

Water Supply Activity



Asset Management Plan

VERSION 2006/2007
Final December 2005

Executive Summary

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1.0 EXECUTIVE SUMMARY (STATEMENT OF PROPOSAL)

SERVICES PROVIDED

The water supply activity is managed within the network infrastructure team which also covers Transportation, Wastewater, Stormwater, and Land Drainage. The water supply activity provides potable water to citizens in 13 townships across Franklin District.

The rationale for providing water supply services is:

In order to meet statutory requirements and community expectations, Council undertakes to provide, operate, maintain and renew in perpetuity the water supply infrastructure needed to ensure that:

- An acceptable quantity and quality of water is consistently supplied.
- Adequate provision for public health water supply requirements.
- Fire fighting requirements are satisfied.
- Provision for intensive urban development.
- Economic benefits for the community REF AMP 3.2

This is consistent with Council's existing strategic documents (Directional Statements) which gives as its key direction for water supply.

- Investing in the infrastructure required to sustain the District's growth, economic activity and lifestyle needs consistent with the District Growth Management Approach 2000 - 2031.

In delivering this service to the community, Council undertakes the following:

- | | |
|------------------------------------|------------------------------|
| • Customer enquiry and support | • Asset management |
| • Network operations | • Water billing |
| • Maintains drinking water quality | • Emergency response |
| • Consents processing | • Planning for future growth |
| • Liaison with third parties | • Financial management |
| • Contract management | |

The main network components are

- bores and surface water supplies with appropriate pumping and treatment plant to collect the water;
- monitoring of water quality is done via the Health Department annual review;

- booster pumps, reticulation and storage reservoirs to ensure the reliability of supply;
- key portions of the system monitored by telemetry.

Level of Service (LOS) measures summarise performance aspects of the service, and the progress against targets is monitored in the Asset Management Plan (see table 1.4).

REF AMP 3.4

LEGISLATIVE REQUIREMENTS

The key legislation affecting the wastewater service is:

- Local Government Act 2002;
- Resource Management Act 1991;
- Local Government (Rating) Act 2002;
- Health Act 1956;
- Fire Service Act 1975
- Civil Defence Emergency Management Act 2002;
- Health and Safety in Employment Act 1992;
- Building Act 1991

Other standards and codes are:

- FDC Code of Practice for Subdivision and Development.
- FDC District Plan
- Drinking Water Standards 2005
- NZ Fire Service Code of Practice

Together, these requirements form a framework within which Franklin District Council manages and operates the water supply networks.

The Ministry of Health is currently proposing a new health (Drinking Water) Amendment Bill to formally recognise the Drinking Water Standard for NZ, the grading of supplies, public health risk management plans etc. More detail is provided in the AMP.

RESPONSE TO COMMUNITY VIEW

For the Water Supply Activity, Council undertakes the roles of advocate, provider, specifier, and monitor.

Community outcome themes		1	2	3	4	5	6	7
		Economically strong community	Easy to get around	Safe, healthy and active community	Cultural, social, vibrant, inclusive community	Special character, healthy, natural environment	Well-managed growth for quality living environment	Educated and enabled community
Franklin Water Supply								
	Water Supply	?		?			?	

Table 1.1

The rationale for providing water supply services is:

- In order to meet statutory requirements and community expectations, Council undertakes to provide, operate, maintain and renew in perpetuity the water supply infrastructure needed to ensure that:
 - An acceptable quantity and quality of water is consistently supplied.
 - Adequate provision for public health water supply requirements.
 - Fire fighting requirements are satisfied.
 - Provision for intensive urban development.
 - Economic benefits for the community

A negative effect of undertaking this activity is that it reduces alternative use of the available water resources in Franklin District.

ASSET OVERVIEW AND STATUS OF EACH SYSTEM

The following Tables 1.2 and 1.3 give an overview of the infrastructure used to provide the water supply service. These are figures from the asset database (ProOmni) as at 30 June 2005.

