SEWAGE TREATMENT & DISPOSAL

Te Tukuhanga o ngā Parapara

WHAT THESE ACTIVITIES WILL COST AND HOW WE ARE GOING TO PAY FOR THEM

FUNDING IMPACT STATEMENT

ANNUAL PLAN 2011/12 $000		LTP 2012/13 $000	LTP 2013/14 $000	LTP 2014/15 $000	LTP 2015/16 $000	LTP 2016/17 $000	LTP 2017/18 $000	LTP 2018/19 $000	LTP 2019/20 $000	LTP 2020/21 $000	LTP 2021/22 $000
	OPERATIONAL										
	Sources of operating funding										
18	General rates, uniform annual general charges, rates penalties	14	14	15	16	17	18	18	19	20	20
1,956	Targeted rates (other than a targeted rate for water supply)	2,133	2,675	2,673	2,833	3,024	3,529	3,389	3,527	3,701	3,816
-	Subsidies and grants for operating purposes	-	-	-	-	-	-	-	-	-	-
113	Fees, charges, and targeted rates for water supply	182	189	196	203	211	218	226	235	244	254
148	Internal charges and overheads recovered	146	149	152	156	160	165	171	177	185	192
97	Local authorities fuel tax, fines, infringement fees, and other receipts	175	182	188	195	203	210	217	226	235	244
2,331	**Total operating funding (A)**	**2,650**	**3,209**	**3,224**	**3,403**	**3,615**	**4,140**	**4,021**	**4,184**	**4,385**	**4,526**
	Applications of operating funding										
760	Payments to staff and suppliers	918	1,109	987	1,037	1,087	1,439	1,192	1,237	1,297	1,358
265	Finance costs	171	261	398	548	637	742	795	840	888	889
841	Internal charges & overheads applied	887	916	944	962	992	1,035	1,061	1,103	1,157	1,194
-	Other operating funding applications	-	-	-	-	-	-	-	-	-	-
1,866	**Total applications of operating funding (B)**	**1,976**	**2,286**	**2,329**	**2,547**	**2,716**	**3,216**	**3,048**	**3,180**	**3,342**	**3,441**
465	**Surplus (deficit) of operating funding (A-B)**	**674**	**923**	**895**	**856**	**899**	**924**	**973**	**1,004**	**1,043**	**1,085**
	CAPITAL										
	Sources of capital funding										
2,921	Subsidies and grants for capital expenditure	134	1,044	3,603	299	-	-	-	-	-	-
39	Development and financial contributions	168	175	181	187	194	201	208	216	225	234
2,064	Increase (decrease) in debt	537	1,541	2,565	1,480	1,246	1,290	771	338	72	122
-	Gross proceeds from sale of assets	-	-	-	-	-	-	-	-	-	-
-	Lump sum contributions	-	-	-	-	-	-	-	-	-	-
5,023	**Total sources of capital funding (C)**	**839**	**2,760**	**6,349**	**1,966**	**1,440**	**1,491**	**979**	**554**	**297**	**356**
	Applications of capital funding										
	Capital expenditure										
-	- to meet additional demand	-	-	-	-	-	-	-	-	-	-
5,257	- to improve level of service	738	1,979	6,210	2,069	917	1,659	1,104	716	368	457
323	- to replace existing assets	828	1,354	469	145	1,472	740	381	81	414	1,241
(92)	Increase (decrease) in reserves	(53)	350	565	608	(50)	16	467	761	558	(257)
-	Increase (decrease) of investments	-	-	-	-	-	-	-	-	-	-
5,488	**Total applications of capital funding (D)**	**1,513**	**3,683**	**7,244**	**2,822**	**2,339**	**2,415**	**1,952**	**1,558**	**1,340**	**1,441**
(465)	**Surplus (deficit) of capital funding (C-D)**	**(674)**	**(923)**	**(895)**	**(856)**	**(899)**	**(924)**	**(973)**	**(1,004)**	**(1,043)**	**(1,085)**
-	**Funding Balance ((A-B) + (C-D))**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

SEWAGE TREATMENT & DISPOSAL

WHAT THIS ACTIVITY DELIVERS

Under this activity the Council collects the used water from your house and business and transports it, through a network of underground pipes and pump stations, to a treatment plant. Once treated to an acceptable level, the treated liquid is then discharged into a river, stream or out to sea, where it can return to the natural water cycle. We own and operate six sewerage schemes in the urban areas of Whakatāne, Edgecumbe, Tāneatua, Ōhope, Te Mahoe and Murupara. The two main urban areas that do not currently have a reticulated sewerage system are Matatā and Te Teko. We are looking at options for these areas, particularly Matatā.

