing over the next 30 years:

Reducing water consumption:
We're near capacity for water supply

Improving environmental water quality:
Society expects better water quality than we have now

Reducing carbon emissions:
Carbon emissions are a key contributor to climate change

Localized issues: Individual activities associated with localised risks are still considered on a case by case basis

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AMP Summary documents



Date: 10 December 2020 Wellington Water

Key challenges, and consequences on funding and LoS

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Long-term performance improvement Decreasing backlog / risk Improved compliance Demand and capacity optimised Capability grows	RISK LEVEL	Performance deterioration Growing backlog / risk Compliance at risk Extra capacity needed for high demand Limited capability
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Looking after existing infrastructure – Must do's									→	→	→
Reducing water consumption		Priorities 1 – 3	Priorities 1 – 5	Priorities 1 – 5	Water isn't wasted and no new water source is needed. Customers and the network are more resilient in times of shortage.	N/A for wastewater	N/A for wastewater		→	→	→
Improving environmental water quality		Priority 1 only	Priorities 1 – 3	Priorities 1 – 5	Water quality improves, "no swim" days reduce. Te Mana o te Wai is enhanced. Regulatory requirements are met.	We will renew failing assets that cause leaks and overflows. We need to adopt innovation for private and public networks, including the use of smart technology for network optimisation and mitigating environmental impacts.	National policies require us to significantly improve water quality over the next 30 years	<ul style="list-style-type: none"> Based on the current investment profile we will not meet the requirements for the NPS Fresh water by 2040 Expectations of the community may not be met 	→	→	→
Reducing carbon emissions		Priority 1 only	Priorities 1 – 3	Priorities 1 – 5	Infrastructure and services adopt to the changing environment, and corresponding land use planning decisions. Carbon emission targets are met.	We will design and invest in reducing emissions for a carbon neutral future, while also reducing costs. We will complete risk and vulnerability assessments, support Councils with land use and planning, and community engagement. The construction of the Sludge minimisation facility will reduce carbon emissions.	NZ Zero Carbon Act requires to manage our climate risks over the next 30 years	<ul style="list-style-type: none"> Based on the current investment profile we will not meet the requirements for Zero carbon by 2050 Expectations of the community may not be met 	→	→	→
Localized issues (eg; Resilience, Flooding & firefighting)		Priority 1 only	Priorities 1 – 2	Priorities 1 – 3	In the event of a seismic event, 80% of customers can receive 80% of their normal supply within 30 days. Level of flood risk to homes and businesses in the region will be known and acceptable.	Assets that require strengthening have been sequenced based on priority. We will continue to work with customers educating them on opportunities to improve household resilience.	The 80-30-80 strategy is an ongoing 30 year programme	<ul style="list-style-type: none"> Minimal investment is included means it will take longer to improve seismic strengthening especially for pump station assets. 	→	→	→
Growth		Council-led			Growth is achieved at the agreed level of service, and existing levels of service do not deteriorate.	We need to ensure Council's LTP's include provisions for infrastructure to support growth. We will establish long term catchment plans and work with councils to change regional and local policies and plans.	Need to ensure service levels don't deteriorate over time as population increases (3 to 30 years)	<ul style="list-style-type: none"> Development occurs in areas where there is insufficient capacity or planning is not able to be completed 	Council-led decision		
Open	Across all service goals	Aligned to priorities above			We have a capable, adaptive and collaborative workforce using innovative practices and exchange of knowledge to drive optimal performance.	We will focus on growing our people and capability, partnering and collaborating well with others, getting better at demonstrating value for money and telling a better company performance story.	Building WWL capability over the next 5 years must be a priority		→	→	→



AMP Summary documents



Key Information

- The focus of our three waters strategy is looking after our assets. As our assets (pipes, pump stations, treatment plants) get older, they become more susceptible to failing, for example, wastewater pipes collapsing and causing overflows, or water pipes bursting and causing leaks. These events can have a negative impact on both the community and the environment. Our approach focuses on long term stewardship of the asset, planning for renewal at a point that assets don't deteriorate over time or the "life cycle of the asset"
- Increased open spending is needed to be directed towards reducing risk over time by funding preventative maintenance, data management and asset management performance that we cannot currently achieve. This will improve our planned revenue (copex) value for money.