	Replacement Cost \$(000)	Depreciated Replacement Cost \$(000)	Annualised Depreciation \$(000) pa
Pipe	52,752	32,235	873
Valve	5,235	3,729	82
Hydrant	4,481	2,796	68
Meters	9,748	6,824	325
Subtotal	\$72,216	\$45,584	\$1,348
Plant	7,871	3,950	324
Land	460	460	Not depreciated
FDC Total	\$80,547	\$49,994	\$1,672

Table 1.2 – FDC Water Supply Valuation Summary

Volume of water supplied	3,316,000 m ³
Length of reticulated pipe	311 km
Number of metered connections	12,185
Charge for water – typical residential	\$1.60 / m ³

Table 1.3 Key Statistics for Water Supply Infrastructure

Status of Each System

The following summary of the current situation covers the thirteen communities. All references (eg WS99) are to the Capital Works listed in Appendix B.

Water Quality/Quantity – Source and Treatment Assets	Flow and Pressure – Reticulation and Plant Assets
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Pukekohe

The water supply grade is presently C. The spring water is a non-secure source and improved treatment is required (WS02). Bore source security is not yet proven but is expected in 2006.

Ongoing issues include:

- increasing nitrate levels in spring and possibly bore sources;

The calibration modelling and assessment for compliance with the new fire fighting code of practice indicates few concerns for Pukekohe. (The required classification can range from W1 to W8 and is relative to the population and on-site risks.)

There are isolated marginal areas that are identified by system modelling, pressure testing and customer complaints. Booster pumps and

Water Quality/Quantity – Source and Treatment Assets	Flow and Pressure – Reticulation and Plant Assets
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- discolouration from iron, manganese and chlorine interactions.

These factors will be monitored as alternative sources (including the Waikato pipeline) and treatment options are considered and implemented.

A projected shortage of supply about 2006 will be solved with the development of a supply in Paerata in the 2006 (refer Capital Works WS12).

The underground aquifer availability is expected to provide adequate source water until at least 2020. This was again confirmed by the recent ARC report on water demand in the area (Ref 11)

pressure control devices have recently being installed to improve flow capability and continuity of supply

Some other major capital works expenditures include maintaining average daily use storage capacity with a new reservoir near Kitchener Road (WS 149), watermain renewal and capacity upgrades for growth of old steel trunk watermain pipes feeding reservoirs and reticulated network improvements (WS14, 16, 147).

Waiuku

The water supply grade is presently D. Significant source and treatment improvements have been completed with a new bore adding a further good quality source. Bore source security acceptance is expected in 2005. The supply has not normally been chlorinated, but has had temporary chlorination since October 2000 to combat contamination from within the reticulation system. If, after public consultation, chlorination is still required, works at Cornwall bore will provide increased supply capability (This \$350K project is not included in the Capital Works budget).

Waiuku is an urban Fire District as constituted under section 26 of the Fire Services Act 1975. System modelling, pressure testing and customer complaints indicate that most areas have reasonable supply pressures and that most of the township reticulation has the ability to meet the new fire fighting classification. (W1 – W8 as determined by population and other on-site risks.)

There is a new reservoir proposed to be completed in 2005 next to the Waiuku Road bore that will provide more consistent pressure, chlorine contact time and increased storage capacity.

There are no further pipe network upgrades for growth in the proposed works programme at this stage.

Tuakau

The water supply grade is presently D. Significant source improvements have been completed with a new bore and bore upgrade

The new reservoir and booster pumps added in 2002 provide improved storage and supply pressure for the town.

Water Quality/Quantity – Source and Treatment Assets	Flow and Pressure – Reticulation and Plant Assets
---	--

now completed. Bore source security acceptance is expected in 2005.

Recent (2005) system calibration modelling, pressure testing and customer complaints, indicate that most areas have reasonable supply pressures and that most of the township reticulation has the ability to meet the required fire code classification. There are some minor upgrades that may be required.

Patumahoe

The water supply grade is presently A. The bore supply is chlorinated and provides a reasonable standard of water. The bore source was approved as secure in 2003. There is a proposal to construct a back-up/replacement bore to enhance supply reliability in 2010 (WS 85).

A new pump supply has been installed. There are hydrants installed and the flow capability complies with the new fire code classification W3. Larger pipes were laid from the treatment plant into the middle of town to provide improved flow capability. It is possible that an extension of the supply to the growth area will be required (WS 81).