WHY WE DO IT

By providing this service we are protecting our natural environments from contaminants. We are also protecting the community's health by removing, treating and disposing of harmful waste.

The alternative to a Council provided sewerage system is the use of septic tanks. Septic tanks can be very useful, especially for rural properties, where the cost of a reticulated system would be too expensive because of the large distances covered. However, having a large number of septic tanks in an area, particularly in an urban area, can lead to excessive contaminants seeping into the ground and rivers. There are also logistical issues with septic tanks in enclosed areas.

RESPONDING TO OUR ISSUES

Sewage overflowing due to stormwater getting into sewerage systems

The major issue for this activity is sewage overflowing from our sewerage systems because of stormwater getting into the system. While this is a problem for all of our schemes, the area with the biggest problem with overflows is Edgecumbe; Ōhope and Whakatāne also have significant issues.

The sewerage system in Edgecumbe suffered severe damage during the earthquake in 1987. While the system was repaired at the time, more recent smaller earthquakes and general wear on these repairs have caused further cracks in the pipes. A large amount of stormwater is getting into the sewerage system through the cracks and gaps in the pipes and also because of inflow. Inflow is the process of stormwater getting into the system. There are three main causes; stormwater drains illegally connected to the sewerage scheme, manhole covers that are poorly fitted and can be underwater during heavy rain periods, or poorly installed gully traps too close to ground level.

If the gully traps are not far enough off the ground, or are situated in an area that is prone to puddles or ponding, then stormwater can overflow into the sewerage system. Inflow and infiltration is so bad in Edgecumbe that during the wet season the amount of water travelling through the sewerage system can be over 10 times greater than during dry weather. An acceptable increase due to inflow and infiltration at time of heavy rain would be four times greater than during dry weather.

To address this issue, work is underway in Edgecumbe to look at replacing or repairing parts of the system such as joins and gully traps. This work will continue during the first three years of this LTP.

In Whakatāne, the issue of sewage overflow is due largely to inflow and infiltration during heavy rain events. This is made worse by pipes not designed to cope with this increased capacity. The Ōhope sewerage system also suffers from inflow and infiltration, as well as a pump station that is unable to cope with the capacity. Works are planned for the coming years to improve these systems by increasing the capacity of the pump stations, storage tanks and pipes in Whakatāne and Ōhope.

Alternative disposal options being investigated in Ōhope

The resource consent we hold from the Bay of Plenty Regional Council to discharge our treated sewage from the Ōhope scheme out to sea, expired in 2010. We are looking at options for future treated sewage discharge. One option we have been investigating is land disposal, which is the discharge of the treated liquid over a land area such as a forestry block or other suitable land. Six months prior to the expiry of the previous resource consent, we applied to carry out investigations. This means that we can continue disposing sewage out to sea until the new resource consent for disposal is obtained. The standard of treatment for our sewage depends on how and where we are discharging it. We have planned work to improve the level of treatment at our Ōhope treatment plant through this LTP. This will be completed to a level that is appropriate for our discharge method.

What state are our assets in out at sea?

We have outfall pipes for both our Whakatāne and Ōhope sewerage systems that discharge treated sewage out to sea. Outfall pipes are critical assets in these sewerage systems. We need to undertake an assessment of the outfall pipes so we can find out exactly what condition they are in and how much maintenance they require. This assessment will be undertaken during 2012/13 and depending on the findings, may need to schedule some repairs or maintenance.

Wastewater treatment plant and reticulation construction in Matatā

Most of our urban areas have reticulated sewerage systems where sewage is piped from individual houses or buildings and treated before being disposed of. In Matatā, there is no community wide sewerage system and instead residents have individual septic tanks. This is starting to cause problems. The Council will introduce a new sewerage scheme in Matatā, originally planned for 2011/12. We have secured a subsidy from the Ministry of Health of $6.72m to help the community pay for this project. Plans for this project have not been finalised and we are looking at a range of options to manage sewage in Matatā. Options we are looking at include both reticulated and non-reticulated systems, and treatment and disposal of sewage both locally and outside of Matatā. Community consultation will form an important part of this project and we will consult with the community prior to any option being finalised. At that time we will be able to confirm a cost for the project. At this stage, we are planning to spend $7.10m over three years of this LTP. This is additional to the money carried forward from 2011/12 of $2.94m, which included $2.44m of subsidies.

Some major renewals required on our sewerage system

Corrosive gas has been attacking the concrete sewerage pipes in Ōhope and Whakatāne. An assessment has been completed to look at the condition of the pipes and a programme to replace the pipes has been planned. This replacement would take place over the next 10 years, costing $1m in Whakatāne and $800,000 in Ōhope.

