Activity Summary: WASTEWATER

Activity Description

What we do

Wastewater is the dirty water which comes from our toilets, kitchens, bathrooms and laundries in our houses and businesses. It includes trade waste discharged from industrial premises into public sewers. We dispose of our sewerage through a partnership with Wellington City Council. We manage an underground pipe network, pump stations and a wastewater treatment plant. When waste gets to our treatment plant it is treated until it is at an acceptable standard to be released into the environment.

Why we do it

Our wastewater network helps minimise the impacts on Te Awarua-o-Porirua Harbour and catchment areas. Protecting our harbour is a priority for us, and we work hard to ensure that our wastewater is managed and disposed of in a safe and sustainable way. We work hard to ensure that we have resilient infrastructure to manage the collection, treatment and disposal of our city's wastewater. Unintended sewerage overflows can affect people's health as well as our natural environment – we want to reduce these as much as possible. We also take time to regularly review our networks capability and identify any areas that may need renewal work or an upgrade. We are constantly working towards building our resilience across all our three water systems.

Supported Strategic Priorities

The wastewater activity is a fundamental service for our community. It supports all of the strategic priorities but especially:

- A healthy and protected harbour and catchment
- A growing, prosperous and regionally connected city

Levels of Service

Desired Levels of service

- The system is adequate
- We are compliant with resource consents for discharge
- We respond to faults within reasonable timeframes
- Decrease service interruptions
- Customers are satisfied with the wastewater system

Performance measures

- Dry weather wastewater network overflows
- Breaches of resource consents for discharges
- Median response times for attendance and resolution of wastewater overflows
- Number of wastewater reticulation blockages
- Resident satisfaction with wastewater management, complaints about wastewater faults and issues

Demand

Demand Changes

- The resident population
- The transient population (commuters / tourism)
- Climate change, sea level rise
- Development, zoning and rezoning (residential / commercial / industrial)
- Water usage
- Infiltration and inflow – the extent of stormwater entry into the wastewater system

Demand issues

The wastewater network is overloaded in some areas as evidenced by a large number of overflows during rain events. Inflow and infiltration of stormwater into the network is high in general, and more so in specific areas where the network is in poor condition. Additional demand because of development will typically discharge into the existing networks. This will require significant local and downstream upgrades in order to provide the extra capacity required to reduce or avoid further wastewater overflows to the environment.

Asset Information

Asset description

1 treatment plant
65 pump stations
414 km pipelines

Note: Includes joint venture assets held with Wellington City Council, Porirua City Council owns a 72.4% share

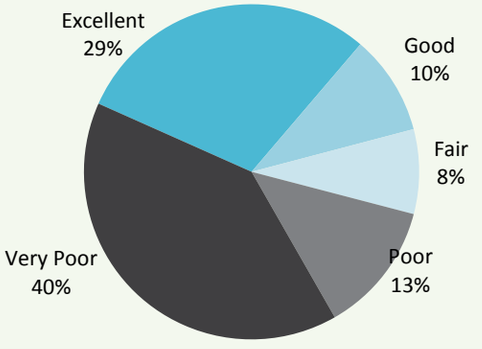
Asset Value

• Replacement cost	$279 million
• Depreciated replacement cost	$158 million
• Annual depreciation	$3.7 million

Asset Condition and Performance

- 53% of the network in poor condition, leading to high infiltration of groundwater
- Too much direct inflow of surface water from incorrect drainage of roofs, gully traps etc.
- The above two issues combined result in 3.5 times more flow in wet weather at the Treatment plant, and much higher rates in localised areas
- High incidence of network overflows polluting land and the harbour

Wastewater condition by pipeline length



Activity Summary: WASTEWATER

Risk

What are the risks	*What are we doing about them*
Wastewater overflows breach regulations, cause environmental harm , and endanger public health	Wastewater network improvement plan, Asset renewal programmes
Lack of system redundancy and capacity increases the risk of overflows throughout the network and at the treatment plant; besides the issues listed above, also a potential constraint on growth	Wastewater network improvement plan, Modelling of network capacity and performance, Asset renewal programmes, Approach to resilience improvement: Personal resilience, Operational response, Long-term asset upgrades

Lifecycle Management Plan

Operating and Maintenance highlights

New initiatives or aspirational change	Year 1	Year 2	Year 3	> Year 3	
Future Service Studies (incl. Wastewater Overflow Reduction)	$40K	$80K	$60K	$130K	2022-2024
Wastewater treatment plant maintenance and operations	Subject to future consent renewal and contract negotiations				
Alliance partnership for network maintenance and operations	Subject to contract negotiations				
Wastewater monitoring and investigations	$315K	$315K	$315K	$945K	2022-2024

Significant capital projects

Issue	Response and Project	Cost ($millions) and timing	
Minimising public health risks, and enhancing the health of our waterways and the ocean by reducing wastewater overflows	Network improvement plan	$43.6	2018–2034
	Network & pump station renewals	$20.9	2018–2037
	Treatment plant upgrade	$34.5	2030–2037
Using resources in a sustainable way	Sludge dewatering upgrade	$9.4	2029–2034

Forecast Expenditure Summary

These tables and graphs summarise the total operating and capital expenditure. They are for each year of the LTP (years 1 – 20) and then as 5 yearly averages for year 21-30 of the Infrastructure Strategy. Forecasts are in $000's, and the base costs are uninflated.

Years	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Operating	12,504	13,024	13,293	13,616	13,902	14,193	14,459	14,670	14,934	15,187	15,628
Growth	1,611	1,031	31	31	31	31	31	31	31	31	31
Levels of service	1,460	2,646	3,510	3,010	3,010	3,260	3,010	1,760	3,010	3,135	4,060
Renewals	3,404	2,775	1,425	2,813	3,855	2,021	701	1,644	1,416	1,735	2,330

Years	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38-42	43-48
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Operating	16,285	17,073	17,651	18,447	19,229	20,019	20,696	21,451	21,879	21,879	21,879
Growth	31	531	1,031	6,031	6,031	6,031	6,031	6,031	3,031	2,228	2,080
Levels of service	7,431	7,260	3,947	2,010	2,010	1,010	10	10	10	1,210	10
Renewals	2,117	1,873	2,823	1,688	2,045	2,065	2,568	2,568	2,568	131	5,031