The supply is at risk during power cuts and an emergency generator was not installed in 2004 because of the cost.

Increased storage is also proposed in 2009 (WS 82).

Clarks Beach

The water supply grade is presently D. Bore security was approved in 2005. The bore supply is chlorinated. pH adjustment was installed in 2003. Quality is of a reasonable standard however high boron levels require another source to be developed. Capital works have connected the Clarks Beach and Waiau Beach water supplies together. The next phase is to connect with a new bore source from the Glenbrook area.

There are hydrants installed and the flow capability complies with the new fire code classification W3 with the recent installation of booster pumps at Clarks Beach. The increased pressure may require earlier replacement of pipes as a significant proportion of the pipes are class C. Some larger pipes have previously been installed leading from the treatment plant.

Glenbrook Beach

The water supply grade is presently D. The bore supply is chlorinated, but with substandard water from an aesthetic viewpoint. The main problem is the high iron

An acceptable domestic pressure and flow is provided, however the system does not meet fire classification requirements (and is not required to do so). There are however

Water Quality/Quantity – Source and Treatment Assets	Flow and Pressure – Reticulation and Plant Assets
<p>content of the water. The planned alternative source from the Glenbrook area will reduce this problem.</p>	<p>hydrants installed and the pressure could be increased to supply this pressure. This may require the laying of larger pipes which could be costly. This is not currently planned.</p>
<hr/>	
<p>Waiau Beach</p> <p>The water supply now links to Clarks Beach and provides a reduced level of boron to Clarks Beach. This is temporary until the new source from the Glenbrook area is available. The bore supply is chlorinated and provides a reasonable standard of water.</p>	<p>Generally a satisfactory standard. The system does not yet meet fire classification standards (and is not required to do so). Some hydrants have been installed from a capital works project and in a recent subdivision. It is proposed to provide more fire hydrants in the future.</p>
<hr/>	
<p>Port Waikato</p> <p>The water supply is ungraded as the population is less than 500. Water is taken from a stream as the previous bores were of poor quality. The water is treated by chemical addition, clarification and filtration prior to gas chlorination.</p> <p>A boiled water notice is applied due to the previous re-occurrence of contamination events.</p>	<p>There are currently no fire hydrants in Port Waikato. The existing system is unable to satisfy the requirements of NZS 4404:1981 for commercial/domestic working residual water pressure.</p> <p>There is currently no intention to extend the supply or make the water supply meet fire hydrant pressure requirements.</p>
<hr/>	
<p>Bombay</p> <p>The water supply grade is presently D. The spring supply is chlorinated, and is of a good standard. Recent upgrading of the treatment to include filtration has addressed possible microbiological contamination. There is an elevated nitrate level and a new bore source is being investigated.</p>	<p>An acceptable domestic pressure and flow is provided, however the system does not meet fire classification requirements (and is not required to do so). Some low pressure problems occurred which were believed to be caused by high demand from agricultural users. Demand management measures and new policy regarding agricultural use seems to have addressed these problems. (This is described in AMP Section 4.3)</p> <p>Possible additional storage is allowed for in 2007 (WS91).</p>
<hr/>	
<p>Buckland</p> <p>The water supply grade is presently D. The bore supply is chlorinated, and is of a</p>	<p>An acceptable pressure and flow is provided. The system did not have hydrants and does</p>

Water Quality/Quantity – Source and Treatment Assets	Flow and Pressure – Reticulation and Plant Assets
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satisfactory standard. Bore source security acceptance is expected in 2006.

not meet fire classification requirements. All new pipework being installed by Council and developers is, however, of the correct diameter to move towards achieving fire fighting capability in the future. There are numerous minor improvement works proposed (WS98).

Onewhero

The water supply is ungraded as the population is less than 500. The supply is now UV treated and includes filtration against possible microbiological contamination. The high pH was a problem but this has now been remedied. The supply is now of a satisfactory standard.

This small system has inadequate records but seems to be generally satisfactory.

The system does not meet fire classification requirements (and is not required to do so).