The sewerage system in Murupara will need some renewal works over the coming 10 years. While the system is currently operating adequately, the pipes are aging and will need repair works soon. We are monitoring the conditions of the pipes and will undertake the necessary works as required. This is estimated to cost $1m over the period of the LTP.

An additional $5.04m will be spent on other renewals to the sewerage system across the District. This includes replacements assets such as pipes, manholes and pumps, minor upgrades and repairs to maintain the level of service.

Desludging our oxidation ponds

Approximately every 20-25 years our oxidation ponds need to be desludged. This is an expensive process involving removing the sludge from our ponds. Two of our ponds, in Whakatāne and Tāneatua, are due to be desludged during this LTP.

The ongoing costs of maintenance

Providing and managing the ongoing maintenance of the sewerage system around our District can be a costly exercise, however, this cannot be avoided. The expensive assets which this activity holds require a lot of maintenance to ensure they remain in good working order and are fit for their purpose. To try and ensure affordability for our community we will defer some projects which had previously been planned for the period of this LTP. These include a reticulated sewerage system in Te Teko and extending the sewerage system at the Whakatāne Airport.

At the time of undertaking renewal works we often take this opportunity to upgrade our systems to improve levels of service or cater for future demand, as necessary. As a result of legislative changes, the Funding Impact Statement records these projects as being solely driven by an improvement in levels of service. Therefore, the true proportion of projects ‘to improve level of service’ is affected in the Funding Impact Statement.

All paying the same

We have changed how this activity is funded. We will continue to use targeted rates, however instead of each scheme paying for their own costs, schemes will be amalgamated. This will mean everyone receiving reticulated sewerage will pay the same. Murupara is excluded from this proposal. More information about this can be found in the ‘All about rates’ section.

What we are going to do

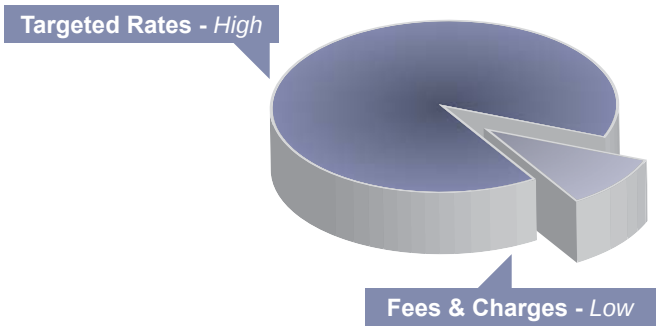
To respond to some of the issues, the Council is planning to undertake the following key projects. The full list of capital projects can be found in the 'Our Costs in Detail' chapter.

DESCRIPTION	YEAR	TOTAL ($)	FUNDING SOURCE
Whakatāne treatment plant desludging	2017-19	1,100,000	**Loan 95% Development Contribution 5%**
Sewer pipe upgrades to address overflows in Whakatāne	2012-17	1,500,000	**Loan 95% Development Contribution 5%**
Whakatāne Pump Station renewals and upgrades including increasing capacity	2012-22	2,109,000	**Loan 53% Development Contribution 5% Renewal 42%**
Ōhope Treatment Plant upgrade	2012-16	1,550,000	**Loan 92% Development Contribution 8%**
Ōhope Pump Station renewals and upgrades including increasing capacity	2016-20	944,000	**Loan 92% Development Contribution 8%**
Edgecumbe Pump Station renewals and upgrades including increasing capacity	2015-18	592,000	**Loan 100%**
Edgecumbe reticulation upgrades	2013-17	570,000	**Loan 100%**
Matatā Treatment Plant and reticulation construction	2012-16	7,100,000	**Loan 33% Subsidy 67%**
Tāneatua ponds upgrade	2012/13	150,000	**Loan 100%**

HOW THIS ACTIVITY IS FUNDED

Our activities are funded from a variety of sources. The pie chart illustrates how we will pay for the operational running of this activity.

Further explanations on the funding of this activity can be found in the Revenue and Financing Policy contained in the 'Our Costs in Detail' chapter.



WHAT NEGATIVE IMPACT THIS MIGHT HAVE

Sometimes the activities that we do can have a negative impact on one or more of the four well-beings. While we strive to ensure that we operate in a way that provides the most positive outcomes, we have to acknowledge that sometimes there is a trade-off. The table below shows the possible negative effects of this activity and also what we are going to do to try and minimise these effects.