Summary of assets

The total replacement value of the Stormwater assets is approximately \$1175 million per the September 2020 Valuation. This is made up of the following assets:



Asset quantities above are from Wellington Water records.

Draft financial summary as at 10 Dec 2020



Note: Cost estimates for level of service projects are +/- 20%. Renewals profile excludes contingencies and risk (see over)

Levels of service

The following is the current list of performance measures as per the 2018 LTP. These will be reviewed as part of the 2021 LTP process to take into account the Government review of DIA measures, upcoming potential Three Waters reform and to ensure alignment with desired level of service and investment decision making.

Outcome	Service	Service Objective	Performance Measure	Annual Target	YTD Value	YTD Status
Responsibility of the environment	Stormwater	To maintain and promote appropriate standards of water quality and wastewater health in the district's coastal and river environments	Percentage of days during the bathing season (from 1 November to 31 March) that the monitored beaches are suitable for recreational use Percentage of monitored fresh water sites that have a rolling twelve month median value for E.coli (dry weather sampled) that do not exceed 1000 cfu/100ml	>90 % >90 %	81% 72%	🔴 🔴
		To meet all resource consenting requirements	Compliance with resource consents for discharge from its stormwater system	0	0	🟢
Not been successfully reported on at council	Stormwater	Median response times	Median response time to attend a flooding event (measured from the time that Council received notification to the time that service personnel reach the site)	<=40 mins	0 mins	🟢
		To minimise the effects of flooding	Number of flooding events that occur in a territorial authority district	<=5	0	🟢
			Number of habitable floors affected per 1000 stormwater connections	<=14	0	🟢
To achieve a high overall level of customer approval of the stormwater service	Stormwater		Number of stormwater pipeline blockages per km of pipeline	<=0.5	0.2	🟢
			Customer satisfaction with stormwater management	>75 %	Not Due	🔴
			Number of complaints per 1000 properties connected to the Council's stormwater systems	<=20	11.4	🟢

🟢 On Track/Achieved 🔴 Off Track/Not Achieved 🟡 Not Due/Not Applicable/Not available 🟠 Resolve

Key challenges / top priorities

Looking after existing infrastructure: This is foundational to a sound risk management approach. It reduces the risk of surprises that usually cost more, and have greater negative effects, than planned work does and emits more carbon.

Growth: Growth is inevitable and must be managed in a way that ensures it doesn't add to existing challenges for the three waters network.

Systems wide issues that need addressing over the next 10 years:

Reducing water consumption:
We're new capacity for water supply

Improving environmental water quality:
Society expects better water quality than we have now

Reducing carbon emissions:
Carbon emissions are a key contributor to climate change

Localized issues: Individual activities associated with localized risks are still considered on a case by case basis

Consequences

Our three waters networks are aging, and it's starting to show...

- Repair costs are also increasing - more work, more complex, more compliance
- The risk of asset failure increase day by day

This is taking place in the context of both national change...

- Higher standards for environmental water quality and drinking water extraction
- Drinking water regulation and compliance - Taumata Arowā Act
- Expectation that we reduce our contribution to carbon emissions

And local change...

- Increased customer expectations of service, performance and responsiveness
- A supply network that is nearing capacity for current levels of service
- A growing population (which only three years ago was static)

Decisions

We're entering a critical 30 year period that asks for tough decisions now. A step change is needed to make a difference. Trade-offs need to be made on where to invest. Investment options have been developed and Wellington Water engaged with Council to develop an optimised three water programme for your LTP by:

- Better understanding current council priorities and strategic direction
- Providing the logic for our recommended approach
- Discussing how these investment decisions affect Wellington City's broader objectives
- Confirming investment direction and settings for your 2021-21 LTP

AMP Summary documents



Date: 10 December 2020 **Key challenges, and consequences on funding and LoS**

Detailed investment needs have been identified through a rigorous planning framework. Under each strategically focused "area of investment", we have identified the drivers, portfolios and sub-elements that individual activities belong to. Each of these has been prioritised using a common set of criteria and have formed the back for three investment options as are summarised below. Improvement of performance and reduction of risk under each option assumes adoption of investment over the indicated timeframe. These three options have been presented to Council through a series of workshops. As at the time of writing, Council has chosen to progress an "enhanced" option which is based on Option 1, modified to fund renewals at a reduced level based on the 2018 ITR.