Pokeno

The water supply grade is presently D. The supply is a bore and spring mixture, and is chlorinated and provides a satisfactory standard of water. Bore source security acceptance is expected in 2005. Some further works (WS 113 - yet to be identified) are required for the spring treatment compliance under the new 2005 NZDWS.

For general use an acceptable pressure and flow is provided.

The system meets the fire standard except over a small area. Upgrading is required to achieve the W3 standard throughout the urban area (WS112).

There are complaints regarding the build up of calcium deposits causing hot water element failures which relates to the hardness of the water.

More reservoir storage is also proposed (WS 114).

Puni (Douglas Road)

The water supply is ungraded as the population is less than 500. This bore supply is chlorinated, and is of a good standard.

A good pressure and flow is provided.

The system does not meet fire classification requirements and is not required to.

Assessments

Part 7, Subpart 1, Section 125 of the Local Government Act 2002 requires local authorities to undertake periodic assessment of water and sanitary services in accordance with sections 126 and 127.

Reference 8, is a comprehensive Assessment of Water and Sanitary Services completed on behalf of Franklin District Council in January 2005. The executive summary is attached as Appendix D and covers Public and Private water supplies from pages 6 to 8. The report has the following conclusions:

- **Public Water Supplies** – Overall, the schemes are generally adequate from a supply and demand perspective.
- There are issues with water quality, as shown by Ministry of Health gradings being below target. Wellhead security issues are in the process of being rectified. The issue of inadequate chlorine residual in the distribution system is related to the presence of Iron and Manganese in the source water. Further investigations are underway.
- For the main town supplies, the water supply system will be able to meet the demand through to year 2015 and at the same time minimise public health risk.
- For other smaller communities, the systems have adequate capacity to cater for growth in the short to medium term. Where a major growth or sub-division is planned, special attention will need to be paid to the adequacy of water supply and any need for upgrading or expansion.

- **Private Water Supplies**- these communities do not have a reticulated water supply. Most domestic dwellings use roof-fed rainwater tanks or private bores. Water supplies may be supplemented in summer by tanker-delivered water and /or abstraction from springs or streams. Water consumption rates are assumed to be relatively low.
- Due to the moderate to high rainfall in the district, tank – based supply will be adequate in most cases. However in droughts, and high occupation in summer, deficits may occur.
- It is recommended that Private Water Supplies:
 - use supplementary water sources to meet deficits
 - Practise stringent water conservation measures, particularly in long dry summer periods
 - install additional tank storage capacity
 - the Council provide educational material and training on tank water quality
 - the Council to review appropriate new water quality technologies and recommend them to these communities
 - Watercare Ltd. to advise their customers in Hunua settlement on the risks of using raw water.

An indication of materials and age of assets for the District water network is represented in Figure 1.1.