	AFFECTED WELL-BEING				
SIGNIFICANT NEGATIVE EFFECT	CULTURAL	SOCIAL	ECONOMIC	ENVIRONMENTAL	SUSTAINABLE SOLUTION
Overflows of untreated sewage from the sewerage network due to blockages, pump station or other plant malfunction, inflow/ infiltration of stormwater into the sewerage network and/or insufficient capacity.	✓	✓	✓	✓	Compliance with resource consent and Council's Engineering Code of Practice and Guidelines. Maintaining our maintenance programme and environmental controls.
Discharge of sewage through the ocean outfalls at Whakatāne and Ōhope may cause environmental and health issues.	✓	✓	✓	✓	Compliance with resource consent. Alternative options are being investigated on the disposal of sewage. This is explained in more detail under 'Responding to our issues' earlier in this section.

WHAT WE WANT TO ACHIEVE

The Council has set some targets to show whether we are achieving our goals for this activity. The following table shows these targets for the next 10 years. We will report back to the community through the Annual Report each year, so you will know whether we have achieved this level of service.

GOAL	MEASURE	CURRENT PERFORMANCE (2010/11)	TARGET			
			YEAR 1 (2012/13)	YEAR 2 (2013/14)	YEAR 3 (2014/15)	YEARS 4-10
To provide high quality, efficient and reliable sewerage systems that meet the reasonable needs of the urban and commercial communities	Percentage of blockages and breakages affecting the system in Whakatāne are responded to within one hour*	93.6%	90%	90%	90%	90%
	Reducing environmental impacts of sewage by providing reticulated schemes in urban areas	Whakatāne Ōhope Edgecumbe Murupara Tāneatua Te Mahoe	Whakatāne Ōhope Edgecumbe Murupara Tāneatua Te Mahoe	Whakatāne Ōhope Edgecumbe Murupara Tāneatua Te Mahoe	Whakatāne Ōhope Edgecumbe Murupara Tāneatua Te Mahoe	Whakatāne Ōhope Edgecumbe Murupara Tāneatua Te Mahoe Matatā**
	Satisfaction with the overall disposal and treatment of sewage (Customer Satisfaction Index score)	70.4	68-72	69-73	70-74	71-75
	Number of sewerage related resource consent infringement and abatement notices received by the Bay of Plenty Regional Council	0	0	0	0	0

* Note: Actual works required to remedy breakages and blockages will vary according to the extent of fault
**Providing a reticulated scheme in Matatā is still dependant on further investigations and community consultation. See 'Responding to our issues' earlier in this section for more detail.

Whakatāne Water Treatment Plant

TRADEWASTE

WHAT THIS ACTIVITY DELIVERS

The Council's sewerage system is also used by commercial and industrial properties to dispose of sewage. We call this tradewaste, as it is often quite different from the sewage produced by households in terms of quantity and quality. We provide the same service of removing trade waste from businesses as we do for removing sewage from households.

WHY WE DO IT

By providing this service, we are protecting our natural environments from contaminants. We are also protecting community health by managing the removal, treatment and disposal of hazardous waste. Because trade waste produced by businesses is often more contaminated than household sewage, we administer and charge for this service in a different way to recover the true cost of treating tradewaste.

RESPONDING TO OUR ISSUES

Discharge of hazardous chemicals

Occasionally liquids are disposed of into the sewerage system, which include toxic levels that exceed the limits allowed under our Tradewaste Bylaw. This puts extra pressure on our wastewater treatment plant and can be harmful for both people and the environment. To address this hazard we undertake regular monitoring and inspections of the tradewaste premises, with half the premises inspected each year.

Where monitoring reveals issues, we undertake education programmes to ensure that the requirements of the bylaw are made clear and are understood.

HOW THIS ACTIVITY IS FUNDED

Our activities are funded from a variety of sources.
The pie chart illustrates how we will pay for the operational running of this activity.

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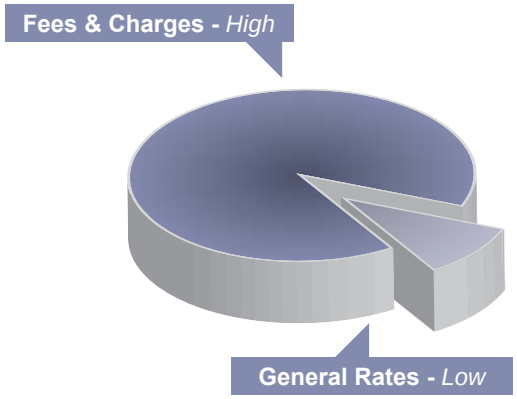

THE COMMUNITY OUTCOMES THIS ACTIVITY CONTRIBUTES TO