Very high performance requirement Demanding for high / risk Investment cost prohibitive Demand and repair by customer Capacity issues	HIGH LEVEL	Performance enhancement Demanding for high / risk Complexity of risk Costs likely to be high beyond limited capabilities
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Area of investment	Key service goals impacted	Option 1	Option 2	Option 3	If we meet our strategic goals 2028...	What we will do and how we will do it (based on chosen funding allocation)	Requirements for investment	Residual risks of chosen funding allocation	Option 1 (modified)	Option 2	Option 3
Looking after existing infrastructure – Networks		All activities included			Network resilience continues to improve and customers receive agreed levels of service across all waters.	We will renew and upgrade the network, according to performance and reliability. Better data capture will give us more high quality information, and enable smarter, more effective investments.	Ongoing 30 year investment strategy to maintain reliable services	<ul style="list-style-type: none"> Due to the increasing intensity of natural events a compounding decrease in service levels and increased unplanned service response is expected. Potential for high reliability asset failure increases Increased operational response and corresponding compounding costs Funding does not enable existing performance measures to be met consistently 	Performance / Risk		
Looking after existing infrastructure – Multi-risk											
Reducing water consumption		Priorities 1-3	Priorities 1-3		Water isn't wasted and no new water source is needed. Customers and the network are more resilient to stress of shortage.	N/A for stormwater	N/A for stormwater				
Improving environmental water quality		Priority 1 only	Priorities 1-3	Priorities 1-3	Water quality improves, "no water" days reduce. To Meet a "no water" enhanced, regulatory requirements are met.	We will renew falling assets that cause leaks and overflows. We need to adapt innovation for private and public networks, including the use of smart technology for network optimisation and mitigating environmental impacts.	National policies require us to gradually improve water quality over the next 30 years	<ul style="list-style-type: none"> Based on the current investment profile we will not meet the requirements for the NPS Fresh water by 2050 Investment in green infrastructure is not within budget Expectations of the community may not be met 			
Reducing carbon emissions		Priority 1 only	Priorities 1-3	Priorities 1-3	Infrastructure and services adapt to the changing environment, and corresponding land use planning. Reduction. Carbon emission targets are met.	We will design and invest in reducing emissions for a carbon neutral future, while also reducing costs. We will complete risk and vulnerability assessments, support Councils with land use and planning, and community engagement.	12 Zero Carbon Act requires us to manage our climate risks over the next 30 years	<ul style="list-style-type: none"> Based on the current investment profile we will not meet the requirements for Zero carbon by 2050 Expectations of the community may not be met 			
Localised issues (eg. Resilience, Flooding & Firefighting)		Priority 1 only	Priorities 1-2	Priorities 1-3	In the event of a seismic event, 80% of customers can receive 80% of their normal supply within 30 days.	We will continue to work with customers educating them on opportunities to improve household resilience	The 2016-20 strategy is an ongoing 30 year programme	<ul style="list-style-type: none"> No stormwater resilience work is able to be funded 			
					Level of flood risk to homes and businesses in the region will be known and acceptable.	We will complete resilience modelling to understand the extent of flood risk. We will work with council to look at non-asset solutions for flood mitigation.	Need to ensure service levels don't deteriorate over time (0 to 30 years)	<ul style="list-style-type: none"> Only minimal investment in flood mitigation is possible Expectations of the community may not be met. More intense rainfall events are expected with more habitable floors being flooded. 			
Growth		Council-led			Growth is achieved at the agreed level of service, and existing levels of service do not deteriorate.	We need to ensure Council's ITRs include provisions for infrastructure to support growth. We will establish long term catchment plans and work with councils to change regional and local policies and plans.	Need to ensure service levels don't deteriorate over time as population increases (0 to 30 years)	<ul style="list-style-type: none"> Development occurs in areas where there is insufficient capacity or planning is not able to be completed 	Council-led decision		
Open	Achieves all service goals	Aligned to priorities above			We have a capable, adaptive and collaborative workforce using innovative practices and exchange of knowledge to drive optimal performance.	We will focus on growing our people and capability, partnering and collaborating well with others, getting better at demonstrating value for money and telling a better company performance story.	Building WWS capability over the next 5 years must be a priority				