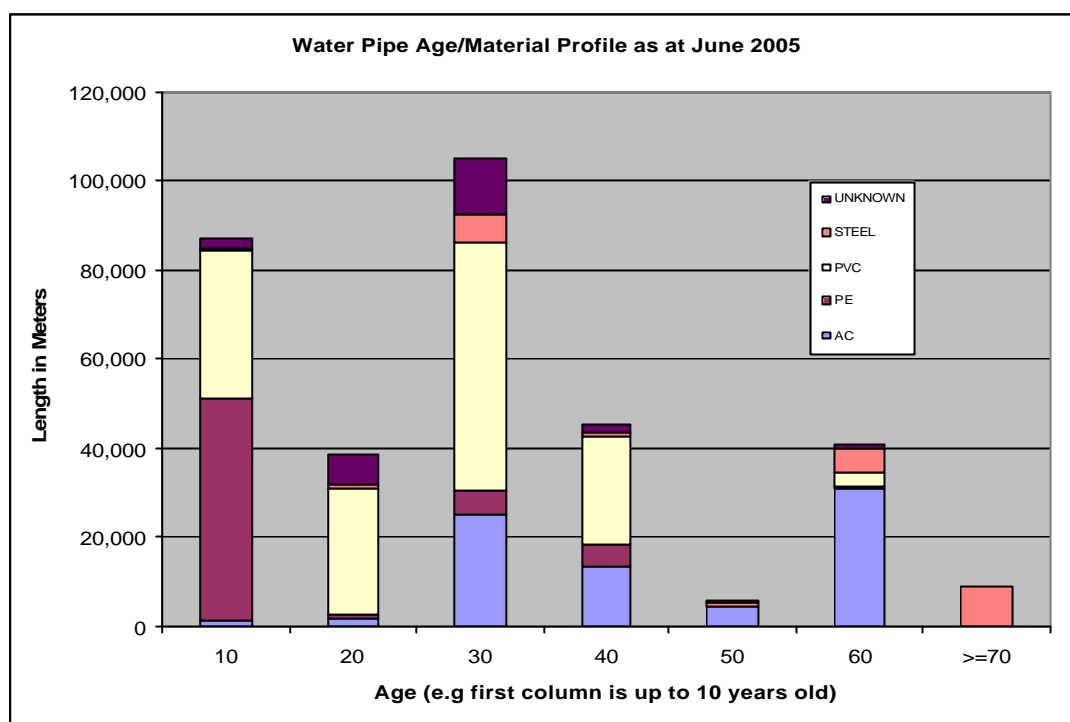


Figure 1.1 - Distribution of Age/ Material

WHERE COUNCIL IS HEADING

The long-term intention for the water activity is to continue development of the assets to cope with pressures from increasing population and more demanding water quality standards. Improvements will be targeted to anticipate growth needs and to effectively manage the risks associated with public water supplies, and meet health and safety requirements. Demand for services is expected to continue increasing over the next 10 to 20 years although at a slightly declining rate. Growth projections used by Council are based on a study by Hill Young Cooper national and region projections. These projections anticipate a 2.1% pa increase in population across the district during the next few years. A general view of the additional assets likely to be required in the future follows.

Additional Asset Capacity	Current 2004	2014	2024
Consented capacity of source Avg (m ³ /day)	11,450	12,030	14,040
Reticulation (km)	311	342	373
Reservoir storage volume (m ³)	16,420	17,840	20,830

Table 1.4 Forecast Asset Capacity Required

Council will continue to oversee all aspects of service delivery, with capital improvements being designed and constructed under direct supervision and maintenance undertaken by an

external contractor under a three year (extendable to five year) contract. The maintenance contract has just been extended to 5 years and will be reviewed in 2007.

More detail on the growth projection is provided in the AMP.

REF AMP 4.0

HOW COUNCIL WILL TRACK PROGRESS

Potable water of an appropriate standard and quantity is to be provided to meet the needs of all consumers in the serviced areas. Levels of Service (LOS) with appropriate targets are used as a planning tool, and to monitor the progress in terms of maintaining or achieving the targets.

The figures show that water supply grading requires dramatic improvement and over the next 3 years a minimum grade is proposed of C/c except for Pukekohe. This is also appropriate until the issues with the new grading system and drinking water standards are worked through. Other level of service measures are satisfactory and therefore a continuation of existing levels and expectations is appropriate.

More detail on LOS is provided in the AMP.

REF AMP 3.4

Level of Service - Measure	Year 02/03	Result Year 03/04	Year 04/05	Current Target
Core – Performance Measures				
Meet Ministry of Health water standards for - Treatment / Reticulation				
Pukekohe – Kitchener zone	C / d to e	C / e	No change	B / a
Anzac zone	C / b to e	C / e		
Hilltop zone	C / b to	C / d		
Waiuku	d	D / e	(Not graded for 2004)	C / c
Tuakau	D / e	D / e		(was B / b since 2003. C/c prior)
Indicative of other 6 townships	D / e	D / d		
D / d				
Supply to achieve 50% full reservoirs or operational pumps at all times. Target – user hours risk exposure less than 1% of total user hours	0.6%	0.2%	0.4%	< 1% exposure
Respond to complaints on water Quality within 60 minutes for 95% of cases	98%	100%	100%	> 95%
Unaccounted for Water losses to be reduced towards 15% Measure is water loss c.f. average over previous 5 years Weighted	26%	17%	27%	15%
average 5 years Annual figs are	21%	23%	23%	
Achieve a reduction in unscheduled supply interruptions AND ensure less than 100 interruptions pa Averages are Actual interruptions per year	144 123	147 202	144 93	< 100
Users satisfaction with the piped water supply				

Level of Service - Measure	Year 02/03	Result Year 03/04	Year 04/05	Current Target
Performance index to exceed 80%	74%	80%	69%	80%

Table 1.5 Levels of Service and Targets

Note All water sources and treatment plants are graded between A1 and E with A1 being best with negligible risk and E being worst with unacceptable levels of risk. The reticulation network is similarly graded between ‘a’ and ‘e’.

WATER SUPPLY ACTION PLAN

Indicative Annual Programme of Maintenance and Operational Actions Maintenance and Operations

- Provide 24 hour, 365 days a year coverage for response to emergencies.
- Provision of 350 new connections and 1150 special readings for customers.
- Operate and maintain 13 treatment plants.
- Respond to 1800 maintenance jobs such as watermain leaks, water quality issues.
- Repair valves and hydrants, minor faults and leaks – estimated 100 jobs.
- Carry out repair work on booster pumps, reservoirs and all mechanical/electrical equipment.

Preventative Maintenance

- Conduct routine inspections of treatment, pump and reservoir sites
- Check telemetry and system operation at 80 monitoring sites
- Routinely operate and inspect 1269 hydrants and 1997 valves, on annual basis.
- Regular inspection of pipe bridges, associated support and retaining structures, on a three yearly cycle.

Sustainable Management of Water Networks

- Carry out leak detection work, and repair identified leaks, with continuous monitoring
- Carry out flow and pressure monitoring.
- Provide public information and consult with the public on service levels.
- Implement Public awareness programmes on effective water use
- Review water charges periodically

Asset Management and Planning

The key actions that arise from the asset management improvement programme are:

- review and develop the target levels of service;
- develop ProOmni, integrated with GIS, as a decision-making tool for the management of assets.
- Further developing the asset management plan and processes.

Drinking Water Standards

- Compliance with Ministry of Health water quality monitoring tests
- Prepare Public Health Risk Management Plans
- Programme to address backflow Risks and implement surveys.
- Carry out scheduled flushing of hydrants and special points.
- Upgrade treatment & reticulation to achieve target grading.

Renewals

- Undertake renewals both reactive and pre-emptive to reduce quantity of poor condition pipes and resulting high maintenance. Approximately 3,000m of pipe pa (1% of asset).
- Renewals of specific plant, pumps etc, reservoirs and treatment facilities.
- Other renewal expenditure is incurred when assets are prematurely upgraded to provide increased capacity for future growth expectations.

New Works

New Works are undertaken to extend and improve the network. These are categorised as ‘Growth’ in response to increased population demand and ‘LOS’ when the driver is increasing service levels.

- Develop new Paerata bore to meet increasing supply needs due to growth.
- Improvements to Hickey’s Treatment plant (Pukekohe) to meet new water standards. Also renewal of resource consents.
- Upgrades to improve pressure and flow at affected areas.
- Provision of new bore at Patumahoe in medium term (estimated 2009/10 year).

TEN YEAR FINANCIAL SUMMARY

Total Expenditure

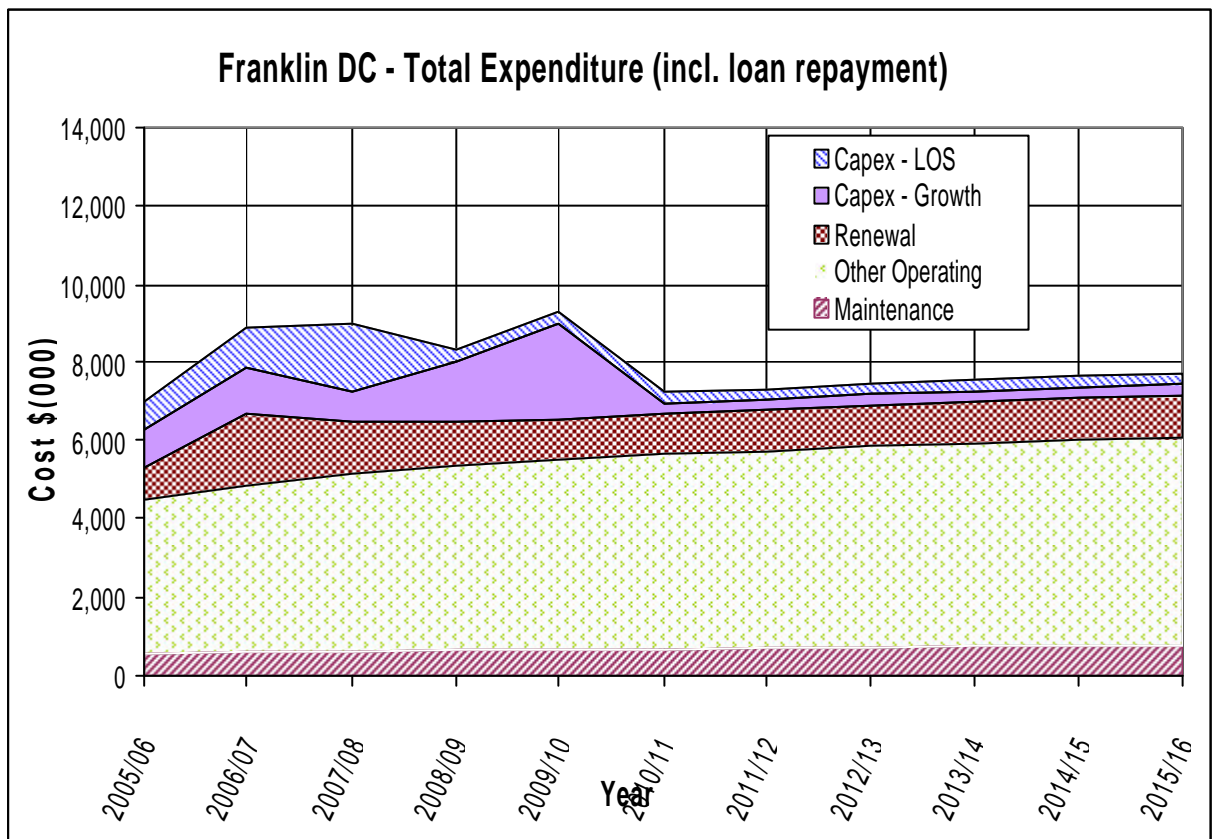


Figure 1.2 – FDC Water Supply – Operational and Capex Expenditure

Capital Expenditure

Capital expenditure comprises New Development and Renewal works. New Development work is further categorised as that required for Growth or LOS. Expenditure is therefore identified under the headings of:

- ***New Works - LOS*** – asset development that is due to increased service levels;
- ***New Work Growth*** – any asset development that is required as a result of growth;
- ***Renewal*** - (upgrade, refurbishment and replacement works).

CAPITAL WORKS PROGRAMME : 2006-2016 LTCCP WATER SUPPLY																															
Capital Works Programme For the Years Ending 30 June	GROWTH	LEVEL OF SERVICE	RENEWALS	AP		Forecast											Total Project *														
				2006	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016																
				%														\$000													
PUKEKOHE WATER SUPPLY																															
205301	New reservoir site - Pukekohe	73	0	27	270	0	270	0	0	0	0	0	0	0	0	0	270														
WS02	Treatment Plant Impr. (incl Bfwd Projects)	0	100	0	0	0	500	1,500	0	0	0	0	0	0	0	0	2,000														
WS12	Treatment Plant - Install New Bore	0	50	50	0	0	350	0	0	0	0	0	0	0	0	0	350														
WS14	Water Main King Kitchener	50	0	50	0	600	450	750	0	0	0	0	0	0	0	0	1,800														
WS149	New Reservoir Construction	100	0	0	0	0	0	0	1,180	1,180	0	0	0	0	0	0	2,360														
WS15	Pumps at Kitchener	100	0	0	0	0	0	75	0	0	0	0	0	0	0	0	75														
WS16	Duplicating Rising Main	100	0	0	0	0	0	0	0	300	0	0	0	0	0	0	300														
WAIU, CLARKS & GLENBROOK WATER SUPPLY																															
206301	New Bore & Main - Clarks Bch	50	50	0	800	5	795	0	0	0	0	0	0	0	0	0	800														
OTHER WATER SUPPLY AREAS																															
WS112	Pokeno-Fire flow pump	50	0	50	0	0	150	0	0	0	0	0	0	0	0	0	150														
WS113	Pokeno-upgrade water source	100	0	0	0	0	10	100	0	0	0	0	0	0	0	0	110														
WS114	Pokeno New Reservoir	100	0	0	0	0	0	0	175	0	0	0	0	0	0	0	175														
WS147	Pukekohe East Road	80	10	10	0	0	200	0	0	0	0	0	0	0	0	0	200														
WS81	Patumahoe 150mm Pipe	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0	100														
WS82	Patumahoe Storage Reservoir	74	0	26	0	0	0	0	190	0	0	0	0	0	0	0	190														
WS85	Patumahoe 2nd Bore, Plant and Pump	100	0	0	0	0	0	0	0	410	0	0	0	0	0	0	410														
WS91	Bombay-Upgrade Storage	30	70	0	0	0	80	0	0	0	0	0	0	0	0	0	80														
WS98	Buckland-new 100mm Pipe	60	20	20	0	0	200	0	0	0	0	0	0	0	0	0	200														
DISTRICT WIDE MINOR WORKS - WATER SUPPLY																															
WS121	FDC-Mtce Contract Renewals	0	0	100	0	0	271	277	283	289	295	301	307	314	320	326	2,983														
WS133	Minor Projects & Investigations	33	34	33	0	0	800	800	800	800	800	800	800	800	800	800	8,000														
WS146	Watermains Renewals	0	0	100	0	0	500	500	500	500	500	500	500	500	500	500	5,000														
				2,525	1,972	4,576	4,002	3,128	3,579	1,595	1,601	1,607	1,614	1,620	1,626	26,920															
Funding:																															
Asset Renewals				653	948	1,643	1,416	1,096	1,053	1,059	1,065	1,071	1,078	1,084	1,090	12,603															
Development Contributions				1,060	658	1,473	814	1,760	2,254	264	264	264	264	264	264	8,543															
Level of Service (Loan)				812	366	1,461	1,772	272	272	272	272	272	272	272	272	5,775															
				2,525	1,972	4,576	4,002	3,128	3,579	1,595	1,601	1,607	1,614	1,620	1,626	26,920															

WATER SUPPLY											
Operating Expenditure & Revenue For the Years Ending 30 June	Annual Plan	Forecast									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	\$'000										
Revenue											
Targeted Rates	3,717	4,894	5,456	5,871	6,049	6,168	6,291	6,571	6,697	6,830	6,965
User Fees	388	392	396	400	404	408	412	417	422	427	427
Assets Vested in Council	0	1,284	1,315	1,347	1,379	1,412	1,444	1,477	1,511	1,546	1,582
Development Contributions	401	572	588	601	616	631	620	634	649	664	680
Total Revenue	4,506	7,142	7,755	8,219	8,448	8,619	8,767	9,099	9,279	9,467	9,654
Expenditure											
Water Activity	2,096	2,404	2,521	2,635	2,701	2,793	2,846	2,933	3,007	3,099	3,174
Depreciation	1,733	1,997	2,213	2,436	2,568	2,737	2,874	3,015	3,163	3,314	3,472
Interest	619	583	710	770	797	771	768	762	754	742	726
Total Expenditure	4,448	4,984	5,444	5,841	6,066	6,301	6,488	6,710	6,924	7,155	7,372
Operating Surplus (Deficit)	58	2,158	2,311	2,378	2,382	2,318	2,279	2,389	2,355	2,312	2,282
Applied to :											
Development Contributions	382	572	588	601	616	631	620	634	649	664	680
Loan Repayments	180	168	198	242	267	296	328	365	407	456	514
Capital/Operating Reserves	(504)	1,418	1,525	1,535	1,499	1,391	1,331	1,390	1,299	1,192	1,088
Application fo Surplus(Deficit)	58	2,158	2,311	2,378	2,382	2,318	2,279	2,389	2,355	2,312	2,282